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Prof. S. S. RATHVON, Editor. LANCASTER, PA., JANUARY, 1875. PEARSOL & GEIST, Publishers.

THE FARMERS' HOME ORGAN.

The Lancaster Farmer;

A MONTHLY MAGAZINE,

DEVOTED TO AGRICULTURE, HORTICULTURE, DOMESTIC ECONOMY, AND MISCELLANY.

Published under the auspices of the Lancaster County Agricultural and Horticultural Society.

Edited by Prof. S. S. RATHVON.

With the January issue (1875) THE FARMER entered upon its seventh year, under a change of proprietors, the publication having been transferred to the undersigned, who propose to make it in all respects a first-class local organ of the important interests to which it is especially devoted.

With this view THE FARMER has been enlarged and its form changed to the Imperial Magazine style, each number containing twenty pages Imp. 8vo., each page measuring 9½ by 13 inches, sixteen of which will be exclusively devoted to reading matter, the advertisements and "standing matter" being limited to the remaining pages. This increase of size and change of form, together with the use of a more compact type, will enable us to give about seventy-five per cent. more reading matter than was contained in the old form.

If this effort to give the agricultural community of Lancaster county a publication worthy of their honorable calling is liberally seconded, we propose to add other improvements from time to time, including illustrations of important topics of general interest, and papers from special contributors on the more important local industries and resources of the county—a wide field, which has been very little cultivated by our local press.

The contributions of our able editor, Prof. RATHVON, on subjects connected with the science of farming, and particularly that specialty of which he is so thoroughly a master—entomological science—some knowledge of which has become a necessity to the successful farmer, are alone worth much more than the price of this magazine.

THE FARMER will be published on the 15th of every month, printed on good paper with clear type, in convenient form for reading and binding, and mailed to subscribers on the following

TERMS:

To subscribers residing within the county—

One copy, one year,	$1.00
Six copies, one year,	5.00

To subscribers outside of Lancaster county, including postage pre-paid by the publishers:

One copy, one year,	$1.25
Five copies, one year,	5.00

All subscriptions will commence with the January number unless otherwise ordered.

All communications intended for publication should be addressed to the Editor, and, to secure insertion, should be in his hands by the first of the month of publication.

All business letters, containing subscriptions and advertisements, should be addressed to the publishers,

PEARSOL & GEIST,

Express Buildings, 22, South Queen Street,

LANCASTER, PA.

RATES OF ADVERTISING.—Ten Cents a line for each insertion. Twelve lines occupy one inch of space. No CUTS wider than a single column taken.

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The Lancaster Farmer.

Prof. S. S. RATHVON, Editor. LANCASTER, PA., JANUARY, 1875. Vol. VII. No. 1.

OUR NEW DEPARTURE.

In entering upon this our *seventh* volume, we have deemed it expedient to change the form of our journal, believing that it will be more acceptable to our readers, more convenient to refer to, and more valuable as a reading and advertising medium.

We are fully aware that the times are not as propitious as we could wish, but still the wealth and agricultural position of Lancaster county are such that the sacrifice required in sustaining a local journal among its farming population is infinitesimally small, when compared with the ample means it possesses. The great bulk of the material wealth of the county is in the hands of the farmers and, by parity of reasoning, they ought to possess the great bulk of its intellectual and social wealth, as we certainly feel they do of its moral and industrial. Nearly all other interests have their representative journals, and aspire to *unity;* the farmers alone seem to be a *diversity;* and so far, as a class, are standing in their own light. Whilst we are by no means the friend or advocate of selfish, sinister and one-sided combinations, having for their single object the pecuniary interests of a single class or clan, yet we would recommend a freer and more social union among those who are so eminently the pillars of the nation, as American farmers are. We would not have them the mere shadows or mimics of any other class of men, but we would have them intelligent and progressive thinkers and actors for themselves in all that relates to their moral, social and material welfare. But so far as they may be able to *attain* and *retain* such a *status*, they should feel that its consummation and continuance will depend upon their own energetic co-operation; a co-operation of not only muscular energy, but also of that God-given mind and intellect which so peculiarly distinguish man from a mere beast of burden. When we look abroad into the world, if we are not blinded by ignorance or prejudice, we cannot fail to see that a different order of things is rapidly developing, from that which gave its specific character to the past. The wheels of time are moving onward, and never can be turned backward. If such a thing were possible, it would be fatal to the very existence of the universe. "The dead have been raised; hungry lions have refused their prey; the seas have divided and formed walls of water whilst a whole nation passed in safety through its sandy bosom, and men unhurt have walked amidst consuming flames; but never yet did *time*, once past, ever return." Therefore, the *present* only is ours. The *past* we cannot recall, and the *future* we may never see. All our necessities are concentrated in the pending present, and in this we travel side-and-side together. The moment we yearn after the "flesh-pots" of the past, we fall behind in the race of life. So soon as we indulge in selfish anticipations about the future, we, in a measure, unfit ourselves for the *realities* and duties of the present. As the ever present *now* is always with us, and as nothing that can or ought to be done *now* should be deferred to the future, we ask the co-operation of the farming public in support of THE LANCASTER FARMER. We not only ask their paid subscriptions—for, in reality, that is a mere pittance, which a single week's rational economy would rescue from the category of useless expenses—but we also ask their literary contributions and their moral and social support, and we ask it *now*. We desire to make THE FARMER such a home journal as will reflect credit upon the farmers of our great county abroad. We desire our farmers to open their "knowledge-boxes" and let their ideas flee forth as free as the birds of the air—not to hide their light under a bushel or a bed, but to set it on a candlestick. No class of men occupying the advanced position in agriculture that the farmers of Lancaster county do, can be destitute of practical ideas on the subject of farming, and few who really possess this knowledge are unable to tell what they know in language sufficiently intelligible to their compeers in agriculture and the domestic arts. The young farmers who are coming forward now, are more conversant with science and literature than the generations of the past, and nothing will afford them greater opportunities for improvement, more practical instruction, and greater mental expansion, than habitually writing for the press; not writing for the mere purpose of filling up a newspaper column, but to communicate *facts* important for their brother farmers to know. Where the *facts* exist, the language will unfailingly adjust itself in such a manner as to be understood by those for whom it is intended. We need only refer to the essays and other compositions which have been read before the various meetings of the Agricultural and Horticultural Society, and published in the columns of this journal, to illustrate that Lancaster county farmers *can* compose and write intelligently if they *will;* and why they should not have the will, is somethiug past our finding out, because it is a *Divine* admonition to give as freely as we have received. We are not always the best judges of the value of what we have to give. What seems a trivial matter to one who thoroughly knows it, may be an important matter to one who is profoundly ignorant of it. We do not insist upon "scholarly" compositions from persons who have never had opportunities of becoming scholars. All we desire is common sense contributions on practical subjects, and we will see that they are presented to the public in such a form as the writers will have no occasion to be ashamed of. In conclusion, we cannot too often admonish the farmers of Lancaster county to busy themselves in "working up" a physical and intellectual representation of the resources of the "Garden spot of the Keystone State" in the approaching "CENTENNIAL," which is scarcely a year and half in the future. We want to see the farming interests of our great county honorably standing by the side of the greatest in the land. We want to see our journal there, as the faithful and appropriate advocate and exponent of those interests. We want to see our *seventh* volume in the hands, and read, by twice as many as patronized its predecessors; and finally, we want to see our *eighth* or "centennial volume" in double as many hands as the seventh. With these legitimate and, we feel, unselfish desires, we again launch our craft upon the sea of public favor; and with these sentiments we close by wishing our patrons a bright, prosperous, and *Happy New Year.*

THE PUBLISHERS TO THE READER.

To those subscribers to THE FARMER who read the complimentary introduction given us in the last number by the retiring publisher and the editor, it would be hardly necessary for us to say anything in addition. Inasmuch, however, as we expect this issue of THE FARMER to meet the eye of many who never before read it, a few words as to our object and plans may not be out of place. That a publication specially devoted to the interests of the large agricultural community of this great county can become of much practical value to those who will read and profit by the information it imparts, no one will be likely to doubt. The prejudice which formerly existed against that knowledge thus gained, sneeringly called "book-farming," has long since disappeared along with the prejudice which some years ago was entertained against reapers and mowers, and even threshing machines; and indeed against most of the great labor-saving inventions which threatened to revolutionize old methods and demanded an entirely new train of thought. The able publications, devoted in whole or in part to the interests of agriculture—to farm and household economy—circulated all over this broad land, have done more than any other single agency to cause the farmer to mount a step higher in the intellectual as well as in the industrial scale. It will no longer do for him to be content, as our grandfathers were, to merely know how to hold the plough and drive the horse, to wield the sickle or the scythe, or the flail, having no ambition to know what is going on in the great world around him. The sickle, the scythe and the flail belong to a past age. Their place has been supplied by machinery, so wonderful in its mechanicism and so important in its achievments, that no successful farmer can afford not to avail himself of its advantages. The successful management of machinery requires intelligence of a higher order—a knowledge of the principles of mechanics and their application. To be thoroughly successful in his avocation he must be continually educating himself up to the demands of his new surroundings. The appearance of new insect depredators upon the crops demands knowledge in an important direction never dreamed of as an attainment of the farmer in our boyhood. The improvement in cereals, fruits, and all cultivated productions of the vegetable world, even within our time, has been wonderful. And so we might carry these reflections to an indefinite length—but enough has been said to suggest what remains unsaid to the mind of every intelligent farmer.

Believing that the farmers of Lancaster county would be interested in as well as benefitted by a publication which would serve as an organ for the interchange of ideas and practical results between themselves and our able and zealous editor, as well as among themselves, and many of our agricultural friends having urged as a reason that we had the facilities to make THE LANCASTER FARMER a success, we consented to accept the responsibility of its publication. We must confess that, like our enthusiastic friend, the editor, we have undertaken it more as a labor of love or as a matter of local pride, than from any hope of immediate pecuniary gain; for, as a business enterprise, it had never been a success during the six years its life was maintained mainly through the *pluck* of the editor. Our plan, including the enlargement and other contemplated improvements, will involve a much heavier actual outlay of cash than can be realized from the subscriptions on the list as it comes into our hands. We therefore rely upon a large increase of subscribers to meet these increased expenses and to compensate in some measure for the labor bestowed upon it. The friends of the enterprise will therefore see that their interest and ours are mutual in making efforts to increase the subscription list. By the change of form and the use of a more compact type we will be able to give nearly twice as much reading matter as was given in the old form, and we have no doubt all will agree with us that the new form is an improvement in appearance as well as in convenience. Our success in other publishing enterprises, through the confidence and liberal patronage of the people of Lancaster county during the past thirty years, gives us assurance that the future of THE LANCASTER FARMER will not be a failure.

ENTOMOLOGICAL.

The heavy drain upon the prospective agricultural resources of our country by destructive insects is very generally admitted by all who are sufficiently intelligent to comprehend the subject. It is not necessary to go into details; it is sufficient to say that, in the entire country, it annually amounts to millions of dollars. Some knowledge of the subject, therefore, becomes a matter of interest to every farmer. But few farmers, if any, can hope to become *scientific* entomologists. There is nothing, however, to prevent them from becoming *practical* entomologists, and whatever assistance the editor of this journal can render to make them such, will be freely accorded. We therefore propose the following *system* in the pursuit of the subject, because without system of some kind, very little progress can be made in any direction.

We propose, then, to give them all the information we can, on any specified subject, when *proper* application is made. It would be almost useless to volunteer general principles or scientific theories on the subject of entomology. People want scientific knowledge. For instance, when they find a certain insect depredating upon their crops or industrial productions, they want to know what it is, something about its transformations, habits, history, peculiarities, local characteristics and the proper remedies for its destruction, as well as *when* and *how* to apply the remedies. Now, as it is difficult for a novice to describe an insect plainly enough to be clearly understood, and as such a description might involve more time and labor that could be immediately bestowed upon it; and moreover as the individual who desires the information may not possess the necessary books, nor have access to a library containing them, it is clear that some shorter and more practical plan must be adopted. A *proper* application can be made by mail, enclosing specimens of the noxious insect, carefully secured against death or injury, together with a few lines describing the nature of its depredations, on what vegetable it has been found, what it had been doing, as well as the time and place it was found. And what is of equal or greater importance to the editor, not only the postage on the communication should be paid, (it would not be forwarded if it is not) but it should either contain a three cent stamp or a postal card, to insure an immediate reply. This, however, is only necessary with those who are not regular subscribers to *The Farmer*, through the columns of which all questions will be answered, so far as they *can* be. Our reasons for this course are obvious, and will be regarded as valid by the liberal-minded. In good truth, we *cannot afford* to write a specific reply and furnish paper and envelopes, and pay the return postage into the bargain—it is not in equity. On a single letter the postage would be a trifle, but our correspondents should remember that we receive many such letters in a month, and to answer them all, individually, would be a greater burden than "even-handed justice" requires us to bear. By answering correspondents through the columns of our journal information becomes more diffused than it otherwise could be, for other persons than the ones immediately addressing us may be interested in the very same insects. This will inculcate habits of more minute observation than usually obtains among farmers in general—a thing much needed—and will suggest experimentation in their destruction or removal. The time seems to be surely approaching when our agricultural population will be *compelled* to give more patient and persevering heed to this question than they have heretofore been in the habit of doing. Our plan is co-operative and equitable in its special effects, and ought to meet the approval of those interested.

THE OPENING month of the year is a good time for us to take a retrospective glance at the past, in order to avoid in future, where possible, errors of judgment and defects in practice, and thus profit by experience.

OVER-PRODUCTION — UNDER-CONSUMPTION.

"In 1872, when there was a great abundance of all things, we were not afflicted with over-production. What now is the matter is under-consumption. Some eight hundred thousand men and women are compulsorily idle who then were regularly employed. The earnings of the people amounted, probably, to $2,000,000 a day, or to $600,000,000 in a year. This purchasing power, vast in the aggregate, has disappeared. Restore it in the shape of wages paid for daily work, then what is styled 'over-production' would vanish. We shall not get out of our industrial depression in any sudden way. Recuperation will be apt to emblemize the slow return of the invalid to health and strength. The medicine needed by the country is plenty of live money to operate the customary exchanges, and thus keep men and women at work when once more the industrial movement gets safely upon its legs. Meantime, enough things are not produced to satisfy the wants of the people. There are more mouths to be fed, more backs to be clothed, more bodies to be warmed, more feet to be shod, more heads to be sheltered, and more minds to be instructed in 1874 than there were in 1872; yet the quantity of things produced is smaller. The over-production is apparent, not real—constructive, not actual—a ratio between production and the crippled power to consume, not between production and the urgent needs of consumers. To get at the complete truth it is requisite for the *Tribune* to shift its point of view. More money is the key to the problem."—*Inter-Ocean.*

To this we may add that there will be more wants to be supplied in 1875 than there were in 1874; but what does all this amount to if the necessary means are not available to procure the supplies? We want more employment for the laboring millions of the country, no matter how unwisely they may squander the products of labor. That is a thing beyond constitutional control, and hardly worth talking about, although it means a great deal; still, if people don't see it themselves it would be as difficult to inject it into the fissures of their brains, as to shoot potatoes into the crevices of a millstone. In order to furnish more employment we want "more live money;" by which we infer, money judiciously invested where it will pay at least six per cent., and which will continue to be thus invested so long as it yields any per cent. at all—money brought out of old, unproductive "stocking legs" and put to practical and rational *usefulness*—money, if possible, uniform in value, and secured against periodic fluctuations and depreciations. Just think of the extraordinary measures which the philanthropically inclined are compelled to resort to, periodically, for the relief of the indigent, unemployed, or starving millions of our countrymen. If these people had the pecuniary means there would not long be an over-production or supply of anything, nor yet an under-consumption, the latter being the effect of the absence of these means. Things would be kept moving, and motion is the only sure remedy against stagnation. We believe that a universal nation of spendthrifts would be preferable to a universal nation of misers. It is the penurious hoarding of some, the bloated accumulations of others, and the imprudent profligacy of the many that cause the inequalities and stringencies of the times, with all the deprivations and sufferings that follow in their train.

"More money is the *key* to the problem," but a *key* is of very little account so long as there is no available *lock* into which it will fit, and that may be opened by it. Those locks are the rich agricultural, mechanical and mineral resources of the country, and these are now shut up and rusting, for the want of a key to open them. There is a point in the domestic affairs of a nation beyond which "endurance ceases to be a virtue," and no one can tell exactly when that point is reached. The British government did not "see it" previous to the revolt of her American colonies; France did not see it before the bloody revolution of '93;' and the South did not see it before her attempt to nationalize slavery. When will the possessors of the "key" of our industrial interests learn that it is more profitable in the end to keep the laboring population of our country constantly employed, at any cost?

LARGE EMIGRATION TO GERMANY.

PRUSSIAN MANUFACTURERS SENDING TO AMERICA FOR WORKMEN.

"For several days past many persons, mostly Germans, have besieged the offices of the commissioners of emigration at Castle Garden, and besought them to provide steerage passage to Europe. Most of them professed to be without means, while others asserted that they had a portion of the passage money. Of course it was impossible for the commissioners to provide means for them to return to Germany; but in some few instances, where only a small deficiency existed, the balance was supplied by the commissioners. In nearly every case they came provided with letters from Germany, in which they were assured that labor is plenty and profitable at home, and that the demand for mechanics is greater than for many years previous. Information received by the commissioners themselves from all parts of Prussia show that the situation has not been exaggerated. Skilled labor is scarce, and the prices paid exceed anything that has been paid for years past. Bookbinders, machinists, typesetters and mechanics in the different trades are receiving from ten to thirty florins a week, where only one-third that sum used to be paid. This rate, considering the prices of rent, provisions and living generally, is equivalent to as many dollars here. Accomplished book-keepers with large manufacturing companies are receiving from 3,000 to 10,000*fl* a year. Business is brisk throughout the Empire, and prosperity and plenty prevail throughout the land. This is accounted for by the commissioners and others, from the fact that while Germany is now homogeneous and a unit, she became enriched by the late war, levying tribute upon France, which was made to bear all the expense of the campaign. She was more than indemnified. Money became plenty, and the industries which had slumbered when the war was raging, were set in operation at its close. Business relations were opened with other nations, which, previous to the war, had only trifling commercial relations with the Prussian provinces. There was an increasing internal and external demand for the manufactures of Prussia, and skilled laborers were sought for. But the war had killed off many of them. It had taken the bone and sinew of the land, and many who had not been killed had been maimed for life. This created a great want, and the price of labor advanced. Manufacturers and tradesmen, as well as the friends of Germans in this country, are sending to America for them, proffering good positions at home. The inducement is increased on account of the prevailing dullness of trade here, and the commissioners predict that during the next three or four months there will be an unprecedented emigration to Germany. In many cases money has been sent from Europe to persons here with which to pay their passage home. Immigrants are still arriving here from Germany, but they are not mechanics nor tradesmen. The commissioners state that the country is losing those who have learned trades but can find no work here, and have gone back to Europe to work at them. It is feared, too, that the Mennonites will cease to come, as the information has reached the commissioners that the Russian government has concluded to let them remain exempt from conscription and war duty, and no longer violate the convictions of the Mennonites by compelling them to take up arms."—*Tribune.*

The foregoing is very significant, and shows how very superior the occupation of a farmer is, in comparison with that of other men; for it will be observed that *no farmers* are among the "large emigration to Germany," in search of that employment which they are

unable to find in America. It is true that farming may not "pay" in a mere pecuniary sense, as well as some other occupations more influenced by spasmodic contractions and expansions, and hence hazardous speculations, but it pays more surely in the outcome; for, no matter what takes place in the financial, political, social or moral world, so long as human life obtains, no individual is independent of the material world, and hence the occupation of a farmer is a perpetual and universal necessity in civilized society; and as human population multiplies it becomes, in the same ratio, an increasing and always present necessity. The farmer never thinks of relinquishing his occupation—"shutting down," as they call it—letting his fields lie fallow and starving his stock, because he cannot realize six, ten, fifteen or twenty per cent. on his labor; but he plods on all the same, at three, two, one, or no per cent., to keep full or replenish the granaries, corn-bins and meat-tubs of the world, patiently toiling and waiting for the "better day a coming." Many occupations among men are of a questionable moral character, or are conducted in a very questionable manner and from questionable motives; but the tillers of the soil and the agricultural producers of the country have not the shadow of a question overhanging their occupation. And yet many farmers are yearning for the uncertainties of commercial, professional and mechanical life. How superlatively visionary and foolish—how suicidal to moral and material prosperity and domestic happiness!

It does not seem to speak well for America and its free institutions, to find those who have sought an asylum under its benign government and laws, appealing for opportunities to return to their native land as the better country of the two for the laboring man. Bloated monopolies, commercial combinations and family clanships are fast converting our country into that feudal condition in Europe, which turned the tide of emigration from that country to our borders, but which a more liberal and equitable policy there is inviting back to her shores again.

We do not believe, however, that the inducement for even mechanics to return to Europe is of a very permanent character. The fare is now so low that to single men the sacrifice would be trifling and easily borne, but to men of families we do not think it would be advisable, if they can find any employment here at all.

JOHNSON MILLER'S ANNUAL ADDRESS, as President of the Lancaster County Agricultural and Horticultural Society, delivered at the last meeting, will be found in our report of the proceedings of that body, printed in this number. While we dissent in toto from not only the *matter* but also from the *manner* contained in some of the points of this address, on the whole there is so much well-timed truth in it, such good advice, and such well deserved criticism upon the inefficiency of the Agricultural and Horticultural organizations of the county of Lancaster, that we should have published it in our columns, even if it had had no claim upon us as the production of the president of a society under whose auspices this journal has, from its very origin, been published; moreover, as we have heretofore published several papers in our columns favorable to the "Grange movement," it is but fair that we should also give the negative side of the question; and we confess that Mr. Miller has elaborated some ideas on that subject that have not heretofore occurred to us, whether they be true or otherwise. In reference to the itinerating habits of many of the members of the society during its sessions, he made some good hits, which recall forcibly to our mind the rebuke administered by an off-hand Methodist preacher to a somewhat shifting congregation. Elevating his voice and rising on his toes he exclaimed with earnest emphasis, "I have no objection to be called a *traveling preacher*, but I do most unqualifiedly object to preaching to a *traveling congregation*." It is a poor compliment to an essayist to greet him with a stampede the moment he begins to read his paper. We do not suppose that any one *means* to be disrespectful, but it is nevertheless embarrassing under *any* circumstances, and exhibits that want of culture to which the president of the society alluded in his address. We have never seen this habit so common anywhere else, as we have in the great and wealthy county of Lancaster, and nothing—not even a poorly written or poorly delivered essay—can justify it.

ILLUSTRATIONS.

The arrangements for transferring THE FARMER to the present publishers were completed at too late a day to enable them to introduce all the improvements into this issue which are in contemplation. Among other matters now deemed of importance in publications of its character, are occasional engravings illustrating certain subjects of practical importance which are thus more easily and satisfactorily explained than it is possible to do in a mere letter-press description, however full and complete. For example, it might be difficult to write a description of a trellis for grape vines and the most approved method of pruning and training them, so that the amateur might be able to do the work correctly as described; but by the aid of an engraving, illustrating the construction of the trellis, the arrangement of the vines at their different stages of growth, and how to prune them, the process can be made so plain that the merest tyro in small fruit culture can comprehend the subject at a glance. These illustrations are, of course, expensive, but the publishers have faith that the farmers of Lancaster county will bestow such a liberal patronage upon THE FARMER, since it has taken its "new departure," as will justify them in making a venture in this direction, and they hope to be able to make a beginning in the February number.

TO CORRESPONDENTS.

OXFORD, Pa., Jan. 11th, 1875.

S. S. RATHVON—*Dear Sir:* Please decipher these animals and let us know the result of your investigations. Please report to Rev. O. L., of this borough. Very respectfully,

J. P. A.

The embryotic "animals" alluded to in the above, were the eggs of the "Oblong-winged Katydid"—*Phyllopteru oblongifolia*—a large green and long-limbed grasshopper, more frequently found, and perhaps better known, than the true Katydid. (*Platyphyllum concavum.*)

These eggs are always found obliquely arranged in two rows along the side of a twig, very seldom any larger than the one inclosed. This is not the insect that emits the stridulating noise during summer evenings, which sounds like *Katydid*. It is a vegetarian in habit, but we never have known it to be sufficiently numerous to be considered noxious. The coldest weather has not the least effect upon the vitality of these eggs.—ED.

THIS NUMBER will be sent to many who are not now, or have not been heretofore, subscribers to THE FARMER, but as we only desire voluntary subscriptions they need not go to the trouble of returning it. Still, we hope that those within the county of Lancaster, at least, will respond favorably, and allow us the privilege of placing their names upon our list of subscribers. It will only cost them *one dollar* a year, as there is no postage on publications circulating within the county.

We are confident that they will not regret it; and will have the additional satisfaction of feeling that they have made a worthy and judicious investment in behalf of the agricultural interests of our great county, and have contributed their mite in developing its material, moral and intellectual resources. If they will only sustain THE FARMER at home, as it is sustained abroad, we cannot fail to make it a success.

THE FUTURE OF THE LANCASTER FARMER.

Is it destined to live, flourish and grow, or to pine, languish and die? This question applies to farmers generally, but to those of Lancaster county most emphatically. Will the farmers of Lancaster county patronize, aid and support a periodical that bears on its title page so honorable a name? Not that farmers outside of our county are less honorable than those living within its borders, but that the latter bear, if not a world-wide, at least a national reputation. The title of "garden county" has not been vaguely lavished upon it. There is scarcely a dissenting opinion, among those who have traveled extensively over our *country*, that Lancaster has scarcely a rival county in this broad agricultural domain; not so much on account of its natural advantages, as for the excellent tillage bestowed upon it, and its thorough improvements in buildings and fences. It seems natural that such a reputation should stimulate the dignity (I will not say pride, for our plain farmers spurn *pride*) of our tillers of the soil to have at command a medium through which they can disseminate their knowledge to others as well as among themselves. Looking upon the reputation of our county from a distant standpoint, the natural inference would be, that in a county which has so high a reputation for intelligent farming, there must be a corresponding degree of mental culture, and consequently there would be found among us a large amount of valuable literary productions on the subject of farming and its auxiliaries. When, however, we scan the pages of THE LANCASTER FARMER and find so few contributors from its native county, the conclusion must be that our farmers cannot or will not aid in building up an organ to represent their standing in the agricultural world.

And, further, when we learn that not five hundred *farmers* of this county were regular subscribers to THE FARMER during the past year, we conclude they are not even a reading people, or else patronize foreign publications to the exclusion of those at home. Since the publication of THE FARMER has passed into the hands of PEARSOL & GEIST, whose reputation as publishers is a sufficient guarantee that they will leave nothing undone on their part to make it a success, we trust there is a brighter future before it. The continuation of Prof. RATHVON as Editor, is an additional guarantee that matter will be regularly furnished for its pages, even if he will have to write a large proportion of it himself between his regular business hours: a task which he has performed since THE FARMER has been in existence, without any remuneration. While all this labor of the editor hitherto has been *bestowed* to the public, shall not the farmers of Lancaster county resolve that with the year 1875 a new era shall commence for THE FARMER, in which they will not only patronize it by subscriptions, but also by contributing to its columns! Then, ho! for the Centennial—when Lancaster county shall present an Agricultural and Horticultural periodical worthy its name and fame. H. M. E.

THE PATRONS OF HUSBANDRY.

The "Pennsylvania State Grange," of this organization, convened in council at Williamsport on the 6th inst., and we have conversed with some of the returned delegates from Lancaster county on the subject. Over one thousand members from different parts of the State were in attendance, and the business seems to have been of an interesting and important character. They speak in the highest terms of the kind and accommodating spirit of the people of Williamsport. Among other things, it was determined to hold the next annual meeting of the *State Grange* in Lancaster city on the 2d of December next, provided hotel accommodations and a suitable hall can be obtained here. This is surely a distinction that Lancaster county did not expect, for the order is yet in its infancy here. They expect a larger attendance than that at Williamsport.

CARNIVOROUS PLANTS.

There are no doubt many intelligent people, and some scientific people, too, who may be somewhat startled at the coupling of a term with subjects of the vegetable kingdom, that is almost universally believed to be applicable to the animal kingdom alone. But we have fallen upon a very progressive period in science, religion and literature, as well as in philosophy, mechanics and agriculture, and perhaps no department of natural science has been so thoroughly explored as that including botany and vegetable physiology. If the question involving the capture and assimilation of animal food by certain species of plants, has not been determined in the affirmative, at least sufficient progress has been made to save it from an unqualified negative; for observations have been made by learned explorers, whose experiences and logical conclusions cannot be successfully ignored, nor satisfactorily explained upon any other hypothesis.

When Dr. Erasmus Darwin—the grandfather of the author of the "Origin of Species"—about one hundred years ago, published a work on "The Loves of Plants," he was as much laughed at for its strange theories as ever Harvey was when he first announced his theory of the circulation the blood; but the subject of consciousness and volition, which he attributed to certain species of plants, is not now considered so fantastic by learned men as it was when the elder Darwin wrote; and in our day it is becoming manifest, almost beyond a cavil, that paralysis of a plant can be produced by external injury; that the existence of a nervous system in many vegetables is capable of a satisfactory demonstration; and that *some* flowers, at least, display their gorgeous colors to attract certain species of insects; and that without this arrangement the pollenaceous impregnation of certain plants could not possibly take place; and that some plants *do* digest and assimilate animal matter. In the *Scientific American* for Dec. 22, 1874, page 9, seven species of these carnivorous plants, belonging to as many different genera, are very cleverly illustrated; namely, the "Trumpet Pitcher," or "Side-saddle Flower" (*Sarracenia variolaris*) which, with the allied species *purpurea*, according to Dr. Gray, are found growing in the United States, from New England to Wisconsin, and flower in June. The foreign "Pitcher plant" (*Nepenthe distillaria*) which grows wild in China and the East Indies generally. "Venus fly-trap" (*Dionœa muscipula*) in the savannas of North Carolina growing wild. The "California Pitcher" (*Darlingtonia brachyloba et glandulosa*) which are found in the mountainous regions of the Golden State, and flower from June until August. The "Butterwort" (*Pinguicula vulgaris*) found from New York to Lake Superior, and northward, in July. The "Sundews" (*Drosera*), of which there are several species in America, namely, the "Long-leaved Sundew" (*D. longifolia*), the "Round-leaved" (*D. rotundifolia*), the "Line-leaved" (*D. linearis*), and the "Thread-leaved Sundew," (*D. filiformis*). Also a species of *Cephalotus*, which is generically allied to *Dionœa*. The *Drosera rotundifolia*—"Round-leaved Sundew," occurs in a swamp near Smithville, Lancaster county, Pa. In addition to the foregoing there are a number of plants commonly called "sensitive plants," including the "Sensitive Briar" and "Sensitive Fern," which, if they do not capture and appropriate the liquid substances of insects, yet they immediately collapse or close their leaves and droop their branches when any object comes in contact with them; or as soon as darkness supervenes, either at nightfall or in the absence of the sun during the day. M. Dutrochet, after a series of minute and carefully conducted experiments, believed that he found the true nerve motion of these plants, which he attributes to the agency of the sap alone, and he considers the power of locomotion to depend upon its system of nervous corpuscles in the ligneous part of the plant through certain tubes supplied with these nervous corpuscles, and that neither the pith, the bark, nor even the cellular tissues, have anything to do in determining the motion of the plant.

But it is of *carniverous plants* that we had proposed to make some mention, and not those that are merely *sensitive* plants, especially as these involve questions bearing on Entomology, as well as on Botany. More than thirty years ago a Mr. Ellis first divined the purpose of the capture of insects by the *Dionœa*; but it was the Rev. Dr. Curtis—a most practical writer on Entomology—who made out the details of the mechanism of motion by ascertaining the seat of sensitiveness in the leaves of these carniverous plants, and he also pointed out that their secretions were not a mere lure exuded before the capture of the insects that visited them, "but a true digestive fluid, poured out, like our own gastric juice, after the ingestion of food." In 1868, Mr. Canby, an American Botanist, revived the subject of this wonderful plant, (Venus's Fly-trap,) after it had slept for a full generation in *statu quo*; and he is still engaged in his botanical researches. To facilitate his labors he located himself in the *Dionœa* district, and carefully studied the points which had been made out by Dr. Curtis. By feeding the leaves with small bits of fresh beef, he found that they were completely dissolved and absorbed, the leaf opening again with a dry surface. Cheese disagreed with the plant, and finally killed it. He also gives a very interesting account of a captured *curculio*, which used all its power and cunning to escape, but it was of no avail, it finally became enveloped in the digestive fluid and died. This fluid, he maintains, is an actual secretion, and not the result of the decomposition of the substance which has been captured.

Additional interest to this subject has been recently elicited through some charming papers on "Insectivorous plants," by Prof. Asa Gray, detailing many interesting observations and experiments on the structure, habits and functions of *Dionœa, Drosera and Sarracenia*. But by far the most interesting paper on this subject, in its entomological and physiological bearing, is one recently contributed by Prof. C. V. Riley, of St. Louis, Mo., to the December number (1874) of *Hardwick's Science Gossip*, on the "Spotted Trumpet-leaf," (*Sarracenia variolaris*,) which, according to the testimony of the Professor, must henceforth be ranked in comparison with other plants of a similar habit, as "a most consummate insect catcher and devourer." It is not the *flowers*, but the peculiar, although varied, construction of the *leaves*, which form the traps in which the various kinds of insects that visit these plants are captured. This fact is important, because the leaves are earliest and latest in their appearance, endurance and decay, and very probably appropriate this kind of food, "from first to last." The leaf of the Sarracenia—the plant upon which Mr. Riley made his most interesting observations—is trumpet-shaped, a gently widening tube, with an arched lid, partially or quite covering the mouth. The inner surface of this tube is pubescent, that is, covered with a coat of smooth silky hairs, inclined downward. These, however, only extend about midway between top and bottom, and from thence downward the tube is beset with bristles, with their points inclining upward, and these increase in size until near the bottom, where they are replaced by a perfectly smooth surface. This receptacle at the bottom of the trumpet-shaped pitcher, secretes a limpid fluid, which possesses intoxicating qualities, and here is where the insects meet their death. Inside the mouth of the pitcher, and on the underside of its pubescent lid, there exude drops of a sweetish viscid fluid; this, doubtless, is the fatal decoy.

The insects most numerously captured are *ants*, although insects of all the different orders become victims. The decomposition of the bodies of these ants is supposed to add their acidulous qualities to the secretion of the plant, at the bottom of the tube, and increase its solvent properties. Except ants, it appears that but few other *Hymenoptera* are captured, occasionally a *Bombus* or an *Apis*.

Prof. Riley says he found most commonly, in a recognizable condition, several species of *Coleoptera* and two or three of *Hemiptera;* "while katy-dids, locusts, crickets, cockroaches, flies, moths, butterflies, spiders and centipedes, in a more or less unrecognizable condition, helped to swell the unsavory mass" at the bottom of the pitcher. The natural inference is, that these insects are decayed and macerated in order to support the plant, and the testimony of different observers goes very far towards practically demonstrating that this is *not* "only a speculation," but a *fact*.

But although the macerating fluid at the lower end of this pitcher is so fatal to most insects, there is at least one species that has the power of resisting its influence. A large flesh-fly, described by Prof. Riley in the transactions of the "St. Louis Academy of Sciences" as *Sarcophaga sarraceniæ*, the larva of which feeds upon the putrid insect remains in the tube, and when it is perfectly matured, as a larva, it bores through the leaf just above the stem, escapes through the aperture, and burrows into the ground, where it contracts to a pupa, and in due time comes forth a perfect fly, not much unlike the large gray and hairy fly which is attracted by putrid flesh. If it be asked how this insect can resist the action of a fluid so fatal to all other insects, we can only answer that we cannot tell, any more than we can tell why it is that the larva of the bot-fly resists the effects of the gastric juice in a horse's stomach, which is capable of digesting oats, hay and corn.

Perhaps more remarkable still, in resisting the siren influence of the trumpet plant, is a small species of moth (*Xanthoptera semieroeea*) or "Sarracenia moth," which walks with perfect impunity over the inner surface of the pitcher, or trumpet, so fatal to other insects. The female lays her eggs near the mouth of the pitcher in April, and as soon as the young larva comes forth from the egg, it spins for itself a smooth silken carpet, and very soon also closes up the mouth by drawing the rims together, and covering them with its web, which, of course, then debars the entrance of any other insect. By the time the larva has matured, the lower portion of the tube is filled up with its excretions, and above this mass the pupa is formed in a slight cocoon. As the leaf depredated upon by this moth collapses above where the pupa is located, and finally dies, the escape of the imago is thereby facilitated or provided for.

These two insects, Prof. Riley continues, are the only ones of any size that can invade the death-dealing trap with impunity; but he mentions two other minute species sometimes found crawling within the pitcher; and also a parasite upon the larva of the *Sarcophaga*, belonging to the "chalcis-flies," which must insinuate itself with impunity, in order to reach its host at the bottom of the pitcher. The reasons for certain insects enjoying an immunity from capture and death, and certain others falling victims, are explained on the basis of the different structure of the feet; but as this is not particularly germain to the subject, we omit their details for the present. The fertilization of some plants by insects is well understood and pretty extensively acknowledged; but that certain plants carnivorously appropriate and digest animal food is comparatively new to the masses, although the doctrine was advanced more than a hundred years ago, or nearly so long ago.

We have on sundry occasions noticed on the leaves of *Drosera rotundifolia* in this county, the feet, wings and thoracic and abdominal scales of flies and other small insects, the moist and fleshy parts having been in some manner evaporated or absorbed by the plants; and our impression was that they were in some way beneficial to the plant. If a small pebble or bit of wood is thrown upon the leaf, it closes in upon it the same as it does upon a fly; it, however, almost immediately relaxes and casts it out; but if it grasps a fly or other animal matter it remains closed, it is presumed until the animal is absorbed. Contemplating this subject from any stand-point we will, we

find it invested with more than ordinary interest. Mr. Riley thus sums up his conclusions, based upon his own and other corroborative experience: 1. There is every reason to believe that Sarracenia is a truly insectivorous plant, and that by its peculiar structure and secretions, it is enabled to capture and hold its prey. 2. That those insects most easily digested and most useful to the plant, are principally ants and small flies, which are lured to their graves by the honied secretions about the mouth, and that most of the larger insects are accidentally captured. 3. That the only benefit to the plant is from the liquid manure which results from the putrescence of the captured insects. 4. The *Sarcophaga* is a mere intruder, the larva sharing the food obtained by the plant, and the parent fly is attracted thither by the strong odor, just as it would be to any other putrescent matter. 5. That the moth (*Xanthoptera*) has no other connection with the plant than as a destroyer, though the greatest injury is done after the leaf has performed its most important functions. 6. That neither the moth nor the fly has any structure peculiar to it that enables it to brave the dangers of the plant, beyond what many other allied species possess. Of course the subject is not exhausted, and is therefore open to further development. R.

COMPARATIVE VALUE OF FRUITS.

To those persons who have only a limited, or a comparatively small space, to devote to the cultivation of fruit, the following list, reported to the *Pennsylvania Fruit-Growers Society*, at its meeting held in the city of Reading, in January, 1873, may be of some service in the determinations of their choice. It is to be regretted that detailed reports of this and other similar associations, never reach the public eye until long after the events occur. It is the same with the National Department of Agriculture at Washington. In the meantime, the people who are most interested in the work of these associations are, for an indefinite period, deprived of the knowledge they are intended to diffuse. The list comprises the following:

APPLES.

Smokehouse,	15	Red Astrachan,	7
Fallenwalder,	13	Baldwin,	8
Smith's Cider,	10	Maiden's Blush,	6

PEARS.

Bartlett,	23	Duchess,	10
Lawrence,	21	Catharine,	6
Seckel,	18	Howell,	6

PEACHES.

Crawford's Late,	21	Susquehanna,	10
Old Nixon,	13	Early York,	9
Smock,	12	Crawford's Early,	13

GRAPES.

Concord,	21	Martha,	4

STRAWBERRIES.

Wilson's Albany,	18	Triomphe de Gand,	7

The higher the number the greater the comparative value, (for instance, Smokehouse compares with Baldwin as 15 does to 8,) but, of course, this does not imply that the foregoing only are worthy of cultivation. But the list contains those that have received a general recognition in the latitude of southern and middle Pennsylvania, and may be of value to those who propose to plant fruit trees during the coming spring, especially those who may only desire to set out a few of each kind.

GUANO: Dr. Habel has arrived at the conclusion, after mature study, that guano beds are not made of the excrements of sea birds, as has been hitherto supposed. Chemical treatment has disclosed an insoluble residue composed of fossil sponge and marine plants and animalcula. Hebel's opinion is that guano is made of fossil remains, of which the organic matter has been transformed into a nitrogenized substance, while the mineral constituents have remained unaltered.

WHEAT GLEANINGS.

BY J. STAUFFER.

Of the plants cultivated for the sake of their seed, wheat holds the chief place among farmers. What is called winter wheat develops very much like what we call biennial plants. Soon after it is sown the young plants put forth the first leaves, which, during winter and the early months of spring, increase to a tuft, when, to all appearance, it seems to stand still for weeks. But when warm weather comes the soft stems are put forth to the height of several feet, furnished with leaves and the terminal ear. After flowering the seed is formed, and as they ripen the bottom leaves turn yellow and gradually die upwards.

During the time that the growth seems arrested above ground, the underground organs are in constant activity, incessantly absorbing food and extending its root fibers, storing up and making preparation for the growth of the stalk, &c. On the approach of the warmer weather, this apparent rest is but collecting the necessary energies to carry out the final seeding. The low temperature in autumn and winter reduces the action of the organs, without altogether suppressing them, and is essential to the vigorous thriving in its future, more favorable conditions. It is a most favorable condition for future development if the temperature of the air is below that of the soil, so as to retard for several months the development of the outer plant—above ground. Hence, when covered with snow, the soil is kept moist and warm, and the plants above ground are protected from the severest cold. It is found that a very mild autumn or winter operates unfavorably upon the future crop—warmth causes it to shoot up thin, and thereby consumes the food which should have served to form the buds and new roots, or to increase the store of matter in the roots; consequently the root supplies less food to the plant in spring, and its growth is more feeble or stunted. Some farmers endeavor to help the matter by grazing down or cutting these feeble plants, in order to start a new formation of buds and roots; this, under favorable conditions of growth, may have the desired effect, and if the plant has time the normal conditions may, in a great degree, be restored. Summer wheat, in the several periods of its development is governed in like manner, only these periods are of much shorter duration.

The farmer in cultivating his plants can act upon the direction of the vegetative force only through the soil, that is, by supplying his field with nutritive substances in the *right proportions*. This implies a greater knowledge than simply plowing and sowing; for to produce the largest crop of grain, not only the choice of seed and time of sowing require due attention, but the soil must contain a preponderating quantity of the nutritive substances necessary for the formation of seed. "For leafy plants, turnips and tuberous plants, the proportion is reversed," as Mr. Liebig says, but he refers to the ash-constituents of the wheat plant, and adds, "we cultivate potatoes and clover, and take away from the field the entire crop of tubers and clover; we remove from the ground, in these two products as much phosphoric acid and three times as much potash as in three wheat crops. It is certain that the abstraction of these important mineral constituents from the ground by the cultivation of another plant must greatly affect the fertility of the soil for wheat; the crops of wheat diminish in amount and in number." The great point to understand is to supply the proper material in proper combination to meet the demands of the plant. Suppose 98 cwts. of grain and straw from 2½ acres of ground averages, say 5 cwts. of ash-constituents. It is believed that there is 100 times that quantity in an available state, yet it follows that the first crop takes that amount from the soil. Rye may still yield a good crop after the wheat, and oats after the rye, as they do not require the same amount of ash-constituents in the soil as wheat does.

Various plants demand various ingredients or proportions of them. Liebig says "a thousand grains of corn (wheat) require from the soil a thousand times as much phosphoric acid as one grain; and a thousand straws demand a thousand times as much silicic acid as one straw. When, therefore, the soil is deficient in the thousandeth part of phosphoric or silicic acid, the thousandeth grain or the thousandeth straw will not be formed. If a single stalk of corn is taken away from a field the consequence is that the field no longer produces one straw in its room." It follows that the alteration of good and bad crops does not depend altogether upon the conditions of the weather; too few pay attention to the actually favorable chemical and physical condition which would enable them to cultivate wheat, rye and oats for years in succession, without adding mineral constituents. It must be understood, however, that these constituents are not all distributed naturally in an effective condition or accessible to the roots. The phosphate of lime may be present in more than sufficient quantity. It depends upon stirring the soil so that the inert food elements become distributed and the phosphoric-silicic acid and potash become decomposed silicates, thus made soluble and available by means of the plow and harrow to insure all parts of the soil to be arable. It is claimed that if the excess of these food constituents were everywhere accessible and available to the roots of the plants our fields would be able to yield thirty full average crops in thirty successive years without the intervention of a season of fallow. Thus it is argued, that even if all the straw is returned to the field of the entire wheat plant, the field may retain its fertility for straw, but the conditions required for the production of grain are diminished. The consequence is an unequal development of the entire plant. This question has been discussed by the Society* on several occasions with regard to the propriety of stock feeding or selling the grain, in relation to manures and manner of application to the soil; that is, feeding the crop to cattle in the farm-yard and bringing it back to the field and plowing it in so as to restore to the soil all the mineral constituents contained in the crops. It is believed that by this operation the fields would wear out in thirty or sixty years. The conditions that are required to form the grain would not be improved, and the cause of decrease in the crops remain the same. This may suggest the use of prepared phosphates, &c., but I am not engaged in farming nor in manufacturing artificial manures from natural products, therefore have no motive for advertising those who have. The Society has constituted me their Botanist—I deem the foregoing in the line of duty I owe them as a botanist and not as a farmer.

RESULTS OF IMPROVED CULTURE.

The able article on "Agriculture" in the new edition of the American Cyclopedia, lays just emphasis upon the fact that the actual production of the means of supporting life has largely increased, as the true principles of cultivation have become better known and understood. The average yield per acre of some of the cultivated grains, as wheat, for instance, has nearly quadrupled in countries where the principles developed by Liebig and others in applying chemistry to agriculture have gained the strongest hold, even within the memory of men still living; and this increase is not merely proportionate to the greater number of producers, or the additional acres brought under tillage, but an absolute increase per acre. It is very difficult to ascertain the amount of crops, or the average yield in times past, but the average yield per acre of wheat in the 11th century was only about six bushels. The actual productive power of Great Britain in the article of wheat alone increased, during the half century from 1801 to 1851, to the extent of supporting an additional population of 7,000,000, an increase which can be ascribed with confidence mainly to improved cultivation. G.

*Lancaster County Agricultural and Horticultural Society.

THE FRUIT-GROWERS' SOCIETY.

PROCEEDINGS OF THEIR ANNUAL SESSION AT YORK.

The annual session of the Pennsylvania Fruit-Growers' Society was held in York, commencing on the 20th of the present month, this being the first time the Society held an annual session in that ancient borough. The following abstract of the proceedings, from the special correspondence of the *Press*, reaches us just in time for this issue:

The mission of the Society is to take all the leading fruit-growing centres, communicating what it has gathered in other places, and taking in a new stock of ideas in turn. Independently of its interest to the fruit-grower, there are points of interest to the great outer world, some of whom always accompany the fruit-grower on these annual expeditions. The town itself is not large for its age. It contains, perhaps, about fifteen thousand inhabitants, most of whom are engaged in or in some way or another dependent on agriculture for their support. About three thousand are supported by the manufacturing interests of the place. The old, well-built, substantial houses remind us more of an European than an American town, and this allusion may be the more pleasantly indulged in when the names of the streets are noted. Here is the Queen street and the King street, King George street, Princess street and Duke street, and the people just as comfortable and satisfied under them as though after the French—we might almost say Philadelphia—fashion of changing the names every half dozen years.

The streets are like Philadelphia, in large square blocks, and the more like Philadelphia as we have a "Philadelphia" and a "West Philadelphia" in it, the Codorus creek dividing the two. This is an innocent-looking stream as we see it now, but is said to be excessively wrathful at some seasons of the year. The old marshes on the west side have been reclaimed, and furnish a beautiful green divide between the two sections, which must be excessively beautiful in summer time, especially with the beautiful hills which form a background all around the town.

The meeting of the fruit-growers was called to order by the President, S. B. Heiges, who, to the very successful management of the Collegiate Institute of the place, adds the eminence of a very successful amateur fruit-culturist. His annual address was one of the most eloquent and instructive ever given to the Society. After briefly alluding to the historical associations connected with the town, he referred to the fact that some of the most valuable fruits had originated in that section. The York imperial apple of that section was to it what the Baldwin was to the New England States. Then there was the Cheese and the Creek apple, which were famed for their superior excellence, both in flavor and keeping qualities. A famous peach (the General Grant) also originated in that section. Another matter of interest is the increased attention given to cherry culture in that region, mostly within the few past years. It was found to be especially well suited to that part of the country. He had known of cases where the product from one cherry tree had brought in more money than an acre of wheat. They commenced to bear at five years old. He knew of two persons who had sold last year about four thousand bushels of cherries for canning purposes, besides what they had disposed of during four market days of each week in the city.

Referring to the use of manures, he thought that the use of stable material in a fresh or unfermented condition was often injurious to fruit trees. In this connection he thought there was no loss in that left behind, when he saw the black, inky matter running away from the mass in the barn-yard. The injurious matter in the rough material was the humic acid. He had experimented with pure humic acid on plants, and found it destroyed all. He spoke of the theory of many, that we should copy nature, but showed that this was hardly worth a thought; man's objects and nature's objects were wide apart. Man could make Nature do what she could never do for herself. The sunbeam was the hardest of all known substances. It would penetrate a diamond with ease, yet man with a prism could turn these beams completely round. He next referred to the use of lime in soil. It was silex which gave the bloom to the plum and the color to the apple and the pear, but lime was the agent in preparing it. It was present in all seeds, though often it was found in but the minutest traces in the soil. It has often a mechanical action as well as chemical in lightening the character of heavy soils. Lime should be used freely wherever there was much undecomposed vegetable matter in the soil. The use of ashes was dwelt on, and highly recommended as one of the best means of improving worn-out soil.

The rage for large fruits came in for a share of his attention. He thought large size in fruits at the expense of vital principle, and the effort to produce these had led to cultivated fruits being more tender and more subject to disease than the smaller wild ones. He did not blame nurserymen for getting what the public wanted, but it was for their best interest to educate the people as much as possible. He hoped Pennsylvania fruit-growers would help the American Pomological meeting next September in Chicago, and urged immediate and vigorous State action in behalf of the Centennial. He thanked the Legislature for its judicious action in regard to the geological survey, from which he expected immense benefits to the agricultural and horticultural interests of the State.

Among the fruits neglected in that part of the State was the plum. The whole field had been given over to the curculio. He exhibited photographs of his plums, hanging "in ropes like onions." By a hydropult he covered the trees and fruits after every heavy rain with the bitterest whale oil soap he could procure. His neighbors' trees had no plums. He had been charged with driving his curculios over to his neighbors' trees. It might be well to leave a tree or two here and there in a plum orchard without the soap, as an additional inducement for the curculio to leave the balance alone.

Mr. Thomas Meehan was invited to address the convention on how to plant, cultivate and prune fruit trees. He thought much was lost by too expensive modes of preparation of the soil. He would plant fruit trees in ordinary ground just as one would get it ready for a corn or potato crop, and depend on annual top dressing to maintain the fertility. Instead of spending two hundred dollars, as some had done, on manure for a fruit orchard, he would have double the good results from twenty dollars a year for ten years. He thought in many cases it would be found more profitable to grow hay as the accompaniment of an orchard than any other crop; but it was essential in such cases to have a top dressing every year. He had found even fresh earth good enough for this top dressing, so far as the trees were concerned, with about six or eight dollars per acre of super-phosphate for the grass. The address produced a lively discussion, occupying the whole of the evening session.

The fence question was one of the most interesting discusssed, introduced by Henry M. Engle, of Marietta. He built his remarks on the idea that fences were made solely to keep out neighbors' cattle, and thought no one should be compelled to do this, and would alter the whole theory of legislation if this was the basis of action. Stone fences were the most economical in a long course of years if one lived in a stony country, but he thought Osage-orange hedges cheaper in any other, except in places where timber was a drug. It cost two dollars per rod to put up a post-and-rail fence in his part of the country, and but twenty-five cents per rod for an Osage-orange fence, though there was some little annual cost in pruning the latter.

A resolution was offered and unanimously adopted, that it was the sense of the meeting that the Legislature should enact a general law for the whole State, prohibiting cattle and similar stock from running at large.

For the last year or two the Society has subscribed to the good old doctrine that "man cannot live by bread alone," so they discuss matters of taste as well as the profit and loss on fruits. They propose at the next meeting to change the name of the Society to that of the "State General Horticultural Society," whose object shall be the encouragement of pomology and *general horticulture*. In this spirit Mr. Josiah Hoopes, of West Chester, made an admirable address on evergreens and their culture, and Mr. Purple, of Columbia, one on garden flowers, in which the old-fashioned peony came in for a share of praise.

Whether it is profitable to grow many varieties of fruits was opened by Casper Hiller, and made an interesting topic; most speakers considering that in pears the Doyenne d'Ete, Manning's Elizabeth, Bartlett, Seckel, Beurre d'Anjou and Lawrence, they had the cream from a thousand varieties. One speaker, however, thought that, say in a thousand trees, we should have fifty or so varieties, so as to know what was going on in the new fruit line.

The blight in pear trees was discussed, and various washes of the stem continuously with lime, sulphur, soft soap, &c., recommended as among the best preventatives.

Drying fruits as a means of utilizing overstocks of fruits was discussed. It appears there are now drying machines costing but a few dollars, and by the use of which even children can be usefully employed. Grafting the grape was referred to as one of the best methods of growing the Delaware and more delicate kinds. The Clinton and the Concord are the best to graft on. It is best to have them growing a year or so before grafting, and to do the grafting in fall or winter before the sap begins to rise. The graft is set a couple of inches beneath the surface of the soil. Keeping fruits made a very interesting topic. A moist atmosphere was good for perserving apples and pears, provided it was not a foul atmosphere. One speaker had a spring running through his fruit-house, which made a pure, cool, moist atmosphere, and in which he could keep early winter fruit in good perfection up to February or March. Close barrels were not found as good as hand-made or open ones. One speaker had found apples kept best when gathered by the full of the moon, but another speaker said that he lost more by moonlight than at any other time! Whether he lived near to a theological seminary, as Mark Twain's melon patch was, he did not state.

It is impossible to give even a brief outline of the discussions. The secretary, E. Engle, of Marietta, however, made full reports, which, in connection with the reports of the State Agricultural Society, will be published by the State.

The officers for the ensuing year are: President, Edwin Satterthwaite, of Montgomery; Vice Presidents, S. W. Noble, of Montgomery, and Tobias Martin, of Cumberland-co.; Corresponding Secretary, W. P. Brinton, of Christiana; Treasurer, Robert Otto, of West Chester.

The next place of meetingis Doylestown, in January next.

Among the horticulturists present were some from Ohio, Maryland and New York, and though the attendance was, as all other things are, affected in some degree by the times, the work of the Society was never better done.

[It may be proper to state in this connection that one of the new features of THE FARMER under its present management, will be full reports of Agricultural, Horticultural and similar meetings, held in Eastern Pennsylvania, prepared expressly for these columns, by one of our own reporters, who will have special charge of this department. The publishers are determined that their readers shall hereafter see these reports first in their own organ, THE LANCASTER FARMER.]

PROCEEDINGS OF THE LANCASTER COUNTY AGRICULTURAL AND HORTICULTURAL SOCIETY.

This society met statedly, on the fourth of January, 1875, in the Orphans' Court room, Lancaster city. Johnson Miller, chairman, presided, and Alex. Harris was chosen secretary *pro tem.* Present, Johnson Miller, H. M. Engle, Alex. Harris, P. W. Hiestand, Levi S. Reist, Peter S. Reist, Jacob Buckwalter, M. D. Kendig, John B. Erb, D. L. Resh, M. M. Eshleman, A. H. Reist, S. P. Eby, A. C. Hyus, D. G. Swartz, Henry Franke, Israel L. Landis, J. H. Risser and Hon. J. B. Livingston.

The reading of the minutes was dispensed with, and the chairman then called for reports from standing committees on the crops.

M. B. Eshleman reported the crops looking as well as could be expected. Tobacco is nearly all stripped and ready for the market. Wheat is about half gone into market.

M. D. Kendig reported that the tobacco was pretty well stripped, and as to other matters he agreed with Mr. Eshleman.

H. M. Engle remarked that if the winter did not prove a hard one, the crops would most probably do well.

John B. Erb reported the fruit buds swelled a little, but regarded everything safe as yet.

D. L. Resh read the following excellent and interesting paper on the subject of

THE CULTIVATION OF FLOWERS:

The first article of our constitution declares that the object of the Horticultural Society shall be to encourage and promote the cultivation, improvement and exhibition of fruits, vegetables and flowers. The first two objects stated have received, in a marked degree, the attention which they deserve from the members of the Society, while the last, in my opinion, has not been treated with that consideration which it so richly deserves, and which its importance demands.

The cultivation of flowers—from the earliest times to the present—always has occupied a prominent place among the industries of the most enlightened people. The ancient city of Babylon was noted for its hanging gardens, to which the utmost care was given. In these gardens flowers and plants were cultivated in profusion, under royal patronage. They were the pride of the great city. Nothing was spared which could add to their productiveness or beauty, and if history informs us correctly, they have not been excelled by anything of the kind in modern times, with all our boast of the onward march of improvement.

Flowers played no unimportant part in the public and private life of the Greeks and Romans. At weddings and at funerals, at their feasts and festivals, upon state occasions and in the worship of their gods, flowers were used with a lavish hand. Victors in the Olympic and other games were rewarded with chaplets of flowers, and at a marriage the bride and her attendants were crowned with garlands.

Not only were the heathen nations of antiquity devoted worshippers at the shrine of Flora, but God's chosen people used the same means to manifest the fullness of their joy and gladness on triumphal and festal occasions. From that period down through the succeeding centuries of the Christian dispensation, flowers have never lost their ancient significance, although their language may have been partially unheeded through the sanguinary and intriguing selfishness of the darker ages. They ever speak a beautiful language, and symbolize those active human ideas and affections which ultimately culminate in that *seed*, which may germinate and bloom in the realms of the "better world."

At the present time, both in our own country and in Europe, much money is invested in, and more attention is given to, the cultivation of ornamental plants and trees than was ever before known. Not only in the cities, but also in the rural districts, persons of leisure are devoting their time to this fine and useful art, while to many men of business, and to housewives and other women, it is fast becoming a necessary and healthful recreation.

The time is past when the respectable farmer, or merchant, or mechanic, after working hard all day, spends his evening in the saloon or tavern, or other loating place. He now spends it at home with his family, his books and his flowers. Nearly all farmers have blooming plants in their windows in winter time, and the number that are building conservatories or greenhouses is yearly increasing. This shows a refined and cultivated taste which true country life is well calculated to create and nourish.

The Horticultural Society of Germantown, in the suburbs of Philadelphia, with a view to encourage floriculture among the people of that place, announces that it will distribute among female applicants fifty winter-blooming carnations in five inch pots. The person who, at the February meeting, shows hers in the best condition will receive, as a premium, *one hundred* bedding plants. The second best specimen calls for *fifty* bedding plants, and the third best for *twenty-five*. The bedding plants will be delivered in time for putting out in the spring.

This plan has been frequently practiced in foreign cities and villages, with the best results. Will not other societies, like that of Germantown, take a forward step in this direction and introduce and encourage practical floriculture in city and country.

Will it pay me to beautify my home with flowers and shrubbery? is a question which every one who has a home must answer for himself. There are few persons who cannot afford to invest a small sum in a few rose bushes or other ornamental plants to start with, and in a short time they will be well repaid for their slight expenditure and trouble.

Anything which adds to the beauty and cheerfulness of a home adds to its permanent value. There are many gems in the floral creation which, when once implanted in the soil, will continue to grow in beauty year after year, and remain joys forever to the fortunate possessor. All will admit that this department of nature is well worthy the study of man. "Flowers are not the trifles which many think them to be, or God would not have bestowed the care on them that he did."

H. M. Engle entirely endorsed the sentiments of the essayist, and concurred in the opinion that flowers followed agriculture—were next in importance. He believed that most farmers failed to pay proper attention to the cultivation of flowers.

A vote of thanks was tendered Mr. Resh for his essay, after which the Chairman, Johnson Miller, read his

ANNUAL ADDRESS.

GENTLEMEN: With this meeting closes my labors for the first term as President of the Agricultural and Horticultural Society of Lancaster County. One year ago, at the January meeting of this Society, you held an election for officers. Some important business in which I was interested required my absence from your meeting for some time, and when returning into this room, a committee approached me and announced the unexpected intelligence that I was elected President by a majority of one vote. To be elected to the highest position without my knowledge, or asking any member to vote for me, is a compliment worthy of remembering, and for which accept my heartfelt thanks, one and all. When taking the chair, which I have filled at every meeting excepting one since my election, I was so much embarrassed when the idea struck me that the youngest member of this Society at the time should be the presiding officer, that I knew not what to say. The only practice I had in parliamentary rules, or as chairman of public meetings, was what I learned as Superintendent of a Sunday-school, to which I was elected for four consecutive terms. This, I think, was more becoming to me than to be Chairman of this Society. In the former, I was instructor of persons younger than myself; in the latter, quite the reverse. But notwithstanding all this, I conducted the meetings of your Society to the best of my knowledge and ability. I however feel that there are some members here that could conduct them better.

As this is my first annual address, you will please bear with me if I should go into details, which, perhaps, do not belong to such papers. I will, however, try to remain within agricultural lines. In the first place, a few words for the Society may not be out of place. During the year just closed, several of our members have passed from time to eternity, and some new names have been added to the list already on our books, so we see that as some leave us others fall in; but this is not all we want. I think we ought to have made more progress since the organization of this Association, in 1866. It has made little advancement as a county society. Its meetings are often slimly attended, particularly when political excitements are in order in the county. I am often called a politician myself, but I always regard these meetings as of the first importance, and even if I should be a candidate no inducement could prevent me from attending here. But when politics run high we have only a half dozen members here. Now, why is this state of affairs? is a question which should engage the attention of every member upon this floor. Do the people of Lancaster county not know there is a working agricultural society among them? I say they do; they see the proceedings in the different newspapers of this county, for which the publishers deserve the thanks of every member of the Society. We should invite the representatives of the press to report the proceedings of the Society from time to time. With all this advantage the people have of knowing there is an agricultural society, they will not attend our meetings, save about a dozen active members. It is a shame to have to make such a report for a county like Lancaster, yet such is the fact; and when I am called upon to make my annual address to-day I will frankly tell the truth of things, no matter whether it is in favor of or against our Society. If we continue without awakening more interest, and without endeavoring to get people interested in our meetings, the trumpet of death of this Society will be sounded in our ears before another President will deliver his annual address. A year ago I made the expression that it would never die under my hands, and I stand on the same platform before you to-day.

Shall it be said that Lancaster county is without a good Agricultural and Horticultural Society, when almost every other county in the great Keystone State has a large Agricultural society? The counties of Berks and Cumberland are fitting examples for us to follow. They have interesting meetings, well attended, and we have some springing up within the borders of our own county—primary societies, (aside from the Grange movement, to which I will refer in another place), which will soon overbalance our own in point of numbers, attendance and interesting proceedings. I appeal to you, members, let not this be the case. Let us not be satisfied any more with the announcement of names for membership, but let us make it a point to have our neighbors and friends along with us, and not only at one or two meetings, or perhaps, join for the sake of political gain, or become a member to gain influence. We have upwards of two hundred names, if I mistake not, upon our books, when we never have twenty-five members attending. This is a very unsatisfactory state of affairs to report, yet such is the case. Many of our members come to the city to attend to business, and regard the coming to our meeting as a matter of secondary importance. This is one of the greatest mistakes, and is one of the principal drawbacks upon our Society. It is very often the case that no members make their appearance until half-past two or three o'clock, when the hour of meeting is fixed precisely at two o'clock, and should be one o'clock. To remedy this annoyance I would suggest a plan, viz: Meet early and adjourn early. The members who live at a distance have to go home by night,

or leave before adjournment. This always makes a disturbance in the meeting, and is unsatisfactory to those who have to leave; and several times we had to adjourn without arriving at any conclusion, from the fact that nearly all the members had gone out. This could and should all be avoided by meeting early and adjourning at an hour that all could go home before it becomes late. This going out before adjournment and talking among members when the Society is in session is often very annoying, and it is not very pleasant for the chairman to be continually calling to order. I have no one in view in making these remarks, but do hope we may all avoid these things as much as possible. The peeping in at the door has also somewhat disturbed the proceedings. The door should always be closed, and it would be proper to have a paper hung outside, and also one upon the door entering this room, with the following printed on it: "Meeting of the Agricultural and Horticultural Society this afternoon at two o'clock: Free to all." Some would come to our meeting who I know would not come now. I have often heard the remark among people, "I would come to the meetings, but don't know where the meetings are held." If you tell them in the Court House, they are about as well informed as before. Therefore the above suggestion would answer the whole question, and would bring some farmers and persons interested in our work. As it is, they don't know where we meet or whether they are allowed to come in. Invite all, and spend more money for advertising and printer's ink, and it will bring the people. Have a committee on printing and advertising, and have always the essayist appointed beforehand, and four or five important subjects for discussion at every meeting—questions that come right home to the farmer and fruit grower; questions that everybody is interested in—and advertise it. Spend more for printer's ink, and this room will not be large enough to hold our meetings.

Instead of meeting in this little room, Lancaster county should have an agricultural society of 500 members, which would be only about ten members out of every township. Let us hold our meetings in the large court room up stairs. By energetic work, and advertising, and working shoulder to shoulder, this would be accomplished in the course of time, and it would be an honor to which Lancaster county would be justly entitled. In this way we would get in the leading farmers of the county; their sons, also, would become interested in the business of agriculture, which is the driving-wheel which runs the machinery of the whole world. When once we have a large county agricultural society, let us establish an auxiliary society in each township in the county—have meetings—go together to consult and talk over agricultural matters. In this way we would teach the rising generation the importance of knowledge in the profession they are practicing and following. The farmers' boys are working day in and day out; most of them not reading a book or a paper, but following the example of their fathers and grandfathers. The result is, no improvement. The world moves; we live in a progressive age, and this class find when they grow up to be men that they are behind the age. When you tell them their situation, they call you a book farmer; that if you educated your sons up to the times they won't work, but will leave the farm and seek for some office, etc. This expression I call a farcical humbug, and wherever this expression is made we see the fruits of it. Here they labor almost day and night; they post themselves on nothing in or out of their profession—how they could improve their farms, make their land productive, their families intelligent; the result is "all work and no play makes Jack a dull boy." Take, for instance, a farmer's son who is raised in a family where there is nothing to improve and cultivate the mind. This boy grows up; he goes out in company; the first place of amusement he meets is the hotel or saloon in a neighboring town. The games there practiced attract the attention of that undeveloped mind, which is now looking for something more than "all work;" he soon forms a habit to go to such places for passing his long winter evenings, and his most precious time is thus passed to his bitter disadvantage when he grows old. He spends occasionally a little; these "littles" count up a nice sum out of the father's hard earned dollars, which could be spent much better by investing the same in agricultural books and papers. After this habit of going to these places to pass time which should be spent at home in the family is rooted so deep in this young man's system, he proposes to go to the city into some business. "I won't farm," he says, "it's a dull business; hard work, and no pleasure." This is the fault of parents.

The young man now goes to the city to commence business. No education, no tact for business of any kind, save places where playing cards, loating and vice and immorality hold their court; he fails, turns out literally bad. After he has gone through with his father's hard earned dollars, he is here, poor and ragged. Now where is the fault? Is book farming, or is educating farmers' sons up to the times, the fault? No; I say emphatically, no. I say, learn the young farmers all you can; teach them that noble motto, that "agriculture is the most noble employment of man." Teach them to work, but have something to improve the mind. Have a number of agricultural books and papers; and at the same time do not neglect the Bible and other books that would teach them something for their eternal welfare and their future happiness. Ten times better spend the money for such things than give it to your sons to spend for things that will lead them to the road of eternal damnation. Let us have daily, weekly and monthly papers, so that when evening comes and the work is done, we can gather our families around the table, and read what has happened throughout the world. After having exercised the body, the mind is in proper condition to receive and keep knowledge. I venture to say that there is no intelligent farmer in the county of Lancaster, or anywhere, who will not say, Amen; who will not say that this is the most pleasant and profitable way of spending time and money, both for young and old. Let us remember that the farmers' sons should be brought to the meetings of the Agricultural Society. The old are fast passing away; every year a few of our members die, and if no inducement for the young to come is offered, one of the greatest aids to us, yes, we may say the corner-stone of agriculture, will be entirely neglected. That great good could be accomplished by having such an agricultural society as I have referred to in the former part of my address, cannot be doubted; but this can only be accomplished by having more interest awakened, and have advertised what we are going to discuss, and every member make it a point to bring his neighbors and friends along, and then talk of matters which they understand. There is often much time spent by this Society in talking over matters not directly agricultural or horticultural. I know that nearly every year there is entirely too much time spent in discussing when and where to hold the fruit exhibition, and then generally too late. Committees appointed to consult with the Park Association, back and forward, delayed the arrangement this summer until the eleventh hour. Why not go to work early, and make up our minds that we can hold an exhibition or a fair, as you choose to call it, by ourselves, without joining in with an association that is noted for horse-racing and betting, and the reputation of whose grounds is such that the respectable class of farmers will not enter their gates. The evidence of this we take from the fact that their fairs have time and again been a failure. Instead of the committee appointed to consult with such, that committee ought to be appointed in May and go to work at once, and make such arrangements as will insure a fair that would be an honor to Lancaster county, and not a shame, as has heretofore been the case in both societies. We have the material and men to do it, if the thing is properly managed and put in right shape; but when you have racing, gambling, and that sort of thing connected with fruits and productions of our mother earth, don't ask why it is a failure. Let us go to work and make up a fair next fall which will not only be a benefit and honor to our Society, but also to the grand old garden county of the Keystone State.

To make good a few words I said in the beginning in regard to the Grange movement, I will but briefly call your attention to it. I know that there are some persons within the sound of my voice who belong to it, (and whether they are better off or whether it is a direct benefit to them, I will not dispute, for they know that part best themselves), but at the same time, when I give my views on this matter I hope I may not hurt the feelings of any one. In the first place, it is a secret organization. This is the main point of opposition I hold against it. I stand before you as one of the bitterest opponents of all secret societies, in any form or manner, whether you call yourself a Mason, a Knight, a Mechanic, or a Granger. The question of Grangery has been fully and ably discussed in our meetings of late, and I always have been quiet until to-day. I think a few words may not be out of place. One of my best friends in the society made the remark to me, that the Grange movement would gobble up this whole concern—referring to the Agricultural and Horticultural Society of Lancaster county. This has aroused my feeling to such an extent that I thought it not out of place to call your attention to the matter, so that if this should be the case, that we be not taken by surprise and belong to the Grangers before we are aware of what is going on. So far as their principles of improving agriculture, social and moral advancement, I go with them; but when it comes so far that they want to control railroads, markets, and many other things, by secretly plotting such plans for their own interest, I am opposed to them. They hold out to the world very fine inducements and show many advantages, but is it sound moral principle for any class of citizens to combine secretly and make a promise that they will not sell their grain until they can get so much for it? Is it policy for any class of men to hold back anything when the country needs it? For instance, in the Western States, where the Grangers are a powerful combination, they say we won't sell any productions until such and such a price is paid. Where is the poor man, outside of the Grange, going to obtain the necessary supplies for his family? Is this doing as we like to be done by? Or is it loving thy neighbor as thyself? I say no. In the West the cry was against railroads; they say railroad monopolies must be crushed out, and they did most effectually crush them out—so effectually that European and other capitalists said, "no more money for railroads." What was the result? The panic came, and from its effects the whole country is yet sick, and there is no telling when and where it will end. "No more railroads" was followed by a general confusion in all the iron manufactories. They stopped operations. No more railroads was followed by "no more iron to build them," and now we have to-day hundreds, yes, thousands of men out of employment—without money or food. These men have broken down railroad monopolies, and built up Grange monopolies, in which the farmers want to make all the money themselves; and I say as soon as one class of men want to control everything, and go hand-in-hand secretly to accomplish their own selfish ends, they are injuring themselves and the whole country. In the East, and here in Lancaster county, I can't see any use in them whatever. It is a new fangled notion, and men go into them rough and tumble, and derive very little benefit from them. I say, let a farmer be a farmer; a railroad man a railroad man; a merchant a merchant, and everybody attend to his own business. Then we shall be better off than with all this clubbing together. I do hope

that the day may not be far distant when everybody will be his own master; be man enough to control his own affairs and have a mind to judge for himself, without belonging to every secret order, asking and plotting for information to make gains without principle or regard for honesty; and I say that the world would be better off to-day if they could do away with all the secret societies ever organized, and let each man follow his own business, and not try to cripple one monopoly and build up another that is really worse than the one wiped out. If the farmer could control the whole affairs of this nation, both State and church, by belonging to the Grangers, I would say, God forbid. As to my own case, I am opposed to all secret organizations, and will never change my principles on this point for gain, profit or office. I will journey on in this policy without fear or favor. I am born free and independent, and, thanks be to God, I have made up my mind to die free and independent in all things. With these few remarks, I will close my first annual address, and wish you, one and all, much success, and may we all try to be friendly toward each other in all things. May this society prosper and improve.

D. L. Resh took exception to that part of the address which reflected on the Grange movement, for he was disposed to favor the order. He entirely dissented from the speaker so far as he reflected upon the Patrons of Husbandry.

Levi S. Reist was not a member of any secret society, but he understood that the Grange admits females to its membership. This latter feature received his favor.

M. B. Eshleman took exception to that part of the President's address which implied that no man could be "free and independent" if he belonged to a secret order. The speaker thought that the Chairman's admission, that he was "bound by certain principles" prevented him, also, from being "free and independent." The best class of people belong to the Grangers, and he therefore could not think there was any harm in the movement.

Alex. Harris sustained the views of the President throughout, and regarded his address as one of the most excellent that had been delivered before the Society.

John B. Erb expressed himself as "pleased up to the handle" with the address. He did not think the President had said anything that could be construed as offensive to the members of the Grange.

Dr. Hiestand believed a man could be as "free and independent" while belonging to a secret order as out of them.

M. D. Kendig was very much pleased with the suggestions of the President in his address, and believed that if the sentiments were adopted the Society would be a complete success.

Judge Livingston thought the address was an excellent one, and that much good could be accomplished by farmers providing good reading matter for the home circle. Enjoyment is just as necessary for farmers' sons, in the home circle, as among other classes of people, and too much attention could not be given to it. He knew nothing of the Grange movement, but if it be what is claimed for it, why not let us know *all* about it—why not let it be free and open? He thought it perfectly proper that the people should be allowed to inquire into the Grange movement, and they should be permitted to do so without giving offense.

Peter S. Reist believed that many secret societies were good in their way, but he did not think this could be said of all of them. He did not wish to be understood as opposed to the Grange movement; but suppose *everybody* should join it—would it be a *secret* order?

Dr. P. W. Hiestand was not very favorable to Grange organizations.

On motion, a vote of thanks was tendered Mr. Miller for his very excellent address.

The Treasurer, P. W. Hiestand, submitted his annual report, showing a balance in hand of $84.03. The auditors, Messrs. Peter S. Reist, M. D. Kendig and D. G. Swartz, reported that they found everything correct.

On motion, the President, Secretary and Treasurer were appointed a committee to confer with the County Commissioners with relation to a room to hold the meetings of the Society in during the ensuing year.

The Society went into election of officers, resulting as follows:

For President, Johnson Miller, Warwick.

Vice Presidents, Hon. J. B. Livingston, H. M. Engle, Levi S. Reist, Peter S. Reist.

Corresponding Secretary, Milton B. Eshleman.

Recording Secretary, Alex. Harris, esq.

Treasurer, Dr. P. W. Hiestand.

Librarian, S. P. Eby, esq.

The remaining officers, elected a year ago, hold over.

Diller Bare, esq., presented to the Society, through Hon. J. B. Livingston, a number of very large Bartlett pears.

Adjourned.

PROF. RILEY ON THE BIRDS.

At a late meeting of the Alton Horticultural Society, attended by Prof. C. V. Riley, State Entomologist of Missouri, after some talk about the cedar bird, "which was pronounced to be an unmitigated scamp," Prof. Riley was called upon to give his views as to what birds were the farmers' friends. We take a sketch of his response from the St. Louis *Democrat:*

Mr. Riley was not sentimentally blind to the faults of some birds, and, perhaps, the blue jay, the crow, blackbird, the red-winged blackbird, the common robin, the golden robin, the cedar bird, and the king bird deserve to be classed among our enemies, though much might be said in favor of these wholesale denunciations. But he could not allow such wholesale denunciation of our little feathered friends without a word in their defense.

The chinch bug is certainly a first-class injurious insect, and yet there is abundant and cumulative testimony that the blithe little quail devours immense numbers of them, especially when hard pushed in winter. Let those who are skeptical examine the craw of this bird. He had reason to believe that the prairie chicken would also eat these nauseous bugs. The curculio is a hard customer, and we must not expect much aid from the birds in diminishing its numbers; for the cunning little hunchback, in the beetle state, knows well how to hide, simulate dead objects, and deceive even the sharp eyes of a bird; and in the soft grub state takes good care to leave the fruit, for transformation, either in the night or from the underside of the fruit as it lies on the ground. But even here there is good evidence, from such men as S. W. Robson and Dr. Trimble, that the Baltimore oriole will devour it—the former having seen the bird in the act, and the latter having taken the beetles from the crop.

The codling moth is certainly another of our worst fruit pests, and he knew positively that it was devoured by several birds, and mentioned the black-capped tit-mouse and the downy woodpecker. So thoroughly do birds gut its cocoons in our orchards that the pest would be well kept down by them were it not for our carelessness in harboring it in our storehouses, where they cannot reach it.

The yellow-marked cuckoo devoured the larvæ of the white-billed Tussock moth—a serious orchard pest; and even so bad a bird as the king bird had been seen devouring the rosebug and the different cabbage worms. The tent-caterpillar is partially preyed upon by the Baltimore oriole, and greedily devoured by the American cuckoo and the jay. The canker-worm is also devoured by a number of the different birds, and among them the blue-bird. Thus some of our very worst insect enemies are preyed upon by birds; and who can estimate how many hundreds of insects there are which, though not now classed as injurious, would soon become so were it not for the birds. Not one in a thousand of the worms that hatch on our vegetation ever live to go through all their changes, and he had never been more forcibly reminded of the important part birds play in their destruction than the present year in rearing silk-worms. He hatched thousands of these out-of-doors on an Osage orange hedge this Spring, and though such as were protected with netting from birds and other enemies were remarkably healthy, and in due time spun their cocoons, not one of those feeding without such protection lived to spin—all devoured by birds.

He admitted that birds sometimes devoured our friends, the parasitic insects; but so does man destroy them also, in applying his artificial remedies against the noxious ones. He asserted, however, that, as a rule, predaceous or canibal insects—those which are our best friends—such as ground-beetles and lady-birds—are shielded from the attacks of birds by some peculiar attribute, such as pungent odor, etc., which renders them unpalatable; and that most parasites were able to defend themselves by their own stings and other weapons of offense and defense. Thus a hundred vegetable-feeders were devoured to one canibal or parasite; and, all things considered, birds are very essential and important friends of man. He spoke of them as God's appointed guards and protectors of the vegetable kingdom, carrying and dispersing its seeds, and ever present to clear it of insects that gnaw and destroy. He gave it as his conviction that if a dozen or our most common birds could be swept from existence, we should no longer be able to grow our principal crops, and insects would riot and multiply until they become unendurable.

LETTER FROM A FARMER'S WIFE.

ELIZABETHTOWN, JAN. 12, 1875.

Editor of The Farmer: Having a few minutes to spare this evening I thought I would write a few lines to you.

No doubt you will be surprised to receive a communication from one who is a total stranger to you, but I hope we will be better acquainted by and by. I intend to drop you a practical note now and then, if I can be in any way useful to THE FARMER; but you will have to be indulgent with me, for I know very little about writing, and nothing at all about grammar: so if there is any mistake, the laugh will be at my expense.

I read THE LANCASTER FARMER with much interest. My husband wanted to stop it, but I said "no, not yet, I want to see what it will be like this year, for I think it is improving." "All right," said he, and I am more pleased with the last number than ever.

I have always delighted in Agricultural publications, and I shall occasionally give you some hints in housekeeping that may benefit young married people, as I had an experience of more than twenty years in that line in both city and country life, but I have always had a preference for the country.

Hoping I have not trespassed upon your time and attention, I close with my best wishes for the future success of your Journal, and remain Your Friend,

LEOLINE.

P. S. The following have been practically tested, and therefore are worth knowing:

HOW TO DRIVE WEEVILS OUT OF A BARN.

Take the fresh skin of a sheep and hang it up in the entry about the middle of the barn to dry. The odor of it will drive all the weevils away, and you will not know what has become of them.

TO CURE THE STING OF A CATFISH.

As soon as you can, take a woolen rag and dip it in strong vinegar; wrap it around the wound two or three times, then hold the member in the oven of a stove as hot as you can bear it, from fifteen to thirty minutes, and it will draw all the poison out.

—We commend the whole communication of our fair correspondent. The remedies are so simple that any one can test them for themselves.—ED.

THE HAY CROP AND HAY TRADE.

The fluctuating and high price of hay for years past indicates how little surplus hay there has been in the old hay-producing sections, and the small amount of surplus there is in any State, even with full crops, clearly shows that a universal short crop would subject us to a severe famine in hay, and that our only salvation hitherto has been the extent of our country, and its varied climate, which has infallibly secured us a surplus in some sections to forward to others short of a supply, as some portions of the country are every year, through failure of the crop. This, together with the rapid growth of our cities, increase of our commerce, and the development of our mining, manufacturing and lumbering interests, and the growing southern trade, occasion an activity and demand for hay that is certain to increase. But a certain portion of the land in any section can be devoted to the production of hay, and as the greater portion thus produced is required for the stock—even with a good crop—hence it follows that this increasing demand must be met by like increase in extent of hay-producing territory; in other words, our meadows must extend further west, where there is more land to spare for them, and a reserve supply of hay must be held to make good deficiency in any State, and to supply such cities as were dependent on such State. In short, the great West and Canada must wheel into line. Their farmers and merchants must hold an ever ready surplus to meet the demands from any section, as they now do of grain, and the hay merchant, like the grain merchant, must be at every station throughout the country.

There is scarcely a location where a press could not be advantageously located. Even in Utah, Colorado and other territories, we frequently find the price of hay beyond its value in eastern markets. Indeed, there is such a steady demand for hay west of the States, that in no part of the country have our patrons proved more successful. Texas, Arkansas, Tennessee and Kentucky have a ready market at the South for all their surplus, at a a much better margin than they can realize on any other product; while the Western States have enough to do to supply the lumber and lake trade, and contribute their share to the mining regions of Pennsylvania, and eastern markets. Georgia, North Carolina and South Carolina have more than enough to do to take care of themselves, but we are pleased to add that they draw much less from abroad than formerly, and are steadily increasing their amount of grass land. Virginia, West Virginia and Maryland must also enlarge their meadows, as the Middle States and Canada have apparently enough to do to take care of themselves and contribute the deficiency in the Eastern States. We might add, that the price hay commands in the mining and lumber country on the Pacific coast, makes its movement golden when put up with suitable presses for economical transportation, instead of being bundled with the rudely constructed machines built by Californians from recollections of the old fashioned presses used in the Eastern States during their boyhood days.

Why should hay sell for double, even triple, the price in some part of almost every western State that it will command in any other section of the same State and no more distant from market? Why should our southern cities want hay at such enormous prices, when such States as Illinois, Missouri, Kentucky and Tennessee have more than a supply? It is simply the want of facilities and inclination to forward it—in other words, want of presses and energy to take advantage of a market which, although permanent and growing, is foolishly supposed to be temporary. If corn or wheat should advance five dollars per ton above the level in any market in the country, thousands of merchants would detect it in an instant, even if a thousand miles distant, and profit by it. Yet here we have a difference of sometimes twenty dollars in price of hay but a few hundred miles, or less, apart, and no one seems to be aware of it. These are not exceptional instances, nor exceptional times, but a repetition of what has been for years past, and will be for years to come, unless merchants and farmers can be brought to understand that hay has a cash value, and can be transported as easily and cheaply as grain, and taught to market their crop, instead of allowing hay to be forwarded to their neighbors from remote sections and past their very doors, and that a few hundred dollars invested in machinery for handling hay will earn them more money than their $50,000 elevators for handling grain, and with less capital and risk.

There are thousands of tons of surplus hay, annually, in every State in the West that would find a ready market, far or near, and at a good round profit, but that will never be moved in consequence of want of interest and information. Even in the Middle States and Canada, there are sections where there are no presses nor forwarders, and the surplus hay is lost to the market, unless some enterprising hay merchant may happen through and pick it up. Much of this indifference to so important a trade is due to want of information, as the price of hay is not usually quoted with other produce, except in large cities. The merchant may be posted on New York, Boston or Chicago markets, yet he has no prompt means of knowing when hay will bring him a larger margin at Washington and Baltimore, at Indianapolis, Toledo or St. Louis; nor of keeping posted on the price of hay in the hundreds of markets in the mining districts of Pennsylvania, Virginia, and along the lakes and the various Southern markets. In consequence of this lack of information, there not only seems to be an indifference to the importance of the business, but very much hay is forwarded to dull markets, when it would have commanded larger prices, and, may be, at a much nearer market.

A KIND WORD FOR FARMERS.

Farmers are charged with being proverbial croakers. It is alleged by those who are unacquainted with the onerous duties and numerous cares attendant upon their pursuit, that the farmer is never satisfied with his surroundings. The weather is frequently adverted to in a complaining manner. It is either too hot and dry or too cold and wet. The spring is so backward as to retard the rapid growth of vegetation, or the early warmth accelerates the budding of fruit trees, to be injured, perhaps, by unseasonable frost and cold. An excess of rain is a cause of dissatisfaction, because it tends to produce rot among the potatoes, and loss and inconvenience is complained of owing to repeated rainfalls during the period of gathering hay and harvesting crops. On the other hand, a protracted spell of dry weather causes springs to cease their supply, and convert the verdant pasturage into parched and arid fields. Thus he is supposed to be in a state of chronic discontent, and to have a perpetual grumble upon his lips.

Of all men it is generally believed that the farmer should be the most contented and uncomplaining. Do not his crops grow while he sleeps, and is not his grain golden, figuratively speaking, at least? Does not each blade of grass glisten in the morning sun with the brilliancy of the diamond, even if its dewy burthen be the only cause of such radiance? And then the luxuriance of that most magnificent of all the products of the soil—Indian corn—how glorious to look upon when tossing its broad blades in apparent exultation, as if rejoicing in the pride of its rapid growth!

Who that possesses the slightest degree of poetic sensibility can behold the lovely scene which the well tilled fields of the thrifty farmer presents to the view, without a thrill of pleasure and feeling of admiration? The city visitor at a country home is apt to regard the farmer as one who is surrounded with every comfort, and all the enjoyments of life. The after dinner siesta having been indulged in, how delightful, while comfortably seated upon the ample and well shaded piazza, to gaze upon the beauties of nature, and to witness the operations of the farmer when performed in view of the guest, who is the recipient of generous and painstaking hospitality.

Now all this is very fine and affords a fruitful theme for comment and word-painting. As a friend once remarked, the operations of the busy hay-makers presents a pleasing picture to the eye, especially when contemplated from beneath the wide-spreading branches of an umbrageous tree. But the toil, care and anxiety attending the farmer's effort to provide a livelihood for his family are seldom considered by those who are inexperienced in his calling, and unacquainted with the laborious duties required in its prosecution.

The farmer is not a croaker, nor is the allegation correct that he refers to his pursuit in conversation to a greater extent than is noticable in those who are engaged in other vocations. Dependant largely upon atmospheric changes for his prosperity, it is perfectly natural that the state of the weather should occupy a large share of his attention, and form a subject of frequent remark. In view of the liability of loss and inconvenience in unpropitious skies, he naturally scans the heavens with an interest scarcely surpassed by the mariner upon the ocean.

We place great confidence in mother earth, and believe that she will ever yield a bounteous reward to the skillfully applied labor of the husbandman. The purest and most tranquil enjoyments of life frequently attended the efforts of the judicious and enterprising farmer, to provide a comfortable maintenance for his family. But it must be confessed, with all his boasted independence, he is subjected to the caprices of the weather to a more injurious extent than those who are engaged in many other pursuits. The prolonged absence of rain is a serious disadvantage, and it is not surprising that the fact of it is frequently alluded to in conversation.

AGRICULTURAL MISCELLANY.

REPORT OF THE COMMISSIONER OF AGRICULTURE.

The Hon. Frederick Watts, Commissioner of Agriculture, in his annual report says, there is no incident which so cripples the operations of this department as the want of the punctual publication of its annual report. For the last two years it has not been published. While Congress, at the last session, apparently made the effort to order the publication of the annual reports of 1872 and 1873, for the use of Congress, it failed, in the opinion of the Public Printer, to obtain its object. While the Commissioner does not concur in this opinion, it is due to him to say that to print them involved a doubtful construction of the law, a responsibility which he was unwilling to take, and therefore the reports for the use of the members of Congress have not been printed. But by the separate provision of the act there was an appropriation specially for the printing of the reports of 1872 and 1873. These have been printed and delivered to the department for distribution.

The Commissioner says he cannot be unmindful of the approaching centennial of the independence of the United States. No such an opportunity has ever occurred for such an exhibition of the progress this country has made in its agriculture, horticulture, manufactures, commerce, arts and sciences, its adaptation for war and the benefits of peace, whereby the people of other countries may be impressed with the capabilities of this nation, and our own made to feel proud that we have achieved so much. He recommends that the Government erect a building for itself, to be exclusively occupied by the several departments, a Board having been designated by the President to suggest what part each may take in the Exposition.

By action of Congress about four acres of

ground, formerly occupied by the canal, have been added to the department grounds, and are now undergoing preparation to form a part of the aboretum. The collection of exotic, utilizable and economic plants is gradually increasing both in number and value. The orange family is particularly valuable, and the best commercial varieties are propagated and distributed to the greatest practicable extent.

There has been no period in the history of this country when farmers' crops have been so extensively depredated upon as in the past year, and this has brought into active exercise the knowledge and industry of the entomological divisions of the department. There is an increasing demand for information with regard to insects injurious to vegetion, and much pains have been taken to investigate the character of insects sent here to point out their modes of inflicting injury, and the means by which their depredations may be averted, and for those who seek to prosecute the study or acquire the knowledge of these insects, specimens of their injuries and nest-architecture have been arranged and exhibited in a room provided for the purpose.

During the past year the work of the botanical division has been steadily prosecuted and many contributions added. It is believed that much valuable information of a practical character is both received and communicated. Many gratifying letters of acknowledgment show high appreciation of the work of distribution.

The Commissioner shows the valuable services rendered by the several divisions of his department, and says: "In purchase of seeds the department has patronized only seed-growers and seed firms proven reliable by experience, whose guarantee of good quality and genuineness cannot be questioned, and by receiving them from first hands has been able to procure them at much lower rates, and, consequently, in greater quantities, and is thus enabled to give more liberally to the many applicants who daily apply for seeds from all parts of the country, and to extend the benefits of distribution. One million, two hundred and eighty-six thousand packages of seeds were distributed during the last fiscal year."

PROPER MODE OF FEEDING HORSES.

Let me say a word or two in reference to feeding the horse, as bearing upon the condition of the foot. Every owner of a horse must have observed that the growth and strength and appearance of the horse's foot is materially affected by the condition of the horse himself. A half-starved horse may have a foot injured by deficient nutrition; an overfed horse may have a foot heated into an inflammation; and so dependent is the foot upon a healthy state of the animal economy, that for the foot alone, if nothing else, the diet of the horse should be regulated with the utmost regard to his health.

I am confident that we give our horses too much grain and too little hay—especially horses under seven years of age, who will work with more endurance and courage on a good supply of grain—of the latter say six quarts of oats and a pint of corn daily. Older horses require and will bear more grain—but even they want more hay than is usually given. Every horse should pass a few weeks of each year without grain—either the first half or the last half of the winter, whichever is the most convenient. And this mode of feeding can be adopted without suspending the animal's work.

I have one horse, fourteen years old, which has had this regimen for four months every year of his life (and I bred him), and he is as smooth, vigorous and healthy as a colt—has a sound, smooth foot, was never lame and has always been in good order. He is a good specimen of what box stalls, brick floor, tar ointment, turnips and hay will do for horses towards preserving their health, strength and soundness, and promoting longevity.—*Mass. Ploughman.*

AGRICULTURE AND SPANISH CIVILIZATION.

At one time in the world's history Spain was the great power. Livius and Strabo relate of Spain's fertility and of her abundant harvests. Under the reign of Abd Errahman III., Mohammedan, Spain sustained a population of 30,000,000. Tarragona, the second city of the empire under the Romans, had 1,000,000 inhabitants; under Abd Errahman III. it contained 350,000; now it contains but 15,000. The fanatical Philip II., and his successor of the same name, struck the death blow to agriculture by enacting iniquitous laws. By these measures 800,000 Moors, men and women, old men and children, were compelled to leave the land of their birth, their blooming fields, and the houses their own hands had built. The flourishing plains of the south soon became a desert, agriculture decayed, and then trade stagnated. As a result prosperous villages were reduced to ruin, towns once animated by commerce became depopulated, poverty and sloth seized the once rich and happy country, the departed splendor of which is still attested by magnificent ruins. Thus does history show that where agriculture holds the first place in a people's affairs, there wealth and progress advance; that wherever agriculture is abandoned, there national decay begins. The same grand truth runs through all nations, that agriculture is the source of wealth, the fountain head of civilization. As ancient nations grew rich, and then permitted agriculture to decline, so they became demoralized, idle, vicious, and poor; relapsing into barbarism, or vanishing entirely from the face of the earth.—*Phrenological Journal.*

POTATO DIET.

Not long ago I remarked in the course of conversation with a lady that my children ate a good deal of bread and milk. "My Willie seldom eats it," she said. "He seems to need something more nourishing—eats a good deal of potato." Here our conversation was interrupted. If Willie eats milk, or eggs, or lean meat with his potato, very well. But if he is kept upon potato and butter, and fat gravy, with white bread and butter, and cake and pastry at meals when potato is absent, he is very poorly nourished in my opinion. He may look fat, as children always do when food is mainly of the fattening or heat-producing kind; but he will be likely to lack in bone and muscle. Potatoes also cannot supply the system with enough of the mineral elements required for a healthy growth. So says Dr. Edward Smith, the author of an excellent book on "Foods." This book agrees in the main with one to which I have before referred, "Philosophy of Eating," though less given to theorising and more to the simple description of various kinds of food. In the Philosophy of Eating we are taught that potatoes are finely adapted to be eaten with lean meat—the starchy potatoes furnishing the fattening and heating elements which lean meat lacks, while the lean meat supplies the bone and muscle-making elements not afforded by potato or fine flour bread. Fat meat affords heating and fattening elements, like potato, but in a form less easily digested by most persons.

HOW TO TREAT SWAMP MUCK FOR MANURE.

Whether it will pay to apply swamp muck to land depends upon several circumstances, such as the richness of the deposit in the elements of fertility, in which there are great differences; the character of the soil to which it is to be applied; the cost of digging; the distance to be hauled, and the consequent expense of hauling. A little cyphering and a few experiments will enable the farmer to settle the question of profit or loss. When used, it should always be treated with lime or ashes to correct its acidity. A Pennsylvania farmer tells, in the *Tribune*, how he composts it, and his way is a good one. As the muck was dug, he mixed with every five loads one barrel of fresh lime. This was spread evenly in layers between layers of muck a foot thick. In twenty-four hours the heaps were smoking hot. He threw more muck over the top and beat the surface closely with the shovel to exclude the air, and in a few days the heat went down. When he came to draw the muck, it had become a black, rich mass, that exhaled a very pungent order, much like barnyard manure; and although it was late in October when it was spread upon the grass, the color of the field became at once a deeper green, and a rapid growth started. Wood ashes (half a bushel or more to a load of muck) will produce equally good results, but more time is required for decomposition.—*Rural Carolinian.*

SOAKING SEEDS.—OSAGE ORANGE.

Among the most radical reforms in growing plants is that pertaining to soaking seeds. Time was when but a few kinds were thus treated, and such only as were furnished with hard shells or woody coverings; but now many of our most successful gardeners believe in the practice of soaking almost everything before planting. The space of time necessary for this operation is governed by a knowledge of the germinating power inherent in each; some species require only a few hours, while others should remain in the water for several days. Experienced Osage orange growers now advise for it immersion for a month at least, and some even place the bag of seeds in a spring of water in the autumn, and allow it to remain there until the ensuing spring. Those of my readers who are in possession of a fruit-bearing tree may profit perhaps by my experience. Last autumn I collected in a heap all of the oranges from my old specimen, and let them remain exposed to the weather until a few days ago, when I washed out the decayed mass without any difficulty, and obtained about a peck of nice seeds; the latter were thrown into a bag, wet as they were, and much to my surprise they at once began sprouting. This is merely an exemplification of the desire for moisture by the Osage orange, as in this case the seeds were kept perpetually damp.

A BIRD'S EYE-VIEW OF AGRICULTURE.

When we consider that less than one-third of the area of the United States, and less than a fifth of the entire domain of the United States, is mapped into farms, and remember that of this farm area only one-fourth is tilled or mowed; and when we further reflect that the average yield per acre could be doubled if the many could be brought up to the plane of the few in the practice of intensive culture—then we begin to realize what numbers our country is capable of feeding, and what waste of toil and effort comes from the neglect of the economic lessons taught by the statistics of scientific agriculture. We now know that our wheat occupies an area less than the surface of South Carolina, and if the yield should equal that of England, half of that acreage should easily suffice. We know of our national crop, maize, which grows from Oregon to Florida, and yearly waves over a broader field than all the cereals beside, that it might produce its amplest stores within the boundaries of Virginia. The potato crop could grow in Delaware, though yielding less than a hundred bushels per acre; the barley for brewing needs less than a half dozen counties, and tobacco, sufficient to glut our own and European markets, grows on an area twenty miles square.

An important step has been gained in the natural history of the potato blight. It is stated that Prof. De Bary, of Strasburg, has detected the existence of "heteraeism," or an "alternation of generations," in the life history of the *Peronospora infestans*, the parasitic fungus which causes the disease. It is conjectured that the second form may possibly be found on clover.

COVERING MANURE FROM THE WEATHER.

We have always advocated having a cover over the manure heap, and have contended that manure so covered is worth a great deal more than manure spread out in the barnyard in the usual way. A correspondent of one of our papers takes exception to this. He asserts that uncovered is just as good as covered manure, provided the rains are kept from reaching it. He says that a heap of uncovered manure will be just as good as a heap of covered, if there has been no rain on it; and in this way he writes what we suppose is intended to be an argument against covering manure. We might also state that in this sense we could urge there was no use in covering manure. But as we cannot keep the rain off without some covering, it is hard to see what the argument amounts to. If the correspondent in question would show how to keep the rain from washing away all the best of the manure without covering, we could better understand the point he makes. Until this is done, we shall still advocate covering manure.

It is certain that the land plowed in the autumn will, all other things being equal, yield better than that broken in spring. This is partly because thorough æration of its soil is essential to its fertility, partly because the frost has freer action to break up the minute minerals and hasten their disintegration and the consequent liberation of mineral elements of fertility, and partly because in the loosened earth the surplus water drains quicker away. and the warmth of the sun penetrates sooner and deeper. But many fall-plowed fields are so situated that surface water collects in hollows, and these nullify all the rest; carefully drawn open furrows for such places should be the subject of the first work in spring. In newly plowing land run the furrows in such a direction as to facilitate drainage, and run the shovel as deep (and no deeper) as it can go without turning up the cold, unfertilized and lumpy subsoil. It will pay.

HORTICULTURAL MISCELLANY.

WINTERING PLANTS IN ROOMS AND CELLARS.

Those who grow tender plants in summer for ornamenting the lawns and flower beds, of course like to keep them over the winter, and yet, in fully nine cases out of ten, but little success is had with those wintered in rooms, and perhaps fully as little with those wintered in the cellar.

Those that are to be kept on the flower-stands in rooms should not have much heat upon first being taken in. They should be kept in the coolest part of the room, but should have plenty of light until well established, or until they begin to make new growth. If one have a bow window that may be closed tight, this answers a good purpose, since the sun may be admitted above and the plants may be kept shaded below. If you have hot-bed ashes and a frame, a little bottom heat, say ten inches of manure covered with enough sand in which to plunge the pots, and keeping the sash pretty close and shaded until the roots of the plants begin to draw and send moisture to the tops, will answer a very good purpose. Keep them covered warmly at night, and, as they begin to grow, give air and water, and at the end of a month they may be taken into the room and with little care they will give much satisfaction.

Do not give too much water to window plants or those kept on a stand in the room. The soil should be kept moist, of course, but frequent and light syringings will tend to obviate the excessive dryness of living rooms. This is the great difficulty with plants wintered in this manner, and to assist in neutralizing this trouble as much as possible, a vase or basin of water should be kept constantly on the stove or heater to supply this lack of moisture.

Geraniums, pleargoniums, tender roses, and other tender or half-hardy, woody or half-woody perennials may be kept in a light, cool, dry cellar that does not freeze, if some care be taken. They do not need much water, but must be as cool as possible, without freezing. If care be taken to give them air in fine weather, and a little water at long intervals, just enough so that the earth does not become really dry, there will be but little trouble in wintering them nicely.

Many plants, after being wintered all right, are killed by putting them out of doors too early in the spring. We have known large oleanders to be killed dead in the spring from exposure to frost a single night when the thermometer marked twenty-four degrees. The same plants had withstood a lower temperature in the cellar during the winter. When taken from the cellar they should be carefully guarded from frost in the spring until the last of May or first of June, according to latitude, and although tender plants will stand a considerable degree of cold in the cellar, it is better that they be kept from actual frost.—*Western Rural.*

WINTER CARE OF TREES.

Where trees are purchased in the fall, many of them are lost through want of proper care during the winter months, and for this reason many wait till spring before buying. If trees, especially small ones, are properly cared for through the winter, it is better to get them in the fall; or, if they are grown on the place, and to be re-planted in the spring, they are better to be taken up at the approach of cold weather and heeled in. This operation of heeling is simple, easy, and puts the trees in the very best condition for keeping through the winter—as, when they are thus treated, there is no danger of heaving out by frost, and the ends of the roots become well calloused and are ready to begin a fresh growth at once, when planted in spring. To heel in trees properly, dig a trench, say three feet wide, and deep enough to cover the trees, a foot or so above the top of the roots. Before the trees are placed in the trench, the roots should be dipped in what nurserymen call grout, and other people call thin mud. This gives each root and fibre a coating of fine earth. This done, place one row of trees against the back-side of the trench, leaning against the edge, and as thickly as they can well stand, then carefully sprinkle fine earth from the front of the trees, among and around the roots, taking pains that no air holes are left—pack the earth down firmly—there is no danger of it being too solid; and when this row is finished, the trench for the next row is ready. The great point is to have the earth filled in closely around every root, and well packed down. If this is done, the trees will be in better condition for planting in the spring than if they had been allowed to spend the winter where they grow. If we were purchasing trees from a distance, we would much prefer to get them in the fall, and have them well heeled through the winter, so that we could have them ready at the earliest possible moment in the spring. —*Cor. Rural World.*

SPRING RADISHES.

The greatest delights of a garden are found among the early spring vegetables, and among them all, the radish is one of the most welcome. They are tolerably hardy, and may be found among the earliest sown. The great charm of a good radish, like a good cigar, is in its mildness, and this can only be secured by growing it in a rich soil. For a spring radish, indeed, the soil can scarcely be too rich. This hurries it up. A slow grown radish is sure to be hot and stringy.

The round radishes, or turnip-rooted, are best, and the white generally more acceptable than the red. The long-rooted radishes, sometimes are in eating a little earlier, but to most tastes are not so grateful as the other.

In sowing radishes a too common error is to put the seeds in too thick. It is thought that they can be weeded if they all grow; but they are seldom thinned out, and when left thick are never so good in quality, because being later in coming into use.

Most people sow thick because they have no faith in the seedsman. They think some of the seeds are bad, and they want to allow for it. But we have not found seedsmen such irredeemable fellows as many suppose. It is rarely we have seeds to fail. When they do, it is generally through deep planting. Radish seed particularly likes to be kept near the surface. If the seed is sown while the ground is still moist from the digging or preparing, it may be merely sown on the surface and then rolled or beaten in. Then every seed will grow, and only those seeds may be sown just where a plant is to come up to mature.—*Germantown Telegraph.*

PERSIMMONS AS MARKET FRUIT.

The persimmon, in its unfrosted state, is an austere, harsh fruit, which no one, unless just learning to whistle, cares to indulge in. When, however, it has been exposed in some frost, it is generally agreeable to most tastes. A very large market could be found for them in the cities if they could be got in there without mashing, but this has been hitherto found impossible. A very short distance of travel over a railroad, is enough to turn a basketful into a shapeless mass.

Now we think it is well worthy of thought by those practical minds that are always on the lookout for something on which to make, whether something cannot be done to turn the persimmon into practical account as a market fruit for great cities. Years ago it was thought that the strawberry and raspberry could not be grown to any profit away from large cities, because in bulk they mash together so. But Yankee genius got over this difficulty by the invention of the berry basket, by which the mass of fruit was divided into small lots and thus prevented from crushing on one another in slatted crates. The same surely could be done with the persimmon. Little shallow baskets could be provided in which the persimmon would lie only two courses thick. It is not necessary to wait till the frost softens the fruit before gathering them, as then they get mushy in handling. But they can be gathered before the frost while yet hard and firm, and put in the crates, and the crates allowed to freeze through. We are much mistaken if quite a good trade might not be got up in persimmons in this way.—*Germantown Tel.*

DISEASE-PROOF POTATOES.

It will be recollected that the Lord Catheart prize offered in England for the best essay on the potato disease and its prevention, was not awarded, as none of the ninety odd essays presented any new facts or remedies. Thereupon the Royal Agricultural Society offered a prize of £100 to any one who produced an early potato which remained disease-proof over a trial of three years. Six different varieties were entered for competition, and were sent to twenty different districts in England, Ireland, Scotland and Wales, last Spring, for trial. The result was not entirely unforeseen or unsuspected. At the monthly meeting held the first week in November, it was reported that not one of the six varieties tested had resisted the disease. Thus the trials of these potatoes are concluded the first year, and a disease-proof potato is yet to be found.

A HANDY GARDEN ROLLER.

Take a joint of stove pipe, 6, 7 or 8 inches in diameter; set one end upon an inch board, and with a scratch-awl or pencil mark around *on the outside;* reverse the pipe and mark the other end. Then with a pair of compasses find the centre of these two wheels, and strike around their circumference, allowing for the thickness of the iron. Saw or cut them true and round; bore a hole with a bit in their centres, to receive a shaft of half-inch round iron, about three inches longer than the length

of the pipe. Now fit in one of these heads, and upset the sheet iron pipe over it enough to hold it firmly in place. Put the shaft in, and set the whole on end on the ground, taking care that the shaft stands true; and lastly put in a quart or two of dry sand, and tamp it hard with a suitable rammer, repeating the operation till the pipe is full to within one inch of the top. Fit in the other head with the shaft in place; upset the iron over it as before, and you have a roller as serviceable as one of all iron, and at almost no cost. To fit it for use, make a box of inch stuff, fit a handle to it, sloping at an angle of 20 degrees from the bottom board; put a cross head to the end of it, and for a garden or walk roller this cannot be beaten. If wanted heavier, it can be loaded with brickbats or earth, and for wheeling stones or rubbish off garden or lawn, or newly plowed or spaded grounds, it will be pronounced by all who try it "tip top." Any man or boy who can use a saw, plane and hammer, can make one in a few hours, and with decent care it will last as many years.—*Cor. Country Gentleman.*

PEAS THREE THOUSAND YEARS OLD.

In the course of late explorations in the ancient ruins of Egypt, Gen. Anderson, an English traveler, found, inclosed in a sarcophagus beside a mummy, a few dry peas, which he preserved carefully, and on his return to Great Britain planted in the rich soil of the island of Guernsey. The seeds germinated, and soon two little plants appeared, from which, at maturity, sufficient peas were gathered to plant quite a large tract of ground in the following season. Some of the plants thus raised have attained a height of over six feet, and have been loaded with blossoms of exquisite odor, and of a delicate rose tint. The peculiar feature of the growth is the stem, which is so small near the root but increases greatly in size as it ascends, requiring a support to sustain it upright. The pods, instead of being distributed around all portions of the stem, as in the ordinary plant, are grouped about the upper extremity. The vegetable, it is said, belongs to the ordinary garden variety; but from its presenting the very distinctive differences above noted, it seems worthy of close botanical observation. The peas are of remarkably fine flavor, excelling in delicacy those of the choicest known varieties.

ORCHARD AND NURSERY.

Planting may often be done this month where the whether is mild, but on no account set the tree in partially frozen soil; it is much better to heel-in the trees in a dry, sandy spot until spring, when they can be set out properly.

Stocks for root grafting should be taken up, assorted, and tied in bundles of convenient size, and stored in boxes of damp sawdust in the cellar, where they can be easily reached during the winter.

Scions may be cut at any time when the wood is not frozen; store in sawdust and take care that they do not dry out during the winter.

Glive seedlings early protection, but not until the weather is quite cold; if applied too early, growth sometime occurs.

Collect and store as large a supply of leaves as possible, for covering and bedding.

CULTIVATION OF ROSES.

Roses, like other things in the vegetable kingdom, are also beautified and enlarged by a judicious and generous course of treatment. It cannot be too often urged in connection with their culture, that to succeed is to be successful. He who raises one perfect specimen of a plant is a better cultivator than he who raises an acre of indifferent specmens, and whoever has made himself a thorough master of the art of cultivation of a single specimen or variety has acquired a knowledge and skill which enable him to succeed with the many.—*Chas. H. Miller.*

DOMESTIC ECONOMY.

TO MAKE HENS LAY.

When eggs bear such a price, and are so delicious in the many ways the good cook brings them to the table, it is necessary the hens should have a little attention. Give them warm drink every morning. See that they have an abundance of gravel; old pieces of crockery pounded up will answer better than nothing. Concoct a pudding for them two or three times a week, not oftener. Place an old pail out at one side, and into this throw the meat scraps that are good for nothing else, egg-shells, beans, hominy, bread crusts, corn parched very brown, coarse meal, siftings, etc., and when the day arrives to serve up this dish, take the water in which you have parboiled your pork and beans, or other greasy water, stirring into it bran sufficient to thicken well, allowing it to cook a few minutes, pouring the whole over these saved up scraps. Let it stand a short time after it is thoroughly stirred, and feed while warm. Aside from this give warm drink every morning, and you will have plenty of eggs.

PHILOSOPHY OF COOKERY.

Mrs. Hale says: Cookery is an art belonging to woman's department of knowledge; its importance can hardly be over estimated, because it acts directly on human health, comfort and improvement. One of the first duties in domestic life is to understand the quality of provisions and the preparation of wholesome food. The powers of the mind as well as those of the body are greatly dependent on what we eat and drink. The stomach must be in health, or the brain cannot act with its utmost vigor and clearness, nor can there be strength of muscle to perform the purposes of the will.

To preserve the full nourishment of meats and other articles of food, in dressing and cooking, is an art which requires a large amount of scientific knowledge added to long experience and observation. Without the knowledge derived from this two-fold source a great part of food is wasted and health injured. It is an established principle in physiology that man is omniverous—that is, constituted to eat almost any kind of food containing nourishment. He can eat and digest them in a raw state; but his health is promoted by their being cooked, that is, softened by the action of fire and water.

OUR RECEIPT FOR CURING MEAT.

To one gallon of water, take 1½ pounds of salt, ½ pound of sugar, ½ ounce of saltpetre, ½ ounce of potash. In this ratio the pickle can be increased in any quantity desired. Let these be boiled together until all the dirt from the sugar rises to the top and is skimmed off. Then throw it into a tub to cool, and when cold pour it over your beef or pork. The meat must be well covered with pickle, and should not be put down for at least two days after killing, during which time it should be slightly sprinkled with powdered saltpetre, which removes all the surface blood, &c, leav the meat fresh and clean. Some omit boiling the pickle, and find it to answer well, though the operation of boiling purifies the pickle by throwing off the dirt always to be found in salt and sugar. If this receipt is strictly followed, it will require only a single trial to prove its superiority over the common way or most ways of putting down meat.—*Germantown Telegraph.*

ROAD DUST.

The *American Agriculturist* strongly advises farmers to make a business of gathering up road dust for use as an absorbent and fertilizer. It says: "This is the most convenient absorbent the farmer can command, and a few barrels of it will save a large amount of ammonia in the hennery, the privy, and the stable. Hens should have a large open box full of it under cover, where they may dust themselves at their pleasure. It is an excellent thing to have in the stable and, when saturated with urine, makes a valuable fertilizer. The fineness of the dust, continually ground by the iron tires and horse shoes, is one cause of its favorable action upon crops. That gathered from a clay soil is best; indeed, sand, whether from the road or elsewhere is of little use as a deodorizer or absorbent."

CORN AND HOGS.

From carefully conducted experiments, by different persons, it has been ascertained that one bushel of corn will make a little over ten and one-half pounds of pork, gross. Taking the result as a basis, the following deductions are made, which all our farmers would do well to lay by for a convenient reference:

When corn sells for 15½ cents per bushel, pork costs 1½ cents a pound.

When corn costs 17 cents per bushel, pork costs 2 cents a pound.

When corn costs 25 cents per bushel, pork cost 3 cents a pound.

When corn costs 33 cents per bushel, pork costs 4 cents a pound.

When corn costs 50 cents per bushel, pork costs 5 cents per pound.

The following statement shows what the farmer realizes on his corn, when in the form of pork.

When pork sells for 3 cents per pound it brings 25 cents per bushel in corn.

When pork sells for 4 cents per pound it brings 32 cents per pushel in corn.

When pork sells for 5 cents per pound it brings 45 cents per bushel in corn.—*Journal of Agriculture.*

BRILLIANT WHITEWASH.

Take half a bushel of unslaked lime. Slake with boiling water; cover it during the process to keep the steam in. Strain the liquid through a fine sleeve, and add to it a peck of salt previously well dissolved in water, three pounds of grain rice boiled to a thin paste, and stirred in boiling hot; half a pound of powdered Spanish whiting, and a pound of clean glue which has been previously dissolved by soaking it well and hanging it over a slow fire in a small kettle within a large one filled with water, and five galions of hot water to the mixture; stir it well, and let it stand a few days, covered from the dirt. It should be put on hot.

HAY TEA FOR CALVES.

A farmer who had a calf of value and no milk to give it was advised to give it hay tea. He did so and the calf is reported as doing finely though it has received neither hay nor meal since he got it. He cuts the best and finest hay he has, about two inches long and pours boiling water over it; lets it stand till cooled to about the heat of milk from the cow, when the tea is given to the calf and the hay to the cow. Both calf and cow thrive on this feed. We have fed a great deal of hay tea to calves, with good results.—*Rural New Yorker.*

FRIAR'S OMLET.

Boil eight or nine large apples to a pulp, stir two ounces of butter, and add pounded sugar to taste. When cold, add an egg well beaten up. Then butter the bottom of a deep baking dish, and the sides also. Thickly strew crumbs of bread, so as to stick all over the bottom and sides. Put in the mixture, and strew bread crumbs plentifully over the top. Put it into a moderate oven, and when baked turn it out, and put powdered sugar over.

GOOD PUDDING.

One quart boiled milk, quarter pound mashed potatoes, quarter pound of flour, one or two ounces of butter, and two of sugar. When cold, add three eggs well beaten. Bake one-half hour, and eat with sauce.

PREPARING AND PACKING POULTRY.

Poultry should be fat and kept twenty-four hours from food before killing to have the crop empty; food in the crop sours and blackens the skin, injures the sale of poultry, and buyers will not pay for this extra weight. Opening the vein in the neck, or bleeding in the mouth, is the proper mode of killing. If bled inside the throat the bill should be pried open with a piece of a chip and the poultry to be hung up by the feet on a line. This makes bleeding free and prevents bruising. The head and feet should be left on and the internals in. The flesh should not be mutilated in any manner. Turkeys and chickens dry-picked keep much longer and sell much higher than when scalded. If the picking is done by scalding the water should be heated just to the boiling point, and the poultry held by the feet; dip in and out of the water four or five times, counting three each time in or out. The work should be done quickly, neatly and thoroughly. After picking, hang up the poultry by the feet in a cool, dry place, till all animal heat is out and the poultry thoroughly cold and dry. Avoid freezing, as poultry will not keep long after thawing. Wrap in thin, light, strong paper. Brown and dark heavy paper, having too much acid in it, injures the poultry. The head should be wrapped separately. Always pack head downward. This throws the soft entrails on the breast bone, the poultry keeping longer in this position. Pack in clean, dry, tight flour barrels.

Geese and ducks after being killed should have all the feathers picked off, then rub all over thoroughly with fine resin, after which dip them in boiling hot water in and out seven or eight times, then rub off the pin-feathers, after which wash off the fowls with warm water, using soap and a hand brush. Immediately after rinse them well in cold water, then hang them up by the feet in a cool, dry place, till they are thoroughly dry, when they can be wrapped, and pack as before suggested. Poultry thus dressed and packed well, in moderately cold weather, keep sweet and fresh for fifteen or twenty days, and can be shipped from the extreme west with safety, by freight.

Never pack poultry in straw, as in damp or in warm weather it causes it to sweat or heat.

Game, deer, rabbits, coons, oppossums and squirrels should be opened, all the entrails taken out, leaving only the kidney fat; then the insides should be wiped perfectly dry, with a soft clean cloth, after which wrap the small game in paper, packing back downward.

Wild turkeys, ducks, geese, grouse, pheasants, quails, pigeons, and birds of all kinds, should always have the entrails left in them, and the head and feet left on. They should never be mutilated in any manner. Drawn birds sour in a short time, and sell for less than the undrawn, even if sweet. Wrap the head separately in paper, then the body. Pack the head downward in tight, clean barrels, the same as poultry. Shippers should remember well that all game should be thoroughly cold before being packed, otherwise it will soon sweat and heat. Barrels are the best packages that shippers can ship in.—*Maryland Farmer.*

NEW STYLE OF BARRELS.

The paper barrel factory at Decorah, Iowa, has already turned out several hundred barrels. Much interest centres upon the experiment there. If that is successful, as it promises to be, the barrel-making business will be revolutionized. By this process barrels are made entirely out of paper. They can be made at half the cost of the wooden material, and as they weigh only one-third as much, there will be also a great saving in freight.

INSECTS ON CATTLE.

A correspondent after having experimented to his heart's content with several kinds of grease, tobacco, water, kerosene, ashes, anguentum, etc., for killing lice on cattle, has arrived at the conclusion that sulphur sprinkled on the animals and well rubbed into the hair, and a tablespoonful of ginger in meal daily for a week, is the simplest surest, and safest remedy he has ever tried.

GENERAL MISCELLANY.

DESTRUCTION OF THE CANADA THISTLE.

In a brief note recently we directed the attention of our readers to the necessity of watchfulness against the introduction of vile weeds, and especially of the Canada thistle. It is worth while again to repeat that it does not take long to annihilate pests like these in the beginning, if only people will go to work earnestly and energetically. Since writing the paragraph referred to, a fact has come to our notice which shows what may be done by a watchful man.

One of our friends in going over his grounds last spring was amazed to find that he was guilty of harboring and entertaining the Canada thistle. There it was and no mistake, thickly covering a tract of over one hundred feet square. He did not send to town for a bushel of salt or wait till the full of the moon, or think of any of the cheap and easy ways given in the papers as substitutes for hard labor; but he sent Ezra to the tool-house for a digging-fork, and, loosening the ground about the plants, drew them up as much as possible "by the roots." The task, he tells us, took just half an hour. About midsummer he examined the spot again, and found that about a dozen weak sprouts had appeared in the place where there were hundreds in the spring. These were served as the rest of the gang had been served before them, occupying fifteen minutes only, all told.

In again examining the tract recently, he found but a solitary piece which had evidently been overlooked before—no new ones having appeared. This was drawn out by the hand, breaking off, and, as he says, leaving a small nest egg, which may probably hatch a little brood to be looked after next spring; but he has no doubt that fifteen minutes more next spring will totally destroy his crop of thistles "root and branch." Thus in an hour of good work, a man who resolved to conquer the enemy will have come off full victor, showing how easy it is to cope with these pests when taken in this way.

The fact is we begin to have rather a poor opinion of a man who allows his property to be overrun with Canada thistles. A strong, coarse weed like this, which can be easily seen and handled, ought to be looked after and drawn out, as well as the dock, which every good farmer about here thinks is an imperative duty, if not an intense pleasure to hunt, pull and destroy. Indeed, it sometimes seems, as we note the intense satisfaction with which some of our neighbors go at dock-drawing, that it would almost be adding to their recreations for some one to sow dock-seed among their crops that they might enjoy the pulling up of them in due season. There are thousands of weeds much more injurious; at least our friend the victor of the Canada thistle patch, thinks so. He is sure he would sooner have a dose of Canada thistles to swallow "any day," than be bothered with sorrel, toad-flax, couch-grass, or land-grass—and we think he is right.—*Germantown Tel.*

THE REASON WHY

The editor of *Arthur's Home Magazine* gives the following questions and answers, which are pertinent to this season of the year:

Why is fruit most unwholesome when eaten on an empty stomach?

Because it contains a large amount of fixed air, which requires great power to disengage and expel it before if begins to digest.

Why is boiled or roasted fruit more wholesome than raw.

Because, in the process of boiling or roasting, fruit parts with its fixed air, and is thus rendered easy of digestion.

Why are cherries recommended in cases of scurvy, putrid fever, and similar diseases?

On account of their cooling and antiseptic properties, and because they correct the condition of the blood and other fluids of the body when there is any tendency of putrescence; at the same time, like all fresh fruits, they posses a mild aperient property, very beneficial to persons of a bilious habit.

What effect have vegetable acids upon the blood?

They cool and dilute the blood, and generally refresh the system. All fruits contain acids and salts, which exercise a cooling and invigorating influence. Apricots, peaches, apples, pears, gooseberries, and currants contain malic acid. Lemons, rapsberries, grapes, and pine apples contain citric acid. The skins of grapes, plums, aloes, etc., contain tannic acid, which has a bitter taste.

Why should salt be applied to vegetables intended for pickling previously to putting them in the vinegar?

Because all vegetables abound in watery juices, which, if mixed with the vinegar, would dilute it so much as to destroy its preservative property. Salt absorbs a portion of this water, and indirectly contributes to the strength of the vinegar.

Why is bread made from wheat flour more strengthening than that made from barley and oats?

Because, as gluten, albumen, and caseine are the only substance in the bread capable of forming blood, and consequently of sustaining the strength and vigor of the body, they have been appropriately called the food of nutrition, as a distinction from those which merely support respiration. Wheat contains 825 parts of starch, 315 of gluten, albumen and caseine, and sixty of sugar and gum, while barley containes 1,200 of starch, 120 of gluten albumen and caseine, and 150 of sugar and gum; hence wheat is much richer in the food of nutrition.

TURNING POINTS IN PHYSICAL LIFE.

From 25 to 35 is the true time for all the enjoyment of a man's best powers, when physical vigor is at its highest. During the last half of this decade a man should be assiduous to construct a system of philosophy, by which to rule his life, and to contract a chain of habits intelligently; so that they should neither be their slave, nor too easily cast them aside. The exact proportion of physical and intellectual strength should be gauged, and the constitutional weakness, or, in other words, the disease toward which a tendency exists, should be ascertained.

Preserve, if possible, the absolute necessity for exercise, and have your place of business two or three miles away, over which let nothing tempt you to an omnibus or carriage, save rain. The day on which a medical man gives up riding to see his country patients, or the use of his own legs to see his patients in town, and takes to a close brougham, fixes the date when sedentary diseases are set up—while if, to utilize his leisure, he reads as he drives, his eyesight becomes seriously affected. From 35 to 45 a man should arrange with his food, and avoid hypochondria. He cannot, it is true, change his diathesis; but he can manage it. The habitual character of food, no less than its quality, begins to tell whether it charges the system with fat, muscle, sinew, fibre or watery particles. From 45 to 55 the recuperative powers should be encouraged and developed.

There is nothing like work to keep an old horse sound. Sporting dogs should be thin, but obesity will set in. Anxiety ought to be staved, hope encouraged, sordid cares avoided. If a grief exists it should not be brooded over, but talked out with a friend, gauged, estimated in its worst, and dismissed to absorb itself. If a man at this time is much occupied out doors, and lives wholesomely and temperately, he is pretty sure to be clear of sedentary diseases. Rheumatism, coughs, and inflammatory dis-

eases, arising from exposure to wet or cold, a man of 45 will have to contend with, but his blood will be in a good condition for the struggle. Moderate exposure to hardships of this kind never harmed man yet.

LONG-LEGGED HORSES.

For most every-day purposes short-legged horses are in general preferred, because in themselves they indicate superior strength, and because, by nature, they are associated with depth of chest and carcass, and other signs of stamina and durabilility; but the long leg possesses advantages in stride and leverage, and therefore, where speed is required, becomes a desirable formation. The length of limb must very much depend on the purpose the animal is destined for; a long leg would be as ill adapted for a cart-horse, as a short one would be for a racer. To get over the ground length becomes absolutely necessary in the propelling parts of the machine, and these are the loins and the limbs. Occasionally we meet with horses with long limbs and short bodies; but such are rare and undesirable conformations—the limbs doing too much for the body, or, rather, the latter restricting them in their action.

People in general make objection to horses with undue length of limb; such a horse has "too much daylight underneath him to be good for anything," is a common expression enough in these cases; and, *prima facie*—and in nine cases, perhaps, out of ten—these people are correct in their disapprobation. But every now and then comes a horse before us with all this apparent objectionable subcorporeal "daylight," and yet with extraordinary power in his long limbs, with circularity in his chest, though it be not deep, and with the known character of being "a good feeder after work;" and when such a horse does present himself, we may, should he possess breeding, regard him, notwithstanding his long legs and light body, as an animal of a rare and valuable description. His legs, having but little to carry, are therefore likely to "wear well" and he is likely to prove a fleet horse, and withal a good-winded horse—one that is likely to turn out a most valuable acquisition. One ought not hastily to reject a horse with long limbs and their ordinary accompaniment, a light carcass.—*Prairie Farmer.*

TRAINING YOUNG STOCK.

A correspondent of the New York *Times* tells something about the management of young and wild stock—colts, steers and heifers, particularly the latter. He very truly believes that many abuse their cattle when they would not if they knew any other way to get along. He continues:

In the first place, you must secure your heifers by tying them up so that they cannot hurt you if they would, or get away from you. This is best done with a halter (rope or leather.) I have seen a slip-noose put on a heifer's horns and drawn so tight that it would nearly craze the animal, which was then beaten because it would not stand still, and to complete its misery and destruction of its horns, was left to stand over night in the rain to swell the rope. After you have got it secure (in the stable is the best place) get your card and brush and go to work gently wherever you can get at them best. If you are in danger of getting hurt then use a broom first. When they find it does not hurt them you will be surprised to see the effect it will have on the worst subjects.

There is something about this mode of treatment that I cannot explain myself, but it is far ahead of the charms of music to soothe the savage beast.

I lay no claim to any superiority over any one that will be patient and take time to get acquainted with the subject. But I believe I can take the wildest native cow in the United States that has not been handled at all, and make a quiet, gentle animal of it—that is, for me to handle; it might be afraid and even vicious to a stranger. Remember, this treatment must be followed up for weeks or months, but it will surely win in the end.

This plan will not always do so well with horses or colts, as some are constitutionally opposed to the card and brush, but kind treatment will do a great deal toward making friends with them.

PROPER MODE OF FEEDING HORSES.

Let me say a word or two in reference to feeding the horse, as bearing upon the condition of the foot. Every owner of a horse must have observed that the growth and strength and appearance of the horse's foot is materially affected by the condition of the horse himself. A half-starved horse may have a foot injured by deficient nutrition; an over-fed horse may have a foot heated into an inflammation, and so dependent is the foot upon a healthy state of the animal economy, that for the foot alone, if nothing else, the diet of the horse should be regulated with the utmost regard to his health.

I am confident that we give our horses too much grain and too little hay—especially horses under seven years of age, who will work with more endurance and courage on a good supply of grain—of the latter say six quarts of oats and a pint of corn daily. Older horses require and will bear more grain—but even they want more hay than is usually given. Every horse should pass a few weeks of each year without grain—either the first half or the last half of the winter, whichever is the most convenient. And this mode of feeding can be adopted without suspending the animal's work.

I have one horse, fourteen years old, which has had this regimen for four months every year of his life (and I bred him,) and he is as smooth, vigorous and healthy as a colt—has a sound, smooth foot, was never lame, and has always been in good order. He is a good specimen of what box stalls, brick floor, tar ointment, turnips and hay will do for horses towards preserving their health and strength, and soundness, and promoting longevity.—*Mass. Ploughman.*

SULPHUR.

There is no remedy and assistant so easily and cheaply obtained so harmless to the fowls, nor so satisfactory in its result, as sulphur. It being in the system of animals to a small degree, there is a greater affinity for it than there otherwise would be. It can be administered to the fowls by having it in a small box, so that they can help themselves, or by mixing it with their food once a week, as often as there are indications of vermin. Penetrating, as it does, to every part of the system, all parasites are quickly and surely destroyed. Also gapes are said to be prevented in chickens. Fowls need it more than most animals, their feathers containing between four and five per cent. of sulphur. Their eggs also have a small quanity, which is noticed by the discoloring of a silver spoon when it comes in contract with a boiled egg. Applied externally to the fowls when on the nest, to the nest itself, or mixed with the soil in the dusting-box, it is equally efficacious in destroying vermin.

To be used as a fumigator of buildings, it is necessary to remove the fowls, close the room or house, mix a little saltpetre with the sulphur in an iron vessel, and apply a match to the mixture. This should be done in the morning and the doors and windows opened in the afternoon for a thorough ventilation.

Lard mixed with sulphur in proper proportions and applied as often as is necessary to the feathers on the neck and back of young and old turkeys, is a very good safe-guard against the ravages of foxes.

For our own profit, and the comfort of the fowls, let us then use sulphur or remedies of a like nature.—*Poultry World.*

HEALING POWER OF GLUE.

Many women do not know that glue, as a healing remedy, is invaluable. For the last twelve or fourteen years, says a mechanic, I have been employed in a shop where there are over three hundred men at work; and, as is the case in all shops of this kind, hardly a day passes but one or more of us cut or bruise our limbs. At first there were but few who found their way to my department to have their wounds bound up; but after awhile, it became generally known that a rag glued on a flesh wound was not only a speedy curative, but a formidable protection against further injury. I was obliged to keep a full supply of rags on hand, to be ready for any emergency. I will here cite one among many of the cases cured with glue: A man was running a boring machine, with an inch and a quarter auger attached; by some means the sleeve of his shirt caught in the auger, bringing his wrist in contact with the bit, tearing the flesh among the muscles in a frightful manner. He was conducted to my apartment (the pattern shop) and I washed the wound in warm water, and glued around it a cloth, which, when dry, shrunk into a round shape, holding the wound tight and firm. Once or twice a week, for three or four weeks, I dressed the wound afresh, until it was was well. The man never lost an hour's time in consequence. The truth of this statement hundreds can testify to. I use, of course, the best quality of glue.

FAILURES IN BUSINESS.

Peter Cooper failed in making hats, failed as a cabinet-maker, locomotive builder, and grocer, "but as often as he failed he 'tried again,'" until he could stand upon his feet alone, then crowned his victory by giving a million dollars to help the poor boys in all time to come.

Horace Greeley tried three or four kinds of business before he founded the *Tribune*, and made it worth a million dollars.

Patrick Henry failed at everything he undertook until he made himself the ornament of his age and nation.

The founder of the New York *Herald* kept on failing and sinking his money for ten years, then made one of the most profitable newspapers on earth.

Stephen A. Douglas made dinner tables and bedsteads and bureaus many a long year before he made himself a giant on the floor of Congress.

Abraham Lincoln failed to make both ends meet by chopping wood; failed to earn his salt in the galley-slave life of a Mississippi flat boatman; he had not wit enough to run a grocery, and yet he made himself the grand character of the nineteenth century.

General Grant failed at everything except smoking cigars; he learned to tan hides, but could not sell leather enough to purchase a pair of breeches. A dozen years ago "he brought up" on top of a wood pile "teaming it" to town for $40 a month, and yet he is at the head of a great nation.

OUR HAIRS NUMBERED.

Somebody has been at the trouble of calculating the average number of hairs which grow on an average person's head. It is found that the number varies according to the color of the hair. Light or blonde hair is the most luxuriant, the average of this number being 140,000. When the hair is brown, the usual number is much less, being only 110,000, while black hairs reach only the average amount of 103,000. It might naturally be supposed that a light haired person having the most hair would have the greatest weight to carry, but it is not so. That which is lighest in color is also lightest in weight; and a lady with abundant flaxen locks is as light-headed as one whose tresses are of a raven view. Hence it follows that the former is of a finer texture than the latter.

LITERARY AND PERSONAL.

HARPER'S PERIODICALS: The three most popular and instructive serial publications issued by any one house in this country, are undoubtedly those of the great publishing house of Harper & Brothers. Their "new Monthly Magazine" abounds with able and useful, as well as entertaining papers. The February number contains the fourth of a series of papers on "The First Century of the Republic," in which the progress of invention is traced, and the more remarkable inventions beautifully illustrated with a style of wood engravings for which the Harpers are not surpassed. The leading article is on "New Washington," in which the extraordinary transformation which our National Capital has undergone within the last five years, is graphically sketched and elaborately illustrated. This magazine has a monthly circulation of 130,000 copies, and the publishers expend on it for literary and artistic features alone about $70,000 a year, while the yearly subscription is only $4. . . . *Harper's Weekly*, the best illustrated weekly newspaper in the world, has a popularity unrivaled by any similar publication, its circulation being equal to the magazine. It is strictly honest and thoroughly independent, while that prince of caricaturist, Tom Nast, constitutes one of its most attractive features, even to those who get the hardest cuts from his ever-ready pencil. . . . Their other periodical, *Harper's Bazar*, is a journal for the home—being especially devoted to all subjects pertaining to domestic and social life. While it furnishes the latest fashions in dress, it does not neglect any of the weightier matters pertaining to the care of the household, or the cultivation of a higher life in mind and morals. It, too, has been a wonderful success, its weekly circulation now reaching 90,000 copies. . . . Either of these three publications are furnished at $4 a year, any two of them for $7, or the three for $10 in one remittance.

THE LIBRARY OF CONGRESS grows steadily and rapidly. There has been during the past year an addition of 15,405 volumes and 6,272 pamphlets. The principal source of increase is in the requirement of the copyright law, making it obligatory to deposit two copies of each publication in the library. Under this provision there were received during the year 6,840 books, 6,436 periodicals, 7,722 musical compositions, 5,598 prints, 1,358 photographs, 922 engravings and chromos, 658 maps, charts, and drawings, and 140 dramatic compositions—a total of 29,674. Mr. Spofford, the Librarian, in his annual report, speaks earnestly concerning the impossibility of so enlarging the Capitol as long to afford quarters for the vast and multifarious collection which is so rapidly increasing. He remarks: "In no country in Europe of the first rank is it attempted to keep the library of the government under the same roof with the halls of legislation. In London, in Paris, in Berlin, in Vienna, in Munich, in St. Petersburg, there exists a national library having its own separate building, while the library of the legislative body, sufficiently copious and ample for its wants, is provided for within the parliamentory walls."

THE SACRAMENTO WEEKLY UNION is literally an "immense" newspaper, containing sixteen pages (18 by 24 in size) of closely printed matter, in minion type, and seven columns to the page. There are no blank spaces, no embellished letters, but all is solid reading matter, and on a multitude of subjects, almost "boxing the (literary) compass." We know not how this will compare with the leading weeklies on this side of the Rocky mountains, nor yet whether the weekly issues of the *Union* are *always* of this size, but we think they are. We only make this note to illustrate the wonderful strides the "Golden State" has made in journalism, as in everything else, during the last twenty-five years. Where a paper of this kind is profitably patronized, there must necessarily be not only a "lively time," but also a *reading* community. *That*, in our opinion, is the key that unlocks the whole subject. The *people* are a progressive and a reading people, and therefore need large newspaper facilities.

HAND BOOK of the "Kansas State Agricultural College," Manhattan, Kansas, an octavo of 124 pages, in covers, 1875, giving the Board of Regents, faculty, explanatory notes, management, policy, course of study, curriculum for six years, which is the length of the course, each year divided into two terms. The departments include Practical Agriculture, practical horticulture, botany, including entomology and geology, chemistry and physics, English language and history, mathematics, legal, mental and moral science, studies special to woman, languages. The industrial departments are the Farm, horticultural grounds, carpenter, wagon, blacksmith, paint, turning, sawing, carving and engraving shops, and many other practical and useful occupations of which we will speak again.

"THE CHEESE MAKER AND CHEESE FACTORY, For such as seek information pertaining thereto," by Wm. Ralph, Utica, N. Y. This is a finely illustrated 12 mo. pamphlet, of 55 pages and an index, giving finely executed engravings of all the utensils and implements necessary in the manufacture of this popular industrial product. It also gives all the necessary instructions in the art of cheese making, and specific tables of the number and size of the various articles employed, together with their aggregate costs, for a dairy of 20 cows, and from that number up to 400.

PETER HENDERSON'S CATALOGUES of vegetables, flowering and other plants, seeds, grasses, &c., for 1875, will favorably compare with any in the country. Those in need of anything in this line, or who desire to be instructed in their culture and floral ornamentation, would do well to consult their catalogues, and then send on their orders to the proprietor, at No. 35 Cortlandt street, N. Y. They number about 180 pages, are finely illustrated, and in addition contain five beautiful colored plates of the following: A group of Roses, a group of Verbenas, a group of Pinks, a group of Lobelias and a New Vegetable. These catalogues, with all the plates, are mailed to all applicants, by Peter Henderson & Co., on receipt of 50 cents. A catalogue *without the plates* will, however, be sent to any address without charge.

AMONG the scientific serials deserving of favorable notice, is the Cincinnati *Quarterly Journal of Science*, edited and published by Mr. S. A. Miller. Mr. Miller is a well-known palæontologist of Cincinnati, and very much interested in the identification of the fossils of Ohio and the neighboring States, and in this work he notices a large number of new species of various orders. There are also papers by other American naturalists, especially Messrs. Calkins, James, Newberry, Andrews, and others. Mr. Miller is deserving of great credit for his enterprise in initiating this serial, which supplies a want not filled by any of its American cotemporaries.

SPECIMEN pages of Appleton's "New American Cyclopedia, revised edition. This work, when finished, will be the cyclopedia of the period, and ought to be in the possession of a great many people who will never be able to own a copy. The cheapest style of binding will be $5 a volume, and it will be completed in 16 large octavo volumes of 800 pages each; the aggregate would be $80. Now, considering the matter, the fine illustrations, and the great bulk of the work, this is absolutely cheap—"dirt cheap"—and yet there are many people who fritter twice that amount away, during its passage through the press, who will never subscribe for the *Cyclopedia*.

THE "GARDENERS MONTHLY" and the "*Practical Farmer*" for January, 1875, and also the "*Germantown Telegraph*"—all occupying different spheres in the agricultural, horticultural, floricultural and arboricultural, past and present history of the country—have duly come to hand richly laden with their usual treasures. These may be regarded as the true representatives of the aforenamed interests in Pennsylvania, and while we would not discharge or displace others of equal merit from elsewhere, we think that no "Keystone" farmer should ignore the claims of these old and long tried friends of the agricultural community.

"ADDRESS of the Representatives of the Religious Society of the Friends in Pennsylvania, New Jersey and Delaware" on Theatrical Amusements and Horse Racing, issued in 1874. If the whole argument were "confirmations strong as proofs of holy writ"—and we have no doubt it is—coupling two such subjects together, strengthens neither and weakens both.

"REPORT of the '*Pennsylvania Fruit Growers' Society*,' for 1873-4, prepared by its officers," 140 pages octavo, with a list of the officers and members, and several double-page illustrations of fruit, &c. Full of interesting essays, addresses, reports and discussions upon the subjects of fruits and flowers and other matters relating thereto. Published by the State, which no doubt accounts for its late appearance.

THE NATIONAL LIVE STOCK JOURNAL for January, 1875, maintains its reputation as the best publication of the kind on the American continent. Any stock-raiser who values pedigree and blood, may find in the pages of this journal all that is worth knowing. It is now so permanently established, that those who desire it have only to send on $2.00, and 15 cents postage, to secure a copy for a year—Chicago, Ill.

THE LEDGER ALMANAC for 1875 is on our table, and like its predecessors, is a most capital and useful compilation, containing more reference matter condensed in the small space, than any work of the kind that has come under our observation the present season.

LANDRETH'S *Rural Register and Almanac* for 1875—distributed gratuitously—is comparatively an unpretending little 12 mo., freighted, however, with a large amount of interesting and useful information to those engaged in rural occupations.

PETERSON'S LADY'S MAGAZINE for February, 1875, has been received, and is a splendid number. It contains between its covers, all in the realms of fashion, sentiment, and the domestic fireside that any woman could desire.

VICK'S FLORAL GUIDE for 1875 is so beautifully illustrated and gotten up, and moreover is so popularly known, that it needs no further *illustration* from us. Published quarterly by James Vick, Rochester, N. Y. Price 25 cents a year.

DRY READING: A grandson of Noah Webster presented to his Majesty, King Kalakaua, of Sandwich Islands, when in Boston, an elegant copy of Webster's Dictionary. The same evening he commenced its perusal, at A.

WOOD'S (illustrated) *Household Magazine* is certainly the best $1.00 magazine in the Union, and every subsequent number seems better than the last. No. 41 Park Row, N. Y.

PETER MAHAN, Sen., and his wife, MARY MAHAN, of Stampers Creek, Indiana, are undoubtedly the oldest couple in that State. He was born June 15, 1782, in Virginia, and is now, therefore, in his 93d year. Mrs. MAHAN was born in Pennsylvania in 1788, eighty-six years ago. They were married June 6, 1806, in Shelby county, Kentucky, removed to Indiana in 1807, and settled on Lost River in what is now Orleans township, where they remained until 1812, when they removed to Stampers Creek township, where they have ever since resided. They have had twelve children, eight of whom are living, the youngest, PETER MAHAN, being forty-four years of ago. Notwithstanding their extreme old age they are still active, and read the finest print without the aid of glasses. They have been married more than sixty eight years, and have lived on the same farm since 1812. Mr. MAHAN'S first first vote for President was cast for THOMAS JEFFERSON, and he has voted at every election since.

JOS. W. FAWKES, formerly of Bart, Lancaster county, and well known as one of the early inventors and experimenters with the steam plow, which was exhibited on the old Fair grounds near this city in 1859, and subsequently at the United States Fair at Chicago, writes an interesting letter to *The Express*, with the editor of which he constructed miniature water wheels and tilt-hammers in their boyhood, forty years ago. Mr. F. some years ago settled down at farming at Maroa, Macon county, Ill., where he seems to be prospering, as he writes enthusiastically of the success of Illinois farming, and gives some interesting statistics in illustration. Our old friend is a thorough mechanic, as well as a farmer, and deserves the reward of success.

MRS. WATSON, wife of Prof. Watson, of Michigan University, is the only woman who enjoyed the privilege of going on the Transit of Venus expedition from the United States. First was the overland journey to San Francisco, then a voyage lasting twenty-six days to Yokohama, a four days' sail to Nagasaki, and another of six days to Tien-tain. Then followed a voyage up the river on small house-boats to Tung-Chang, and finally a donkey ride of sixteen miles to the imperial city of Pekin. Prof. Watson, while at Pekin awaiting the transit, discovered a new asteroid. He did not name it after his wife, but after a Chinese goddess (Ne-Wha) who once repaired the sky when it was in a dilapidated condition, and has thereby earned the respect of astronomers.

THE WIDOWS of fifty-four generals draw pensions from the United States government. It is stated that when the pension paid to the widows of brigadier-generals, $50 a month, was offered to the widow of GENERAL MEADE, she emphatically declined to receive it because it was less than that paid Mrs. President LINCOLN. Of all the women who served in the war in various capacities only one was pensioned for physical disabilities, and that was Mrs. ISABELLA FOGG, of Maine, who was seriously injured by a fall, in Louisville, while engaged in hospital work. She died last summer.

AN ACCIDENT recently occurred in a coal pit in the north of England from a curious mistake. A collier went to his work, taking with him two bottles, almost similar in form, one of which contained tea and the other blasting powder. After working for a short time, feeling inclined for a drop of his tea, he took from his jacket pocket by mistake the bottle of powder, and held it over the flame of his lamp some time, when it exploded, and burned him severely. More serious results than this have often followed from mistaking a bottle.

WELL DONE, GIRLS! Sir Andrew Fairbairn, chairman of the Leeds School Board, speaking at a distribution of prizes recently, referred to the circumstance that, with one exception, the whole of the prizes were borne off by girls. And Miss Alice Vickery, the first and only registered lady pharmaceutist in England, has just passed honorably, in company with Miss Algernon Kingsford, the first year's examination of the School of Medicine of the University of Paris.

MAJOR JOHN M. COWELL, Conveyancer and Real Estate agent, whose card appears in this issue of THE FARMER, is a valuable acquisition to our local citizenship. He is not only thoroughly master of his profession but possesses the advantage of a large experience also as civil engineer, as well as in conveyancing and real estate business generally.

THE NEW HOTEL—The Stevens House—supplies a want long felt in Lancaster. Our friends in the county as well as those from abroad will there find all the appointments of a first-class hotel at reasonable charges, and the Messrs. Wilson attentive and obliging to their guests.

MR. CORCORAN, the Washington banker and philanthropist, has again yielded to his commendable force of habit. After his princely benefaction of $250,000 to the Columbian University, he has just given $77,000 toward the building of the new Episcopal Ascension church in Washington.

SAMUEL SMALL STEVENS, recently deceased in Baltimore, bequeathed $40,000 to the theological department of the University of Boston, and $10,000 to benevolent institutions in Baltimore.

HEINRICH BROCKHAUS, whose death is just announced, was head of the great publishing firm at Leipsic, Germany. He was a man of culture and ability, as well as a successful publisher.

Prof. S. S. RATHVON, Editor. LANCASTER, PA., FEBRUARY, 1875. PEARSOL & GEIST, Publishers.

THE FARMERS' HOME ORGAN.

The Lancaster Farmer;

A MONTHLY NEWSPAPER,

DEVOTED TO AGRICULTURE, HORTICULTURE, DOMESTIC ECONOMY, AND MISCELLANY.

Published under the auspices of the Lancaster County Agricultural and Horticultural Society.

Edited by Prof. S. S. RATHVON.

With the January issue (1875) THE FARMER entered upon its seventh year, under a change of proprietors, the publication having been transferred to the undersigned, who propose to make it in all respects a first-class local organ of the important interests to which it is especially devoted.

With this view THE FARMER has been enlarged and its form changed to the Imperial Magazine style, each number containing twenty pages Imp. 8vo., each page measuring 9½ by 13 inches, sixteen of which will be exclusively devoted to reading matter, the advertisements and "standing matter" being limited to the remaining pages. This increase of size and change of form, together with the use of a more compact type, enables us to give twice as much reading matter as was contained in the old form.

If this effort to give the agricultural community of Lancaster county a publication worthy of their honorable calling is liberally seconded, we propose to add other improvements from time to time, including illustrations of important topics of general interest, and papers from special contributors on the more important local industries and resources of the county—a wide field, which has been very little cultivated by our local press.

The contributions of our able editor, Prof. RATHVON, on subjects connected with the science of farming, and particularly that specialty of which he is so thoroughly a master—entomological science—some knowledge of which has become a necessity to the successful farmer, are alone worth much more than the price of this magazine.

THE FARMER will be published on the 15th of every month, printed on good paper with clear type, in convenient form for reading and binding, and mailed to subscribers on the following

TERMS:

To subscribers residing within the county—

One copy, one year,	$1.00
Six copies, one year,	5.00

To subscribers outside of Lancaster county, including postage pre-paid by the publishers:

One copy, one year,	$1.25
Five copies, one year,	5.00

All subscriptions will commence with the January number unless otherwise ordered.

All communications intended for publication should be addressed to the Editor, and, to secure insertion, should be in his hands by the first of the month of publication.

All business letters, containing subscriptions and advertisements, should be addressed to the publishers,

PEARSOL & GEIST,
Express Buildings, 22, South Queen Street,
LANCASTER, PA.

RATES OF ADVERTISING.—Ten Cents a line for each insertion. Twelve lines occupy one inch of space. No CUTS wider than a single column taken.

CONTENTS OF THIS NUMBER.

TIME, Farmers: TIME.

A reliable time-piece should be in the possession of every farmer, and nowhere can a better, more correct and reliable Watch, either American or Swiss, be obtained, warranted in every respect as represented, than of

H. L. ZAHM & CO.

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SILVER and SILVER PLATED WARE,

KNIVES, FORKS AND SPOONS.

A LARGE STOCK.

Farmers, 'tis a pleasure to have a good time-piece; 'tis also a pleasure to enjoy the beautiful in agriculture and horticulture, and to see the latest improvements in these, and all things nature has blessed us with. Therefore, GOOD EYE SIGHT is necessary for the enjoyment of these pleasures. The eye is often strained and weakened from different causes and should be helped in time. Call on H. L. ZAHM & CO., where H. L. Zahm, the oldest and most experienced optician, with A PRACTICE OF THIRTY YEARS, will fit you with glasses warranted to strengthen and renew the sight without a doubt.

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The Lancaster Farmer.

Prof. S. S. RATHVON, Editor. LANCASTER, PA., FEBRUARY, 1875. Vol. VII. No. 2.

OUR "SITUATION."

It is not to be inferred that when an individual assumes the editorial control of an agricultural journal, that he therefore knows, or necessarily ought to know, more upon agricultural subjects than all, or any portion, of his readers. Even if he were an acknowledged oracle on the subject, his stock of knowledge would soon be exhausted. It is precious little *real* knowledge that any *one* man has, on *any* subject, in this age of shifting and constantly developing progression, and the more an individual knows, the more humiliated he becomes at the scantiness of his stock of knowledge, the more deeply he will be impressed with the reflection that there is much for him yet to learn; and these facts and feelings he may be doomed to carry with him through all his experiences, to the very end of the longest possible life-lease. An agricultural journal is essentially—or ought to be—a depository of the thoughts, experiences and knowledges of its readers, its contributors and its patrons, among the agricultural classes; and an agricultural editor, at best, can be little more than "a gatherer and disposer of other men's stuff;" and to do this effectually would seem to preclude the possibility of his attaining proficiency in both functions. The functions of the editor are necessarily those of *letters*—a collector and arranger of the external garments which clothe the ideas of practical cultivators; and although it may not be necessary for him to have a mechanical knowledge of the subject, yet he should be sufficiently intelligent to comprehend its scope and avoid imposition.

Six years ago the editorial mantle was, in a manner, thrust upon our shoulders, and the experiences of those six years have served only to astonish us at the little progress we have made; and if anything were necessary to increase our astonishment, it is, that the world itself has apparently been progressing no faster, notwithstanding its many high professions.

Since the functions of an agricultural editor, then, are mainly those of a "gleaner," the value of his labor will be more or less apparent and effective, according to the character of the field allotted him to glean. If there is nothing in it, nothing can come out of it. But we have, during all this time, felt a conviction that in the field which we are exploring there are valuable "mines of wealth," and we have never been without the hope that we would ultimately strike the rich veins for which we have so long been "prospecting."

It is not personal pecuniary wealth, either present or prospective, that has stimulated us in this apparently bootless enterprise; but the moral, social and intellectual wealth, which we felt was hidden in the deep recesses of rural minds, and the life-experiences of our farming population. We have all along felt, and we still feel, that there is no independence more enviable than that of a Lancaster county farmer, and if we have had any ambition in the matter, it is that he might stand socially and intellectually where he does physically and materially.

From the very origin of THE FARMER, in assuming its editorship, we never expected to dictate, or to teach practical lessons on agriculture, but merely to manipulate the journal so as to make it a medium of the practical ideas of our farming public; and to do this successfully we *did* expect, and we *still* expect, the co-operation of our rural patrons.

When the centennial jubilee of American freedom and independence transpires, we want to see our journal and its patrons occupying a position worthy of the "grand old county" in which was established the second printing office and printing press that dignified the early history of the American continent. If this is a fantasy in us, it is due to partialities and sympathies imbibed for farming occupations through a five year's apprenticeship during a labor-loving boyhood.

It is, of course, indisputable, that if an editor is so *instructed* and *constructed* as to combine all the practical and theoretical knowledges of farming in his own functional composition, he would possess superior qualifications for the work before him, and could do much more good. But then we rarely, or never, find such rare combinations of talent, in any calling, consenting to work six or seven years without the hope of pecuniary compensation.

Even if an editor should not be able to compose and write a single original contribution, he might still find the labor of selecting and compiling infinitely more onerous than original composition. There is much that finds its way into public prints of a most excellent character that may not be at all adapted to specific localities, and therefore if our agricultural and domestic readers cannot write themselves, we will feel ourselves under obligations to them for appropriate selections approved by their judgment, and which they may desire to preserve in a more compact and durable form, than they are in the journals where they first appeared.

THE POTATO BLIGHT.

(*Peronospora infestans.*)

On page 11, at the bottom of the third column, of our January number, is a brief notice of an important step that has been gained in the natural history of the "Potato blight," through the investigations of Prof. De Bary, of Strasburg, Germany, in which he has detected the existence of an "alternation of generations," in the life-history of the above named parasitic fungus, which causes the disease.

A very full history of the "Potato blight and rot" is also given in the United States Agricultural Report for 1873, with many microscopic illustrations, (pp. 186 to 196) through the investigations of Dr. Payen, Dr. Lyon Playfair, Rev. M. J. Berkeley and other eminent mycologists of Europe. Although the researches of these distinguished savans are very interesting, yet, as their experiments were mainly microscopic, and under a power of 50 to 75 diameters, very few farmers, under the ordinary opportunities of observation, would ever be able to detect the minutia which they describe; nevertheless, the "blight" and "rot" are the visible effects of causes which have their beginnings in just such minutia as are here alluded to, and *there* is where the remedy must be applied, if ever the disease is to be abated.

It is stated that the potato disease was first observed in Germany, near Liege, in 1842; in Canada in 1844, and in England in 1845. This may be so, in reference to the places named, but potato-rot was known in Pennsylvania, to *our* knowledge, at least ten years prior to the latter date, or about 1835, and was quite extensively prevalent throughout Lancaster county; and especially on low rich grounds. We cultivated a lot that year, and except in one end, which was little more than a bed of stone-coal ashes, the potatoes all had the "rot."

It has been estimated that the damage sustained by Great Britain and Ireland alone, in the year 1845, amounted to at least *twenty-one millions pounds sterling*, and that in the following year it was nearly twice that amount.

The *London Times* estimated that the loss sustained by Great Britain in 1872 reached about *thirty millions sterling*.

For the last quarter of a century the potato rot has been attributed by the most scientific and intelligent explorers, to a parasitic fungus, most extensively known as *Botrytis infestans*;* but by a race of charlatans it has been attributed to all sorts of improbable, and in some instances *impossible*, sources; and on these theories remedies have been improvised, about as useless and as ridiculous as administering salt to a bird's tail, or snuff to a disordered threshing machine. The researches of Dr. Payen, however, have resulted in the discovery of a form of fungus in diseased potatoes that had not been previously known, although Berkeley and others are of the opinion that the new form discovered by Payen may be only a secondary fruit of *Botrytis* itself, the habits of which are not yet fully understood, notwithstanding some of the ablest explorers of Europe have for years been devoting more or less attention to this subject. It has been discovered that the fungus attacks the stalks first, causing brownish blotches and then the disease is transmitted to the tubers. If a withered stalk be taken, which has decayed through the infection of the fungus, it will be found that the brown marks have matured into forms similar to those discovered by Dr. Payen, and if a section of the same is made lengthwise, the interior will also exhibit spores highly matured, and generally connected with a very slender-jointed brown mould (*mycelium*). These details are interesting in a microscopical sense, but they are too delicate to be of much practical advantage to potato growers in general.

Here, however, is a statement that is of a more practical character, whether we can account for it on rational principles or not. Mr. Martin McKinzie, of Boston, Mass., wrote to the department at Washington, in November, 1872, to the effect that in a field near his residence, Early Rose and Jackson White potatoes were planted the previous season, in enclosures adjoining each other, but the Early Rose proved nearly an entire failure from fungus-blight, whilst the Jackson Whites were an entire success, growing to perfection. Not the slightest appearance of blight was manifested on them in a single instance, and it is further stated, that all the conditions of planting, cultivation, manuring and soil, were in both cases practically the same. It is alleged that this is not an isolated case by any means, and may ultimately demonstrate that the disease was due to the condition of the seed before it was planted.

It has often been stated that "the potato, from high cultivation, is running out, and that recourse should be had to the *seed* of the plant, as a means of renewing the crop." And here it may be stated that the *tuber* or edible portion, and which grows and matures under ground, is not, properly speaking, the *seed* of the plant. *That* is only an enlargement or tuberal development of the root. The seed is contained in the berry, or apple, which grows on the tops, and in form is similar to that of all other solanacious plants, the egg plant and the tomato for instance. It is from the planting of these seeds that new varieties are produced, and it is to this source, many contend, we must return to escape the diseases which now so extensively infect the plant. Something analagous to this obtains in perpetuating the quality of "live stock," and in all probability it is the same in the vegetable world.

To know exactly when the seed is infected by disease, and to what extent, in order to prevent its increase and spread, is what potato growers want, and ought to know. But, if the presence of disease in the seed-tuber can be determined only by the aid or a 50 or 75 diameter microscope, there seems to be a poor pros-

*Now referred to the genus *Peronospora*.

pect for the potato, unless the governments, State and National, should create Bureaus, and require all seeds to pass an ordeal of microscopic examination, and have a "stamp" attached before they are permitted to be planted, a thing more easily conceived than done.

From the foregoing, it seems very evident that the seed of the Jackson Whites, in the specific case alluded to, may not have been previously infected, and that the product was proof against the attacks of fungi, although the spores were floating in the air by millions, and they must have been surrounded by them. It is well known that a superabundance of moisture and heat produce rank vegetation, and it is also quite as well known that when this peculiar combination of climatic circumstances is prolonged when the tubers are matured, that rot is more likely to follow than when the season is dry; but when two varieties of the potato are growing side and side, and all the culture and climatic conditions are the same, and yet one variety escapes and the other becomes infected, we are almost bound to conclude, either that the one is rot-proof, or that insipient rot was in the seed-tuber of the other when it was planted.

It appears that European savans have no better remedy to suggest in such cases, than to cut off the tops as soon as the brown fungoid blotches appear on them. This might answer the purpose if done just at the right time, and if the mere preservation of the tubers, as an article of food, was the object; but American savans think that from the absence of stalks, leaves, and the healthy action of air and light, the tubers would not attain a healthy and consolidated growth, and would therefore be unfit for seed.

It is conceded that the germs of a disease may exist in an animal or a plant—either constitutionally in their systems, or in the surrounding atmosphere—without said disease ever becoming developed, owing to antidotes, tillage, and other favorable conditions; and hence, *our* savans suggest that as potash has the property of absorbing and retaining moisture in a high degree, and keeping the soil wet and moist, while carbonate of soda has the property of giving off water in a dry atmosphere, these conditions should be duly considered in the cultivation of the potato. Therefore they recommend that when tubers in any locality have grown to a state of perfection "*during periods of epidemic*," as in the case of the Jackson Whites alluded to, a sufficient quantity of such should be selected for seed purposes, and planted in still more favorable localities, and that this course should be continued, and by this means the disease might be ultimately prevented or entirely abated.

THE PATRONS OF HUSBANDRY.

The Lancaster Farmer is not the special adversary of secret societies—whether they be Granges or Religious Inquisitions—nor is it their special advocate. It does not array itself against these institutions, neither does it champion them any more than it does any particular reaper or corn sheller, either pro. or con. It leaves that question entirely in the hands of the farming public to dispose of as individual men endowed with common sense, and acting under the privileges of social and civil liberty. It believes that the moral and material worlds are large enough for Grangers and anti-Grangers to pass on to their respective destinies, without jostling each other, if they only practice a little self-denial, and subordinate the individual *will* to the greatest good of the greatest number.

In approving the seemingly good, and in condemning the seemingly evil, there is one very essential pre-requisite necessary before we are in a proper condition to perceive things as they are in their inner essences; and that is, the removal of the "*beam*" before we attempt to remove the "*mote*." We say *seemingly*, because the experiences of years have clearly illustrated to *our* mental perception that there are *real* goods and *apparent* goods, as well as *real* evils and only *apparent* evils, and that these things take their colors and forms, more or less, from the qualities of the mediums through which they are reflected, or rather transmitted. There is a common old saw, to the effect that "if a *monkey* looks into a mirror, a *prophet* will not look out," which is a trite illustration of how the "line of incident" is influenced by the "line of accident" in the domain of human perception.

While we are not prepared to believe that either all good men, or all evil men, are to be found within the folds of secret associations, neither do we believe that they are to be found outside of them. Good and evil are conditions that have their foundations upon mental and moral stratifications that lie down deeper than merely social organizations. A self-evident, or universally admitted good thing, in the hands and under the control of evil men, may be diverted from its original purpose and be converted into an evil thing, and the reverse of this proposition may be equally true. Even the Spanish Inquisition, in the hands of men unbigoted and unbiased, and acting under the spirit of the "Golden Rule," would have been a far better institution, and would have had a better reputation than that which is reflected from it in the pages of human history.

In contemplating the diversified history of Christianity from its first foundation down to the present time, viewing its immense labors, hardships, self-denials, patience, endurance and sacrifices; taking a retrospect of the contumely, contempt and persecutions it has endured, no man endowed with the smallest spark of charity will deny that its institution was intended to redeem and regenerate the human family from an impending state of evil and sinful degradation; and yet its great symbol has, in many instances, been converted into "a banner under which madmen have assembled to glut the earth with blood." But this does not, legitimately, nor essentially, militate against Christianity in any of its denominational forms, so far as the fundamental *spirit* of the church is concerned—it is a manifestation altogether outside of its spirit.

In noting the characters and qualities of the men who compose the secret organizations of our country—their different social, religious and political sentiments—their varied clerical, professional and mechanical callings—it would be as "far-fetched" or gratuitous, to denominate them combinations organized for the purpose of advancing social, religious and political ends, against the interest of those outside of their organizations, as it would be to esteem all outsiders arrayed in combinations against *them*. There are interests, likes and dislikes, laws of affinity and congeniality, which determine the social and fraternal relations existing among men, that lie deeper and are anterior to those which merely draw them together in these external organizations, and these affinities will determine the quality of their affiliation in spite of others.

Whether the social organization known as "Patrons of Husbandry" or "Grange," among the agricultural population of our country, is a necessity or a superfluity, time and circumstance will determine. The *in*verted—and we may also add, *per*verted—condition of human society imposes many things which in a more perfect state of order, would be regarded as entirely useless; and if these things have the least shadow of right in other industrial interests, who has the power to limit them to those interests alone? As we said in the beginning of this paper, our purpose is not to approve or condemn, simply because no man standing outside of a house into which he has never been admitted, is competent to judge of its contents, nor to determine the character of its occupants or the quality of its appointments, in an intelligent manner.

If the time should ever come when we could speak as experimentally of the "Grange" as we think we can of other secret organizations, and we feel it our bounden duty to do so—upon the basis of public and private *use*—we should not hesitate to speak, if we felt we were doing a corresponding good thereby. In the meantime we would counsel all to meet the issue amicably, and without prejudice or partiality. There is no necessity of undue exasperation upon the subject. It is either a necessity and a good, or it is not. If it is *not* it will come of itself to naught; if it *is* then there is no power in human society that can prevent it. One thing is certain: it is extra-judicial and entirely outside of our civil organizations; therefore, every citizen has the political right to act in freedom under the dictates of conscience and of reason.

Whilst we do not proffer an unqualified use of our columns to a heated discussion of the questions involved in granges or other secret organizations, still we shall from time to time note the progress they are making, the good they are accomplishing, or the evils they are engendering, so far as we understand them.

We will also cheerfully grant the use of our columns in publishing statistics of them, in correcting errors in respect to them, in dissipating wrong impressions and other inadvertencies which may grow out of their discussion when such communications are couched in courteous language, are confined to facts, and of a reasonable length. But we accord the same facilities to those who are averse to them from principle, and under the same rules. In conclusion, the *Grange* cannot be ignored; so far as its external organization is concerned it is a *fact*, and must be met and treated as a *fact*.

BLACKBERRIES.

To the question, "What kind of blackberries should we plant?" the following, condensed from the United States Agricultural Report for 1873, may be of some importance to those engaged in growing "small-fruits."

Mr. C. Gillingham, of Accotink, Fairfax county, Va., describing the condition of his blackberry canes during the spring of 1872, says, that in 1866 he planted ten rows of "Kittatinny" and ten of "Wilson" in the following manner: First four rows of Kittatinny, then following, alternately with Wilson and Kittatinny, six rows each, ending with four rows of Wilson. All had been treated alike from the time they had been received by him, and all appeared healthy until the spring of 1872, when the Kittatinny became covered with "rust." At a short distance the Kittatinny appeared as if painted with yellow ochre. Some were destroyed from its effects. None of the Kittatinny canes bore fruit. The Wilson were uninjured, although surrounded by an atmosphere laden with fungus spores. Every leaf of the Kittatinny was covered with thousands of spores, yet not a single leaf of the Wilson was affected. The Wilson canes bore their usual complement of fruit. Mr. Gillingham states that the canes have not been manured for several years. Although this circumstance may not illustrate that the Wilson blackberry, under all conditions, is absolute proof against rust, nor that the Kittatinny, under similar conditions, is always subject to it, it still will have some effect upon small fruit-growers, in determining what varieties they ought to select. These are but the effects of causes perhaps not yet fully understood, and therefore a full and true solution of the question will have to be developed by future investigations. In the meantime it may not be amiss to state the physiological theory on the subject.

The glossy covering on fruits and leaves consists of wax; that of the grasses, of siliceous matter. The wax may be removed by sulphuric ether, the siliceous matter by caustic alkalies, or by hydrochloric acid. Should plants fail to secrete and cover their surfaces with wax or silica for their protection, their albuminous substances will then afford food for the growth of *fungi*. Future investigations may prove that in the case of the Kittatinny blackberry alluded to, the absence of this outer protection was the cause of their destruction; but it will not amount to much, practically, until the *cause* of the disease can be given, and also the remedy to cure or prevent it. The fact that rust only appeared five or six years after the

canes were planted is not quite in harmony with the theory that the disease was transmitted through plants that had been previously infected, or defective. This yellow or orange colored rust, which occurred on the Kittatinny blackberry, is probably the same that is sometimes found so plentifully on the raspberry. It is the *Uredo ruborum* of Mycologists, and we have seen the "Philadelphia raspberry" very seriously infected with it, in the inclosure of Mr. Peter Riley, formerly of Lancaster city. There seems to be no remedy yet discovered for it, but the complete destruction of the plants, "both root and branch;" and unless this is unhesitatingly and thoroughly done, in a few years the whole blackberry or raspberry plantation may be destroyed. This orange colored fungus has been noticed in the State of Pennsylvania, both on the blackberry and the raspberry, these many years, but especially on the dewberry, where it is supposed to have originated; and Dr. Michener, of New Garden, Pa., wrote a paper on the subject as early as 1868.

In confirmation of Mr. Gillingham's experience, we may add that Dr. Michener states that he planted the Wilson blackberry on ground from which other varieties had been removed on account of their infection some years previously, and that they were free from the infection.

Even if the theory of the superficial wax secretion is correct, how are the plants to be restored to their normal condition when they cease to secrete or eliminate sufficient wax for their own protection against *Uredo?* Can the soil be so chemically manipulated as to afford this substance in sufficient quantity? Even if it can, it would seem almost suicidal to depend upon a process so tardy and delicate in its operation. It might answer as a future preventive, but when the disease is once present, then, like a hopelessly decayed and aching tooth, the best thing is to pull it out entirely.

WHAT IS "ANGUENTUM?"

Near the bottom of the first column, on page 14 of the January number of THE FARMER, among a list of insecticides used, is one called "Anguentum," and we are asked —"What is it?" Well, in good truth, we find we cannot tell. The article was *selected* from a respectable source, upon which we, perhaps, relied more implicitly than upon our own judgment, if we noticed it at all. Since, however, our attention is specifically called to it, we feel pretty safe in saying that the word is a misprint, and that *Unguentum* was intended. An *Unguent*, is a compound, mainly of oil and bees-wax, to which may be, and often are, added other ingredients, according to the specific use that is to be made of it—in short, an *ointment*. It is somewhat thicker, or stiffer, than a *liniment*, but not so stiff as a *cerate*, which is generally composed of bees-wax and tallow. The most common illustration of an unguent, or a cerate, is the substance used by tanners, and commonly called "Dubbin" or "Dubbing;" and we can now distinctly recall the circumstance, that when we, as a boy, worked on a farm, full fifty years ago, *dubbin* was frequently used as an antidote on lousy calves and pigs. And just here we venture to add a few remarks upon the value of the remedies used by the writer of the paragraph under discussion. He says that all of them failed except the "sprinkle" of sulphur, "well rubbed into the hair," and the internal administration of ginger.

Now, notwithstanding all this, we confess that *we* have more confidence in unguents or simple oils *well rubbed in*, as an insecticide, than we have in any dry application of sulphur. But the oil or ointment must reach the insects —come in actual contact with them—for they have too much aversion to such substances, to deliberately walk into and envelop themselves with them.

In connection with this subject, no time could be more appropriate than the present, to admonish our fruit, flower and shrubbery cultivators, that before the buds begin to swell in the Spring—if they have any stock infested with "scale insects," "bark-lice," "Scab-lice," or whatever other common name may be applied to them—is the proper time to administer a coat of oil to the branches thereof. Unguentum, or unguents, may be too stiff in cold weather, and to wait until the weather is warm enough for this application it may be too late; therefore, almost any liquid grease would be more effectual. The oil closes up the breathing pores of insects and is sure to kill all it reaches. When dead they loosen from the bark and the spring rains wash them off, and leave the trees and shrubs clean and healthy. This is almost a sovereign remedy, especially in young apple and pear trees, and has received the endorsement of the highest authorities. Indeed, the late M. Walsh, of Rock Island, Ill., demonstrated that oil was entirely effectual, where every other substance had failed. The oil is administered with a common paint or varnish brush. It is true, that on large trees it would be almost impracticable, but the greatest danger is to young trees and nursery stock—old trees may not need it. In conclusion, we commend the habit of asking such questions. It exhibits an interest in the subject and a desire to read understandingly, whether a remedy is effectual or not. To know to a certainty what a thing is *not*, or what it *will not do*, is a progressive step towards finding out what *it is* or what it *will do*, and this cannot be too often or too earnestly impressed upon the human mind.

DANIEL WEBSTER.

"Daniel Webster was a farmer, and took delight in country things. He had a patriarch's love of sheep. Choice breeds thereof he had. He took delight in cows. He tilled paternal acres with his own oxen. He loved to give the kine fodder. It was pleasant to hear him talk of oxen, and but three days before he left the earth, too ill to visit them, his oxen, lowing, came to see their sick lord, and as he stood in his door, his great cattle were driven up, that he might smell their healthy breath, and look his last on those broad, generous faces that were never false to him.

"What an affecting scene is here described! Daniel Webster loved these animals for their own sake and not for their value in silver or gold. He loved to feed them with his own hands in order to witness their happiness while satisfying their hunger, and to win their love for him. They loved their kind owner, and no wonder they came lowing, one by one, to see their sick lord! The scripture says "The ox knoweth its owner." Then all the splendid animals, numbering between one and two hundred, knew Daniel Webster, as they were driven up and looked on him for the last time, and who shall say they did not miss him and mourn for him when he could see them no more? No doubt this great man enjoyed more real happiness in the society of these dumb brutes of every kind on the Marshfield farm, than he ever realized in hearing the plaudits of his fellow men, as his elegant words rang out in the Senate chamber of our great nation, and thousands of worshipers were following in his train. He knew that fame was but a breath, and learned, by bitter experience, that the most devoted of his worshipers might desert and betray him, but that not one of these guiltless creatures would ever prove false to him."

Any one who has been brought up on a farm, or who has ever lived on one, must have noticed, in many instances, the affections, or at least the partiality, which some of the farm animals have manifested for certain members of the family, and that preference has often been for the master, or head of the family. On the other hand, they cannot have failed to notice the aversions, dislikes and even hates, which some animals have entertained against certain members of the human species. Now this is not mere caprice on the part of the dumb animals, but has its foundation in reason, whether the animals in question are able to reason upon the subject or not. It usually has its origin in the kind of treatment which the animals have received from man. These instances are quite frequent, and often manifest themselves in a very striking manner on the part of horses, dogs, poultry and birds, but are not unusual among cattle and sheep. And when their kind human friends have absented themselves, through removal, sickness or death, the animals have seemed to be impressed with a feeling that something has gone wrong with their benefactors, and they have exhibited feelings of anxiety or sorrow. Poor creatures—how true it appears that "the ass knoweth his master's crib, and the ox his stall." Kindness is appreciated and rewarded by animals, whether it comes from a Washington, a Webster, or one of the humblest members of the human family. This incident in the life of Daniel Webster recalls many similar associations of long ago, both "fortunate and adverse," and we have no doubt many of our rural readers have had like experiences.

THE PERSIMMON—SEX—VARIETIES.

Our valued correspondent, CASPER HILLER, who furnishes an interesting paper in this issue on *The Persimmon*, expresses some apprehension about the scientific accuracy of the conclusion of the first paragraph, where he alludes to the sex of the trees. Practically, he is correct. Although the persimmon, so far as our knowledge of it extends, cannot be classed with purely *dioecious* trees, yet, according to Dr. Gray, its floral system is "dioecciously polygamous;" that is, the fertile and sterile flowers —although generally on the same tree—are often on two different trees, the fertile being axillary and solitary, while the sterile are often in clusters, and moreover are much smaller than the former. As to the *sex* of the trees, we can only recommend to Mr. H. to make a minute examination of the flowers next season when they are in bloom. He has had sufficient experience in strawberry culture to be able to distinguish between the *pistillate* and *staminate* flowers.

We are glad to see attention called to persimmon culture, and find that the inquiry is spreading—indeed, if we are not much mistaken some nurserymen have them already among their stock. There are about twelve or fifteen species described by botanists as indigenous to different parts of the world.

The *Diospyros Kaki*, or Chinese persimmon, is represented as being as large as an apple, and when dried, far superior to dried figs. If Chinese seeds could be obtained from districts in our own parallel of latitude, we probably might propagate that species in this country. This fruit in foreign countries is not known under the name of "Persimmon;" it is called the "Date-plum" in English, and has other local names. *Persimmon* is the Virginia Indian name.

GOOD BUTTER.

Deservedly high as much of the butter of Lancaster county stands among butter consumers, yet, on the general question of quality, it seems almost self-evident that there is ample room for improvement, not only in the elementary principles of butter itself, but also in butter-*making*—its process in detail, as well as the necessary previous conditions involving its successful production.

We, therefore, feel that the following extract is most appropriate on this occasion, coming, as it does, from such a distinguished source, in the domain of American cheese and butter-making. We commend every word of it to the thoughtful perusal of the professional and amateur dairy folks of our county. Although the butter of Lancaster county, taken as a whole, may very justly be pronounced *good*, yet there is a higher degree of comparison culminating in *very good*, that Lancaster county—except in very special cases—has not yet reached, simply because she has not thoroughly complied with the necessary previous conditions to any great extent.

It is very seldom that we see so much on a practical subject so well said, and condensed into so limited a space; and, judging from the many specimens of butter which have come under our observation, and have been forced upon our gastronomic discussion, we feel sure that butter-makers will find *something* in it worth remembering.

There is no good reason why there should be *any* bad butter produced in Lancaster county. Butter-making involves the sublimest princi-

ples of chemical transformation, or transmutation, and depends more or less upon *previous* conditions for its successful results; no matter how common place it may seem, or how much farmers and farmers' wives may hoot at the idea of scientific butter-making. Things "worth doing at all are worth doing well," and the sooner this is perceived and carried out in any department of human industry, the sooner the hoped for "good time" will be "coming." Health, happiness, long life and prosperity are more intimately connected with *quality* than they are with *quantity*, and the sooner this is seen the better for the progress of the human family.

We have always felt what we deemed a justifiable pride in the quality of our Lancaster county butter as compared with other counties in and out of the State; but we were rather "taken down" when we were informed in a Philadelphia market that the butter from Chester and Montgomery counties took rank above it in texture, color and flavor. Lancaster was conceded to be *good*, but Montgomery was *better*, and Chester *best;* and to our reply that traveling agents from Philadelphia made it a point to stop in Lancaster merely for the sake of getting a taste of Lancaster butter, we were met with the response that their boarding houses had not access to, or could not afford to buy, Chester county butter. Of course, the quality of things sometimes depend upon partiality, or personal preference, but there is a possibility that our butter-makers, as a general thing, do not attend to the conditions pointed out in this article:

BUTTER MAKING.

THE COW.

The French cook, in giving directions how to cook a rabbit, began by saying: "First catch the rabbit!" —it seeming essential, in his mind, that the rabbit should be caught before it was cooked. So we, in discussing the question of butter-making, will say—first get the cow! This is an important step, and more important than many think—for you cannot make good butter unless you have a good butter cow to begin with. Do you ask what breed is best? We answer, it does not make any difference what breed, if you only get a good butter cow. There are good cows among all breeds—more among some than among others—and only experience—a practical test—can decide the value of a cow for making butter. She may not give a large mess, but she must give a rich mess, and it must have a clean, sweet flavor. We see that the farmers in some sections seem to understand this point. They have in Otsego county, along the Unadilla river, to some extent at least, introduced Devon blood, and we find among the butter-makers there fine herds of grade Devons. They are not generally reputed the best butter cows, as a breed—most preferring the short horns or Jerseys. But the short horns are not adapted to hilly regions. For this reason, perhaps, the Devons crossed on the best native stock, with a sprinkling of Jersey blood, are the best for that section.

But whatever blood you introduce, be sure it is from a milking family. This is the main point to look at. Get males from the best milking families—males strongly marked with the characteristics of a good milking family—and use no others. Cross these only with your best butter cows, and if you have cows that have come from good native butter stock, so much the better. But never trust to grade bulls, however fine, except in rare cases, where you are sure of the native stock having proved good for several generations. When you use a grade male, you never know what blood you will breed from. He is just as likely to transmit his bad qualities as his good ones, and give you only worthless, or next to worthless, stock. You cannot afford to take the risk of trusting a grade bull, if you are trying to improve your dairy stock. Therefore, we say, use none but pure bloods. It is better to pay a little more for them than to run any risks—but be sure that you get a full blood from a good butter family and with a good pedigree—for without a good pedigree he may prove as worthless as a grade.

With a good butter cow and proper care and feed, you are in a fair way to make good butter; but without such a cow, your case is hopeless. No amount of care and feeding will make a good cow out of a poor one. But you may greatly injure, if you do not spoil, a good cow by neglecting to give her an abundance of clean, sweet food and pure water. She is a machine for working up raw materials into milk, and she cannot make good milk out of poor materials. The milk, and the butter and cheese made from it, will be flavored more or less with the food which the cow eats. See to it that she has sweet, nourishing food and pure water in abundance.

ODORS.

The cow being all right, and her food and drink being all right and in abundance, the milk will be all right, and we have only to look at its handling and subsequent management. It must be milked from the cow in a clean, sweet atmosphere. There must be no taints in the atmosphere for the cow to breathe or the milk to absorb. If there are, you will find traces of them in your butter. Fats of all kinds have a strong affinity for odors, and are used by the chemists in extracting the fragrance from flowers for the purpose of making perfumes. These fats will absorb odors from the atmosphere quite as readily. Hence, milk and butter, from first to last, must be kept in a sweet place. Even a coal stove or the use of a kerosine lamp in a milk room, will flavor butter. The *Practical Farmer* relates an instance where a fancy butter maker discovered a bad flavor in his butter—very slight, but nevertheless to be tasted by his fastidious customers—and he traced it to the kerosine lamp used to light the milk room. He at once ran a tube from the lamp chimney up through the roof, for the smoke to escape, and the evil was remedied.

Not one cellar in a thousand is fit to set milk or keep butter in, because of the mustiness or other bad smells in them. The scent rising from vegetables, as they sweat and steam—and especially if there is any decay about them—will injure the flavor of butter. A product so delicate and valuable should therefore be kept by itself in a cool, sweet place.

THE MILK ROOM.

The milk house, then, must be clean and free from all bad odors. It must also be well ventilated, and ought to be so built that the temperature can be regulated and kept at about sixty degrees. It should be built with double walls, so as to have an air chamber between. If filled in with sawdust, all the better. The windows should be double. The doors should be double, and far enough apart so that you can stand between them and shut one before opening the other. The room should have facilities for giving it an even heat in cold weather, and be provided with means of introducing cool air through an ice-box overhead or on the side near the ceiling, in hot weather; or, what is better, be put in communication, by means of tubes, with your ice-house adjoining and standing on a little higher ground. The floor of a milk-room should be elevated above the ground, and made double, like the sides, and have a free circulation of air underneath; or it should be made of stone or cement laid on the clean earth and made impervious to moisture at all points, so that it will not absorb milk or other liquid spilt on it, and generate bad odors. An elevated double floor is much the healthiest to work on, as it will always be dry and warm, whereas stone or cement will always be cold, if not damp, and bad for the dairywomen to stand on. This is an important point to be considered by all who desire to have their wives or daughters, or whoever may work in the milk-room, healthy and happy. Cold feet and limbs are sure to have a bad effect on the health and spirits, if they do not lead directly to consumption and a premature grave. Farmers should therefore always bear in mind the health, comfort, convenience and happiness of the women folks in all their arrangements about the dairy-room, kitchen, and wherever women are employed. Too much attention cannot be paid to their welfare.

The air of the milk-room should not only be kept clean and sweet and the temperature even, but water should be kept in the room, so that the air will not become too dry. Where milk is set in tanks of water, of course the necessary moisture will always be present in the atmosphere. It is also essential that light should be admitted. We know that some think a milk room should be kept dark, but it is a mistake. Without light there will be no color to the cream, and it will be poorer in quality and deficient in flavor. The butter will also be pale and insipid in taste. Light is essential to color and fine flavor. Any one can make a simple experiment which will go far toward satisfying him of this fact. Put a bit of board over one-half of the pan, or so as to cut off the light. He will have yellow, rich cream where the light falls, and white, poor cream where the shadow falls. It is also an advantage to let the sunlight into a milk room. Of course, it should not fall on the milk; but let it strike the building and shine through the windows on the floor. Sunlight is a wonderful purifier and promoter of health. It is not desirable to have the hot sun shine into the milk room in the middle of the day; but instead of excluding it with blinds, we should prefer white curtains, that would let the light through while excluding the heat. Of course, if cream stands long exposed to light, the bleaching process will begin. Some think a steady dim light the best. We prefer full daylight a portion of the time, at least. During the middle of the day the light may be shut off altogether.—*Syracuse Standard.*

THIS NUMBER of THE FARMER will be sent to some of our agricultural friends who are not subscribers, that they may have an opportunity to pass upon its merits, and in the hope that they will become subscribers. We invite the attention of all who receive it in that way to the prospectus on first page.

A WORD FOR THE FARMER.

From the time it was brought into existence I have not ceased to feel interested in the continuance and prosperity of THE LANCASTER FARMER. I know that it has had for six years "a hard road to travel," or rather the editor and publishers have had. This, however, proves great tenacity and perseverance somewhere. I had no anxiety on account of its recent change of proprietors, but was somewhat concerned for its change of face and size. With the first number of the change I am very agreeably disappointed, and if it is a fair sample of what is to follow, Lancaster county will have made quite a stride in Agricultural and Horticultural literature. Should our citizens, and farmers especially, fail to patronize it as it deserves, the fault will be with them, and not with the periodical or its editor and publishers. The latter cannot possibly have embarked in this enterprise with prospects of a lucrative business; for it certainly required a new impetus to keep it from sinking. It is therefore evident that their giving it a new lease of life and business momentum is more for the honor of Lancaster county and its tillers, than for the "almighty dollar." I therefore renew my appeal to my brother tillers of the soil of "the garden county." Let us "put our shoulder to the wheel," and give THE LANCASTER FARMER an impetus that will keep it going *up* for the next six years instead of going down, after which I have no fears of its permanency and ability to stand on its own bottom.

H. M. E.

"DYING FOR OUR COUNTRY."

In times of war we hear much said about the duty and glory of dying for our country. Orators who are careful to keep their precious selves out of the bloody fray, will harangue audiences by the hour on the nobleness and reward of other people laying down their lives to save their bleeding country. So meritorious is this sacrifice considered by some, that they are ready to promise eternal happiness in heaven to those who make it, whatever may be their characters, or other deeds while here on earth.

But the religion which prepares men for heaven is not manifested by imbruing our hands in the blood of others, and the act of rushing into the cannon's mouth will not atone for other sins which have been committed throughout a lifetime.

Dying for one's country generally means, when stript of its sophistry, dying for those who wish to *govern* the country. It is dying for kings and nobles and other great men who quarrel among themselves, and then, too selfish to do their own fighting, meanly call on their subjects to do it for them. And when thousands or hundreds of thousands of these subjects have "bitten the dust," how soon they are forgotten and left to moulder in unremembered graves, while their poor families and friends are suffering for the want of their care and support. What has been the gain of dying for the countries during the many centuries whose history has been writen in blood? In many cases where men have died for their country their country has died with them. This was the case with ancient Greece and Rome, and has been also with many modern nations. They have resorted to the sword to avenge some fancied insult, or secure some unlawful end, and mightier ones have paid them in the coin of their own choosing and blotted them from the map of the continent.

How much more wise and noble to *live* for one's country instead of dying for it. When dead there is an end to all efforts to promote the welfare of our friends and neighbors. But while we live we may daily perform deeds and exert an influence that shall bless, not only our friends and our country, but the world.

Let then this false maxim, that it is our duty to die for our country, be relegated to oblivion along with that equally false one, that the way to preserve peace is to prepare for war. Both had their origin in times darker than our own, and are unworthy to be cherished or believed by enlightened people. L.

There is, most unquestionably, a time and a sense in which the foregoing is just as true as any "proof of holy writ," and that time is when a nation or a country is enjoying a profound state of peace. Although "in peace there's nothing so becomes a man as modest stillness and humility;" yet, when the "blasts of war are blown in his ears," at the behest of others, he imitates the action of the tiger, "stiffens up the sinews, summons' up the blood, and disguises fair nature with hard favored rage," and it is then too late, and altogether useless, to preach to him the doctrines of peace.

There is doubtless such a thing as disinterested patriotism, or love of country, but we never *have* believed, and never *can* believe, that all manifestations of patriotism are in reality what they appear to be. How can men, daily subjected to the vicissitudes of the cannon's fell mouth, indulge in wanton acts of theft, rapine, pillage and destruction, and at the same time be disinterested patriots? or what must be their ideas of heaven and its beatitudes, and their fitness for such a place, when they are ready to die ostensibly for their country, with their hands so imbrued in blood. The farmers of our country are characteristically men of peace, and when wars ensue they are not brought about by the patient and humble tillers of the soil, who *live* for humanity, but by scheming, intriguing, and ambitious idlers, who esteem "the world as booty, and men as brutes."

Nothing but a state of moral and intellectual culture will impress men with a true knowledge of their responsibilities and their rights, and teach knaves that "those who breed the quarrels should be the men to fight."

VOICES FROM ABROAD.

"HERE AND THERE."

The following extracts from letters to *The Express* will be read with interest by our farmers, coming as they do from two former residents of Lancaster county; not only on account of the information they impart as to what is transpiring in other parts of our widely extended country, but also on account of the suggestions they make in reference to the communication of items of information on the farming progress of the county, which would be interesting to local readers, but more especially to those residing far beyond our limits, but who still retain an affectionate recollection of their dear old homes. Should any of our rural population contemplate a change in their local *habitat*, they might find something worth knowing in these letters, by way of comparison or contrast with their present *status*. If *we*, however, owned a farm in Lancaster county worth $300 per acre, and it was paid for, we would not trouble ourselves much about cent. per cents. on first investments, or large profit margins. Many of the farmers of Lancaster county have come into possession of their broad acres through inheritance, and have subsequently improved them without counting the cost, and who prefer moderate profits and healthful ease more than they do the increased labors, the responsibilities and anxieties of larger and more complicated operations. *These*, of course, will be content with what they have and remain where they are. Others will act according to *necessity*.

FARMING IN ILLINOIS—REMINISCENCES OF BY-GONE DAYS.

MAROA, Macon co., Ill, Jan. 16, 1875.

Winter has laid its icy hand upon us in earnest. The thermometer on Saturday marked twenty-one degrees below zero. Kansas calls upon us for material aid, and the good people respond cheerfully in money, clothing, corn and other necessaries of life; and it is right they should, for seldom we see a people so prosperous and happy. Our crops of all descriptions have been good, with remunerating prices. The health of our community was never better. The doctors say, "distressingly healthy."

DWELLING HOUSES,

large and beautiful, are springing up like magic in every direction, and few thrifty farmers are found living in huts, or riding to church in a lumber wagon. Almost every necessary of the farmer has gone down, while the produce of the farm, except wheat, has gone up.

OUR HOME MARKET.

Lumber sells at from $15 to $40 per thousand; coal from $3 to $4 per ton; wheat, 80 cents; corn, 55 cents; oats, 50 cents; while pork stands first at 6¼ gross. These are balmy days for Central Illinois, and if the money obtained is properly used will prove a great blessing..

This date, A. D. 1875, reminds me that my fiftieth birthday is nigh at hand, and that

FORTY YEARS HAVE PASSED

since the managing editor of *The Express* and I struck glad hands, not over the bloody chasm, but over the silver stream, made alive, not with fish, but with miniature water-wheels and tilt-hammers, made and operated by our own hands near our old homes in Hart. I pause for reflection, not for the return of those "balmy days" of our boyhood, or to return to the rocks and hills of my native State, to obtain a livelihood; for eleven years' experience has proven beyond all doubt, that Illinois stands pre-eminently over her sister States in agriculture, and will continue so through all time to come. She has never suffered to any great extent from any natural calamity, and has never called upon her sister States for assistance, yet many of her inhabitants emigrate East, West, North and South; but I will venture the assertion that no other State can boast of so many

"RETURNING PRODIGALS."

Farmers who believe there is more money made, and made easier, among the rocks and hills of an Eastern farm, which costs $300 per acre, than we do on our $30 prairie lands, will be interested in the following:

Four boys, aged from 13 to 20 years, raised during the past season 1,639 bushels of small grain and between 8,000 and 9,000 bushels of corn, besides potatoes, sorghum, &c. We will now take 320 acres of land at $30 per acre and add $1,400 for horses and implements, and we have $11,000 capital invested.

Cash sales for hogs and other articles -	$2.215.00
Value of corn and oats on hand - - - -	4,015.00
Earnings off the farm - - - - - - - -	240.00
	$6,470.00
Int. at 10 per cent. on investments	$1,100.00
Taxes - - - - - - - - - -	125.00
Cash paid out for labor - - - -	140.00
	$1,365.00
Balance - - - - - - - - - - -	$5,105.00

My own time has been spent chiefly on improvements, as follows, with cost of material added:

240 rods of three-board fence - - - - -	$ 180.00
40 rods picket fence inclosing house - -	140.00
One corn-crib holding 4,000 bushels of corn	250.00
One two-story dwelling house 16 by 28 feet	2,000.00
Total - - - - - - - - - - - -	$2,570.00

Now, Mr. Editor, if some one owning $300 land will show a better year's work, with the same amount of capital and labor, I will consider the subject of emigrating East.

THE EXPRESS—

long may it live to express its condemnation of bad men in high places—send it regularly, as I claim a life-lease upon it. Please find a ten dollar "stamp" to pay the printer. J. W. F.

"LIKE A LETTER FROM OUR OLD HOME."

POWELL'S STATION, Tenn., Jan. 18, 1875.

[Extract from a business letter.] Enclosed find post-office order from Knoxville for $8 for *The Weekly Express*, which will pay arrearages and one year in advance. I will try to be more punctual the next time. Your paper has come very regularly and we have perused its columns with a relish. It always seems like a letter from our old home. As Salisbury township, Lancaster county, Pa., is our native place, the articles written by your Gap correspondent have always been interesting. Could he not give some items of the farming, &c., in Pequea Valley—how many cattle are fed by our old neighbors, prices paid for them, prospects of growing crops, how much sowed, planted, &c., what good horses are selling for and general items in the valley? C. H. S.

THE FARMERS' NORTHERN MARKET.

At the annual meeting of the stockholders of the Farmer's Northern Market Company, of Lancaster, the President, David Evans, presented his annual report. It states that—

"While reasonable profits may soon be expected, they will not be as large as they ought, as long as sellers will prefer to stand on the street with their marketing, and people as willingly buy there as in a place better adapted for the purpose. But let us hope that what we have inaugurated here will soon be followed in the three quarters of the city; and while affording the public these better facilities, will also give the stockholders adequate remuneration for their investment. Indeed, there are no places in any city of the same population, and laid out on the same plan, that afford finer and more suitable sites for markets, than the places now occupied by the old Indian Queen Hotel, in the eastern section of the city, the Plough Tavern in the western section, and the spot on the southeastern corner of South Queen and Middle streets, in the southern section of the city. With the markets thus located, and two held on Tuesday and Thursday, or Friday, of every week, and the other opposite two on Wednesday and Saturday of every week, there would be convenience afforded to the cititizens of our city enjoyed by few other cities; and, withal, create an impetus to improvement in the different parts of the city not now to be realized. The only objection that can be urged to such a step is that of a supposed decline in the value of property where the market is now held. But this is not founded on good reason. The experience of other places is not such. And if the case were such, who would feel a justification in the plea—that general prosperity and convenience to the public should be sacrificed for the benefit of a few? Let us hope that this great need will soon be supplied to the full measure of its pressing claims."

The closing of the evening markets one hour earlier is suggested, together with such rules as will prevent the congregation of boys using vulgar and indecent language, and the habit of smoking in the market house. The punishment of a few transgressors by way of example is recommended.

The Treasurer's annual report shows the financial condition of the company. The receipts from rents of stalls were $3,233.92; for rent of restaurant, $352.38, making total receipts $3,586.30. The whole amount expended was $4,084.48, leaving the excess of expenditures over receipts $498.18, which is $182.23 more of a diticiency than in the previous year.

For the current year the receipts are estimated at - - - - - - -	$5,052.00
and the expenditures at - - -	2,980.13
Leaving a balance of - - -	$2,071.77

which the report states may be applied either to the reduction of the debt or the payment of dividends to stockholders.

The following persons were elected directors for the current year: Benj. L. Landis, John Buckwalter, Joseph Samson, Isaac Powl, John Hess, Chrn. Zecher, C. A. Bitner, Conrad Gast, David Evans.

"FARMER JOHN."

On page 24 we print a little domestic poem which impresses an instructive lesson and is very appropriate to the firesides of both "town and country." We insert it in THE FARMER because we feel it will be welcomed by the wiser class of our readers, and serve to break the dull monotony of perpetually playing upon a single string.

We have long thought of devoting a "corner" in our journal to the reception of effusions of this kind, but want of space, heretofore, has prevented it. But, should we conclude to make this a feature, of course we must reserve to ourselves the privilege of judging the quality of what should be admitted and what denied.

Many poetical effusions are only flights of fancy and written to merely please the fancy; still, there are many of the true "ring," which speak in more impressive language than the tame numbers of prose, and "Farmer John" we conceive to be of that character.

CANARIES.

Rather more than three hundred years ago, a ship partly laden with little green birds captured in the Canary Islands, having been wrecked near Elba, the birds made their escape, flew to the island, and there settled themselves. Numbers of them were caught by the inhabitants, and on account of their sprightly vivacity and the brilliancy of their voice they soon became great favorites, and rapidly spread over Europe. The original color of the canary is not the bright yellow with which its feathers are generally tinted, but a kind of dappled olive green, black and yellow, either color predominating according to circumstances. By careful management the bird-fanciers are able to procure canaries of every tint between the three colors, having instituted a set of rules by which the quality and arrangement of the coloring is reduced to a regular system. Still the original dappled green is always apt to make its appearance, and even when two colored birds are mated, a green one is pretty sure to be found in the nest For our own part we care little for the artificial varieties produced by the fanciers, and to our mind an intelligent bird and a good songster is not one whit the less attractive because the colors of its plumage are not arranged precisely according to the fancier's rules.

CULTURE OF THE GRAPE.

PLANTING—THE TRELLIS—PRUNING.

Whatever else in the cereal or vegetable line a landowner or householder may not have room for, space can always be found for at least one or more grape vines, the fruit from which is among the most wholesome and delicious that can be eaten; and coming, as it does, at the season of the year when other small fruits are scarce, it is the more desirable. This sketch is not written for those practical horticulturalists who know more about the culture of the grape than the writer, but for those who have given little or no attention to the subject, and may not have access to such able and exhaustive manuals on the subject as "*The Grape Culturist*," by ANDREW S. FULLER, which is noticed more fully on another page. This class, we apprehend, includes the bulk of those owning farms and gardens in Lancaster county; and it will therefore be our aim to make this article as plain and practical as possible. For the accompanying illustrations, we are under obligations to Mr. Fuller, whose system of trellising and pruning we adopted and experimented with some years ago, and which we still regard as the best, at least for amateurs or those who desire to grow grapes in limited quantities or for their own use. Whether it is the best for vineyard purposes we leave for the determination of those who have had experience in that wider field of culture—though we think that few who read Mr. Fuller's reasons for adopting and adhering to it, after a careful consideration and trial of all other plans, will fail to be impressed in its favor.

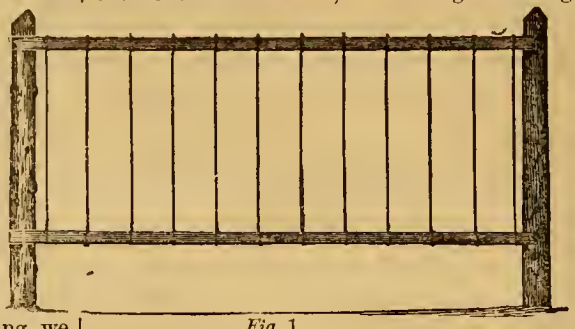


Fig. 1.

PLANTING THE VINE.

Although our object is to treat more particularly of constructing the trellis and pruning the vine, as the season is approaching for planting vines by those who did not plant last fall, a few words on this subject may interest and profit some of our readers. As a general rule, when young vines are purchased from careful nurserymen, who understand their business, the roots will be pruned ready for planting; for, however carefully they may be taken from the nursery, the ends of the roots will be more or less broken. These should be trimmed off smoothly before planting. It is also beneficial to shorten the roots considerably before planting, especially if they are long and destitute of branching fibers. Two feet is long enough for any root upon a two or three year old vine; longer ones should be cut off, not only for convenience in planting, but to incite the main roots to throw out new ones from their ends, as well as their sides. The soil will thereby become filled with feeding roots, instead of a few long naked ones, which have no power of absorbing food except through the small fibres which exist only at their extreme ends. The soil within the radius occupied by these long roots is useless, so far as furnishing nutriment is concerned, because they are not capable of absorbing it. It will therefore often be necessary to shorten the roots to less than two feet, and it is best to cut off a portion of the ends, no matter what their length may be; for it is not the number or length of the roots that determine the quality of the vine, but their condition. If long, soft, spongy and unripened wood and roots are left upon the vine, they are of little benefit to it at best, and they will often die, and in their decay communicate disease to the other and more healthy portions of the plant. Vines will sometimes have so many roots that when transplanted the buds left upon the stem are insufficient to call them into action, and they perish; for roots will not remain entirely inactive for any considerable time during the growing season without suffering. If the roots are so crowded that they cannot be distinctly separated and a clear space allowed for each when placed in the ground, a portion should be entirely removed.

The roots properly trimmed, the stem should be cut off to almost eighteen inches, if not already done. The hole to receive the vine should be dug in a circular form, and from six to ten inches deep on the outside, and four to six inches in the centre; then set a good strong stake in the centre of the hole, by which injury to the roots is prevented after planting. Set the vine in the centre of the hole close by the stake; spread out the roots in every direction, and throw on a little soil as you proceed, to hold them in position. When all the roots are properly distributed, fill up the hole, pressing down the soil with the foot. The depth to which roots should be covered depends upon whether the soil be heavy or light, and on other conditions—deeper covering in light than in heavy soils being necessary, because the air has more ready access through a porous than a tenacious soil; and while it is necessary that air should reach the roots, it is not judicious to allow it to penetrate too freely, because roots require a partially confined atmosphere, and not one that has any apparent circulation. There are those who advocate planting as deep as one or two feet, while others, going to the other extreme, barely cover the roots with earth, and then depend on mulching for moisture. Mr. Fuller recommends a medium depth as the best. If the vines are planted in the fall a little mound should be raised around the stem to protect the lower buds from freezing out; but if planted in spring a shallow basin may be left about the stem to allow the rains more readily to reach the roots. It can be filled up when the vines are fairly started in growth.

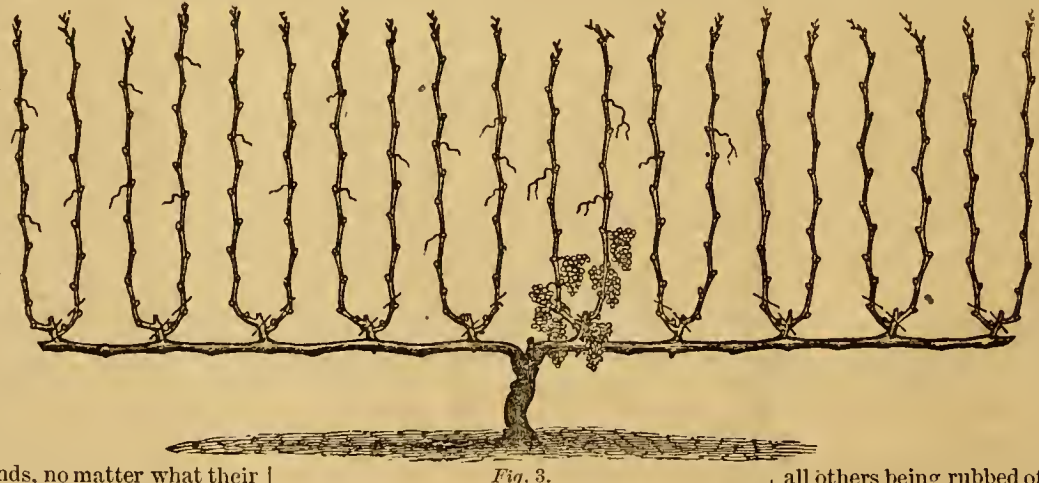


Fig. 3.

When the buds begin to push into growth, select the strongest and rub the others off; a bud near the ground is preferable to one that is a foot above, and this is one reason why the vines should be cut off quite short when planted, as it makes the lower buds more certain to push. After the one bud or shoot has been selected, the old stem above it may be cut off to within two inches of the young shoot. As the young cane grows, keep it loosely tied to the stake. At the end of the first season the vines will usually be large enough to be pruned for training, but many of the more feeble varieties will require another year, and they should be cut back in the fall or winter to two or three buds, only one of which should be allowed to grow as in the first year.

CONSTRUCTION OF THE TRELLIS.

While the usual manner of making trellises with wires running horizontally is regarded as objectionable for reasons which we have not room to discuss, it is a much more expensive method than the one shown in the accompanying illustration (Fig. 1) consisting of two horizontal bars and perpendicular wires. In trellises constructed in the ordinary way there is a difficulty in keeping the wires straight, owing to contraction and expansion under a change of temperature and weight of the fruit and vine; besides, unless placed unusually close, the wires are not where most needed when the young bearing shoots first start. Mr. Fuller's method is to select posts of durable wood of from four to six inches diameter, and six and a half feet long, and to set them in the ground two and a half feet deep, and in a line with the vines, about eight feet apart, the vine being in the middle of each trellis. We used ordinary pine three-inch scantling, with the lower end thoroughly saturated with paraffine or gas tar, and they have lasted for years and are still sound. Nail on strips of ordinary lath, one inch thick,

Fig. 2.

one strip being placed one foot from the ground and the other at the top of the posts. Then take No. 16 galvanized iron wire and put it on vertically, twisting it around the lower and upper rail, each wire being placed just where the upright bearing shoots are to grow. The distance between the wires will differ, according to the variety of vines, as the distance between the buds varies; but usually from eight to twelve inches will be the proper distance. The wires can be easily moved to suit the buds. No. 16 wire runs 102 feet to the pound and is therefore inexpensive.

PRUNING AND TRAINING.

The first year the single vine is allowed to grow to the stake set in the planting, the lateral shoots being stopped by pinching back. The next season this cane is to be cut back to within twelve or fifteen inches of the ground and only the upper two buds allowed to grow, all others being rubbed off. From these upper buds two canes are produced, each one of which should have the same treatment as the single one of the previous season. These canes by fall should be from eight to twelve feet long and at least half an inch in diameter. If much smaller than this, one of them should be cut away and the other cut back to two buds, and two canes should be grown, as in the previous season; but with good vines and good culture they will be ready for training at

the end of the second season. The two canes of the vine are now shortened to four feet each and bent down in opposite directions and laid against the lower bar of the trellis to form arms. Select five or six of the buds on the upper side of the arms thus laid down, to be grown into upright canes, making a mark on the trellis bar opposite to each, and arrange the upright wires accordingly. When the buds have all started, and made a growth of two or three inches, the arms should be brought up level and fastened to the side of the lower bar. All buds and shoots not wanted for upright canes should be broken off, and so soon as those remaining are long enough to tie to the upright wires, it should be carefully done. When the upright canes have grown to almost two feet, they should be stopped by pinching off their ends, which will cause the remaining leaves to grow healthy and more vigorously. When they grow again to a few inches, they should be again checked, so as to keep them within the limits of the trellis, and not allow them to grow much, if any, above it. All the *laterals* or side shoots should be stopped as though they were on young vines. Figure 2 represents a vine at the end of the first season after the arms are formed. The first upright cane at the left hand of the middle, shows the position of the three branches of fruit, which is all that should be allowed to grow on each shoot this year. No more fruiting canes should be allowed to grow on one side than the other—the vine should be kept equally balanced in fruit, foliage and wood.

The upright canes are pruned back the first year of training to two buds; the small cross lines near the base of the canes (Fig. 2) show where they should be cut. The next year a cane will proceed from each of these buds, and all other shoots which may start from the small ends near the arm should be rubbed off; or, if the buds should produce two shoots each, as they will sometimes do, only the strongest one should be allowed to grow. The second year the canes will each produce three or four bunches of fruit, and instead of twelve upright canes (supposing that to have been the number the first year) we now have twenty-four, and allowing three bunches of fruit to each, it gives seventy-two bunches to each vine; and Mr. Fuller says this is not an over-estimate for the product of a vine the fourth year after planting. The canes are to be treated the same as regards stopping, pinching laterals, etc., during each year of their growth. Figure 3 shows a vine at the end of the fourth year (the second on the trellis,) but with only five spurs with two canes on each, making ten bearing canes on each arm. The first two canes at the right hand of the middle are represented with the three bunches of fruit on each. The cross lines near the base of the shoots show where the vine is to be pruned at the end of the fourth year. The uppermost of the two canes is cut entirely away, and the other is cut back to two buds. The vine in subsequent years is to be pruned in the same manner; but each year the pruning should be reversed, if the position of the lower bud will admit of it; that is, if we cut away the left hand cane this season, we should cut away the right hand cane the next; in this way the spur will remain nearly upright.

The objection to this system of training has been urged that in time the spurs become so long as to be unsightly and inconvenient; but taking the average of some twenty varieties that he had trained, Mr. Fuller found that the spurs do not increase more than three-fourths of an inch each year, and if the foregoing details are strictly followed, the *arms* need not be renewed oftener than once in fifteen or twenty years. If necessary, new arms may be formed by allowing the two middle spurs to produce but one cane each, and these may grow four or five feet long; at the next pruning the old arms should then be cut away and these two new canes bent down to form new ones.

For garden culture the trellis is as indispensable as in the vineyard, as the vines should never be fastened directly on the side of a building or fence, but should be at least six inches from them; a foot is still better, as this allows a free circulation of air behind the vine, and prevents, in a great measure, the bruising of the leaves, which usually occurs when vines are laid against the boards or walls. Where the space is limited, as in a yard, the form of trellis may be varied to suit. By doubling the height of the trellis and training four tiers of arms instead of two, the quantity of fruit may be doubled; though where economy of space is not an object it is better to confine the system to one tier.

There are many whys and wherefores which may suggest themselves to the mind of the amateur, which we have not space to explain in this article; but it will be the pleasure of THE FARMER to answer any special inquiries on this as on other subjects, as well as to give expression to the views of any of our friends who may be partial to any other system of pruning and training. J. M. W. G.

LANCASTER COUNTY APPLES.

THE SMOKEHOUSE.

One of the most popular apples in this State, and especially in this county, is the SMOKEHOUSE, and unless it proves inferior in other sections it is destined to become much more widely disseminated. Its history and description can probably not be better given than has been done by Downing, as follows: "Origin—Lancaster county, Pa., near Millcreek; grew on the farm of —— Gibbons,* near his smokehouse; hence its name." Downing pronounces it "good; valued for culinary uses." This description has no doubt made an impression, where it is not known, that it is valued for culinary uses only.

This, however, is a mistake wherever such an impression exists, for in this section of country, if (in its season) it is not sold *more* readily by hucksters and retailers than any other apple, it certainly sells *second to none.*

"WM. PENN"—"PENN"—"PEN."

Origin—Columbia, Lancaster county. It is the opinion of Charles Downing that the above names represent one and the same apple. Although a great deal of controversy has been had of late on account of another apple becoming somewhat disseminated by the name "Pen," it has since been conclusively shown to be "Baldwin." Suffice it to say that the "Wm. Penn" is a Lancaster county apple, described by Downing. It is an excellent keeper and a prolific bearer. It is important to pomology that there should not be two fruits of the same class put out under the same name. Should this article cause further controversy, I shall be prepared to show conclusively how and why the confusion between two such different apples has occurred.

SAYLOR.

The original tree of this apple stands now in this town, (Marietta, Pa.,) on the property formerly owned by Edward Saylor; hence its name. It has been an enormous and is still an excellent bearer. It is described by Downing under the name "Ned," which name was afterwards objected to by Saylor's friends on account of its being a nickname given to him. In the nurseries it is now, I believe, grown under the name of Saylor only. It has to some extent been fruited on young trees, and promises to be one of the most valuable winter apples, for this section at least. As an early, regular, and prolific bearer it is fully equal to that popular apple, "Smith's Cider;" probably not quite equal in size, but of better quality, and quite as good a keeper. Whether it will prove equally as valuable in other sections will require further testing.

ALL-SUMMER,

is another Lancaster county seedling, destined to become popular. As a summer apple there is nothing against it except size, which is, however, more attributable to overbearing than to its real nature. When not permitted to overbear the fruit is medium size, very crisp and tender, the flavor resembling Early Harvest, but fruit of much more perfect form. The tree bears very young. It was first brought to public notice, I believe, by Casper Hiller, of Conestoga Centre, Lancaster county.

KLAPROTH

is also a Lancaster county apple, brought into notice by Dr. J. K. Eshleman, on the farm of Mr. Breneman, but he does not locate it. A vigorous grower and prolific bearer; pronounced very good. August to October.

BELMONT.

This very popular apple originated near Strasburg, Lancaster county, in the garden of Mrs. Beam, at her gate—hence, the name "Gate apple," as also other synonyms. Although this valuable fruit is a native of our county, it has not been extensively planted here, while in the west it is one of the most popular winter apples. Its season is from November to February. Size, medium to large; quality very good.

FANNY.

This apple also originated near Strasburg, on the farm formerly owned by Jacob Beam. Fruit large; quality very good. A new apple of great promise.

FRANKLIN.

A native of Lancaster county, not located by Downing. Pronounced good. September to November.

These are all described by Downing in his great work, "Fruit and Fruit Trees of America"—a work which should be in the possession of every fruit-grower in the land.

There are other valuable apples in Lancaster county not yet brought to public notice, which should be brought out and fairly tested. Not that the present catalogues contain too few varieties, but because fruits generally succeed best when not too far from their native home. Lancaster county has already contributed its full share to our native list of apples, but as there are still valuable kinds not brought before the public, may I, in behalf of progressive pomologists, solicit all who possess valuable apples, as also other fruits, not yet brought to publicity, to bring such to the monthly meetings of our Agricultural and Horticultural Society, where they will be examined by competent committees, and reported through THE LANCASTER FARMER. H. M. E.

*To be more explicit, this popular apple originated about the year 1805, on the farm of William Gibbons, a grand-uncle of Dr. Jos. Gibbons, who still resides on the old homestead, in Upper Leacock, and keeps up a fine supply of the ancestral fruit. G.

THE PERSIMMON.

The persimmon (*Diospyras Virginiana*) sometimes called the date plum, from the resemblance of the dried fruit to that of the true date, is found from Louisiana to New York. In some soils it grows only to a large bush, while in rich bottom land it is frequently found twenty or more inches in diameter, and as much as sixty feet high. Some of the trees appear to be pure males and are barren, while others have perfect flowers, and bring forth fruit without the aid of the purely male. But a male plant in the vicinity of the others is of much advantage in producing large crops.

The fruit in its wild state varies considerably in size and quality. In cultivation it shows a disposition to increase in size, and from this we might infer that the horticulturist would have but little difficulty in bringing about results as favorable as have been accomplished in the peach, plum, &c.

The fruit is produced abundantly and ripens after most fruits are over; hence it would prove a valuable addition to our fall supply. It is very pleasant to most palates, and in its dried state is by many considered much superior to the true date. I have no doubt that by and by we shall have seedless varieties, as we have kinds now that are almost so.

Indeed, I was under the impression for several years past that that desideratum was an accomplished fact. A tree growing on the premises of Mrs. Rogers in East King street,

Lancaster, to which I have access, had large fruit, and all the specimens I ever got from it were entirely seedless. I procured a sucker from it which produced the third or fourth year after planting about a dozen specimens, which were likewise entirely seedless. For several years past some of the fruit was seedless, while the majority of them had from two to six seeds. Still it is a decided acquisition, and by skillful management may bring forth good results.

The seeds, if kept moist and frozen during the winter, will grow readily, though sometimes some will not come up until the second year. The seedlings can be budded or grafted, and will bear as young as the apple. C. H.

WHEAT GLEANINGS. No. 2.

The farmer, who, after all, is the most independent and useful member of the commonwealth, has to contend with drawbacks and occasional short crops, in spite of all his skill and industry. The weather and the seasons he can by no means control, but he can observe and note the results. He finds that a continuance of dry or wet weather alters the relative proportions of corn and straw in a crop of cereals. A spell of wet and warm weather will favor the growth of the leaves, stalk and roots, as also the formation of new shoots. This exhausts the material that should go to make up the seed, hence the yield of the crop is diminished. On the other hand, a spell of dry weather, before or during spronting time, produces the opposite effect; that is, the store of formative matter accumulated in the roots is used in far greater proportion for the production of seed, and the quantity of straw will be less. The productiveness of the wheat plant by division may not be familiar to all. The experiment was published by Mr. Stowe, who, on the 13th of July, 1850, planted a single grain of wheat in his garden. It came up in ten days and grew luxuriantly till the 13th of September. It was then taken up and divided into slips and replanted. The plants lived and flourished until the 13th of November, when they were again raised, divided and replanted, and suffered to remain until the 16th of April, 1851. The weather then becoming unfavorably wet they were all taken up again and divided into no less than 114 plants; these, being planted, were permitted to stand until the month of August, when they were productive of the amazing number of 520 ears of wheat, many of them of full size, containing more than fifty grains each. This shows what may be done with a single seed; but what bearing it has on thin or otherwise sowing in the open field, I am not able to see. It is more curious to learn of its amazing productiveness under such a course of treatment. They say "straws show which way the wind blows." I therefore give it in substance as I find it. The experiment is easily made by any one who doubts it.

As the weather is mentioned as one of the unavoidable hindrances, allow me to mention that the learned W. H. Webster, a surgeon in the Royal Navy, England, affirms (after the most critical attention devoted to the subject for a considerable period in all quarters) that "the weather is constantly marked by *recurrences*, separated by a solar month of thirty and a half days. According to him the same day of the month, or *nearly* the same days, are *critical*—either show the highest or lowest barometer of the month, or else the highest or lowest thermometer." This he affirms he has verified in an enormous number of instances, of which he gives a few. Of conrse, we neither admit nor deny, but as he sets aside the supposed influence of the moon altogether, his meterological pulses being "solar," he may be astride of a hobby not yet recognized as of any importance to the surgeon or the farmer. Our "Prob.," at Washington, seems to know something about the shifting winds, and hits it very well on an average.

In my gleaning, the experiment of Mr. Hallett, an English agriculturist, came to my notice, on what is called by him "Nursery Wheat." "A grain produces a stool, consisting of many ears; each grain is planted in a hole twelve inches apart every way, each head in a row. From all these he selects the best grain. This process he repeated. I copy his tabular arrangement:

Year.	*Length in in.*	*No grains.*	*Ears on stalk.*
1857. Original ear,	4⅜	45	
1858. Finest,	6¼	79	10
1859. Ditto,	7¾	91	22
1860. Ears imperfect from wet season,			39
1861. Finest ear,	8¾	128	52

Mr. Hallett also states that the improvement in the sixth generation was even greater than in any of the others. "Thus," he continues, "by means of repeated selection alone the length of the ears has been doubled, their contents nearly trebled, and the tillering power of the seed increased five-fold." By "tillering," he means the horizontal growth, or root before the vertical stems are thrown up. This certainly shows what selection and proper attention can perform; besides, it would go to prove that thin seeding is not necessarily attended by a thin crop, but rather, that thin seeding and early sowing are both beneficial, and that an immense saving may be made in the quantity of wheat used annually for seed. It is also alleged that when thinly sown or planted it grows stronger in the straw, and is better able to resist a storm.

Plants require not only a porous, arable soil, with a goodly mixture of humus, but there are certain salts, such as chlorate of sodium, nitrate of soda, and salts of ammonia, which experience has proved to exercise under certain conditions a favorable action upon the productiveness of a field. The wonderful property in arable soil of attracting and retaining these elementary food principles, so that when liquid manure, however deep in color or strong in smell, is filtered through it, the soil retains all the coloring matter and odor, as well as the ammonia, potash and phosphoric acid which it holds in solution. This absorbent quality of soil is important. A soil abounding in clay, with a small proportion of lime in it, possesses the absorptive power in the same degree as a lime soil with a small admixture of clay, but the amount of humus substances will alter the absorptive relation, as it is founded on the greater or less porosity of the arable soil. Hence, a dense, heavy clay soil and a loose sandy soil possess the absorptive power in the smallest degree. The disentegration of minerals and rocks by mechanical agency, or combined action of water, oxygen and carbonic acid, during a period of thousands of years, have deposited the soil in the plains and low lands, with their properties suited for the nutrition of plants. The same causes, in the course of a few years, will convert wood or vegetable fibre to humus, resulting from its decay. Yet saw-dust, when fresh, has no more the property of humus than powdered rocks have the property of arable soil. It requires time and chemical changes to bring about these conditions, and it is questionable whether the art of man can artificially produce like results, due to ages and special action. Lime and magnesia may be blended with it; these aid in separating potash from nitrie acid and help to decompose the nitrate of potash. A sort of double action takes place in the soil. Soils vary, even in the same field and differ essentially in their components, whether manured or not, yet one soil may have conditions or nutritive substances, either adapted to cereals, turnips, clover, potatoes or the like. The food elements for cereals and clover, and the food elements of oats and rye, are essentially the same; and the nearer these elements lie together in one field, the larger will be the result in the yield. J. S.

Prize Milk Cow: The *Ohio Farmer* says that the first prize milk cow at the late Ohio State Fair was a five-year old Short-Horn, which gave 406 pounds of milk in seven days on grass alone; the milk making 14 pounds 13 ounces of butter.

FARMER JOHN.

Home from his journey farmer John
Arrived this morning safe and sound.
His black coat off, and his old clothes on,
"Now I'm myself!" says Farmer John;
And he thinks, "I'll look around."
Up leaps the dog: "Get down, you pup!
Are you so glad you would eat me up?"
The old cow lows at the gate to greet him;
The horses prick up their ears to meet him;
"Well, well, old Bay!
Ha, ha, old Gray!
Do you get good feed when I am away?

"You have not a rib!" says Farmer John;
The cattle are looking round and sleek;
The colt is going to be a roan,
And a beauty too—how he has grown!
We'll wean the calf next week."
Says Farmer John, "When I've been off,
To call you again about the trough,
And watch you, and pet you, while you drink,
Is a greater comfort than you can think!"
And he pats old Bay,
And he slaps old Gray;
"Ah this is the comfort of going away!

"For after all," says Farmer John,
"The best of a jonrney is getting home.
I've seen great sights; but would I give
This spot, and the peaceful life I live,
For all their Paris and Rome?
These hills for the city's stifled air,
And big hotels all bustle and glare,
Land all houses, and roads all stones,
That deafen your ears and batter your bones?
Would you, old Bay?
Would you, old Gray?
That's what one gets by going away!

"There money is king," says Farmer John;
"And fashion is queen; and it's mighty queer
To see how sometimes, while the man,
Raking and scraping all he can,
The wife spends every year,
Enough you would think for a score of wives,
To keep them in luxury all their lives!
The town is a perfect Babylon
To a quiet chap," says Farmer John.
"You see, old Bay,
You see, old Gray,
I'm wiser than when I went away.

"I've found out this," says Farmer John,
"That happiness is not bought and sold,
And clutched in a life of waste and hurry,
In nights of pleasure and days of worry;
And wealth is n't all in gold,
Mortgage and stocks and ten per cent.,
But in simple ways, and sweet content,
Few wants, pure hopes, and noble ends,
Some Land to till, and a few good friends,
Like you, old Bay,
And you, old gray,
That's what I've learned by going away."

And a happy man is Farmer John,
O, a rich and happy man is he;
He sees the peas and pumpkins growing,
The corn in tassel, the buckwheat blowing,
And fruit on vine and tree;
The large, kind oxen look their thanks
As he rubs their foreheads and strokes their flanks;
The doves light round him, and strut and coo.
Says Farmer John, "I'll take you too,
And you, old Bay,
And you, old Gray,
Next time I travel so far away!"

J. T. TROWBRIDGE.

A CHEAP CONDUCTOR.

An extraordinary account has appeared in a French agricultural journal, to the effect that straw forms an admirable lightning conductor. It had been observed that straw had the effect of discharging Leyden jars without spark or explosion, and some one in the neighborhood of Tarbes had the idea of constructing straw lightning conductors, which were formed by fastening a wisp or rope of straw to a deal stick by means of brass wire, and capping the conductor with a copper point. It is asserted that the experiment has been tried on a large scale around Tarbes, eighteen communes having been provided with such straw conductors, only one being erected for every 750 acres, and that the whole neighborhood has thus been preserved from the effects, not only of lightning, but of hail also. The statement comes from a reliable source, and the apparatus being extremely simple and inexpensive, it is at any rate worth a trial. Copper conductors are expensive, but every cottager almost could set up a straw one.

OUR LOCAL ORGANIZATION.

INTERESTING PROCEEDINGS OF THE LANCASTER COUNTY AGRICULTURAL AND HORTICULTURAL SOCIETY.

This Society met statedly on Monday, Feb. 1, in the Orphans' Court room, Lancaster, the president, Johnson Miller, in the chair.

The following members were present: Johnson Miller, Warwick; Jacob Musser, East Donegal; John B. Erb, East Lampeter; Dr. P. W. Hiestand, Millersville; Ephraim Huber, Manheim twp.; John Bassler, Manheim twp.; Wm. M. Brubaker, and Henry S. Sonan, East Hempfield; Jonas Buckwalter, East Lampeter; Abraham Snyder, Clay twp.; Levi S. Reist, Warwick; Peter S. Reist, Manheim twp.; Abraham Bollinger, Warwick; Thomas Wood, Fulton; and Alex. Harris, Geo. W. Schroyer, Daniel Smeych, Wm. McComsey, S. S. Rathvon, D. G. Swartz, and J. M. W. Geist, city.

The reading of minutes of last meeting was dispensed with and reports of standing committees called for.

Dr. Hiestand, from the committee appointed to confer with the County Commissioners relative to the use of a room to meet in during the current year, reported that they had the consent of the Commissioners to use the Orphans' Court room, they having agreed to compensate the janitor for keeping the room in order. On motion, his compensation was fixed at 50 cents a meeting, or $6 a year.

REPORTS ON THE CROPS

were necessarily brief, owing to the season of the year. Mr. Erb reported the grass, grain, etc,, in good condition, so far as was apparent. He had not examined the fruit buds, but did not suppose they had been injured. He reported the springs and wells as being very low, with no prospects of improvement in their condition.

The President called attention to the fact that the secretary had served them faithfully since the organization of the Society, with the exception of the last year, when his place was filled by another at his own request, and submitted whether some compensation ought not to be allowed for his time and labor. The proposition was favored by Mr. Erb and others, and the compensation fixed at $12 a year.

UNDER THE HEAD OF NEW BUSINESS,

Mr. Hoover called for information on this point: Three weeks ago, when the thermometer was six degrees below zero, his pump did not freeze, but on the day following, with the thermometer at four degrees above zero, it was frozen. How was this to be accounted for? Mr. Hiller said it might be explained from different causes. There might have been more pumping when it was coldest. Then, while the temperature remains below the freezing point the freezing continues and penetrates deeper. It has this effect on streams. Although the temperature may be several degrees higher to-day than yesterday the ice still thickens. Mr. Erb suggested that it takes some time for the cold to penetrate through the pump, and thought this was the true explanation in this case.

THE APPLE TREE BORER.

Mr. Hoover proposed the question—How can we best arrest the ravages of the apple tree borer? He said this was an important question in some localities where the borer is so bad that scarcely any trees can be raised, while in other localities the pest is scarcely known.

Mr. Hiller said the trouble lay not so much in what we don't know as in not practicing what we do know. It requires vigilance and work to conquer the borer; but it can be done. Trees should not be planted without taking certain precautions. His plan was to wrap the base of the tree with paper or muslin from the ground upwards about one foot, and keep it wrapped during the season when the borer deposits its eggs, which it always does right at the ground, or rather under it. This must be done at time of planting. Occasionally a borer will deposit above the wrapping, but as this operation must be done in full view of the eye, it can be frustrated by proper vigilance. An old linen cloth is perhaps the best, but paper answers the purpose. It had been suggested to coat the wrapping with tar, but he thought that unnecessary and liable to injure the tree. In answer to a query from a member he said oil cloth would do. In the case of the peach borer he had found a thin mixture of cow manure applied about twice a year an effectual preventive.

Mr. Hoover said his plan had been to examine his trees, spring and fall, and destroy the borers; but he thought Mr. Hiller's preventive the better plan, as prevention is always better than cure.

Some one suggested that the use of oil cloth might be injurious, as likely to draw too much heat to the base of the trees, in which Mr. Hiller concurred: and in answer to a suggestion from Mr. Smeych, that the borer might work through cloth and still deposit its eggs, Mr. H. said such had not been his observation.

Prof. Rathvon said they had been seeking information about *the* borer, but there were half a dozen of them. The most injurious, however, and the one best known, is that which deposits its eggs in the tree near the earth. It does this because heat and moisture are two necessary conditions for hatching the eggs. A young brood of small white grubs is hatched from these eggs in from six to ten days—according to the temperature of the weather—which immediately penetrate the tenderest portion of the bark, and the aperture of ingress is soon closed, on account of the small size, by the subsequent vigorous growth of the tree. It takes from three to five years for these *larva* to mature. During the first year their operations are mainly conducted immediately under the bark; the second year they penetrate the wood, and subsequently they go in still deeper. Their galleries are usually perpendicular, or with the grain of the wood, but when the larva is matured it cuts a transverse gallery outward to the bark where it changes to the *pupa* form, from which it emerges a perfect beetle and cuts a hole through the bark and comes forth in June, or the early part of July. It is, then, from three-quarters to an inch in length, of a white velvety color, with three broad brown stripes reaching from the head to the hinder end, and distinguished by a pair of long *antennæ*, or horns. Hence, it is called the "striped apple tree borer" (*Saperda candida*) but the same insect also attacks the quince and the pear. The quince is particularly subject to its attacks, and from the usually small size of that tree it suffers more from it than larger trees. An allied species of the same form and size, but of a fawn color, with a few blackish spots on the wing-covers (*Saperda vestita*) infests the Linden trees, and has ruined nearly all the trees of that species in the city of Lancaster. These borers can be sometimes dislodged by the introduction of a barbed steel wire, or if not dislodged at least killed. No one has such good opportunity for observing its habits as the farmer, who ought to closely observe and make a record of it. In this county they generally make their appearance in June. Nearly all insects belonging to this order mature in June. In rare instances he has noticed them as late as the first of August. This is a point which every one should closely observe for himself. They don't live more than six weeks or two months, as a beetle, and it is only during this period that the eggs are deposited; and if the trees are protected during that time, as suggested, they are safe from their depredations. The borer next best known always works higher up, and never goes into the wood, but keeps under the bark, where the "sap-suckers" readily get at them. This grub is much the shape of a horse-shoe nail. Another variety make longitudinal cells in the twigs. The base-borer works right into the wood, slowly but surely.

THE PEAR AND ROSE SLUG.

Mr. Erb saw a slug on the leaves of his pear and quince trees resembling the horse-shoe nail in appearance. Was it the same?

Prof. Rathvon said the pear slug was a different species. Another infested the rose, and a third the cherry. They belonged to the same order as the wasp—the Hymenoptera. The first brood go down near the ground and form a chrysalis, and then come up and deposit their eggs. The second brood go down into the ground and sleep there until Spring. The rose slug can be conquered by vigilance. Last season he had effectively destroyed them in his garden. In May, when they first come, the fly can be seen early in the morning. They should be destroyed, and lest you should not have found all, look for the little caterpillar or slug on the under side of the leaves and destroy it also. Early attention and close vigilance will do the work.

THE COLORADO POTATO BEETLE.

Mr. Erb desired Professor Rathvon's opinion on the best method of preventing the ravages of the potato bug in the coming season. He said last year he commenced fighting them, but later in the season they came so fast he had to give it up.

Prof. R. said his opinion now is the same as it always was since he first warned the farmers to prepare for its approach. It is increasing rapidly and the farmers will be sorry they did not pay attention to it sooner, as he had advised them to do. There was a pamphlet of 14 pages, entitled the "Pest and its Remedy" published in New York, which gave the most valuable practical information on this subject he had yet seen in so small a compass and within the comprehension of the unscientific reader. It recommends Paris green as the remedy for extirpation, and tells how to apply it without danger to the plant or the operator. He said he had prepared a notice of the pamphlet and the name and address of its publishers, which would appear in the next number of THE LANCASTER FARMER.

The President suggested that the ravages of the pest might be prevented by planting nothing but the Early Rose potato, as he had noticed that in certain localities that variety had not been attacked.

Mr. Erb said that he had raised that variety last year altogether, and although the early crop had escaped pretty well, the later one was eaten out. Another member said he observed that they were as bad on the Early Rose as on other varieties.

A CASE FOR INVESTIGATION.

Mr. Hoover said that in his neighborhood there were five acres which had been eaten up by the bugs, while a half acre separated only by an ordinary fence had escaped. There seemed to be no difference in the soil or culture.

Mr. Erb suggested this might be owing to the fact that the bug always goes for the tenderest stalks.

Mr. McComsey thought Mr. Hoover's statement was so remarkable and important that a committee ought to be appointed to investigate the facts, and learn what the varying conditions were. This suggestion was acted upon, and the Chair appointed Messrs. Wm. McComsey, Ephraim Hoover, and Prof. Rathvon as the committee to report at next meeting.

BEST MODE OF WINTERING CATTLE.

The question, "What is the best mode of wintering cattle," proposed at a former meeting by Mr. Eshleman, was laid over owing to the absence of the propounder.

BEST MODE OF EXTRACTING STUMPS.

Mr. Buckwalter proposed for discussion the best mode of extracting stumps, to which Mr. Musser replied that a neighbor of his (Mr. Duffy) had cleared about forty acres of from 600 to 700 stumps, by a New York extractor, working on the screw principle, which was effective and expeditious in taking out any stumps not over twenty inches in diameter.

Mr. Brubaker said the easiest way was to plow around them and wait until they rot.

Mr. Musser said that was a waste of time and ground. Rather than do that one could afford to pay a dollar a piece and make money

by it. He never cuts a locust without digging out the stump at the same time.

Mr. Hiller said he had them taken out piece-meal by hand labor and did not find it expensive, although his were mostly chestnut and more easily taken out than some others.

In answer to a query in regard to burning them out with coal oil, Mr. Musser said he had tried both coal oil and benzine, which he had seen recommended, but both were failures, although he had given them a fair trial.

RUST ON PEARS AND SMALL FRUITS.

Mr. Erb inquired, "What is the best means of preventing *rust* on pears and to keep them from prematurely falling off?" remarking that his Flemish Beauties were nearly all lost last year from this cause.

Mr. Hiller said he had no information to impart that he considered worth anything, but he had an opinion which might suggest the proper inquiry. He thought, in the course of cultivation, we were robbing the soil of some particular ingredient which was necessary to the healthy growth of the pear, and that not being replaced, rust or premature decay resulted. Some pears, which did well years ago, are now worthless for cultivation. Those present would remember the old "Butter Pear" which was unequalled by any now cultivated, but it will no longer flourish. Then, there was the old "Winter Pear," which ripened in the cellar as regularly as winter apples, but now it is a failure. By continuous culture we have been robbing the soil of a particular element which should be replaced, if we can learn what it is and how to do it. We ought to study what that deficiency is. He did not pretend to know, but he was clear in his mind that this is the direction in which we should make our investigations.

Prof. Rathvon said that vegetable physiologists claim to have discovered that the outer coating of pears is a sort of wax, which is formed by a certain element derived from the soil, as silicate is supplied which is assential to the healthy growth of grass. Whenever this rust or mould obtains on the pear there has not been enough of that secretion to protect them. To make these experiments successfully requires the aid of a microscope of seventy-five diameters, and hence we must depend mainly on the researches of vegetable physiologists and keep read up in their discoveries. One variety of the same plant may require more of a certain element than others. Mr. Gillingham, of Virginia, had communicated some interesting results of his experiments with the blackberry to the agricultural department. He had planted different varieties under the same conditions of soil., &c., four or five years before. Two years ago the Kittitany was affected with the red rust, and did not bear or mature its fruit. Both leaves and stems were covered with rust. The Wilson came out unscathed. Even if the theory of absorbing from the soil to make the wax or its equivalent be true, some plants may absorb more than others, the soil and the climate being the same. A few years ago he noticed in Mr. Riley's garden, in this city, that the Philadelphia raspberry rusted while the Black Cap did not. Therefore, it would require a careful analysis of the soil, and close observation of other conditions of the plants to determine this point.

Mr. Erb said he noticed the "horse-shoe nail" slugs on his pears which were rusted, and that they had injured the leaves.

LEAVES THE LUNGS OF THE PLANT.

Prof. Rathvon—These were the "pear slug." The leaves are the lungs of the tree. Injury to them alone would cause the fruit to fall. A healthy condition of the leaves is essential to the health of the tree and the maturing of the fruit. The same holds good with the grape or any other fruit.

CULTIVATION OF NATIVE TREES.

Levi S. Reist had noticed that the Buerre Diehl and Duchesse pears are liable to rust when grown as standards, while they do very well as dwarfs. He therefore suggested that more attention should be paid to native varieties. In illustration, he referred to a native pear grown at Reading, which flourishes there, but fails elsewhere; and the Vicar of Wakefield seems to do better in Lancaster than anywhere else. He had no doubt that native seedlings would be free from many of the diseases incident to foreign varieties.

THE STRAWBERRY PEST.

Mr. Erb desired some information on the subject of raising strawberry plants. He said he had failed to raise both plants and berries. He planted a half acre last spring and before the summer was over he could scarcely see where the rows were. A kind of lice had eaten the roots. They were of a whitish, dull blue color. He couldn't even raise the Wilson, conceded to be the hardiest variety.

Prof. Rathvon said this insect belonged to the same order as the *Phylloxera vastatrix*, which had been creating such terrible devastations on the vines in France, that 100,000 francs had been offered by the French Acadas a standing reward for a remedy. They were called "the Grape root and leaf aphis, or louse." You might have noticed little tuber-like projections on the leaves of the grape. Cut them open and you will find a female aphis and several eggs. In the fall of the year they go down to the ground where they attack the roots. They are analagous to the aphis which attacks the strawberry. Prof. Riley, of St. Louis, recommended piercing holes in the ground and putting in acid and lime, keeping off far enough not to injure the roots. His remedy was tried in France, but did not seem to do much good.

Without, however, seeing the insect itself, it would be impossible to determine its species, its genus, or perhaps its family even. The insects that attacked the roots of Mr. Erb's strawberries may have been a species of "Spring-tail" or "Snow-flea" (PODURIDÆ). Two years ago Mr. Mehaffey, of Marietta, brought me several thousands of these insects, that occurred in his garden in millions, without however doing any perceptible injury to the vegetation therein; but Dr. Fitch describes them as injurious to vegetation. Pulverized gas lime or sawdust saturated with carbolic acid, and mixed with the soil, has been recommended as a preventive. I would recommend experimentation on these subjects by farmers and fruit growers, and a publication of the results. A failure may be of as much importance to be known as a success.

MANURING CORN-STUBBLE LAND FOR OATS.

Johnson Miller proposed for discussion the question, Would it be profitable to manure corn-stubble land for the oats crop? He proposed the question because the oats crop has become a failure, and he attributed it to the fact that we manure for all other crops but this. He proposed to try it next spring, but he wanted the opinion of older farmers.

Mr. Musser said he need not be afraid of manuring too heavily for oats.

Mr. Levi S. Reist looked upon that proposition as a progressive step. The time was when oats came to maturity without manuring, and would have grown rank with it; but now that the soil is less fertile he thought manuring on the corn-stubble would not only produce a good crop of oats but would materially benefit the succeeding crop of wheat.

Mr. Erb thought one cause of the failure of the oats crop was to be found in the *loose* manner it was put in. It dries out in our seasons and hence will not mature. He believed in more thorough cultivation.

Johnson Miller said his plan is to cultivate as thoroughly as for other crops. He plants "broadcast" with the drill, but not in rows, which he considers better than hand-sowing.

Mr. Musser—The best plan is first the plow, then then the drag. He weighted the drills so as not to get beyond a certain depth. The best crop he ever raised was put in in this manner.

EXPERIMENT AND REPORT RESULTS.

Mr. McComsey hoped the president, who is one of our most progressive farmers, would make this experiment of manuring corn-stubble for the oats crop and give the farmers the benefit of his experience, if it was only on a single acre. The question in his mind was whether on farms where manure is scarce it would pay to rob other crops of fertilizers.

The president urged the importance of not only experimenting, but of reporting results. This was the only certain way of investing the meetings of this Society with interest and profit, and of advancing the members in practical agricultural knowledge.

THE LANCASTER FARMER COMMENDED.

Mr. Rathvon presented the Society with the ninth volume of the Proceedings of the State Agricultural Society, calling the members' attention to two articles of his it contains, one on Potato Beetles, another on "White Cabbage Butterflies." He also advised them to read the article on the Potato Bug in THE FARMER of last July, and if they would keep up with the literature of this and other important subjects to subscribe for THE LANCASTER FARMER for 1875—a recommendation which the President and others heartily seconded. THE FARMER now contains more reading matter, and on a greater variety of subjects relating to the farm and fireside, than any other *onedollar* journal in the Union—only a fraction over *eight cents* a month—and no matter how many other papers he may subscribe for, the Lancaster county farmer should patronize his own home journal; not only by his subscription, but also by his contributons to its columns. The more he gives in this way, he will find the more he will have to give.

BUSINESS FOR THE NEXT MEETING.

Casper Hiller was appointed essayist for the next meeting. Subject—"Our Orchards."

The following questions were proposed for discussion at the next meeting:

1. What is the best method of wintering cattle?—W. P. Albright.
2. What trees are most profitable to grow for fencing and fuel?—E. S. Hoover.
3. What is the best food for milch cows?—Johnson Miller.
4. What variety of corn produces the most bushels to the acre.

WHAT OUR FARMERS OUGHT TO DO.

This being the first meeting of this Society at which we listened to all the discussions, we cannot close without expressing our deep conviction of the wide field of practical usefulness which it is in the power of the members to occupy and improve. Although it is now over thirty years since we held the plough, swung the scythe, or drove the ox, and therefore do not claim to be "much of a farmer," we are free to confess that we were deeply interested in the discussion of the various topics presented, and pleased with the practical offhand manner in which they were treated by the different members. If the farmers generally would appreciate the advantages of participating in these meetings and become members, the benefit which would result to the agricultural interests of Lancaster county would be incalculable. As the President remarked in his annual address, the large court room ought to be filled with farmers at every meeting; and it would be, if every one interested would take some special pains to impress the importance of the organization upon the farmers generally. There is a vast fund of practical and valuable information "lying around loose" among them which could thus be brought together and utilized for the general good.

J. M. W. G.

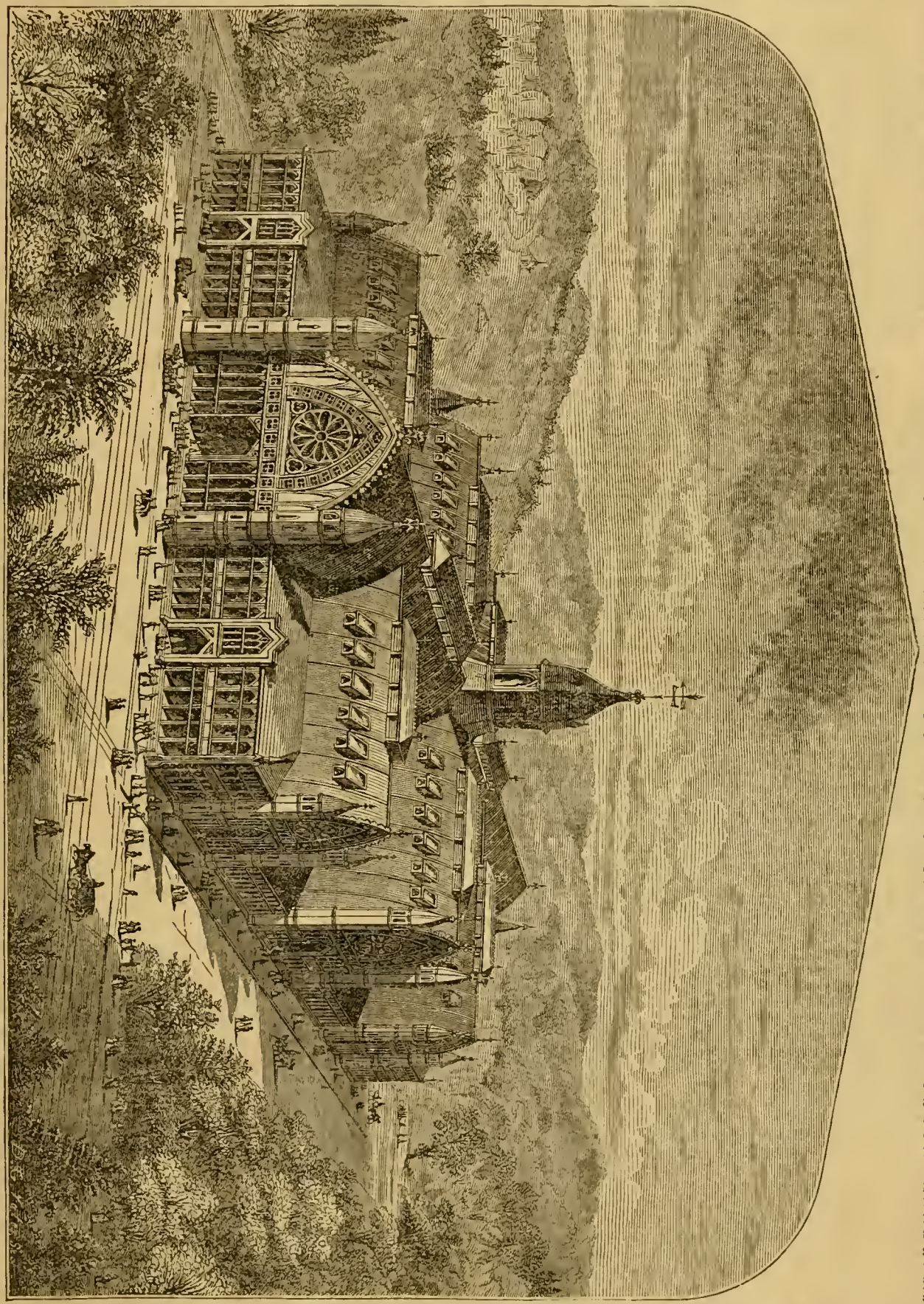
SO FAR as practical agriculture is concerned, the great storehouse of fertility is in the soil, and not in the atmosphere. We must plow better and perhaps deeper and more frequently. Very few of us work our land enough. Mr. Geddes says he plowed up this old pasture because it "did not produce one-quarter as much feed, as when newly seeded;" and yet many people think that grass and clover "enrich" land.—*Am. Agr.*

OUR NATIONAL CENTENNIAL.

THE AGRICULTURAL DEPARTMENT.

In our January issue we took occasion to say that "we cannot too often admonish the farmers of Lancaster county to busy themselves in 'working up' a physical and intellectual representation of the resources of the 'Garden spot of the Keystone State' in the approaching CENTENNIAL, which is scarcely a year and a half in the future. We want to see the farming interests of our great county honorably standing by the side of the greatest in the land. We want to see our journal there, as the faithful and appropriate advocate and exponent of those interests." And we now add, with all the emphasis of the accompanying beautiful illustration, that one of the most impressive sections of the Centennial Exposition will certainly be the *Agricultural Building*. This fine structure, having in its immediate vicinity a stock yard, with divisions for horses, cattle, sheep and swine, and poultry houses, will be located north of the Conservatory and on the east side of Belmont Avenue. The ground plan of this department, covering an area of about ten acres, is a parallelogram of 540 by 820 feet; constructed chiefly of wood and glass, it will consist of a long nave crossed by three transepts, both nave and transepts being constituted of truss arches of a Gothic style. This is intended for the reception of every kind of agricultural and dairy implements and utensils, except, of course, such as are properly included in the machinery department. Such an exhibition, aided as it will be by the fraternal feeling which now exists among the farming profession, cannot fail to inspire a lively interest in the present, and be productive of substantial benefit in the future. There will also be arranged in this section specimens of grain, and products of the soil generally, which, considering the wide area and capabilities of the country, should insure a national display of vast importance, and place the Agricultural interests of this country in a position to compare favorably with other developments of the national progress during the past century. The Farming fraternity should certainly take a lively, earnest, and liberal interest in making this department in particular, and the Centennial Exposition in general, an undoubted and proud success.

We *know* that the farmers of Lancaster county, their wives, sons and daughters, are second to none in the Union, when they choose to let their presence be seen and felt; and therefore, we would admonish them against that indifference or timidity which may prevail on account of the imposing character of the approaching *Exposition*. All those architectural conceptions for the accommodation of a still more magnificent display of the results of human industry—all those gigantic appointments and their multitudinous details—all the designs and plans necessary in carrying out the "coming event" into practical effect, are but the outbirths of human thought—human ingenuity and human energy; and, whether a farmer or a king, "a man's a man for 'a that." Fundimentally, the Creator has made all men alike, all possess the same organic principles—the same mental elements;



THE CENTENNIAL EXPOSITION OF 1876.—THE AGRICULTURAL BUILDING.

the difference in manifestation is only a difference in energy, and a perseverance in purpose. On this great occasion the farmers of Lancaster county ought not to be content with merely self-gratification; they ought to do something to gratify others, and *we know that they can do it*—their thoughts should be running in that direction *now*. A like opportunity will not again be afforded to this or the next generation.

In this connection we would state that C. M. HOSTETTER, esq., of this city, has been appointed General Agent for Lancaster county of the Centennial Board of Finance, for the sale of stock and medals, his head-quarters being at the Stevens House. He has shown us samples of the Centennial Medals, of which there are four sizes and styles, silver, bronze and gold—all very beautiful, with appropriate State and National emblems, and bearing the following inscriptions: On the face—"These united colonies are, and of right ought to be, free and independent States, 1776." On the reverse—"In commemmoration of the hundredth anniversary of American Independence. 1876." Act of Congress, June, 1874." These sell at prices ranging from one to five dollars, or the set in a beautiful case, for $11. The proceeds go to aid the building fund.

THE RELATIONS OF HYGIENE TO PRACTICAL MEDICINE.

BY PROF. JARVIS S. WHITE, M.D.

Who clothe the young? It is done under the guide of maternity. How is it done? The legs are bare, the arms are naked, the neck and upper part of the chest are exposed, scanty clothing is put on the *body*, and that is all. Why so? Would you believe it? It is done to *harden* the little ones, to give them good constitutions! How cruel, how sad, how touching, and how lamentable may be the result! The mother means this for good. But let her dress herself as she does her infant; let her give it a fair trial; depend on it, the trial will not last long. Will you dissipate on the winter air the warmth that God has provided for developing your child into the full vigor of manhood and womanhood? Will you imitate that poor mother, who gave her new-born infant a daily snow-bath? The gods had compassion on her tender babe and took it away. I will not say that she was guilty of infanticide.

Intramural sepulture has been found to be detrimental to health. This is simply a matter of experience. In theory, the same result is obtained. Sepulture now takes place outside of cities; but the city grows—it invades the place of sepulture, hence it is alleged that sepulture is not according to the principles of Hygiene. Why delay the change of "dust to dust and ashes to ashes?" Why wait hundreds of years for the decomposition of the body? Repulsive mummies, putrid flesh, and disagreeable bones are all surely going back to dust again. I do not, at present, undertake to give an opinion on this subject; but they tell us to burn the bodies of the dead—to imitate that which nature does—but what we do, to do quickly. A handful of gray ashes in a sepulchral urn will symbolize the "ashes to ashes and dust to dust," and rivet the links of memory, while the uprising gases from the furnace will symbolize the spirit that's gone. And then of a truth—the dead cannot harm the living.

Where shall Sanitary Science be taught? And to whom shall it be taught? I will answer this question by and by. In the meantime, let me ask: *Who need sanitary instruction?* In my opinion, the people need it—and the medical profession need it. Let the elements of Hygiene be taught in every common school, in every academy, in every private school, and in every college in the country. The bodies of our youth need the saving grace of cleanliness. And when they grow up they will teach their children the simple and health-saving rules of Hygiene. But where shall we begin to dissipate ignorance? Why, of course, begin with the medical profession, and begin with undergraduates.

It was a damaging thing when one of the officers of health of New York city gravely informed Judge Whiting that "highjinnicks" meant "a bad smell arising from dirty water"—damaging both to politics and medicine, but most damaging to the people, whose most important interests were in the hands of ignorant keepers.

But what shall I say of medical schools and Hygiene? If medical schools taught Hygiene *per se*, and insisted upon their graduates being "posted" in the principles of sanitary science, officers of health would at least have the merit of being sanitarians.

The obstetrician is the sanitarian of the cradle and of maternity. He heralds the advent of the "little stranger," and watches over the function that invests the invisible with the form divine. His office, *per se*, is the prevention of disease, and when disease supervenes he is no longer the obstetrician—but the medical practitioner.

What hope is there for Hygiene in this country? Will it succeed? Can it be planted among the people? And will it grow and flourish? In my opinion, Hygiene has a grand future in this country; I will tell you why I think so. The American youth—and especially those who come here to study medicine—have a practical turn of mind; they do not believe much in theories—they believe in the useful first, and after that the beautiful. It is an acknowledged fact, that our medical men are among the best practitioners in the world; they have more science on the other side of the ocean, but our students are always wanting to know what will cure their patients, and they generally find out, too. Now, I hold that this practical turn of mind is the best kind of soil for the cultivation of a sanitary science. Let the seed be planted there—it will take root and grow, and it will be perennial; the seed will be scattered over the length and breadth of the land, and the harvest will abound more and more; the calamities that befell Memphis and Shreveport will not occur again; the beauty and healthfulness of our rivers will not be marred by dead animals, by the refuse of factories, and by sewage; there will be more to live for, and life will be more desirable; there will be less sickness and less need of medicine. Hygiene will be invited to come to our banquets; she will be a perennial guest in our homes; she will be the presiding genius of our hospitals; she will adorn our temples; she will be sculptured in marble and wrought in bronze in our public parks; and she will be raised high above Medicine, and enthroned in the Capitol of the nation with Liberty.—*Sanitarian.*

OUR PUBLIC RECEPTION.

The reception of the first number of THE FARMER in its new dress, both by the press and the agricultural public, has been most cordial, and shall incite us to renewed efforts to make still further improvements. We stated that it would be our aim to make each succeeding number an improvement on its predecessor. We think a careful examination of the present issue will show that this promise has been redeemed. In no other journal, furnished at the same price, can there be found an equal amount of original and valuable matter, of practical interest to the farmer and fruit-grower, and especially of the same local interest to the farmers of Lancaster county. Nor is the favorable impression it has made confined to our own county. Business letters of enquiry from parties engaged in stock raising and agricultural merchandizing, in different sections of the country, indicate that, abroad, a first-class farmers' organ of the great county of Lancaster is regarded as an important enterprise, especially as a medium of communication between our farmers and the class referred to. We have room for only a few of the many flattering compliments paid to the appearance of our January number.

WHAT OTHERS SAY OF US.

"THE LANCASTER FARMER." The first number of THE LANCASTER FARMER issued by the new publishers is just out, and the general verdict is that it is in every respect creditable to the editor, the publishers, and the agricultural community, whose interests it proposes to promote. The new head, engraved by one of the best artists in the State, is a beautiful and life-like representation of a Lancaster county farm scene, representing farm work in different stages of its progress. Prominent among its features is the 'big barn' for which our county is noted by strangers from every section of the country. The motto which forms the base line, is that suggestive and truthful declaration of the Statesman, Webster, that "*the farmer is the foundation of civilization*," in itself a text for an enlarged dissertation on one of the noblest occupations in which man can eugage. The table of contents presents a great variety of interesting and valuable information relating to the Farm, the Garden, the Orchard and the Home, the number of articles, large and small, footing up one hundred. Even the advertisements are invested with a peculiar interest, being made up of business announcements of forty first-class houses, all engaged in different kinds of business—a very unusual feature in a work of this kind. The publishers are conscious of possessing a valuable advertising medium in THE FARMER, and they propose to exercise the same care over that department that the editor will over the reading matter proper. All swindles and humbugs will be rigidly excluded. Two thousand copies of this number have been printed, and we see no reason why the circulation of THE FARMER should not reach ten thousand copies in Lancaster county within six months. It will certainly be the cheapest *local* agricultural newspaper in the country. We invite attention to the prospectus in our advertising columns, where it will be seen great inducements are held out to those who wish to subscribe to THE EXPRESS in connection with THE FARMER. Specimen copies will be sent to any who express a desire to examine it.

The next issue will be on the 15th of the month. Business men desirous of specially reaching the farmers, cannot find a better medium through which to do so effectively than by THE FARMER. As the space is limited, those desirous of advertising in the next number, should make early application for the space wanted.—*Lancaster Express.*

THE LANCASTER FARMER. This publication comes to us this morning, opening its seventh volume with great improvements manifest in its editorial management and in its form of publication, which has been changed and enlarged to twenty pages imperial, 8 vo., the cover being devoted to advertisements and surmounted with a handsome and appropriate head. Prof. S. S. Rathvon will henceforth be editor of THE FARMER, and his ample qualifications for the position guarantees its success as an organ of the agricultural interests of Lancaster county. Pearsol & Geist are the publishers, and announce their intention to make still further improvements.—*Lancaster Intelligencer.*

THE LANCASTER FARMER. This deserving valuable English agricultural monthly is now published in this city by Messrs. Pearsol & Geist, and the first number of the seventh volume, with every appearance of external and internal improvement, is now before us. Prof. S. S. Rathvon will for the future occupy the position of editor of THE FARMER, and his acknowledged ability and experience are equal guarantees for the excellence of the contents of this useful publication, as are the names of the publishers for the proper and attractive typographical execution of the work, for which we wish a widely extended circulation.—*Lancaster Volksfreund.*

NUMBER ONE of volume seven of the THE LANCASTER FARMER is before us. This is one of those excellent monthlies so necessary to every intelligent farmer, and indeed to all persons who feel interested in agricultural or horticultural progress. Prof. S. S. Rathvon, the editor, deserves great praise for the improvement made on this journal. Everything written or selected is worthy of a careful reading.—*Lancaster Examiner.*

THE LANCASTER FARMER, which has recently changed hands, now makes its appearance in an enlarged and greatly improved form, and presents a very fine appearance, while its contents are of such a character as to be of great value to farmers and others, and especially so to the farmers of our great county. Prof. S. S. Rathvon is editor, and Pearsol & Geist are the publishers; subscription, $1.00 a year.—*New Holland Clarion.*

THE LANCASTER FARMER has been enlarged and otherwise improved, and is now published by Pearsol & Geist. The January number is before us, and abounds with interesting agricultural reading. It is still edited by Prof. S. S. Rathvon.—*Lancaster Inquirer.*

WE have just received a specimen copy of the January number of THE LANCASTER FARMER, the first one we have ever seen, and we are favorably impressed with its style, form and general arrangement, and cannot see why it should not succeed and prosper. Wishing to encourage this noble cause, and at the

same time add a trifle to its advancement, we have concluded to become one of your subscribers and advertisers.—*Proprietors of Clifton Farms, Chester County.*

THE LANCASTER FARMER. We are in receipt of THE LANCASTER FARMER, a monthly newspaper, devoted to the interests of agriculture, horticulture, domestic economy and miscellany. It is a valuable compendium of useful knowledge, and should receive abundant patronage.—*York Telegram.*

THE FIRST NUMBER of THE LANCASTER FARMER, under its new proprietorship, presents 16 pages of solid reading matter, that indicates discriminating enterprise on the part of the publishers. The farmer will find in it much to interest and suggest. It is issued monthly, at $1 a year.—*Lebanon Courier.*

THE LANCASTER FARMER. The January number of this monthly, edited by Mr. S. S. Rathvon, and published by Messrs. Pearsol & Geist, is before us. We have no hesitation in pronouncing THE FARMER one of the best papers of the kind now published. Price $1.00 a year.—*Lancaster Daily News.*

AGRICULTURAL MISCELLANY.

Binding Grain—Important Invention.

Prof. Dana, in the *Western New-Yorker*, describes a new grain binder, which bids fair to be an important acquisition to our agricultural machinery. He says a new era has dawned in the culture of the cereals, the golden age of farmers and farmers' wives, a day of deliverance from a crowd of hungry, high-priced laborers in harvest time. Mr. Daniel McPherson, of Caledonia, N. Y., has invented an attachment to the Marsh harvester, which binds securely, with No. 19 annealed wire, the grain as fast as it is cut. A trial of the machine was held on the farm of the inventor, in the presence of several grain farmers and machinists. The trial was a perfect success. No better work was ever done in a harvest field. Every spear was bound in the sheaves; no rakings were left. The strip, fifteen feet wide, between the standing grain and the straight line of bound sheaves, was perfectly smooth and clean. The line of sheaves, arranged with military precision, looked like a battalion of soldiers. The iron fingers of the machine bind thistles as easily as grain, without gloves. The draft is about the same as that of ordinary reapers which do not bind. A team of medium weight made very easy work of it. In going six times around a five acre field of oats, not a failure occurred which could be attributed to any fault of the binder. The wire, which was of poor quality and badly reeled, was broken a few times. One circuit was made without missing a single sheaf.

Mr. J. A. McKinnon, a skillful machinist, who has repeatedly examined the machine, says that it cannot possibly fail to do its work perfectly, and that, if well made of good material, it will last a lifetime. The machinery is very simple, very strong, and works with very little noise or friction. Major H. T. Brooks thought that the binder would save the wages and board of five strong men, say fifteen dollars a day during harvest time. With it, a man can cut, rake and bind ten acres a day. It can be set to bind a sheaf once in any required distance; and, if the grain is very uneven, the distance passed over can be varied for each sheaf by means of a lever worked by the foot. Sheaves may be bound tight or loose by varying the tension on the wire. All objection to the use of wire bands is obviated by the use at threshing time of a pair of nippers which cut the wire and hold it fast by one end until it is dropped into a basket. The wire bands can thus be removed as rapidly as straw ones can be cut.

Not an objection could be raised by any one present, which was not fully removed. The inventor has been studying and working upon his invention for fifteen years, and has expended fifteen thousand dollars upon it. A bushel basket would hold the result, but fifty thousand dollars would not buy it. The mother, wife and sister of the inventor were present at the trial. Their delight over its success may be imagined. The nation and the world will reiterate their joy. McPherson's binder must be as world-renowned as McCormick's reaper. That the inventor may not, in any way, lose the honor or the pecuniary reward of his labors is the wish of the writer.

How to Restore Fertility.

Agriculture presents no problem more difficult of solution than that of restoring fruitfulness to an impoverished field in the most economical way. A practice that will do best in one soil and climate may signally fail where the conditions and substance are entirely different. In the matter of soils and subsoils, parent rocks, climates and plants, nature delights in an endless variety. Hence our best rules for practice have necessarily many exceptions. We will state facts briefly, and let the reader draw his own conclusions from them, how one can best restore fertility or impart it to land that is naturally poor, and, it may be, nearly worthless.

Wood ashes and land plaster have been used about one hundred years in this country to increase the fertility of land and both have stood the test of this long experience. Col. Wilder, of Massachusetts, is reported as saying, at a public agricultural discussion, that he regarded good ashes as worth 50 cents a bushel to apply to the common poor lands of New England. Others of much experience in their use spoke in high terms in favor of ashes as a top-dressing for meadows and pastures. Some use plaster and others salt, or both, with ashes, on clover and other plants, at a large profit. Simple and truthful as these statements are, there are very few farmers who understand their full meaning as compared with stable and cow yard manure. As a general fact, not over two or three parts in a hundred, and often less, are incombustible in the solid droppings of farm stock. There is no part of cowdung or plants that will rise into the air when either decomposes which will not fall again as plant food to the earth in rain and dew. If this were not so it would be impossible for wood ashes, plaster and soluble phosphates to act precisely like good stable manure. Most obviously good mineral fertilizers are nothing but the best stable manure with the volatile or gaseous parts left out

The venerable Mr. D. LEE, writing in *The Country* on this subject says that for sixty years he has seen with his own eyes the fertilizing power of plaster, ashes and lime, and it is about that length of time since Sir Humphrey Davy, Black and other chemists taught confidently that plants were composed of combustible carbon, oxygen, hydrogen and nitrogen. Before Liebig wrote a word on agriculture, the fact that decaying forest leaves send millions of tons of carbon yearly into the atmosphere suggested to others as well as to him that this carbon in some way returned into new plant growth. For himself, the writer had no doubt when a student fifty years ago, that plants fed largely on air and water, like moss growing on a rock. The farmer must learn to utilize in a thousand ways this power in clover, grass and other plants to organize air and water, that will cost him next to nothing, and convert them into staple crops. In an address before the Monroe County Agricultural Society, in October, 1844, and published in the Genesee *Farmer*, Mr. Lee said: "I regard it as one of the greatest discoveries of the age, that about ninety-seven per cent. of the ingredients which make up the whole substance of wheat, rye, oats, barley, corn, beans and peas exist in the air in inexhaustible quantities. To transmute these æriform bodies into the plants above named, and into grass and roots, at the smallest expense, is the object of nearly all your hard work."

He now reiterates that what he regarded thirty years ago as "the greatest discovery of the age," has not yet come home to the knowledge or appreciation of American farmers. In 1845, when secretary of the New York State Agricultural Society, he lectured in nearly half the counties of that State on the above and kindred topics, but the idea of making agriculture a science and a learned profession, was generally regarded as the dream of a visionary.

How to Make the Farm Pay.

Our veteran friend Major Freas, of the Germantown *Telegraph*, has been often heard to say that it is amusing to listen to people who tell us how to make the farm pay; and he again thus pits practical success against theoretical precept: It is fair-time and, the Hon. General Jones is invited to tell us what is the matter with the thing. He is able to tell just how many greenbacks there should be to every man, woman and child in the country, and knows precisely how many miles of railroads and canals are necessary to the National prosperity. Moreover, he was educated at the great Jonesborough University, and served his country well on the bloody field of Jones' Cross-Roads. He addresses the farmers assembled on the situation and shows clearly that unless we have our beefsteak analyzed we can hardly expect to have healthy breakfasts, and that the whole heart of farming is in the nitrogen of the soil. And the man covered with hayseed laughs. The beefsteak is good enough as it is for him, and he has made "a pile of money and knows nothin' of these tarnal things."

We turn from all these abstractions and look at things as they are. We find lots of people who are as intelligent as the world can make them, and lots of others who pride themselves on "knowin' nothin' but natur," and both alike fail; and then there are many of both classes who have all the success any one could wish for.

We have one such just now in our mind. An acquaintance who has city business, has a farm of about one hundred acres connected with his country-seat. He has no time to farm it himself, so rents it. For the first ten years, though every care has been taken to get good men, there had been an annual change. In some cases there had been a loss of rent; in all there was the profession that nothing could be made of that farm. Two years ago a man took it who was not a professional farmer, but an intelligent man who had already much experience in matters connected with farm affairs. He took it at $800 a year rent. He made something the first year, how much we did not hear; but the last year it is said that his profits are not less than five thousand dollars!

We might go on and show in detail how all this was done, but it would not teach anybody anything. He simply finds out what will grow and how to grow it, and what will sell best, and raises that which best will sell. He is liberal in his expenditures after he sees clearly that expenditures will pay, and careful to stop all leaks that so often fritter great successes away. It is simply common-sense business tact which nobody can teach but which everybody may learn.

Now, it does not hurt any one to know how much carbon, or nitrogen, or phosphoric acid, or what-not there is in his breakfast steak; it hurts no one to be able to say that he was able to hold the plow or take his turn with the mowers when he was fifteen years of age. We like to know that people are well-informed on these topics; but when we are asked how to make a farm pay we like to point to such men as the one we have just described, for our answer.

Plowing.

A correspondent of the *Country Gentleman* notices that new fashions in plowing are coming into vogue in Illinois, by which much expense is saved. Instead of the old plan of one man and a pair of horses and a twelve-inch plow, an additional horse is used with a sixteen or eighteen-inch plow. One man therefore attends to the work of three horses instead of that of two. A further improvement is in the use of sulky-plows. These are provided with seats so that boys or cripples can take a hand at plowing, and thus leave the stronger hands free to do other work. Whether much on the whole will be saved by this last contrivance remains to be seen. In a large number of cases the heavy weights, as well as the light weights, will not walk when they can ride, still the power and ability to save, if one wants to, is so much gain; and no doubt these Illinois improvements will become popular all over the country.

Another move, although not a western one, is to provide umbrellas, which are attached to the plow-handles, and thus the plowman is shaded from hot suns. Altogether it would seem as if farming was about to become rather a means of pleasurable exercise than the hard and severe labor it was regarded to be at one time. Laying all pleasantry aside, however, it is wonderful how great is the advance in labor-saving machinery, and easy, comfortable implements, over fifty years ago.

In striking contrast with the above, is the following description of primitive plowing, as written by a Mexican correspondent of the Louisville *Courier*: "On our way back to Temisco, we had an opportunity of observing more closely than diligence or railroad can permit, the process of plowing as practiced in this country. The plow itself is almost a fac-simile of the pattern used by the Egyptians in the time of Abraham, and certainly commends itself to all agriculturists on account of its great simplicity and cheapness. It consists of a wooden shaft about four feet long and four inches thick, armed at its lower extremity with an iron point, slightly flattened, and sometimes presenting a feeble forward curve. The other end is provided with a round stick that passes through a hole and serves as a handle. The pole, consisting of the stem of a small tree, from which the bark has been peeled, is fifteen feet long, and attached to the shaft by means of a mortise and peg. The implement thus constituted is fastened at the extremity of the pole, to the middle of a very light wooden yoke, about seven feet long, which rests immediately behind the horns of a pair of oxen, and is fastened there by thongs of rawhide passed around the roots of the horns. Not less than fifty such contrivances crawling at a snail's pace over the field which we stopped to notice, scratching up the ground to the depth of two or three inches, certainly to us, was a novel sight.

Education of Farmers' Children.

How is it that we can see men, who have moulded themselves on the anvil, who will not let their boys be moulded on the anvil too? As the leather dealer pounds the leather together to make a sole, so the boy needs pounding to make him a man. If you don't you will bring up a tender child, a child that will not wear well. And the same with a girl that is brought up without knowing how to work. There are misfortunes enough that fall upon the fair sex; there are adversities and sudden revolutions in affairs, that more often fall like pitiless storms upon their heads than upon those of men; but of all adversities, a foolish mother for a fair daughter is the most adverse; one who will not teach the child how to earn her living, who will not teach her fruitful industry. Music may be heard instead of spinning. In some way or another, work should be part of the education of every boy, and the boy who is brought up without knowing how to work is not brought up at all; he is abused. The old Jews used to say, that a man not brought up to a trade is brought up to be a thief,

and we are of the same opinion to a great extent. So then, parents, if you would bring up the best crops here, that your ground will allow, bring up stalwart boys that are able to work and are not ashamed of it, and bring up good, buxom girls, that are able to work in the kitchen and about the house, and are not ashamed of it either.

Hay Producing and Marketing.

Hay producing as a marketable crop, at first looked upon as exhausting to the soil, has demonstrated, by experiment, that it does not reduce the condition of land, even if the whole crop is marketed, providing the fall growth is not pastured too close. Indeed, prominent farmers in the old hay-producing sections claim that their land is steadily improving. We are aware that most agricultural men, who have not had the advantage of experience or observation, will disagree with us on this point, but we will only refer them to the old hay-producing districts near our large city markets' or leave it to time and personal experiment to convince them of the fact, that the spontaneous product, evidently designed by nature as a protection to the soil, draws less from it than it returns. All, however, will agree with us that there is no crop attended with so little care and expense as the hay crop. Harvesting and marketing is all there is to do, and even this is more rapid and less expensive than with any other crop. In many sections it is also considered the surest and most remunerative crop, and in most active demand.

HAY PRESSING OR BALING is comparatively a new feature in most parts of the country, and, even in the most flourishing hay sections, we have not far to retrace the past to find our markets filled with loose hay, and barges stowed with it in the same condition for transportation. To supply our large cities thus now, would be hardly practical, if possible; nor is it difficult now to see the advantage of bailing hay preparatory to marketing. Indeed, it has now become necessary to bale hay to market it, even in towns and villages, and a few years hence loose hay cannot be found except on the farm.

The Best Field Beans.

The *American Rural Home* says that in western New York the Medium and Marrow are most planted and the White Kidney and Early Pea to a limited extent. The Medium is considered the most reliable, as, from its early ripening, it is less affected by the vicissitudes of the season. It sells for less, however, than the other varieties named. The Marrow is quite a popular variety, and on a strong soil is very productive. It is quoted thirty-five cents a bushel higher than Medium in the Rochester market, now, and the same as Kidney. The White Kidney has large stalks, requires a longer season to be matured in, and is more liable to be spoiled in ripening. When everything, however, is favorable it will produce large crops. It will, of course, make a difference in what way the beans are planted as to the quantity of seed required, but farmers generally use about a bushel of the Marrows and Mediums to the acre, rather more of the Kidneys, and about half as much of the Pea bean.

How to Apply Lime.

We think lime should never be plowed under, as it sinks rapidly in the soil when placed on top, and it needs the action of the atmosphere to produce the best result. Mr. J. S. Goe, of this State, says he has plowed up lime from the bottom of the furrows ten to fifteen years after sowing it upon the surface on grass. This showed a rapid sinking, and that, if plowed under, it would go below the reach of the plow. Mr. G. regards it as of great importance in bringing up a poor soil, and says that many of the fields formerly the poorest upon his farm, are now the most productive, and made so from top-dressing with lime, at the rate of fifty to five hundred bushels to the acre. We should recommend to slack the lime with brine made of refuse salt before top-dressing.

Raising Potatoes.

J. R. Cooney, in the *Prairie Farmer*, gives the following, in brief, as his mode of raising potatoes: "I break my ground as early in the spring as the season will admit of, and rebreak it again after I have my corn planted, which is about the 15th of May; I then harrow my ground level and mark it off both ways with a marker three feet four inches, riding on the marker to make it go in. I plough then three times with the cultivator. My yield this year is about three hundred bushels to the acre."

HORSE-SHOEING: In Holland, horse-shoeing is done in a way very comfortable for the horse and convenient for the smith. The horse stands in a stall, across the end of which is fastened a bar. The horse's leg is bent at the knee, the foot tied to the bar, and the smith having both hands at liberty the work is speedily finished.

HORTICULTURAL MISCELLANY.

Evergreen Trees—The Arbor-Vitæ.

One of our most valuable evergreens, says the Germantown *Telegraph*, is the native arbor-vitæ, but we see it so common everywhere that we hardly stop to think what we should do without it. Though found in its native places in swamps and low grounds it has learned to accommodate itself to most of our wants, except that of growing under the shade of trees. Indeed, in our garden culture, it seems to prefer to grow in a high and dry place rather than in a low or wet one. One of its best offices is to serve as a screen from unsightly buildings or objects. It grows so well under these circumstances that one could not possibly do without it. It occupies little room, seldom extending more than two or three feet, and though it grows up tolerably rapidly it keeps itself clothed with branches close to the ground. Then it is so very hardy—in this respect it is surpassed by no evergreen known.

For hedges to mark boundaries we have nothing so cheap or tractable. The hemlock is far more beautiful but requires more skill to manage. If let alone for a few years the idea of a hedge is gone, but though an arbor-vitæ hedge has nothing done to it for a long time, it is some sort of a hedge still. Of course the idea of having evergreen hedges about one is often pushed to extremes. They are often made where it would look better without one. But the cases where they do look well are numerous, and arbor-vitæ is one of the the best things to employ.

Though there are many places where hedges are used that would look better without them, there are a large number of people who have none who would find a great advantage in one. Most of our gardens and grounds suffer terribly from winds in winter, and tall screens or hedges of arbor-vitæ would make such places comparatively warm and comfortable. Vegetable and fruit gardens would be especially benefitted by tall arbor-vitæ hedges around them, particularly where early spring vegetables are among the good things aimed at. Most of our gardens are very much exposed; sometimes nothing whatever, and at best a mere pale fence around them. A good warm arbor-vitæ hedge would often be as good as two weeks added to the earliness of the crops.

And then as single specimens on a lawn there are few things that will command more respect than a well-grown arbor-vitæ. To be well-grown means to have a good open place all to itself and to have only one good leader allowed to grow. When several shoots are permitted to grow up together the time will come when rain, or snow, or wind will separate them, and then the beauty of an arbor-vitæ is gone forever. The keeping of the plant to one main shoot or leader guards against any contingency like this and the plant's beauty is not only maintained for years and years, but is annually added to.

Horticulturists are continually appealed to, to get out something new. It is a laudable effort, but it is well once in awhile to look on our old and tried friends and note what they are to us and what we should do without them, and thus it comes about that we have been led to look into the merits of the common arbor-vitæ and to say a good word for it.

As having an important bearing on this subject, the *Scientific American* calls attention to the value of evergreen trees when planted among fruit trees. It says, a well grown evergreen tree gives off continually an exodium of warmth and moisture that reaches a distance of its area in height; and when the tree planters advocate shelter belts, surrounding a tract of orchard fifty or more acres, when the influence of such belt can only reach a distance of the height of the trees in said belt, they do that which will prove of little value. To ameliorate climate, to assist in prevention of injury against the extreme climate, cold in winter and of the frosting of the germ bud of fruit in spring, all orchards should have planted in and among them, indiscriminately, evergreen trees at distances each of not more than 150 feet apart. Such a course pursued, we have no doubt will render greater health to the trees, and be productive of more regular and uniform crops of fruit. At all events, it is worth trial, and we shall be glad if our readers can inform us of any practical experiments on the subject.

The Culture of Flowers.

James Vick's Floral Guide for 1875, which as a specimen of typography and artistic taste far surpasses any of his previous efforts, is also a store-house of beautiful thoughts, as well as of useful facts about flowers and how to grow them. "The culture of flowers," he says, "is one of the few pleasures that improves alike the mind and the heart and makes every true lover of these beautiful creations of Infinite Love wiser and purer and nobler. It teaches industry, patience, faith and hope. We plant and sow in hope, and patiently wait with faith in the rainbow promise that harvest shall never fail. It is a pleasure that brings no pain, a sweet without a snare. True, some fail to realize their hopes, but these failures are usually partial, never embarrassing, and are only such as teach us to study more carefully and obey more strictly nature's beautiful laws. Thus we gain, first, wisdom, and then success as the results even of our failures. I have endeavored in a plain and pleasant way to give some suggestions on the philosophy of vegetation that I think will prove valuable, revealing the causes of past failures and insuring future success. Indeed, I have hoped in this improved number of the GUIDE to make the subject so plain as to render failure next to impossible, and success almost certain. Experience, however, is the great teacher. The book of nature is open, but its wonderful beauties and mysteries are revealed only to the careful student. Every species of plants has peculiarities which must be studied, and while we can give a few general principles we can furnish nothing that will compensate for the pleasure and profit to be derived from work and study in the garden. Above all things, we caution our readers against over-confidence. There is no one with less confidence in his own skill and knowledge than the experienced gardener. Every season he seeks for new facts: every year adds to his store of knowledge. Do not, for a moment, think that the purchase of a few seeds and the perusal of any work on flower culture will make a florist. The purchase of a drug store and a medical library will not make a physician, nor does the possession of paints and canvas constitute an artist. To become skillful in any art requires both study and practice, and this is especially true where we have to deal with nature's laws. The study of Agriculture and Horticulture has engaged the attention of the wisest from the earliest ages, and yet what wonderful discoveries and improvements have we witnessed in our own day; and we are still learners."

Perennials and Bedding Plants.

We are pleased to see that the eminent horticulturist, Mr. Hogg, in his new *American Garden*, has a good word to say in favor of the too much neglected perennial plants. The writer of this has spent considerable money and time in the purchase and growing of flowers, but the investment which gave us most lasting pleasure was the purchase, a few years ago, of Peter Henderson's collection of select hardy herbaceous plants, the set of one hundred varieties costing us eighteen dollars, among which were a number scarce and valuable, and all being in such good order that not one was lost. We therefore heartily endorse Mr. Hogg when he says:

"After our long and dreary winters, lovers of flowers, especially if they are residents of the country, long to greet their eyes with something bright and cheerful in the way of flowers. This they can do by making a proper selection of hardy perennial plants. Commencing with Croeuses in March, they may, at little expense, have a hundred or more species bloom in succession before their bedding-out plants are fit to be seen, which cannot be before the first of July. How much more pleasure and interest is to be derived from a plat a quarter of an acre in extent, planted with a hundred species of such plants, lasting season after season, and sufficient to stock the whole ground, than from a single bed costing twice as much, and containing fifty Amaranthus for an outside row, twenty-five Centaureas for an inner row, and twenty-five General Grant Zonales for the centre—the plants to renew which the next season have, nine times out of ten, to be again purchased.

"With our almost tropical summers, we can do that which gardeners abroad cannot equal in subtropical gardening. What the various species of Ricinus, Cannas, Erythrina, Caladiums, and similar plants, we can give a variety and uniqueness to our gardens, at but little expense, which the wealthiest nobleman abroad would envy. Such plants are as easily kept as Dahlias, Gladioli and Tuberoses; and these added to the former will, with good taste, give us all necessary means to divest gardens of any appearance of sameness or lack of distinctive features. If we add a judicious mixture of plants of colored or striking foliage among our perennials, our gardens will never be wanting in that individuality which should distinguish one garden from another; and thus each would become a continued source of delight to its owner from March until November or December."

Blanching Celery.

Some time since a correspondent of the *Germantown Telegraph* gave an interesting account of the preservation of celery during the winter season, by standing it in spring water under a shed. Few persons will have the chance to preserve celery in this way, nor is it perhaps desirable that they should, as there are many ways of preserving it which answer just as well, and which allow of the celery being just to hand, which it is not likely to be by any plan such as that proposed, as it is rare indeed that a spring would be close to one's house or that one would be willing to put a spring to that use if it was. But for all this the hint of our correspondent is a good one, not so much for what it teaches as for what it suggests.

We know of one whose celery did not grow very well last season on account of the drought. At digging time it was what he termed "poor and small," and hardly worth preserving; but taking the water hint of our correspondent, he concluded that by pack-

ing the roots in wet earth and keeping them in a cellar the vital principle would be sustained and perhaps the whole become white. The experiment was a complete success, and he has had an abundance of white crisp celery all winter. Large boxes were obtained and a few inches thick of earth placed on the bottom and made as wet as possible. The plants were then packed upright, side by side, as close as they could stand, until the boxes were full. The upper leaves were of course exposed, and attempting to grow a little by the encouragement given to the root by the wet earth, caused growth enough to go on to blanch the whole.

There is an advantage in this plan, besides that of blanching a mass of matter usually stored away green and which never after becomes white, and is therefore wasted, and that is the crispy freshness which it retains. Those who keep celery by various devices in the open ground, and in similar ways, have no trouble from this source; but those who keep celery in cellars often complain of it either rotting or withering. In the way described there is just what is needed to keep it fresh and nothing more.

We give this simply as *one* plan which may suit some one person in an emergency, and not as the *best* plan. What is best for one is very often not the best for another, and it never does any harm to know lots of them, and especially one which like this gives us a principle which may be applied to many plans.—*Germantown Telegraph.*

Remedy for the Pear Blight.

Mr. F. B. Leighton, President of the Norfolk, Va., Horticultural Society, is authority for the statement that the remedy for pear blight, recommended by the Commissioner of Agriculture, has proved successful in Eastern Virginia. This remedy is made and applied as follows: One pound of sulphur added to six or eight pounds of carbolate of lime, reduced to the consistency of thick whitewash, and applied to the diseased parts; and where the bark is diseased remove the outer portion before making the application. Mr. L. says he has used this with magical effect on blighted or diseased trees, but writes to the *American Farmer* that in future he will "use the formula recommended by the Hon. William Saunders, of Washington, who has charge of the public grounds, as being more economical than the above, on account of the volatile nature of carbolic acid: To half a bushel of lime add four pounds of sulphur—slack to the consistency of whitewash, and when applied, add half an ounce of carbolic acid to each gallon of wash, and apply as above directed."

Jacob Cocklin—An "Old Digger."

The gentleman whose name heads this article, was last week in attendance at the annual meeting of the Pennsylvania Fruit Growers' Society, held in York. His venerable appearance and his interest in matters pertaining to Horticulture naturally excited remark, and created a desire to know more of him. Personally we have favorably known him for many years, having been one of the earliest subscribers to the *Gazette*. His career has been active and useful, and as a citizen challenges the emulation of his fellow men. He now lives near Shepherdstown, Cumberland county, Pa., and has furnished us with a short sketch of his life, as follows:

I commenced planting trees in 1827 and up to this date, 1875, I planted in orchards over forty thousand trees, over 250 acres, comprising 180 apple, 120 peach, 80 pear, 40 cherry, apricots, nectarines, almond, quince, plum, persimmons, chestnuts, mulberry, walnut, hickory-nut; also, currants, gooseberries, blackberries, strawberries, filberts, hazlenuts, &c. Also, ornamental and forest trees, such as locust, willow, maple, ailanthus, pawlonia, cottonwood and tulip poplar; also, evergreen, Norway spruce, hemlock spruce, pine of various kinds, cedars, European and American larch and many others too numerous to mention. I commenced the Nursery business in 1828 and continued it for upwards of 30 years. First planted grape in 1828, the leading kinds to this time, comprising about 10 acres. I intend planting 5 acres in peach trees next Spring. The most I realized in one year was in 1846, when I sold 1,500 bushels of peaches for $980 and 35 barrels of brandy at 75 cents per gallon. During this time I had business transactions with more than 1,500 persons; built 7 houses and 4 stables; dug 10 wells, 5 of about 50 feet, the others 20 to 25 feet deep; cut the timber off 150 acres; made between 300 and 400 perches of stone fence; put up a cider press and distilling apparatus, besides many other improvements. I also put up a water ram which brings spring water 100 feet in height. I planted three miles of willow hedge and made several miles of wire fence, and planted 2 bushels of locust seed in Iowa. I had some good stock, horses, cows, hogs, fowls and sheep; of the latter I had at one time 600 head. I also had some cross dogs. I have traveled about 35,000 miles on railroad, steamboat, canal, stage, wagon and horse. I have been in Philadelphia, New York, Pittsburg, Cincinnati, St. Louis, Chicago, Dubuque, Iowa City, Davenport, Iowa, Richmond, Va., Winchester, Va., Frederick, Md. Baltimore, Washington, and intermediate points in Pennsylvania, Delaware, New Jersey, New York, Ohio, Indiana, Illinois, Michigan, Wisconsin, Iowa, Missouri, Kentucky, Maryland, Virginia and the District of Columbia. I never had a bone broken; not in bed sick 2 months; I did all my own writing, which was quite a laborious task in the Nursery business. I also bought and read several hundred volumes of books and a number of periodicals, treating on religion, medicine, agriculture, horticulture, &c. I had been school director for many years, assessor, collector, constable, clerk, judge, inspector at elections, supervisor and a juror a number of times. I never had a law suit; I never used tobacco or opium; never gambled; never was drunk; I never was in a house of ill fame; was a poor customer to taverns, oyster saloons, doctors, preachers and places of amusement, and did more manual labor than any man I am acquainted with. I commenced with a capital of nearly $10,000, and now in about 46 years have only doubled it, whereas if I had put the $10,000 on interest at 6 per cent. it would have been $80,000 now. But the many laboring people I employed received the benefit of my labor. The country for miles is dotted with trees that passed through my hands. Many hundreds of dollars are brought from Harrisburg each year for fruit, that would not have been realized had I not introduced it—fruit raisers and consumers are benefited. Every family should have a home of its own. I have helped more than 50 families to homes by advancing money and giving time from one to ten years to pay the money advanced. I am now within a few days of 78 years old, in good health and in peace with God and all mankind. I live in an humble state and cheerfully earn my living and envy not the great.— *York Gazette.*

[And Mr. Cocklin's latest and most commendable act was subscribing for THE LANCASTER FARMER and paying in advance. In his letter to the publishers, enclosing his subscription, he says he "would like to hear from some other 'old diggers.'" And so would we.]

DOMESTIC ECONOMY.

Valuable Domestic Recipes.

GRIDDLE CAKES: This is the way NELLIE, in the Germantown *Telegraph*, tells us how to make them: Scald as much Indian meal as you think sufficient, add salt and stir until smooth, not too stiff to put on with a spoon, though molding with wet hands makes the cakes more shapely. Split, butter and serve hot. We sometimes add stewed pumpkin to the batter, and enjoy what we call pumpkin cakes. During the cold weather it seems hardly worth while to have much stale bread or biscuit on hand, as most folks want some kinds of hot cakes, especially buckwheat for breakfast, and with a little *sugar* stirred in they brown very nicely.

MANAGING THE GRATE: To preserve a fire in the grate or furnace over night there is nothing better than moistened coal screenings; they are better than ashes and will not cause the formation of clinkers. In the morning, or at any time when the fire is low, put on a little coal, let on the draft, and after it has burned up pretty well, rake gently and add more coal. If raked when the fire is low and dead, it will either go out or be a great while in getting on a head and producing the necessary warmth. If clinkers form in a grate or stove, throw in a few handfuls of clam or oyster shells, and they will soon become so loosened as to be removed easily without injury to the fire-brick. I have followed this plan of managing a coal fire for years with entire success.—ALINE, *in Germantown Tel.*

HYACINTHS IN GLASSES: Mary Jones wants to grow hyacinths in glasses and wants to know how to do it. The *Rural New Yorker* tells her: She should get dark colored glasses, fill with water so that the bulb will but or scarcely touch the water, and set bulb and glasses in a dark, cool place until the roots of the bulb reach top of the glass. Of course they must be kept from the frost and the water changed once in seven or ten days. Soft water should be used, and when changed it should be about the temperature of the atmosphere in which the bulbs in glasses are kept. When the glass is well filled with roots it may be exposed to the light, and they will speedily bloom.

PREPARING MINCE-MEAT TO KEEP: Mrs. Goodhue, of Vershire, Vt., furnishes her mode of preparing mince-meat to keep a year or more, to the Germantown *Telegraph*, which is as follows: I boil my meat and salt it as for pies; chop fine; add suet if you wish; after chopping take nearly the weight of sugar that you have of meat, melt in a porcelain kettle or tin pan; then put the meat in the sugar and stir it until thoroughly scalded; then pack in a stone jar, press down firmly, and keep in a dry, cool place. When needed for pies add cider, apples, raisins, citron and spices to suit the taste. I am now using meat prepared in this way one year ago, which is as sweet and nice as when put up.

MUSH: We sometimes boil mush for supper and put away a good crock full for future use. For breakfast put a generous lump of good butter in a pan on the stove; when well melted and pretty hot put in some cold, broken-up mush, heat rapidly, stirring frequently, and when thoroughly hot serve on a hot dish and you'll find it exceedingly good. Do not make the mush too stiff when boiling it. We prefer it to the fried slices.

APPLE PUDDING: One pint of bread crumbs soaked well and soft in a quart of milk, with two or three well-beaten eggs and one or two apples chopped fine; stir all together and bake in buttered pans. Wine dip with it.

TO SWEETEN SALT PORK: Cut as many slices as will be required for breakfast the evening previous, and soak till morning in sweet milk and water; then rinse till the water is clear, and fry. The pork will be found nearly as good as fresh pork.

APPLE BUTTER: The best apple butter is made by peeling, coring and slicing selected sweet apples, and stewing them in sweet cider. Very little of this sort of apple butter, however, comes to market. The bulk of that sold is made from second rate apples, peeled, sliced, stewed and sweetened with brown sugar. A large quantity of such butter is made and sold for ship stores for use by sailors.

COCOANUT PIE: One half a cup of butter, one cup of powdered white sugar, four well beaten eggs; beat whites and yelks together; one cup of grated cocoanut, one quart of sweet milk; mix butter and sugar together, then add the eggs and cocoanut, and lastly the milk. Bake in a lower crust. Eat when cold. This quantity makes two pies.

TO PREVENT lamp chimneys from cracking, put them into a kettle of cold water and gradually heat until it boils, and then let it as gradually cool; the chimney will not be broken by the ordinary fluctuation of the flame of the lamp.

TO REMOVE starch or rust from flat-irons, have a piece of yellow beeswax tied in a coarse cloth, when the iron is almost hot enough to use, but not quite, rub it quickly with the beeswax, and then with a clean, coarse cloth.

Roasting a Sirloin of Beef.

An old Housekeeper, in the Germantown *Telegraph*, thus criticises one of the modes for roasting sirloin of beef recommended by the *Ohio Farmer*. She says it "is not the way that I or any experienced housekeeper would undertake to cook it. It first recommends a "joint weighing from fourteen to fifteen pounds from a *young* and fat beef." Now everybody knowing anything about good beef would say "*old* and fat beef." Young beef is neither so tender, juicy or rich as old beef, as the fat and the other flesh on the latter is newly put on. The writer goes on, "having *laid it in the dripping-pan*, tender-loin downward, we dredge it slightly with flour." Doesn't this writer know that all "doctoring" of beef helps to deteriorate its quality? To go on, the meat is then put down in the pan, in which a little water is poured, and then put in the oven, not to roast, as it is claimed, but to *stew*. The writer then adds, "as soon as the surface of the meat is so browned that the juices will not readily escape, allow the oven to *cool to a moderate degree of heat*." This is remarkable. "When the beef is done, *sprinkle with salt and pepper*. Empty the pan of all the drippings, pour in some boiling water, slightly salted, stir it about and *strain over the meat*." This is one way, truly, and it may suit some people who have never eaten really good roast beef; but it will not do for me or my family. Why, beef, to roast it in the best manner, should not be tampered with in any way—not even touched with water before putting in the oven. Instead of laying it broadside in the water of the pan, it should be elevated on a "meat stand" placed in the pan. A quarter of an hour to a pound of beef is the correct period to roast. No dredging, peppering, salting, or pouring over of gravy, &c.; they destroy the sweetness, deliciousness and relishment of the beef.

Roasting Turkey and Carving.

Rinse the turkey out in several waters, and in the next to the last mix a teaspoonful of soda. Fill the body with this water, shake well, empty out and rinse with clean water, singe off the hairs and prepare a dressing of bread crumbs, add thyme and majorum, or sage if preferred. Wet with hot water or milk. The liver, heart, &c., should be boiled and chopped fine and mixed with the dressing. The water in which they were boiled should be put in the dripping pan with which to baste the turkey. Dredge it with flour and salt before roasting, and baste often. With a brisk fire and young turkey, allow ten minutes to a pound for roasting. Tie a string tightly about the neck when the craw is filled, and sew the body with a strong thread. Remove this when the fowl is dished. When the turkey is lifted from the pan, add a spoonful of flour wet with cold water to prevent its lumping. Boil up once and pour into the gravy boat. *Hearth and Home* says: "In carving a turkey, cut off the wing nearest you first, then the leg and second joint; then slice the breast until a rounded, ivory shaped

piece appears; insert the knife between that and the bone, and separate them; then turn over the bird a little, and just below the breast you will find the "oyster," which you separate as you did the inner breast. Proceed the same way with the other side. The fork need not be removed during the whole process. A sharp knife is indispensable. The platter should be drawn near enough to the carver for him to reach each part of the bird with perfect ease."

Soup Making.

In the first place, observe always to lay your meat in the bottom of the pan or pot, cutting the meat up, or, if a bone, cracking it well. A lump of butter adds richness, but it is not necessary. Select such herbs and vegetables as you prefer; cut them up very small and lay over the meat, with a very little water, and a cautiously small piece of salt. Cover the vessel with a close fitting lid and set it by a slow fire. This will draw out all the herbs and roots, giving the soup a different flavor from what is imparted by putting the full quantity of water in at first. Turn the meat frequently. When the gravy produced is almost dried up, fill your pot with a sufficient quantity of water to make soup enough for your family. To a large shank bone of beef three quarts, or even one gallon is not too much to allow. When your soup is done take it off the fire to cool, and skim thoroughly. Put it on again, and be sure not to dish it up unless boiling hot. Be careful to add salt and other high flavored condiments sparingly; every table is provided with salt-cellar and casters, so that a deficiency in these respects may be easily rectified; not so an over quantity. If other thickening than the vegetables used is deemed advisable use browned flour for all soups save chicken, veal and oyster soup."

Charcoal for Poultry.

Fowls of all kinds are very fond of charcoal, and will eat it with great relish if properly prepared. Pounded charcoal is not in the shape in which fowls usually find their food, and consequently is not very enticing to them. To please their palate, the charcoal should be in pieces of about the size of grains of corn, and if these are strewed around their quarters they will readily eat thereof. Corn burnt on the cob, and the refuse (which consists almost entirely of the grains reduced to charcoal, and still retaining their perfect shape,) placed before them, makes a marked improvement in their health, as is shown by the brighter color of their combs, and their sooner producing a greater average of eggs to the flock than before.

The Curative Potato.

Dr. Streeter, of Santa Barbara, tells the *Alta* that the worst case of gravel may be cured, the deposit dissolved and passed away, by using the water in which potatoes have been boiled to pieces; strain the water, sweeten to taste, and drink for two or three weeks. This is a painless cure. The same authority states that furring or coating deposited on the inside of steam boilers may be easily removed, making the surface appear like new iron, by placing a quantity of raw potatoes in the boiler and letting them boil to pieces. After two or three days open the manholes and a sandy deposit will be found; brush it out and the boiler will be as good as new.

Glycerine for Preserving Fruit.

We learn through a German journal, says the *Journal of Applied Chemistry*, that in order to preserve fresh fruits it is necessary to only heat them, if not perfectly ripe, in water almost to boiling, drain nearly dry, and cover with warm concentrated glycerine. If the fruit is perfectly ripe, heating in water is unnecessary. It is also advised to pour off the glycerine after standing for some time and add fresh concentrated glycerine. The glycerine poured off may be concentrated on a water bath and used a second time. Ordinary glycerine is often impure, but only that which is perfectly pure and colorless, with a clean, sweet taste and a specific gravity of 125 should be employed.

A Happy Home.

In a happy home there will be no fault-finding, overbearing spirit; there will be no peevishness or fretfulness. Unkindness will not dwell in the heart or be found in the tongue. Oh, the tears, the sighs, the wasting of life and health and strength, and of all that is most to be desired in a happy home, occasioned merely by unkind words. A celebrated writer remarks to this effect, namely, that fretting and scolding seem like tearing the flesh from the bones; that we have no more right to be guilty of this sin than we have to curse and swear and steal. In a perfectly happy home all selfishness will be removed. Its members will always seek first to please each other. Cheerfulness is another ingredient in a happy home. How much does a sweet smile, emanating from a heart fraught with love and kindness, contribute to make a happy home? At evening how soothing is that sweet cheerfulness that is borne on the countenance of a wife and mother! How do parent and child, brother and sister, the mistress and servant, dwell with delight upon those confiding smiles that beam from the eye and burst from the inmost soul of those who are dear and near. How it hastens the return of the father, lightens the cares of the mother, renders it more easy for youth to resist temptation, and, drawn by the chords of affection, how it induces them, with lowly hearts, to return to the paternal roof. Seek then to make home happy.

Unaired Rooms.

A writer in the *Country Gentleman* says: "I pass some houses in every town whose windows might as well be sealed in with the walls, as for any purpose they have but to let in the light. They are never opened, summer or winter. In winter it is cold; in the summer the flies stray in, or, if they are netted, the dust sifts through the nets. Now, I can tell a person who inhabits such chambers when I pass him in the street—there is such a smell about his clothing I always wish for a sniff of cologne or hartshorn, or burnt feathers, or something of the sort, 'to take the taste out.' A house that is never aired has every nook and corner filled with stale odors of cooked meats, boiled vegetables, especially cabbage and onions, which, as the weeks go by, literally reek in their hiding places. The very garments of the children tell the same story of uncleanliness. It is bad to have unwashed clothes, but there may be an excuse for it. But what excuse can there be for unaired ones, when air is so cheap and free? There is death in such unaired chambers. Better a swarm of flies or a cloud of dust; butter frost and snow in a room than these intolerable smells. The first thing in the morning, when you are ready to go down stairs, throw open your windows, take apart the clothing of your beds and let the air blow through it as hard as it will. There is health in such a policy."

Keep the Birthdays.

Keep the birthdays religiously. They belong exclusively to, and are treasured among the sweetest memories of home. Do not let anything prevent some token, be it ever so slight, to show that it is remembered. Birthdays are great events to children. For one day they feel they are heroes. The special puddings are made expressly for them; a new jacket, trowsers with pockets, or the first pair of boots, are donned, and big brothers and sisters sink into insignificance beside "little Charley," who is "six to-day," and is soon "going to be a man." Fathers who have half a dozen little ones to care for are apt to forget birthdays—they come too often. Sometimes they are too busy and sometimes they are bothered, but if they only knew how much such souvenirs are cherished by their children, years afterward, when, away from the hearthstone, they have none to remind them that they have added one more year to the perhaps weary round of life, or to wish them, in the good old-fashioned phrase, "many happy returns of their birthday," they would never permit any cause to step in between them and a parent's privilege.

A Fruit-Can Opener.

This is something that has been long needed in the domestic circle. "The Sprague Can Opener" is is a little instrument that can be very conveniently carried in the pocket—a small lever with a steel blade at the end, working on a pivoted fulcrum and through a slat in a small piece of iron, which forms the plane of purchase or leverage, and constitutes a sort of shears; used for cutting off the lids of soldered tin fruit cans, sardine cases, oyster cans, or any other vessel made of tin, copper, zinc, brass or iron, of the same thickness as common tin. It is a small affair, costing from 50 cents to $1 each, according to style and finish. We have tried this little instrument, and find it admirably adapted to the use intended—far more essential in a household using fruit, vegetables, and other viands put in tin cans, than many other domestic implements that have come into general use.

To Prevent Rusting.

Boiled linseed oil will keep polished tools from rusting, if it is allowed to dry on them. It is very difficult to get off and should never be put near a joint, as it candies. Turpentine or soft soap will destroy it when it is necessary to brighten the surface oiled. Common sperm oil will prevent from rusting a short period. A coat of copal is frequently applied to polished tools exposed to the weather. Woolen materials are the best for wrappers for metals. Iron and steel goods of all descriptions are kept free from the rust by the following: Dissolve one-half ounce of camphor in one pound of hog's lard, take off the scum and mix as much black lead as will give the mixture an iron color. Iron and steel, and machinery of all kinds, rubbed over with this mixture and left with it on for twenty-four hours, and then rubbed with a linen cloth, will keep clean for months.

LITERARY AND PERSONAL.

The Grape Culturist: This is the title of a treatise on the cultivation of the native grape by Andrew S. Fuller, the eminent practical horticulturist, of Ridgewood, New Jersey, a new and enlarged edition of which is published by Orange Judd & Company, the enterprising publishers of the *American Agriculturist*. In our article on the Culture of the Grape, in this issue of The Farmer, we have followed Mr. Fuller's system as the best, in our judgment, of the many plans of trellising and pruning which have been discussed pro and con, and we cannot too strongly recommend his excellent manual to all who desire to be thoroughly posted in all the details of the subject. Mr. Fuller's treatise is comprehensive and exhaustive of everything worth knowing in relation to grape growing, and his illustrations are so full and clear that the most inexperienced amateur can have no difficulty in understanding all directions given, so as to follow them in practice. It contains 286 pages, and will be sent by mail on receipt of the price, $1.50.

"The American Farmer *vs* Colorado Potato-Beetle"—"*The Pest and Its Remedy.*" This is a 14 page octavo pamphlet, issued by C. T. Raynold's & Co., 106 and 108 Fulton street, New York, and secured by a copyright.

Although this pamphlet contains nothing new to *us*, yet it is a condensed history of the above named insect, and the only reliable artificial remedy—Paris Green—in which the publishers are dealers; its uses and its dangers; the mode of judging it and applying it; and the antidote in cases of poisoning from it. In its essential points it is adapted to any locality where this insect exists, and is written in language plain enough for any one to understand. We *presume* it is published for gratuitous circulation; but, in any event, every farmer ought to possess a copy; and but for the congressional restriction we believe we should have transferred the entire treatise to our columns at the proper season, although the task would be a trifle to write one of our own.

R. H. Allen's "Annual Descriptive Catalogue of Garden, Flower and Field seeds and Grains," and Field and Garden implements, for 1875, has been received, and is by far the best yet published by that house, giving not only the common local English names of the different vegetable productions, but also the foreign and the scientific names. Agricultural warehouse 189 and 191 Water street, New York.

Attention is directed to the advertisement of Ellwanger & Barry, Nurserymen, Rochester, N. Y. As is well known, they are the largest and most successful growers of Fruit and Ornamental Trees, Shrubs and Plants in the United States. Parties wanting anything in their line will do well to send for their Illustrated and Descriptive Catalogue.

Coleman's Rural World, published weekly at St. Louis, Mo., is one of the oldest and best Agricultural weeklies we have seen. The eminent Prof. C. V. Riley is the entomological editor. It is a large quarto, and is conducted with ability and taste by N. J. Coleman and his associates. Terms $2 a year.

The "Gallinoculture Institute" is an enterprising establishment at Hicksville, New York, embracing the "latest discovery" in artificial chicken production, by "Corbett's Hatching Apparatus," operated without fire, steam, lamps or hens, the necessary heat being generated by beds of horse manure.

The American Farmer—an octavo magazine of 40 pages—for February, 1875, is on our table. This is a beautiful and compact journal, published by Sands & Son, Baltimore, at $1.50 a year, embracing all sorts of subjects on rural and domestic affairs.

The Massachusetts Ploughman, a large folio, has been received. The *Ploughman* is largely devoted to Agriculture, Horticulture, the Garden and the Farm, as well as general literature. Published by Geo. Noyes, Boston, Mass., at $2.50 a year, weekly.

Our Readers, who may be "prospecting" for their supply of Spring Plants and Flowers, should by all means visit Schroyer's Floral Headquarters, where they will find a great variety of good stock to select from.

Seeds of all kinds are advertised by William D. Sprecher, of the old established and extensive Agriculture Implement and Seed Warehouse of this city. Attention is invited to his specialties.

The Thoroughbred Stock, advertised for sale at the "Clifton Farms," Kennett Square, Chester-co., is worthy the attention of purchasers. The proprietors guarantee it to be as represented.

Spooner's Descriptive Price Catalogue, published by W. H. Spooner, Boston, has been received. It contains over 150 illustrations, and is mailed free to applicants.

Miscellaneous: The "Printers Circular"—"State Hospital for the insane, Danville, Pa., 1874"—"Forty-second Annual Report of the Managers of the Pennsylvania Institute for the instruction of the blind"—"New York city council for Political Reform"—American Journalist"—"Newspaper Reporter"—"Pennsylvania School Journal"—"The Proof Sheet"—all duly received, all useful within their several spheres, and all creditable to their publishers.

Prof. S. S. RATHVON, Editor. LANCASTER, PA., MARCH, 1875. PEARSOL & GEIST, Publishers.

THE FARMERS' HOME ORGAN.

The Lancaster Farmer;

A MONTHLY NEWSPAPER,

DEVOTED TO AGRICULTURE, HORTICULTURE, DOMESTIC ECONOMY, AND MISCELLANY.

Published under the auspices of the Lancaster County Agricultural and Horticultural Society.

Edited by Prof. S. S. RATHVON.

With the January issue (1875) THE FARMER entered upon its seventh year, under a change of proprietors, the publication having been transferred to the undersigned, who propose to make it in all respects a first-class local organ of the important interests to which it is especially devoted.

With this view THE FARMER has been enlarged and its form changed to the Imperial Magazine style, each number containing twenty-four pages Imp. 8vo., measuring 9½ by 13 inches, at least sixteen of which will be exclusively devoted to reading matter, the advertisements and "standing matter" being limited to the remaining pages. This increase of size and change of form, together with the use of a more compact type, enables us to give twice as much reading matter as was contained in the old form.

If this effort to give the agricultural community of Lancaster county a publication worthy of their honorable calling is liberally seconded, we propose to add other improvements from time to time, including illustrations of important topics of general interest, and papers from special contributors on the more important local industries and resources of the county—a wide field, which has been very little cultivated by our local press.

The contributions of our able editor, Prof. RATHVON, on subjects connected with the science of farming, and particularly that specialty of which he is so thoroughly a master—entomological science—some knowledge of which has become a necessity to the successful farmer, are alone worth much more than the price of this magazine.

THE FARMER will be published on the 15th of every month, printed on good paper with clear type, in convenient form for reading and binding, and mailed to subscribers on the following

TERMS:

To subscribers residing within the county—

One copy, one year,	$1.00
Six copies, one year,	5.00
Ten Copies, one year,	7.50

To subscribers outside of Lancaster county, including postage pre-paid by the publishers:

One copy, one year,	$1.25
Five copies, one year,	5.00

All subscriptions will commence with the January number unless otherwise ordered.

All communications intended for publication should be addressed to the Editor, and, to secure insertion, should be in his hands by the first of the month of publication.

All business letters, containing subscriptions and advertisements, should be addressed to the publishers,

PEARSOL & GEIST,
Express Buildings, 22, South Queen Street,
LANCASTER, PA.

RATES OF ADVERTISING.—Ten Cents a line for each insertion. Twelve lines to the inch.

CONTENTS OF THIS NUMBER.

PENNSYLVANIA RAILROAD.

Trains LEAVE the Pennsylvania Depot in this city as follows:

WESTWARD.	Leave Lancaster.	Arrive Harrisburg.
Pacific Express*	2:45 a. m.	4:10 a. m.
York Accommodation	7:50 a. m.	Col. and York.
Mail Train via Mt. Joy	11:20 a. m.	1:00 p. m.
Mail Train No. 2 via Columbia*	11:20 a. m.	1:20 p. m.
Fast Line	3:25 p. m.	4:50 p. m.
Harrisburg Accom.	5.10 p. m.	8:10 p. m.
Lancaster Train	7:35 p. m.	Col. and York.
Pittsburg Expresse	8:55 p. m.	10:10 p. m.
Cincinnati Express*	10:45 p. m.	12:01 a. m.
EASTWARD.	**Lancaster.**	**Philadelphia.**
Atlantic Express*	12:40 a. m.	3:10 a. m.
Philad'a Express†	3:55 a. m.	6:50 a. m.
Harrisburg Express	7:20 a. m.	10:00 a. m.
Lancaster Train	9:28 a. m.	12:25 p. m.
Pacific Express*	1.45 p. m.	4.15 p. m.
Elmira Express	3.15 p. m.	5:55 p. m.
Harrisburg Accom.	6·20 p. m.	9:30 p. m.

The Columbia Accommodation Train will leave Columbia at 1:00 p. m., and arrive at Lancaster at 1:35 p. m. Returning, leave Lancaster at 3:40 p. m., and arrive at Columbia at 4:15 p. m.

York Accommodation leaving Lancaster at 7:50 a. m. and Columbia at 8:20 a. m., will connect at York with Baltimore Accommodation, south, at 9:13, arriving at Baltimore at 12:05 p. m.

The York Accommodation, leaving York at 5:50 a. m., connects at Columbia, at 6:35, with the train leaving Marietta at 6:22 a. m., and at Lancaster, at 7:20 a. m., with the Harrisburg Express.

The Pacific Express east, on Sunday, will make the following stops, when flagged, viz.: Middletown, Elizabethtown, Mount Joy, Bird-in-Hand, Leaman Place, Gap, Christiana, Parkesburg, Coatesville, Glen Lock, and Bryn Mawr.

*The only trains which run daily. Mail train west on Sunday will run via Columbia.

†Rune daily, except Monday.

PENNSYLVANIA RAILROAD.

FLORIDA EXCURSION ROUTES.

SEASON OF 1874-5.

Tickets to Jacksonville, Fla., and Return, for sale December 1st to April 1st, good to return until May 31st, and have all the privileges of First Class Tickets.

ROUTE No. 510.—Via Washington, Richmond, Wilmington, Charleston, and Savannah.

ROUTE No. 511.—Via Washington, Richmond, Charlotte, Augusta, and Savannah.

ROUTE No. 512.—Via Washington, Richmond, Wilmington, Augusta, and Savannah.

ROUTE No. 513.—Via Washington, Richmond, Charlotte, Atlanta, Macon, and Jesup.

ROUTE No. 514.—Via Washington, Lynchburg, Charlotte, Augusta, and Savannah.

ROUTE No. 515.—Via Washington, Lynchburg, Bristol, Atlanta, Macon, and Jesup.

ROUTE No. 548.—Via Washington, Richmond, Augusta, Yemassee, and Savannah.

ROUTE No. 549.—Via Washington, Richmond, Wilmington, Augusta, Yemassee, and Savannah.

ROUTE No. 546.—Via Baltimore, Norfolk, Wilmington, Augusta, and Savannah.

ROUTE No. 547.—Via Baltimore, Norfolk, Wilmington, Charleston, and Savannah.

All of the above-described tickets return by same route, and are sold at following THROUGH RATES.

New York,	$50 00	Trenton,	$47 75
Jersey City,	50 00	Harrisburg,	45 50
Newark,	50 00	Williamsport,	49 50
Elizabeth,	49 75	Altoona,	50 75
Rahway,	49 50	Pittsburg,	52 75
New Brunswick,	49 00		

Except Routes No. 546 and No. 547, which are not sold at Harrisburg, Williamsport, Altoona, and Pittsburg.

Varishle Route Tickets are sold at New York, Jersey City, Harrisburg, Williamsport, Altoona, and Pittsburg, as follows:

EXCURSION No. 516.—Going by Route 510, returning by Route 512, $10 additional.

EXCURSION No. 517.—Going by Route 512, returning by Route 510, $10 additional.

EXCURSION No. 518.—Going by Route 510, returning by Route 511, $10 additional.

EXCURSION No. 519.—Going by Route 511, returning by Route 510, $10 additional.

EXCURSION No. 522.—Going by Route 510, returning by Route 514, $10 additional.

EXCURSION No. 523.—Going by Route 514, returning by Route 510, $10 additional.

EXCURSION No. 526.—Going by Route 511, returning by Route 512, $10 additional.

EXCURSION No. 527.—Going by Route 512, returning by Route 511, $10 additional.

EXCURSION No. 530.—Going by Route 511, returning by Route 514, $10 additional.

EXCURSION No. 531.—Going by Route 514, returning by Route 5 1, $10 additional.

EXCURSION No. 536.—Going by Route 512, returning by Route 514, $10 additional.

EXCURSION No. 537.—Going by Route 514, returning by Route 512, $10 additional.

EXCURSION No. 542.—Going by Route 513, returning by Route 515, $10 additional.

EXCURSION No. 543.—Going by Route 515, returning by Route 513, $10 additional.

Excursion Tickets and information of Routes can be obtained at the following Ticket Offices:

BOSTON—Nos. 77 and 79 Washington Street.

NEW YORK—No. 1 Astor House, No. 526 Broadway, No. 944 Broadway, and at Depots, foot of Desbrosses and foot of Courtlandt Streets.

JERSEY CITY—Depot. NEWARK—182 Market St., and at Depot. ELIZABETH—Depot. RAHWAY—Depot. NEW BRUNSWICK—Depot. TRENTON—Depot.

HARRISBURG—Depot. WILLIAMSPORT—S. W. corner Market Square and at Depot. ALTOONA—Depot. PITTSBURG—78 Fifth Avenue, and at Union Depot.

FRANK THOMSON, *General Manager,*
D. M. BOYD, JR., *Gen'l Passenger Agent.*

7-3-1m

2,000 Copies of The Farmer

Have been printed each month since the publication passed into the hands of the present proprietors. Of this number the copies not wanted for regular subscribers have been sent to leading farmers in the various districts of the county, for their examination, in the hope that they would be pleased with it and become subscribers. We are proud to be able to state that THE FARMER has made a very favorable impression wherever it has been read, and we have every reason to believe that its subscription list will be doubled before the year is out. Lancaster being one of the most populous and wealthy agricultural counties in the nation, this journal is a very desirable medium for those who wish to reach a thrifty class of farmers.

How To Paint

For $2.50 we will send "How to Paint," and two copies of Farmer one year, or one copy two years.

For $3 we will send this Book, The Farmer and The Weekly Express, for one year.

A New Work by a **Practical Painter,** designed for the use of **Tradesmen, Mechanics, Merchants, Farmers,** and as a Guide to **Professional Painters.** Containing a Plain Common-Sense Statement of the Methods employed by Painters to produce satisfactory results in **Plain** and **Fancy Painting** of every description, including **Formulas** for **Mixing Paint in Oil** or **Water,** Tools required, etc. This is just the Book needed by any person having anything to paint, and makes

"Every Man His Own Painter."

Full Directions for Using **White Lead—Lamp-Black—Green—Yellow—Brown—Whiting—Glue—Pumice Stone—Spirits of Turpentine—Oils—Varnishes—Furniture Varnish—Milk Paint—Preparing Kalsomine,** etc.

Paint for Outbuildings

—**Whitewash**—Paste for **Paper-Hanging**—**Hanging Paper**—**Graining** in **Oak, Maple, Rosewood, Black Walnut**—**Staining**—**Decalcomania**—**Making Rustic Pictures**—**Painting Flower-Stands**—**Rosewood Polish**—**Varnishing Furniture**—**Waxing Furniture**—**Cleaning Paint**—

Paint for Farming Tools

—for **Machinery**—**Household Fixtures,** etc.

To Paint a Farm Wagon

—to **Re-Varnish a Carriage**—to make **Plaster Casts.** The work is neatly printed, with illustrations wherever they can serve to make the subject plainer, and it will save **many times** its cost yearly. Every family should possess a copy. Price by mail, post-paid, $1. Address

THE FARMER,
Lancaster, Pa.

7—3—12m

A. K. SPURRIER,

ALDERMAN,

At Mayor's Office, Lancaster, Pa.

Criminal business promptly attended to at all hours.

SPECIAL ATTENTION paid to Civil Business. Collections carefully attended to, and returns promptly made, on reasonable terms.

DEEDS, JUDGMENTS and MORTGAGES

executed on short notice, and satisfaction guaranteed.

7-3-3m

1875. PRE-CENTENNNIAL. 1875.

Rathvon & Fisher,

PRACTICAL

Tailors and Clothiers,

CHEAP, FASHIONABLE AND DURABLE

CLOTHING AND TAILORING

ESTABLISHMENT,

Cor N. QUEEN and ORANGE STS.,

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ENGLISH WORSTED, TRICOT, GRANITE, CASTORS AND CASSIMERE COATINGS AND VESTINGS.

All the Fine and Common Grades of

English & American Pantaloonings and Vestings

SILK, VELVET, MERINO, CHALLEE, AND VALENTIA VESTINGS.

Plain and Figured.

Ready-made Clothing of home manufacture for Men and Boys. Hosiery, a full line of Shirts, Collars, Shams, and Neck Fixings, etc.

Clothing made to order promptly, and warranted to give satisfaction. Agents for the sale of Scott's Fashions.

Our stock consists of all the novelties in the market, for MEN and BOYS, and will be replenished as the season advances. For quality, variety, style and price, we feel it cannot be excelled elsewhere.

Thankful for past patronage, we would call the attention of buyers to our stock of Piece Goods and Ready-Made Clothing for the Spring of 1875.

Fashions received monthly, and Clothing made promptly to order, on the most satisfactory terms.

RATHVON & FISHER,

7-1-12m **Practical Tailors.**

The Only Place in Town for Cheap Soap.

HERMAN MILLER'S

STEAM SOAP AND CANDLE WORKS,

42 EAST KING ST. Factory—SOUTH WATER ST.

Keeps constantly on hand a good assortment of

SOAPS OF ALL KINDS.

Tallow and Fat taken in exchange at the highest market prices. Patent Wheel Grease for sale. [6m

7-2]

THE BEST RAG CARPETS

ARE MADE BY

THOS. W. BROWN,

(SUCCESSOR TO ED. BLICKENDERFER,)

COVERLET AND CARPET WEAVER.

STORE, 542 EAST KING ST.

FACTORY, 541 & 543 E. MIFFLIN ST.,

LANCASTER, PA.

7-1] CUSTOMER WORK A SPECIALTY. [3m

UTAH NATIVE PLANTS.

—o—

Our climate is so mild we seldom have snow in the valleys—but in midsummer may find snow and ice in a day's ride. The plants from the regions of the extremes of heat and cold meet here and hybridize; thus the many new plants—some very beautiful in bloom, and attractive as ornaments. Several new SPECIES have been discovered, and many more new varieties.

I will send plants or seeds, each in the proper season, for orders accompanied by the "ready," and in some instances will exchange for the rare and beautiful, for garden and conservatory.

J. E. JOHNSON.

7-3-tf St. George, Utah.

OUR FENCE CORNERS.

THE LANCASTER FARMER ABROAD.

THE LANCASTER FARMER is not only rapidly working its way into favor at home, but it is winning golden opinions from leading agriculturalists and men of science abroad, who are attracted to it by the well written and practically useful articles of its able editor, Prof. Rathvon. Indications already received by the publishers in the way of compliments, subscribers and advertisements for *The Farmer*, indicate that it could be sustained by patronage outside the county, even if our own farmers fail to appreciate it, of which the publishers have, however, no fears, as subscriptions from the county are steadily coming in. The following, culled from the many compliments of the agricultural press received, is from the *Maine Farmer* published at Augusta, of which S. L. Boardman is the agricultural editor. It is one of the leading and oldest agricultural newspapers in the country, being now in its forty-third year:

Among our exchanges, we have few that are more welcome or more closely conned than *The Lancaster Farmer*, published monthly at Lancaster, Pa., at $1.00 per year. While it is intended to be a local journal merely, it is at the same time so ably edited, so well filled with judicious and sensible matter, and so neatly printed and made up, as to be deserving of a wider circulation than it can possibly have in the county where published. Prof. S. S. Rathvon—a well-known writer on entomology, is editor.

The agricultural editor of the New York *Tribune*, who is not given to paying idle compliments, and from whom a word of commendation has great weight with farmers and fruit-growers, says:

"THE LANCASTER FARMER, a monthly journal published at Lancaster, Pa., and edited by Prof. S. S. Rathvon, starts on its seventh year in an enlarged and improved condition. It strives to develop local agricultural interests, *and should be well sustained.*"

Heading off a Congregation.

Old Dr. Strong, of Hartford, was not often outwitted by his people. On one occasion he had invited a young minister to preach for him who proved rather a dull speaker, and whose sermon was unusually long. The people became wearied, and as Dr. Strong lived near the bridge, about the time of the commencement of the afternoon service he saw his people flocking across the river to the other church. He readily understood that they feared they should hear the same young man in the afternoon. Gathering up his wits he said to the young minister: "My brother across the river is very feeble, and I know he will take it kindly to have you preach to his people, and if you will do so I will give you a note to him, and will be as much obliged to you as I would to have you preach for me, and I want you to preach the same sermon you preached to my people this morning." The young minister supposing this to be a commendation of his sermon, started off in good spirits, delivered his note and was invited to preach most cordially. He saw before him one-half of Dr. Strong's people, and they had to listen one hour and a half to the same dull, humdrum sermon they heard in the morning. They understood the joke, however, and said they would never undertake to run away from Dr. Strong again.

THE LANCASTER FARMER has abandoned its octavo form and comes to us in quarto style—something like the PRACTICAL FARMER. It is published by PEARSOL & GEIST, 22 S. Queen street, Lancaster, Pa., and is edited by that well-known Entomologist and talented writer, S. S. RATHVON. It is published under the auspices of the Lancaster County Agricultural and Horticultural Society. We should much rejoice in the prosperity of our valued cotemporary. It is ably edited and always abounds in valuable practical matter. It ought to have 2,000 subscribers in Lancaster county alone.—*The Practical Farmer and Journal of the Farm.*

A lisping genius, having bought some pigs, said to his neighbor: "I have juth been purthathing thome thwine—two thouth and pigth. I want to put them in your pen till I can find a plath for them." "Why," exclaimed the neighbor, "my pen will hardly hold a dozen!" "I don't thay two thoughthand pigth!" exclaimed the lisper. "I hear you, two thousand pigs; why, you must be crazy!" Again, exclaimed the man, angrily, "I mean not two thoughthand pigth, but two thouth and two pigth!" "Oh, eh? Well, the pen is at your service."

"My dear fellow," said an old member of Congress to a new one, "you work too hard on your speeches. I often prepare one in half an hour, and think nothing of it." "And that's just what everybody else thinks of it," was the reply.

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The Lancaster Farmer.

Prof. S. S. RATHVON, Editor. LANCASTER, PA., MARCH, 1875. Vol. VII. No. 3.

"FARMERS, WRITE FOR YOUR PAPER."

We have before us a large double folio on agriculture, called the *Farmers' Union*, published at Minneapolis, Minnesota, which has the above caption as its chief motto. It is not only a motto, but also an admonition, and to show how far it is regarded by its patrons, we have only to say that this number (February 10th) contains *fifty-five* original contributions from the same number of writers. *Twelve* at least of these writers are ladies, and about half a dozen are youths. Their contributions number from ten lines to a whole column or more, and they are on all sorts of subjects connected with agricultural, horticultural, domestic, statistical and social affairs, with a slight sprinkling of religious, scientific and political. Indeed, nearly the whole eight pages are taken up with original matter, and the small remainder with literary and miscellaneous selections and advertisements.

Minneapolis and its surroundings, in comparison with Lancaster city and county, is a new settlement, far removed from the great centres of eastern wealth and intelligence, and yet no journal has come under our observation that is patronized by so many contributors. It is true, that many of these contributions are of a common place or local character, and a few of them are purely discussional, but the greater number are practical, and would be suitable to any locality in the same degree of latitude. We have said that at least twelve of these writers were ladies, but from the fact that many of them only signed their initials, or the initials of their first name, we could not always determine the sex of the writers by the names alone, nor could it be always determined by the context.

This leads us to make a remark here that we think we have made elsewhere, namely, that lady writers should adopt a signature or pseudonym by which we might *know* their sex from the name alone. How can we tell whether J. E. Jones means Jane Elizabeth Jones, or Jedediah Eliphalet Jones?

Now, there must be some *reason* for the liberal literary support which these Minnesotians extend to their local journal. And it is not this journal alone, but all that are published in the western states have a more liberal support in this respect than those of the east, and especially those in Pennsylvania. Without intending to prejudice the case one way or the other, we would merely suggest that the "Patrons of Husbandry" are numerous in that locality, and, although it is not conspicuously apparent that this paper is the authorized organ of that association, still, all through its columns it smacks strongly of the *Grange*. People, however, who write liberally for newspapers and magazines are most likely readers of and subscribers to those publications, and if the Granges are capable of producing such an effect upon the social and intellectual condition of the people, they ought to be "looked into," for it would seem that they are not only "Patrons of Husbandry," but also *patrons of literature*.

We know not whether the Grange imposes obligations, or impresses instruction, involving moral and intellectual culture, or whether it is to the contrary; but if it *does*, it is only in harmony with those ideas of "compulsory education" which now are engaging the attention of local legislation in many parts of our country. If there is no such obligation *within* the order, it cannot be denied that such a one impliedly exists *outside* of it. When the Creator placed man in the Garden of Eden he was solemnly admonished to "*dress it and keep it*," and this involved both mental and physical labor. Had he heeded this admonition, and subordinated his sensual to his spiritual principle, there would not now be any need of such an organization as a Grange. The "one talent" which was committed to the slothful servant was taken from him—because he had "hidden it in a napkin"—and given to him that had "ten." If these examples do not involve moral and mental culture, then it would be difficult to impress such a precept by any demonstration less emphatic than the terrific "thundering of Sinai."

If, however, the facts above narrated are a merely ordinary manifestation of the people's love for literary exercises, then it exhibits a degree of social and intellectual culture that is a credit to any community where such a state of things exists, and cannot be too soon adopted by older settlements.

We can conceive no greater aid to the moral and intellectual progress of our farming population than the devotion of a small portion of their time to the cultivation of their minds. This ought to be done, without leaving their physical labors undone. Of what account are houses, and barns, and lands alone, in that hour when—"This night thy soul shall be required of thee—" is sounded in delinquent ears?

"*Farmers, write for your paper.*"

SPARROWS—FINCHES.

There are about one hundred species of birds belonging to the family *Fringillidæ*, or Finches, that are natives to the territory of the United States, descriptions of which have been published in books and papers on *Ornithology*. The reader will note that we have said *one hundred species*. Scattered over our broad land, each of these species may be counted by thousands, if not by tens of thousands, and perhaps hundreds of thousands, or millions. About forty of these species are either natives to Lancaster county or make short sojourns here on their passage farther north—at least that is the number that have been captured or observed within the limits of the county. Many of these species nest, lay their eggs and raise from one to two broods of young during the summer season. These birds are known under the common names of Sparrows, Finches, Buntings, &c., and occupy a very important position in the economy of nature. Every female of these species rears its broods of from four to six individuals, on worms and the softer *larvæ* of insects—such as grubs, slugs, maggots, caterpillars, &c., and therefore must exercise an immense influence upon the growing crops of the entire country. No matter what the adult birds may feed on, they bring up their little families entirely on insect food, and they commence gathering early in the spring, long before any fruits or seeds have matured. Later in the season the adult birds will feed upon berries, seeds and grain, but the damage they do is incomparably small when contrasted with the good they do in the early part of the season. Buffon long ago estimated that a single family of sparrows will consume about four thousand insect *larvæ* in a week, and subsequent writers have made the estimate rather higher than lower. The damage that four thousand *larvæ* a week might do to the vegetation within the limit of a single family of sparrows, if said insects were permitted to mature and deposit their eggs, is almost incalculable. We are now alluding to sparrows or finches, exclusively. There are hundreds of other birds that feed entirely on small insects, insects' eggs and maggots, throughout the whole season, but their scavenging labors can only be illustrated in a separate paper; we are now speaking of the Fringillians as a family alone. Within the last three years the "English Sparrow," (*Passer domestica*) has been introduced into America, and is increasing rapidly.

It is a bold, impudent and greedy bird, and before many years will have completely superseded and displaced our most familiar and domestic species (*Spizella socialis*). Complaints are made in some quarters that these birds are appropriating the "small fruits," but these croakers never reflect that if it were not for these birds, and others of their family, in the early part of the season, they might have no fruit to be eaten by birds or any other beings.

These birds, like our native allied species, are always on the verge of domestic civilization, and wherever man erects for himself a domicile in the wilderness, it will not be long before they find it. It is said that this peculiarity is not so much attributable to their love for man (for with all their familiarity they are still distrustful) as it is to their self-preservative prudence. Near human society they are more protected against their feathered and other animal enemies, find a more abundant supply of food, and have safer nesting facilities. Hence, their very boldness is a characteristic that enhances their value, and stamps them as superior to birds of more timid and retired habits. We want a class of feathered friends that will go where the insects *are*, and as civilization and domestic culture increases the quantity and quality of food that insects most delight to feed on, there also the antidote should most abound, and this will follow, if we allow nature's economies to prevail.

Lancaster county is fast becoming populated with these English sparrows, and up to the first of January 1875, we noticed many of them in the city—the streets were full of them and they almost approached to the doors of houses, in search of those tiny morsels that only a sparrow can see, and which are of no value at all to the human family. Since the first of January they are not so common, and no doubt many of them have retired a little farther southward. There is precious little for them to feed upon when the ground is covered with snow. A few seeds and winter berries is all these little feathered friends can find to break their winter fasts, and surely we can afford them these. But when spring returns these, and the whole local tribe, will be here again to begin their mission of good. Taking them for all in all, we cannot withhold our testimony and our sympathies in behalf of the sparrows, either foreign or native, and we hope others may be influenced in like manner.

ENTOMOLOGICAL.

Late in the Fall of 1874 (sometime in Nov.) we observed on the inside of the door of our water-closet the naked chrysalid of a *Pieris rapæ*, or "White cabbage Butterfly." *There* it has hung all this blessed winter, and up to the present writing (March 10th) through all kinds of weather, from an intense freeze to a gentle thaw, without apparent injury. The closet is a new one, built of new pine boards, and painted without and within; a naked, hard painted surface, and not a very favorable place, apparently, for an insect of any kind to make its winter quarters. The cold has been protracted and severe, and often the whole of the inside of the closet was covered with a dense and glittering hoar frost, and wherever a nail head or a clinched point lay under the coat of paint, the frost projected out in a chrystalized relief, farther and more densely than the surrounding surface. For more than three months we have daily had this little chrysalid before our eyes, and have watched it with interest, and here is the singular observation we have made. No matter how intense this cold may have been (on one occasion it was six degrees below zero, once two, several times at zero, and at other times more or less above) and no matter how dense and glittering the frost may have been elsewhere,

we never at any time discovered any on the chrysalid. This leads us to the conjectural conclusion that at no time had it been frozen—that it always possessed sufficient latent heat to protect it from the effects of frost. And this recalls analogous observations made many years ago in collecting chrysalids in Winter. We have often found chrysalids under the loose bark of decaying logs and trees, under boards and flat stones and in other similar places. Some of these we found clean and smooth, and others perfectly gemmed all over with hoar frost, standing in needle-like crystals. Those covered with frost generally, if not invariably, proved to be dead, whilst from the others we succeeded in evolving the mature insects. At first we supposed these casualties were the effects of subjecting them subsequently to unfavorable conditions, or to some inadvertent violence. But we manipulated them delicately, and all the conditions were in both cases the same. Therefore it would seem that hybernating insects possess a latent power to resist the effects of cold. We have also had this in many instances exemplified in the *larvæ* of moths, especially in the hairy caterpillars of the common arctians, sometimes called "woolly bears." We have obtained these in Winter perfectly rigid, apparently frozen, and on several occasions we have cut them out of ice in that condition, and on removing them to a temperature of about 70° they have in an hour or two revived and become as active as we find them in mid-summer. These experiences seem to manifest that there is a vital principle in insects that is not affected by any ordinary degree of frost, and that when they are found dead under such circumstances they must have suffered previous violence, or have lived out the natural measure of their days. We have, however, observed that subjecting *larvæ* and *pupæ* to alternations of heat and cold has been fatal to the vital principles in them. We have also observed in many instances that *moisture* has been more fatal to them than any degree of dry cold.

We have on many occasions found large numbers of insects in their Winter hybernations, some of which were covered with a bluish or greenish *fungus* or mould, whilst others in the same place were entirely free from it. Under these circumstances those covered with mould were invariably dead, whilst those free from it revived when the proper degree of heat prevailed. From all this it must be inferred that insects are endowed with a tenacity which enables them to resist unfavorable climatic contingencies, and perpetuate their species in another season.

The practical lesson, however, we desire to inculcate in this paper is the necessity of attending to the collection and destruction of insect chrysalids during Winter and early Spring, and especially in the case of the "Cabbage Butterfly," the parent of the "green worm." These may be found in many nooks and corners of the field, the garden, and the outhouses of the farmer and the townsman, and ought to be removed before the swelling of the buds. The pendent follicles of the "Dropworm," too, may now be seen on the trees, dangling in the Winter winds. These worms are particularly destructive to the arbor-vitæ. These should be cut off during the month of March, with a sharp knife or a pair of pruning shears, instruments that no progressive horticulturist will do without. Those out of arm reach may be cut off by shears affixed to the end of a pole and manipulated with a cord. Those girdles of eggs of the "Tent Caterpillars" around the branches should also be removed and destroyed. In the crotches of apple, pear, plum, peach and quince trees, groups of eggs—and a little later in the season young caterpillars—of the Spring and Summer "Webworms," should receive the close attention of the fruit-grower if he wishes to preserve his fruit and save a world of labor later in the season.

We would also call the special attention of potato-growers to the early broods of the "Colorado beetle." Last year they showed themselves during the mild weather of February, but March being uniformly cold they disappeared, and reappeared in April. They should receive early attention in all quarters. It has been clearly demonstrated that, although they are partial to the potato, in the absence of this they will feed on many other kinds of vegetable food, so that it will be difficult to "starve them out." These labors may seem a "useless botheration" to the farmer, but a time is approaching when more attention to these things will be required than is paid to them now. It is true that birds, bats, quadrupeds, reptiles and parasitic insects will assist them much more than they receive credit for, but then these animals only destroy as many as they *need* for their own sustenance. Their own instinctive economy—and without any regard to human economy—influences them in the amount of aliment they appropriate to their own use. They do not destroy wantonly.

UTILIZING POTATO-BEETLES AND GRASSHOPPERS.

In finding remedies against destructive insects, a great deal of thought, ingenuity and labor, as well as much precious time, are often exercised in vain. Now, if we could hit upon some plan by which the worst and most numerous among them could be utilized, so far as to yield a profit, or at least a compensation for the damage they do, it might transpire that their presence in large numbers would be a blessing instead of a curse. It is on record that in France, when the "white-grubs" become distructively numerous, they are gathered by poor people, and especially by children, who are compensated for their labor, and that said grubs (larvæ of MELOLONTHIDÆ) furnish the oily ingredient in the manufacture of soap. In Mexico, the "Cochineal-insect" (*Coccus cacti*) is gathered and exported in large quantities, and yields a well known scarlet and crimson dye—the cactus on which they feed being cultivated or fostered for that specific purpose. We have now before us a beautiful, clear, wine-red color, which we have extracted from "Cockroaches," (*Blatta orientalis,*) which may also be suggestive. If, therefore, the "Colorado Potato-Beetles" could be so far utilized as to yield as much, pecuniarily, as the potato crops which they destroy, the farmer might afford to grow and crop the plant for this purpose alone, and gather the beetles as they gather the cochineal. They probably would yield a yellow dye, or at least sufficient oily matter to make a soap. If peradventure the plants should also yield tubers, this would be an additional profit.

We have here in Lancaster county at least four other species of potato-beetles, which belong to the family CANTHARIDÆ or "Blistering-Beetles," and it has been demonstrated that their vesicatorial or blistering properties are nearly or quite as powerful as those we import from Spain under the name of "Spanish-flies." There are many species of these blistering-beetles within the territory of the United States. California, New Mexico, and the great western plains are full of them, some of which approach the Spanish species more nearly than our local species do. These beetles seem to be omniverous in their gastronomical habits, and feed on different kinds of succulent vegetation, but they appear to have a partiality for the tops of the potato plant. We have noticed them in Lancaster county for thirty years or more, and by a singular coincidence one of them has always been known as the "Striped Potato-Beetle." The least observation, however, is sufficient to distinguish it from the Colorado species. Any confounding of the two could only be the result of a greater degree of ignorance than ought to be evinced by any one claiming to be an American farmer. The Colorado beetle (*Doryphora tenlineata*) is short, convexed, tortoised-shaped, and has ten lines lengthwise on its wing-covers, as its specific name implies. It belongs to the "lady-bird" family (CHRYSOMELIDÆ,) whilst the other species alluded to (*Lytta Vittata*) has only four stripes on its wing-covers, and is long, narrow, or cylindrical in form.

The *Vittata* is more numerous and more destructive to the potato tops than its congeners, one of which is entirely a silky black (*Lytta atrata,*) another entirely ash-colored (*Lytta cinerea,*) and a third has black wing-covers, margined with ash, (*Lytta marginata.*)

We often impatiently ask why it is that all these noxious insects have been created only as pests of the human family. Time may demonstrate that it is not wise to ask such a question, except as a step towards its solution. Ever since the foundation of the American government, or perhaps ever since the discovery of the continent, we have been importing "Spanish-flies" for medicinal purposes, whilst here at our very doors, or at least in some smitten localities, a vesicatorial or blistering insect may be gathered by bushels. Do not these things suggest what may ultimately be the remedy for the circumvention or destruction of these noxious denizens of the insect world? There *must be a use in them*, and the line of our investigations is to find out and apply that use.

A third species of "*Striped* Potato-Beetle," one also belonging to the same family that the *Colorado* species does, (CHRYSOMELIDA,) but not so large and convexed as that more notorious species, is the little "Three-Lined Potato-Beetle" (*Lema trilineata*) which sometimes sorely infests the potatoes, especially in the border States. Like the Colorado, both the larvæ and adult beetles feed on the tops of the potato plant, but, unlike the former, the pupal transformation takes place on the leaf, instead of under ground, and the winter hybernation is passed in the beetle state. The larvæ of this species have the dirty habit of casting their excretions up on their backs, where it is held upon two filaments growing out of the hind end and thrown forward, forming a sort of canopy, supposed to protect them from the hot rays of the sun, or from their enemies. It would be difficult to suggest what *use* could be made of these insects in human economy. They do not seem to possess fatty matter enough to make soap, and any other use still remains undeveloped.

As to grasshoppers, mark the distress their ravages have caused in poor, suffering Kansas, and elsewhere. What assurance have we that they may not be as destructive there, or elsewhere, next season? and the question very naturally arises, "What are we going to do about it?" They make their appearance in such immense numbers that nothing has yet been discovered to arrest, or even check, their progress, and the prospects before the infested districts is anything but hopeful and promising. It is true, there may be a cessation for a year or two, or even longer, but periodically they are likely to appear, just as they have appeared these many years, in some portion or other of the great west. It is not yet four hundred years since the continent of America was first discovered by Columbus, and since that time we have accustomed ourselves to eat turtles, terrapins, frogs, lizards, oysters, clams, crabs, lobsters, prawns, shrimps, and other hopping, creeping and squirming things; and who can say that long before we celebrate the thousandth anniversary of said discovery, we may not be luxuriating on grasshoppers. From whatever source, either "good, bad or indifferent," grasshoppers may have come, they must have been, as we said before, permitted for some *use*, and that use it is the business of the human family to discover and apply. There is no prospective relief in unceasingly regarding their presence as a calamity, but much consolation in endeavoring to convert them into a blessing. Think you the Parisians, during the siege, near the close of the Franco-Prussian war, would have long hesitated what to do, had a shower of grasshoppers fallen upon their devoted city, while they were reduced to dog-pie, cat-stew, monkey-hash, mule-soup, and fricaseed rats? Would they not, like the Israelites in the wilderness, have regarded such an event as *manna* falling from heaven for their special relief?

The "Digger Indians" of California have been feasting on grasshoppers, perhaps for

centuries, and feast on them still. A friend of ours who visited their camp, and not only witnessed their preparation of these insects, but also tasted of them, bears testimony that even with their imperfect culinary skill, the dish was not ill-flavored or unpalatable. Destructive as the African and East Indian locusts are (*Locusta migratoria*) their presence in many places is considered more of a blessing than a curse, for they freely eat them. The western grasshoppers and the eastern locusts belong to the same great family (*Locustadæ*) in the order *Orthoptera*.

We are not by any means recommending them as proper food for man, but it is more than probable that by the time we celebrate the half decade of centuries since the discovery of America, the Colorado grasshopper (*Caloptenus spretus*) may be as welcome to the table of the epicure, as lobsters, frogs and turtles now are.

Snakes, toads, frogs, turtles, lizards, salamanders and newts, all belong to the great cold-blooded class *Herpetology*, and human gastronomy has selected from these some of its greatest delicacies. It is true that there are some people who could no more be persuaded to partake of any of these animals as food, than they could of the filthy contents of a cesspool, but these are only commiserated by the initiated. What is there about a dish of grasshoppers that is less inviting than a dish of shrimps? They feed on green and succulent vegetation, and so do the domestic animals that we freely use as food, and they are far more fastidious in their tastes than a chicken or a pig. As civilization extends and expands itself, and the ground is brought under a state of higher cultivation, grasshoppers and other insects will also extend and increase themselves, and there seems no better remedy than to invent means to capture them and then to use them for food, or in the arts.

Grasshopper pies could not well be more unwholesome than many of the mince-pies that find their way into the human stomach, and hashed grasshoppers, properly prepared, might be more digestable than much of the hash now made of tough and sinewy beef. But even if they should not ultimately be adopted as human food, there might be a virtue in them as food for farm stock. Pigs and chickens, as well as turkeys, are exceedingly fond of them, even in their raw state, and boiled with a little salt, and mixed with chopped feed, they might be made more toothsome to animals.

It is true, that these are merely suggestions, but in view of the vast changes going on in the physical world, there is no man who can say that these things may never come to pass. They are not more remarkable than what is going on daily. Forty years ago the tomato was regarded as poisonous. To-day it is the leading culinary preparation of the country.

PEAR SLUGS.

A blackish, slimy "slug" often occurs on the leaves of the pear, the apple, the quince, the plum, the cherry and (a greenish one) on the rose. These are the *larvæ* of species of "Saw-flies," belonging to the genus *Selandria*, and may be referred to the species *pyri*, *mali*, *cydoni*, *prumi*, *cerasi* and *rosæ*; and if one is found on the peach, it would probably be a *persica*. These fruits and flowers, it will be observed, all belong to some *order* in the division ROSACEÆ. It is not absolutely known that these insects are all distinct species from the mere fact that they infest the different trees above named; indeed it is more than probable that those that infest the apple, the pear and the quince are specifically the same.

Notwithstanding these insects all belong to one of the "first families" in the order HYMENOPTERA, (membrane-winged insects) they are all slimy, disgusting slugs, and all skeletonize the leaves of the trees, leaving them as dry and as crisp as if they had been scorched with firebrands, and when the *parenchyma* or cellular tissue of the leaves is once destroyed, it is, for that season, almost equivalent to the destruction of the lungs of a breathing animal. These insects usually produce two broods in a season, the last brood remaining in the ground all Winter in the *pupa* state. The saw-flies issue forth from the ground in the warm days of Spring, from the beginning of April to the beginning of May, earlier or later according to the advanced or retarded state of the season. They are then four-winged flies, of a blackish color, and from ⅛ to ¼ of an inch in length. The wings do not lie flat on the back like those of the common house-fly, but are bent downward along the body, and meet in an obtuse angle on top. The head is distinct, the *thorax* or mid-body moderately large, and the hind-body somewhat tapering towards the end. The *antennæ* are short, and seem to come out from the middle of the head in front, divergent, and somewhat thickened at the ends. Some of the species have an orange-colored collar, but those that infest the rose are entirely black, the wings in none of them being as black as the body, which is a glossy black. The *slugs* might be very easily mistaken for snails, in the species that infest the apple, pear, plum and quince, but those infesting the rose are green, and less slimy and repulsive than their congeners. Another group of sawflies, in their *larvæ* state, infest the leaves of the elm, the beech, the currant, the gooseberry, the strawberry and other plants. These are called "false caterpillars," and it is not easy to distinguish them from the true caterpillars, without close observation and some practical knowledge of these distinctions. Some of the flies from these are very pretty, and usually are larger, brighter and more variegated than the former. All, however, are noxious, and if destroyed at all, it must be while they are feeding on the leaves of vegetation, otherwise they might never be recognized or identified as enemies. Where a person has only a few dwarfs or a few rose bushes under cultivation, by using a little vigilant industry, it would not be very difficult to get rid of these slugs and false caterpillars; but where large trees or large enclosures of trees are infested, the task might well be regarded as hopelessly beyond remedy. But these insects are not as tenacious as the Colorado potato-beetles, and therefore they will succumb to applications that would not affect the former. We never applied anything to our roses, but depended upon handpicking alone, and we finally conquered them. After we identified the *fly* and made a note of its season, the work was more than half accomplished. We visited the rose bushes in the cool of mornings and evenings, and destroyed dozens of them at each visit. During the warmest part of the day they are usually too active to allow themselves to be captured unless the weather should happen to be unusually cool. But even if we have captured and destroyed all the flies we have seen, some will have eluded our vigilance, and during the intervals between our visits will have deposited their eggs on the rose leaves. These they place on the under side, near the edges. The young slugs are very small, green as the leaf in color, and usually are found on the lower sides of the leaves, but when they grow larger they also attack the upper sides, and soon convert them into parched skeletons. Now, a vigorous and continuous crushing process must be carried on. By doubling a leaf together this can be done with thumb and finger, but a small pair of wooden forceps with flattened nozzles is much better. In the absence of these manual efforts recourse must be had to whale oil or carbolic soap solutions, tobacco decoctions, white powdered hellebore, quick-lime, gas-lime, unleached wood ashes or pulverized tobacco. As the insects are similar in their habits, these manipulations and applications will be more or less suitable to each.

Whether the mouldy, scruffy, and cracked conditions of apples and pears can be traced immediately to the presence of these "slimy slugs" is more than we can positively affirm. It is very certain that the leaves of a tree perform a very important function in its physiological economy, their absence stunting it, weakening its growth and deteriorating its fruit, illustrating that in the vegetable kingdom as well as in the animal, "when one member suffers the whole body suffers."

As soon as we feel ourselves pecuniarily justified in procuring illustrations, we will publish more detailed histories of these insects in separate papers. This much we feel called upon to publish now, in deference to the inquiries made at the February meeting of the Agricultural and Horticultural Society. In the mean time we would admonish our readers to communicate to us their personal observations and experiences, according to the suggestions made in our January number, under the title "Entomological."

PARIS GREEN.

ITS POISONOUS QUALITIES—DO THEY MAKE THE SOIL POISONOUS?—ARE THEY TAKEN UP INTO PLANTS SO AS TO MAKE THEM UNWHOLESOME?—IMPORTANCE OF THESE QUESTIONS.

I have for some time intended to write an article for the *Evening Post* upon the use of Paris green (arseniate of copper) for the destruction of insects upon potatoes, and other like purposes.

The recent death of two persons from the accidental swallowing of a very minute dose of this poison, and also some investigations of my own, have induced me at this time to carry out my intention. I am aware that it has been reported as coming from high authority that there is no danger from such uses of the poison; but in conversation with one of the best chemists in the country, Prof. G. A. Marriner, of this city, I find that he very much doubts the fact whether any such extended observations as should be required before coming to a conclusion upon a subject of such grave importance have ever been made by competent persons. Be this as it may, I will venture to hope that this article will bring out, through the public press, the actual state of the case, so that we may know whether we are or are not pretty sure of poisoning the plants to which the arsenic green is directly applied, and of endangering from this course some, if not all, of the future crops from the land.

The so-called Paris green, which is sold to the farmers, is more or less adulterated, according to our observation, mainly with white arsenic (arsenious acid,) or "ratsbane," as it is frequently called. This adulteration is, however, not more poisonous than the green in its pure state. Arsenic is used in the arts for glass-staining, dyeing, and as the basis of several green and yellow paints. It is used by quacks of all kinds, such as the so-called "cancer doctors" and farriers. "Well-informed veterinaries," says Prof. Tuson, "however, generally discard it from their list of remedies." "The reason for this," he continues, "is that we cannot control its action, and often a most extensive and painful wound is caused by it."

We ourselves have seen a case where it was applied to a small tumor on the upper lip of a man, by a cancer doctor, in which both lips were destroyed in a very few days, and a considerable portion of both the upper and under jaws laid bare, causing the most terrible suffering, as well as a fearfully horrible wound. We have also seen the nose of a poor horse eaten away in the same manner with this poison.

For the observed facts of its effects upon vegetables, etc., we are mainly indebted to Prof. Tuson, of King's College, London. He says that arsenic has been employed as a steep for seed wheat, to prevent smut, and that M. Andouard states that he has detected traces of arsenic in the crops raised from seed wheat thus treated. If so small an amount of the poison can so affect the soil as to be taken up by the wheat crop, what must be the result where it is used in many hundred times the proportion, as where it is scattered over fields of potatoes, and for successive years even. We shall do well to remember that arsenic remains arsenic forever, and suffers no change or loss of its poisonous properties during the lapse of years, or in whatever combinations it may enter. Both Dr. Edmund Davy and Prof. Tuson join in warning the public against the poisonous effects of arsenic, in so small a quantity as is found in "crude superphosphate of lime" used as a manure.

Davy positively states that arsenic, as it exists in artificial manures, is taken up by growing plants. He found cabbages and turnips giving unmistakable evidence of being arseniated.

"These facts," says Tuson, "have important bearings; for though the quantity of arsenic which occurs in such manures is not large when compared with their other ingredients, and the proportion of that poison added to the soil must be very small, still plants during their growth, as in the case of the alkaline and earthy salts, take up a considerable quantity of this substance."

"Further, as arsenic is well known to accumulate in soils, the effects after a time will probably be that vegetables thus manured will ultimately be found to contain arsenic, and will endanger the lives of men and animals."

"Our experiments," he concludes, "very carefully

performed, confirm the assertions of Audouard and Davy."

If the small amount of arsenic that can be introduced into the soil in the manner noticed above is considered so dangerous by these eminent observers, what must be the gravity of the case, as we have before said, where it is sowed broadcast over the field?

The mere dust of Paris green falling from the walls of papered rooms will destroy health and life: how much will it contribute to the health of the farmer and his family, and to their domestic animals, to live and work in an atmosphere filled with this dust, as it must often be when it is set in motion by the wind?

If animals are not directly killed by it, as is the case in some varieties, may not their flesh, as that of domestic fowls, be rendered poisonous as an article of human food? Individuals within our own knowledge have been poisoned by eating the flesh of the New England partridge, which was due to the bird having fed upon some poisonous berries. Similar cases, the cause of which has never been suspected, may have come from the source indicated above.

We have now for microscopic examination a portion of human flesh, taken from the body of one member of a family, the whole of which perished from eating poisoned meat. This specimen was received through the politeness of Dr. Murray, of the town of Flint, Michigan. A case of arsenic poisoning, involving some of the principles described above, was brought to our notice yesterday. These causes are almost every day occurring, and it would seem as if it had become the duty of every one who has any knowledge upon the subject to give it to the public.—R.U. PIPER, 64 Centre Avenue, Chicago.

We publish the above (from the *New York Evening Post*) not because we indorse it, but because the question involved in it was suggested at the February meeting of the "Lancaster County Agricultural and Horticultural Society," and we desire to keep our readers thoroughly posted on the subject, both pro and con.

There is no doubt about *Paris Green* being a rank poison—indeed, if it was less than this it could have little or no effect upon such an injurious insect as the potato-beetle, or perhaps any other insect; for, be it known that all antidotes against noxious insects must necessarily be poisons, at least to them, or we could not reasonably expect any benefit from their use. But that Paris Green or any other mineral poison imparts its virulent qualities to the soil, in sufficient quantities to render its products unfit for edible use by man or animal, is not borne out by the experience of those who have thoroughly tested it for the past seven years in this country; and the opinion is fast gaining ground that it is the only *reliable* remedy that has yet been discovered, and that when it fails, it is either owing to the inferior quality of the poison or to its unskilled application. *Facts* should always have greater weight than mere speculation, especially when those facts are the result of actual experiment. Paris Green has been partially used for one or two seasons in Lancaster county, and we believe no case has yet occurred in which the potato tubers have been poisoned thereby. In support of its use we quote from a pamphlet recently issued by RAYNOLDS & CO., 106 & 108 Fulton street, New York:

IT CANNOT POISON THE SOIL.

"Fears have been expressed that the soil becoming impregnated with Paris Green, potatoes and other plants will necessarily absorb it and partake of its poisonous qualities. If this were so, it would be a valid argument against its use; but it is an *insoluble salt*, and therefore it is quite impossible for plants to take it up (or absorb it) by capillary action. The fact that many hundred tons of Paris Green have been used in the West during the past four years, and there has been no instance of poisoning caused by eating the potatoes, should be sufficient to convince the most skeptical and set the matter at rest. We have to thank Dr. Stiles Kennedy, of St. Louis Springs, Michigan, for his voluntary testimony on this point, which we quote from his letter, published in the *Evening Post* of January 7th, as follows:

"'In the section of country where I live, it is utterly impossible to raise potatoes without the use of Paris Green. Everybody uses it, and everybody eats potatoes, but during the four years mentioned I have not heard of any case of poisoning from eating the vegetable.'"

WILL NOT INJURE THE PLANT OR POTATO.

Others, again, while freely admitting that Paris Green is perfectly innoxious as far as poisoning the plant of the potato is concerned, have entertained the opinion that it injured or in some way retarded the growth of the one, and vitiated the quality of the other. Experience, however, has abundantly proved the opinion to be without foundation. Professor CHAS. V. RILEY, State Entomologist of Missouri, in his fourth annual report, referring to Paris Green, says: "Properly mixed, I have used it without the slightest trace of evil on the leaves or tubers; and I know hundreds of others who have done likewise, so that with present experience I should not hesitate to recommend its judicious use." In this connection we take occasion to acknowledge our indebtedness to Prof. Riley's able reports for much valuable information. We also refer to the testimony of the same high authority to Paris Green as "THE remedy for the Colorado potato-beetle."

MODES OF APPLICATION.

In its application the Western farmers generally use Paris Green *dry*, and as it is a highly concentrated poison it is necessary to mix it with some other substance, such as flour, plaster or ashes, in proportion varying with the strength of the green, and thus reducing its cost. We give the preference to flour as a vehicle, as, combining with the dew on the plant, it forms a paste which adheres with greater tenacity than either plaster or ashes. Another mode is by mixing with water, say a tablespoonful of green to a pail of water. This is in some respects a convenient way, and has the advantage of being free from dust; it can also be used at any time of day. It has some disadvantages, however. 1st. As the green is not soluble—though it quickly gives a green tint to the water when stirred—it soon settles to the bottom, and needs continued agitation to keep it in suspension. 2nd. *It settles in spots on the leaves*, the natural tendency of water in finding its level being to carry and concentrate in wherever a drop finds rest, and evaporates. 3d. Much of it is wasted on the ground in sprinkling. Experience will of course demonstrate which is the better plan, assisted, perhaps, also by local circumstances.

APPARATUS FOR APPLYING.

When used *dry*, the best apparatus is either a fine sieve or a perforated tin box, which can be obtained of any size desired. We prefer the box as less liable to allow the escape of dust, but whichever is used it should be attached to a handle or stick from eight to ten feet long. Either is used by gently shaking over the plants, taking care to walk windward, so as to avoid any dust that may arise. It should be applied in the morning, when the dew is on the vines. When mixed with water it is usually applied by means of an ordinary watering pot, or sprinkled on the vines with a broom, taking care to keep it well stirred.

In addition to this we would suggest that the handle need not be more than about six feet in length, and that it be set into the side of the box at an angle. Holding it over the plant infested and striking on the handle with a muffled billet of wood or a small mallet, will enable the operator to cause the discharge of the quantity from the box that each particular case requires. This will be more economical, prevent the loss of dust from shaking, and discharge the green just at the place where it is most needed, the more that falls directly *on the insects* the surer the effect.

ALL SHOULD KNOW ITS POISONOUS NATURE.

Appreciating the danger arising from ignorance of the deadly nature of Paris Green, and to guard against carelessness in handling it, the firm whose pamphlet we have been consulting, have all their packages conspicuously labeled POISON. And as further protection they published the following:

PRECAUTION IN THE USE OF PARIS GREEN.

There is great danger in mixing this green for the potato-beetle and cotton worm, owing to the fine dust which arises in the process, which is inhaled, and is rapidly absorbed by the pores of the skin, especially if the person using it should be in a state of perspiration. To guard against this, the hands and face (particularly the nostrils) should be protected as much as possible, and should be carefully washed after working in it, or in any of the preparations of which it is an ingredient, as it penetrates and poisons WOOD—gets into the seams and crevices of articles made of metal—and even in earthenware that is porous; therefore, ALL HOUSEHOLD UTENSILS, OR ANYTHING IN BARN OR STABLE (which cattle and horses could have access to) in which the article may have been mixed, or from which it has been used, should be carefully set aside, and NEVER USED FOR ANY OTHER PURPOSE.

Malignant sores are not unfrequently caused by scratching the skin when itching, or irritated from handling the green. It should be constantly borne in mind that it is a more dangerous and deadly poison than arsenic; and farmers, planters and others, when purchasing, should be duly cautioned to exercise the utmost care in using it.

AS A CURE OF THE POISON

the free use of milk as a beverage is recommended, but a simple and harmless remedy may be found in *Hydrated per-oxide of Iron*, as the best, according to the pamphlet we are following. Sores caused by the green should be well covered with it, as with an ordinary salve, and a teaspoonful in a wine glass of water should be taken twice a day, internally, whilst working with the green. This remedy can be obtained from any druggist or chemist. In conclusion, it is alleged that *color is no sure criterion of the strength or purity of Paris Green*. A highly adulterated article may be made to assume a deep and handsome color by the admixture of cheap chrome green.

The farmer must therefore depend upon the *integrity of the dealer* in buying. The intensity of color is said to depend upon the size of the *crystals* and not upon the quality of the poison; therefore, the deeper the color the larger the *crystals*, which will not mix as readily and intimately with flour, and is consequently liable to be washed off the plant. The better plan for farmers would be to buy the Paris Green ready prepared for use, and from a responsible dealer. Although the name of this poison may never have been heard by many of our readers before the advent of the potato-beetle, yet it is by no means a new substance. It is a compound of arsenic and copper, and under the name of "Scheele's green," has been long in use as a pigment in printing wall-paper, calico, &c., and in the manufacture of wax and other artificial flowers. These facts have long been known, and yet people still continue to use green wall paper; ladies still wear green calico dresses; manufacture green artificials, and burn green wax-candles. *Arsenious acid*, the most poisonous ingredient in the compound of Paris Green, has been eaten in small quantities by the inhabitants of some parts of Germany, and has the effect of making them plump in body and sustains their breathing powers in the act of climbing hills, and other exercises.

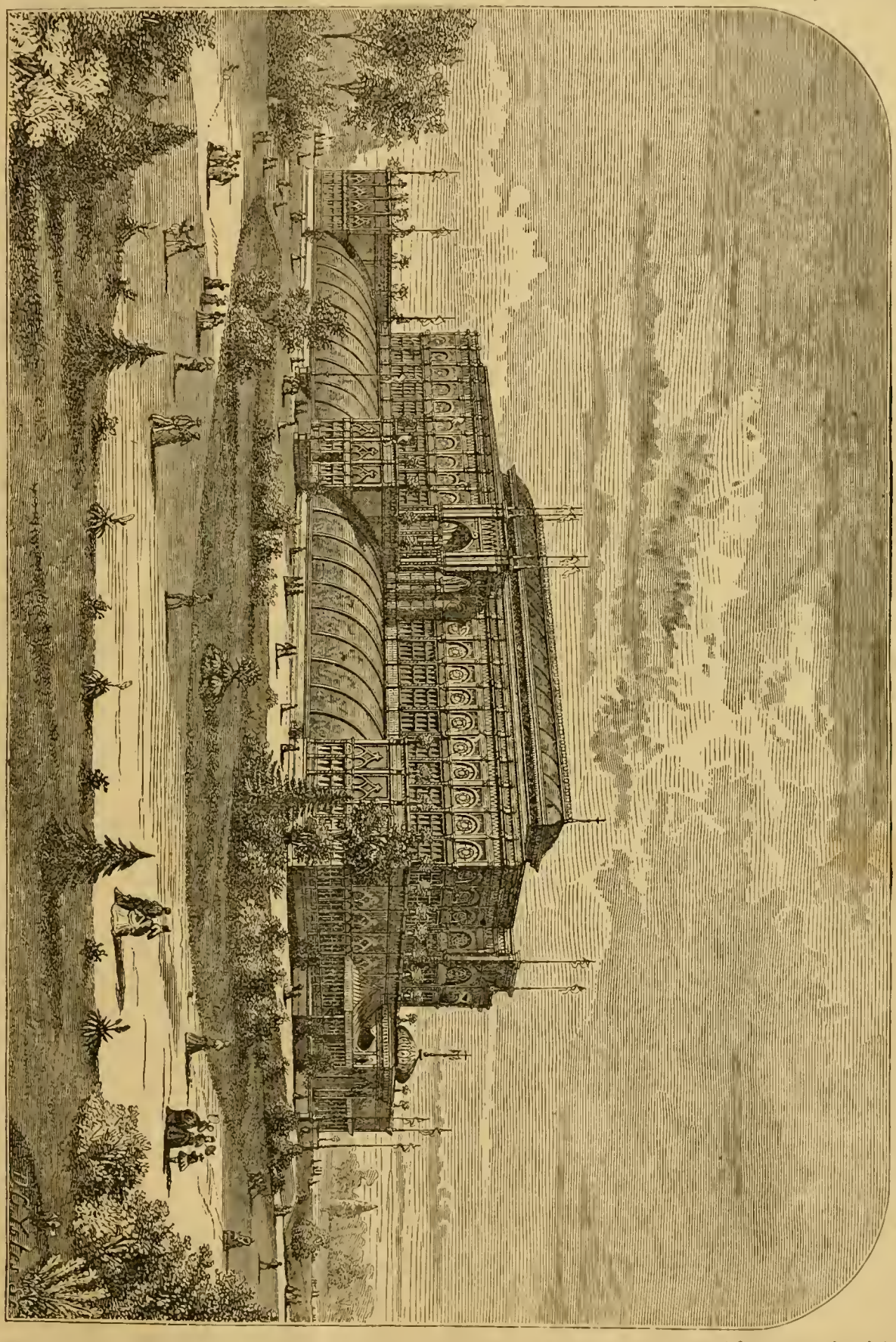
Its use for this purpose is, however, not to be recommended, as when the habit is once contracted it cannot be discontinued without subjecting the victim of it to all the symptoms of arsenical poisoning. It is sometimes also given to horses, and produces a sleekness of skin not attainable by any other means. The English farmers use it extensively as a sheep-wash, and as a steep for seed wheat it is also often employed. Indeed, it is used for many domestic and medicinal purposes, and, like many other substances, is "a good servant but a bad master;" and those who have not the intelligent capacity to subordinate it to their use, had better let it and Paris Green alone and do without potatoes.

Finally, whatever plants and tubers may absorb from the soil in which they grow, and thus enter into their composition, there is thus far no evidence in support of the notion that potatoes are poisoned by the use of Paris Green, and as soon as such a case comes under our observation we will publish it.

OUR NATIONAL CENTENNIAL.

The Horticultural Hall.

The Horticultural Hall of the great Centennial International Exhibition of 1876, of which our illustration gives a beautiful perspective view of the structure, was designed by Mr. H. J. Schwarzmann, and will be one of the most pleasing and graceful of the Centennial buildings. It will be constructed of glass and iron, will be 310 feet in length by 160 feet in width, affording an area of about one acre and a quarter. The central portion of the building will be occupied by the Grand Conservatory, 227 by 77 feet, and between this and the outer frame will be the Warm and Cold Houses on either side. At the ends, on the right and left of the entrances, will be dining halls, retiring rooms, offices, &c. Near this principal building will be a number of other structures, such as a Victoria Regia House, Domestic and Tropical Orchard Houses, a Grapery, and similar horticultural buildings. The surrounding grounds will be arranged for out-door planting, and under the auspices of the National Horticultural Society, organized for the purpose of co-operating with the Centennial Commission, it is expected that an imposing and instructive display will be made. It is proposed to plant, among other things, representative trees of all parts of the Continent, so that side by side the visitor may see the full variety of the forest products and fruit of the country, from the firs of the extreme north, to the oranges and bananas of Florida, and the wondrous grapes and other fruits of California. In this great work it is important that the most perfect success should be achieved, so that the vastness of territory, variety of product, and perfection of species, which constitute the marvel and the might of America, may be displayed in such a way as to be realized at a glance. It is a subject upon which even a little spread-eagle enthusiasm would be more than allowable, and the horticulturists and agriculturists—professional and amateur—of the nation, will be afforded an opportunity of displaying their active sympathy and practical assistance in the great celebration.



THE CENTENNIAL EXHIBITION OF 1876.—HORTICULTURAL HALL.

THE PENNSYLVANIA RAILROAD AND THE CENTENNIAL.

But one year remains in which to finish the arrangements for the great Centennial Exposition, and as the Pennsylvania Railroad Company will be required to furnish the principal transit facilities for the thousands who will visit, the officers of that company have completed all the plans and designs for improvements connected with their branch of the world's union. These plans embrace a railroad connection now completed, from the main tracks to Elm avenue, the southern line of Fairmount Park, at the point where it is entered by Belmont avenue. This connection is in the form of a circle, by which all trains from the East, West, North and South, arriving over their road, and carrying visitors to the exposition, are run at once into the Centennial depot, in which there are four tracks. Passengers can be arriving and departing at the same time without confusion, and the arrangement is such that a train can be received and despatched every three minutes, furnishing transit facilities at this depot alone for sixteen thousand people per day. This arrangement is designed to accommodate only the travel from distant points and the city suburbs, that from central points in Philadelphia having many other facilities for reaching the exposition.

The depot at Belmont and Elm avenues will be connected with a hotel—the trains arriving under a covered way, on one side of which will extend the first floor of this hotel,

on which floor will be a series of public rooms, such as billiard, bar, storage and storerooms, servants' dining rooms, etc. At the park end of this depot, stairways will ascend to a level of the second floor of the hotel, and communicate with a bridge one hundred feet wide, crossing Elm avenue and terminating between the machinery hall and the main exhibition building. This bridge will be divided into two passage ways, each fifty feet wide—the one for persons entering the park, the other for persons leaving it.

The hotel proper will commence with the second floor, which is on a level with this bridge. This floor will contain a dining room one hundred and seventy by two hundred and ten feet, capable of seating comfortably twelve hundred persons, being the largest room of the kind in the world; a restaurant, fifty by two hundred and thirty-nine feet; a waiting room one hundred and seventy by two hundred feet, and all the necessary parlors and reception rooms for guests; besides kitchens, wash rooms, etc., and a number of sleeping rooms. The hotel building is designed to be seven hundred feet long, two hundred and fifty-four feet wide, four stories high, exclusive of basement, and will comfortably accommodate two thousand five hundred guests. While it is designed as a temporary structure, to be removed at the close of the exhibition, it will be substantially built, warmed by steam, lighted with gas, and supplied with water throughout.

In the arrangement of trains to and from the exposition, the company will use every exertion to thoroughly accommodate all sections of the country, and this they have facilties for doing never equaled on a similar occasion. By their own lines they reach all the principal northern and western cities, and many in the south, and through trains will be run over all these lines, combining all the comforts known to American railroading. Between New York and Philadelphia the mode of travel will, of course, be heaviest, and here express trains will be run every few minutes, making the distance in less than two hours. The company will endeavor to show visitors a model American railroad, among the other attractions of the Centennial.

A FRIGID RECORD.

The months of January and February 1875 were perhaps the most intensly and continuously cold of any that have been experienced in Lancaster county for many years, but still not so cold as it has been in other places and in other years, according to the following extracts, which we publish for the future reference of our readers. The coldest record in Lancaster city during the two months above named, was 8° below zero and in the county it was 14° below. This was not a lower point than was reached in 1873 but the cold was more continuous.

A block of ice was brought from the Conestoga and exhibited in this city, which measured four feet in thickness, but this may have only been an extraordinary local formation. The Susquehanna, in many places, was supposed to have been frozen to the bottom, and for a comparatively long period it become a highway for the transport of heavy burdens of freight.

According to the *New Northwest*, there has been some remarkably cold weather in Silver Bow, Montana. A correspondent of that paper furnishes the following interesting item of news:

"Your favor of the 10th of January is at hand and inquiries answered herewith. On the evening of January 8, several persons being in the store, and the spirit thermometer registering "35° below," the remark was made that quicksilver would congeal at 3° lower. I requested my clerk, Mr. Stolte, to thoroughly cleanse a bartumbler and partially fill it with quicksilver. We then exposed the glass of mercury and the spirit thermometer on the roof of the fireproof on the north side of the store, giving them as nearly equal exposure as possible. An hour after the thermometer marked 33° below, but the quicksilver still remained unchanged. At 9:20 p. m. the thermometer stood 40° below; still the quicksilver was *live*, but terribly cold. At 9:40 p. m. the spirit indicated 41° below; the quicksilver was hardened on the outside. A few minutes later the thermometer stood 42° below. I picked up the tumbler of quicksilver, and to my astonishment found it completely solidified—as hard as a rock. I carried it into the store, and several persons examined it, it remaining in that condition some time before it showed life. On Jan. 10 at 11 p. m., the thermometer stood 35° below. On the evening of January 8, the evening above mentioned, at 10:30 p. m., the register was 46° below. This is the coldest weather we have had."

A correspondent recently sent the Philadelphia *Ledger* a record of the daily markings of the thermometer in a small town of Nebraska during the month of January. There were only eight days in the month when the temperature was above zero, and the highest marking was nineteen degrees. The lowest temperature was twenty-six degrees below zero. The average of the lowest markings of the thermometers at eighteen stations in the northwest recently, was thirty degrees below zero. Since then, a correspondent at Minncapolis, Minnesota, has favored us with a meteorological table, showing the temperature and weather of January of this year in that much talked of climate. This will enlighten our readers who feel an interest in Minnesota. In Montana the temperature has been as low as fifty-six degrees below zero. Extremely cold weather is as disastrous to vegetables as to animal life. Our obituary columns show how fatal the comparatively cold weather here has been to those in feeble health, and fears are therefore entertained that vegetation may suffer during the winter. The continuance of cold weather is not so much a source of danger as the extreme cold sometimes reached, and infinitely less dangerous than the suddenness of its coming and the circumstances attending it. When the snows have been melted from the ground and the moisture penetrating the soil begins to loosen the frost, a sudden snap of extremely cold weather kills the budding seed, and too often injures or kills the mature tree or shrub. Reasoning humanity is really more subject to the danger resulting from sudden changes than unconscious vegetation. Before a brief warm spell has swept away the protecting snow and tempted the seeds to put forth their tender shoots, impatient people too often lay aside their heavy garments and expose themselves to dangers not less real than those the soldier meets upon the field of battle.

In Europe, in the year 401, the Black Sea was entirely frozen over. In 763 not only the Black Sea, but the Straits of Dardanelles, were frozen over; the snow in some places rose fifty feet high. In 822 the great rivers of Europe, the Danube, the Elbe, &c., were so hard frozen as to bear heavy wagons for a month. In 860 the Adriatic was frozen. In 991 everything was frozen, the crops totally failed, and famine and pestilence closed the year. In 1067 most of the travelers in Germany were frozen to death on the roads. In 1134 the Po was frozen from Cremona to the sea; the wine sacks were burst, and the trees split by the action of the frost, with immense noise. In 1236 the Danube was frozen to the bottom, and remained long in that state. In 1316 the crops wholly failed in Germany; wheat, which some years before sold in England at 6s. the quarter, rose to £2. In 1308 the crops failed in Scotland, and such a famine ensued that the poor were reduced to feed on grass, and many perished miserably in the fields. The successive winters of 1432-3-4 were uncommonly severe. In 1368 the wine distributed to the soldiers was cut with hatchets. In 1683 it was excessively cold. Most of the hollies were killed. Coaches drove upon the Thames, the ice of which was eleven inches thick. In 1709 occurred the cold winter; the frost penetrated the earth three yards into the ground. In 1716 booths were erected on the Thames. In 1744 and 1745 the strongest ale in England, exposed to the air, was covered in less than fifteen minutes with ice an eighth of an inch thick. In 1809, and again in 1812, the winters were remarkably cold. In 1814 there was a fair on the frozen Thames.

READ TWICE.

Considering that the ashes of our crops contain on an average about thirty per cent of potash—as shown in the following table—it follows that potash must be applied to the soil, or the crop cannot be a healthy one.

TABLE—Showing the amount of potash contained in a hundred parts of the ashes of

Wheat.	In the grain,	30,	in the straw,	- - - -	13		
Barley.	" "	32,	" "	- - -	14		
Oats.	" "	31,	" "	- - - -	15		
Rye.	" "	32,	" "	- - -	17		
Potatoes.	" tubers,	37,	" leaves,	- - - -	20		
Hohl Rabi	" "	27,	" "	- - -	9		
Hops.	" Hop	25,	Leaf	15,	Bine	24	
Flax.	" - - -	35,	Beans	37,	Peas	43	
Mangolds.	- - -	22	Turnips	22,	Cabbage	41	
Sugar Beet.	- -	32,	Rapeseed	25,	Brocoli	47	

Natural and artificial grasses, 20 to 42.

—*W. S. Dunan's Circular, Jan.* 1, 1875.

THIS NUMBER OF THE FARMER.

We think we have reason to be proud of this number of THE LANCASTER FARMER. Every article it contains is either original or carefully selected and condensed from the most reliable sources, in which case the proper credit, where known to the editor, has been given. The table of contents cover a wide range of practical subjects, of deep interest and importance; and we do not believe those interested in agriculture, horticulture or domestic economy can anywhere get a better bill of fare for the same money. If every farmer in this county does not become a subscriber to THE FARMER before the year is out, he will not be alive to his own interests.

OUR ILLUSTRATIONS.

In accordance with their promise in the January number, the publishers of THE FARMER have completed arrangements for giving illustrations of practical subjects in each number. Another handsome engraving of one of the great Centennial buildings is given, and they will be continued until our readers will be familiar with all that pertains to this great event. In our next we expect to give original illustrations of the Colorado and other potato beetles. An article in type, illustrating the construction of board fences, is unavoidably crowded over until our next.

THE GRANGERS: We publish an address delivered by Milton B. Eshleman before the Strasburg Grange of the Patrons of Husbandry, as a matter of local interest. We have, we think, sufficiently defined our position on the grange question in our February number, and, if it were necessary to say anything further on the subject, it would be this, that we do not hold ourselves personally responsible for any of the sentiments expressed in essays, addresses, and lectures, either for or against the grange. We are quite willing to let the discussion of the question have a fair field in our columns within a reasonable limit, so long as it is conducted with reference to the merits of the question, and without personalities. There is one passage in this address which, however, is entirely *new* to us, but which may be familiar to "old Anti-Masons," and is as follows: "The inventors and early advocates of Anti-Masonry were women." *We* were an "*Anti*-anti-Mason" as early as 1828, but we do not recollect that that argument was used against them then. Of course, as to the comparative merits of the *secrecy* of the grange, we are not competent to render an opinion.

It is hardly necessary to admonish our contributors and correspondents, that their *real* names should always accompany their communications, and that if they do not appear in our columns it may be owing to their absence. Of course, if they do not wish their names to appear, we will withhold them, but under all circumstances we should *know* who the writers are.

THE CABBAGE—ITS HISTORY—CULTIVATION—VARIETIES.

[Henderson's Early Summer Cabbage.]

Although the Romans doubtless introduced gardening into Britain as early as the year 100, the cultivation of the garden as an art in England dates from the commencement of the 16th century. Varieties of cabbage were taken to England from Holland about the year 1510; the first planting is ascribed to Sir Arthur Ashley, of Dorset. It was introduced into Scotland by the soldiers of Cromwell's army.

Cabbage is a plant belonging to the order CRUCIFERÆ and genus *Brassica*, the order comprehending the scurvy grass, pepper grass, mustard, cress, radish and turnip, and the genus including also the caulillower, broccoli, borecole or sprouts, rape, colza, savoy, and kohl-rabi.

The *Brassica oleracea*, from which all the forms of cabbage spring, is found growing wild on the rocky shores and cliffs in England, with no appearance of a head. The cultivated cabbage is considered by some botanists a monstrosity; but its varieties are well marked, distinct and easily perpetuated, where care is taken to secure such conditions as will continue their exact habits. The cabbage is a biennial; the seed being sown produces a full grown plant the first season, and the next season sends out shoots from eighteen inches to two feet long, which bear small globular seeds in a great number of pods. The whole plant then perishes. The large solid heads of cabbage, now so familiar, have been produced from the wild plant by gradual improvement in soils, manures and cultivation. To repeat them annually it is neccessary to observe two points: 1. None but those heads presenting the best type of the variety should be saved for seed; they must be taken up with the roots before the frost sets in, the useless outside leaves removed, and set in a cool dark cellar, with the roots embedded in soil, and packed as closely as possible. In spring they are set out not less than two feet apart, in good garden soil, and no seed saved except from the most vigorous stalks. 2. They must not be allowed to produce seeds near other plants seeding at the same time which belong to the same tribe, such as caulillower, turnip, broccoli, &c., as they will mix through their flowers, the seed producing mongrel varieties. Much disappointment is experienced from using seeds carelessly produced for sale by unreliable seed growers.

There are many very valuable varieties of cabbage, some suited only to particular localities. For early use, Early York is an old favorite, but some prefer the early flat Battersea, coming next in succession; the Winnigstadt is excellent, heads compact and of rapid growth. Mr. Henderson, in the latest edition of his "Gardening for Profit," gives his preference for early varieties in the following order—Jersey Wakefield, grown from seeds originally received from England under the name of Early Wakefield; Early York, equal to the Wakefield in earliness, but inferior in size; Early Summer; Early Wyman, the favorite in the Boston market; the Ox Heart, a valuable variety for family culture; the Early Winningstadt, and the Early Flat Dutch for a succession, being two or three weeks behind the earliest sorts. Mr. Henderson gives us an interesting bit of history concerning the experience of himself and brother gardeners around New York, with the Jersey Wakefield. Having experimented with a score of varieties he found nothing equal to it; but a few years after its introduction he found that it broke into over a dozen sub-varieties. No matter how carefully the heads were selected for seed the same difficulty occurred. A few miles inland, somewhere near the Orange Mountain, an old German was always ahead in having the first Wakefields in the New York market, and far surpassing any the New York gardeners could produce. All inducements to get him to sell seed were disregarded, and year after he kept the lead. Several plans were laid to circumvent him, such as ordering a hundred of his cabbages with roots on; but old Carl was not to be caught so; he filled the order to the letter, making the buyer pay roundly for the roots, but took the liberty of first dipping them in boiling water! But one day he invited a friend and countryman to see his wonderful cabbages as they grew. This was a fatal day for old Carl's monopoly, for his friend had his eyes about him, and observed that several of the stumps from which the earliest heads had been cut were marked with stakes, as were a few of the choicest shape, as yet uncut. The secret was out. Carl's success had been gained by persistently year after year selecting the earliest and finest heads; taking up the stumps from which they were cut, he planted them carefully and removing the young shoots produced from the stumps, he treated them exactly as a florist treats cuttings of a flower, that is by planting the slip in the soil, and shading it until rooted. After these cuttings or shoots of the cabbage were planted in the usual cabbage frame, covered with glass in winter, set out in spring like a plant from the seed, and the next July ripened seed. This process is too expensive and slow in raising cabbage seed in quantity, but it is now used by careful growers to produce pure and improved stock from which to raise seed.

Of the varieties raised around Lancaster the early Winningstadt is perhaps in the highest favor. It received the endorsement of the *American Agriculturalist* a few years ago, and truck gardeners with whom we have conversed speak highly of it, although, as Mr. Henderson suggests, it should be hardly claimed as early, as it is quite three weeks later than half-a-dozen other varieties, but it is an excellent sort where two crops are not grown, as it continues in succession for a long time.

In the second edition of his book (1874) Mr. Henderson thus spoke of "an entirely new variety of early cabbage, originated by Mr. Van Sicklen, of Long Island, that is likely to supercede all others for general market purposes. He has now grown it for the past three years, but so far the seed has not been put in the market, Mr. Van S. being exceedingly cautious not to introduce any variety before thoroughly proving its merits. The last season, in company with him, I made an examination of the crop, and in my opinion it is, take it altogether, the best early cabbage I ever saw. It is perhaps four or five days later than the Wakefield, but fully one-third heavier, and as it has small outer leaves, may be as closely planted. When fully matured it will withstand the hottest weather without cracking. All market gardeners know the value of this quality, as most of us have lost heavily from this cause."

This is the cabbage of which we give an illustration, as "Henderson's Early Summer," and of which the well-known seedsmen, Peter Henderson & Co., who introduce the variety this season, thus speak:

"We send out this new variety of Early Cabbage, feeling satisfied that it will rival, if not to some extent supersede the Wakefield. The merit of this variety consists in its being the earliest of all large Cabbages, coming in but a few days after the Wakefield. It has another valuable peculiarity, of rarely or never bursting open when ripe, so that if a crop cannot be used at once, it will not spoil, as is the case with most of the other early sorts. There is no doubt of it becoming a standard variety, either for market or private uses."

As a good and reliable early cabbage is a desideratum with market gardeners, we have deemed it proper to call the attention of the readers of THE FARMER to this new variety, that those interested in meeting the wants of an early market may test it for themselves. In market gardening a good *early* cabbage, which can be depended upon, will certainly pay in the vicinity of Lancaster. In this article we have confined ourselves mainly to early varieties, because the later varieties are so much more easily raised, and at so much less expense. The following, however, from the excellent paper on this subject in the new edition of the *American Cyclopedia*, now going through the press, may contain some general information to interest some of our readers. After premising that about New York the late Bergen, flat Dutch, and best varieties of drumhead cabbages are preferred for late sorts, the writer goes on to say:

"Three crops are secured in a season; seeds of early and late sorts are sown in a moderate hot-bed in March, kept slightly moistened, with plenty of air at all times when the temperature is not too low. The plants are dusted with dry wood ashes, pulverized lime, or a little Scotch snuff, to keep off the fly, (a small black insect which is a great pest), thinned to an inch apart, and kept free from weeds. When the beds outside are dry and warm enough, the plants are removed during a cloudy day, or in the afternoon, and the early sorts set with a dibble, 14 to 18 inches, the later ones 20 to 22 inches apart each way; watered, and allowed to take root before disturbing the soil about them. If the weather continues dry, the plants should be watered two or three evenings in succession. This planting gives the earliest cabbages, and summer cabbages, which come between the early and late crops. For a late crop, the seeds are sown in an open bed, thinly, in drills 6 to 9 inches apart, in May, and transplanted from June 10 to July 1, in straight rows, 22 to 27 inches asunder each way.

"The cabbage is a rank feeder and an exhaustive crop. The soil should be a deep, rich loam, not only containing plenty of vegetable matter, but a full supply of potash, soda and lime. A dressing of common salt, at the rate of ten bushels per acre, will not only benefit the cabbage crop, but kill grubs and worms, which destroy the young plants rapidly. Hogjen manure ought never to be applied to the cabbage crop, as it disfigures the roots and destroys the plants. Composts of muck, wood ashes, lime, salt and common yard manures, well decomposed, may be used in large quantities if well incorporated with the soil. Guano, deeply dug under, is good in all but very light sandy and gravelly soils. A first-rate super-phosphate of lime, with one-third its weight of guano mixed with it, is one of the best manures for a garden soil, or one which has always received common manures. This compound may be dissolved in water, and freely used to water feeble plants, or dug in about them with a hoe. As soon as the young plants have taken root in the new bed they should be hoed, the oftener the better, until the leaves shade the soil. In its younger stages the cabbage must feed largely on carbonic acid, &c., by its roots; but as it increases in size it uses the leaves more extensively; hence the necessity of early and frequent hoeings."

We would urge upon our farmers, and especially those who raise vegetables for market, to pay more attention to the selection of the best varieties and the best mode of cultivation. A really good cabbage is a good dish, and the best article always leads the market in cabbage as well as in other vegetables. It costs no more to raise a good article than an inferior one, but in our markets the inferior too often predominate, and the producer goes home dissatisfied because he did not get good prices. We repeat, that in raising cabbage, as in doing anything else, it always pays best to do the best that can be done under the circumstances.

M. LAFORTE, of France, as related by the Paris correspondent of the Baltimore *American Farmer*, cooks his food for cattle by fermentation; on a layer of cut straw he places one of pulped potatoes, and so on according to the supply required, a thicker layer of potatoes; and left for sixty hours it becomes admirably cooked for pigs and poultry.

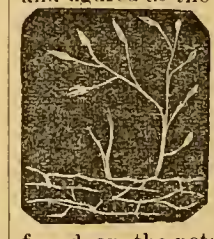
FARMERS' SONS, and other young men of energy, having a little leisure time on their hands, can do a good business by canvassing for THE LANCASTER FARMER. To such we will offer special inducements, which can be learned by addressing the publishers. We want to secure a canvasser in every township in the county.

THE POTATO.

The potato is emphatically one of the necessaries of life, and is found equally welcome on the tables of the rich and poor. Notwithstanding that its flesh-forming material is not so abundant as in wheat, yet it ranks high and is worthy of all consideration, it being rich in starch; one pound of fresh potatoes contains 12 oz. of water, 2 oz. and 219 grains of starch, and only 100 grs. flesh-formers, with smaller portions of sugar, gum, fat, woody fibre and 64 grains mineral ashes. In 61 varieties of potatoes it was found that the amount of starch varied from 9 to 26 per cent.

There is a nitrogenous substance which they term *Diastase*, and which is found in germinating seed near the embryo, as also in certain fungi. This, it is asserted, is capable of one part to transform 2,000 parts of starch, first into dextrine and finally into sugar. There is a complication, however, it is known, that any albuminoid may produce the same effect, that is, the bodies thus altered become *ferments;* moisture and an elevated temperature hasten the process. It is generally taught that oxygen acting on the albuminoids in presence of water and within a certain range of temperature induces decomposition. I will, by way of comparison, state that 1 lb of wheat contains 2 oz. and 106 grs. of water, 2 oz. 21 grs. of gluten, 126 grs. albumen, 9 oz. and 242 grs. of starch and 385 grains of sugar, equivalent to gum, fat, woody fibre, ashes and 7 oz. of carbon. These constituents can readily be varied by foreign admixture, or conditions of soil, weather and moisture. We have thus considered the components of a good potato. The thin skin that envelopes it is of a corky nature, through which water can scarcely pass, and hence aids in preserving the tuber during winter. We all know what a good potato is, and it requires no savant to tell us when it is bad or waxy. What can they tell us of the causes and remedies to prevent the evil? The well-known "curl," they tell us, may arise from using over-ripe seed stock, or such that has been improperly kept during the winter and exposed to the light and air, instead of having been covered with earth, sand, or straw, so as to preserve their juices. Again, it may also arise from want of lime or magnesia in the soil, an excess of strong manures, and successively planting in the same ground. But the potato rot of Europe and this country has been carefully examined. Those kinds that mature early are least liable to the rot. The disease is rarely if ever known so early as May, and found most prevalent in August, especially during moist, warm weather. If possible, they should be taken up before September, unless during dry weather. Wood ashes are recommended as a good manure. Lime, plaster and salt are advantageous, while strong nitrogenous manures are considered detrimental to the potato. The rot is ascribed by some to a deficiency of lime and magnesia in the soil, for upon testing the ashy residue of good or sound tubers with those that were diseased, it was found that the sound ones yielded 5 per cent of lime, but the ash of diseased ones only 1.77 per cent. Hence there may be an important fact presented by Dr. Crace Calvert, who has demonstrated that lime is one of the *few known substances* that are capable of *altogether preventing the development of fungi*, and thinks that caustic magnesia would have a similar effect. This presents a valuable hint, and may throw light upon the statement of J. W. Boys, who affirms that he has escaped from this foul disease attacking his potatoes for eight successive years by his mode of keeping them, which is to sprinkle the floor with fine unslaked lime, on which he places a layer of potatoes from 4 to 5 inches deep, and then another layer of lime, and so on, using about one-fortieth part of lime by measure, to the potatoes. He also states that waxy and watery potatoes are improved by this process.

Here are concurrent circumstances that seem to teach a lesson worthy the attention of your readers. It is worthy of notice that the eye of the potato is the last part affected by the rot. The eye is actually a bud and has the same relation to the tuber as the germ has to the farinaceous matter of the albumen of a seed in which it is enveloped. In developing a young plant the *Amylum* (that is the starch) and the nitrogenous and mineral constituents of the sap of the tuber are employed to form the young branches and leaves. We have now glanced at some of the causes and cures of disease; I shall briefly consider the fungus concerned in producing the visible effects called "blight" and "rot," so ably set forth in the Jan. No. page 11 and Feb. No page 17, vol. VII of THE FARMER. I have before me the article referred to. The fungus by Berkley named *Botrytis infestans* is now named and figured as the *Peronospora infestans.*



This genus belongs to a class of fungi which do not foster on decaying plants, as is the case with the majority. There are now known and figured other species of *Peronospora* severally infesting parsnips, peas, cabbages, onions and spinach, differing from those found on the potato in structure. However interesting, I cannot stop to describe the various kinds in this article. For the benefit of those who have no microscope I append a copy of the potato fungus, above named. The external signs are soon apparent; the leaves are usually first attacked; they turn yellowish, the stem gets blotched with brown and the fine threads (mycelium) extend to the tubers and soon wholly or partially destroys them by inducing a gangrenous ferment and producing a putrid mass. Young plants are arrested in their growth; in older plants we find the tubers discolored with reddish spots, first under the cuticle. When taken up and exposed to a warm damp situation in the air, the parasite appears on the surface, and will be found to penetrate to the interior, decomposing the tissues by a kind of ferment induced; this mass forms a nidus for other kinds of fungi found on decaying matter, and care must be taken not to confound the two, as has happened.

Here, again, we see how necessary it is to have a knowledge of effects from change of condition; patient observation under diverse circumstances may give us a clue to see from which quarter the wind blows. The experience and observations of others may assist us in our own; therefore it is well to present them to the public, that those who read and digest may have some data from which to compare notes. Some one says when the vines are detected to be affected with the fungus, cut them down and burn them. Although this might supply some ashes as a manure, it is a doubtful remedy, especially if the mycelium has already reached the tuber.

As starch is so prominent an ingredient of the potato, it may interest some to test various kinds. Iodine is peculiar in its action on starch when dissolved in water or alcohol, and, brought in contact with starch, gives it a beautiful purple or blue color. This test may be used even in microscopic observations with the utmost facility. There are other tests. Cut a thin slice of a potato; if reddish spots appear, it is a bad sign for the health of the potato. With a soft brush pass diluted tincture (alcoholic) of iodine lightly but so as to touch all the parts. This will effectually reveal the starch cells, and often exhibit various tancolored markings in concentric zones or scattered-like letters of German text, as in one case I lately witnessed. Cooking or steaming potatoes, when done, all the part not tainted by the red matter will break easily between the fingers, while that affected or marbled will resist the pressure and remain comparatively solid. If you will take the time, a slice of potato put in water for 12 or 15 days, the soundest part will be the first to decay, whilst that which is affected will remain unchanged. But the point I wish to make is, after all, to call attention to the importance of lime as a preventive, and should any good come of it, my object is attained. JACOB STAUFFER, *Lancaster, Pa.*

SHALL WE RAISE OSAGE-ORANGE HEDGES?

Eighteen years experience convinces me that osage-orange is not the thing for inside farm fences. The objection arises not from any imperfection in the hedge—for a well grown osage hedge will turn any animal larger than a rabbit—but because of the ground it occupies. This plant is a gross feeder, and impoverishes the ground for at least a rod on each side of it. In a wet season the injury done is not so great, but in a dry summer, like the past, the row of corn next the hedge is a total failure, the second one reduced one-half, and even the third row is somewhat damaged. Other crops are injured also, but to a less extent than corn. It is not only the pecuniary loss that is here complained of; the farmer of good taste dislikes to have half-starved crops around the margin of his fields.

Those who are determined to raise osage hedges had better plant them along the roadside and let them draw half their nourishment from the public road.

The chief objection, then, to the osage-orange hedge is its *expense.* I was led to make this statement by a remark made by H. M. Engle, at the last annual meeting of the Fruit Growers' Society, that osage-orange hedge could be grown for twenty-five cents per rod. I think that a hedge four years old cannot be grown properly for less than one dollar per rod. The young hedge, for two or three years, should have the same attention that a row of corn or potatoes has. If the mice are permitted to gnaw the bark off the roots and make gaps in the hedge it is difficult or well nigh impossible to get them filled up again. after the hedge is grown it costs from six to ten cents per rod annually to keep it trimmed.

The osage-orange, in good hands, makes a neat and tasteful, as well as an enduring fence. The careless farmer should never attempt to raise one. On the great prairies of the West where land is cheap and the enclosures are large, hedges may be used to advantage; but in eastern Pennsylvania, where land is high in price, we should endeavor to bring every rod under culture. Fencing is a heavy item of expense and the subject is one which deserves the earnest attention of farmers; but I am convinced that we will not find relief in hedging. In conclusion, I would advise those who intend to plant a hedge, as Douglas Jerrold advised those about to get married—"*don't do it.*"—J. C. L. *Gap, Lanc. co., Pa.*

THE PAW-PAW.

This subject of the vegetable kingdom belongs to the "Custard apple" family. Paw-paw of the United States—a Creole name. It grows west, middle and south, but is not known in New York or Canada. It is more indigenous to the south than to the west. Found abundant on the banks of the Susquehanna, from below Harrisburg to the Chesapeake Bay. It is oftentimes only seen as a shrub or a small tree, or under the boughs of the majestic forest trees. They are very numerous between St. Joseph and Kansas City, on the banks of the Missouri, where they grow under the mammoth "Cotton-Poplar," and are generally looked upon as "underbrush." They are inveterate sprouters from the root, and come up almost as thick as hemp in a wild state, and that accounts for the fact that they never appear very large. They are so numerous on the banks of the Missouri that the vineyardmen use the tender herb to tie up the grape vines in their vineyards. When one is kept clear of other trees, it will get from six to ten inches thick in the trunk, and on the southern river bottoms they have been known to grow from fifteen inches to two feet thick. The Paw-paw is about being introduced as a common fruit, and no doubt will be sold by nurserymen everywhere.

These trees, when brought under cultivation in yards, will form beautiful heads, foliage and appearance resembling the Magnolia family. Flowers precede the leaves in early spring, and

look much like the common "shrub" of our gardens. There are several varieties of them. The best variety ripens in the middle of September. It then begins to drop off, yellow and soft, very delicious to those who like them. There are other varieties ripening in October, or about the first frosts. They are not as large, nor of as good a quality as the former kind, and for a long time remain green and hard, or turn blackish and become internally affected with apparent disease. The flavor of these is inferior, but no doubt they might be improved by cultivation.

The Paw-paw, or "Papaw," belongs to the genus *Asimina*, and to the *order* ANONACEÆ. Four species are found within the limits of the United States, but there are others within the tropics.—L. S. R., *Warwick, Mar.* 1, 1875.

WHEAT AND CHEAT.

As an item of interest in the farming line, we give the following of what has happened to us as a farmer: Three years ago we had twenty acres in wheat that we seeded to clover, getting a fair stand of the latter. Last year and the year previous we pastured the clover. Unfortunately, last season we were obliged to use our pasture too late, and the consequence was our clover drew out and froze out in the winter, and this spring the crop was entirely gone. We determined, having more ground for plowing than we could use, to let it lie, grow up to weeds, and what clover might come, turn it under early and re-seed it to wheat and clover, thus losing one year's use of the ground. Instead, however, of growing up to weeds, there came up as full a crop of cheat as if it had been regularly sown to cheat, and we have just finished mowing and stacking it, and now have in stack over twenty tons of almost entirely pure cheat. We cut it green, and it consequently did not shatter out, and made the heaviest hay we have handled for many a year. There is a small quantity of clover with it, but no weeds, and our ground is as well seeded to clover as we could desire. And now about the cheat. We can readily understand how the seed could lie in the ground and germinate under favorable circumstances, but the quantity that thus lay there for three years, and then grew, surprises us. Be it as it may, we have got the crop, have not lost the year's use of the ground and the field is nicely seeded to clover—better, in fact, than it was at first.—*Pittsfield (Ill.) Democrat.*

At the hazard of reopening the discussion on this subject, we publish the above, which is going the rounds of the agricultural press again. A similar case came under our notice about ten years ago. Mr. Thomas Coleman, who then resided on East Orange street, opposite "Kramph's Arcade," on one occasion called our attention to a small bed in his back yard which he had sewed in *white clover*. When we saw it there was little or no white clover visible, but instead thereof a rank crop of *cheat*.

From the most reliable information *we* have on the subject, we feel pretty confident that neither the wheat nor the white or red clover in the above instances were transformed into cheat, but rather that their seeds were not clean, and contained a portion of cheat in them.

Wheat (*Triticum*), cheat (*Bromus*), and clover (*Trifolium*), are generically distinct, too distinct, in our opinion, for any one of them to develop the other. But they all have the habit, under favorable circumstances, of throwing out a number of stalks from a single seed, and some interesting experiments have been made in that line within the last year. But we would particularly refer the reader to page 24, Feb. No. of THE FARMER—"Stow's Experiment"—where 114 plants, producing 520 ears of wheat, were produced, by root division, from a single grain. We are willing, however, to receive further light upon the subject.

TO PREVENT horses' feet from scaling or cracking in summer, and enabling the shoes to be carried a longer time without injury, the French practice is to coat the hoofs once a week with an ointment composed in equal proportions of soft fat, yellow wax, linseed oil, venous turpentine and Norway tar; the wax is melted separately before mixing.

THE PEACHES in Frederick county, Md., are said to have suffered some by the severe frosts. Mr. Jackson informs the Baltimore *Farmer* that of about one hundred buds he examined, thirty were killed.

OUR LOCAL ORGANIZATIONS.

Proceedings of the Lancaster County Agricultural and Horticultural Society.

The stated meeting of this association was held in the Orphans' Court Room, on Monday, the 1st inst. In the absence of the President, Henry M. Engle was called to the chair, and Dr. P. W. Hiestand (Treasurer) was appointed Secretary *pro tem.* Owing to the inclemency of the weather, the attendance was not as large as usual. The reading of the minutes being dispensed with, the essayist appointed at last meeting, Casper Hiller, of Conestoga, proceeded to read an essay as follows, on the subject of

OUR ORCHARDS.

It is a pertinent question to ask, What is the matter with our orchards? Our apples fail of late years much more in quality than in quantity. Last year if our apples had been fair, we would have had an abundance for home consumption, but to-day you find but few of them in market, while their place has been filled oy thousands of bushels of fine New York State apples.

We have for years past been attributing our failures to climatic changes, brought about by the cutting away of the forests; but when we compare weather statistics we cannot put our finger on the changes. Another thing that knocks our climatic change theory somewhat wrong, is that we occasionally find an orchard that bears regularly, and brings forth fair fruit.

The standing rule for planting an orchard is, select a piece or ground that would produce a good crop of corn, and you may hope for success, Then it was expected that the orchard should be cultivated with hoed crops for a series of years—as long as anything would grow. When the ground becomes too much shaded to produce crops, turn to grass, and, as was too often the case, "let her rip." But, this latter remark I do not desire to enter seriously into the question. Many orchards, cultivated as before said, have regularly received liberal dressings of stable manure and thorough cultivation, and yet they, too, have signally failed. I have mentioned that occasionally we find orchards that do well. If such had received any special treatment we might learn a lesson, and prepare ours in like manner. But we generally find such to have been treated precisely like others that have been noted for failures. A very good orchard that I know, is planted on a northeastern exposure, on ground so wet in the spring of the year that it might almost be called a swamp. It never was cultivated nor manured. Should we therefore plant in a swamp and not cultivate nor manure at all, we would be likely to make sorry looking orchards. These special cases of success are undoubtedly caused by an abundance of natural plant-food in the soil. And might not the question arise, whether by our ordinary course of manuring and cropping, we do not leave the soil more deficient in the wood and fruit forming elements, than it was at the time of planting?

Chemistry has satisfactorily demonstrated, that the alkaline earths found in the ashes of plants and their fruits, must abound in the soil, or good trees and good fruit cannot be expected. Potash, lime and phosphate of lime, enter largely into the apple, pear, peach and grape, and all virgin soils naturally contain these in a greater or less degree. It is estimated that 120 pounds of these alkaline earths are taken out of each acre, annually, by a crop of tobacco. Wheat, corn, potatoes, trees and fruits all take up a large amount of this food, and we need, therefore, not be surprised that our apple trees are short lived, and our fruit imperfect. Stable manure, as our own experience has shown, will not supply in sufficient quantity the alkaline salts of which we robbed our orchards by injudicious cropping. We can see evidence of this from the fact that no orchard can be successfully raised on the site of an old one. These losses can probably be made up by judicious use of lime or phosphate of lime, ashes or potash, charcoal, &c. No general rule can be given for the application of these special manures, because we do not yet know enough about it to lay down a regular formula. But we might say, as did the doctor, (but I'll say it in English,) "quantity sufficient." Some soils may want much, others little, and some one kind and some another. Those who feel interested in the question, should have no difficulty in solving the problem.

Our Horticultural periodicals give numerous cases of trees that were made productive. I will give only a few examples. Two pear trees that had for years brought no good fruit, were made to yield fine fruit, by digging a trench a few feet from the trees, and filling it with suds mixed with two bushels of charcoal and two pounds of potash. A successful grower of the peach scrapes the soil from the base of the tree and pounds half a peck or more of fresh lime around them. old peach trees have been renovated by pouring a few quarts of hot lye around them.

When this important question of manuring is once properly understood, culture or no culture becomes a secondary question.

Then, if a man is situated near a market, he may use his orchard for a garden; grow vegetables, potatoes, corn, *healthy wood and fruit*. Or he may lay down his orchard to grass, as is recommanded by Thomas Meehan, the able editor of the *Gardeners' Monthly*. Five or six years ago he planted an experimental orchard of fifteen hundred trees—apples, pears, peaches, cherries and grapes—and from the start put it into grass, and has since annually taken off over two tons of hay per acre. Those who have seen it pronounce it a model of perfection. But he tells us he gives it a *liberal top dressing of manure annually*, and besides gives his trees a light mulching of earth taken from ditches, fence corners, etc. If trees and plants would generally flourish under such a course of treatment, we could adopt it wish profit. Our hillside orchards would no longer be subject to have the loose cultivated soil washed away by every heavy shower of rain, and the saving in labor—hoeing, weeding, etc., in our grape patches, would be sufficient to pay for all needed fertilizers. To the general farmer, too, the hay crop would be as profitable as corn or potatoes. When the trees become too large, the grass could at times be used for pasture, but in general would be more profitable to mow and spread over the ground for manure.

The yellows in the peach, the blight in the pear, and much of the premature rotting of fruit, are now admitted to be caused by fungi—parasitic plants, in their first stages so small that they are invisible to the naked eye. Our grand old smoke-house app'e of late years rots badly. It is said by those who ought to know, that with a glass sufficiently powerful, you might notice a bright colored fungoid plant on the skin of the fruit, which in a short time spreads and causes rot. These parasitic plants appear not to attack all varieties of fruit alike. Some are of so robust a constitution as to be able to resist their attacks. But while some varieties are sound in one orchard, they are badly affected in another. And this brings the "plant food" question up again. If trees were neither half-starved nor forced into too succulent growth, in short if they were perfectly healthy, would they not in a great measure be able to resist these enemies?

We do not soon find yellows in a well-taken-care-of peach orchard, until the trees become exhausted by an excessive crop of fruit. Then these fungoid plants run riot, and in a year or two the orchard will be numbered among the things that are past. This holds the same in the human family. A healthy man man will be apt to live through epidemic and malarious influences, while the ill-fed, intemperate and weakly will give way. It might be objected to this theory of plant food, that occasionally in years (1872 for instance,) the fruit is unusually fair. But we must bear in mind that fungoid and insect life are sometimes much influenced by certain conditions of the weather. The peculiar dry season of 1872 may have had much to do in preventing the depredation of these pests.

In regard to planting it might be said that in a sandy soil trees could be planted rather deeper than they stood in the nursery, but in a heavy soil they should be planted shallow. We have examples of successful orchards in heavy soil, where the trees were planted almost on the surface, the earth being banked up around them. It must be evident that such an orchard would not answer for a market garden; the roots being near the surface, would become fatally injured by deep plowing. But, in the sandy soil the roots naturally run deeper, and plowing, at least for a number of years, can be done without serious injury to the trees.

In conclusion, I do not flatter myself that I have produced anything new; but if anything has been said that will stimulate inquiry, then this rambling essay may not have been written in vain. When we have faithfully done our part of the work, we can console ourselves with the promise that cold and heat summer and winter, seed time and harvest, shall never wholly fail.

DISCUSSION ON THE ORCHARD QUESTION.

S. P. EBY, esq., remarked that the subject of plant-food was certainly an important element in the growing of orchard fruits. But from what he had read on the subject there appeared to be a great difference of opinion as to whether lime should be put on orchards, and if so in what manner and quantity. It is said by some writers that orchards do not bear because too much lime is used, or that the fruit is not so good as when lime is not used. A friend of his planted a peach orchard on entirely new ground, and was quite successful. In the main the books agreed with the essayist. In regard to trenching some distance from and around the tree, and putting the lime or other fertilizer in, he would suggest that this might have an effect similar to shortening the roots, a plan advocated by some horticulturalists, which, it is claimed, results in forcing out the fruit buds and retarding rank growth in the wood and foliage. When we have once discovered what plant food is necessary we will

have gained a great disideratum. To have good fruit the tree must be healthy. With healthy trees he contended that, as a rule, we would have good crops and fruit of a better quality, though there might be failures in exceptional years, owing to other causes. He commended the essay for its many excellent practical suggestions.

William McComsey commended the essay as deserving the thanks of the Society. He agreed with the essayist in regard to the advantage of manuring. He had tried it twice with great satisfaction. In the year 1836 or 1837, he planted an orchard with the best varieties of trees that were then known. Twenty years afterward he became the owner of that orchard and was surprised at the scrubby and mean condition of the trees, and the small quantity and poor quality of the fruit they bore; especially as he knew from personal knowledge that the trees were of good varieties and had borne fruit of a good quality. The first year the orchard came into his possession he ploughed it, limed it heavily, and gave it besides a good coat of stable manure. That year the apple crop failed everywhere, owing to protracted rainy weather during the season of bloom; but a change in the healthy growth of the trees was apparent. They threw out new branches and looked healthy. At the first pruning he cut away half the wood—made the pruning thorough. The next year he was rewarded with an abundant crop of excellent fruit, and the orchard never failed under his observation, even in years when his neighbors had none. This experience convinced him that manuring orchards is necessary to secure good crops. A few years later he had a similar experience with a single tree in a lot in this city. It had been neglected and the fruit deteriorated from year to year. Having some hog manure for which he had no other use, he spread it over the lot. You would have been surprised at the change produced in the tree. It threw out new and healthy wood and bore finer and larger fruit than it had for years before. The change was so marked in every respect, that it was the subject of general remark. He was, therefore, decidedly of opinion that it was chiefly owing to the want of cultivation and manuring that our crop of apples fail. [To Mr. Eby.] Did not continue cultivating the orchard; kept it in grass for six or seven years, and it never failed to bear.

Ephraim Hoover said his experience was about the same as the last speaker. Manuring cannot fail, whether it is applied by topdressing or ploughed down. His experience was that when he manured well his apple crop increased. He manured his orchard five times in a period of thirteen years, and it not only improved his soil, but increased his crop of fruit. He attributed the best results to manuring. He also thought many farmers made a mistake in barring swine and other small stock out of their orchards for fear they would eat some of the fruit which first falls. He believed that swine in eating the first fruit which falls prevented the increase of insects injurious to the fruit. An old farmer once said to him that he believed the swine were barred out too much; that the first fruit which fell dropped because it was injured by the insects which drop with it. If it is not eaten, the insects get into the earth to breed the following year to injure the fruit. But if the hogs were let in they destroyed them and thus saved the crop. After this suggestion from the old farmer, he made it a rule to let the swine have free access to his orchards until about September; and the result was that the more he kept them in the better fruit he had, and more of it. It is better to lose the few apples that fall early, and have the insects destroyed, than to risk the whole crop.

John B. Erb thought that this practice of manuring would apply to trees in bearing, but objected to it in the case of young trees, as tending to force them into too rapid growth. The object should be to grow them hardy and solid, which might be better done on ground not too rich; young trees thus grown would stand the winter better. When fully come into bearing he would cultivate and manure.

Prof. Rathvon said the lecturer remarked incidentally that severe drought prevented the production of insects injurious to the fruit. This brought up an important fact, which may not be generally known. Two conditions of the weather are destructive to these insects in their larvæ and pupa state. In raising insects, in which he had considerable experience, he had been frequently defeated by either too much moisture or too much drought. In the one case they will rot, and in the other dry out. In breeding moths from caterpillars, a process which, in many instances, requires parts of two seasons, he had often failed, by not securing the proper conditions of moisture. In seasons of extreme drought very few insects mature. One reason is that in their undeveloped state they are partial to succulent vegetation, and when that is dried up they don't get well fed. Tough as are the Curculio, they will die in dry earth, as he had discovered by experiment. Moderate moisture is necessary to the breeding of insects; and that is why some, and especially the striped apple tree borers, deposit their eggs about the roots of trees, away from the sun, except some species which cover their eggs with a protective glue to screen them from the sun; others are affected by excessive moisture. Millions of the "chinch bugs" perish in the west from this cause.

As bearing somewhat on the subject under discussion, Prof. Rathvon said he would read a short article written by Prof. C. V. Riley, of St. Louis, for the New York *Tribune*. He had prepared a paper covering a different ground on the same topic for the March number of The Farmer. He read as follows:

IS THE COLORADO BEETLE POISONOUS?

This question, which was very fully discussed, pro and con, between the years 1865 and 1870, and settled in the affirmative, has been revived again by Prof. T. J. Burrill, of the Illinois Industrial University, who published an item which went the rounds of the agricultural press, to the effect that the insect is not poisonous; a statement he supported by the fact that he had rubbed the juice of the mashed insect into a flesh cut, and had some accidentally squirted into his eye without any injurious effects resulting. Now, I would not go to the extent of a certain sarcastic Chicago professor, who affirms that he could fix up a decoction from the dead beetles that would cause a vacancy in the chair of Vegetable Physiology and Horticulture in the Illinois Industrial University if Prof. Burrill inhaled it, and suggests that there are certain animals that poison will not affect, and that Prof. B. may be one of them; nor to the extreme of a Philadelphia physician, who asserts that the tincture from this beetle is the most virulent of insect poisons, that "nothing can be compared with it except the Argas of Midna in Persia, and the Coya in the Valley Neyba, in Popayan, South America," according to "Ulloa's Travels," vol. 1, page 343.

Yet there are so many well authenticated cases of poisoning by the fumes from the scalded insects, that it is surprising that Prof. Burrill should have so stoutly assumed the negative of the question without further research and experiment. It is as if I, who am not affected by poison-ivy or bee-sting, should insist on the harmlessness of either in the face of their well-known poisonous qualities and their danger to many persons. I know of physicians who persist in disbelieving that death was ever caused by colubrine poison, because they have never known a fatal case of snake-bite in their own experience; but skepticism of that which is outside one's own experience usually dwells most where that experience is limited. Since my experience with the Colorado potato beetle, three cases of its poisonous influence have been reported to me by persons in whose judgment and veracity I have the utmost confidence; and, without for a moment doubting the facts Prof. Burrill has recorded, which are valuable as far as they go, I would simply say that they do not go far enough, and he has not solved the whole truth of the matter.

That the juices of the mashed insects on the human skin are as a rule harmless, is proved by the hosts of farmers who have crushed them by hand, and I can testify to the fact from my own experience; indeed, scarcely any one who has had experience believes the wild stories of the poisonous nature of these juices. Yet the rule is not without exceptions, and I do not doubt that with blood in certain bad conditions persons have been poisoned by getting said juices into wounds or cuts. But to the cases of undoubted poisoning from this insect—cases that have in some instances been serious, and even proved fatal—and not from the juices of the body, but from inhalation of the fumes arising from the bruising or crushing of large masses, and especially by burning or scalding large quantities at a time. The poison seems to be of a very volatile nature, and to produce swelling, pain and nausea, very much as other animal poisons do, and Dr. R. C. Ruden, of Joliet, Ill., who, as quoted by Dr. Hale (Trans. N. Y. Med. Soc., 1874), experimented on himself by taking the saturated tincture internally—increasing the dose daily from two to twenty drops—experienced great disturbance of the bowels, swelling of the extremeties, bloated face, protruding eyes, fever, great thirst, and desire for something acid.

From the present state of the case, therefore, while there can be little danger in the cautious killing of the insect in the field, I would not advise recklessness in handling it in large quantities; and we should especially guard against collecting and destroying it by scalding or burning, in such quantities. There is no longer any occasion for thus collecting and destroying the insects; and since the custom of tackling the enemy with the Paris Green mixture came into vogue, we have heard much less of "potato-bug" poisoning. I shall be glad to receive, individually, or through the widely circulated columns of the *Tribune*, any experience on this subject, and especially well authenticated reports of poisoning. Let the facts be stated as briefly as possible, with the name and address of the writer in full.

Prof. R. pronounced this one of the best articles on the subject he had seen. He also related an instance of a neighbor, who, with his wife and children, undertook to fight the potato bug by crushing them in thousands with their hands, no bad effects resulting from it, except that one of the children got a little sick. Finding that slaughtering was a failure he resorted to Paris green and got poisoned, though that was owing to the injudicious handling of it, as he considered its application entirely harmless if properly applied. He said however, that some persons were more constitutionally predisposed to poisoning than others. He had never been poisoned in his life, while others could not come within its influence with impunity.

UNCLAIMED PREMIUMS.

As he had to leave, Prof. Rathvon said he had in his possession $10.25, which had been put in his hands as chairman of the Committee on Awards at last exhibition, which had not been called for by the parties to whom the premiums had been awarded, and which he would now hand to the treasurer.

THE COLORADO POTATO BEETLE.

Ephraim Hoover, from the Special Committee appointed at the previous meeting to investigate the case in Manheim township, where five acres of potatoes had been eaten by the potato bug while a half acre separated only by a fence had escaped, the condition of soil and culture being apparently the same, reported that the one lot was on the North side of the fence and the other on the the South side, the rows running at right angles with the fence. The lot on the North side was planted with Early Rose, Mercer and Peerless; that on the south side, with Early Rose, Jackson Whites and Pink-eyes. The crop on the North side was the most injured, nearly destroyed, and of the varieties the Mercer was injured the least. On the South side of the fence there were very few bugs, and little injury done, and of the varieties the Early Rose was the least affected. This was a new piece of land; the other had been long under cultivation. He conversed with the cultivators of both lots. They say the crops were planted and taken up about the same time. They could account for the difference in the ravages of the bug in no other way than by the difference in the land, that on which the crop was so little injured having but recently been broken up.

Wm. McComsey stated that he had corresponded with a number of farmers with a view to elicit new facts. The general opinion seemed to prevail that in order to head off the ravages of the Colorado potato beetle, potatoes should be planted as early in the season as they can be got in. The sentiment is—plant early; and the prevailing opinion also seems to be that the Early Rose variety was the least affected.

Jno. W. Erb said his experience was that the bugs liked the Early Rose just as well when they could get no other to eat; and he seriously doubted whether they would be able to get ahead of the bugs by any such devices as early planting, or changing varieties. When the

ground gets warm the bugs will be certain to be on hand.

CASPER HILLER thought the only effective remedy lay in poisoning them, and there was no difficulty in doing it. Last year, with two pounds of Paris Green, he had effectually poisoned the pest on the crop of a half acre. It required but a single application during the season. He took an ordinary can, perforated it, placed it on a handle, and dusted the mixture—one part of Paris Green to twenty parts of fine lime—carefully on each row.

EPHRAIM HOOVER related his experience with varieties. He planted Early Rose and then sent for a new variety from another locality. They were planted seventy-five or one hundred yards apart. The bugs nearly stripped the first lot (Early Rose); got at his neighbor's next, but attacked his second lot at last with as great voracity as they did the first.

JNO. W. ERB said that last year on ground where potatoes had been planted the year before the bugs first made their appearance, eat them up, (they were Early Rose,) and then went at the Peerless and stripped them.

HENRY M. ENGLE said he thought they would all come, finally, to the conclusion which he reached with his first experience with the beetle. This pest made its first appearance in Lancaster county at Marietta. He also, at first, thought they preferred certain varieties; but found that the following year they preferred another variety. They are no doubt attracted to old potato ground because their larvæ were there. They love company. He don't think varieties have anything to do with it; they will attack the entire *Solanum* family. Their disposition to concentrate on patches is not singular. The cucumber beetle, or "lady-bug," do the same thing. They generally concentrate, and clear out the hills as they go—that has been his experience for twenty or thirty years. If not checked they will go on until the entire crop is destroyed. He infers that it is the same with the potato beetle, without regard to season, variety or planting.

In reply to some interrogations by Mr. Pownall and others, Mr. Engle said there was not much use in applying Paris Green to the mature beetle; but the young larvæ are easily killed by it. As they grow older the mucous matter in which they are enveloped leaves them and the poison has then very little effect. Some old fellows put into a vessel over night in which they were enveloped in Paris Green, were "lively" in the morning. When applied at the proper time it does not take much—one application of one part Paris Green to twenty parts of flour or lime, if the conditions of the weather are favorable, may do. It depends on whether it is washed off by rains how often it must be repeated. He approved of early planting as favorable to securing a crop. This seems to be the prevailing sentiment among the farmers, and it is reasonable.

THE LANCASTER FARMER COMMENDED.

WM. MCCOMSEY said he had a desire to speak a word for THE LANCASTER FARMER. He had been a subscriber since it has been in existence; but the last two numbers he had read with special interest from first to last, and he was free to say that both the original and selected articles possessed the deepest interest and highest merit. Although he was not much of a farmer, every article was of very great interest to him, and he thought any one of them worth his year's subscription. Certainly any one of the numbers issued in the new form was worth a year's subscription to any farmer. He was sorry to see the editor's statement—knowing that gentleman as he did—that he had given six years of labor to it without reward. This was a poor recognition of his services to the farmers, for information imparted which it required years of study and observation to qualify himself to impart. He really thought the farmers of Lancaster county owed him a more substantial recognition than they had given. In what way can they do it better than to at once place the journal in which he takes such a deep interest on a paying basis? And why not do it? It should have a larger circulation than any other local journal, for it is especially devoted to the interests of the largest element of our population. The better it is sustained the more will each subscriber get for his money; for he knows that the enterprising publishers will make it still better, in proportion to the patronage received, until it shall be sought after abroad as one of the best farm journals of the day.

HENRY M. ENGLE said the gentleman who had just spoken had fully expressed his views. He had been urging the circulation of *The Farmer* among his friends and believed that it would now be a success under its new management. It might be slow work. Our farmers are in some things regarded as a little slow; and he feared from what he learned from the publishers, that our farmers may let outsiders "steal a march on them;" but he was confident they will come out right in the end.

EPHRAIM HOOVER said he would add, that so far as his experience and observation went, he never knew any business to succeed as well as that in which those who were engaged availed themselves of the best sources of information. The lawyer must be familiar with the literature of his profession; the doctor with his; and so with every profession and occupation—all deem it necessary to read the organ of their calling, and they who thus keep themselves best posted in the current literature of their profession are, other things being equal, the most successful. When he was a teacher he would not have thought of doing without reading *The School Journal*—and what progressive teacher would? And if there is any one profession or occupation more important than another, in its relations to the material interests of the human family, it is agriculture; for, as Webster has tersely put it, "the farmer is the founder of civilization." A great many farmers who may not read, may be good farmers; but they must in some way come in contact with the thought and experience of others who have read up, in order to keep posted; and these are receiving valuable information at the expense of others. How much better to get their information at first hands—from some good, reliable organ of their own calling—and he knew of none better than our own—*The Lancaster Farmer* Every farmer should read his own local journal first—then as many others as he could afford to take or find time to read. It often happens that a single article may be worth a whole year's subscription in the information conveyed on a particular point. For his own part he regarded the Household Recipes in *The Farmer* as well worth all he paid for it, and he believed the day would come when the farmers of Lancaster county would be proud of their organ.

MISCELLANEOUS BUSINESS.

S. P. EBY, esq., presented specimens of apples bought in our local market, which he claimed to be the Golden Pippin; but Mr. Hiller said the question of identity of this apple was raised at the Fruit Growers' Meeting at York, where the Eastern men claimed that it was the Rhode Island Greening, perhaps somewhat modified by cultivation in our soil.

J. M. W. GEIST presented specimens of apples from H. B. Reist, of Spring Garden, claimed to be Smith's Cider, noted for prolific bearing. Some doubt was expressed as to whether they were really of this variety, but Mr. Hiller believed they were.

D. L. RESH, florist, of Columbia, exhibited very fine specimens of cut flowers, including varieties of roses, hyacinths, tulips, jonquils, narcissus, azalias, geraniums and carnations. Among the roses were, Empress Eugenie, Anne de Driesbach, Aggrippina, Cels, Hermosa, Lauretta, and several other varieties.

HENRY M. ENGLE also exhibted a choice collection of flowers handsomely grown.

A vote of thanks was tendered to Casper Hiller for his valuable essay on "Our Orchards."

BUSINESS FOR NEXT MEETING.

The following questions were proposed for discussion at next meeting:

What is the best method of increasing the fertility and productiveness of the soil?

What system of farming is best adapted to Lancaster county?

The following questions proposed at the February meeting lie over:

What is the best method of wintering cattle?

What trees are most profitable to grow for fencing and fuel?

What is the best food for milch cows?

What variety of corn produces the most bushels per acre?

The next meeting will be held on Monday, the fifth day of April, at two o'clock p. m., in the Orphans' Court Room.

Progress of the Patrons of Husbandry in Lancaster County.*

BROTHERS AND SISTERS: In union there is strength; in a multitude of counsellors there is wisdom; in prosperity there is popularity. So goes the world. When any new idea is advanced, it is almost universally sneered at and ridiculed; but as soon as enough persons announce themselves favorable to it to make it fashionable, every one will accept it. There was a time when it was very unpopular to be a member of church; so much so that the adherents had to keep it very dark. It was then, to all intents and purposes, a *secret society;* but now it is the very first mode of one desiring to be known as a fashionable, intelligent person. There was a time when it was very unpopular to wear a moustache; now you can scarcely find a real "gentleman" without one; much more likely to find young men so anxious to have them that they strain the roots in their endeavors to push them before the time. So it is with the Patrons of Husbandry in this county. The brave pioneers who undertook to present to our people the blessings and benefits slumbering in its sacred keeping had an up-hill business, and for a long time did a thankless work, subject to the jeers and jests of nearly all who knew them, and to the open denunciation of those who in their ignorance imagined that the Order would work them injury. But how is it now? Granges are being started in every section of the county. Where one person joined then, ten join now, and soon it will be twenty. The more who join, the more will want to join, partly because the objects are better understood, but principally because it is becoming fashionable; because it is becoming popular; because there are so many persons in this world, like a false horse, always ready to lend a hand when the thing is going, but very careful not to help as long as it has not got a good start; so that if it should fail to go, they might have the exquisite pleasure of saying, "I told you so." Did you ever see the boys running with an old-time fire engine? It was hard work for a few zealous firemen to start it, and get up the speed; but once started, the others fell in, and the faster it went, the more were anxious to take hold; the less work there was to do, the more would offer to help do it, until there were so many that they were in each others' way. From this I wish you to take the hint that there is such a thing as too much help crowding in when it is not wanted; and you always find that they are most likely to be the persons who are not wanted. So, as faithful, true members, we must man our port-holes and guard well our gates, and not let any one get hold of our rope who will be in our way, and whom we will soon wish away; for it is extremely easy to admit a person to a brother or sisterhood, but to sever the bands is accompanied with some unpleasantness. There are a great many persons in this county who have in their veins some of the old anti-Masonic blood, and have had the hatred of secret societies drilled into them from their youth—yes, verily, ingrafted into them on their mothers' breasts! I know that some before me this day are amongst that number, and I acknowledge myself as one. But any person of a reasonable turn of mind can see that

*An address delivered before the Strasburg Grange, by the Grange lecturer, M. B. ESHLEMAN, on Saturday afternoon, Feb. 13, 1875.

there is so much difference between our order and the old-time secret societies, that there is no similarity at all, except in name, and it is very easy for a stern opponent of the latter to become a Patron of Husbandry. The inventors and early advocates of anti-Masonry were women, who, chagrined because not eligible to membership, and knowing that it is not good for man to be alone, felt it to be their sacred duty to oppose any doctrine which involved a division of the sexes. Concerning our order, there is no room for jealousy on the part of our wives and sisters; and I feel certain that if the old orders had admitted the wife and the grown up children, there never would have been any anti-Masonry, and we would have been saved the trouble of out-growing our early impressions, and of out-reasoning our strong prejudices. Again, I insist that the principal arguments of those who advocated anti-Masonry, and the church laws which denounced secret societies, would not stand against our Order, because they were not made with reference to it. It is a new arrangement, gotten up for a different object, with different principles, and conducted in such a different manner that the old arguments fall flat before it. I need scarcely tell you, brothers and sisters, that the founders of the Patrons of Husbandry were men of the very first class; that the gentleman who wrote out the ritual was Rev. A. B. Grosh, a native of this county, a high-toned and very excellent clergyman of Washington, D. C., and that the members to-day are of the most advanced farmers. Wherever they are found, they are men of progress, men of principle, men of honor, men of religion, men who would disdain to do a mean act, or to advocate an unjust cause, and, as you well know, can have no possible object in asking friends to become Patrons except for their good. When I became a member, I obtained all the benefits to be derived from the order; that is, a full right to the advantages that will accrue while I remain a member; and have nothing whatever to gain by introducing others, except their thanks when they come to realize the favor I have conferred on them; and I assure you, I have received many thanks that I believe to be from the heart. I will not weary you with any remarks about the money we have saved by our special arrangements with wholesale merchants, for that you know as well as I do; but at the end of the year I will prepare a consolidated report, and I feel assured that we will all be astonished at the amount of it. But under the head of social features, I desire to impress on your memories, that to obtain the full benefit from any Association, whether it be church, school, lyceum, board of trade, beneficiary society or grange, it is necessary to be an active member, to attend as much as possible all the meetings, to know all that is going on, to take part in the debates and try to do one's full share of bringing in interesting subjects for discussion and information for the benefit of the other members; for the most ignorant person living knows some things that no one else knows. And if every person in the world withheld his knowledge, would there be any advancement? Certainly not; the world would go backward every day. Selfishness is the greatest evil in the world; it is the root of all evil, of all folly and crime, all sin; it has no place amongst us. In its stead, we must cultivate charity, meekness, liberal views, the golden rule, the principles of true piety and religion. Then and only then will we fulfill the objects and intentions, and symbolize the three emblems of our order—"Faith, Hope, and Charity."

Our discussions on Agricultural and Housekeeping subjects are calculated to do us all good, and the only reason that we have not had more time to devote to them, is on account of the time required to give instruction to the new members at every meeting; but we can look for better times before long, because all who are eligible will be within our fold, and then we will have more time, and can make more rapid strides in the scientific investigation of advanced husbandry, horticulture and pomology, in household economy, and ways and means whereby we can make our money procure for us the greatest amount of comfort, and how we shall obtain the most enjoyment and benefit from our social meetings, and contrive ways that we may have time from our work to enjoy more of them. Human beings were never created to be slaves, and those who, actuated by avarice, or enveloped in the clouds of ignorance, make slaves of themselves, disgrace the divine form they wear, and offer an insult to the All-wise Creator. Brothers and sisters, farmers and farmers' wives, we will rise from the ranks of slavery; we will be free men and free women; we will honor the divine form given to us, and in our contact with each other and the world ever be guided by our sacred emblems. In conclusion, I will quote a stanza from the farmer's poet, Geo. F. Root, of Chicago:

"Brothers of the plough!
The power is with you;
The world in expectation waits
For action prompt and true.
Oppression stalks abroad,
Monoplies abound—
Their giant hands already clutch
The tillers of the ground.

Awake! then, awake!
The great world must be fed,
And heaven gives the power
To the hand that holds the bread."

The Number of Granges.

There are 490 Granges of the Patrons of Husbandry in this State, of which there are eight in Lancaster county. The following are their nominal and numerical designations, with location of Grange, names of Master and Secretary, and their post-office address:

No. 3, Octoraro, Octoraro: Master, Jesse Brosius, Octoraro; Rec. Secretary, Harry Davis, Octoraro.

No. 62, Strasburg, Strasburg: Master, J. H. Breckbill, Strasburg; Secretary, E. C. Musselman, Strasburg.

No. 66, Fulton, Fulton: Master, J. G. McSparran, Green P. O.; Secretary, Day Wood, Goshen P. O.

No. 80, Oak Hill, Little Britain; Master, B. S. Patterson, Oak Hill; Secretary, W. R. Wright, Oak Hill.

No. 87, Union, Colerain: Master, W. N. Bunting, Colerain; Secretary, J. R. Jackson, Colerain.

No. 161, Sadsbury, Christiana: Master, C. B. Moore, Christiana; Secretary, W. P. Brinton, Christiana.

No. 224, Donegal, Marietta: Master, Colin Cameron, Marietta; Secretary, John A. Garber, Maytown.

No. 441, Silver Spring, West Hempfield twp: Master, Jacob H. Hershey, Silver Spring; Secretary, Webster L. Hershey.

If we have omitted any in the foregoing list we shall be pleased to supply the omission and also to give the time of the stated meetings of the different Granges.

THE GROWTH of the Order of the Patrons of Husbandry throughout the south is remarkable. In Alabama there are reported to be 641 Granges, with 32,000 members; in Florida 108 Granges, with 5,500 members; in Arkansas, 521 Granges, with 21,000 members; while in other States there are numerous lodges with large membership.

THE FRONCLIN APPLE: In the February issue of THE FARMER an error occurred in Mr. Engle's paper on "Lancaster County Apples," (page 23) where one of our native varieties, not located by Downing, printed *Franklin*, should read FRONCLIN.

THE POTATO BEETLE: The illustrated article on this destructive pest, which will appear in our next issue will alone be worth more to any potato-grower than a year's subscription to THE FARMER. Now is the time to subscribe. Form clubs. Ten farmers clubbing together can get it a year for only seventy-five cents each!

LETTERS, QUERIES AND ANSWERS.

An Echo from Tennessee.

THROUGH the kindness of Mr. C. H. Stoltzfus, formerly of the old Keystone State, I had the pleasure of perusing the January No. of "THE FARMER," with which I am greatly pleased and deeply interested. I am requested to ask, through your very valuable and ably edited journal, that some one or more of the intelligent farmers of Lancaster county will write a few articles for THE FARMER, giving a general description of the farm barns of said county; the mode of making, treating and using manure; mode of burning and applying lime, and the general system of rotation of crops.

These are considered practical questions, and vital to the ultimate success of agriculture in all sections, and particularly in the State of Tennessee. If you will lay this subject before your readers, you will confer a very great favor.—JOHN G. CAULKINS, *Knoxville, Tenn., Feb.* 15, 1875.

Herein is an ample opportunity for some of our intelligent farmers to imitate the example which we endeavored to portray in the leading editorial of our present number. The farmers of Lancaster county occupy an elevated position in the esteem of their brother farmers all over the Union, where Lancaster county is known; and their experiences upon the subjects enumerated by our correspondent would have as much—if not more—weight than coming from any other district in the country, especially among those who "were to the manor born." We hope, therefore, that for the benefit of those who may need it, both at home and abroad, the above suggestions will meet with a ready and cheerful response. Our torch of intellignnce will not burn less brightly by lighting the torch of our neighbor. Every man on this earth has a mission to perform. *Twice* happy is he who discovers, even faintly, what that mission is before his career has ended, and *thrice* happy if he attempt to perform it when the discovery is made, however feeble and imperfect the effort may be. We are not the special advocatet of "much speaking" merely for the sake of speaking, but we would have men tell what they know on any and all subjects connected with the health, happiness and prosperity of the human family. Without the products of the farm, human society could not possibly exist. Practically the vegetable kingdom is the basis of the animal kingdom, and upon which the latter subsists.

About Farmers' Wives.

I NOTICED in the last number of your valuable journal an article dated from Elizabethtown. That name always excites my interest, not because of anything remarkable having transpired at that place, but because it is my native town; and, though I have long since lost all special interest in the place, I never catch sight or sound of the name but what a crowd of pleasant memories chase themselves through my mind, memories of the careless, happy days of my boyhood, and I seem to live over again those bright, joyous days. And reading over the article merely for this cause, I became interested in it for its own sake, or rather for the sake of its "fair author," *Leoline*. She withheld her consent to have her husband discontinue THE LANCASTER FARMER, and deserves to be warmly credited for the firmness and sensibility exhibited in that attitude. Her fortunate husband has reason to be proud of his wife. I wish we had many such farmers' wives. Would not our agricultural interests flourish? How many more such wide-awake farmers' wives are there in old Lancaster county, who will use their influence in getting husband, friend or neighbor to subscribe for or continue THE FARMER, or other agricultural papers? In many cases, wives have a great influence in such matters, and it often becomes necessary for them to use that influence. Surely all farmers get back the worth of their money, and more than legal interest to boot, in giving a liberal support to the agricultural journals of the country, and especially the "home journals." I take quite a number of these agricultural papers, and find their cost trivial compared to the ample remuneration received by their careful perusal. I was asked by some one to-day, Don't it cost awful to get so many papers? My reply was, It costs awful not to get them: they contain too much valuable information which would be a loss for us not to know. I hope "Leoline" will give us some hints also, in reference to the managing of her household affairs, her vegetable and flower gardens. I venture to predict they will be worth reading. We shall look for them.—T. M., *Mercersburg, Pa., Feb.* 10*th*, 1875.

We hardly know which to commend most, "Leoline" or "T. M." Both are highly com-

plimentary to us, and both evince a literary and domestic appreciation of a more than ordinary character. We feel sincerely thankful to both of them for the interest they seem to manifest in our behalf, and hope to hear from them, on topics familiar to them, "many a time and often."

Our chief ambition is to make our journal a reflex of the lheal sentiment and domestic experience of the people, and especially that class among the people not too proud to "eat their bread by the sweat of their brows;" and we hail every manifestation of interest in the labor we are engaged in, as so many "green spots in the desert of our days." In this connection we desire to make two suggestions. 1. No person can ever learn to write without *writing*. 2. No matter how imperfectly an article is written, if it contains a truth worth knowing it will always be welcome to the drawer of the editor. If the readers of THE FARMER act on these suggestions, their efforts will be "twice blest" without a peradventure.

Something About Blackberries.

"What kind of blackberries should we plant?"

This question has not been satisfactorily answered yet, and I can only answer for my own locality; for, I think much depends on locality and the nature of the soil, &c. But after a trial of more than half a dozen kinds, I would say plant the Lawtons and Kittitinys in the same patch, but not in the same row, (unless you only plant one row.) This will make the Kittitiny fruit do much better than it sometimes does by itself, and I don't think there is a better berry to be found than it is when grown to perfection. I don't mean to say that these have no faults. But they have also good qualities. The Lawton is a great bearer of large plump berries, the stalks are strong growers and should be pinched off when three or four feet high, so as to form trees or bushes that need no "fixing up," and it also forms more fruit buds. But the stalks will sometimes freeze—the wood or buds—in a very cold winter. I have not noticed the yellow fungus on them; but a few stalks were attacked with a roughness in the leaf and blossoms that looked like "foxy" tobacco stalks, and of course it affected the fruit some. But there were some berries on the same stalks (I don't know what the disease is called); the blossoms have a very unnatural and bloated appearance. I should like to know something about it.

The Kittitinys are large, long berries, sweet and very palatable. The bush is large and a fast grower, endures the cold a trifle better than the Lawtons; it is sometimes a shy bearer when planted by itself. It gets the yellow fungus sometimes, and all such stalks should be destroyed as soon as noticed. They are also troubled with the borer at the roots, and the bushes die out sooner than Lawtons, and need replanting oftener. And there is something else the matter with about half of my Kittitiny patch that I can't understand. It goes ahead of my knowledge box.

The one-half of the rows, that is, the east end of each row, is all that can be desired for bearing good, perfect ripe fruit in abundance; while the west end of each row looks as well, or rather better, and blossoms well and sets fruit well, grows well until about the time the first berries commence to turn red, then the point or outer end of the berries seems as though something sucked the juice out, and it dries up while the but end mostly ripens a few seeds, or sometimes more than half the length of the berries, and sometimes a few are good enough to pick. Now, I would like to know what is the cause of the entire loss of the fruit on one end of my patch. They are not quite as close to the Lawtons as I would wish to have them, but I don't think that causes all the trouble. I have watched for insects and seen some, but don't think they did it, for the green berries showed the shrinking, dried appearance at the out ends, as well as the ripe ones. But where they do well they are hard to beat, and I mean to try them at another place; for I think this difficulty can be overcome. I am not as much concerned about the yellow fungus, for I only lost a few stalks by it so far, while the other takes half of my patch. I have seen the yellow fungus on the wild blackberries in a thicket along the roadside in Lampeter Square, very bad for several seasons past—it seems to be spreading. I have tried the Wilson, it didn't pay; I tried Missouri Mammoth, (all mammoth but the berries;) I tried White Blackberries, (a nuisance) "good for nix;" I tried two varieties called Thornless—they may have less thorns, but they have plenty of jaggers, and the fruit only middling and not worth cultivating. Give me the good old Lawton and the Kittitiny in perfection, and I think it is all that could be desired, (except the jaggers.)—J. B. E., *Lime Valley, Lan. county, Pa.*

There is a beautiful little pea-green moth,* the *larva* of which attacks the ripe fruit of the raspberry, excavating galleries through it in various directions, and, of course, destroying it, partially or totally; and possibly this insect may also infest the fruit of the blackberry: although from our contributor's description, we should think something else was the matter. We hope some practical blackberry grower will give him some light upon this subject. It can hardly have a climatic cause, or both ends of the rows would be alike affected. It may be in the nature of the soil, difference in elevation, or a rankness of growth. Will J. B. E. institute a series of close observations the coming season, and, as soon as the rot appears, send us some of the berries.

Aplodes rubivora.

The Horse's Foot.

I see notices from different correspondents of agricultural journals, in reference to the horse's foot—as it is the support of that noble animal—how it should be treated; how he should be fed, &c. Now I do not propose to get up a discussion on this point, but will try to give my reasons for differing with some other people.

One correspondent informs us that too much strong feed has a tendency to create fever, and hence the foot will become brittle. If this be so, my impression is, that the feed, providing it has a tendency to injure the foot, would have the same tendency to cause the horse to lose his eyesight. Again: they recommend plenty of hay. Now, as for hay alone, I think it a poor substitute; for, according to some of our best veterinary authorities, it is not very highly recommended. But to go back to the foot, and look at the subject a little, it is apparent, that to have a good foot, have a good, first-rate No. 1 mechanic to shoe him, and you need never fear of your horse having bad feet.

About two-thirds of the smiths know nothing about shoeing the horse. They think that burning the shoe on to make it level, and driving in the nails, leaving the clinches half an inch long, cutting great chunks from the sides and toe of the foot—*this* I say, they call *shoeing*, and this is the way they are learning to be good horseshoers.

In order for a smith to become a good horseshoer he must give the subject close attention, and this too from the very first start in the business, and then success will crown his efforts. I have known men to go ten miles to have their horses *properly shod*.

But this article is rather of a negative character, and as such, may be too much of a trespasser upon your time and space. I will therefore close by promising in my next to describe as to how horses should be shod, and the kind of shoes that should be used in order to insure good feet to those noble animals.—J. Q. T., Vet. Surg., *Marietta, March* 1, 1875.

We know next to nothing about "horse-flesh," and perhaps less about "horse feet," but we have no doubt our correspondent will be able to ventilate the subject to the satisfaction of our readers, who may be "horse fanciers."

The Persimmon.

I see the above fruit noticed in the February number and deservedly recommended as a desirable fruit, by our friend C. Hiller. There is, however, another short article in the same number, probably by the editor, which is not correct. He says, "The *Diospyrax kaki*, or Chinese Persimmon, is represented as being as large as an apple. This is a mistake. I had the *Kaki* in bearing years ago; it is smaller than our native varieties, but deliciously sweet. The bark of this variety is yellow, and the leaves partake of the same color, while the Japan Persimmon is said to be as large as a good sized apple. It is eaten with a spoon. The bark of the Japan variety is dark brown, the plant far more robust, thick shoots, leaves large and thick, of a dark green color. Hon. J. Hogg, of Brooklyn, N. Y., who first introduced the Japan variety, he traveling in Japan, succeeded in fruiting it in the open air in 1871 or 1872, but the cold winter of 1873 killed all his trees. He sent me four small plants. These all froze to the ground; two of them sprouted up from the roots. These I took up and planted in boxes, where I now have them in the green house. South of Baltimore they will be perfectly hardy. In ordinary winters they will be hardy here, especially if planted on elevated grounds, but an occasional cold winter will assuredly cut them down. So, however desirable, we cannot depend on their being a fruit that we can grow out in the open air.—J. B. GARBER.

We confess that "large as an apple," is almost as indefinite as a figure of comparison as to say "large as a piece of chalk;" still we cannot see that our statement "is not correct," if our *authority* is correct.

Rind, on page 371, says, "the KAKI, or Chinese Date-Plum (*Diospyras kaki*) is a tree of middle size, bearing a fruit about the size of an apple, of a reddish orange color, a very luscious fruit, with a brownish semi-transparent pulp. The fruit of one species is dried with sugar like figs," and another author says they are "superior to figs."

All depends now upon what kind of an apple Rind had in his mind when he wrote the above vague description—whether a "Siberian crab," or a "pound-apple."

The question seems to be one of a purely scientific character—whether William Rind, or our friend J. G. B., was wrong in his identification of *Diospyras kaki;* as for ourself we "kick out" of all individual responsibility—except the—"it is represented."

That our venerable friend did not succeed in growing the fruit of the *kaki* as large as it is said to grow in China, is not at all surprising. Neither did he grow the Scuppernong grape as large as they grow it in the South—Georgia for instance. There are climatic or soil conditions that may cause these adverse results.

Some years ago we received, through the U. S. Agricultural Seed Department, about twenty seeds of a "Japanese Radish" (*Raphanus candatus*) represented to grow bunches of crisp and tender radishes on the tops, from 12 to 18 inches in length. By the way, these top radishes were nothing more than the seed-pods, but they were said to be far superior to any variety of that cruciferous plant grown under ground, and made a most capital salad. We distributed these seeds among some of our horticultural friends, but, except in one instance, we believe they all came to naught; in that instance they were plantedin in apot and forced forward in a greenhouse. They were subsequently exhibited at a Strawberry fair of our local society, at the Court House, in the month of June, and a more puny, wiry, spongy bunch of little distorted "tails," could not well be conceived of; the very largest being less than six inches long. They were almost tasteless, and yet they might be quite a different thing in Japan; and perhaps, under different circumstances, a different result might have been obtained, even here.

Clover and Cut-Worms.

CLOVER is generally esteemed a valuable crop for increasing fertility of soil; but is supposed to aid in generating the "cut-worm." Is this theory correct? If so, it would be objectionable to follow it with tobacco.—AN INQUIRER, Feb. 21, 1875.

There are various species of noxious insects under the name of "cut-worm," (*Agrotis*) that depredate upon young cabbage, bean, aster, corn, buckwheat, lettuce, and other kinds of succulent vegetation, but we do not know that clover, in a very particular manner, "aids in generating" any of them. The insects most destructive to the tobacco crop are the *larvæ* of the large gray "Hawk-moths" (*Macrosylla carolina* and *5-maculata*), but these only attack the plants when they are pretty well forward in the leaf, and are not generally found in clover fields.

Cut-worms are subterranean in their habits, feeding entirely upon the roots of vegetation; hatched from eggs deposited by the "owlet moths" in the ground the previous season; burying themselves beneath the frost line and becoming torpid during the winter; coming up about half-grown in the spring.

During May and June they come up out of the ground at night, or in very cloudy weather, cut off young vegetation near or just below the surface of the ground, devour a part of it, and then retire and remain hidden in the soil near the scene of devastation, during the day, where they may be found if properly looked for. When full grown they are from an inch to an inch and-a-half in length and of an ashen, or dark gray color.

They change to a smooth brown chrysalis in the ground, from which issues a moth, in June, July and August, the body and forewings of which are various shades of gray, or blackish-grey, striped or variegated—according to species—and the hind wings silvery, of various shades. The body of these moths are about ¾ of an inch long, and the wings expand from an inch-and-a-half to two inches. They are night-fliers, and are attracted by luminous bodies.

But the "Hawk-moths," that are the progenitors of the large green "tobacco worms" which infest the plants in July and August, are in the earth, a large brown chrysalis, with an appendage like the handle of a jug during the winter, and come forth in summer about the time the "jimson-weed" is in bloom. They are in repose during the day, but fly abroad in the evening, and regale themselves on the nectar of the weed aforenamed, and deposit their eggs on the leaves of the tobacco plants in small groups of from six to a dozen, from which the worm in due time hatches and develops, and then goes into the ground, where it has been reared, and changes to a chrysalis. Hand-picking is the the chief reliance, but the introduction of a sweetened, active poison into the trumpet flowers of their favorite plant, will prevent many of the worms from being born.

Plums and the Curculio.

There is no fruit in greater demand than the plum. If any one could succeed in raising them, he would have no difficulty in finding a market, and in making a pile of money out of them. But that little fellow commonly called the "Turk," (the curculio) stands in the way.

Some have been trying to circumvent the pest by introducing curculio proof varieties, but the result, so far, has not been very encouraging, as these curculio proof kinds compare with the green gage about the same as the sour crab does to the smokehouse apple. The various expedients in use for preventing its depredations have not been very successful and if nothing better "turns up" we might almost as well give it up for a bad job. But, as "every day brings something new," we must still hope for a successful remedy.

Prof. Heiges, at the York meeting of the Pennsylvania Fruit Growers' Society, showed photographs of branches laden with beautiful plums. He has been experimenting, and thinks he has found a sure remedy against the curculio. His trees were laden with fruit, while the same varieties across the fence, on his neighbor's lot were a total failure. He simply syringes his trees with a strong suds of whale oil soap, commencing with the completion of the bloom and going over the trees after every rain, until the fruit is safe. Let us try this simple remedy next season. Its cost will be but trifling. Have a lot of the stinky stuff ready in an out-of-the-way place.

A bucketful put on with a syringe, will completely coat over several trees. Any tinner can make a cheap, effectual syringe. But it would pay to get a "portable pump and sprinkler," an instruments so useful about a place, for washing windows, carriages, watering plants, &c., that it need only be seen to be appreciated. Cost from $5 to $10.—C. H., *Conestoga, March 6th*, 1875.

The remedy suggested by our correspondent is certainly a simple one, and of easy application, but it is "as old as the hills," and for many years has been the general remedy in all cases of insect infestation, with different degrees of success, according to the strength of the solution, the particular species of insects upon which it has been tried, and the skill and perseverance with which it has been applied. We must confess that *we* haven't as much confidence in it as we have in the "jarring" process, although it is undoubtedly much cheaper and less laborious. Some months ago, we read an article on this subject, which we had intended to refer to at some future time, but we took so much care of it, that we have not been able to lay our hands on it since. It purported to be the experience of an old peach and plum grower, we think in South Michigan. He considered the *status* of the *curculio* to be such that it would be nearly useless for any man to attempt to grow plums unless he planted a large number of trees in the same inclosure—not less than one hundred as the *minimum*, but five hundred or one thousand and upward would be better, and would insure proportionately more successful results. He also gave an account of the quanties he sent to market, and the prices he realized, which seemed entirely satisfactory. His theory was, that it is useless to attempt to "kill off" the curculio by artificial remedies, for *it will be here* in greater or lesser numbers at each returning season, and the only way to meet the case is to plant and cultivate a crop large enough to supply the demands of the market and the curculio also.

He did not deny the efficacy of other remedies, but considered them "one-horse affairs" at best. A dozen or two of plum trees on a farm he considered only "curculio nurseries." We make these remarks, not to discourage plum culture on a small scale, but as suggestions pointing to large co-operative systems through which the whole community may be ultimately supplied with plums.

The Scuppernong Grape.

As I am now having a little leisure time, I will take the opportunity to comply with the promise to furnish you with a short article on my operations with the Scuppernong grape this season.

At the outset, I will say I am amazed at the productiveness of this class of grapes; the quantity that can be raised on an acre of ground is no longer problematical with me. I have one vine covering an arbor twenty yards long and fourteen yards wide, and thirteen years old, which has given me thirty bushels of clean grapes, by actual measurement, being at the rate of five hundred and twenty-five bushels per acre; and as a bushel of grapes weighs fifty-two pounds, and yields three and a half gallons juice per bushel, I am getting at the rate of thirteen tons and 1,800 gallons of wine per acre. This vine has never had an hour's cultivation nor any manuring sipce it was planted, other than the leaves that fall from it annually.

I have another vine larger and older than the above mentioned, being twenty-five years old. This is not so productive, in consequence of growing in ground too rich, being in the back yard to my house, where, from its receiving the waste water incident to such a situation, its growth is too vigorous.

I have have had clusters of grapes this season carrying twenty-four large berries, and numbers of berries measuring one and a quarter (1¼) inches in diameter each. I found one berry which measured 1¼ inches in diameter and 4¼ inches in circumference, which is the largest I have ever seen or heard of. I see in the papers some statements in regard to the large yield of grapes the present season in some of the vineyards in California, to-wit—four to five tons per acre. I have no doubt whatever that, with our Scuppernong, I can raise treble the number of pounds per acre that can be either in California or the Valley of Eschol, with any grape in the world.

I have about one hundred vines of various ages under cultivation.—J. Van Buren, *Clarksville, Ga.*

We clip the above from the columns of the "*Rural Southerner and Plantation*" more to show what can be done with this popular grape on its "native heath," than any design of recommending it to the culture of Pennsylvanians. If we are not very much mistaken, our venerable friend Jacob B. Garber, of Columbia, Pa., has given the "Scuppernong" a thorough trial, and finds it not at all adapted to the latitude of Lancaster county.

This grape is also said to be free from the attacks of *Phylloxera* and other enemies that this fruit is heir to, and that scions grafted on its roots will escape their infestations. The yield above described is so abundant, and the fruit so remarkably fine, that other attempts to acclimate it might result more favorably, and therefore be worthy of extended trial. Of course, practical growers who cultivate grapes for profit will best know what to do in the premises. This is an experimental or transition period in the Horticultural history of our country, and therefore in securing any step forward we must run the risk of temporary backward movements occasionally.

Words of Cheer from a Veteran.

Having been confined to my room by sickness for the last three months of this extraordinary *continued* cold winter, I have been unable to get to Lancaster. I will now avail myself of the mail to send you my subscription for The Lancaster Farmer. I do hope, now that you have made so great a change in the character of the paper, with the increased size, that farmers and all who are friendly to the farmers, will at once subscribe for it. Truly I have spent time and money to encourage it, but it seems all to no purpose. Now I am no longer able, or I should still try to say a good word for it. Every farmer who now refuses to spend the dollar for so useful a publication ought to have his name placed on a *black list!* To pay $50 or more to a set of unknown tree agents is, they think, well laid out, though when the trees come into bearing they may perhaps find themselves badly swindled.—J. B. G., *Columbia, Feb.* 18, 1875.

Nothing could stimulate us more in our enterprise than the above words of cheer from our veteran friend, to whom we feel grateful for his many efforts in behalf of The Farmer. We sympathize with him in his afflictions, for, to some extent, we have been a fellow sufferer, but hope we may both have a brighter and more joyous Spring.

The Centennial and Small Exhibitors.

What inducements for persons of small means to exhibit anything at the Centennial? Will they not be imposed upon and have to pay extortionate prices for board and lodging? Will it not be a very expensive undertaking to attend as an exhibitor? Persons intending to exhibit would wish to know or be enlightened before they get themselves into a trap.—J. B. E., *Lancaster county, Pa.*

The foregoing queries, sent to us by an esteemed correspondent, are very reasonable, and ought to be very satisfactorily answered, but we cannot answer them so now. We hope, however, that small exhibitors will not be embarrassed or deterred, and that no imposition will be permitted, under any circumstances, on the approachiug august occasion, and we think there will not. The matter of "board" will not be difficult to arrange, we think.

I am glad to see The Farmer "turn over a new leaf." I have no doubt it will be a success in the hands of the enterprising publishers who have taken hold of it. The main thing now is to get the farmers to write. We have plenty of good practical farmers amongst us, who are not accustomed to "sling ink," whose views we should be glad to have through your columns; but the chief attraction in The Farmer to me, are the articles on entomology. You shall hear from me again when I feel that I have anything worth writing.—J. C. L., *Gap, Lan. county, Feb. 15th*, 1875.

FARM AND GARDEN ITEMS.

Do Plants Need Water?

Thomas Meehan, editor of the *Gardener's Monthly*, answers this question by saying that "if any one thinks plants need *water*, he can try by stopping up the hole in the bottom of a flower pot, in which a plant is growing. This will be one of the best ways of learning that the essence of all good culture is to get rid of the water in the soil as soon as possible. This is the great principle that underlies the practice of underdraining land. We want *moist air* in the soil, not water. 'Firm potting' favors a large amount of air spaces. If soil is moderately dry, the more we 'pound' it, the more we pulverize it, and pulverization means dividing into minute particles. The more particles the more spaces—the more spaces, the more porous is the mass. Every pore contains air, and this air is moist air, and it is on this moisture that the plants draw. There is no difference in the manner by which a root draws moistnre from the atmosphere under the ground, and that by which the root of an air plant draws moisture above the ground. If you take the earth in which a healthy plant is growing, and handle it you will find no *water* in it; but you will perhaps find it *moist* enough to dampen a piece of paper. We do not know that any amount of pressure would squeeze *water* out of some soils in which plants grow healthy, though possibly moist air might be so compressed as to make *water*. Indeed, the matter seems so clear to us, that we supposed it would be necessary only to state it to insure conviction. And we wonder very much that writers still continue to use the word *water*, when they speak of the necessary conditions in the food of plants."

The Milk Question.

The farmers of Bedford, New Hampshire, had their annual "feast" on the 12th ult., at which they discussed various phases of the farming interest. In reply to some complaints that they could get only four cents a quart for their milk, Ward Parker, of Merrimack, said he was tired of the continual whining about milkmen. If you don't want to sell your milk for four cents you needn't; there is no law to prevent your making it into butter or carrying it to market yourself. If the milkmen pay all they agree to, that is enough; if any one will agree to pay more, it is your privilege to sell to him. As for him, he wouldn't sell milk for six cents per quart; could do better making it into butter. By making butter he saved lugging home the price of it in grain and hunting the country through for new milk cows every fall. He believed the prospect was never so good for butter-makers as now. His cows have yielded over $100 worth of butter each this year, and the skim milk from each cow he calls worth $40 more; gets this amount out of skim milk by feeding it to calves which sell for from $50 to $100 each; keeps Devons and can sell at these prices all the calves he can raise. There are only 800 Devons in the United States and Canadas. The first ones imported and sold were sold at low prices, which has kept the price down ever since. His cows give milk 6 quarts of which will make a pound of butter; has one cow which has given 22 quarts per day; feeds no grain except after the cows come in and before they get out to grass.

A Potato that Resists the Colorado Bug.

A. Jackson, of Frederick county, Md., communicates the following interesting facts to the Baltimore *American Farmer*, which he says can be attested by the sworn testimony of two of his laborers. About five years ago he received from New Jersey a peculiar kind of a red potato, under the name of Siberian Red. It proved to be a very prolific bearer, and of a monstrous size; very mealy and wholesome for the table, though some purple streaks would occasionally run through the tubers. Last summer he planted them in hills, four feet apart, between young grape vines, which stood eight feet by eight feet, and raised on one acre a little better than one hundred bushels of magnificent potatoes. He fertilized the hills by mixing lime with ten per cent. of salt, and mixing old cow manure with about ten per cent of said lime and salt compound. He used a good shovelful of it in every hill, and embodied it with the ground (clay soil) by digging. The result, he says, was astonishing. When the potato bugs (which had appeared in myriads) had eaten off a vine, presently two or more vines would shoot up, keeping on growing until the November frosts killed them. Most curious of all, they bore here and there small potatoes (not seed balls) on the vines. One remarkable hill yielded forty-five average-sized potatoes. All his other kinds, as Early Rose, Peach Blow, Early Goodrich, though treated in the same manner, were an utter failure.

Sales of Chester County Stock.

The proprietors of Clifton Farms, Kennet Square, Chester county, whose advertisement appears in THE FARMER, report having recently sold the following thoroughbred stock: The prize Ayrshire heifer, "Kennett Beauty," to Joshua Hunt, esq., Catasauqua, Pa.; the two Ayrshire heifers, "Lily Dale" and "July Morn," and the Ayrshire bull calf, "Sir Chelton," to Col. John M. White, of South Carolina; the Ayrshire bull calf, "Ashland Duke," to George H. Terry, Orient, N. Y.; the Ayrshire heifer calf, "Hillside Beauty," to T. W. Ervin, South Carolina; the two Ayrshire heifers, "Ashland Belle" and "Laura the Beauty," to Robert Henning, esq., Wilmington, N. C.; also the Jersey bull calf "Sir Clinton," to same gentleman; the Ayrshire heifer, "Gentle Annie" and Ayrshire bull, "Kennett Laddie," to Gen. J. Bratton, South Carolina; also the two Ayrshire heifers, "Fair Maiden" and "April Morn," to Capt. Clowney, of same State; the Jersey bull, "Ashland Duke," to Jos. Roman, Lancaster county, Pa.; the Jersey bull calf "Clifton Boy," to Geo. B. Winslow, Gouveneur, N. Y., also the Jersey heifer "Lady Parqua," to the same gentleman; the Jersey cow "Lowland Beauty," to W. T. Bird & Bro., Frenchtown, N. J. Also prize Chester White and Essex pigs to many parties in the different States.

Charcoal for Sick Animals.

Nearly all sick animals become so by improper feeding. Nine cases out of ten the digestion is wrong. Charcoal is the most efficient and rapid corrective. It will cure in a majority of cases if properly administered. An example of its use: the hired man came in with the intelligence that one of the finest cows was very sick, and a kind neighbor proposed the usual drugs and poisons. The owner being ill and unable to examine the cow, concluded that the trouble came from overeating, and ordered a teacupful of pulverized charcoal given in water. It was mixed, placed in a junk bottle, the head held upward, and the water and charcoal poured downward. In five minutes improvement was visible and in a few hours the animal was in the pasture, quietly eating grass. Another instance of equal success occurred with a young heifer which had become badly bloated by eating green apples after a hard wind. The bloat was so severe that the sides were almost as hard as a barrel. The old remedy, saleratus, was tried for correcting the acidity. But the attempt to put it down always caused coughing, and it did little good. Half a teacupful of fresh powdered charcoal was given. In six hours all appearance of the bloat had gone and the heifer was well.

Selection of Breeds of Cattle.

Mr. Shaw, of Milford, an extensive New Hampshire farmer and dairymen says, our selection of breeds of cattle should be determined by the use we propose to make of them. If we would raise beef, we should take Shorthorns; if a large quantity of milk, without reference to quality, desired, Ayrshires; but if we would get good milk, and make nice butter, then we should keep Jerseys or Alderneys. He had tested the milk of one of his Jersey cows, and found it contained 43¼ per cent. cream. This was an extraordinary yield, but the milk from Jerseys would average 20 per cent. cream. His herd make a pound of butter from less than six quarts of milk, and he had made a pound from less than four quarts. Jersey milk, where it is known, sells one or two cents higher per quart than common milk; and large quantities of Jersey butter, properly made and packed, can be sold readily at from 50 to 75 cents per pound. He knew one herd of Jerseys from which the butter was sold through the season for $1.25 per pound. Feed has a great deal to do with butter. Would feed no turnips or cabbages, as they taint the milk, but had faith in beets. Milk should not be set in a room with pies, boiled dishes or anything else, as it absorbs all flavors arising from other substances. It is a mistaken idea that Jerseys are not good for beef; when properly fatted, they make the best beef in the world, tender, sweet and rich. The notion that Jerseys are not as hardy as other breeds is also a mistake. They endure our climate well. Another thing in their favor is their docility.

HOW TO DESTROY EARTH WORMS: Mr. Vick, in his Floral Guide, says that ten drops of carbolic acid in a pint of water, put in flower pots, will destroy all the earth-worms which do so much damage to the plants.

DOMESTIC ECONOMY.

Valuable Household Recipes.

A QUATERNION OF FIRST-CLASS RECIPES: A Housekeeper of this city who communicates the following recipes to THE FARMER makes frequent use of them in her family and gives them her unqualified endorsement. We can vouch for the puffs and rolls as the best we ever eat:

Conestoga Puffs: One quart of flour, one quart of milk and three eggs. Mix the milk gradually into the flour to make a smooth batter; also the yelks of the eggs; then add the whites beaten stiff; bake in gem pans in a hot oven, having the pans heated when you pour in the batter.

French Rolls: Set a sponge about ten o'clock in the morning with a half pint of milk, two eggs well-beaten, with a cup of sugar, one cup of butter, and one pint of yeast; flour to make a batter, not too stiff; let it rise until light, then make into a loaf, with flour sufficient to make a soft dough; let it rise again until light; then roll out thin, and with a soft brush spread with melted butter; cut into squares and turn over; put into pans and spread again; let them rise until light, (about an hour,) and bake in a moderate oven about twenty minutes. These will be found to be delicious, and after a couple of trials you will find no trouble in achieving a success.

Lemon, or Orange Custard: One-quarter pound of butter, a half pound of sugar, two teaspoonsful of flour worked to a cream, four eggs and one pint of milk; the grated rind and juice of two lemons, or the rind and juice of three oranges. Bake in crusts of pastry.

Queen of Puddings: One pound of bread crumbs, one quart of milk, four eggs; sweeten and flavor to taste; a small piece of butter; soak the bread in half the milk about an hour before using. Serve warm with sauce.

Another way—very good: Leave out the whites of the eggs; when the pudding is done spread the top with a layer of jelly, or any sweetmeats you prefer; then put on the whites beaten stiff, with a cup of sugar; place in the oven to brown slightly. To be eaten with cream.

THREE GOOD RECIPES. *The Queen of Puddings:* Take one part of nice bread crumbs, add one quart of milk, one cup of sugar, the yelks of four eggs, well-beaten, the rind of a fresh lemon grated fine, a piece of butter the size of an egg; bake until done. Now beat the whites of the eggs to a stiff froth, adding a teacup of powdered sugar in which has been previously stirred the juice of the lemon. Spread over the pudding a layer of jelly, (any kind to the taste,) then pour the whites of the eggs over, and place in the oven until browned. Serve with cold cream. This is the richest and best pudding I ever made or eat.

Plum Pudding: Take slices of light bread spread thin with butter; place in a pudding dish layers of this bread and raisins until within an inch of the top. Add five eggs, well-beaten, and a quart of milk, and pour over the pudding; salt and spice to taste. Bake it twenty minutes, and eat with liquid sauce.

A Good Way to Keep Hams: After the hams have been smoked take them down and thoroughly rub the flesh part with molasses, then immediately apply ground pepper, by sprinkling on as much as will stick to the molasses; then hang up to dry. Hams treated in this manner will keep perfectly sweet, and free from insects.—*Mrs. Goodhue, (Orange county, Vt.,) in Germantown Telegraph.*

CABBAGE A LA CAULIFLOWER: Faith Rochester (*Am. Agist.*) likes her cabbage cooked like cauliflower, and she says it is almost as good. This is the way she does it: Chop the cabbage head fine, or cut it as small as you can well with a knife. Half of an average head is sufficient for a meal. Put it into a kettle, and pour over it a pint of *boiling* water. Cover it, and keep it boiling steadily, (not letting it burn dry by too hard boiling,) for half an hour. Pour off what water remains—the cabbage itself supplies some water in cooking—and pour in a teacupful—or two, if you like—of good milk, salting to taste. Let all boil up together, and it is done. If you put in considerable milk, it will be much liked if poured over "white gems" split in two.

COOKING CELERY: We all know what a delicious relish celery is when eaten raw with a little salt, but few of our readers may be aware that it makes an excellent dish when cooked. At the better class of restaurants it is not rare to find in the bill of fare Cream of Celery. A bowl of this, eaten with bread or crackers, is a delicious and nutritious lunch, with nothing else. This cream of celery is a diluted form of puree of celery, used as a sauce for game, and the *American Agriculturist* thus tells us how to make it: Cut white celery fine, and stew with a little water, pepper and salt, in a covered dish, until it will form a pulp; then milk is added, or three parts milk and one of cream; boil for a few minutes, and pass through a sieve, rubbing through all but the coarser parts of the celery. Heat again, and thickening with a little flour, stirred up with cold milk. If milk is used without cream, then butter may be added. At home, besides the above method, we more frequently cut it in pieces, cook it soft in water, pour off the water, and add abundance of sauce, made of cream and a little flour, or drawn butter when cream happens to be scarce.

WHITE GEMS: Faith Rochester, who conducts the household department of the *American Agriculturist*, says, these should always be made of the *best* of fine flour and new milk, with a little salt, beaten well together into a stiff batter, too stiff for griddle cakes—or into a soft dough, too soft for biscuit—and baked in a hot oven in gem pans, made hot before the dough is dipped in. She thinks these are the best of "warm biscuits," and that you *can* put in baking powder, but advises you to try them without.

WHITE CUSTARDS: One pint of cream, three ounces of sugar, the whites of four eggs, and one tablespoonful of orange-flower water. Boil the cream with a blade of mace; let it simmer for about five minutes; then take it off the fire, and add the sugar; beat the whites of the eggs to a complete froth; put them into the cream; set it on the fire again, and let it boil gently, stirring constantly, till it becomes thick; take it off the fire, add the orange-flower water, or a few drops of almond-flavor, and serve in custard glasses.

BAKED SWEET APPLES: Sweet apples, which are not relished for eating by the many, may be converted into a palatable baked apple dish, half jellied, delicious in flavor and moisture, which any one can have by stewing them in a porcelain kettle, with just enough molasses and water to prevent them from burning, till cooked through, and then transferring them to the oven with all the liquid residuum, to dry and brown.

"EVERY-DAY" PUDDING: Half a loaf of stale brown home-made bread soaked in a quart of milk; four eggs, four tablespoonsful of flour; a little fruit, dried or fresh, is a great addition; steam or boil three-fourths of an hour. Serve with the following sauce: Butter, sugar and water, thickened with a little cornstarch, and flavored with lemon juice and rind.

FANCY DISH: Take half a dozen eggs, make a hole at one end and empty the shells; fill them with blanc mange; when stiff and cold, take off the shells; pare lemon rind very thin, boil in water till very tender, then cut in thin strips to resemble straw, and preserve in sugar; fill a deep dish half full of jelly or nice cold custard, put the eggs in and lay the straw, nest-like, around them.

COFFEE CAKE: One cup of butter, one of sour cream, one of coffee, five eggs, one cup of currants, one of stoned raisins, one teaspoonful of cinnamon, one of allspice, one nutmeg, one teaspoonful of soda; add flour to mix hard, and bake slowly.

RICE CUSTARDS: One ounce and a half of ground rice, three ounces of loaf sugar, and one pint of new milk; boil the rice in the milk, adding the sugar, and a piece of cinnamon; pour it into custard cups, in which a little fresh butter has been melted, and bake in a slow oven.

THE ANT PEST: One of the most troublesome pests to the housekeeper is the ant, especially the little red ant. We have tried chalking and all sorts of insect powder, and various other devices, but, like the weather signs, which always "fail in wet weather," they all seemed to fail in the ant season: but Camden NELLIE furnishes the Germantown *Telegraph* with her experience, which is the simplest of all. She says: "In a cupboard, infected with ants, I one day put a plate containing some flour on one of the shelves, and left it there for several days. I soon noticed that the little pests did not molest it in any way, and concluded to receive some benefit from the knowledge. Accordingly I sprinkled wheat flour all over the shelves, pretty thickly, too, and so far I am satisfied with the result. They find it a hard road to travel, and now we can put any article of food in that cupboard without fear of them."

DIPHTHERIA: A gentleman of Troy, N. Y., who had a severe attack of diphtheria, informs the *National Agriculturist*, that when the choking sensation was greatest, some pulverized bayberry root happening to come in the vicinity of his nose, provoked a sneeze. This was of course painful, but the powder penetrated and had the effect of cleansing out his throat thoroughly for the time being. Upon repeating the dose once or twice a day, or as often as the case required, he found it to do him more good than all the doctor's prescriptions. The hard substance was loosened, but in small quantities. Since that time he has recommended it to several suffering in the same way, and all have found relief.

CURE FOR TOOTHACHE: The London *Lancet* gives the following as a certain cure for toothache: Add one drachm of collodion to two drachms of carbonic acid, a small portion of which, inserted in the cavity of an aching tooth, will give immediate relief.

TO CLEAN OIL CLOTHS: Add to one gallon of water two teaspoonsful of ammonia, with which cleanse the oil cloth thoroughly, using a sponge and soft rag, and wiping dry; then sponge off lightly with sweet milk, which brightens the cloth and gives it a glossy appearance.

The Cotemporary Press.

THE NEW YORK SEMI-WEEKLY TRIBUNE, the most perfect epitome of current events, on all subjects, upon our exchange list, or perhaps, in the Union.

THE AMERICAN AGRICULTURIST, Vol. 34, Nos. 1 and 2, *Orange Judd & Co.*, is the highest eulogy necessary to pronounce on this journal.

HOME, FARM & ORCHARD, a $1 weekly quarto, Newburg, N. Y., about the age of "THE FARMER," small but very ably edited.

THE LIVE STOCK JOURNAL, New York, a beautiful and ably conducted illustrated quarto, very liable to be confounded with the "National" of Chicago, by the uninformed.

THE JAPANESE MAIL, a quarto of forty-four pages, giving a "fortnightly summary of intelligence from Japan for transmission to Europe and the United States. Yokohama.—$12 a year.

THE FARMERS' UNION is a large, eight-page, well filled, and ably conducted agricultural folio; Minneapolis, Minn., at $2.00 per annum, weekly. W. J. Abernethy, editor and publisher.

THE PRAIRIE FARMER, a double folio weekly journal for the Farm, Orchard and Fireside, Chicago, Ill. Two dollars a year. Its reputation is established or it could not have survived forty-six years.

THE NATIONAL AGRICULTURIST, 16th volume, the same in form and size as the *Cultivator* (royal quarto) and handsomely illustrated and ably conducted. New York, $1.25 a year.

THE PROGRESSIVE FARMER, a journal of practical agriculture, horticulture, mechanic arts, and literature, issued under the auspices of the State Agricultural College, Cedar Rapids, Iowa, a monthly royal quarto. $1 a year.

THE CULTIVATOR AND COUNTRY GENTLEMAN commences its fort-fifth year, far more vigorous and fresher than it ever appeared in its youth. An excellent standard journal on agriculture that needs not our commending. Albany, N. Y.

THE "PEN AND PLOW," for 1875, is one of the most spicy and best mechanically executed journals on our list. An agricultural and literary quarto of sixteen pages, printed on fine tinted paper, at $1 a year, monthly; New York.

THE WESTERN AGRICULTURIST: The February number for 1875 is on our table. A twenty page quarto with additional tinted covers, Quincy, Ill. A handsome imprint of interesting matter on "agriculture, horticulture and household reading. $1 a year.

THE NEW ENGLAND HOMESTEAD, a double folio "weekly journal," concerning the farm, the orchard, the garden and the fireside, Springfield, Mass. $2.50 a year. Illustrating on its title page "the past" and "the present" in farm architecture and improvement.

THE INDUSTRIAL BULLETIN, one of our oldest and most punctual exchanges. Devoted to the protection of American industry. Published by the "Industrial League," Johnstown, Pa. A protective monthly quarto of sixteen pages, opposed to free trade, and ably edited.

WELLS' ANNUAL OF PHRENOLOGY AND PHYSIOGNOMY for 1875 contains many Portraits, Biographies, and Characters of leading men, and much other useful and entertaining matter. Large octavo, full of pictures, sent first post for 25 cents. Address S. R. Wells, 389 Broadway, New York.

"THE RURAL SOUTHERNER AND PLANTATION" comes to us enlarged, improved, and changed in form. Instead of a folio, as heretofore, it is now a royal quarto of sixteen pages, and is combined with the "*Plantation*" and "*Wilson's Herald of Health.*" Atlanta, Georgia, monthly, at $1 a year. Cheap and well adapted to that locality.

THE SANITARIAN still maintains the high position it took from the start as a leader of thought in sanitary science. It is unquestionably the best work of its class in this country, and ought to have a general circulation. Edited and published by Dr. A. N. Bell, New York. Monthly; $3 a year.

THE SPIRIT OF THE TIMES, "a chronicle of the turf, field sports, agriculture, and the stage." The February number of the 89th volume of this journal is on our table. An ably conducted paper; "each number containing more reading matter than any other periodical published in the United States." Royal, 24 page quarto., New York—weekly—$5.00 a year. George Wilkes, Editor.

PAMPHLETS RECEIVED: "Second Geological Survey of Pennsylvania." "Report of the Commission to Revise the Constitution of Pennsylvania."

Catalogues of Seeds, Plants, &c.

The following catalogues of trees, plants and seeds have been received since our last:

E. J. EVANS & Co.'s Catalogue of Fruit and Ornamental Trees, Vines and Roses," York Pa.

"H. M. THOMPSON'S Price List of Evergreen and Deciduous Tree Seedlings, Fruit and Shrub Trees," Milwaukie, Wis.

"DINGEE & CONARD Company's Descriptive Catalogue of New and Beautiful Roses," West Grove, Chester county, Pa.

S. H. PURPLE, Columbia, Lancaster county, descriptive catalogue of roses, bedding and greenhouse plants, shrubs, trees, &c., for spring of 1875.

BRYANT'S NURSERIES: Retail Price List and Catalogue of Fruit and Ornamental Trees, Grapes, Small Fruits, Forest Trees, &c. A. Bryant, jr., Princeton, Ill.

GEO. W. SCHROYER, Lancaster, catalogue of roses, greenhouse and bedding plants, of which he has an unusually large stock for the ensuing season. See advertisement.

JAMES FLEMING, New York, (successor to Henderson & Fleming) annual descriptive catalogue of flower, vegetable and agricultural seeds, garden implements, &c., for 1875.

F. K. PHOENIX, of the Bloomington nurseries, Bloomington, Ill. Wholesale price-list of nursery stock and his plant catalogue of greenhouse, bedding, hardy herbaceous and other plants. Established in 1852.

BRIGGS & BRO., Rochester, surpass all their previous efforts in their catalogue for 1875. It is printed on a richly tinted paper, and elaborately Illustrated. Theirs is one of the largest seed establisbments in the country.

H. E. HOOKER & Bro., Rochester, send us their Illustrated Catalogue of Novelties and Specialties, and their Wholesale Price List of Fruit and Ornamental Trees, Grape Vines, Roses, &c. Rochester seems to the national *nursery* of the flower, plant and seed business.

D. M. FERRY & Co., Detroit, Michigan, illustrated and descriptive catalogue of garden, flower and agricultural seeds. This firm are extensive growers and importers of seeds, and their catalogue is one of unusual interest to farmers and gardeners. It contains 218 pages, profusely illustrated.

CASCADE NURSERY COMPANY'S CATALOGUE of Roses, Greenhouse and Bedding plants, Hardy plants, Vines and Shrubs. E. Y. Teas & Co., Richmond, Ind. They claim that their stock of roses is the largest and best collection in the United States. Eugene Verdier, the well-known Rosarian of Paris, has named a new hybrid perpetual after the founder of the firm, (Monsieur E. Y. Teas,) which the grower highly praises.

VICK'S FLORAL GUIDE, No. 2, for 1875, just received, is a gem as beautiful as it is useful. It has a prettily illustrated article on the seed and culture of flowers—another shot at "the government seed-shop at Washington"—"the post-office and seed distribution," and an illustrated list of the novelties of the season. James Vick, Rochester, N. Y. Twenty-five cents a year, which includes the four quarterly numbers of 200 or more pages.

Lancaster County to the Front!

In looking over our advertising list of nurserymen, seedsmen and florists, for March, we are struck with the fact that the proportion of advertisers outside of Lancaster county is larger than that of our home patrons. There are quite a number of persons in this and adjoining counties engaged in this line of business who would be greatly benefited by advertising in THE FARMER who allow enterprising men in the same business at a distance to "steal a march on them," as Mr. Engle expressed it the other day at the Horticultural Meeting. To our certain knowledge hundreds of dollars are sent out of this county every year for seeds, plants and trees, which our own nurserymen and florists could keep at home, if they appreciated the value of printers' ink as their more enterprising rivals abroad do. It don't make much difference to us where our advertising patronage comes from, so long as our available space is occupied, and we have no fears that it will not; but we simply suggest that it is not creditable to home enterprise that our own people, for whose interests we are laboring in endeavoring to foster a taste for the useful and beautiful in gardening and fruit growing, as well as farming, to let strangers reap all the advantage of it. If those who have agricultural implements, nursery stock, plants and seeds to sell, don't let the farmers know the fact, while those from a distance keep it constantly before them, how can they expect to increase their trade with the developing progress? As before stated, we can get as much advertising patronage as we have room for in THE FARMER, without begging for it, for there are those who appreciate its value as an advertising medium; but as a matter of local pride we desire to see those at home whose interests it seeks to promote, availing themselves of its advantages. Therefore, we say, Lancaster County to the front!

THE PROGRESS OF INVENTION.

Official List of Patents,

RELATING TO THE FARM, THE DAIRY, APIARY, &c., For the Month, ending March 6, 1875.*

Fifth-Wheel for Vehicles; L. Blair, Painesville, O.
Mowing Machines; P. W. Brownback, Limerick, Pa.
Cultivators; E. Children, Dunleith, Ill.
Iron Tips for Vehicle Poles; J. Alder Ellis, Chicago, Ill.
Middlings Purifiers; W. J. Fender, Minneapolis, Minn.
Grain Binders; M. L. Gorham, Rockford, Ill.
Cultivators; M. L. Gorham, Rockford, Ill.
Cultivators; J. O. Milne, Minneapolis, Minn.
Bridle Bits; Nathan P. Stevens, Hopkinton, N. H.
Running Gear for Vehicles; J. Stirk, Lancaster, Pa.
Brakes for Vehicles; Wm. Fletcher, Boston, Mass.
Wheels for Vehicles; S. B. Fuller, Erving, Mass.
Draft Equalizers; E. A. Beers, De Kalb, Ill.
End Gate Fastenings; J. W. Collins, Chicago, Ill.
Fanning Mills; Asa Y. Felton, Plain View, Minn.
Spring Equalizers; T. L. Guest, Pottstown, Pa.
Grain Separators; M. D. Judkins, Glenwood, Minn.
Churns; Aug. Meger, Port Washington, Wis.
Feed Racks; A. V. Mitchell, La Salle, Ill.
Harvesters; C. Myers, Pekin, Ill.
Hay Gatherers; C. T. Noell, Clarksville, Mo.
Thill Couplings; E. Saper, Brooklyn, N. Y.
Corn Planters; A Staley, Martin, Mich.
Ladders: D. Argerbright, Troy, Ohio.
Running Gears for Vehicles; J. Becker, Seymour, Ind.
Grain Drills; Wm. Brison, La Prairie, Ill.
Sulky Plower; J. C. Carns, Millbrook, Ill.
Farm Gates; S. H. Dasis, Chicago, Ill.
Apparatus for Feeding Fowls; Alfred de Garis, N. Y.
Bee Hives; J. R. Dixon, Toples, Miss.
Floral Stands for Windows; G. Hills, Plainville, Conn.
Wheat Cultivators; E. E. Leech, Cedar Rapids, Iowa.
Riding Harrows; E. E. Leech, Cedar Rapids, Iowa.
Wire Fences; J. A. Little, Cartersburgh, Ind.
Bag Ties; J. O. Millue, Minneapolis, Minn.
Hay Presses; H. E. Skillen, Pownal, Me.
Wagon Jacks; J. B. Webster, Genoa, N. Y.
Harness Hanging Frames; X. Whiting, Trenton, Wis.
Cotton and Hay Presses; W. A. Wright, Griffin, Ga.
Green Corn Cutters; I. Barker, Otisfield, Maine.
Stump Pullers; C. C. Hogue, Bush Creek, Iowa.
Governors for Windmills; W. L. Oliver, Rantsul, Ill.
Sulky-attachment to Plows; G. Van Winkle, Aaron, Ill.
Shaft-tugs for Harness; T. E. Weber, Pittston, Maine.
Land Rollers; Wm. Williams, New Berlin, Ill.
Corn Shellers; W. S. Brogles, Nola Chucky, Tenn.
Carriage Seats; Daniel Conbag, Uxbridge, Canada.
Mowing Machines; E. C. Dewers, Towanda, Pa.
Methods of Tubing Wells; W. T. Dobbs, Pana, Ill.
Chairs; Wm. T. Doremus, New York, N. Y.
Harvester Rakes; N. H. Felt, Auburn, N. Y.
Drags; W. Gardner, Wheelersburg, Ohio.
Wheels for Vehicles; D. Gribe, Pittsburg Pa.
Garden Rakes; F. B. Hedge, Greenspot, N. Y.
Wagon Bodies; C. W. Kinne, Cortland, N. Y.
Corn Planters; A. M. Mandy, Rockford, Ill.
Seed Planters; E. M. Potter, Rutherford Depot, Tenn.
Cultivators; J. H. Rice; Keithsburg, Ill.
Whiffletree Hooks; O. J. Smith, Wanwatosa, Wis.
Milk Cooling Apparatus; O. Y. Stickler, Canton, N. Y.
Vegetable Slicers; A. Vuillier, Newark, N. J.
Fruit Gatherers; C. A. Werden, Waukegan, Ill.
Harvester Droppers; Cyrenus Wheeler, Auburn, N. Y.
Churns; James L. Wilson, Calhoun, Georgia.
Harvesters; W. A. Wood, Hoosick Falls, N. Y.
Hog Ringing Nippers; W. E. Bingham, Decatur, Ill.
Bee Hives; John Bullock, Deep River, Mich.
Plows; Cumberlon G. Cox, Richmond, Va.
Stands for Flower Pots; E. D. Durant, Kenosha, Wis.
Plow Adjusters; S. T. Ferguson, Minneapolis, Minn.
Harness; Geo. W. Hoover, Kutztown, Pa.
Harvester Rakes; J. H. Kiston, Rockford, Ill.
Bird Houses; E. A. la Baz, Philadelphia, Pa.
Corn Planters; L. L. Lawrence, Dublin, Ind.
Wheels for Vehicles; G. Leverick, Brooklyn, N. Y.
Portable Fences; T. McSwarz, Daviess county, Ky.
Lightning Rod; M. D. Phelps, Bristolville, Ohio.
Plows; Artemas Rigby, Upper Stillwater, Maine.
Corn Harvesters; W. N. West, Milford, Mich.
Cranberry Separators; D. Y. Saurford, New Egypt, N. Y.
Horse Checks; John Sugden and J. P. Gaffney, Lawrence, Mass.
Animal Shearing Machines; Wm. C. Harlow, Medford, Mass.
Wheel Cultivators; G., S. E. W., and E. A. Brower, Crawfordsville, Ind.
Portable Horse Feeding Supports; Albert H. Spencer, Boston, Mass.
Bob-sleds; B. K. Verbryck and Thos. Newberry, Chicago, Ill.
Machines for Thinning or Spacing Crops; M. H. Eustace, James & T. Kennan, Dublin, Ireland.
Machines for Sharpening Horse-shoe Calks; Crasters Gleason and R. Hamilton. Greenwich, N. Y.
Band Cutting Feeders for Threshing Machines; David Frost, Latrobe, Pa.
Packages for Prints of Butter; A. Robinson, Webster, Maine.
Unloading Attachments for Carts, etc.; Thomas Crossley and L. A. Bertolette, Wilmington, Del.

* Prepared expressly for THE LANCASTER FARMER by LOUIS BAGGER & Co., Solicitors of Patents, Washington, D. C.

HOME-MADE
FERTILIZERS
THE BEST.

Farmers, Attention!

Upon receipt of 10 cents, to pay printing, postage and proportion of expense of this advertisement, the Gray's Ferry Chemical Works, manufacturers of Oil Vitriol, Ground Bones and other fertilizing materials, will send to any farmer or other person a recipe for making a home-made fertilizer from bones and other chemicals, at a cost of about twenty dollars per ton, without trouble, apparatus or machinery, pronounced by hundreds who have used it to be equal, if not superior, to any super-phosphate of lime purchased in the market. Address

GRAY'S FERRY CHEMICAL WORKS,
Office—105 South Front Street,
7-3-2m PHILADELPHIA, PA.

STRANGE BUT TRUE!

The TOONG QUA CUCUMBER grows to weigh *seventy pounds each*, and fine quality. 15 cents per seed; 10 seeds, $1. SNAKE CUCUMBER grows from 2 to 8 feet long, and coils like a snake. 20 cts. per paper. PERSIAN WATER-MELON. Very superior, and keeps perfectly *fresh and sweet throughout the winter*. 20 cts. per paper. STRAWBERRY WATERMELON, finest in cultivation; 200 prizes; 10 cts. per paper. JAPAN RADISH. Pods 2 feet long, and delicious. 15 cts. per paper. MAMMOTH CABBAGE. Heads weigh from twenty to sixty pounds each; tender and sweet; ten cents per paper. CONQUEROR TOMATO, ten days earlier than any other variety; 25 cts. per paper;

JAPAN PEAS—Two hundred bushels per acre on common land; unequaled for stock or table use; grows on an upright stalk. Fifteen cents per paper; fifty cents per pint; eighty cents per quart.

CHUFAS—Furnish grazing all summer and food for yourself all Winter; fine for poultry, and fattens more hogs than ten times the area in corn; one hundred and fifty bushels per acre on poorest land; ten cents per paper; forty cents per pint; seventy cents per quart; ten dollars per bushel.

NO HUMBUG.—We have certificates to prove all these claims.

ROSE SLIPS—With good roots, of any variety the purchaser may choose, at four for fifty cents; nine for one dollar, twenty for two dollars, one hundred for nine dollars.

Also, potato, cabbage and other plants at low rates.

Seeds and roses by mail, *post paid*.

Send for our *free* catalogue giving full list, descriptions and *testimonials from those who have grown the above seeds*.

Address

SOUTHERN SEED & PLANT CO.,
Gallatin, Tenn.

Le Meschacebe says of us: "Their rare and prodigious vegetables elicit the admiration of all who have the good fortune to visit their celebrated gardens at Gallatin." [7-3-1m

SEEDS AND BULBS.

ILLUSTRATED SPRING CATALOGUE FOR 1875
NOW READY,

sent, with a specimen copy of *The American Garden*, a new Illustrated Journal of Garden Art, edited by James Hogg, on receipt of ten cts. BEACH & SON, Seedsmen,
7-3-tf 76 Fulton St., Brooklyn, N. Y

OVER 20,000 DEALERS
IN THE UNITED STATES SELL
BRIGGS & BRO.'S SEEDS,
And the universal verdict is that they
WILL GROW!

☞The Quarterly Illustrated Floral Work sent one year for 25 cts. Price Lists and Circulars sent free on application to **BRIGGS & BROTHER,**
ROCHESTER, N. Y. -or- CHICAGO, ILL
7-3-1m

THOROUGHBRED STOCK
FOR SALE CHEAP.

PURE AYSHIRE CATTLE and CALVES,
PURE JERSEY CATTLE and CALVES,

of all ages, all very choice and nicely marked, from the choicest blood and milking families. Also,

"PRIZE CHESTER WHITE PIGS,"

of all ages. "Unsurpassed." These Pure-Bred Pigs have no superior on this continent. Bred from our prize and premium stock. Also, extra improved BERKSHIRE and ESSEX PIGS. Order soon. Address,

CLIFTON FARMS,
KENNET SQUARE,
7-2-3m CHESTER COUNTY, PA.

RIVERSIDE NURSERIES.

A fine assortment of NURSERY STOCK, including:

APPLE, PEACH, PEAR, PLUM,
Cherry, and other Fruit Trees.

GRAPE VINES, BLACKBERRY, RASPBERRY AND STRAWBERRY PLANTS.

RHUBARB AND ASPARAGUS ROOTS,

SHADE & ORNAMENTAL TREES, ROSES, SHRUBBERY, &c.

Also a fine stock of FLOWERS and GREEN HOUSE PLANTS, TOMATO, CABBAGE and other Vegetable Plants in season.

☞Send for price list to

H. M. ENGLE & SON,
7-3-2m MARIETTA, Lancaster Co., Pa.

BONE DUST!
GUARANTEED PURE.

MAUFACTURED AND FOR SALE BY THE UNDERSIGNED.

No. 1 VERY FINE.

Bagged and delivered on cars at Leaman Place in any quantity for 2¼ cents per pound.

No. 2, SIZE OF WHEAT GRAINS,

2¼ CENTS PER POUND.

Address, **MILTON B. ESHLEMAN,**
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EVERYTHING
FOR THE
GARDEN!
FOR
Florists & Market Gardeners,
at lowest rates—monthly wholesale lists of which mailed free on application.

Peter Henderson & Co.
35 Cortlandt Street,
NEW YORK.
7-3-3m

CHEMICAL
FERTILIZERS.

Nitrate of Soda; Nitrate of Potash; Sulphate of Potash; Sulphate of Ammonia; Acid Phosphate—yielding 23 per cent. Soluble Phosphate of Lime; price, $27.50 per ton; also

CLIMAX SUPERPHOSPHATE,

CONTAINING 3 26 per cent. of Ammonia and 24 per cent. of Soluble Phosphate of Lime.

In reply to letters of inquiry, prices and the exact analysis of any or each of the chemicals will be given: and they will be sold with GUARANTEE of the quality as stated.

GEO. E. WHITE,
7-3-2m 160 Front St., New York.

12 HENS GIVING $500
PROFIT A YEAR.
SYSTEM PATENTED.
GOLD AND SILVER MEDALS, AND SEVERAL DIPLOMAS AWARDED TO
Prof. A. CORBETT,
MANAGER OF THE
GALLINOCULTURE INSTITUTE
AT HICKSVILLE, N. Y.

No Humbug. Millions of people have seen it.

Working Book, explaining how, 50 cts; Circular, 3 cts.
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For Sale at a Bargain.

A FOSTER HAND PRINTING PRESS, in good order. Will print a form 13x18 inches. An excellent press for light jobbing. Enquire of PEARSOL & GEIST, Publishers of The Lancaster Farmer 7-3-1m

TREES, Etc.

We offer for SPRING, '75, an unusually large stock of well-grown, thrifty

Standard and Dwarf Fruit Trees.
Grape Vines, Small Fruits.
Ornamental Trees, Shrubs, Roses.
New and Rare Fruit and Ornamental Trees.
Evergreen and Bulbous Roots.
New and Rare Green and Hot-House Plants.

Small parcels forwarded by mail when desired.

PROMPT ATTENTION GIVEN TO ALL ENQUIRIES.

Descriptive and Illustrated Priced Catalogues sent prepaid, on receipt of stamps, as follows:

No. 1—Fruits, **10c.** No. 2—Ornamental Trees, **10c.**
No. 3—Greenhouse, **10c.** No. 4—Wholesale, **Free.**

Address, *Estab'd 1840.* **ELLWANGER & BARRY,**
7-2-3m] *Mount Hope Nurseries,* **ROCHESTER, N. Y.**

MARIETTA NURSERIES.

We invite the attention of Planters to a very large and fine stock of

APPLE, PEACH, PEAR, PLUM and CHERRY TREES.
Also, SHADE and ORNAMENTAL TREES.
Small Fruits, Roses and Green-house Plants.

Send your orders early. Prices very low. Descriptive Catalogues free. Address

7-3-2m **ENGLE & BRO., Marietta, Pa.**

SEEDS
FIELD, GARDEN AND FLOWER,
CANARY, RAPE, HEMP,
Alsike & White Clover;
LAWN GRASS, GREEN CROSS,
CLOVER & TIMOTHY.
AT **W. D. Sprecher's,**
31 E. KING ST., LANCASTER, PA.
SEEDS

FLOWER SEEDS, VEGETABLE SEEDS.

Spooner's Prize Flower Seeds.
Spooner's Boston Market
VEGETABLE SEEDS.

Descriptive Priced Catalogue, with over 150 illustrations, mailed free to applicant.

W. H. SPOONER, Boston, Mass.
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THE OLD
CRESCENT BONE DUST,
AND OTHER
RELIABLE MANURES.

"I INCREASE." TRADE MARK

Uniform in quality and mechanical condition.

For Circulars and Low Prices, address

RALSTON & KIRKE,
Successors to Jno. Ralston & Co.,
7-3-2m 170 FRONT ST., New York.

		100	1000
LOMBARD and other choice Plums,	1 yr. 2. 4 feet	$12.50	$110
Early Beatrice Peach, 1 yr., 1st class,		15.	
Alexander & Amsden 1 yr., 1st class, each $1,			
Asparague Giant 1yr., 1000, $2· 2 yrs.			3.
" Conovers Colossal, 1 yr., 1000, $3. 2 yrs.			4.
Rhubarb choice seedlings,		1.00	5.
" " " free by mail		1.50	12.50
Ash, White,	8. 10 ft.	10.	60.
Black Walnut,	10. 14 "	6.	50.
Elm, White 10	12 "	15.	120.
Honey Locust,	8. 10 "	7.	50.
Silver Maple,	12. 15 "	10.	60.
Mountain Ash,	8. 10 "	8.	60.
" " Weeping, first class,		12.	
Pine, Scotch fine, 3, 4 ft, transplanted & root pruned,		6.	50.
Spruce Norway fine, 2. 3 ft., transplanted and root pruned,		6.	50.
Berberry, strong bearing, plants,		3.	25.
Calycanthus, 1. 2 ft. per 10,		1.50	8.
Tuberoses, strong flowering roots,		3.	25.

Sweet Potatoes, Nansemond and Southern Queen roots for sprouting, per bushel, $2.50. Greenhouse and Bedding Plants. Send stamp for price list, or 20c. for 5 Catalogues.
7-3-1m F. K. PHŒNIX, Bloomington, Ill.

OUR FENCE CORNERS.

Whisperings from February.

THE LANCASTER FARMER: The February number of this excellent monthly agricultural newspaper is out "on time,," the fifteenth of each month being its regular publication day; and it is a decided improvement even over the first issue under the new management, both in typography and the character of its contents. Among other improvements the extracts and miscellaneous matter are set in a new and compact readable minion type, which could not be procured in season for the January number, and quite a new feature are the illustrations, which the publishers promise to improve still more upon if the enterprise receives proper encouragement from our farmers. Prof. Rathvon, the editor, manifests his usual untiring industry in the editorial department, which contains articles of interest and practical value on our "Situation;" the Potato Blight; the Patrons of Husbandry; the Rust on Blackberries; What is "Angumentum?" Daniel Webster and his kindness to animals; the sex and varieties of Persimmons; Good Butter and how to make and keep it; Dying for our Country; The Agricultural Department of our National Centennial, beautifully illustrated with a full page engraving, besides minor editorial articles. Henry M. Engle contributes an interesting article on Lancaster county apples, giving a history of the "Smokehouse" and several other local varieties: Casper Hiller one on the Persimmon and its culture; Jacob Stauffer the second of his series of "Wheat Gleanings;" Henry M. Engle speaks another good word for *The Farmer;* and J. M. W. Geist, the office editor, furnishes a paper on the Culture of the Grape, in which Mr. Fuller's system of trellising and pruning is advocated and illustrated with engravings. The proceedings of our Agricultural and Horticultural Society are reported at length, and the prose of farming is enlivened by Trowbridge's admirable poem of "Farmer John"—

"You see, old Bay,
And you, old Gray,
I'm wiser than when I went away!"

Four pages, or twelve columns, are devoted to Agricultural and Horticultural Miscellany, Domestic Economy, (including various Housekeepers' Recipes) and Literary and Personal items.

It is apparent that the farmers of the county are determined that this enterprise, which had been languising for some years past, shall be sustained.—*Lancaster Daily Express.*

The Latest Acquisition in Sunday-Schools.

A correspondent of the *National Baptist* shows how one Sunday-school was saved from being "talked to death" by its superintendent. He visited a flourishing school. Its exercises opened promptly, without an audible voice; the hymn was silently placed on the blackboard, and sung; a teacher, previously designated, prayed; another hymn was sung, arranged in the same manner, and at once then, with no word from the superintendent, the classes entered upon their recitations. The visitor expressed his admiration to a teacher at the quiet order and studiousness exhibited, and asked how this marvelous silence and earnestness had been attained. He was led to the superintendent and requested to propose the question to him. Beginning to say that he had never seen the like in his life, the superintendent quietly shook his head, and, lifting a little slate, wrote upon it, to the visitor's astonishment, "I am a deaf mute!" The stranger turned to his friend for an explanation. We had been talked to death, he said, in substance, by previous superintendents. It seemed impossible for an average man to avoid the error, so we chose a mute, who is an accomplished Christian gentleman.

WE HAVE RECEIVED from the publishers, *The Lancaster Farmer* for January. This newspaper has lately changed publishers, and at the same time changed its form. We do not want to flatter, but the change is a vast improvement upon the old *Farmer*, both as to its contents and its typographical appearance. Its editor is Prof. S. S. Rathvon, a scientific entomologist, and one of the best authorities in America on the important subject of entomology. If our readers desire to become thoroughly acquainted with the pests that annoy them most, and of which they know the least, we advise them to subscribe for the *Farmer*. It is an imperial 8 vo. of 16 pp., printed from clean type, on good paper, and is very cheap. Address Pearsol & Geist, Lancaster, Pa.—*Louisiana (Mo.) Journal.*

A brow-beating lawyer, in cross-examining a witness, asked him, among other questions, where he was on a particular day; to which he replied: "In company with two friends." "Friends!" exclaimed the lawyer; "two thieves, I suppose you mean." "They may be so," replied the witness, "for they are both lawyers."

"John, I am afraid you have been forgetting me," said a bright-eyed girl to her sweetheart the other day. "Yes, Sue, I have been for getting you these two years."

OUR FENCE CORNERS.

Law and Equity.

It is told of the late Judge Benjamin Tappan of Ohio, that when he applied to Judges of the Supreme Court for admission to the bar of that State, he was asked the following questions, to which he gave the answer as follows: "Mr. Tappan, what is law?" Answer—"An unjust distribution of justice. "Mr. Tappan, what is equity?" Answer—A confounded imposition upon common sense!" No other questions were asked, and he was given a certificate.

THE LANCASTER FARMER—Edited by Prof. S. S. Rathvon: We have before us this excellent periodical in a new and improved form, making a very handsome appearance indeed, and entitling it to the respect and attention of all those who "till the soil, or ply the loom or hammer." As a Lancaster literary and scientific production, it will command notice for its handsome typographical appearance, and will commend itself especially for the solid original matter its pages contain. The subscription price is only $1.00 per annum, which should secure its extensive circulation amon our worthy farmers throughout our garden county and throughout the United States. We heartily commend the *Farmer* to the favorable notice of our readers. Pearsol & Geist are the publishers. —*Lancaster Weekly Review.*

The Only Difference.

The servant of an army officer one day met a crony, who inquired of him how he got along with his fiery master. "Oh, excellently!" answered the servant; "we live on friendly terms; every morning we beat each other's coats; the only difference is, he takes his off to be beaten, and I keep mine on."

THE LANCASTER FARMER: The February number of this journal is even better than the January number, which we took pleasure in commending when it made its appearance in its new dress. The present number contains several excellent editorials on subjects of great interest to the farmer and horticulturist, while the correspondence and selected articles show that careful editorial supervision has been exercised in their preparation and arrangement for the press. A beautiful engraving of the Centennial building in Philadelphia, is also published in the present number, which should be in the hands of every Lancaster county farmer, horticulturist and stock raiser.—*Lancaster Intelligencer.*

An intolerable bore, having talked a friend nearly out of his senses, finally struck out on the "oyster," which he called "one of the most remarkable specimens of creative wisdom extant," when his friend interrupted him and "closed the debate" with the exclamation, "The oyster! Ah, yes, the oyster is a glorious fellow. He always knows when to shut up."

THE LANCASTER FARMER: We take pleasure in acknowledging the receipt of the *Lancaster Farmer* for January and February, in its changed, improved and enlarged form. We have no doubt that under the able control of Prof. S. S. Rathvon, it is destined to occupy a first-class position among the journals devoted to scientific and practical Agriculture. Its contents are varied and well adapted to the wants of the farmers of our county; furnishing them with just such information as will be of great ultimate benefit to them in their daily avocation.—*Marietta Register.*

An old-fashioned clergyman named More was riding on horseback one stormy day, enveloped in a loose cloak of large proportions and having a broad scarlet collar. By the action of the wind the cloak was tossing about in all directions, when a gentleman rode up on a spirited horse, which shied and almost threw the rider. "That cloak of yours would frighten the devil," said the gentleman. "You don't say so!" replied Mr. More; "why, that's just my trade."

LANCASTER FARMER: The February number is received. It now certainly ranks among the first of our agricultural journals. Prof. S. S. Rathvon, the editor, is widely known as a leading entomologist, and as being well versed in the natural sciences and agriculture; hence the *Farmer* cannot fail in his hands to take the front rank among the journals that furnish useful and reliable information to farmer, gardener, fruit-grower, and stock raiser. Address the publishers, Pearsol & Geist, Lancaster, Pa.—*Mt. Joy Herald.*

A harmless, half-witted creature was accosted by a saucy fellow, who thought to make game of him. "I say, Jack, lad, dost want a place? Master wants a fool." "Ay, indeed," replied Jack: "wants a fool, does he? Then are you going to leave, or does he want a couple?"

A man who was sentenced to be hung was visited by his wife, who said, "My dear, would you like the children to see you executed?" "No," replied he. "That's just like you," said she; "for you never wanted the children to have any enjoyment."

Prof. S. S. RATHVON, Editor. LANCASTER, PA., APRIL, 1875. PEARSOL & GEIST, Publishers.

THE FARMERS HOME ORGAN.

The Lancaster Farmer;

A MONTHLY NEWSPAPER,

DEVOTED TO AGRICULTURE, HORTICULTURE, DOMESTIC ECONOMY, AND MISCELLANY.

Founded under the auspices of the Lancaster County Agricultural and Horticultural Society.

Edited by Prof. S. S. RATHVON.

With the January issue (1875) THE FARMER entered upon its seventh year, under a change of proprietors, the publication having been transferred to the undersigned, who propose to make it in all respects a first-class local organ of the important interests to which it is especially devoted.

With this view THE FARMER has been enlarged and its form changed to the Imperial Magazine style, each number containing twenty-four pages Imp. 8vo., measuring 9½ by 13 inches, at least seventeen of which will be exclusively devoted to reading matter, the advertisements and "standing matter" being limited to the remaining pages. This increase of size and change of form, together with the use of a more compact type, enables us to give twice as much reading matter as was contained in the old form.

If this effort to give the agricultural community of Lancaster county a publication worthy of their honorable calling is liberally seconded, we propose to add other improvements from time to time, including illustrations of important topics of general interest, and papers from special contributors on the more important local industries and resources of the county—a wide field, which has been very little cultivated by our local press.

The contributions of our able editor, Prof. RATHVON, on subjects connected with the science of farming, and particularly that specialty of which he is so thoroughly a master—entomological science—some knowledge of which has become a necessity to the successful farmer, are alone worth much more than the price of this publication.

THE FARMER will be published on the 15th of every month, printed on good paper with clear type, in convenient form for reading and binding, and mailed to subscribers on the following

TERMS:

To subscribers residing within the county—

One copy, one year,	$1.00
Six copies, one year,	5.00
Ten Copies, one year,	7.50

To subscribers outside of Lancaster county, including postage pre-paid by the publishers:

One copy, one year,	$1.25
Five copies, one year,	5.00

All subscriptions will commence with the January number unless otherwise ordered.

All communications intended for publication should be addressed to the Editor, and, to secure insertion, should be in his hands by the first of the month of publication.

All business letters, containing subscriptions and advertisements, should be addressed to the publishers,

PEARSOL & GEIST,
Express Buildings, 22, South Queen Street,
LANCASTER, PA.

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CONTENTS OF THIS NUMBER.

SIX TOPICS ILLUSTRATED.
TWENTY-FIVE ENGRAVINGS.

PENNSYLVANIA RAILROAD.
Trains LEAVE the Pennsylvania Depot in this city as follows:

WESTWARD.	Leave Lancaster.	Arrive Harrisburg.
Pacific Express*.....	2:45 a. m.	4:10 a. m.
York Accommodation..	7:50 a. m.	Col. and York.
Mail Train via Mt. Joy..	11:20 a. m.	1:00 p. m.
Mail Train No. 2 via Columbia*.....	11:20 a. m.	1:20 p. m.
Fast Line.....	3:25 p. m.	4:50 p. m.
Harrisburg Accom.....	6.10 p. m.	8:10 p. m.
Lancaster Train.....	7:35 p. m.	Col. and York.
Pittsburg Express.....	8:55 p. m.	10:10 p. m.
Cincinnati Express*....	10:45 p. m.	12:01 a. m.
EASTWARD.	**Lancaster.**	**Philadelphia.**
Atlantic Express*.....	12:40 a. m.	3:10 a. m.
Philad'a Express†.....	3:55 a. m.	6:50 a. m.
Harrisburg Express....	7:20 a. m.	10:00 a. m.
Lancaster Train.....	9:28 a. m.	12:25 p. m.
Pacific Express*.....	1.45 p. m.	4.15 p. m.
Elmira Express.....	3.15 p. m.	5:55 p. m.
Harrisburg Accom.....	6:20 p. m.	9:30 p. m.

The Columbia Accommodation Train will leave Columbia at 1:00 p. m., and arrive at Lancaster at 1:35 p. m. Returning, leave Lancaster at 3:40 p. m., and arrive at Columbia at 4:15 p. m.

York Accommodation leaving Lancaster at 7:50 a. m. and Columbia at 8:20 a. m., will connect at York with Baltimore Accommodation, south, at 9:13, arriving at Baltimore at 12:05 p. m.

The York Accommodation, leaving York at 5:50 a. m., connects at Columbia, at 6:35, with the train leaving Marietta at 6:22 a. m., and at Lancaster, at 7:20 a. m., with the Harrisburg Express.

The Pacific Express east, on Sunday, will make the following stops, when flagged, viz.: Middletown, Elizabethtown, Mount Joy, Bird-in-Hand, Leaman Place, Gap, Christiana, Parkesburg, Costesville, Gleo Lock, and Bryn Mawr.

*The only trains which run daily. Mail train west on Sunday will run via Columbia.

†Runs daily, except Monday.

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On orders accompanied by the cash or postal order, I will send safely by mail post-paid one box Pills for 25 cents, one doz. boxes, $2.50, one gross boxes, $24.00.

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7-3-tf ST. GEORGE, UTAH.

2,000 Copies of The Farmer

Have been printed each month since the publication passed into the hands of the present proprietors. Of this number the copies not wanted for regular subscribers have been sent to leading farmers in the various districts of the county, for their examination, in the hope that they would be pleased with it and become subscribers. We are proud to be able to state that THE FARMER has made a very favorable impression wherever it has been read, and we have every reason to believe that its subscription list will be doubled before the year is out. Lancaster being one of the most populous and wealthy agricultural counties in the nation, this journal is a very desirable medium for those who wish to reach a thrifty class of farmers.

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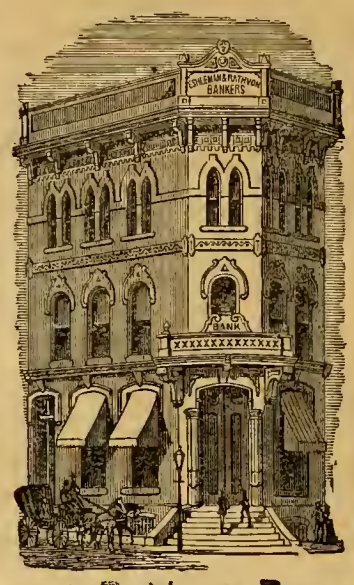

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—o—

Our climate is so mild we seldom have snow in the valleys—but in midsummer may find snow and ice in a day's ride. The plants from the regions of the extremes of heat and cold meet here and hybridize; thus the many new plants—some very beautiful in bloom, and attractive as ornaments. Several new SPECIES have been discovered, and many more new varieties.

I will send plants or seeds, each in the proper season, for orders accompanied by the "ready," and in some instances will exchange for the rare and beautiful, for garden and conservatory. **J. E. JOHNSON.**
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HERMAN MILLER'S STEAM SOAP AND CANDLE WORKS,

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SOAPS OF ALL KINDS.

Tallow and Fat taken in exchange at the highest market prices. Patent Wheel Grease for sale. [6m
7-2]

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SPONGES, BRUSHES, PERFUMERY, &c., &c.

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HORSE-BILLS.
PLAIN OR IN FANCY COLORS,
Printed in the Best Style at the office of
THE FARMER.

OUR FENCE CORNERS

One of Ben. Butler's Last.

ONE OF THE LAST as well as one of the neatest hits made by General Butler, just before the close of the last session in Congress, occurred during the famous "dead-lock" fight on the Civil Rights Bill. The question of adjournment was under consideration, and General Butler had stepped over to Mr. Randall's desk for a private consultation. Butler favored a Sunday session. Randall opposed.

"Bad as I am, I have some respect for God's day," said the Democrat, "and I don't think it proper to hold a session of Congress on that day."

"Oh, pshaw!" responded Butler, "don't the bible say that it is lawful to pull your ox or your ass out of a pit on the Sabbath-day? You have seventy-three asses on your side of this House that I want to get out of this ditch to-morrow, and I think I am engaged in a holy work."

"Don't do it, Butler," pleaded Sam. "I have some respect for you that I don't want to lose. I expect, some day, to meet you in a better world."

"You will be there, as you are here," retorted Butler, quick as thought—"*a member of the Lower House.*"

IN THE EARLY DAYS of Ontario county, N. Y., lived one Miller, from whom "Miller's Corners," near Bloomfield, took its name. He had been a blacksmith, and had brought along his tools, but designed to give his attention mainly to farming. But there were so many calls upon his mechanical skill that, without stopping to build a shop, he extemporized a forge, cut down a tree, placed his anvil on the stump, and went to work. One day on a man horseback, with plow-irons strapped across his saddle, who had made his way from the south part of Canandaigua, encountered Harvey Hecock at the Oliver Chapin School house Corners, and inquired the way to Miller's blacksmith shop. Hecock replied: "You are in the shop now, but it is three miles to the anvil!"

PLOWING made easy, is what the American farmer wants, and the wits of the Yankee inventor have at last soared to the comfortable solution of the problem. It goes forth to the public as a "shade attachment for plows," and consists of an umbrella so fitted that the man at the plow is screened from the heat of the sun. The legal and formal description, as filed at the patent office, is as follows: "A cranked arm is secured in a socket by means of a set screw, and is free to revolve in a horizontal plane. The outer end of the crank is jointed, and provided with an adjusting brace, whereby it may be inclined and secured at any desired angle. A suitable socket at the upper end of the arm holds the umbrella handle, retaining the same by a simple spring catch."

ILLINOIS is just now in such a ferment about a bishop that the following is not malapropos. We are indebted for it to a correspondent who has heretofore sent us anecdotes of the late Bishop Whitehouse. During one of his sermons he undertook to illustrate a point by telling the congergation how he had once been lost on the prairies of Illinois, and had wandered for a long time, weary and almost hopeless. At last, he saw a light, and made his way slowly toward it, shouting for help. "Just as I thought I could go no farther," said the bishop, "and was about sinking down in despair, the door of a cabin was opened before me, and the *long looked-for 'Sucker'* came." The unintentional pun brought down the house.

OF THE MANY JUVENILE funniments that bubble up and seek for publicity through the types, the following of a little New Hampshire girl—quite mature at six—is not bad. She went into a store where her father was lounging, and slyly approaching him, said, "Papa, won't you buy me a new dress?" "Well, I'll see, I'll speak to your mother about it." A sad look came over the little maiden's face, until looking up with a smile into the paternal eyes, she said, "Well, papa, if you do speak to mamma about it, touch her easy, or she may want it herself!" He bought it—for the daughter.

A GASCON who had a quarrel with the Bishop of Bazas, swore that he would never again pray within the diocese. Long afterward, in crossing a river in the neighborhood, he was overtaken by a severe hurricane. The boatman at last told him despairingly that nothing further could be done to keep the boat afloat, and that he had better recommend himself to the mercy of God. "Are you sure," said the Gascon, "that we are beyond the diocese of Bazas?"

A FEW DAYS since a very pretty young married woman, during a dinner-table discussion on Churchmanship, opened the eyes of the company and demolished her husband by expressing, as her opinion, that "the only difference between the ritualists and Romanists was in the fact that the latter *burned insects.*"

A JUDGE in whose court was a great deal of noise, exclaimed, "Officers! call silence in the court. It is a strange thing that this noise cannot be put a stop to. I have decided I do not know how many cases without having heard them!"

The Lancaster Farmer.

Prof. S. S. RATHVON, Editor. LANCASTER, PA., APRIL, 1875. Vol. VII. No. 4.

COLORADO POTATO-BEETLE.

(*Doryphora decemlineata.*)

The accompanying figures, we think, sufficiently illustrate this now notorious insect, in its various stages of development, without inflicting upon our readers a technical description of it. It may, however, be necessary to state, by way of simplification, that *a a* shows the eggs, deposited in groups on the undersides of the potato leaves; and which, when first deposited, are of a lemon yellow color: *b, b, b*, the *larvæ*, of various ages, colors, orange and black; *c*, the *pupa*, a light clay yellow, and always found under ground; *d, d*, the *imago*, or adult beetle, colors dark clay yellow and black; *e*, a wing cover, magnified, illustrating its specific lineations, the other figures being the natural size; *f*, one of the posterior legs.

The most common translation of the Latin name is "Tenlined Spearman," which *specifically* seems obvious enough, but *generically* it would be difficult to see anything about the insect that conveys the idea of a spearman. These figures, together with the living forms, which are becoming familiar to potato growers in Lancaster county, will enable those to identify them who may be yet unacquainted with their general appearance.

It seems hardly necessary to publish the history of the "Colorado Potato-Beetle" again in the columns of THE FARMER, and yet, in view of the fact that it may come before a larger number of readers since "our new departure" than it did in our former volumes, and that past experiences have had a tendency to direct the attention of potato growers towards a more thorough inquiry than they have condescended to bestow upon it heretofore, it may not be inappropriate to reproduce what we have formerly written, with such modifications, additions and corrections as subsequent experiences seem to suggest. And again, notwithstanding the floods of literature with which our country is now almost everywhere deluged, it is sometimes discreditably apparent that a great many people still read "little or nothing," and especially those who, one would think, have the greatest interest in reading the *practical* matter that has appeared, from time to time, in the columns of the agricultural, horticultural and scientific journals of the country. Moreover, if it requires periodical preaching, and the constant illustration of "line upon line," and "precept upon precept," to impress or remind people of their religious obligations, we cannot reasonably expect that they will give heed even to their material interests—especially where reading is involved—without a reiteration of our admonitions, in respect to those things which are likely to seriously *affect* those interests.

In the spring of 1845 a friend of ours, located in Wisconsin, in the vicinity of Grand de Tour, and him we had previously commissioned to collect for us the insects of that region. His first instalment we received sometime during the summer of that year, and among them were four specimens of a large chrysomelan, which we subsequently submitted to a competent coleopterist—for we then possessed neither description nor catalogue of American insects—and he named them *Polygramma* 10-*lineata* of SAY, with *juncta* of GERMER, as a synonym. On a subsequent occasion we received two specimens of the same species, but somewhat larger in size, from South Virginia. Allied species, then included in the genera, *Blepharida*, *Labidomera*, *Zygogramma* and *Calligrapha*, we had frequently found in Lancaster and York counties, but we never noticed that any of them fed upon the potato tops. *Calligrapha* we generally found most abundant on the dwarf willows.

For about fifteen years our group of Chrysomelans remained undisturbed, until the late lamented MR. WALSH, of Rock Island, Illinois, demonstrated that 10-*lineata* and* *juncta* were not synonyms, but distinct; that those we received from Grand de Tour and Virginia were the *juncta*, and that 10-*lineta* from Colorado and farther west, only reached Wisconsin, Iowa and Illinois, about 1861 or 1862. And that wherever they appeared they were particularly destructive to the vines of the common potato, (*Solanum tuberosum*,) and since then they have become a common pest.

This enemy of one of our most essential crops having, to all appearance, now fixed itself in Lancaster county, allow us to offer some speculations as to how it got here so far in advance of its usual yearly progress through the Western States. In 1871 we heard of its being within twenty miles of the western boundary line of Pennsylvania; and as its previous progress had been from sixty to seventy miles a year, we might naturally have looked for its "advance guards" in this county, about the year 1875 or 1876. But it was here already in 1872, and as its first appearance was in the vicinity of the Pennsylvania railroad, there is reason to conjecture that it had been brought here somehow on the rolling stock of that road. In 1870 a few of these beetles had been discovered in a potato patch in the town of Worcester, Mass., according to Dr. Packard, who gave it as his opinion that they had been conveyed thither on the railroad, as the enclosure in which they were discovered was in proximity to the road. But through Yankee ingenuity and vigilance they were exterminated.

Now, the last brood of the season of this insect, either in its pupa or mature state, hybernates during the winter season—that is, becomes torpid—either under the ground, under heaps of field rubbish, or in "cracks and crevices," or other convenient hiding places. In the autumn of 1871 they were noticed near the eastern boundary of Ohio, deserting a potato field because no more potato plants were in their green or succulent state, and winter was approaching. They were so numerous in crossing over the rails of the road, that the driving wheels of the engines would sometimes make a whole revolution without making any forward progress, in consequence of the crushed bodies of the insects lubricating the tracks. We may, therefore, reasonably conclude, that some of them took refuge in the rolling stock standing on the road, or in exposed freight, subsequently loaded on the cars—for even the streets, sidewalks and yards of some of the towns, were full of them—and thus were conveyed to other remote localities. It is difficult to comprehend how they could so soon have crossed the Allegheny mountains, and have reached Eastern Pennsylvania, on any other theory.

It is true that the matured beetles are provided with ample wings, and although their flight is sluggish, they may still possess the power of flying a great distance in calm weather. Butterflies have an apparently weak and awkward flight, and yet they have been known to alight on the rigging of vessels ninety or a hundred miles out at sea, in fair weather. Insects of various kinds have frequently been known to cross the British channel, a distance of thirty or forty miles from the continent of Europe to England, and *vice versa*. This does not preclude the possibility of their being also transported by artificial means, and it was evidently by such means that they were first brought into Lancaster county.

Although potato growers are beginning to acquire a realizing sense of their destructive habits, and to learn something of their individual identification, yet there is a vast amount of the most profound ignorance still abroad in reference to their history, their transformation, and their modes of reproduction and perpetuation; some alleging that the "white butterfly" deposits the eggs from which the disgusting grubs are hatched; others that the grubs are the parents of certain plant-lice which infest the potato vines; and others again that when the female is done laying her eggs she creeps into the ground, and comes forth again reinvigorated; many of them vigorously warring against the grubs, but paying no attention to the mature beetles—the authors of the pestilential hordes.

Although the lives of virgin or gravid female insects may be prolonged to an indefinite period, yet when they have oviposited, they usually soon die thereafter from exhaustion. As the female "Colorado Beetle" deposits from one thousand to twelve hundred eggs within a period of about forty days, there is reason to believe that she soon thereafter shares the common fate. This is also the case with the males after their spermatozoic energies are exhausted. Therefore those which survive the hybernating period and make their appearance in early spring, are either gravid or virgin female, and unexhausted males. We have seen the sexes in *cotu* in the early part of June, and therefore concluded that they had hybernated in the pupa state; the earlier eggs must therefore have been from females impregnated last year.

Under these circumstances then, it becomes the bounden duty of *all* the potato growers in a district infested by the Colorado Potato Beetle to exercise a vigilant watch for these insects early in the spring, even before their potato plants have broken through the surface of the ground, and by careful and thorough handpicking or otherwise, to gather and destroy all the adult beetles as soon as they make their appearance; for in so doing they destroy from ten to twelve hundred insects in embryo. Although the beetles themselves also feed upon the potato plants, yet their injuries are only as one to a hundred, when compared to the injury inflicted by the *larva*. But the farmers' labors in this direction should not cease here, for some of the insects may have evaded their utmost watchfulness. They should, therefore, thoroughly examine all their potato plants, and, if eggs are present, they will be found in clusters of from twenty to fifty on the undersides of the leaves.

These eggs are sufficiently conspicuous to be

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*We are in possession of illustrations of this insect, and in a future number of our journal we will publish them and point out the specific distinctions between it and 10-*lineta*, and also something about its geographical distribution, its history and its habits, for the edification of our readers.

detected by the naked eye, and are a bright orange color when first deposited, but as incubation supervenes, they change in color to different shades of brown. These eggs should be carefully collected and destroyed. The employment of the children of the household could be beneficially and economically improvised for this purpose, but in the absence of such children it would be far better to hire children at reasonable wages than to leave the work undone. One day's vigilant labor in early spring would be worth more than ten days at a later period, when the eggs are hatched, and the larva have begun their devastating work.

REMEDIES.

If, however, through negligence or otherwise, the insects have become so numerous that handpicking would be impracticable and hopeless, and antidotes or mechanical means become necessary in order to save the crop, whatever *is* done should be done intelligently, systematically and perseveringly. Too many remedies are carelessly and hastily applied, and then if no good from them becomes immediately apparent, they are unqualifiedly condemned. People expect the result of artificial remedies to be something analogous to a patient taking a dose of medicine. He shuts his eyes and swallows the pill, and then folds his hands and waits for its operation, without any other effort on his part. You might as well attempt to kill a bird by dropping a little salt upon one of the feathers of its tail, as to expect to kill potato beetles by such an indolent application of remedies. The tobacco grower goes to work more skillfully and perseveringly than that, and surely the potato crop of the country is of more consequence to the poorer masses of the people than the tobacco.

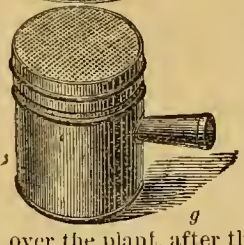
Remedies may be divided into three classes, namely: *Manual*, *artificial* and *natural*. To the first of these belong hand-picking and the various contrivances which have been invented or devised for knocking the insects off the vines into receiving vessels, by the hands, a broom or wisp, a bat, a revolving fan-wheel passed between the rows, or by a sort of scoop with a divergent mouth. The simplest of these is a shallow pan held in the left hand under the infested vine, and then with the right hand sweeping or stripping them off into the pan, and destroying them. As these insects are not gifted with any very great powers of locomotion and prehension, they very readily fall into such a trap, if it is carefully and skillfully manipulated. Of course, in the use of these remedies many of the insects may fall upon the ground near the base of the plant, and therefore these should receive careful attention, or they will soon return again to the places from where they had been temporarily dislodged. The adults, also, when they fall, will be apt to practice deception for awhile, and pretend to be dead—trust them not.

The artificial remedies are many—good, bad and indifferent; but even the best of them may be worthless, if not skillfully and perseveringly applied. *Woodashes*, strewn on the plants when they are wet with dew or rain, is claimed as a remedy, on the ground that an alkalinous substance results from a combination of ashes and water, that is distasteful or destructive to the insects; *air-slaked lime*, on account of its acidiferous qualities; *gas lime*, as a repellant or expellant, through its asphaltic odor; *pulverized tobacco*, on account of its narcotic qualities, and for the same reason *tobacco decoctions* are applied; a solution of *whale oil soap*, which is a general remedy for the destruction of insects, is also classed among the artificial means to extinguish the Colorado Potato Beetle; *white hellebore*, on account of its poisonous qualities, has been applied, and in some instances with perceptible effect; but, so far, the best remedy yet discovered is *Paris green*, applied as a powder or held in suspension in water. Those who have tried both plans, give the preference to the dry powder application as the simplest, most economical, and also most effective, when carefully administered.

As a liquid, a tablespoonful of Paris green is put into a common pail of water, thoroughly stirred up, and sprinkled on the infested plants with a common watering can, or a sprinkler made for that special purpose. In the same manner, a potato grower recommends one pound of concentrated lye dissolved in a barrel of water, sprinkled on the plants at any hour during the day; but an intelligent farmer, residing near this city, reports that he has tried it without any visible good effect. Although all the foregoing remedies may destroy some of the insects when skilfully and perseveringly used, yet many of them have proved failures. This may not be so much on account of the substance used, as upon its intrinsic quality—its necessary strength to kill the insects or drive them away, and yet not to injure the plants, or not being so employed as to come in immediate contact with the evil.

One pound of dry Paris green, however, thoroughly mixed with twenty pounds of wheat, rye, oats or buckwheat flour, has, upon general trial, been adopted as the best artificial remedy, and to which no danger attaches if the ordinary care be taken, as in the use of any other poison. It must also be remembered, that the dilution of Paris green must be in proportion to its quality, if the desired benefits are to be expected from its use.

Now that the demand for this substance is so great in the western States, "a shoddy" or adulterated article has found its way on the market, and farmers have been cheated and their crops destroyed through the application of a weak, ineffectual remedy, and the remedy itself decried as a failure. Honorable druggists ought to compound and mix the remedy themselves, and keep for sale nothing but a good article. If we do not greatly misconstrue the "signs of the times," the demand for Paris green will be a brisk one in the future, and none but a practical druggist would so well understand the mixing of it, for on this depends greatly its beneficial effects; moreover, the man who sells the best article, would certainly receive the largest patronage.



A tin or wooden cylindrical box, (*g*) capable of holding about one quart of the remedy, having a wire-gauze or perforated bottom, to avoid waste, is a good implement to scatter the powder on the plants. This box should have a handle at the side, three or four feet long. If this box is held over the plant, after the lid (*h*) on the perforated end is removed, and a gentle or brisk blow is struck on the handle with a small mallet, enough of the powder will be discharged to kill all the insects it comes in contact with.

Care should be taken not to inhale any of the mixture; but a very small quantity* in this diluted form would not be *very* hurtful. The operator should always keep to windward of the discharge, but, if possible, the remedy should not be used when it is very windy, as much of it would be wasted, and would probably not reach the enemy. The best time to use any powdered preparation is early in the morning, when the dew is on the plants, or immediately after a rain. In the absence of dew or rain, and it became important to save the crop, the plants could be wetted artificially.

In our next number we will publish an illustrated article on *natural* remedies, as a necessary sequel to the foregoing; which will be followed with an illustrated paper on other species of "Potato-beetles," that our patrons may comprehend what this popular term really means.

* On this subject, however, we refer our readers to pages 35 and 36 of the March number of THE FARMER, and commend to their careful consideration the whole article, in which both sides of the question are ably discussed. Also to the second column of page 42, as touching the poisonous quality of the insect itself. We have received several other papers on the same subject, from authors, which we may insert in some future issue, but in the meantime we would like to have the experimental knowledge of our local potato growers themselves—whether negative or affirmative—because we desire to invest the subject with *facts*, and not merely reckless *fancies*.

GALLINOCULTURE et OVACULTURE.

Without stopping to discuss which of these branches of human husbandry has the precedence in the ordinary developments of nature's realm, it may be as clear to state that without chickens there could be no eggs, as that without eggs there could be no chickens. Under any circumstances, the egg and chicken questions are assuming a magnitude and an importance in this country, that are little apprehended by the masses of our citizens, or perhaps even by those of more than ordinary intelligence on other subjects. Perhaps it may surprise some of our readers to learn, that through the reports of the Chief of the Bureau of Government Statistics, at Washington, it transpires that during a period of eleven months, in 1873, we have imported 5,467,264 dozens of eggs, at a cost of $732,-234, and that the importations of 1874, probably, far exceed those amounts. If accurate statistics of the consumption of eggs in the United States could be obtained, we feel confident that the general result would be an "eye-opener," and clearly demonstrate the little danger there is of overstocking the market. One large hotel in Boston uses an average of one hundred dozens of eggs daily, and another in Philadelphia one hundred and fifty dozens daily. According to the most reliable data that can be obtained on the subject, the annual consumption of eggs and poultry in the Union amounts to the enormous sum of *two hundred and sixty-five millions of dollars*. *Six millions of dollars* worth of poultry were sold in New York and Boston alone, in a single year. This exceeds the commercial value of all the swine and half the value of all the sheep sold during the same period in those places. It exceeds the entire value of the neat cattle, and over four times the total value of the horses and mules, yearly sold in those cities.

Mr. Geo. S. Burnham, in his work on poultry, states that during last year one establishment in Europe, engaged in the egg and poultry business, averaged 50,000 dozens weekly, which, with the annual sales of chickens hatched, yielded $285,000. The expenses of the establishment amounted to $145,000, leaving a profit of $135,000 a year.

It seems to us that these facts and figures very clearly illustrate the increasing importance of *gallinoculture* and *ovaculture* in our country, and the necessity for systematic effort in a most useful industrial enterprise—an enterprise which, if intelligently and perseveringly followed, could not help being remunerative.

The fact that the eggs of the ostrich, the crocodile, various species of terrapins, and other reptiles are hatched without the aid of the mothers that lay them—by the heat of the sun alone—led the Egyptians, centuries ago, to improvise the hatching of the eggs of poultry by artificial means; and the existence of the "Egyptian egg-ovens" has passed into history as a domestic institution these many years.

But the artificial hatching of eggs and the raising of poultry, as a source of profit, has not been confined to the Egyptians, but on the contrary, the Chinese, and the people of Damascus, Palestine and elsewhere, in ancient times, were extensive artificial breeders.

Let any man in ordinary circumstances ponder the subject—let him note how often during the year he has had eggs and chickens served up at his daily meals, and see how it will compare with rancid bacon and tough beef. The fact is, both eggs and chickens are usually too high in price for the general consumption of the common people.

Many people of delicate constitutions and sedentary occupations are nearly all the time half starved, because they cannot appropriate the coarse and fatty food that is relished by the robust man, or the one who has much daily physical exercise.

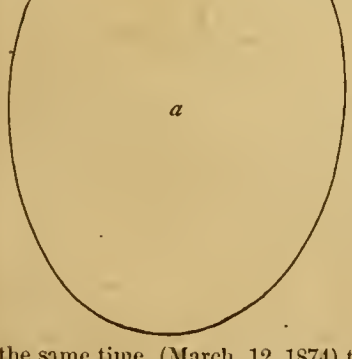
There is no reason why modern ingenuity should not be able to improve upon the ancient systems of chicken production, and develop an industrial occupation that will *pay*.

From the days of *Aristotle* down to the present period, history has been dotted in every century with the importance of this industry and its pecuniary results. The Roman Emperor Constantine, notwithstanding the warlike period in which he lived, recognized the claims of gallinoculture, by writing a memoir on the subject, and long before his time the Grecian philosopher had suggested improvements on the Egyptian system. The English, French, Germans, Italians and Portuguese, had also experimented with more or less success on the subject from an early period.

It is true there has not been that success, as a general thing, in the temperate or cooler climates, which distinguished the Egyptians, but the chief obstacles have, one by one, been overcome, and the *Gallinoculture Institute* at Hicksville, Queens county, New York, seems to have solved the knotty problem. This business, like all other kinds of business, must be practically understood before it would be wise to embark in it, but when understood, no doubt it would afford more pleasure and profit than any other rural occupation in the country. Prof. A. Corbett, the manager of the institute above named, is confident that *five hundred dollars a year* can be cleared with twelve hens. We need more business occupations, we need cheaper poultry and eggs, and these needs alone will command consumption and profit to those who embark in the enterprise with their eyes open.

DISTINGUISHING SEX IN EGGS.

The popular notion that a pointed egg will produce a male, and a strictly oval or blunt-ended egg a female chicken, was long since demonstrated to be simply egg-otistical nonsense coming from that class of folks who take popular tradition for truth, without due investigation. Most people admit the desirability of knowing whether a certain lot of eggs will hatch out cockerels or pullets, but very few will admit the possibility of such knowledge, classing it among "those things which no fellow can find out." But, about a year ago our attention was arrested by the results of experiments published in the West Chester papers, by Wm. J. Pyle, of West Goshen, Chester county, which struck us as very remarkable, and worthy of further experiments. About

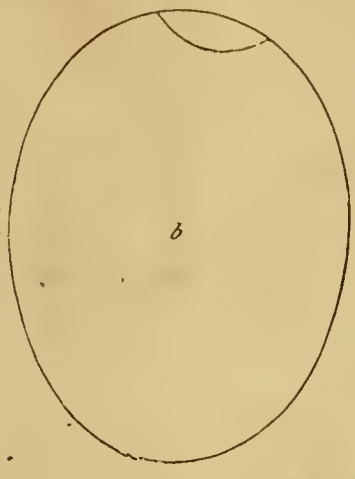


It will be seen that the air-chamber (Fig. *a*) is directly at the apex or blunt end of the egg; this will hatch a lively cockerel, of quick growth and light plumage.

the same time, (March 12, 1874) this new test was illustrated in *The Fanciers' Journal and Poultry Exchange*, of Philadelphia, prefaced with the remark, by the editor, that "during the past year we have had brought to our notice no less than three experiments, which seem to be entirely successful in selecting eggs that would produce male or female as desired; and, as the season of hatching is upon us, and the experiment can be tried without labor or expense, we have decided to give the information to our readers, and have had the following diagrams made to illustrate the subject more plainly," for the loan of which illustrations THE FARMER acknowledges itself endebted to Mr. Joseph M. Wade, editor of the excellent Poultry Journal above named.

In his "Code on Poultry Keeping," Mr. Edwards, of England, quotes Columella, Massical, Stephanus, Reaumer, and others, as authority for the instruction to "examine the position of the air cavities in the eggs, and only retain those that have them placed directly at the apex of the blunt or large end, avoiding all that have them placed at all to the side. In this way eight eggs out of ten will produce cockerels." A correspondent of the London *Journal of Horticulture* furnished the following as the result of his experience:

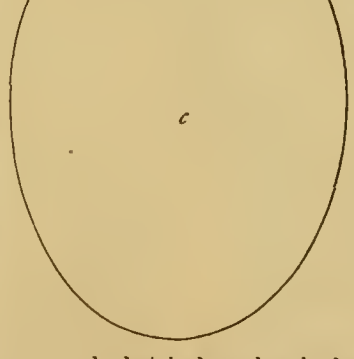
"Last winter an old country poultry-keeper told me he could distinguish the sex in eggs; I laughed at him, and was none the less sceptical when he told me the following secret: 'Eggs with the air-bladder on



This (Fig. *b*) is the kind rejected by all of the experimenters who have so far reported, as it "will be good for nothing but the pot."

the centre of the crown of the egg will produce cockerels; those with the bladder on one side will produce pullets.' The old man was so certain of the truth of this dogma, and his poultry-yard so far confirmed it, that I determined to make experiments upon it this year. I have done so, carefully registering every egg 'bladder vertical' or 'bladder on one side,' rejecting every one in which it was not decidedly one or the other, as in some it is only very slightly out of the centre. The following is the result: Fifty-eight chickens were hatched, three are dead, eleven are yet too young to decide upon their sex; of the remaining forty-four every one has turned out exactly true to the old man's theory. This, of course, may be an accidental coincidence, but I shall certainly try the experiments again. I am now trying the same theory upon ducks' eggs."

Mr. Pile has used his plan for some time, and he is confident that if it is followed out to the letter it will succeed every time. Last



Mr. Pyle says this (Fig *c*) will hatch a pullet of quick and healthy growth, and will become a hen of good laying qualities.

summer, he hatched one hundred and twenty-two chickens from eggs selected on this principle, and one hundred and nineteen were pullets. He says:

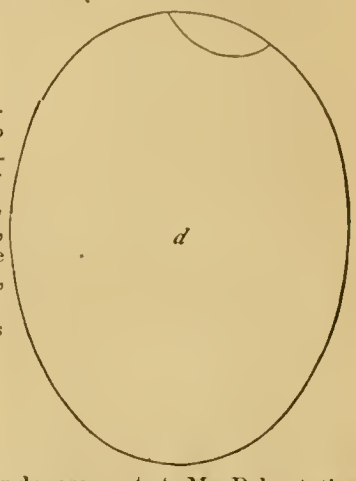
"I always select eggs of medium size, believing them to be the best for this purpose. I then get a large lamp, and take an egg in my right hand, between the thumb and two forefingers, big end uppermost, and hold it as near to the light as possible, then hold the little finger of the left hand across the middle of the egg. This will throw the light on the egg; then turn it around slowly, and you will perceive a dark spot, the size of a three-cent piece, directly in the centre of the large end, or on one side, as in diagrams *a*, *b*, *c*, and *d*.

"As I raise poultry for eggs and for market, I, of course, set only eggs like letter *c*, with a few of letter *a* to replace the cocks of last year.

"It would be well for an amateur to break a few eggs, empty out the contents, and examine the large end, where the air chamber in the different positions as in diagram will be distinctly seen. Where the air chamber is wanting the egg is unfertile and will not hatch."

In publishing Mr. Pyle's experience with this test, the editor of the *Village Record* said:

"Our experience this spring (1874) proves this little point. We set a little bantam hen on seven white leghorn eggs, in five of which we could discover no air chamber, and after she had been sitting ten days we found chickens only in the two which had air chambers."



This (Fig. *d*) will also hatch a pullet, but of slow growth, a poor layer, inclined to be masculine, and will sometimes crow.

The other day we wrote to Mr. Pyle, stating that we intended to publish the result of his tests in THE FARMER, and that we were desirous of knowing whether he had any new facts likely to modify his former statements. It will be seen by the following reply, that he has no doubt of the reliability of the test, and simply repeats his instructions for the benefit of the amateur:

MR. GEIST: I have no cuts of the eggs, but I send you to-day a paper containing the diagrams; you can cut them yourself. If you should publish them, please say that when the air-bladder is not to be seen at all, the egg is not fertile. It may be plainly seen by holding close to a strong light, large end uppermost—between the thumb and first two fingers of right hand, with left hand placed over the top, and the the little finger one-third down the egg. Turn it around quietly. You have all the instruction that is needed.—WM. S. PYLE, *April* 6, 1875.

The Cost of Our Recent War.

Mr. David A. Wells has furnished the Cobden Club of England with an essay upon the expenses, income and taxes of the United States. We copy the following statement of the cost of the Rebellion:

The whole cost of the war to the Northern and Southern States from 1861 to 1866 is estimated as follows: Lives, 1,000,000; property, by destruction, waste, etc., $9,000,000,000. The gross expenditures of the United States from June, 1861, to July, 1866, $5,792,257,000. Of this the actual war expenses were about $5,342,237,000.

The expenses of States, counties, cities and towns in the Northern States, not represented by funded debts, have been estimated at $500,000,000. The increase of State debts on the war account was $123,000,000. The increase of city, town and county debts is estimated at $200,000,000. Total war expenses of the loyal States and the National Government, $6,165,237,000.

The estimated direct expenditures of the Confederate States on account of the war were $2,000,000,000.

Aggregate estimated expenses of the war to the country, North and South, $8,165,237,000.

The total receipts from all sources during the second year of the war were less than $42,000,000. The expenditures were $60,000,000 per month—at the rate of $700,000,000 a year.

OUR PARIS LETTER, which appears in this issue of THE FARMER, is an ably written and interesting resume of agricultural progress on the continent. These letters will hereafter be an important feature of this journal.

OUR FENCE CORNERS constitute an original and "taking" feature of The Farmer. They are snug corners to find and enjoy a laugh in'.

THE SUSQUEHANNA SHAD.

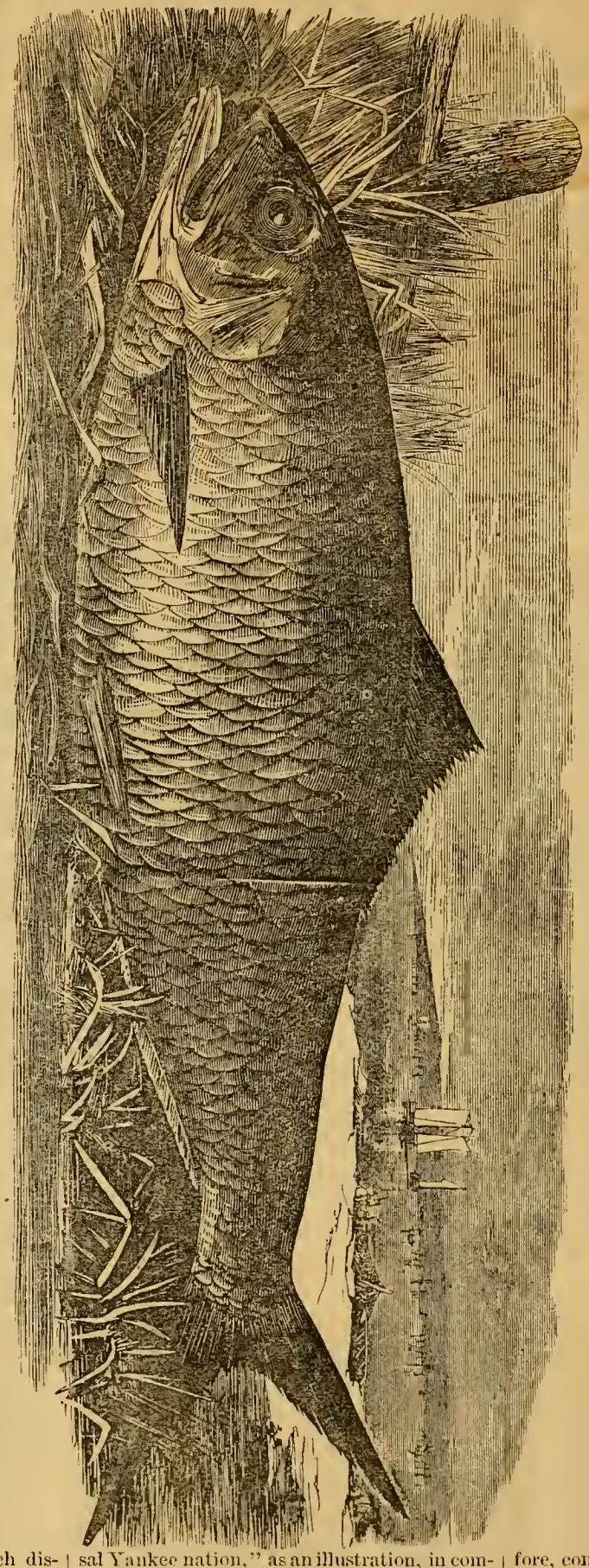
This fish, one of the most delicate and toothsome in its season that visits the inland streams of our country, belongs to the Herring family, (CLUPEIDÆ.) There are several species belonging to the restricted genus *Alosa*, at least two of which ascend the Susquehanna and its tributaries (when not obstructed in their passage) the earliest "run" of which is the "Hickory Shad," (*Alosa tyranis*,) but the true shad of the Susquehanna, and the one most highly prized, is the *Alosa præstabilis*. Of all the shad caught elsewhere in the country, there are perhaps none superior in size and excellence of flavor to those caught in the Susquehanna and its tributaries, and the higher up the streams they are caught, the fatter, more solid and delicious they are. Those taken at Safe Harbor and Columbia are far superior to those taken nearer the Bay, and before the era of *internal navigation*, and when the rivers of Pennsylvania were unobstructed by dams and fish traps, those taken at the Marietta, Elliott's Island and Clark's Ferry fisheries, were even superior to the former named. Shad ascend the streams for the purpose of spawning, after which their flesh becomes soft, milky and insipid, and many of them die before they reach the Bay again. The young fry descend the streams in autumn, and many are taken in fish-traps or "baskets," to the great prejudice of the fishing interests. From autumn until spring the shad inhabit the deeper bay or sea waters, but return every season to gladden the heart of man, and relieve him from the stale monotony of "flitch and rancid sausages." Neal, in one of his "charcoal sketches," through one of his characters says: "Of all the fish that swims, commend me to the shad as the most gentlemanly and best educated, for every year they return to our very doors. This is no doubt owing to the fact that they are partial to '*schools*,' and by a little improvement in the *curriculum* of those schools, they might be taught to ring the door-bell and inquire for the cook."

All the legislative protection that shad require, are clear and unobstructed fishways from the bays up to their spawning places. They are not a *local* fish, but fish of *passage*, and will find their way into streams of their own accord, and without the labor of "stocking" them.

Although the shad is one of the most excellent of fishes in its edible qualities, and also symmetrical in form, yet it cannot be properly considered a "game-fish." It is by no means remarkable for taking the fly, or any other kind of bait—indeed, the instances where it has been caught with a "hook and line," are not at all common, although upon the authority of "FRANK FORRESTER" it is stated that they will take the fly if it be a large and gaudily colored one. Therefore in fishing for shad the chief reliance is upon the *net*. This is of various forms, adapted to the conveniences of the fishing pools, but along the shores of the Susquehanna, and on its islands and artificial batteries, a long sweeping *seine* is mainly used. In the bays and elsewhere, a *Gill-net* supplies the place of the seine, but the Susquehanna fishermen have always looked upon this mode with much disfavor. In some places a "scoop-net," or dip-net, is the only implement that can be used.

It is within the memory of many of the older citizens of Lancaster, when shad were taken in the Conestoga, and even within the city limits.

There are various views as to the quantity and quality of aliment in fish diet, and the effect it exercises upon the mental and physical systems of those who consume it. It has been claimed by some writers that it sharpens and facilitates the exercise of the mental faculties, whereas fat pork and susages have the contrary effect. We are pointed to the "universal Yankee nation," as an illustration, in comparison with the dull, heavy and obscured intellects of porkeaters. Be this as it may, we have no positive evidence that the highest type of humanity that ever trod this earth of ours, embodying the highest manifestation of spiritual intelligence, ever ate anything of the meat or flesh kind except fish. We cannot resist the impression, however, that in our consumption of animal food, we ought to make a wider discrimination in favor of fish, and the efforts made at this time to propagate these animals by stocking our exhausted streams, seems to also point in that direction.



SUSQUEHANNA SHAD. (Alosa præstabilis.)

THE VALUE OF FISH-FOOD.

Many elaborate comparisons have been made as to the comparative value of butcher-meat and fish; occasional controversies have arisen on the subject, in which the utmost diversity of opinion has been expressed. Some economic writers maintain that fish has no food value worth speaking of; others say that fish-food must occupy a middle position between vegetables and beef and mutton. Again, a learned authority says that fish, well cooked, with oil or fat of some kind, or served with butter when brought to table, "it is chemically the same," for nutrition, as butcher-meat.

Another writer says that fish as food is only fit for children and invalids, and is totally unfitted to support the health and vigor of men or women engaged in laborious occupations. As usual in such disputes, we may hold that the truth lies between the two extremes. Many people following laborious occupations, especially in Scotland, live largely upon fish. In that country, the fishermen themselves eat a considerable portion, and, as a class, fishermen are strong and healthy; and their wives who undertake a portion of the men's work are still stronger and healthier. In Portugal, fish fried in oil forms a very large proportion of the food of the population; their fish-diet is supplemented with a little bread and fruit, and although the peasantry of the land never partake of fresh meat, yet they are a hardy, vigorous and brave people. Let it be remembered that fish is a necessity of life in France and Spain, and as regards the latter country, a constant organization is at work in the British islands to supply it with many kinds of cured fish. A huge proportion of the pilchards taken on the coast of Cornwall, as well as many hundred hogsheads of cured and smoked herrings, are sent to the Spanish markets.

SUPER-PHOSPHATE FROM RAW BONES.

We believe that super-phosphate made of raw or unburnt bones is much superior to that usually made from calcined bones. In the latter case, everything like organic matter is driven off or decomposed by the heat and escapes.

The French chemist makes the value of manure depend upon the amount of nitrogen which it contains, but super-phosphates from calcined bones contain no organic matter, or a very trifling quantity.

The super-phosphate also contains 56.8 per cent. of phosphate of lime, and therefore contains 26 per cent. of phosphoric acid. The soil is constantly being robbed of its phosphates. The ash of wheat, corn, and, indeed, all the cereals, contains a large percentage of phosphates. This is taken from the soil, and we return, in most instances, manure made from the straw and hay, which is, therefore, comparatively poor in phosphates, for it is a truth that farmers should better appreciate: *That a manure cannot be richer than the substance from which it is made.* A cow fed on straw cannot yield more manure, nor, indeed, so much, than that contained in the straw. Hence our lands become impoverished in their

phosphates. They may be rich in everything else, but a deficiency in phosphates will be fatal. You may be able to grow fine wheat, straw or corn stalks, but the grain will be wanting. One dose of a good super-phosphate will supply the needed aliment, and you have an excellent grain crop.

We believe almost any land, which has been long cropped, will be greatly benefited by a proper application of this manure. Many new soils are deficient in phosphates, and you are unable to raise a crop of cereals until you furnish this needed product. Until the people of this country contrive some plan for preserving those useful products, carried to our cities in the shape of fruit, grain, etc., etc., which are used as food, and washed into the sewers and rivers, we shall never be able to keep up the fertility of our virgin soil. We may carry guano from Lobos islands, husband our straw, manufacture bones into super-phosphate, and the cry will be, give! give! give! We must learn to return to the soil the phosphates and other valuable products snatched from it by the wondrous growth of vegetables.

ABOUT GROUND HOGS.

The past winter having been an extraordinarily long one, and an intensely cold one, a more than ordinary interest has attached to this animal, on account of a traditionary belief in its prognostications of the weather. The *myth* is to the effect, that if the ground-hog comes out from his winter quarters on "Candlemas day" (Feb. 2d,) and if there is sufficient sunshine to make his shadow visible to him, he immediately returns to his lair, which will be followed by *six weeks* of severe winter weather. But if, it is cloudy, and he cannot see his shadow, the event will be followed by an early spring. The 2d of February of the present year, happened to be a cold but bright sunny day, and *this*, it is said, accounts for the severe winter weather which has followed.

To show that the ground-hog has no possible connection with this meteorological phenomenon, his nature is such that he would not come forth on a such a cold day as we had on the 2d of February, 1875. Now this animal, otherwise called the "marmot," (*Arctomys monax*) is a hybernating rodent, and the length of his dormant period is altogther governed by the temperature of the weather; therefore, his animation is not revived until the warm spring temperature is sufficient to produce that effect. He is a most inveterate feeder, and consumes an enormous quantity of green and succulent vegetation, especially young clover, and nothing would arouse him from his winter sleep but hunger, induced by the genial return of spring. When there is from three to five feet of hard frost in the earth, as there was on the 2nd of February of the present year, it would be impossible for the ground hog to come out of his burrow, down deep in the bowels of the earth, below the line of frost. When he retires in the fall he closes the mouth of his burrow with earth from the inside, and does not open it again until he is instinctively admonished that winter is over and spring has assumed her reign. Although we believe him to be too stupid to make any reliable prediction in regard to the weather, yet he is not stupid enough to come forth when the thermometer is down to or below *zero*. Again, as to candlemas day, it is not likely that he would regard it much; if there should happen to be a week or ten days of warm weather in the months of December or January, warm enough to excite his hunger, for instance, it would make very little difference whether the time was Christ*mass*, Candle*mass*, or Easter*mass*: he would be apt—like any "other body"—to make diligent inquiry about something to eat.

There must, of course, be a *cause* for every outward *effect*, and even when that cause is discovered it may transpire that it is itself only the effect of some anterior cause, none of which, however, have any special relation to the ground hog, or any other animal already "tabernacled" in the realm of nature.

Whatever faith "wiseacres" may *profess* to have in the predictions of a visionary ground hog, we think there are but few who would hazard the success of an important enterprise upon the weather prophecies involved in his candlemas advent. It is, therefore, not very likely that any "prudent body" will suffer much through the "thin faith" which is professed in the ground hog.

Independent of weather prognostics, there is, however, an interest attached to this animal; for it is such a gross feeder that, where it exists in large numbers, it makes sad havoc in the clover fields of the farmer, and on this account is "hunted down" as an evil of more or less magnitude. Under the common names of woodchucks, ground hogs, marmots, gophers, prairie dogs,* spermophiles, and ground squirrels, we have about twenty species of rodents in the United States, which form a distinctive group, and all of which possess, more or less, the qualities of the Lancaster county ground-hog, on whose habits the weather is often prognosticated.

ROSE CULTURE.

We extract the following from the columns of the *American Farmer*, published at Baltimore, Md. It is part of an address read before the "Maryland Horticultural Society" at its February meeting, by Mr. James Pentland, who is distinguished in his profession as a rose-grower, and the originator of numerous varieties of that beautiful and fragrant flower. We have seen many roses, "good, bad and indifferent," the latter quality perhaps predominating, and we have thought that much of this indifference was the result of a lack of that culture which seems so practically detailed in Mr. Pentland's address. There are many other points in this address, referring to varieties, &c., which may only be of local significance, but our quotation, we think, will be applicable to any locality. Under any circumstances, we cannot reasonably expect fine roses without the necessary culture, any more than we can any other subject of the vegetable kingdom, and possibly even *with* culture we may sometimes fail.

"Very few persons know how to cultivate a rose in order to bring forth all the latent beauty contained in the flower. Many are content when they buy a rose from those who have them to sell, to take it home, dig a small hole in the ground in their garden, and put it therein, (I cannot call it planting) leaving it take care of itself, and when they come to look for flowers they find none. And no wonder! It will not stand such treatment, but will wither and die, and then the poor gardener who sold it comes in for the blame.

Now, this is all wrong. There is not a flower that grows that requires kinder treatment than the rose, and there is none more deserving, or that will better repay good cultivation, either in a commercial point of view or for the gratification of two of the fine senses, namely, sight and smell.

To grow a rose to perfection you must in the first place find the proper soil in which it delights, which is a stiff, loamy, strong virgin soil; yes, even a clay soil, provided it is well drained and deep and cool, so that the roots can find their way down into a cool place, in order to get away from the influence of our burning summer suns. In the next place you must see to it that the soil is properly enriched; for, depend upon it, you will not see a rose in perfection in a poor soil; for, like the grape vine, it is a very gross feeder. Therefore make your rose ground very rich and deep. Use any well-rotted manure for your plants, and plenty of it; and as your roses gain strength, you can give them almost any kind of manure, even to fresh night soil. Watering with liquid manure occasionally you will find a great help.

In order to have fine flowers you will find pruning a very important point in the cultivation, and this part, I am sorry to say, is but poorly understood by most cultivators, for how often do you see a rare plant snubbed off at its extremity, in order to give the bush a nice round head of very slender shoots, upon which you see a small weak flower, not worthy of being called a flower, looking as if it was ashamed of itself, (and I don't wonder that is is) instead of bringing out all the beauty of which it is capable.

To have fine, large and beautiful flowers, you must have plenty of good, healthy root-power, and not so much wood, and to obtain this you must have the condition previously mentioned. If your rose plant has had those conditions you will have good, strong, healthy growth from the ground, and in the Fall, or very early in the Spring, when danger of severe frost is over, (I prefer fall pruning, for by pruning then you make the plant more capable of withstanding our severe frosts, because the late growths made by the rose are too tender and sappy to withstand our cold climate) commence pruning by cutting out all the old wood of the previous year, or at least all the wood of that year until you reach the new and strong wood of this, if the growth has been made upon any of it, as it very frequently will be, unless care has been used while growing. After you have cut out all of the old growth, then commence and reduce the new growth to three or four or more buds, according to the strength of the growth. Strong growing varieties may have more wood left upon them than the weaker growing varieties. If you follow out these instructions, my word for it, you need not be ashamed of your rose flowers.

The remark has often been made to me in the month of June, when the rose is in its best estate, by persons visiting my place: How is it that *we* don't have as fine flowers upon our rose bushes as yours are; mine are larger bushes than yours, and of the same kinds? and the only answer that I could give them was, "they are not properly pruned." Why, they would reply, a gardener pruned them, and he ought to know. What a comment upon gardeners! Yes, he *ought* to know, and a good gardener *does* know, but the fact is, he is not always allowed to do as he knows it should be done, for many persons are so afraid of seeing their pets cut down too close, supposing that it will kill them; and, again, many want large bushes, which they can easily obtain, but it must always be at the expense of the flowers; whilst others again desire quantity and not quality. To all such I must say, don't blame your roses for not displaying the full beauty of which they are capable. I shall close this portion of my subject by saying, in brief, if you want fine flowers give your plants plenty of roots, and short tops; you can get the former by a rich soil and good cultivation, and the knife and good judgment will do the rest."

Speaking of desirable varieties, Mr. P. says: "But if you want a rose in which you can feel a real enjoyment, in beholding its delicately unfolding petals, in inhaling its most exquisite fragrance, peculiar to itself alone, observing its delicate habit of growth, and its constant bloom; whose colors, so delicate, look as if the breath of man would soil them; then you must grow the Queens of them all—the Teas—so called, from their flowers having the rich aroma of fresh tea." These are general favorites with the ladies.

ANOTHER REMEDY FOR THE POTATO BEETLE.

Mr. W. F. Massey, who seems to be a practical man, and one of intelligent observation, communicates to the *American Farmer* (Md.) that a strong decoction of the green roots of the "May-apple," or "Mandrake"—*Podophyllum peltatum*—effectually killed the "Colorado potato-beetles," in a case, or cases, where he himself tried it. He does not claim to be the discoverer of the remedy. He found it in the pages of an agricultural journal, and at once proceeded to submit it to a test, with a favorable result. We give it here for what it is worth, and commend it to our readers as worthy of a trial. The potato-beetle is such an arch-enemy to the farmer that he might afford to be moderately "humbugged" a few times, if it only faintly promised to lead to the discovery of an antidote against this increasing scourge. We ask our farmers to try it next summer and to send to us the result.

The illustrations in this issue of The Farmer constitute an interesting and instructive feature, which will be maintained in the future.

*Some years ago we received a fine specimen of one of these species by mail from Western Missouri. It had been obtained in its winter hybernation and inclosed in a tin box, and after having been thus conveyed about thirteen hundred miles or more, when the box was opened in a warm room, the animal revived and became very active, and also very pugnacious, which is a characteristic of the genus. After a confinement of a week or more it made its escape, by pressing apart the wires of its cage, and from thence passed through an aperture in the cellar, and never was recovered. It, probably, either starved to death or became food for rats. This species is, perhaps, the smallest of the genus, and now is scientifically known as *Spermopholis tridecemlineatus*, and various common names, as the "striped gopher," "striped marmot," &c.

THE CONSTRUCTION OF FENCES.

The growing scarcity of timber in Lancaster county, where we have not yet realized the importance of supplying the waste of years by planting forest trees for the purpose of fuel and fencing, invests the question of the construction of fences with a growing importance. The best variety of trees to plant to supply these wants is one of the questions now before our Agricultural and Horticultural Society for discussion, and it will naturally involve the comparative merits and economy of hedges, wire, board, post and rail, and the old-fashioned worm-fence. The scarcity of timber in this section, suitable for either of the latter, and our direct communication with the pine lumber regions, suggest the economy

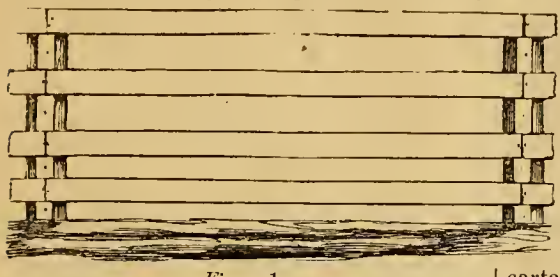


Figure 1.

of board fences, and to their construction we will confine our remarks in this article.

The board fence can be recommended for economy and neatness; but these desirable qualities are often entirely lost by the carelessness of the builder, and the enclosure assumes a dilapidated appearance within a short time after being put up. In erecting a fence of this description it will be found highly advantageous to bear in mind the old adage that "whatever is worth doing at all is worth doing well." In the first place, the requisite boards for a given distance should be all piled together to ascertain their respective lengths, and those not coming up to the standard dimensions should be sawed to fit, or sorted out and placed together, to be subsequently used by setting posts to suit them. In measuring the distance for the posts care should be taken to use accuracy. The usual distance in a fence of this kind is seven feet, the boards being fourteen feet long. The distance should be measured invariably from middle to middle of each post without regard to their size. The holes should be dug large to permit the rammer to be used freely around the posts—a common error in setting posts being to make the holes too small, thus preventing the earth from being thoroughly packed and leaving the posts unfirm and rickety. An excellent plan is to make the holes large and fill in with stones. This prevents the fence from being thrown out of line by the action of the frost, and preserves the bottoms of the post from speedy decay.

After the posts are set, the top boards are to be first nailed, and in doing so particular pains are requisite, as they are to form guides for

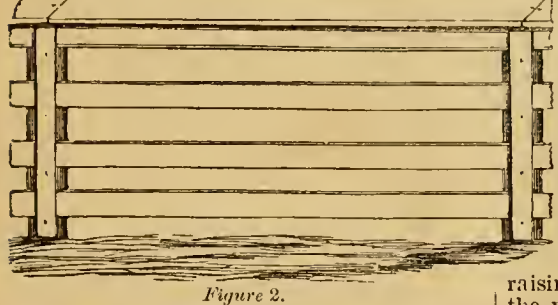


Figure 2.

the remainder. Two space boards may now be used to assist in nailing the remaining rails with accuracy. These consist of pieces of stout boards, about as long as the fence is high, having as many notches cut in them as there are rails in the fence. The space boards being hung one at each end of a top rail, act as supports for the boards below while being nailed, at the same time preventing any error as to distance, and enabling the workman to proceed with rapidity and accuracy. The rails being nailed on, the usual practice is to stop here; but the most important work to secure a strong, durable fence remains to be done. Now saw small pieces of board to accurately fit the spaces between the rails, and nail them against the post as seen in *Figure* 1, which illustrates a panel of fence at this stage of the operation. These little blocks are made from the waste pieces of the rails; they are quickly prepared; one nail holds them and they add much to the durability of the fence. They should never be omitted. The finishing touch is given by nailing a facing strip four or five inches wide on every post, which not only makes a neat finish but greatly strengthens the fence. The addition of a cap rail will give additional stability and preserve the crowns of the post from decay. This is simply another board running on top of the posts, and projecting a little over the edge of the top rail. *Figure* 2 shows a section of fence completed, with facing strip and cap rail.

The cost of such a fence varies with the price of lumber in different sections; but the average expense has been reckoned at $2 a rod or 12½ cents per foot, which includes all expenses, nails, cartage, digging, &c. The cost of keeping it in repair is about a cent and a half a foot, each year, which includes its entire renewal every twelve years.

A writer in *The Country Gentleman* says that for several years he has adopted a mode of making board fence which reduces the number of posts and the holes to be dug one-third or one half. He sets the *posts* at a distance equal to the whole length of the boards, and places a short piece of scantling, or the split portion of a thick slab, midway between them, extending from the top of the fence down to where the lower board is usually placed. He saves the expense of the lower board by banking up the earth ten or twelve inches at the bottom. In this way a surface drain is made for

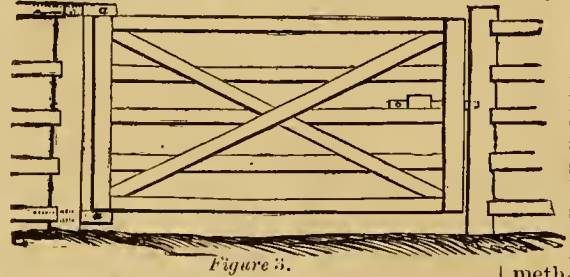


Figure 3.

carrying water away from the posts, and, most important of all, when horses and colts occupy the field, a barrier is offered by means of the ditch and bank, to prevent their crowding or leaning against the fence. For this reason the bank should be narrow at the top, as a broad shelf will enable them to place their feet upon it. The boards are nailed to the battens or stiffeners the same as to the posts, and with long boards two are placed in each panel. With the cap similar to that shown in our illustration (*Figure* 2.) and the protection offered by the earth bank at the bottom, he claims that a fence thus constructed is as strong and secure as a common board fence with double the number of posts. We think the earth bank is a good idea to combine with the fence we have illustrated, as neither cattle nor horses will place their feet in a ditch or on the steep side of an embankment for the sake of crowding or leaning against a fence. The saving of the bottom board will pay for raising the bank, if it is done with a plow after the posts are set and before the boards are nailed on.

A plan of constructing and hanging a good and cheap farm gate is shown in *Figure* 3. It will be observed that it is constructed with diagonal studs and is one of the strongest that can be made. The heel post has two small projections, one at the top, the other at the bottom. These fit into corresponding holes made in a pin. This pin fits into a hanging post, as shown by the dotted lines in the figure. This plan possesses the advantage of cheapness, since it is easily made, and no iron whatever is required. All gates thus hanging will, however, after a time sag down, for the wood of the gate rots, even if the post remains firm. *Figure* 4. shows a plan for hanging gates, where the hanging post projects above the other parts of the fence, in order to permit the connection of a rod or chain between the outer extremity of the gate and the upper portion of the post, as shown in the engraving. We have represented a rod composed of wood for this purpose, but the connection may be made

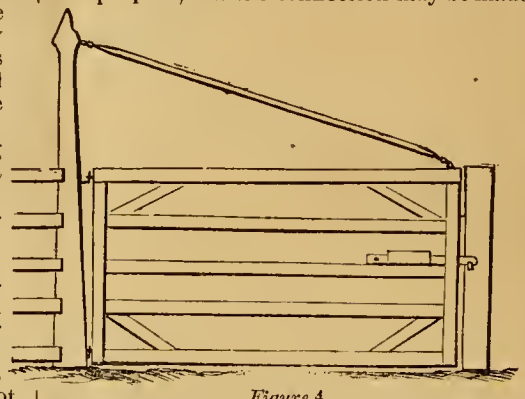


Figure 4.

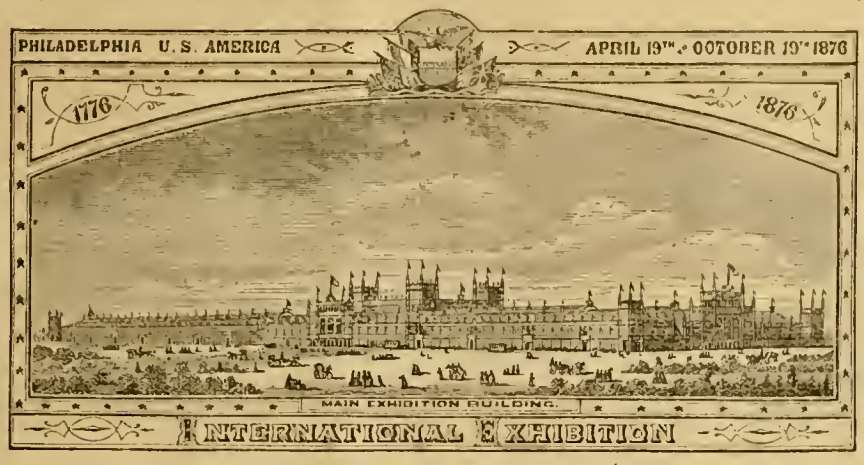
with a chain whenever it is desirable. Gates constructed in this manner can be opened and shut without the least risk or fear of sagging, by reason of their violently shutting to. They are not expensive and might be more generally adopted to advantage.

It is of the first importance to have the hanging post properly secured; and even then, in a few years, it gives way, from decay. An effectual method of preventing rotting in posts is to *char* their bottoms. The preservative qualities of charcoal are well-known. About eighty years ago a quantity of oak stakes were found in the bed of the river Thames, in the very spot where Tacitus says the Britons fixed a vast number of such stakes to prevent the passage of Julius Cæsar and his army. These stakes were charred to a considerable depth, had retained their form completely, and were firm at the heart. This quality of charring was well-known to the ancients. Most of the houses in Venice stand upon piles of wood, which had all been previously charred for their preservation; and in England estates were formerly marked out by charred stakes driven to a considerable depth. Another method which the writer of this has successfully tried for preserving wood in moist situations is to give it a good soaking in gas tar or paraffine. An inlet for a sewer made of common pine wood and thus treated lasted for years and was entirely sound when removed. Another, not thus prepared, rotted in a couple of years.

GOOD CORRESPONDENTS: Major Freas, the veteran editor of the Germantown *Telegraph*, hits the nail squarely on the head when he says that to be a good agricultural correspondent, it does not require any great amount of learning. One has only to be sure the language he employs tells just what he means to say; and it will be found in nine times out of ten that the simplest and most common word is better than one seldom in use. And so in regard to facts, one should be sure that they are just what he expresses them to be. People often write that such and such results were "about" so-and-so, when it would have been just as easy to give the whole in feet, pounds or bushels, exactly as it occurred. It may seem precise and particular to some people; but it leads to habits of exactness which in the end save a deal of trouble all round. In these days when "exact science" is becoming so popular, it will do no harm to ask for exact figures and exact expressions; and to correspondents of agricultural papers especially, we may say that probabilities, possibilities and absolute certainties, are very different things, and should always be considered while writing.

THE GREAT CENTENNIAL EXPOSITION OF 1876.

By the time this number of THE FARMER gets into the hands of our readers, it will be only one short year before *the great Exposition of the nineteenth century* will be opened to the public, if the original intention of the projectors of the enterprise is realized.



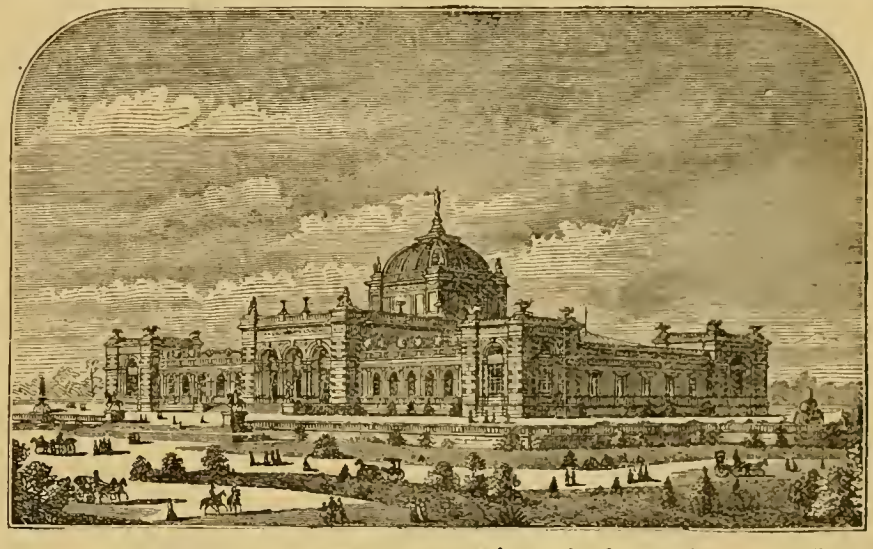
We say only one *short* year; for, comparing *what has* been done during the past *five* years, with what *is* to be done in the *one* coming year, the time seems very short indeed. Another event of the kind, in all its significance, cannot occur again until the year 1976, a period which, there perhaps is not a single being now on earth that could in human probability witness it. The question naturally arises, Have our people anything like a realizing sense of this great event in our national history? Are they making any preparations to participate in it? Do they even *think* of it with that method which usually precedes the outward manifestation of living action? Have they systematically reflected at all upon what *can* be, and what *ought* to be, done in the matter? Lancaster county is a part of the three original counties that in the early history of our country constituted the entire province of Pennsylvania. She is within seventy miles of the historically venerated spot where first was promulgated on this continent the declaration that "*these united colonies are, and of right ought to be, free and independent States.*" She has justly won the distinguished title of the "Garden of the Keystone State," and therefore she occupies a moral, physical, political and geographical position that will not permit her to be a mere spectator of the "coming event." Her sister counties and states are looking towards her for a demonstration worthy of the prominent position she occupies in relation to our great State and its material progress. Not to participate fully and freely in the Centennial Exposition, would be equivalent to her voluntary expatriation. To consent to be a mere spectator of the scene, would be a palpable stultification of the attitude which history and circumstances have assigned her; and she could no more be a part of Pennsylvania or the Union, without a participation in Pennsylvania's distinguished glory, than a man could be a part of heaven without participating in its beatitudes.

Lancaster county is sufficiently large, wealthy, populous and accessible to the great Exposition, to have a department, or departments, in it exclusively her own, and to carry such an idea into effect there ought to be an organized effort of her citizens, and a programme clearly setting forth what ought to be done; for, without some such organization, very little can be accomplished without involving much labor, procrastination or delay—and, "delays are dangerous."

We cannot resist the apprehension that, like the sessions of Congress, or the State Legislature, procrastination may steal a march on time, and push too much of the work that ought to be done earlier, into the last days of the working session, and thus create hurry and confusion at the opening of the Exposition. The past histories of these industrial exhibitions have sufficiently demonstrated the danger of this, and we ought to profit by the experiences of the past. Another point we desire to illustrate is this: In all our experiences of local exhibitions, during their continuance or after they were over, we have been met with the remark from many spectators, that if they had only known what would have been on exhibition, they could have produced articles much superior to those they had seen at the fair," and these remarks would often be accompanied by regrets, that they had not been exhibitors themselves. Here is just where "the trouble comes in." Too many people indulge the idea of being benefited, entertained or amused, without contributing to the benefit, the entertainment or amusement of others, or to the general credit of the occasion. This is a mutual, *human* work, to be conducted on a *human* plane, by *human* beings, and for the instruction of *humanity*, in the commemoration of a *human* event.

Of course, it is not expected that *every* one can, or should, become an exhibitor, but many more than usually participate in these affairs, can assist, in one way or another, in helping to forward the work to its consummation; besides, it is as much a matter of course that if *no* one practically participates in it, there cannot possibly be an exposition at all. Under any circumstances, we should feel humiliated if it should transpire that the native county of ROBERT FULTON and LINDLEY MURRAY—the home of the "Sage of Wheatland," and the "Old Commoner"—with its immense agricultural, mineral and manufacturing resources, should have a meagre representation in the GREAT CENTENNIAL.

Any one desiring to forward the work, should immediately put himself or herself in communication, and co-operate, with MR. C. M. HOSTETTER, of Lancaster city, who has been appointed the general agent of *Lancaster county*, and has his headquarters at the Stevens House.



We understand Mr. H. intends to publish a descriptive outline of *what* ought to be done by our county, and *how* it ought to be done. We hope the people will respond cheerfully. We have, in former issues of THE FARMER, given illustrations of the Agricultural Hall and Horticultural Hall. In this we illustrate the Main building, the Art Gallery or Memorial Hall, and the Centennial Medals, the latter of which will be valued by future generations as keepsakes of the first Centennial of the great republic of the world. The following are the dimensions of these magnificent buildings:

MAIN EXHIBITION BUILDING: Length (East and West,) 1,880 feet; width, 464 feet; heighth of central towers, 120 feet. Main entrance on Elm avenue. Area covered, 936,008 square feet, this divided into parallel zones, lengthwise of the building; countries and states will occupy parallel sections crosswise of the building. This arrangement will bring the products of each class from the whole world into the same line.

ART GALLERY: Length, 365 feet; width, 210 feet; heighth, 50 feet; heighth of dome above the ground, 150. Materials: Granite, glass and stone. Site: Lansdowne Plateau, in Fairmount Park.

The following, furnished to the Germantown *Telegraph*, by Walter Elder, the eminent Philadelphia landscape gardener, if it does not act as a stimulant to our local florists, to participate in the "Great Exposition" themselves, will at least excite a desire to witness the display made by others:

THE GREAT EXPOSITION CONSERVATORY.

The grand Conservatory, with its choice collections of tender exotic plants and ornamental garden sur-

FAC-SIMILE OF THE CENTENNIAL MEDALS.

PRICE: Bronze $2; Silver $3; Gilt $5; Small Gilt $1. The set in one beautiful case, $11.

roundings, will be one of the most interesting features of the Centennial Exposition in 1876. The structure will look noble, chaste and elegant. All the other buildings, except the Agricultural, will be filled with the ingenuity and handiwork of man, and will show the advanced progress of art and science; the plants in the Conservatory will show the gracious works of God. Some will dazzle the sight with the brilliancy and splendor of their blossoms so lovely; others will bewilder the senses with the sizes, forms and singular variegations of their leaves; some will tickle the fancy with their curious habits and strange faculties in many ways; others will delight the scent with their sweet perfumes. The grand combination of the whole, and the amazing diversity of the various genera, will show the illimitable greatness of the omnipotence of an All-wise and ever-gracious Creator. The building will be well-ventilated for the comfort of visitors.

The great century plant (agavia Americana) will be there, of many tons in weight. Beside it there will be the grand screw pine (pandanus odoratissma); and the famous fan-palm (coryphia umbraculifera,) with its broad fronds of fan form; the curious pitcher-leaved plant (nepenthes phyllamphora and distillatoria,) whose every leaf is a natural pint pitcher, and always full of water distilled from the atmosphere; and the *water-holding pines*, whose spine serated leaves form a tube at the bottom which is always full of water, also drawn from the air. Then the venus fly-trap (dioncea muscipula,) with many natural *traps*, like iron rat-traps, with teeth. When a fly goes into one, it closes up until the fly is dead, and again opens; the sensitive plant (mimosa sensitiva,) which curls up its leaves and crooks its joints at the touch of the human hand; the bottle-brush plants (metrosideras floribundus and beaufortia decussata,) whose flowers are scarlet, and the form of bottle-brushes, and very beautiful. There will be the famed *yuccas*, which grew in the Garden of Eden; and of whose leaves Adam and Eve made needles and thread to sew their first clothes; the needle was taken from *yucca gloriasa*, and the thread was from the *yucca filamentosa*. In the *water-tank* there will be *Victoria rigi*, the grand queen of the aquatics, whose leaves measure ten feet in diameter, and the double waxy blooms, two feet across, all spread out upon the surface of the water, with many gold and silver fishes playing beneath them. So glorious will all be, that visitors will never forget their amazement.

The managers, Messrs. Mitchell, Ritchie and Houghton, are gentlemen of skill, energy and fine taste. They will endeavor to make the arrangements surpass in perfection everything of the kind the world has ever yet seen. We cordially invite all the people from every part of the nation to visit our Centennial Exposition of 1876.

JOHN BULL AFTER THE COLORADO BUGS.

Denis Donohue, the British consul for the States of Maryland, Virginia, West Virginia, Tennessee, Kentucky and Missouri, whose consulate office is in Baltimore, yesterday issued the following circular: "In order to avoid the introduction into Great Britain and Ireland of the 'Colorado' or potato-destroying beetle, I am instructed by her Majesty's Government to caution exporters against shipping with potatoes intended either for use during a voyage to or for importation into the United Kingdom, any potato haulms or stalks, or adhering soil, from the place in which such potatoes are grown. The officers of customs at the various ports of the United Kingdom have been instructed to examine carefully all potatoes coming from the United States and from Canada, whether brought as merchandise or ship's stores, and to take care that all particles of haulm or stalk, or of loose soil, which may be found with such potatoes, be destroyed by fire."

We are not sure that the action involved in the above extract from a recent number of the Baltimore *Sun*, will not eventually prove a most stupendous "mountain in labor," which may result in bringing "forth a mouse." In *our* opinion, the non-importation of potatoes from the United States and Canada will be about as ineffectual in diminishing the geographical limits of the Colorado potato-beetle as the non-importation of corn-cobs. Although it is not impossible that some of the pests may be carried over to England and the continent of Europe in cargoes of potatoes, yet *that* is not the chief danger of their transmission. They will be carried over (if they ever reach foreign shores) in the same manner that the oriental cockroaches were brought here, and that the American cockroaches were carried over to England; and nothing short of absolute and universal non-intercourse could prove a *certain* bar to their progress. When they reach the seaboard they will go into their winter hybernation in the ground, if they *can*, but in any convenient nook or corner, if they *cannot*. Late in the autumn of 1874 thousands of them were scattered over the pavements of Lancaster city, crawling under door-steps and through cellar-grates, or anywhere else, to get "out of the cold." In another article in this number of our journal we have given our theory of their sudden and unexpected advent in Lancaster county, at least three years before they could have reached the western base of the Allegheny Mountains, according to their ordinary progress. Wherever they have appeared in Pennsylvania they have always been first observed in the potato fields along the railroads; and the plain inference seems to be, that they were carried thither on the rolling stock of the road—perchance amongst the freight, whether it consisted of potatoes or anything else. Ours is not the function of an unnecessary alarmist, but we would respectfully admonish John Bull that before five years he *may* have the *Colorado potato-beetle* on his soil, anyhow; and if it once becomes domicilated there, it is not going to leave it in much of a hurry. No; we do not think there is much danger of its being exported in cargoes of potatoes; but there are many other contingencies through which this end may be effected. It was demonstrated last year, both at Marietta and here in Lancaster city, that where they had eaten all the potato leaves, they scraped the "epidermis" off the ripened vines, leaving them white as bleached skeletons; and, not content with this, when the meagre crop was dug up, the beetles attacked the tubers, almost burying themselves in the cavities they had eaten out. It is true that, should they happen to bury themselves deep enough in the potato tuber, and hybernate there, they *might* thus be transported to other places; but these are only exceptional cases.

ALFALFA CLOVER, BARLEY, &c.

Many of the agricultural journals which come under our observation have something to say about Alfalfa clover, and therefore we conclude that it has been, or is about to be, introduced into the middle region of our country as one of its grass or hay crops.

Our attention has been incidentally called to this subject by reading a published letter from Rev. C. Day Noble, formerly of Chicago, Ill., but who is now residing at Riverside, San Bernardino county, Southern California. Mr. N. says: "The Alfalfa clover will produce about eight crops a year, at a profit of $100 per acre;" and that if the land is properly irrigated (either naturally or artificially, we presume), the roots are good for an indefinite period; and it is alleged that there is no better food for all kinds of stock that are not subjected to hard work. It is true, the temperature in the winter is very seldom lower than 30° above zero; but still, in our Lancaster county climate, we might manage to grow four or five crops, if the roots were not exposed to an open, boisterous, and hard-freezing winter. Barley hay is, however, considered better for working horses, and brings $12 a ton in winter. $400 an acre have been realized for barley hay in one year. When barley has been sown and harvested, the year following *two* and even *three* crops of barley hay can be realized without re-sowing. Corn and wheat are not profitable, but oranges, lemons, figs, grapes, pomegranites, almonds, English walnuts, peaches, plums, apples, apricots, bananas and strawberries all do well. The Muscat grape, and the raisins therefrom, are the most profitable staples of the district.

PLANTING POTATOES EARLY.

E. S. Brownell, in the *Country Gentleman*, says: "From the experience I have had, I would recommend planting as early as the ground is in a suitable condition. Potatoes planted early will in most seasons mature early, and will be less liable to be injured by blight or disease. Planted early, they will be fit to harvest early. I recommend harvesting as soon as ripe, if in August. Let them dry and put them in the cellar; be sure to exclude light and air, in order to preserve the quality. I am of the opinion that potatoes planted early are less liable to be false-hearted, as tubers that grow quick are much more liable to show that defect. Cutting tubers to single eyes will largely increase the yield from the amount of seed used. It also has a tendency to produce large tubers, but not so many in a hill as where more seed is used, which will produce more in number but of smaller size. Brownell's Beauty has excelled all varieties in producing the greatest weight from a single pound, but I think the Eureka, that originated with me in 1871, one year after the Beauty, will do better still."

All of the foregoing, and much more, we think, would accrue to the planting of potatoes early. Now, that the "Colorado beetle" is likely to become a "fixed institution" in Lancaster county, furnishes an additional stimulant to plant early. It is well known, from past experience, that the early crops suffer less damage from the infestations of this insect than the late crops; nor is this a mere arbitrary result, and altogether without a good reason. Only a little reflection will illustrate that the reason is quite obvious. The early spring brood are never so numerous as the later broods. The vicissitudes of cold winter and variable spring may subject the insects to contingencies to which they are not exposed in midsummer. However tenaceous they may be there are nevertheless many that perish, one way or other, between their autumn hybernation and their spring resuscitation; moreover, if birds or domestic poultry will feed upon them at all, they are more likely to do it then, when food is scarce, after a long winter fast, than they are at a later period, when fruit or vegetable food becomes more abundant. Their parasitic and carniverous enemies are also more numerous as the season advances than they are at its beginning. These things, taken together, seem to suggest early planting.

WHAT FERTILIZERS ARE USED IN YOUR COUNTY?

To circulars sent to statistical correspondents of the Agricultural Department, in *sixteen hundred and twelve* counties in the United States, propounding the above question, answers have been received from *ten hundred and ninety-six;* and the following tabulated report shows the *percentage* of the different kinds of manure and fertilizers used.

It will be observed from this table that the manure from farm-animals is the main reliance for sustaining the fertility of the soil. It is also demonstrated from other statistical details of the office, that fully one-half of the counties in the United States are cultivated "literally without fertilizers of any kind," and another fourth, with the incidental aid of "green manuring," or a little lime, plaster, cotton seed, &c., &c. On the whole, however, the farmers of the country are becoming better versed in the philosophy of fertilization, and better able to adapt their practice to the peculiarities of the soil.

States.	Farm-yard manure.	Other fertilizers.	States.	Farm-yard manure.	Other fertilizers.
	P. ct.	*P. ct.*		*P. ct.*	*P. ct.*
Maine	73	27	Louisiana	..	..
N. Hampshire	84	16	Texas	70	30
Vermont	85	15	Arkansas	65	35
Massachusetts	75	25	Tennessee	80	20
Rhode Island	78	22	West Virginia	77	23
Connecticut	81	19	Kentucky	97	3
New York	68	32	Ohio	85	15
New Jersey	69	31	Michigan	73	27
Pennsylvania	76	24	Indiana	84	16
Delaware	72	28	Illinois	95	5
Maryland	40	60	Wisconsin	90	10
Virginia	59	41	Minnesota	98	2
N. Carolina	51	49	Iowa	100	..
S. Carolina	26	74	Missouri	95	5
Georgia	33	67	Kansas	100	..
Florida	45	55	Nebraska	100	..
Alabama	53	47	California	98	2
Mississippi	60	40			

A USEFUL TABLE.

To aid farmers in arriving at accuracy in ascertaining the amount of land in different fields under cultivation, the following table is given:

5 yards wide by 968 yards long, contains one acre.
10 yards wide by 484 yards long, contains one acre.
20 yards wide by 242 yards long, contains one acre.
40 yards wide by 121 yards long, contains one acre.
60 feet wide by 726 feet long, contains one acre.
110 feet wide by 396 feet long, contains one acre.
220 feet wide by 198 feet long, contains one acre.

IRRIGATION IN THE VALLEY OF THE RIO GRANDE.

The irrigation of the soil by artificial means is not a modern invention, nor a custom of recent date. The soil of certain countries has always, at certain seasons, required other means than those supplied by the prevailing natural laws, to insure satisfactory returns to the husbandman; nor did it require more than ordinary powers of observation to perceive that if a deficiency of moisture was hurtful to growing vegetation, the needed supply of that essential must prove beneficial. We may safely assume, therefore, that the practice of irrigation is coeval with that of agriculture itself.

We find, consequently, that in those early times when Africa and Asia boasted of the great monarchies of the world, this method of assisting the parched soil to yield its treasures was almost universally practiced. How the annual overflowings of the Nile make green and fruitful the valley rendered famous by that classic stream, is known to all; but it is not so generally known that on the temples, pillars and other remains that still strew the banks of that mighty river, are pictured a number of devices whereby the turbid waters were drawn from their channel and distributed over the sandy soil at times when the low waters of the Nile refused to quit their muddy bed.

A complete net-work of irrigating canals covered the greater part of Assyria and Babylonia, abundant relics of which still greet the eyes of the traveler. These, however, were also employed for purposes of navigation, and were found useful for a double purpose. Even to-day the waters of the Euphrates and the Tigris are drawn from their channels by the same methods employed 4,000 years ago. In Spain, France and Italy, as, indeed, in all the other countries bordering on the Mediterranean, irrigation enters largely into the necessities of the husbandman; and without it his labors in many places would meet with poor returns. It was also tried in England in the sixteenth century; but as the rain-fall in that country is generally sufficient, and too often in excess of the farmer's needs, it soon fell into disuse. It is still a common practice to turn the water of adjacent streams into meadows, when the summers prove unusually dry.

After this somewhat lengthy introduction, we turn now to the method of irrigation as practiced on this continent, and we purpose to describe it with sufficient minuteness to render it intelligible to every reader. Our observations, extending through a period of many years, relate more particularly to the valley of the Rio Grande, although all over Mexico, excepting only the valleys of the Sierra Madre range and the narrow belt bordering on the sea-coasts, the same general system prevails. Even here the artificial watering of land has prevailed from immemorial years. Cortes and his companions found the practice in general vogue among the Aztecs; and as the plan followed here differs from that pursued on the Eastern continent, it is a fair presumption that the conquerors adopted the method observed by the natives.

There are two primary facts connected with this subject which must be borne in mind: first, that irrigation is necessary only where there is a deficient rain-fall; and, second, that it is practicable only in the valleys and country lying adjacent to streams of water. Where the latter are wanting there can of course be no artificial irrigation. It follows, therefore, that in a region where there are few rivers or streams of considerable size that may be made available, there are often immense tracts of land which are, and must forever remain, comparatively valueless for agricultural purposes. Gen. W. B. Hazen has quite recently called attention, in an article in the *North American Review*, to the immense region of country lying immediately eastward of the Rocky Mountains, which, from insufficient rains and the limited number of streams, will to all intents and purposes bid defiance to the efforts of the pioneer to make it available for his support. The vast plains of Colorado, parts of Nebraska and Western Kansas, portions of New Mexico and Arizona, and the Llano Estacado of Texas, are all included in this category, as well as much of the table lands of Mexico.

The town of El Paso, in Mexico, is built on the right bank of the Rio Grande river, and contains, probably, 4,500 inhabitants. These are scattered along the river for a distance of six or seven miles; and although the valley is in some places three miles wide, all or nearly all the cultivated land lies within a mile of the river bank, the rest being unoccupied. About two miles above the town the river has cut through a range of mountains, and, as is usual in such places, there is considerable fall, and, what is equally desirable, a rocky formation, through which a stable and permanent mouth has been hewn for the irrigating ditch or canal. Such canals are called *acequias*, and the main or principal one, the *acequia madre*, or mother canal. To furnish enough water to supply the above population, nine-tenths of which are farmers on a larger or smaller scale, requires a canal of considerable dimensions. Indeed, the El Paso acequia is the largest we have ever seen, being at its origin about twelve feet wide and five feet deep, and in April and May, when the spring rise has swollen the river, generally bank full.

In digging an acequia it is desirable to have as much, and, if possible, all the water that flows through it, *above* the level of the fields to be watered, because in that way the entire quantity can be poured out over them, while if part flows *lower* than the surrounding ground, it is not available, and consequently lost. It is very desirable also that the mouth of the acequia—the mouth is that end where the water first enters it, and not, as in a river, where it discharges—should be quite or nearly on a level with the bed of the river from which it draws its supplies, because then, however low the water in the stream might become in a dry season, it would still continue to flow into the acequia; whereas, if the mouth of the latter was above the bed of the source of supply, either temporary or permanent dams would be required to divert the flow into the irrigating ditch. And just here we may call attention to the advantages this mode of supplying the water has over that practised in oriental countries; here the canals are filled by the direct flow of the water into them from the rivers, while there it is pumped or raised up by machinery more or less rude, the motive power being furnished by either men or cattle. The former method has the advantage, both on the score of simplicity as well as that of economy.

The digging, cleaning and keeping in repair of the acequias is a matter of legislative enactment, and in every township is under municipal control. There is a mayordomo or general supervisor, who appoints the necessary number of subordinates, called *alcaldes de agua*, or water magistrates, through whom all complaints, requests for the use of water, and other like business must be made. Every resident, either personally or by proxy, is required to do a certain number of days work, annually, on the acequias; this amount of work is governed by the wealth of the individual, if he be a merchant or a professional man, but if a farmer, then by the amount of grain he plants. The measure whereby this service is regulated is the *almuda*, equal to about one-fifth of our bushel; beyond a certain number of almudas, however, a new regulation comes in, and then the service exacted includes carts and oxen to haul brush, stones and dirt, when necessary. Any one can compound by paying money instead of rendering physical labor. Besides the regularly assessed duty, in times of emergency, when a sudden or unforseen flood destroys or threatens to tear away the banks of the acequia, or other danger impends, the *Prefecto* or Mayor of the district can, and often does, seize every man or boy his police can get their hands on, and sends them to the point where the impending danger is. To keep in order the acequia madre from its mouth to the point where the lateral and smaller acequias branch off, is the duty of the entire county, but the citizens of each precinct (of which there are seven) are obliged to attend to the branches that flow through their several districts.

This compulsory labor on the irrigating canals is a very serious tax on the farmer: more time than would be supposed is thus, in a measure, lost to him, and is an unceasing cause of complaint. The water of the Rio Grande during the spring rise holds in solution mineral and vegetable matter equal to as much as one-fifth of its bulk. This being precipitated soon fills up the canals, and necessitates frequent cleanings: from one to two feet of dirt are dug, or rather hoed from the bottom, for the hoe is to the Mexican what the shovel or spade is to the Irishman: the dirt thus thrown out heightens and strengthens the banks of the canal.

It is found necessary to irrigate the planted lands every eight or ten days during the summer: should considerable rains intervene, then, of course, such frequent waterings are not required. No one can obtain the use of the water without application to the Alcades de Agua, and not always then, for the supply is nearly constantly short, except during the spring floods. This often leads to taking the water by stealth at night, particularly at distant fields where the liability to detection is not great. Such misdemeanors are severely punished when discovered. Most farmers prefer to irrigate at night, not only to avoid the heat of the sun, but also because they believe the application of the water to be more efficacious then than during the day.

A field to be irrigated is laid off into small beds or divisions, each from ten to twenty yards square: this is rendered necessary from the fact that no considerable piece of ground is found sufficiently level to allow of its being evenly flooded at one time; some portions would get too much water, and other parts none: the ubiquitous hoe is therefore brought into requisition, and a border from six to twelve inches high is thrown up around a small bed of the size mentioned above. The water from the acequia is turned into this small patch until the soil will absorb no more, when the same process is continued with the next division, and so on until the whole field is gone over.

This is a tedious proceeding, and when the water supply is short, three or four acres are all one man can go over in a day. When we consider, too, that the wheat planting season is in January, when sometimes spells of cold weather occur, and that the laborer is obliged to stand and work in mud and water up to his knees, it becomes apparent that the work is anything but agreeable. And taking the number of days a farmer spends in irrigating his crops, and then adding the time he is annually compelled to devote to cleansing and repairing the canals, it will at once be seen that the system entails no little expense upon the planter. All this labor enhances the cost of his crops. It must be very evident also, that, other things being equal, agricultural products raised by irrigation cannot compete with those grown in places where copious rains render such a course unnecessary. Besides, no amount of artificial watering of land can render the product equal, either in quantity or quality, to that grown when the moisture is precipitated from rain clouds. When, in addition to the usual amount of irrigation, there are also seasonable rains, the increase in the crops produced is from thirty-three to fifty per cent. A hot sun, falling day after day, upon a soil that has been flooded, bakes it dry and hard, and, the crust that is formed, becomes full of cracks and fissures, all of which are hurtful to vegetation.

Lateral acequias of all dimensions branch off from the main stem and cover the valley like a net work. The water for household purposes, as well as for watering stock, is taken from them. Horses are washed in them every day during the summer season, and they are also the common resort of men and women

for bathing purposes. Traversing as they do the country in all directions, they are spanned by innumerable rude bridges, whose repair is a part of the duty of the supervisor and his assistants. All in all, the system is simple enough, but the innumerable annoyances which arise from floods, from beavers and musk-rats who dig holes through the banks and cause leaks, and from cattle which, in crossing them, break down the borders and send the water in all directions, and from many other causes, are enough to disturb the equanimity of any one who is not, like the Mexicans, a confirmed optimist.—F. R. D., *Lancaster, Pa.*

SOAP.

To live in a clean house, to wear clean clothes, and to have a clean skin, are privileges not to be lightly esteemed. A free use of the compound which bears the honorable name, Soap, aids very materially in attaining these. All of us who labor on the farm, in the shop, factory, kitchen or elsewhere, know that the material among which we work very often gets out of place, becomes dirt, sticks where it should not, and though water alone be applied ever so freely, the "spot will not out," and our only chance of preventing an immaculate appearance after our work is done, is by the application of soap.

The quantity of soap used by the people of a country, it has been said, is a measure of their civilization. A proper use, of course, is meant; and there is truth in this. Habitual personal cleanliness is as sure a sign as one can be named by which to recognize the man or woman living under the influences of civilization.

Chemically, soap is the union of fat or oil with an alkaline base, either potash or soda The alkali on which its cleansing action depends, used alone, would tend to destroy the substance to be cleansed; this is why washing powders are injurious to the texture of the clothing on which they are used, and the use of the fat or oil in making soap is to neutralize this tendency, and to act as a lubricant.

There are many extensive soap factories in the country, and those housekeepers who wish can be supplied with every kind and quality by the soap, grocery and country stores; but many—the majority in the country—yet prefer that made by themselves. They have the fat necessary in the shape of refuse lard, tallow, bacon skins, etc., and the potash or soda can now easily be obtained for use with much less labor than was formerly required, when the potash had to be extracted from the pile of wood ashes at home. Where wood is used for fuel this is yet done; but we think nothing is gained by it; the unleached ashes can be profitably used on the farm and garden, and there is always so much to be done, especially about a farm-house, that no extra labor should be engaged in where it can be avoided without loss.

We would then say, if you want to make soap (and this is generally one of the first jobs in order on the approach of spring) go and buy caustic soda—you can get it at an apothecary if nowhere else—and use it in this way. For *hard soap*, take to one pound of caustic soda three pounds of fat, or five or six pounds of ordinary soap fat, and three gallons of water; put all together in a kettle over the fire and boil, adding three or four handsful of salt before the boiling is quite finished; from two to three hours boiling will be necessary. The experienced soap boiler will know by its appearance when it has boiled sufficiently. The novice will soon learn.

Where caustic soda can not be obtained, get common washing or sal-soda, and by the addition of lime make it *caustic*, after the following plan, which is the one generally in use at present, and which makes an excellent soap: Take six pounds of washing soda and three pounds of fresh, unslacked lime; place together in any water-tight vessel—an iron kettle is best—and pour on two gallons of boiling water; stir occasionally until the lime is slacked and the soda is dissolved; then allow it to settle. Take the clean lye from the top and pour it on the fat—of which three pounds common scrapings are to be taken, and commence boiling; then add another gallon of water to the settlings of the soda and lime, stirring as before. This lye is then to be added to the other while boiling; also throw in about six single handsful of salt about half an hour before it is done boiling. Boil two hours

Without the salt either of these methods will make a semi-soft soap; but for a real *soft soap* potash must be used. This you can buy for the purpose; or if you prefer, extract from wood ashes by simply mixing a little fresh lime with them and pouring on water. An old barrel or tub will do to hold them, if there is a hole in the bottom for the liquid to drain out. The ash hoppers formerly used for this purpose are yet standing alongside of some outhouse on many farms, but seldom used now.

For toilet purposes a soap made with a vegetable oil is to be preferred—castile, palm or cocoa, rather than those highly perfumed, but which are sometimes made from the most impure materials. If perfumed soap is wanted, the common soap above can be melted, and perfume of any desired kind can be added; but it will be rather strong for delicate skins, and castile is much to be preferred.

Soap-making need no longer be dreaded by the woman to whose lot it falls, as by the methods we have given, as well as other similar ones, all the soap needed in a family for six months can be easily made in a single day.

It is sometimes said that home-made soap costs more than it could be bought for. Perhaps it does; but then you have the satisfaction of knowing from what it is made.

We would specially recommend the first method we have given on account of its great convenience; but if there are any readers of this who know of a "better way," we are sure they cannot do better than to make it public through THE FARMER. *Æ.*

MOUNTAIN TEA.

The *Reading Times*, some time ago, published an article on "Mountain Tea," and spoke of a Mr. Hearsing as a veteran Tea merchant, selling his tea in Berks and Lancaster counties. Mr. H., I believe, was never known to visit old Warwick township, in Lancaster County.

But the tea was well-known in this part of the county for upwards of forty years or more. Between the years 1815 and 1820, a man by the name of Jacob Mauss, a German, lived in Millport and Brunersville, but left abruptly, without paying all his liabilities. The neighbors never knew what had become of him until about 1830, when he "turned up," with a large cargo of tea, contained in a muslin bag, holding about fifty pounds, transporting it on a wheelbarrow. Thus he would travel from five to ten miles, occasionally taking out a quantity and putting it into a smaller bag. He had a light-weighing steelyards, almost worn as white as silver from constant use, in weighing out his tea in small quantities—from an eighth to a pound. He represented himself as owning large tea farms in the vicinity of Cold Springs, Lebanon county, and also in Dauphin and Schuylkill counties. He gathered tea and sold it, for many years, and, after his death, his sons followed the same business for some time.

After they quit the business, a man in Rapho township took it up, and journeyed northwestward, as far as Northumberland county, to gather tea. He carried it in packages of different weights to suit customers. It is called the "Fragrant Goldenrod," (*Solidago*) of which genus there are over thirty species in the United States. "Goldenrod" comes from an old Latin word which means, *to make whole*, or, *unite*, from the supposed healing qualities of the tea. They flower from August to October, and have a rich, golden yellow color. The leaves are *lanceolate*, or willow shaped. The fall, or "Bitter Goldenrod" is very abundant throughout Lancaster county. Some of it, in the leaves and flowers, looks like the genuine Goldenrod, and can only be distinguished by tasting. The "Fragrant Goldenrod" has been reported as existing on the hills between Neffsville and the little Conestogo. I noticed it in several counties west of Elmira, in New York, and through Bradford and Lycoming counties, Pennsylvania. In passing along the railroad, I could not ascertain whether it was the fragrant or the commoner kinds.

I have examined the localities where it is supposed to exist in our county, but I found nothing but a kind of mint, and therefore it has probably become extinct in Lancaster. It makes a very pleasant tea, and if we could habituate ourselves to it, we would like it as well as Black or Green Tea, and would save the vast amount of money we send annually to China for tea. L. S. R.

P. S.—Dr. Wood gives 48 species of *Solidago* for North America, but neither he, nor Dr. Gray, makes any allusion to a fragrant species, or that it is ever used for *tea*. Surely, a plant used for this purpose these fifty years, or more, must have been specifically identified by Botanists long before this time. Can my friend S. give the species, from its history alone, and without having a specimen before him?

THE GREAT LILIUM AURATUM.

One of the most magnificent specimens of this gorgeous flower ever seen, was exhibited at the show of the Barnstable Agricultural Society in September last. When the fact that it bore no less than 61 perfect blossoms at the time of the fair, and that three or four others had dropped off in transporting it to the show, was brought to the notice of the State Board of Agriculture by Hon. J. F. C. Hyde, who reported upon the exhibition as a delegate from the board, Col. Wilder thought it must be a mistake, so large a number of blossoms never having been known. Major Phinney, of Barnstable, a member of the board, therefore addressed a note of enquiry to Col. Perkins, and received the following reply, which we find in the *Massachusetts Ploughman:*

My Dear Sir: In accordance with my promise to you, I herewith give you the statement regarding the growth of the Lilium Auratum at Cotuit, 1874, and other circumstances which seem to bear upon the case.

Mrs. Augustus D. Perkins began to cultivate the Lilium Auratum in her garden at Sandanwood, so early as 1871. The position of the garden is on a bluff fifty-five feet high, overlooking Cotuit Bay to the southwest, and distant from the edge of the bank about forty feet. The garden is surrounded with yellow pine trees. The original soil is merely sand, producing nothing but pine and dwarf oak. After the garden was laid out the sand was removed from the beds to the depth of two feet, leaving the spaces round them for paths. The beds were filled with a compost made of black mud dug from a pond, mixed with the sand taken from the beds, and enriched with manure from stables near at hand. All the bulbs did well, some reaching three and four feet in height, and having from fifteen to twenty-five flowers on the best plants.

The lily which has caused some attention owing to the size it attained in the autumn of 1874, and which was exhibited at the fair at Barnstable, threw up those shoots which still stand (February 17th, 1875) and by careful measurement now reach the extraordinary size of seven feet eleven inches. When in exhibition it had sixty-one flowers, and Capt. William Childs, who prepared it for the fair, says that it has already lost three, and that it bore sixty-four flowers in all.

The well at Sandanwood, which is near the garden, is dug through fifty-five feet of clear sand, free of stones, but with faint traces of iron in it. This shows the character of the soil to its whole depth.

Yours very truly,
A. T. PERKINS.

The above is not only interesting as an instance of floral prolification of an unusual occurrence in the lily family, but also as involving the subject of *soil*, and as such we commend it to the notice of our correspondent in another part of this paper, and especially since the extraordinary result seems to have been effected through the intelligent culture practiced by a lady.

TIMBER FOR FENCES.

This question was, or was to have been, discussed at a meeting of the *Agricultural and Horticultural Society of Lancaster County.*

I believe the question was "what kind of timber is quickest and easiest raised for fencing purposes."

I would answer, the willow, the ailantus and the locust. Willows can be raised in from twenty to thirty years. I planted two willows twenty-five years ago, and cut them into rails last summer. I made fourteen panels of "worm fence" from the rails of these trees, and might, no doubt, have made twenty-five panels of four-rail post-fence. Willow rails are as lasting as chestnut rails, when cut at the proper time. I have some on my place that were cut forty years ago, and they are still sound. I think the proper time to cut them is when the sap is up—in May for instance—in order to facilitate the peeling off of the bark.

The ailantus is a very rapid growing tree—almost as much so as the willow. If it is well seasoned, it will last as long and as well as locust, and it is also very good for fuel. There may be a doubt about its durability as a post, but it is worth trying. The locust is also a fast growing tree, when planted in favorable ground, and free from the "tree-borer" (*Clytus robiniæ*). At twenty years growth you can make from five to six posts, but at ten years longer, you can make from fifteen to twenty posts out of a single tree.

I believe, however, that locust timber ought to be well seasoned before it is used for fencing and especially trees that had been growing very rapidly.

Another word about willows. They can be raised on any kind of waste ground, but moist ground is preferable, and they ought to be raised in thick groves, in order to make them grow straight. Last spring I planted some sixty young willows along a small water stream shaded more or less on both sides by forest trees, and at a place too where the cattle have access the whole summer, thinking at the time, that the cattle, by rubbing themselves against them might possibly retard their growth more or less. I planted at the same time some fifty in a low, wet place in a corner of a field which had been intended for corn, supposing those in the field would be undisturbed, and would all grow, but to my surprise the reverse was the case. Of those shaded and exposed to the cattle, *nine* out of *ten* grew and thrived, whilst of those in the open field and in the wet ground, *nine* out of *ten* died.

Planting trees is *one* thing, and getting them to grow properly is *another* thing.

It is the same in planting fruit trees. They are too often planted, left to take care of themselves and perish from neglect.—L. S. R. *Warwick, April.* 1875.

[In addition to the trees above named, we would mention a kind of poplar, known as the "Balm of Gilead," as a more rapid grower than any of them, if that *fact* has any merit in relation to fencing material. ED.]

LETTERS, QUERIES, AND ANSWERS.

The Flower Garden.

Mr. Editor: Can we not have a Floral Department in your excellent paper? I have just read the March number of the FARMER, and your cordial invitation to lady contributors has prompted me to use my pen; but rather for the purpose of *eliciting* information, than for communicating it. I want some helpful suggestions as to the case of my flower garden. I am not a farmer's wife or daughter, else I should blush for the confessions of ignorance I must make. I live in the city, and have a small flower garden; I find much pleasure in the care of plants and flowers, and delight greatly in their fragrance and beauty, but I do not always have the good *success* I desire. I want now to solicit from yourself, or your readers, such instructive suggestions as I need to become a better gardener.

In the first place I want to enquire about the *soil.* What is necessary to secure a good soil for flower beds? Mine does not look right, or *act* right! It is hard, light colored, and when watered, in the summer, gets packed and unmanageable. While visiting at the West, last fall, in Illinois, I was so delighted with the appearance of the soil there in its native state, that I brought a pint of it home, in a box, to show to my friends. It was very dark, mellow, and rich looking; and it was really mortifying and discouraging to compare the soil of my garden with this beautiful loam. I decided then that I would certainly change the *color* of my soil, at any rate, by adding pulverized charcoal to it, this spring. Will some one inform me whether this would be a prudent course? I should like to know, also, whether soil, such as is found under forest trees, in the country, is suitable for garden plants. I have been informed that it is not so good as "made" soil.

You will see, Mr. Editor, that I certainly *need* information, and I trust that some of your readers who have had superior advantages in such matters, will generously aid me. If they will do so I shall, in another letter, apply for help in regard to the culture of roses and other flowers and plants.

EARNESTINE.

In reply to our "fair correspondent," we would say that we believe we *ought* to have a "floral department," and *can* have one if our florists will assist us with their contributions on *Floriculture.* The most beautiful results incidental to tilling the soil are those which pertain to the cultivation of flowering plants, and in their sphere they occupy a plane of use not inferior to anything that "mother earth" produces, albeit they cannot be converted into *Saur-Kraut.*

As to the proper kind of soil, we would specifically refer her to the article on "Rose Culture," in this number of our journal, as coming from "one who knows." Of course, different kinds of plants require a somewhat different kind of soil. Probably, her garden is not dug deep enough, has not enough of vegetable manure, and too much lime and sand. Lime and sand, with the addition of water, are the elements of mortar, which, as soon as the water evaporates, results in a hardened and adhesive mass, and there are approximations, more or less, to this condition in the soil of many gardens. Note the following selection:

SOOT AS A GARDEN FERTILIZER. Perhaps it may have occurred to some of our lady readers that the refuse soot of our chimneys is one of the most valuable stimulants and fertilizers they can have for their garden flowers. The following incident of practical experience is from a lady contributor to the *Rural Carolinian:* During two seasons we nursed, fed and petted the Hartford prolific grape vine—as much for its shade over the window as for its fruit—but it persisted in remaining a stunted cane, yellow, and refusing to climb. Despairing a shade, grapes and ropes, we finally bethought ourselves of soot as a manure, and forthwith made a "soot tea" by steeping a tea cup of soot in a quart of water. This we administered, two doses each, to both the trees and the vine. The vine grew six feet in height in the space of six weeks, the rose bush four feet in the same length of time—both therefore rejoiced in living green.

The Chinese Yam.

PROF. S. S. RATHVON:

Dear Sir: Can you inform me where I can get Chinese Yams (*Dioscorea Batatas*). In view of the Potato Bug pest, we think of giving them a trial if they can be got at a reasonable rate. I see one seedsman advertises at the modest rate of $2.00 per oz.

Would it be too late to have an article on them in THE FARMER? I am under the impression you know all about their culture and merits.—A. B. K., *Safe Harbor, Lancaster county, Pa., March* 30, 1875.

We know of no place within the county of Lancaster *now* where the Yam is kept for sale, but we presume they can be obtained from any of the seedsmen of Philadelphia, Baltimore or New York. It is very likely, however, that the price will be comparatively high wherever they may be obtained. We admire the "pluck" of our correspondent, and we wish we could encourage him in his efforts to "head off" the potato-beetle by planting the Yam instead of the potato, but really we fear it would result in failure.

According to observations made in various parts of the country, the "Colorado Potato-beetle" has been seen to feed on potatoes, tomatoes, eggplants, night shade, corn leaves, lambsquarter, amaranthus, lettuce, cabbage, thistles, strawberry, currant and raspberry leaves, plantain, potato tubers, and sundry other vegetable substances, but its preference is the potato.

But, under any circumstances, we think the cultivation of the yam should not have been discontinued. Previous to the "rebellion" it was cultivated by a number of persons in this county, and especially in and about Marietta—Judge Libhart, H. M. Engle, and others—and its yield and quality were generally approved, but the great objections were the great labor in digging out the crop, on account of the great depth to which the roots and tubers penetrated. We have always considered them excellent—to our taste at least—and we should like to see their cultivation resumed, as a change in the productions of our soil.

They are easily raised, for once planted they will not need to be planted soon again. Every root fibre will send out a shoot in the following year; moreover, the vine itself produces small tubers from which the plant can be grown.

In looking over our exchanges we were rather surprised that so little is said about *dioscorea.* But a single article on the subject has come under our observation for months, and that writer gave them a high edible, prolific, economic, and healthful character, and stated that when they once became domiciliated they are like the artichoke, coming up every year of their own accord, but unlike that tuber they are as good the second year as they were the first, and therefore absolutely need no gathering and housing as other tubers do; but he also deplored the great distance they travel towards their antipodal origin, and the labor involved in unearthing them. Of course, the surface of the soil where they grow should be kept clear of weeds, but they grow so deep that a surface crop can also be grown on the same ground, if necessary. Some years ago we cultivated them in boxes, but this would be impracticable on a large scale. Our boxes were square, and the tubers got down as low as they possibly could, flattening and penetrating the corners and even the fissures in the boards. As the tubers increased in size they heaved the earth upward, so that the boxes which were not quite full of soil in the spring, were heaped full and running over in the fall, and the yield was good, but they had all sorts of shapes and many angles.

The Persimmon and the Scuppernong Grape.

Our genial friend, the Editor of the LANCASTER FARMER, it appears, cannot comprehend what is meant when writers say, "Persimmons as large as an apple," whether they mean "a Siberian crab, or a pound apple," and, after quoting some writer who no doubt mistakes the Chinese *Diospyrus Kaki*, for *Diospyrus Japonica*, but not to commit himself tells us, "as for ourself, we *kick out* of all individual responsibility—except the—it is represented."

Now, a few words in further explanation. I will just say that a friend in California wrote me some years ago, that he saw a drawing in San Francisco of the Japan variety, and that it was "as large as your fist; or a large sized apple!" They hadn't it fruiting there then. "The man who had the drawings, also had four trees that his son brought direct from Japan." From the above I think our friend will understand that the large fruited variety is really the Japan variety, and not the *Kaki*, or Chinese—and that it is some trifle larger than a "crab apple!"

No, friend R., I did not succeed in growing the *Kaki*, even as large as our wild Persimmons—and that variety never will grow larger than a small Siberian crab, I venture to say, even in China. No, I did not succeed in growing the scuppernong grape as large as they grow in the South, for I failed to fruit it at all, and so will every one who tries to grow it north of "Mason and Dixon's line."

But as to the Chinese variety of Persimmon being mistaken for the Japan variety—any person who can see them both, will at once see the difference—the Chinese plant being small, with thin branches and a yellow bark, while the Japan variety is of more upright growth, stronger and thicker branches, and the color of the bark dark brown, so that the very appearance of the plants will at once convince the most skeptical that it is the Japan variety that bears the largest fruit. Then Mr. Hogg, of Brooklyn, having the trees bearing fruit, would certainly not have invited C. Downing and others to come, see, and test it, if it were no larger than a Siberian crab apple!

Respectfully

J. B. GARBER,

Columbia, Pa., March 26, 1875.

Of course, this *discussion* about exotic persimmons is not *ours*, but between a foreign writer and an American experimentalist. Under any circumstances, it illustrates that

Mr. Rind—the only authority on foreign botany to which we have access—could not have known anything about *Diospyrus Japonica*, or that he got the *Kaki* strangely mixed up with it in his brief description, all of which may be interesting to the readers of the FARMER.

We have such confidence in the experimental knowledge of our venerable friend, that we are willing to concede that he is in the right, even if he were not backed up by such authorities as Downing and Hogg; for we happen to know that, in many instances, two or more subjects of the mineral, vegetable, or animal kingdoms may be confounded, even by writers of acknowledged general merit. His remarks on the Chinese persimmon and the scuppernong grape, are of undoubted value to those who may have been hankering after foreign varieties, or those not locally adapted to our soil. Nevertheless, we must still insist that "big as *an* apple," or "big as *a* fist" even, are not very definite illustrations of size. They might answer if a particular *kind* of apple, or a particular *person's* fist were mentioned, but otherwise, they approach the category involved in —"big as a piece of chalk."

In conclusion, we thank our correspondent for his interesting strictures, and we can assure him that nothing emanating from his pen will be consigned to the waste basket, only because it seems to run "athwart" the statement of the Editor.

Remedy for the Curculio.

Dear Editor: It is with the greatest of pleasure that I again resume my pen to write a few lines for THE FARMER, which is growing dearer to me with every number.

I can hardly wait till it gets printed, so eager am I to read its contents.

I think T. M., of Mercersburg, "flings" his compliments too high. I don't deserve them. But if he comes to our neighborhood this summer, and deems it worth while to come to see me, I shall cook him a good dinner. I thought he had lost sight of me entirely.

I have read C. H.'s letter on the "Plum Turk," and I can give you a better way to clear him out, and not quite so offensive or expensive.

It is simply this: Take a wire, about 24 inches long, bend it in half moon shape, or a little closer. Insert them into dry corn cobs. Now sprinkle them with flour of sulphur, then set them on fire in the grass, around under your trees—see that the smoke gets to every part of the tree.

Do this from the time that the buds begin to bloom till the danger is over, twice a week. Take fresh cobs every time, and I tell you you will have more plums than you know what to do with.

MISCELLANEOUS MATTERS.

I am not quite ready yet to satisfy T. M. as to my housekeeping, but will do so in time. "Duty before pleasure."

Already Spring is here, and the farmers have done very little out of doors; and when they get at work they must work all the harder and faster, to make up for lost time. Why should they not have a good word every month through the FARMER? It gives them food to study, as they follow the plough or harrow day by day—

"A little kindness every day,
To help your neighbors on the way."

A little about seed and then I will close for the present.

Peas should be planted as soon as you can get the ground in order, 3 inches deep, the rows 6 inches apart.

Sugar peas should be planted 8 inches apart, as they grow taller and need more room.

Onion seed ought to be sown 1½ inches deep, and not too thick, and covered lightly.

Sweet marjoram should just be sown on the surface of the ground, and then pressed down. It is a very fine seed, and planted like tobacco seed.—LEOLINE, *Elizabethtown, Pa., March* 31, 1875.

We think, with Leoline, the corn cob and sulphur fumes far preferable to whale oil soap, for anything that can stand "burnt brimstone" with impunity must belong to "goblins d——d," but we confess that her communication is not quite clear to our comprehension. Is any special virtue claimed for the corn cobs, other than that their rough surface may hold the particles of sulphur better than anything else? What use of the bent wires? Are they hooked on the branches of the trees?

Would not a windy day defeat the effects of the remedy? We are satisfied that the fumes of sulphur would give the *curculios* their quietus, if it should reach them, but can we be quite sure that this would be the case with this remedy? We see that the remedy alluded to by C. H. has been questioned in a Western journal, by a writer who has tried it, but he may also disapprove of the sulphur remedy, on the ground we have mentioned.

The Potato Beetle and Early and Late Potato Planting.

To the Editor of The Lancaster Farmer:

In the discussion following the report of the committee on the Colorado Potato Beetle, at the last meeting of the Horticultural Society, the speakers were all in favor of planting potatoes early, and recommended the Early Rose as the variety to plant. I fully agree with them as to the variety, but my observation of the habits of the beetles the past season, and experience in planting, have led me to believe that a late planting for the main crop would be advisable.

No matter how early in the season you may plant, the over-year beetles will be waiting for the potatoes to come up to make the attack. In the early spring the ground will be cold, and the vines will grow slowly, and the potatoes will not mature in time to escape the second crop of beetles, and you will have to contend with these and their brood to raise your crop. If you leave planting till later, say the 20th of May, or near the time when the over-year beetles cease flying and laying eggs, the ground will then be warm, the vines will grow rapidly, and will be in bloom before the first brood of the season make their appearance as perfect beetles in search of new fields, and you will only have to contend with these and their brood to raise your crop of potatoes.—L. P., *Christiana, 4th mo. 5th*, 1875.

We place the above on record, upon the principle that "In a multitude of counsellors there is safety," and because every new fact in regard to the habits of this loathsome pest is of interest to the potato grower and consumer. Perhaps *the* proper mode of circumventing it, under all circumstances, is yet to be discovered.—ED.

Peonies and the Rosebug.

PROF. S. S. RATHVON—*Dear Sir:* Please inform us through THE FARMER whether the White Peonies (*Chiniese double*) are a benefit in grape gardens, on account of the rose bug. As I have one large double plant close to my grape vines, which is very full of them, in their season, and not many on the grape vine, might the peonies attract rose bug or slug from the vine, or is it merely a breeding place? A SUBSCRIBER.

April 8., 1875.

What is commonly called the "Rosebug" (*Macrodactylus subspinosus*) is a coleopterous insect, and belongs to the family MELOLONTHIDÆ, all of which are partial to sweet-scented flowers—the higher the fragrance, the more is that partiality manifested. The peony is by no means the "breeding place" of the rosebug (a *Slug* is a different insect) but, by its fragrance, its nectar, and its pollen, attracts the insect to a sumptuous feast. The grape itself is fragrant when in bloom, and if the peony, or any other flower, can draw the rosebug from the grape, that fact is suggestive. This insect (more properly Rose beetle) deposits its eggs in fissures in the ground, and the *larva*, or "grub," feeds on the roots of vegetation.

Appreciation of The Lancaster Farmer.

OFFICE OF THE STATE ENTOMOLOGIST,
ST. LOUIS, MO., March 23d, 1875.

Dear Sir: I found the March number of THE LANCASTER FARMER you sent me quite interesting, and am glad you are doing such good editorial work. Shall be pleased to receive the paper regularly.—C. V. R.

ROCHESTER, N. Y., March 24th, 1875.

PROF. S. S. RATHVON—*Dear Sir:* I have to acknowledge the receipt of a copy of THE LANCASTER FARMER sent by you, or some other kind friend, and for which I return thanks. I also desire to congratulate you and the publishers on the superiority of its contents and general appearance. A publication of its impress is certainly deserving of a wide circulation. —Yours, &c., WILLIAM WEBSTER, *Garden Artist.*

Such testimonials from leading men are very encouraging to both editors and publishers. Our aim shall be to continue to deserve them, by making each number of THE FARMER better than its predecessor.

OUR PARIS LETTER.

Farming on the Continent of Europe.

Correspondence of THE LANCASTER FARMER.

PARIS, March 20, 1875.

PREPARATION OF FOOD FOR CATTLE.

Closely connected with the production of meat is the selection and preparation of food for cattle. At Berlin "loaves" for live stock are sold, and are composed of different species of grain, according to the domestic animal to be nourished or fattened. The "bread" for horses is a compound of oats, rye, maize and beans; and besides analysis, experience attests the value of this food. The same bread is manufactured for pigs, less the oats, and all is subject to official supervision. Since several years dogs have had biscuits specially fabricated for their use. It is a true adage, "that it is not what one eats that nourishes, but what one digests;" hence the value of those processes which aid in the digestion of aliments. Professor Colin, of the Alfort Veterinary College, has stated as the result of his experiments, that he did not find that chopped hay or bruised oats digested better than these substances in their natural state. But a horse does not utilize so perfectly its food as an ox or a ruminant animal. Some agriculturists demand that since pigs thrive so rapidly on a cooked dietary, the same care ought to be bestowed on the preparation of food for cattle. In the latter ease fermenting can take the place of cooking. By mixing cut hay, straw, roots, etc., in a vat, and pouring thereon boiling water, the mass, after some hours, will emit an odor like sour-kraut, and be highly relished by the animals. The mass is warm, and this economizes the natural heat of the body in the work of digestion, and the woody tissue of the aliments is softened in advance—equal to a residence of some hours in the digestive tube, while exacting less of the juices of the stomach. At the end of the winter season horses, it is well known, are liable to deranged stomachs, owing to the prolonged and large demand of a continued dry regimen on the digestive juices.

PHOSPHORUS AND NITROGEN IN OIL CAKE.

Prof. Sansen, of the Grignon Agricultural College, assures French farmers that the surest, cheapest and most economical plan to secure a supply of phosphoric acid and nitrogen for their fields is, not to purchase these valuable fertilizers in the form of commercial manures, but in that of the various kinds of oil cake. He has already shown that, except in the case of horses, wheat, barley and oats ought not to be employed in the formation of wool, milk and meat. In the case of adult animals, where the skeleton is formed, analysis of their exeretions proves that phosphoric acid is not retained in the system, and in the case of growing animals, according to H. Weiske, only 65 per cent. of the phosphoric acid in the food is appropriated by the economy; consequently, in both cases the phosphate of potash, so assimilable by plants, passes into the manure, and by purchasing oil cakes the nitrogen and phosphoric acid they contain are secured almost for nothing, while the animal appropriates their fattening ingredients. An establishment in the vicinity of Paris, which manufactures yeast from barley, rye and maize, sells the malt residue to cattle rearers, at the rate of *fr*1 per 22 gallons. M. Grandeau has analyzed the mash, and asserts three gallons of it to be equal to one pound of meadow hay.

FERMENTATION IN AIR-TIGHT TRENCHES.

The same gentleman has also analyzed maize, cut green and preserved in trenches for winter feeding. This operation now becoming so general in dry maize growing regions, concentrates the elements of nutrition by the fermentation and diminution of the mass, and it seems this fermentation takes place, first at the expense of the sugar in the plant, which sugar itself ultimately aids in converting the starch and cellular substance into sugar, and later, into alcohol, while increasing the fatty and nitrogenous elements. In the progressing plan of preserving green maize in air-tight trenches, there is nothing new to record, save that the trenches are now made in masonry instead of being excavated in a field; that the maize is chopped along with straw—one part of the latter to five of the former, and well trodden down. The giant, or Caragua, maize is that generally preferred. An ox consumes about one-tenth of its weight of this preserve daily. It is essential to have the trench about two yards wide, the same in depth; the sides to be vertical, according to some, as admitting of a more equal pressure; the length would depend on the quantity of fodder to be stored. Exclude air and water; and after transporting for consumption the quantity necessary for the day, hermetically close the opening. Maize being considered an exhausting crop, the land receives 25 tons of farm yard manure per acre in autumn, and a top dressing of 3 cwts. of a mixture of super-phosphate and sulphate of ammonia in spring; the maize succeeding winter rye. In parts of Bavaria a mixture of tares, peas and maize is also preserved in trenches, and where maize alone is cultivated, the cattle receive two or four pounds of oil cake daily with their rations, maize being regarded as poor in nitrogen.

SYSTEMATIC FARMING IN FRANCE.

What progressive agriculture most requries is, facts well preserved and recorded with precision; it is thus that such a plain, unvarnished tale as that of M. Behague's plan of farming deserves to be welcomed, so as to encourage others to publish the history of their operations. M. Behague is one of the leading gentleman farmers of France. His estate comprises 4,800 acres, of which 217 are in grass, 1,164 in cultivation, and the remainder underwood, ponds and lawns. He has erected his castle, purchased half of his estate, accumulated the two-thirds of his immense fortune out of landed profits, and considers nothing as profit that is not represented at the end of the year by hard cash. He keeps one set of books like a retailer, and another wherein is recorded the "matters" of the farm, as manure, fodder, &c., and which serves him as a guide. The soil is anything but rich, it is gravelly, thin and cold, but ever tending by cultivation to greater fertility. His workmen —some 50, have each a cottage on the estate; there are two tile fields, a lime kiln and sawing machines. His sales of wood, either in planks or for burning, yield him a net profit of *fr*17 per acre and the pines, by their resin, somewhat less; his ponds being well stocked with fish, are also a source of revenue, but wood and lambs are the two pivots of his farming. After years of experiments, he gave up rearing merinos for their wool, finding the price of meat to be more lucrative; he succeeded in obtaining a renumerative race of sheep, by crossing a *berrichon* ewe with a Southdown ram, and his practice consists in breeding and fattening off lambs, the issue of these crossings, when eight or ten months old, and selling them at some *fr*40 each; he thus disposes of 1,000 lambs per annum. The ewes are also fattened and sold after their third lambing. The arable portion of the estate nourishes about 170 pounds of live stock per acre. M. Behague does not regard this stock as a necessary evil, but as a source of certain profit.

CHEMICAL MANURES IN IMPALPABLE POWDER.

M. Menier draws the attention of farmers to the fact, based on his own experience, that they can effect a great economy in the use of chemical manures, by always applying them in the form of an impalpable powder. The chemical action of a manure, its power of assimilation by the plant, increases in proportion to the surface in contact; the more a mineral substance is then pulverized, the greater will consequently become that surface. In Britany the peasants confer much benefit on their land, by strewing therein the powder of portions of rock specially crushed.

FRENCH MODE OF SELECTING HORSES.

The purchasers of horses for the French army always endeavor to obtain a first look at the animal when he is tranquil and in the stable; noting if the animal supports itself equally well on all its legs, and if one seems to yield, to specially examine it; attention is then directed to the largeness of the pupil of the eye, which ought to be more dilated when in the stable, than when exposed to full light. After the animal has been led out of the stable, the eye ought to be again examined to observe if the pupil has contracted; if not, the sight is feeble; others, to test the power of vision, feign to strike the forehead with the hand. If the hollow over the eyes be profound, and the temples grey, old age is to be concluded; wounds about the temple suggest attacks of staggers, and when the end of the nose presents circular scars, it may be concluded the horse has been twitched with a cord to ensure his quietness while being shod or having had to submit to some painful operation.

THE SEPARATION OF BUTTER IN CHURNING.

M. Limbourg, Veterinary surgeon and inspector of the *abattoir*, at Brussels, draws attention to the difficulty too frequently encountered, for the perfect separation of the butter in the process of churning. This difficulty presents many anomalies, and which are attributed to a chemical alteration in the milk, to the existence of decomposing principles, and the health of the cows. As a cow is estimated to yield from 12 to 15 quarts of milk daily, representing a pound of butter, a prolonged difficulty, in connection with a large dairy, thus becomes serious. Some go to seek the cause, where only the effect is perceptible, and blame the vessels, or the atmosphere. M. Limbourg has no hesitation in attributing the cause of this non-separation of the butter in churning to the feeble health of the cow, to the poverty of the animal's blood, although the animal presents at the same time all the external appearances of health. The cow is a machine for producing milk, and the organism can be deranged by excessive or prolonged milking, or continuous breeding; the digestion is performed imperfectly, the blood is not enriched, and hence the animal becomes weak. Connected with this subject is the remark, that cows badly fed during the winter, reflect this treatment by a diminished supply of milk during the summer, and in addition, suffer most when passing from a dry to a green dietary. An ill-fed animal draws upon its system for the elements of its milk, and when supplied with generous food, first fortifies its economy, before yielding the expected increase of milk.

RIPENING OF THE SUGAR BEET.

The preservation of sugar beet occupies much attention; 120 pounds of beet yield 22 of sugar—or from 5 to ten per cent. But this per centage can fall to 3 or 4, when the beet has been three or four months stored in pits; hence the importance of preserving the roots, so as to lessen this diminution. The beet ought never to be lifted till perfectly ripe; to act otherwise induces a fermentation which changes the sugar from a crystalline to an uncrystalline state. In the unripe beet also, there exist acids which favor fermentation. It is recommended to lift the roots without bruising them, and to stack them, leaves on but turned outwards, in small heaps; allow them to remain in this state till the death of the leaves, when these can be cut off and the roots placed in trenches, covering with straw, which is a bad conductor of heat. The root thus achieves its ripening; by allowing the leaves to remain, the sap thickens by the evaporation of the water at the leaves and roots, and the latter dry, like preserved grapes, but without altering.

THE NEW "BUTCHER SHIP."

M. Tellier has produced the model of his "butcher ship," for the preservation, by his process of artificial cold, and the transport of meat from Australia and South America. All that now remains is to *apply* his invention. The engine room is very abaft in the vessel, and the cold-producing machinery is behind this room; the remainder of the ship is divided into compartments, all fitted up with stalls, wherein the joints are suspended, with facilities for examining the meat throughout the passage.

CAOUTCHOUC IN HARNESS.

The idea is being tried of introducing Caoutchoue in the harness of draught animals, so as to augment the strength of the cattle, on the principle, that a weight attached to a spring, can be raised more readily than if lifted without it, or like the elastic union of a railway train.

OUR LOCAL ORGANIZATIONS.

Proceedings of the Lancaster County Agricultural and Horticultural Society.

The Society met statedly in the Orphans' Court Room on Monday, April 5, at 2 o'clock, the President, Johnson Miller, in the chair. Present, Messrs. Johnson Miller, Henry M. Engle, Alexander Harris, M. D. Kendig, Casper Hiller, John Stauffer, John Huber, Milton B. Eshleman, Jacob K. Witmer, S. A. Hershey, Daniel Smeych, John Grossman, Reuben Weaver, Martin N. Brubaker, Levi S. Reist, Henry Erb, J. M. W. Geist, Ephraim Hoover, S. S. Rathvon, D. G. Swartz.

John Grossman, of Warwick, was elected a member of the Association; also Samuel A. Hershey, of Salunga.

Condition and Prospects of Crops.

JOHNSON MILLER presented the following report on the condition of agricultural matters in Warwick township, which was read:

After the ground has been covered with snow for over one hundred days, and we have passed through a winter of unusual cold weather, it affords me great pleasure to again make my monthly report to this society. The snow only a few days ago melted away, and with this day commences the farmer's spring work, after having rested a season from out-door work, doing very little except feeding and currying the stock, of which a good deal has been shipped from our neighborhood and from all over Warwick township. Some twenty-five car loads of fat cattle have left the Litiz depot within the last ten days. This shows that farmers have prepared to meet field work, and to-day we see the boys who have been in the school rooms out in the field picking stones. The farmers who have spent the long and cold winter days and evenings in reading (and if they have not thus spent them it is time lost forever) are here and there following the plow, making ready for another season and another crop; the gardeners are busy cleaning out things, cutting and trimming vines and trees, so that they will be in condition to bear another crop; the birds are singing, and everthing appears to have awakened from the slumberings of a cold and long winter. This is a busy season for all, as there are so many things that need looking after and repairing. One great point should be well considered by every farmer: Have the ground well tilled and in good condition before planting and sowing, as early as possible. This is a rule that is only not practiced in Warwick township, but should be followed all over the county.

As regards the present condition and prospects of grain, fruit and things in general, I would report that wheat fields come out in about the same condition as they went under. Owing to the dry season last fall grain was short but well set. The ice has in low places totally destroyed the crop; but on average with a favorable spring, we will have a tolerably good crop. So far as grape vines and fruit trees are concerned they have suffered more or less, as was the case two years ago. I noticed my peach trees are frozen considerably, while raspberries and grape vines have shared the same fate. As to the fruition nothing can be said yet. Taking all things together we can only rely on an all-wise Providence who directs all things properly. We have no reason to complain. As we have always been abundantly blessed in the past, we will no doubt be equally cared for in the future; for the promise is, If we sow we shall reap.

HENRY M. ENGLE, of Marietta, reported that pears and apples are all safe; but peaches are somewhat injured. Tender grapes have also been somewhat injured, but the hardy varieties are intact. Raspberries suffered some but not seriously. He suggested that the canes should always be laid down in the fall and covered, to insure their safety through the winter.

MILTON B. ESHLEMAN, of Paradise, gave it as the result of his observation that the wheat has not been injured, as it had been sown rather late in the fall, and appearances indicate a good coming crop. He had examined the peach buds, and thinks there will be a good crop of peaches in his vicinity.

M. D. KENDIG, Manor, reported that farmers are about beginning field operations. There was no oats sown in March this season. Grass and grain look better than could be expected. A little more sunshine and an occasional shower will give it a fair start. Some of the small fruits are very much affected by the severe cold of the past winter. Philadelphia raspberries are badly frozen. Doolittle may come out pretty well. Grapes materially injured, especially the less hardy varieties; Corncord and Clinton make a tolerably fair show. Apples and pears all right. Peaches somewhat damaged. Of the farm products of 1874 the bulk of wheat is on hand. Tobacco is selling from prices ranging at 8 to 18 for wrappers, and 3 to 5 for fillers. Potatoes are scarce.

JACOB K. WITMER, of Manor, reported that the indications were favorable for a good crop of peaches, cherries, and other fruits generally. Clover looks well, and the grape vines have not been injured. He had heard an old adage that icicles hanging on trees were generally injurious and destructive to the crops.

LEVI S. REIST believed that the wheat, especially in fields that lie low, is entirely destroyed. They had been covered with a crust of ice for a long time, and he fears whole fields are destroyed.

HENRY M. ENGLE did not agree with the adage which predicted loss of fruit from icicles hanging on the trees. On the contrary, he believed that if the trees were even covered with ice they would still be safe and yield good crops.

JOHNSON MILLER regarded the systematic reporting of the condition of the cereal and fruit crops as a matter of great importance.

The Association then took the the question—

"What is the Best Mode of Wintering Cattle?"

MILTON B. ESHLEMAN, who had proposed this question, said he did not do so because he had anything new to say on the subject, but simply because he wished to hear from others. He is a miller by occupation, and has often heard the question discussed whether ground corn cobs contained any nutritive or fattening properties. He would be glad to hear this point discussed.

The President stated that a friend of his, in Ephrata township, fattened all his cattle on corn ground in the cob, and was quite successful in the production of good beef.

CASPER HILLER said he had been giving this matter some thought, and would read the following on

The Comparative Value of Food.

The majority of farmers feed their cattle just as their fathers did before them, and the idea, perhaps, never suggested itself to them that there might be some improvement—some plan by which more stock can be kept, or more money saved. In countries with large populations this fodder question is an important one, not only in the way of supplying the people with animal food, but also in the making of manure for keeping up the fertility of the soil to grow cereals to perfection. In Germany, this question receives a great deal of attention. The professors in their agricultural colleges have made full and searching experiments on the comparative values of different kinds of food, as follows:

The basis of the comparison is the percentage of nutriment in 100 pounds of the foods mentioned.

100 POUNDS OF				
Corn	contains	95	pounds	of nutriment.
Oats	"	70	"	" "
Clover hay	"	55	"	" "
Wheat bran	"	48	"	" "
Corn fodder	"	20	"	" "
Wheat straw	"	14	"	" "

From this it will be seen that, to secure an equivalent to 1,000 lbs of corn, requires either 1,357 lbs of oats, 1,727 lbs of hay, 1,980 lbs of wheat bran, 4,750 lbs of corn fodder, or 6,800 lbs of wheat straw.

Assuming that corn meal is worth $30 per ton, oats $21.25, clover hay $15, wheat bran $25, corn fodder $8, wheat straw $10—then, if we accept the theory that an animal will require two per cent. of its live weight in hay, the feed of an ox weighing 1,000 lbs will be, per day either—

20	lbs	of	hay	valued at	15c
11½	"	"	corn meal	" "	17c
15-5-7	"	"	oats	" "	25c
2?	"	"	bran	" "	29c
55	"	"	corn fodder	" "	22c
78	"	"	wheat straw	" "	39c

From these tables it would appear that hay and cornmeal are the great staples upon which the farmer

should depend for carrying his stock cheaply and safely through the winter. But the less cost is not all that can be said in favor of hay and corn, for they have yet a greater proportional value in the manure made from them.

It may be proper to say that the figures after the comparative nutriment table are my own, so that if the calculations are wrong the error may be placed to its proper credit.

Mr. Hiller further added that while hay and corn meal are the cheapest, straw is the dearest. Yet, you might as well talk heresy at Rome as to talk to Lancaster county farmers about selling straw, although it commands a good price in the vicinity of paper mills which use straw stock in the manufacture of paper.

Mr. Engle said it was comparatively easy to put these things on paper, but to his mind they were not altogether satisfactory. The analysis read may be correct, and no doubt it is, so far as it goes. It is said, so much corn contains so much nutrition. What is nutrition? The carbonaceous foods are heat producing, and are the best for fattening stock. Hence we use the yellow corn. But to produce muscle and bone the nitrogeneous foods, such as the white-flint corn, are preferable. We in the North often wonder why in the South they eat corn all the year round, while it is rejected in the North as summer diet, because it is considered too heating. The reason is that in the South they grow the white corn, which contains more nitrogen and phosphate, and less carbon. For working horses the white is the best, as it produces more bone and muscle; but to fatten hogs the yellow is the best, as containing more carbon. Hence it is important in estimating the value of such an analysis to know what kind of corn was experimented upon, and to what kind of stock it was intendet to be fed. It was the same in regard to hay. It is an open question as to when is the best time to turn grass into hay. He gave it as his opinion that we cut it too late to get its full nutriment. If cut young, the cattle will relish it much better. It is not so much a question of what nutriment is in it as what the cattle can extract from it. Since we steam corn fodder, one load goes as far as a load of hay or as far as three loads of fodder fed in the usual way. In this connection he would not discuss the question of manure.

Mr. Eshleman thought the low value of wheat bran given in the analysis could not be correct. Wheat is known to be the strongest of nutritious grains, and the more of the bran is worked into the flour thy more wholesome it is.

Mr. Engle said he had seen it asserted by a chemical authority that there was more nutrition in a pound of bran than in a pound of flour. But it is an undisputed fact that the grain of wheat contains more nearly all the elements of healthy nutrition than anything else we can eat. To get all these elements the grain and bran should be ground and used together.

As this question was considered a little out of season, further discussion was postponed until fall.

What Trees are Most Profitable for Fencing and Fuel?

This, another deferred question, was discussed at some length, Mr. Eshleman favoring locust for both fencing and fuel; although chestnut was better for fencing rails, it did not pay so well to plant it. The chairman considered locust most valuable for posts and many other purposes.

Mr. Ephriam Hoover said every farm has some corners and fence lines which can be best utilized by planting locust trees. Besides using it for fencing, the portions of the wood not suited for that purpose makes excellent fuel, there being very little difference between it and maple. Every farmer can raise enough to fence his farm without detracting from his area of cultivation. A locust post lasts from twenty-five to thirty years. In twenty-five years he can easily grow enough from seed to renew his fencing. It may be said that while locust makes good posts it is not adapted for rails, and both are wanted. But we can sell the surplus locust posts to purchase chestnut or pine rails. He therefore preferred locust for fencing and fuel, as chestnut is not nearly so good for fuel.

Mr. Hiller introduced a new competitor for the meed of profit, in the cherry tree. He had recently cut down a cherry tree twenty-five years old which made excellent fuel, and the lumber obtained from it is valuable.

Mr. Reist championed the locust as most valuable for all purposes. It can be raised sooner and cheaper than any other. Owing to the scarcity of other woods, such as oak and hickory, wheelwrights must use it for axles and other mechanical purposes for which it is well adapted. He would use locust for posts and willow for rails. A willow tree in twenty-five years would yield from 100 to 150 rails, and when cut in the proper season (which he thought is May) it will last as long as chestnut. The ailantus was the most rapid of growers and would make good rails. He cut a cherry tree which he had planted 22 years ago which gave a valuable yield of boards; but for fencing and fuel his trio would be the locust, willow and ailantus.

Mr. Kendig said the locust is not adapted to all soils; but where it will do well he is in favor of planting along the fences around the farm. Around a farm of 160 acres, we would have 1,320 feet, which would accommodate 440 trees planted 12 feet apart. In twenty-five years these would yield 8,880 posts worth $4,440, which would be the amount the value of the farm would be enhanced in twenty-five years. The wood cut in trimming from year to year would supply the family with fuel. Besides, it is a great pleasure to have the roadside lined with trees which afford a delightful shade in the hot summer when one is driving along.

Mr. Engle, while he agreed with the other speakers in their estimate of the value of the locust, said he was looking to the day when fences would be altogether dispensed with. We don't need much wood for fuel when coal is so abundant and inexhaustible, for years to come. A very valuable tree had, however, been overlooked. The walnut will grow more rapidly than locust and is more valuable. You can sell enough of its fruit and lumber to buy your fencing material. The improved American chestnut is now extensively grown for its fruit. A gentleman in New Jersey annually cropped from $25 to $30 worth of fruit from a single tree. The market for this fruit is never overstocked. But after all, he still desired to point public sentiment in the direction of doing away with fences altogether, which "good time" would certainly come.

Varieties of the Tree-Borers.

Mr. Kendig desired to know why the locust would not grow in certain localities. In answer, various theories and illustrative facts were given; some remarking that the locust flourishes in gravelly soil and does no good on limestone ridges—others that it is often killed by excessive and close pruning—but the locust *borer* was finally credited with all the trouble; but why this insect was so destructive in some localities and never seen in others was not explained. In answer to a question as to whether the locust borer confined its ravages to that tree, Prof. Rathvon said, to the best of his knowledge it did; that is the *Clytus robiniæ* does: but there are two species of *Clytus* so nearly alike that it is very difficult to distinguish between them—the one already named and the *Clytus pictus*, which is a hickory and walnut tree borer. The former does not make its appearance until September, and then it is often found abundantly in the mature state, on the blossoms of the *Solidago*. The latter appears, in the beetle form, in the month of June—sometimes even earlier. On one occasion hundreds of them came out of hickory wood in my cellar in the month of May, and two years ago John A. Heistand, esq., gave me several specimens that came out of a piece of hickory wood in his office, in the month of April. But there is a much larger "borer" that infests the locust trees—namely the larva of a moth (*Xylentus robiniæ*) which is capable of doing more damage than the *Clytus*. This insect also infests the chestnut trees. On one occasion I took the larva of our largest grey "snapping-beetle" (*Alaus oculatus*) out of the limb of a locust tree, although it more frequently occurs in the dead limbs or trunks of the apple. There is also a minute leaf miner (*Hispa*) and a leaf puncturer (*Apion*) both of which infest the foliage of the locust in vast numbers, often leaving them as if they had been scorched by fire. [As soon as we can obtain accurate illustrations of these insects, we will publish detailed accounts of them.]

Mr. Engle said the fact being admitted that the locust would not thrive in all localities, should teach farmers the futility of attempting to grow trees not adapted to the soil, or liable to be destroyed by the borer, but to select those which were best adapted to these conditions.

Milk Cows—Cultivation of Corn.

The questions as to the best food for milk cows, and what variety of corn produces the most bushels to the acre, were deferred; and at the suggestion of Mr. Engle the latter question was put in this form—What variety of corn is most profitable, and what is the best plan of cultivating it?

The Grashoppers.

Prof. Rathvon said they had had so much discussion of the potato beetle of late, that he had concluded to say something of grasshoppers. In the March number of The Lancaster Farmer he had said something about utilizing potato beetles and grasshoppers. Since then he had seen an interesting account of the exhumations going on at Pompeii, where, among other things exhumed, was a table set for the meal, containing, among other edibles, a *dish of stewed grasshoppers*. Although we might yet come to this mode of utilizing the grasshoppers, we would be still 2,000 years behind the fashions of the Pompeiians! He proceeded to read a very interesting article on *The Grasshoppers*, relating to their ravages in Nebraska, and discussing the probabilities and effect of a grasshopper raid in this county; but owing to the crowded state of our columns we are obliged to defer its publication.

Cropping Oats on Corn Ground.

Mr. Grossman, of Warwick, inquired whether it would not be better to change the usual practice of cropping oats on corn ground preparatory for the wheat crop, by manuring for the corn and following it with wheat, leaving the ground lie fallow during the summer.

Mr. Hoover was opposed to manuring oats stubbles too heavily for wheat. Corn could not be grown too rank, but there was such a thing as manuring for wheat so heavily as to cause it to grow to straw. Two successive crops of corn are too exhaustive on the soil. If he did not sow oats he would seed with clover.

Mr. Kendig said the oat crop had been a failure for some years past, but it was a question whether this was not owing to want of manure. A friend of his had ground prepared for a crop of tobacco, but the person who was to have planted it failed to do so until too late. His only alternative was to plant it in oats, and he got a crop of 90 bushels to the acre, which paid him well.

Mr. Engle said that oats is an uncertain crop in unfavorable seasons. We may, however, have favorable seasons and it will again pay well. In dry seasons it fails, but if we knew what the season would be and manured accordingly, it would pay. If manured, and a wet season follows, it will grow rank and run to straw. He had known cases where, for this reason, it did not pay to harvest it. So he would not venture to manure oats as a rule. Owing to a large demand for other purposes, he had found it necessary to economize manure for wheat on oats stubble. He had it turned frequently to aid decomposition, and then put it on lightly as a top dressing after ploughing, stirring it in well, and had a good crop.

Mr. Hoover thought that if it was not intended to follow corn with a crop of oats, the next best plan would be to set the corn in larger shocks than usual, and a greater distance apart; then sow rye in the spaces between. In the spring break the stubbles off where the rows of shocks stood, and plant potatoes. He would rather do this than let the ground lie fallow.

The Chairman endorsed this suggestion, having tried it successfully with five acres of rye in a twenty-acre cornfield.

Mr. Engle said that sowing Hungarian grass instead of oats was successfully practiced by many farmers in Chester county, a yield of two tons of good hay to the acre having been secured.

Mr. Eshleman suggested that crops were often spoiled by too deep plowing; but Johnson Miller said his rule for corn was to plough deep and plant shallow, and he always has good crops; and Mr. Engle said he had been harping on this for years. There was an exception, however, in soil where the fertility was shallow. There is nothing to be gained by turning up sterile soil.

Native Seedling Apples.

Mr. Grossman presented specimens of a seedling apple which he called his "Favorite," which was remarkable for being unpalatable when first cropped, but which kept well and grew into excellent flavor, and also for cropping most prolifically when other varieties failed. To our taste we never ate a better apple at this season.

The same gentleman presented specimens of what he supposed to be the White Vandivere, but Mr. Engle said they did not correspond with his variety of that name.

In this connection Mr. Engle, who is chairman of the General Fruit Committee of the State Fruit Growers Society, stated that they were desirous of securing specimens and descriptions of all good native fruits in the county for notice in their annual report.

The State Agricultural Fair.

The chairman called attention to the fact that if the proper effort is made the next fair of the State Agricultural Society can be secured for Lancaster. This matter was earnestly urged by the chairman, Mr. Engle, and others, who commended it to the citizens of Lancaster as a subject which should engage their active co-operation. If the proper inducements are held out by hotel keepers and our business men generally, there is no doubt that it will come here. The advantages arising from this will not end with this year. It has been the practice of the State Society of late years to hold their fair in the same town two years consecutively. If, therefore, we secure it at Lancaster this year, we can retain it next year also, which will be the great Centennial year. It requires no argument to illustrate the great advantages this would confer upon our county. Its near proximity to the Centennial exhibition would give strangers from all parts of this country and the world an opportunity to see something of the richest agricultural county in the nation, and we have no doubt hundreds of such would avail themselves of this opportunity.

Native Flowers and Fruits.

Daniel Smeych, of Lancaster, presented a number of seedling geraniums—sub-genus *Pelargonium*—of his own raising, in relation to which the botanist of the association, Mr. Stauffer, has furnished our reporter with the following paper:

Do Varieties Die Out? The variety of plants of the stork, or cranesbill family, called *Pelargonium*, from *pelargos*, a stork, is extensive. Johnson, in his Gardeners' Dictionary, has a list of ninety-nine species, herbaceous and tuberous rooted, and one hundred and sixty named evergreen shrubs, cultivated in the greenhouse. Superior varieties have been raised by seeds, by hybridizing and tricks in trade which defy all rules for classification. Mr. Daniel Smeych, No. 628 West King street, this city, who takes a great interest in

floriculture, had on exhibition at the meeting of the Horticultural Society, a series of flowers and leaves to illustrate the change by culture. No. 1, to begin with the original flower of that bright, pure, deep crimson red species called "General Grant," flowers large, leaves with the ordinary zonale or dark central ring (constantly present in these species and varieties) of moderate size. The seedling, No. 2, was rather darker in the color, smaller, and the leaves reduced in size. No. 3, also a seedling from No. 2, color good, flower rather less, but leaves much larger in diameter. No. 4, color of flower between a rose and orange, leaf nearly as large as in No. 3, flour full size. No. 5, a seedling from No. 4, color orange red, leaves much reduced in size—evidently returning to its original type of *Pelargonium lateritium*, introduced in 1800. Flowers were then 1½ inch in diameter, of a brick-red color, &c., just what No. 5 is in its regular lineage from No. 1, General Grant, so brilliantly red. How came it so? But whence arises color, or the change of the reflecting angles of light? Nay, what does even the great Tyndall teach us in the matter of giving us light, on the nature of light and floral colors? No doubt there is a law of forces designed by creative wisdom to act just so—under such conditions—and perhaps it is our business to find them out, if we wish to act by knowledge; yet a blind pig can find the acorn. So we often stumble upon a truth, and produce results that astonish us, if they do not edify. So gardeners potter around, and often bring about a grand change, but for want of knowledge how to preserve it or improve it, they "go back on us," and show how little we know.

Prof. Rathvon exhibited a very fine specimen of the *lemon*, grown by Mrs. C. O. Herr, of Cresswell, Manor township, Lancaster county.

TOPICS FOR DISCUSSION AT NEXT MEETING.

1. What is the best method of increasing the fertility of the soil?
2. What system of farming is best adapted to Lancaster county?
3. What variety of corn is most profitable to grow, and what is the best method of cultivating it?

The Society adjourned to meet on Monday the third of May, at one o'clock, p. m., sharp.

The Lancaster Park Association.

At the late annual meeting of the stockholders of the Lancaster Park Association, a large proportion of the stock was represented either in person, or by proxy. Mr. Robert A. Evans was called to preside over the meeting, and Messrs. H. Z. Rhoads and John T. McGonigle, to act as secretaries. The report of the board was read detailing its operations for the past year, showing that the receipts from all sources had been $7,666.31, and the expenses $7,419.74, leaving a balance of $246.62 after paying all the expenses, one year's interest on the mortgage, insurance, taxes, &c. The floating debts of the association, at the time when the board came into office, have been funded by loan for which a second mortgage has been given upon the property of the association, and from the proceeds of which all these debts have been paid off, and a balance of $34.59 remains on hand. On motion of J. L. Steinmetz, esq., the board was instructed to make an effort to secure the holding of the next state fair in this city, and failing in this, to hold a general county fair. An election for directors for the ensuing year was then held, and resulted in the choice of the following gentlemen: Robert A. Evans, H. Z. Rhoads, Jos. R. Royer, A. C. Kepler, C. Rine Baer, Geo. Youtz, John H. Miller, Levi Sensenig, Samuel Jefferies, Jas. Stewart, and L. Knapp.

The voting was conducted on the cumulative plan, and 2,798 votes were cast. As there are only 321 shares of stock, each entitled to eleven votes, or 3,531 in the aggregate, it will be seen that a large proportion of stock was represented.

The exhibit of the affairs of the association was, on the whole, favorable, and under the disadvantageous circumstances which attended its labors, more could not have been reasonably expected.

Let them try to get the state fair, by all means.

A Little Advice to Farmers.

Help your wives in every way you can, trivial though it may seem to you. For instance, keep an extra pair of shoes or slippers in the hall or entry, and always remember to change your dirty boots before entering her clean rooms. Then you may be sure of a smile of welcome, as no dirt will be left after you for her to clean up. In the evening comb your hair as carefully as you ever did in your courting days. Put on a clean coat or dressing-gown, and when you take your paper to read, do not read to yourself and leave her to lonesome thoughts while sewing and mending, but remember that she, too, has been working hard all day, and is still working. Read to her whatever interests you, so that her interests and opinions may grow with yours, and that she may comprehend something besides love stories, which too many have read more than they should. You will both be happier, and being a farmer's or mechanic's wife will not be such a dreadful tiresome and lonely life as many girls have every reason to think it is—especially if he reads The Farmer.

THE FARM AND THE DAIRY.

Successful Sale of Short-Horns.

The Belleview herd, owned by William Stewart, of Dixon, Ill., was recently sold at auction. A large number of buyers were present, and eighty head brought over $26,000. The following is a list of the highest prices of the day, with purchasers:

Lady of Racine, one of the finest Miss Wilys on this continent, to Col. R. H. Austin, Sycamore, Ill., $1,500. Miss Wily, of Belleview, her calf, same, $700. They are both grand animals. Lord Wily, another of Lady's calves, to A. Powers, Dixon, Ill., $1,480. Duchess Louan, said to be one of the finest Louans, went to Col. R. H. Austin, at $1,900. Louan's Thorndale, N. Cornell, Dwight, Ill., $300. Bloom 12th, J. C. Lahman, Franklin Grove, Ill., $365. Earl Duchess, M. McWilhams, Darlington, Wis., $300. Caroline, H. F. Brown, Minneapolis, Minn., $810. Moselle, R. H. Austin, Sycamore, Ill., $425. Hazel Queen, said to be one of the finest show-cows in America, $775, to Greene & Morton, Cedar Rapids, Iowa. Donna Lee, to William Chambers, Rochelle, Ill., $325. Roxy, to Mr. Van Patten, Stewart, Ill., $350. Elsie, to W. Chambers, Rochelle, Ill., $410. Hannah, to Princeton, Hawks & Moore, Polo, Ill., $470. Violet 2d, to William Chambers, Rochelle, Ill., $400. Lily of the Valley, to William Chambers, Roselle, Ill., $500. Josephine, to E. A. Snow, Dixon, Ill., $325. Luillon, to T. Hughes, Meriden, Ill., $300. Gold Ring, to T. Hughes, Meriden, Ill., $395. Mary 6th, $340, to W. W. Tilton, Dixon, Ill. Maria, to Leonidas C. Dement, Dixon, Ill., $300. Hope, to Col. Austin, Sycamore, Ill., $355. Tany, to W. Chambers, Rochelle, Ill., $355. Violet, to C. Dement, Dixon, Ill., $300. Florence, $300. Duke of Thorndale, to William Nael, Paxton, Ill., $475. Champion of the West, to George Dealand, Dixon, Ill., $1,000.

The above includes the most of the sales, except a few old cows, and young male and female calves, which sold at from $300 to $125. Few more successful sales have been made in America, everything considered, and it gives a glorious prospect to the great short-horn future.

Valuable Milk Cows.

The Chambersburg *Repository* claims that Dr. Edmund Culbertson, President of the First National Bank of that place, has the most valuable cow in the county, if not in that section of the State. This cow had a fine bull calf, about four weeks ago, and since that time has been giving large quantities of milk, the average being 36½ lbs per day. The cream from this cow was preserved for one week, and on being churned yielded the large amount of seventeen and a quarter pounds of butter. This is an unusually large yield. The butter is of a rich yellow color, and is very superior in quality. The cow is an Alderney, and was imported from the island of Jersey, by Mr. William Massey, of Philadelphia. Dr. Culbertson bought her from Mr. Massey when she was fifteen months old, for $200. She now has her third calf and is a fine animal. We mention these facts for the benefit of farmers who are interested in improving their stock, as they know it costs no more to keep a thorough bred animal of any kind than it does one of an inferior breed.

A. F. Boas, of Reading, recently purchased Guernsey stock from R. W. Coleman's heirs, at Cornwall, Lebanon county. He has since reported that he had a yield of 15 pounds of a No. 1 butter in one week from one of the cows. This speaks well for that breed of Cattle.

Henry Geist, of Point township, Northumberland county, produced from three cows, of ordinary grade, in thirteen weeks, between December 4th and February 27th, last past, the extraordinary amount of 292½ pounds of butter, or about twenty-one pounds per week

Setting and Skimming Cream.

Cream rises because of the comparatively light specific gravity of the butter globules. The cream arranges itself upon the surface according to the size of the globules, the largest globules being at or near the top. Cream is, therefore, an uneven product, rising in layers. Each layer is different, and produces a different quality of butter, and one layer is better for butter-making than another. The cream rising first is the richest, produces the best butter, and churns quickest. The second skimming is poorer for manufacture, and the third may be worthless for first-class butter. Hence, in practice, a dairyman may obtain too much butter from his milk, the increase in quantity not sufficiently compensating for the decrease in quality, brought about by the churning of globules which should have been left in the buttermilk. Dr. Sturtevant argues that the value of a cow or a breed cannot be determined by the percentage of cream in her milk, as milk yielding but ten per cent. of cream may furnish more butter than that yielding thirty per cent. He sugges's that shallow setting would probably yield the most butter, and deep setting that of best quality.

A Dollar spent for *The Lancaster Farmer* is money well invested. It will "pay"—ask your neighbor to try it.

FARM AND DOMESTIC ECONOMY.

The Nutrition of Oatmeal.

Liebig has shown that oatmeal is almost as nutritious as the very best English beef, and that it is richer than wheaten bread in the elements that go to form bone and muscle. Prof. Forbes, of Edinburgh, during some twenty years, measured the breadth and height, and also tested the strength of both the arms and loins of the students in the university—a very numerous class—and of various nationalities, drawn to Edinburg by the fame of his teaching. He found that in height, breadth of chest and shoulders, and the strength of arms and loins, the Belgians were at the bottom of the list; a little above them the French; very much higher, the English; and highest of all, the Scotch and Scoth-Irish from Ulster, who, like the natives of Scotland, are fed, in their early years, with at least one meal a day of good milk and oatmeal porridge. Speaking of oatmeal, an exchange remarks that a very good drink is made by putting about two spoonsful of the meal into a tumbler of water. The Western hunters and trappers consider it the best of drinks, as it is at once nourishing, unstimulating, and satisfying. It is popular in the Brooklyn navy-yard, two and a half pounds of oatmeal being put into a pail of moderately cool water. It is much better than any of the ordinary mixtures of vinegar and molasses with water, which farmers use in the haying or harvest field.

Now For House-Cleaning.

Flora, in the Germantown *Telegraph*, thus discourses on a topic of prevailing interest at this season of the year: The season will soon be upon us to begin the worrying but indispensable spring house-cleaning. Strange to say—at least it will no doubt be strange to many of the masculine style—we housekeepers do not dread—or allow me to put in a somewhat out-of-the-way word—we do not *shirk* this inevitable semi-annual overturning and refurbishing of the domestic paraphernalia. It has really a pleasure in it, in so far that it precedes a brighter day for us, that is, a reclaimed, renovated castle—for a house is one's castle—and therein lies the pleasurable anticipation, and smooths away any rough edges which house-cleaning might seem to have to some who give no assistance to it personally.

It has been said, and very truly, that every husband should be out of the house at least six hours daily, as an ordinary rule. But he should be away a *week* during these domestic operations, for then we should avoid sour looks, cross remarks, grumbling at meals, and complaints at the overturning of things generally. Still, I don't mind this little "spatting." I just go on as if I heard nothing, until the domicile is as bright as a new cent from garret to cellar, when I present my jewels to my lord, and demand an apology in view of the charming picture presented, and always get it.

Parasites in Bird-Cages.

Many a person has watched with anxiety and care a pet canary, goldfinch, or other tiny favorite evidently in a state perturbation, plucking at himself continually, his feathers standing all wrong, always fidgetting about, and every way looking very seedy. In vain is his food changed, and in vain is another saucer of clean water always kept in his cage, and all that kindness can suggest for the little prisoner done; but still all is of no use, he is no better—and why? because the cause of his wretchedness has not been found out, and until it is, other attempts are but vain. If the owner of a pet in such difficulties will take down the cage and cast his or her eyes up to the roof thereof, there will most likely be seen a mass of stuff looking as much like red rust as anything; and from thence comes the cause of the poor bird's uneasiness. The red rust is nothing more nor less than myriads of parasites infesting the bird, and for which water is no remedy. There is, however, a remedy, and one easily procurable in a moment—fire. By procuring a lighted candle and holding it under every particle of the top of the cage, till all chance of anything being left alive is gone, the remedy is complete. The pet will soon brighten up again after his "house-warming," and will, in his cheerful and delightful way, thank his master or mistress over and over again for this, though slight, to him, important assistance.

About Housework and Help.

It is the poorest of economy for a mother, if she can afford to have help, to slave and fag herself out day after day, besides working far into the night, for the purpose of saving expense. True, as many mothers say, "help is a nuisance," or, "I would rather my work was half done than bother with a girl," etc. But we must not be too particular. Remember, we cannot find perfection in any one, and while girls cannot do just as well as you do, or as you think they ought, they do the best they can. Speak pleasantly to them, and whenever they do right, do not fail to speak of it, and let them know that you appreciate their efforts to please. In fact the lady of the house is not always an angel, and a great deal depends upon the example she makes of herself. Poor help

annoys us fearfully, but a tired, half-sick, worn out mother puts a whole household out of sorts, and to the children home ceases to attract when mother is always scrubbing, scouring, scolding and grumbling. Try to be cheerful. If you have so much to do, that you scarcely know where or how to begin, do not talk of it, but do what you think you ought to do, and let the rest go.

Home Interiors.

Domestic miseries cannot always be concealed by the victims of them; they lie open to the gaze of all who cross the afflicted threshold. But they do not concern the outer world, and the outer world has no right to look on them. Visitors should not see them, even when their dismal forms come boldly into view; and visitors should bear off no memory of them to exhibit to others. The joys of a household may be proclaimed far and wide, its weakness, its affections, its sorrows, and its misery, possess a bitter sanctity that every sensitive and honorable soul will religiously respect.

INFORMATION ABOUT BEES.

The Honey Bee in Farm Economy.

Agriculture and bee culture bear a very close relation, and the bee plays a very important part on every farm; for in the springtime they are ever ready and anxious to perform their part, visiting the blooms of the forest field and orchard, gathering the pollen from petals, and sipping the nectar from the cells of the flowers, and bearing it home to their hives as a treasury for the support of the little colony, turning over the surplus to the farmer for his family, for the trouble of furnishing them with a house and looking after them. The bees, in gathering the pollen from the blooms, carry it from one to another, thus more thoroughly mixing and fertilizing them than could possibly be done by any other plan. Thus it is seen the bees perform their part in the farm economy, and they deserve to be recognized and fully cared for by every farmer. When we consider the honey, it is found to be one of our finest luxuries on the family table, aside from its medical uses. Then let every one give the honey bee a place in the yard or orchard if it be but a single colony, and keep an account of the expenses, and after comparing it with any other product on the farm it will be found to pay better by four-fold than anything else invested.

On the first warm open days the bees will be flying out, and you ought to set some rye meal, unbolted flour, cornmeal or flour, and shorts mixed, in a shallow box or vessel where the sun can shine down in it, and you will see the bees bobbing in it, filling their little baskets and legs and bearing it away to their hives for feeding the young ones. You should open the hives, take out the combs, brush out the dead bees and all trash from the bottom of the hive, and be certain to examine carefully to see if they have a queen; and if none is found, take and unite them with a weaker stock that has a queen. Attend to this late in the evening, after sprinkling each hive with sweetened water, perfumed with essence of cinnamon or peppermint, and then brushing each into one hive together, setting in the comb that has the queen in it first. By morning they will be all right and ready for business.

These suggestions may be of use to those beginning bee culture, by giving them some idea of managing the "little busy bee."

Queries Answered.

The Bee-keepers Magazine gives some valuable information in its answers to the following queries:

1. "Can I buy a pure queen (Italian), put her in a colony of black bees, Italianize the stock, and rear queens, so as to Italianize all I have, and could such queens be called pure Italians? and can I do thus and change ten or twelve hives of black bees from the one queen I buy, and that by keeping them so near together?"

You can Italianize one stock in this manner and rear queens from it, but they would be very liable to mate with black drones from the other stocks, and all thus mating would produce hybrid progeny.

2. "Can black bees be transferred from old hives during winter? If so, how can I move the comb and make it stick? Would beeswax do to cement the comb to what I wish to fasten it to?"

Not with safety; wait until fruit trees blossom. Melted beeswax not very hot, mixed with resin, will do, but we use fine wire to wrap around the combs and hold them in until the bees fasten them to the frames, then the wire is removed.

3. "What hive did the N. A. B. Society adopt as a standard, or did they not adopt any at their meeting in Pittsburg?"

They did not adopt any hive, but most speakers favored a hive with frames about 12x12.

Hereafter we propose to devote some attention to the interesting and profitable subject of the Apiary; and we invite facts and suggestions from practical bee-keepers.

The Cotemporary Press.

The Agricultural and Floral Guide. An illustrated demi-quarto of 20 pages. Mexico, Mo. Monthly, at $1 a year, with extra premium inducements to clubs, paid in nursery stock.

The Bee-Keeper's Magazine, an octavo monthly (illustrated) of 30 pages. An ably conducted practical journal on the subject indicated by its title. W. B. Cobb, publisher, 76 Barclay street, New York. $1.50 a year.

The Weekly Fancier's Journal and Poultry Exchange. A royal octavo magazine of 30 pages, finely illustrated and printed, and devoted almost exclusively to the chicken and pigeon trade. Philadelphia. $2.50 per annum. Joseph M. Wade, editor and proprietor, No. 39 North Ninth street. An excellent journal for those interested in this specialty.

The Pioneer. We have received the February number of this journal, published at Omaha, Neb., apparently in the interest of the "Union Pacific Railroad Land Company." It is a large folio, illustrated, with a very significant "head" and maps, and contains much useful information for the instruction of emigrants.

The Colorado Agricultural and Stock Journal: devoted to "rural and home affairs, arts, science, literature, and the material interests of the great west." A double folio, illustrated, and in fair type. Denver, Colorado. Weekly, at $3 a year, by James B. Hill. Emanating from almost the outer verge of civilization, it would be a credit to the centre of the nation.

The Pacific Rural Press comes to us from San Francisco in the form of a large imperial 8 vo. weekly, published by Dewey & Co. It is in its ninth year, and bears all the marks of prosperity which are apparent in the business enterprises of the Golden State. The publishers get $4 a year for the paper, and 25 cents a line for their advertising, of which there are over twenty columns in the number before us.

The Canada Farmer, published monthly, at Toronto, Canada, is the leading agricultural journal over the line. It is an imperial 8 vo., of 20 pages, with cover, somewhat larger than The Lancaster Farmer, and furnished at $1 a year. It is ably conducted and is standard authority on the topics it discusses. Three numbers came to us under a three cent postage stamp, only one half what Uncle Sam charges to carry The Farmer to Mountville! For many years the Government of Canada permitted all agricultural journals published in the province to pass through the post-office free of postage.

The Colorado Horticulturist: How rapidly the New West is being developed is shown by the establishment, in that far Western Territory of Colorado, (on the Western verge of the so-called Great American Desert,) of a quarterly journal devoted to Fruits, Flowers and Gardening, a specimen copy of which has been received. It is a handsomely illustrated quarterly. From it the people of the East can learn how garden crops are grown where rainfall is not depended on. The July number is to contain an illustrated article on the subject of Garden Irrigation. The home of the enterprise is at Greeley, a town but five years old containing 1,500 inhabitants. This is the town founded by Union Colony, to which Horace Greeley stood as god-father; the temperance town of Colorado, wherein no man looketh upon the wine when it is red. The paper is furnished at the low price of fifty cents per annum, with a premium of a plant of the *Rocky Mountain Red Raspberry*, (price 35c.), and a packet of seed of an ornamental climber, the *Wild Cucumber Vine*, (price 10c.). Foster & Co., Greeley, Colo.

Catalogues of Seeds, Plants, &c.

The American Booksellers' Guide, published monthly, 119 and 121 Nassau street, New York.

"How to make $350 a Year by Bees," J. W. Pagden, Sussex, England. A 24 mo. volume of 45 pages, in paper covers. Loring, publisher, Boston.

Centennial Address to the people of New York, by prominent citizens, and the "United States Centennial Almanac" for 1875. King & Baird, Philadelphia, Pa.

D. L. Resh's Susquehanna Green-Houses and Plant Nurseries, Columbia, Pa. This handsome 12 mo. "Catalogue and Annual Report" came to hand too late to be noticed in our last number.

Webster's *Landscape and Ornamental Gardener*, containing hints and plans for laying out and ornamenting grounds in accordance with the principles of art and taste. An octavo pamphlet of 24 pages. Rochester, N. Y. See advertisement.

International Exhibition 1876, Fairmount Park, Philadelphia, Pa. A beautifully executed royal octavo pamphlet of 52 pages, with several handsome maps, and finely executed architectural illustrations relating to the "Centennial."

Building Association Journal. The organ of the Building and Loan Associations. As its name implies, it is an 8 page quarto, devoted to an interest of no ordinary importance. Philadelphia. H. A. Mullen, 726 Chestnut street. 50 cents a year,

THE PROGRESS OF INVENTION.

Official List of Patents,

Relating to the Farm, the Dairy, Apiary, &c.,

For the month, ending April 1st, 1875.*

Apparatus for Pisciculture; A. Bond, Vernon, Conn.
Horse Blankets and Pantaloons Combined; C. Franke, New York, N. Y.
Grain Separator; J. H. Locke, San Francisco, Cal.
Hay Loaders; Frank Marion, Tremont, Ill.
Rein Holders; Carmi Osgood, East Hardwick, Vt.
Jump Seats for Carriages; N. Starkey, Amesbury, Massachusetts.
Machines for Packing Tobacco; H. Winterweber, Offenbach, Germany.
Check-Rowers for Corn-Planters; Geo. D. Haworth, Decatur, Ill.
Windmills; A. & G. Raymond, Wampun, Wis.
Harvester Reels; G. G. Read, Russellville, Ky.
Sulkies; Peter Soule, Colesville, N. Y.
Pump Suckers; I. M. Springer, Indianapolis, Ind.
Plows; C. R. Dugdale, Dixon, Pa.
Transplanting Boxes; P. Eby, Lancaster county, Pa.
Butter-Workers; J. L. Englehart, New York, N. Y.
Automatic Clock operated Horse-Cribs; W. R. Gribbin & Augustus McMillan, Portland, Maine.
Plows; A. Hampe, Staunton, Ill.
Horse Powers; E. J. & J. W. Hoyle, Martins Ferry, O.
Gang Plows; J. B. Hunter, Ashley, Ill.
Pruning Shears; W. H. Johnson, Springfield, Ill.
Pruning Implements; W. H. Johnson, Springfield, Ill.
Grain Separators; W. M. Koppers, Seville, Ohio.
Cotton Scrapers and Choppers; Wm. A. McClaughertz, Seguim, Texas.
Animal Traps; I. V. Newsom, Eatonton, Ga.
Green-Corn Cutters; Wm. J. Potter, Mount Lebanon, New York.
Land Pulverisers; A. Underwood, Carrollton, Ill.
Animal Hopples; J. D. Wilson, Round Grove, Kan.
Churns; D. C. Bailey, South Salem, Ohio.
Cultivators; Jacob Behel, Rockford, Ill.
Horizontal Hay and Cotton Presses; T. P. Bennett & E. J. Rancier, Belton, Texas.
Land Rollers; P. Bilzen, Moveagua, Ill.
Horse Shoes; S. B. Henry, Farmwell, Va.
Fertilizing Compounds; C. H. Hoffman, San Francisco, Cal.
Stacker Attachments for Threshing Machines; Levi Kittinger & J. K. Koutz, Massillon, Ohio.
Wagon Brakes; R. I. Knapp, Half Moon Bay, Cal.
Cultivators; L. L. Lawrence, Dublin, Ind.
Wind-Wheels; Newell P. Mix, Avenue & William C. Jacobs, Columbia, Ohio.
Milk Safes; J. F. Pool, Monroe, Wis.
Vehicle Springs; J. M. Pressey, Salineville, Ohio.
Plow Carriages; D. W. Ralston, Rockford, Ill.
Wind-Mills; G. F. Rounds, Benton Harbor, Mich.
Interfering Boots for Horses; A. Westbrook, Astoria, New York.
Dough kneading boards; L. L. Black, Lowell, Mass.
Sheaf Droppers for Harvesters; S. G. King, Round Grove, Ill.
Milk Coolers; E. McEwan & Chas. O. Gibson, Derby Line, Vt.
Sulky Plows; Wm. B. Quick, St. Louis, Mo.
Churns; J. W. Simmons, East Monroe, O.
Butter Workers; F. B. Aldrich, Chicago, Ill.
Hog Traps; J, F. Cooper, Frankton, Ind.
Colters; A, M. Davis, Jerseyville, Ill.
Horse Collars; L. W. Harbaugh, Muscatine, Iowa.
Thrashing Machines; T. Harrison, Belleville, Ill.
Sod Cutters; R. Hinkson, Buffalo, N. Y.
Saddle Horse Apparatus; A. Hitt, Flora, Ill.
Feed Cutting Machines; W. J. Jones, Hamilton, Ohio.
Sulky-Harrows; J. Kimbell, Pleasant Home, Neb.
Fruit Gatherers: M. McDevitt, Hampton, Va.
Corn Shellers; S. H. Moore, Chicago, Ill.
Cultivators; P. D. Rogulmore, Panola county, Texas.
Draft Equalizers; L. J. Seely, Waldron, Ind.
Grape and Flower Pickers; L. B. Snow, Cleveland, O.
Fruit Driers; T. C. Walter, San Francisco, Cal.
Fruit Driers; H. J Allen, Sturgis, Mich.
Plows; Wm. Bradford, Valdosta, Ga.
Horse Hay Rakes; S. H. Bushnell, Fairport, N. Y.
Pruning Shears; J. Chase, Orange, Mass.
Bag Holders; Leonard Crofoot, Pavilion, N. Y.
Cider Mills; Enos Curtis, Traverse City, Mich.
Grain Samplers; F. A. Furst, Baltimore, Md.
Straw Cutters; Warren Gale, Chicopee Falls, Mass.
Churns; D. W. George, Pulaski, Iowa.
Lawn Settees; H. H. Gratz, Lexington, Ky.
Grass Cultivator Teeth; E. Leonard, Akron, Ohio.
Bag Fasteners; A. M. Miller, Sturgis, Mich,
Pruning Implements; C. Miller, Boonville, Mo.
Motors for Churns, &c.; H. Odell, Peekskill, N. Y.
Cheese Safes; W. P. Quackenbush, Holley, N. Y.
Preserving Apparatus; J. P. Schmidt, San Francisco, C.
Grain Conveyers; Wm. Stanton, Erie, Pa.
Machines for Subsoiling and Digging Vegetables; T. L. Webster, Brooklyn, N. Y.
Housemaid Pails; Emma C. Wooster, New York, N. Y.
Garden Sprinklers; Frank M. Gray, Norwood, Ill.
Road Scrapers; A. McCall, Saratoga, Cal.

* Prepared expressly for The Lancaster Farmer by Louis Bagger & Co., Solicitors of Patents, Washington, D. C., from whom complete copies of the Patents and Drawings may be obtained.

Weed Cutters and Hillers; Jos. Robson, Osceola, Wis.
Wheels for Harvesters; G. D. Rowell, Appleton, Wis.
Slip Teeth for Seeders; G. D. Rowell, Appleton, Wis.
Butter Workers; Dan. Sager, Belvidere, Ill.
Hay Loaders; L. Underwood, Ottawa, Ill.
Grain Separators; Orville K. Wood, West Chazy, N Y.
Pruning Shears; C. H. Billings, La Grange, Ind.
Horse Shoes; Thomas B. Bishop, Washington, D. C.
Broom Bags; E. D. Bronson, Amsterdam, N. Y.
Grain and Straw Lifters; D. Krane, Knights Landing, Cal.
Hay and Cotton Presses; B. J. Day, Evansville, Ind.
Fruit Driers; Levi A. Gould, Santa Clara, Cal.
Windmills; A. & W. Graf, Bernard Junction, Wis.
Bag Fasteners; C. W. Harvey, Waterloo, Iowa.
Seed Drills and Planters; L. L. Haworth, London, O.
Potato Digging Machines; T. Head, Copetown, Can.
Wind Wheels; J. M. Kaufman, Goshen, Ind.
Cultivators; P. F. Landphere, Mason, Ill.
Chinch Bug Gatherers; E. H. Marsh, Osage Mission, Kansas.
Dry Measures; D. M. Mefford, Toledo, Ohio.
Windmills; P. Sheckler, Orangeville, Ill.
Combined Horse Hoes and Plows; A. D. Simons, Windsor, Conn.
Wagon Seats; W. H. H. Snellbaker, Chicago, Ill.
Side Hill Plows; C. H. Stratton, Monroeton, Pa.
Presses; C. S. Swan, Tamaroa, Ill.
Earth Augers; E. Whitney, Marysville, Cal.
Gate Latches; R. C. Bernard, Rocky Mount, Va.
Earth Augers; F. J. Clarke, Mt. Pleasant, Iowa.
Feed Bags for Horses; Henry Engelbert, Rutherford Park, N. J.
Dredging Boxes; Jos. S. Field, Brooklyn, N. Y.
Grain Thrashers and Separators; David Lippy, Mansfield, Ohio.
Horse Hay Rakes; Benj. Mellinger, Mt. Pleasant, Pa.
Bee Hives; N. C. Mitchell, Indianapolis, Ind.
Implements for Binding Grain; William A. Patterson, Juniata county, Pa.
Seed Planters; H. E. Pennypacker, Phœnixville, Pa.
Spring Vehicles; Jas. H. Phœnix, Cincinnati, O.
Portable Fences; H. Prickett, Edenton, Ohio.
Grain Binders; Charles S. Travis, Great Valley, N. Y.
Seed Sowers; Alex. Walker, Mornington, Canada.
Grain Separators; Wm. S. Clymans, Burnt Cabins, Pa.
Harness Clips; F. Conway, Buffalo, N. Y.
Steam Plows; James Fogarty, Newark, N. J.
Potato Diggers; M. W. Knox, Sheridan, N. Y.
Straw Twisting Machines; S. Kuh, Jefferson, Iowa.
Wagon Covers; E. M. Saunders, Saugus, Mass.
Stump Elevators; J. H. Barnes, Baltimore, Md.
Grain Drills; Benj. Kuhns, Dayton, Ohio.
Plows; J. O. Minor, Bedford, Iowa.
Swinging Gates; F. Raymond, Cleveland, Ohio.
Harvesters; C. D. Schrader; Lancaster, Wis.
Lifting Jacks; J. J. Adgate, Stevensville, N. Y.
Dumping Carts; J. J. Adgate, Stevensville, N. Y.
Windmills; O. B. Blakeslee, Rankin, Ill.
Chain Pump Buckets; A. L. Cory, Ypsilanti, Mich.
Gang Corn Planters; S. P. Evans, Ash Ridge, Ohio.
Top Supports for Carriages; A. Goodyear, Albion, Mich.
Harvesters; M. L. Gorham, Rockford, Ill.
Carriage Tops; C. Heergeist, Cincinnati, Ohio.
Cotton Seed Planters and Fertilizer Distributers; J. B. Legg, Rome, Ga.
Windmills; Geo. H. Lucas, Pekin, Ill.
Corn Drills; J. B. Ludlow, Muncie, Ind.
Harrows; W. T. McGee, Wheeling, Mo.
Cotton Choppers; J. G. Mickle, Fosterville, Tenn.
Farm Boxes; M. M. Murray, Cincinnati, Ohio.
Windmills; A. & G. Raymond, Waupun, Wis.
Water Wheels; R. R. Royer, Ephrata, Pa.
Axle Skeins for Vehicles; B. Snyder, Johnson's Corners, Ohio.
Grain Bands; C. L. Travis, Great Valley, N. Y.
Cotton Planting Attachments to Harrows; S. H. Wade, Chapel Hill, Miss.
Hay Presses; Chas. Waste, Galesburg, Ill.
Unloading and Dumping Grain; J. B. Whitcomb, Farmer City, Ill.
Machines for Distributing Compounds for Destroying Cotton Worms; Wm. T. Willie, Brenham, Texas.
Doors for feeding Straw to Furnaces; Wm. F. Morgan, Oswego, N. Y.
Journal Bearings for Harvesters; E. S. Herrington, West Hoosick, N. Y.

REISSUES.

Lawn Mowers; E. G. Passmore, Philadelphia, Pa. Patent No. 87,286; dated Feb. 23d, 1869.
Grain Dryers; J. B. Wheele, Bolton, Mass. Patent No. 38,191; dated April 14th, 1863.
Plows; John Lane, Chicago, Ill.; Old Patent No. 111,854, dated Feb. 14., 1871.
Harvester; C. W. & W. W. Marsh, Sycamore, Ill., Patent No. 21,201, dated Aug. 17, 1858.
Harvesters; C. W. & W. W. Marsh, Sycamore, Ill., Patent No. 21,201, dated Aug. 17, 1858.
Mowing Machines; A. B. Allen, Toms River, N. J. Patent No. 29,228; dated July 24th, 1860.
Harvester Rakes; Andrew A. Henderson, Brooklyn, N. Y. Patent No. 29,594; dated Aug. 14th, 1860.
Drills for Well Boring; John M. May, Cedar Rapids, Iowa. Patent No. 49,129; dated Aug. 1, 1865.
Harvester Rakes; Walter A. Wood & Co., Hoosick Falls, N. Y. Patent No. 18,009; dated Aug. 18th, 1857; extended seven years.

OUR FENCE CORNERS

Passing them in.

A well known drummer for a Boston dry goods house, who chanced, last summer, to be in a Maine town where the circus was to show that night, made a bet that he could pass every one of a party of thirty, who had come over from a neighboring town into the "show," without paying a cent. The wager being accepted, the party were marshaled, and proceeded to the tent, where the doorkeeper was busily engaged taking tickets from all who passed through the aperture in the canvas. Coming up with his crowd, the drummer rushed up to the ticket taker with his hands full of cards, and said:

"Just count these men as they pass in, ending with the man in the straw hat."

"Certainly, sir," and the cerberus went to work. "Five, ten, fourteen, eighteen," &c., as they passed in and mingled with the crowd, till the straw hat was reached, when he shouted "thirty-one," and turned round for the tickets. But the polite individual who had bade him enumerate had vanished, while the party who was crowned with the straw hat, the only one who was stopped before he had mingled with and melted into the indistingnishable mass of the crowd inside, proved to be an innocent countryman, who had legitimately procured his admission paste-board. The ticket taker couldn't leave his post, for the ingress by regular spectators was pressing, so he made the best of it, and said nothing. He had learned a lesson, however, that made him take tickets first and count afterward, for the future.

A YORKSHIRE butcher was going to York with his son, a boy of eighteen. He took a ticket for himself and a-half one for the boy. When the train drew near to York the ticket collector came round, and exclaimed at this half ticket, "Where's the child?"

"Here," said the butcher, pointing to the tall, awkward youth.

"What do you mean?" asked the indignant ticket collector. "He ain't a child; he's a young man!"

"Ah! so he is, now," answered the butcher, "but that's thy fault, not mine. I know when we got in at Wakefield he were nobbut a bairn; but tha'st been goin' so confounded slow that he's growed sin' we started!"

AN ENGLISHMAN dining in a Chinese village was greatly enjoying a savory dish, and would have expressed his pleasure to the waiter, who, however, understood nothing of English, nor could our friend utter a word of Chinese. The smacking of lips indicated satisfaction; and then came the question, ingeniously put. Pointing at the portion of meat in the dish, and which he supposed to be duck, the Englishman, with an inquiring look, said, "Quack, quack, quack?" The waiter, gravely shaking his head, as much as to say "No," replied, "Bow, wow, wow!"

A PENURIOUS FELLOW, having buried his wife, waited upon the grave-digger, who had performed the necessary duties, to pay him his fees. Being of a niggardly disposition, he endeavored to get the knight of the spade to abate his charges. The patience of the latter becoming exhausted, he grasped his shovel impulsively, and, with an angry look, exclaimed, "Doon wi' another shillin', or—up she comes!" The threat had the desired effect.

"WHY, you rascal," said Dr. Radcliffe, the great physician, to a pavior who dunned him, "do you pretend to be paid for such a piece of work? Why, you have spoiled my pavement, and then covered it over with earth to hide your bad work." "Doctor," said the pavior, "mine is not the only bad work the earth hides." "You dog, you," said Dr. Radcliffe, "you are a wit: you must be poor. Come in and you shall be paid."

A DEAF-AND-DUMB mendicant was suddenly startled by the rude shouts of some boys while walking down a city street, and in turning slipped on a banana skin and fell. He gave the lads a severe lecture, much to the enjoyment of the blind beggar at the corner, who saw the whole occurrence through his green glasses, and was much amused thereat.

"JENNIE" said a venerable Cameronian to his daughter, who was asking his consent to accompany her urgent and favored suitor to the altar—"Jennie, it's a very solemn thing to get married." "I know it, father," replied the sensible damsel; "but it's a great deal solemner not to."

A PHILOSOPHER borrowed a dictionary to read, and returned it after he got through, with the remark that "it was werry nice reading, but it somehow changed the subject werry often." It was his sister who thought the first ice-cream she tasted was "a leetle touched with the frost."

THE LANCATER FARMER: This agricultural newspaper is constantly securing increased popularity, and is well filled with instructive and useful reading matter. Published by Pearsol & Geist, Lancaster, Pa.—*York (Pa.) Telegram.*

OUR FENCE CORNERS

MODEL WIVES.

Recently the subjects of "Model Wives" and "Model Husbands" have been ventilated in lectures before the "Howard Association," but possibly they may not have been entirely exhausted. The following is in point, and we hope that some young lady reader of THE FARMER will in like manner paint the portrait of a model husband, and endorse it by an appeal to the "law and the testimony." If further elucidation should seem necessary, she might illustrate it by an appropriate little anecdote, of which there are no doubt an abundance to select from, and which cannot possibly do any harm:

Model wives like city clocks should be,
Exact to regularity,
Yet not like city clocks so loud
As heard by all the vulgar crowd.
Model wives, like echo, should be true,
And speak when only spoken to;
Yet not, like echo, so absurd,
Forever having the last word.
Model wives like snails should be akin,
And their own houses keep within:
Yet not like snails and their filthy pack,
Wearing all their goodness on their back.

Now, to the law and testimony we go, and from the sentence hereof there can be no appeal:

Genesis, iii; 16.
Ist Peter, iii; 1—6.
Proverbs, xii; 4.
Proverbs, xiii; 1—31.
Ecclesiastes, vii; 28.
Ist Timothy, ii; 9—14.
Ephesians, v; 22—24.
Titus, ii; 3—5.

Fond of Fishing.

"I met, the other day," writes a foreign sportsman, "with an Englishman who travels some hundreds of miles every year to indulge in his favorite sport of trout-fishing. I believe that, provided his favorite stream was undisturbed, this enthusiastic fisherman would be but little concerned if the whole world was submerged in a second deluge, as may be judged by the following anecdote: One day he was exploring the banks of his favorite stream, accompanied by the landlord of the inn at which he was stopping. The latter happening to come too close just at the moment when his guest was throwing his fly, the hook caught the poor wretch's eyelid, causing him intense pain. The sportsman coolly took out the hook, readjusted the fly, and, as the innkeeper continued howling at the top of his voice, 'You can,' said he, in a whisper, 'put your eye down in your bill; but I'll trouble you to stop that noise, so as not to frighten my fish.'"

A GOOD STORY is told of a little seven year old boy, at a juvenile party. He kept aloof from the rest of the company, and the lady of the house called to him, saying: "Come and play and dance, my dear. Choose one of those pretty little girls for your wife."

"Not likely!" cried the youngster, "No wife for me! Do you think I want to be worried all my life like poor papa?"

A TAILOR possesses the qualities of nine men combined in one, as will be seen by the following observations:

1. As an economist he cuts his coat according to his cloth.
2. As a gardener, he is careful of his cabbage.
3. As a sailor, he sheers off whenever it is proper.
4. As a play-actor, he often brandishes a bare bodkin.
5. As a lawyer, he attends many suits.
6. As an executioner, he provides suspenders or gallowses for many persons.
7. As a cook, he is generally furnished with a warm goose.
8. As a sheriff's officer, he does much at sponging.
9. As a rational and Scriptural divine, his great aim is to form good habits for the benefit of himself and others.

FLORAL HEADQUARTERS

—AT—

SCHROYER'S

On Harrisburg Avenue, in the 9th Ward,
North of the College,
LANCASTER, PENN'A.

ROSES! ROSES!

My collection of this, the most popular of all flowers, embraces THE BEST that can be had. I recommend none which I have not grown and bloomed. Persons who make their selections from some of the highly colored descriptions and pictures which have been sent out from the large cities, will, in nine cases out of ten, be disappointed. I can furnish any Rose, which can be had, named in any of the many catalogues which have been circulated this spring in Lancaster county, at the prices named therein, and many of the very best ones of my own growing, at less than half-price. My plants are not grown in a hot-house, but in a cold green-house, built especially for roses. ☞Call and see them, and if they do not please, you need not buy.

Geraniums, Verbenas, FUCHSIAS, &c.

By the thousand, together with a large supply of every variety of

FLOWERING & FOLIAGE PLANTS

usually kept in floral establishments, for bedding, baskets, vases, etc.

☞Vases and baskets neatly filled. Baskets left at No. 3 North Queen street will be filled and returned. Vases will be called for and filled and returned.

Tomato Plants, Cabbage Plants, &c.,

OF THE VERY BEST KIND.

☞Cut Flowers, Bouquets, Wreaths, Crosses, etc., for Parties, Weddings, Funerals, etc., in the best style.

PROGRAMME

FOR THE SPRING OF 1875

Every Wednesday and Saturday morning I will have a general collection of plants at ZAHM'S CORNER, and every Tuesday and Saturday afternoon at market stalls Nos. 10 and 12, Avenue D, NORTHERN MARKET, entering at the upper door on North Queen street.

CENTRAL FLORAL DEPOT,

IN FRONT OF

H. A. SCHROYER'S GENTS' FURNISHING STORE,

No. 3 NORTH QUEEN STREET,

Next door to Zahm's Corner, Centre Square,

Every day during the season, if the weather permits, where I will be pleased to accommodate those who cannot come to Headquarters.

7-4-1m] GEO. W. SCHROYER.

House Furnishing Goods.

We would call the attention of housekeepers, and those commencing housekeeping, to our very large stock of Cooking Stoves, Ranges and Heaters, together with our tremendous variety of House Furnishing Goods, such as Table Cutlery, Britannia and Plated Spoons, Coal Oil Lamps and Chandeliers, Wash Wringers, Brushes, Brooms, Buckets, Tubs, and every variety of Tin and Copper-Ware, all of which we are selling at the Lowest Prices. Flinn & Breneman, No. 152 North Queen St., Lancaster, Pa. 7-3-3m

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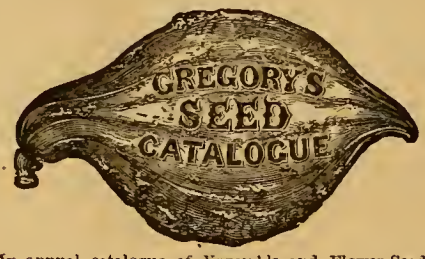
ROSES, SHRUBS, AND BEDDING PLANTS,

By Mail and Express. New Catalogue. FREE.

Address, ELLWANGER & BARRY,

Established 1840. *Mt. Hope Nurseries*, Rochester, N. Y.

7-4-2m



My annual catalogue of Vegetable and Flower Seed for 1875, will be sent *free* to all who apply. Customers of last season need not write for it. In it will be found several valuable varieties of new vegetables introduced for the first time this season, having made new vegetables a specialty for many years. Growing *over a hundred and fifty varieties* on my several farms, I would particularly invite the patronage of market gardeners and all others who are especially desirous to have their seed pure and fresh, and *of the very best strain*. All seeds sent out from my establishment are covered by three warrants as given in my catalogue. JAMES J. H. GREGORY, Marblehead, Mass.

SEEDS

FIELD, GARDEN AND FLOWER,

CANARY, RAPE, HEMP,

Alsike & White Clover,

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OUR

Illustrated Catalogues

FOR *1875* OF

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FOR THE

GARDEN!

Seeds! Plants!

Implements, Fertilizers, etc.

Numbering 175 pages and containing **five** *beautiful colored plates*, mailed on receipt of 50 cents.

Catalogue, without plates, free to all.

Peter Henderson & Co.

35 Cortlandt St.,

NEW YORK.

EGGS FOR HATCHING

FROM THE FOLLOWING VARIETIES OF PURE BRED FOWLS,

At $1.50 PER DOZEN.

DARK and LIGHT BRAHMAS, BUFF and PARTRIDGE COCHINS, BROWN and WHITE LEGHORNS, SILVER GRAY DORKINGS, and HOUDANS.

I warrant one-half of each dozen Eggs to hatch. If they do not I will replace them at 50 cents per dozen. Send stamp for circular. Address

ISAAC LYNDE,

7-4-2m] MARLBORO, Stark Co., Ohio.

(Please state where you see this advertisement.)

WEBSTER'S ORNAMENTAL GARDENER contains Hints and Plans for Laying out and Ornamenting Grounds. Every one who cultivates a garden should SEND FOR A COPY. Beautifully illustrated. Mailed to any address for 25c. WILLIAM WEBSTER,

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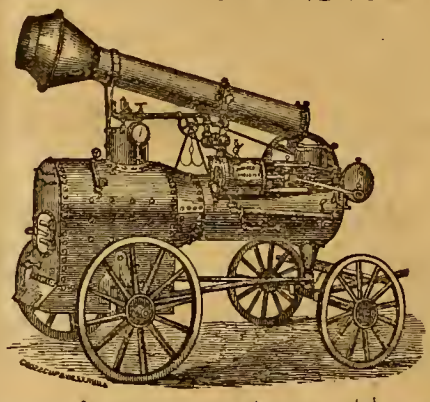
THE BEST



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Horizontal, Vertical and Portable, from 1½ to 100 Horse-Pr.

STEAM BOILERS ADAPTED TO ALL PURPOSES.

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Castings of all descriptions, Heavy and Light, Made to Order.

TREES! The undersigned has at his nursery, in the village of SMOKETOWN, six miles east of Lancaster, and four miles north of Strasburg, a fine assortment of FRUIT, SHADE and ORNAMENTAL TREES. TREES!

APPLE, PEAR, CHERRY, GAGE, PLUM AND APRICOT TREES, GRAPE VINES AND SMALL FRUITS.

3,000 extra PEACH TREES (budded) free from worms. A fine lot of YELLOW LOCUST TREES.

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$5 to $20 Per Day at home. Terms free. Address G. STINSON & Co., Portland, Maine.

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A fine assortment of NURSERY STOCK, including:

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6,000 *PEACH TREES,*

By the Hundred and Thousand,

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At COOPER'S NURSERY,

BIRD-IN-HAND, PENNA.

Orders by mail carefully filled. [7-4-1m

VISITING CARDS,

FOR LADIES AND GENTLEMEN,

Printed in the best style at the office of

THE FARMER.

$1 A Year { To subscribers in the county. SINGLE COPIES 10 CENTS. To subscribers out of the county. } $1.25.

Prof. S. S. RATHVON, Editor. LANCASTER, MAY 15, 1875. PEARSOL & GEIST, Publishers.

THE LANCASTER FARMER.

Importance and Prospects of the Enterprise.

The reader now holds in his hand the fifth issue of THE LANCASTER FARMER since the responsibility of the publication was assumed by the present proprietors. Practically, it came into their hands a business failure. In their introductory, in the January number, it was intimated that the work was undertaken more as a labor of love, or as a matter of local pride, both by editor and publishers, than from any hope of immediate pecuniary gain. It was then stated that—

"Our plan, including the enlargement and other contemplated improvements, will involve a much heavier actual outlay of cash than can be realized from the subscriptions on the list as it comes into our hands. We therefore rely upon a large increase of subscribers to meet these increased expenses and to compensate in some measure for the labor bestowed upon it. The friends of the enterprise will see that their interest and ours are mutual in making efforts to increase the subscription list. By the change of form, and the use of a more compact type, we will be able to give nearly twice as much reading matter as was given in the old form, and we have no doubt all will agree with us that the new form is an improvement in appearance as well as in convenience. Our success in other publishing enterprises, through the confidence and liberal patronage of the people of Lancaster county during the past thirty years, gives us assurance that the future of THE LANCASTER FARMER will not be a failure."

We have more than redeemed our promises. In every issue we have given more than twice as much reading matter, and for less money, while the illustrations of such practical subjects as the Colorado Potato Beetle, and other insectiverous pests, which were not promised, are alone worth more to any farmer than the price of subscription. These will be continued from month to month, the subjects adapted to the season. To please all tastes, we have added other illustrations of various topics of general interest; so that when we say THE FARMER is not surpassed in its general make-up and typographical appearance by any agricultural publication in the country, as well as in the variety and reliability of the information it conveys, we only reiterate the opinions expressed of it by many leading minds who have complimented our enterprise.

When we ask the friends of progressive agriculture to give THE FARMER the largest circulation of any other journal of its class, we are simply asking them to promote their own interests as much as ours. Thus far it has been a success beyond our expectations; but we shall not be satisfied until the great county of Lancaster can boast of the best and most prosperous local journal for the Farm, the Garden and the Household published in this country. This is our ambition, and we shall be satisfied with nothing less. We therefore ask every farmer into whose hands this number may come to give us his co-operation.

CONTENTS OF THIS NUMBER.

FIVE TOPICS ILLUSTRATED.

TWENTY ENGRAVINGS.

THE LANCASTER FARMER.

Opinions of the People and the Press.

THE FARMER continues to win golden opinions everywhere, in and out of the county, and its subscription list has been rapidly and steadily increasing since its new departure at the beginning of the year. Many of our best farmers, who know the value of it by a careful perusal of its well filled and handsomely printed pages, have expressed their surprise that a single farmer should hesitate to become a subscriber at the low price of a dollar a year, and even less when taken at the club rates. The following letters are from gentlemen prominently connected with agriculture and horticulture in their varied interests, and where opinions are entitled to weight. Norman J. Colman, publisher of the *Rural World*, St. Louis, one of the oldest and best agricultural journals in the country, (established in 1848) in a business letter soliciting the use of certain illustrations in our April number, says, "We are highly pleased with the appearance and contents of your paper, THE LANCASTER FARMER." A prominent farmer in the lower end, in remitting his subscription for THE FARMER hits the nail squarely on the head when he says:

"I am much pleased with THE FARMER in its new dress and wish it success. I have always been of the opinion that *local* agricultural papers *only* can be of much practical value to the farmer. The great diversity of climate and soil in our widely extended country renders it impossible for a paper having a general circulation to treat those subjects upon which we need the most light in a way that can be of any use to *all* of its readers. Each crop requires different treatment in different localities, and this treatment must be learned by the farmers themselves in these localities. If they will contribute the result of their experiments to an agricultural paper which is circulated among them, as for instance to THE LANCASTER FARMER, other farmers residing in Lancaster county will be saved the necessity of making the same experiments themselves; but in their turn can experiment upon other crops and manures and make known the results; while to do the same thing throughout the country would require an enormously large periodical, any part of which would be of use to only a small number of its readers. Lancaster county can and should support such a paper. THE FARMER, edited by our able friend, Prof. Rathvon, and under the management of its present enterprising publishers, can and will meet all the requirements of an agricultural paper in this county, if the farmers will do their part.—W. P. B., *Liberty Square, Lancaster county, Pa.*

Mr. Editor: I thank you for a copy of THE LANCASTER FARMER. It is an excellent paper in matter, spirit and typography, and if sustained, as it should be in our great county, it will be the farmers perennial fountain of stimulants to increased search after knowledge and improvement in all that will reward their industry and adorn their homes.—A. B. G., *Washington, D. C., April* 29, 1875.

Mr. Editor: I received two Nos. of THE FARMER; I like your paper, and will subscribe and contribute for it after my busy time is over, say from the 1st of July next; in the meantime I inclose a hastily written contribution on "Rose Culture" in the absence of anything better.—W. E., *Phila., April* 26, 1875.

PENNSYLVANIA RAILROAD.

Trains LEAVE the Pennsylvania Depot in this city as follows:

WESTWARD.	Leave Lancaster.	Arrive Harrisburg.
Pacific Express*	2:45 a. m.	4:10 a. m.
York Accommodation	7:50 a. m.	Col. and York.
Mail Train via Mt. Joy	11:20 a. m.	1:00 p. m.
Mail Train No. 2 via Columbia*	11:20 a. m.	1:20 p. m.
Fast Line	3:25 p. m.	4:50 p. m.
Harrisburg Accom.	6.10 p. m.	8:10 p. m.
Lancaster Train	7:35 p. m.	Col. and York.
Pittsburg Express	8:55 p. m.	10:10 p. m.
Cincinnati Express*	10:45 p. m.	12:01 a. m.

EASTWARD.	Lancaster.	Philadelphia.
Atlantic Express*	12:40 a. m.	3:10 a. m.
Philad'a Express†	3:55 a. m.	6:50 a. m.
Harrisburg Express	7:20 a. m.	10:00 a. m.
Lancaster Train	9:28 a. m.	12:25 p. m.
Pacific Express*	1.45 p. m.	4.15 p. m.
Elmira Express	3.15 p. m.	5:55 p. m.
Harrisburg Accom.	6·20 p. m.	9:30 p. m.

The Columbia Accommodation Train will leave Columbia at 1:00 p. m., and arrive at Lancaster at 1:35 p. m. Returning, leave Lancaster at 3:40 p. m., and arrive at Columbia at 4:15 p. m.

York Accommodation leaving Lancaster at 7:50 a. m. and Columbia at 8:20 a. m., will connect at York with Baltimore Accommodation, south, at 9:13, arriving at Baltimore at 12:05 p. m.

The York Accommodation, leaving York at 5:50 a. m., connects at Columbia, at 6:35, with the train leaving Marietta at 6:22 a. m., and at Lancaster, at 7:20 a. m., with the Harrisburg Express.

The Pacific Express east, on Sunday, will make the following stops, when flagged, viz.: Middletown, Elizabethtown, Mount Joy, Bird-in-Hand, Leaman Place, Gap, Christiana, Parkesburg, Coatesville, Glen Lock, and Bryn Mawr.

*The only trains which run daily. Mail train west on Sunday will run via Columbia.

†Runs daily, except Monday.

OUR FENCE CORNERS

I am no farmer, but I enjoy your paper so much as a home organ and household help, that I have concluded to have an extra copy sent to my nephew in Ohio, who, I feel will appretiate its value.—W., *Lancaster, Pa., April* 30, 1874.

THE LANCASTER FARMER for April is received. THE FARMER begins to show itself worthy of representing the best cultivated county in the Union. It is a model of neatness and a model farmers' guide. This number is well illustrated. Its articles on the potato-beetle ought to be well studied at this time. We heartily recommend THE FARMER to our readers. Subscription price, within the county, $1; elsewhere, $1.25. Pearsol & Geist, publishers, Lancaster, Pa.—*Mt. Joy Herald.*

THE LANCASTER FARMER comes to hand regularly and every number since January seems to be increasing in value and interest. The April number treats upon a variety of subjects that cannot fail to prove very valuable to the farmers of our great county, and when they once fully realize the value of THE FARMER we know they will not be willing to do without it. Subscription price only $1.00 a year, or $1.25 a year to subscribers outside the county, postpaid. Address Pearsol & Geist, publishers, Lancaster, Pa.—*New Holland Clarion.*

The April number of THE LANCASTER FARMER is just out. This home journal cannot be too highly commended. It does honor not only to the able, pains-taking and conscientious editor, S. S. Rathvon, but to the State at large. No investment the hard-working farmer can make, will yield him such a return as the dollar he pays for a year's subscription to this home organ. If he wishes to know how to successfully fight the Colorado potato bug—and fight it he must during the next few months—then let him take THE FARMER at once and learn how to save his potato crop in the coming season.—*Lancaster correspondent of the New Holland Clarion.*

We profoundly doff our "best beavers" to the appreciative merits of the editor and correspondent of the *Clarion*—one of the spiciest and justly discriminating journals in the county. To us it is a higher compliment than any coming from beyond our borders, because it is a home opinion of a home journal, from those whose opinions are entitled to respect; which, we are sorry to say, others in that locality, have been unwilling to accord. To obtain a knowledge of the *real* charter of a man, we are admonished to ask members of his own household, for they are supposed to know him best; and although it has long ago been written—"A prophet is not without honor, save in his own country and among his own kindred," we feel that the symbolical "ten men" can be found in New Holland that would have saved Sodom and Gomorah from destruction, and that the editor of the *Clarion* and his correspondent are among them.

2,000 Copies of The Farmer

Have been printed each month since the publication passed into the hands of the present proprietors. Of this number the copies not wanted for regular subscribers have been sent to leading farmers in the various districts of the county, for their examination, in the hope that they would be pleased with it and become subscribers. We are proud to be able to state that THE FARMER has made a very favorable impression wherever it has been read, and we have every reason to believe that its subscription list will be doubled before the year is out. Lancaster being one of the most populous and wealthy agricultural counties in the nation, this journal is a very desirable medium for those who wish to reach a thrifty class of farmers.

OUR FENCE CORNERS

A Veritable Police Court Record:

"Young man, what is your name?" asked Judge Smith, at the police court one morning, of a handsome young man who seemed much the worse for his previous night's frolic.

"John Smith," responded the embarrassed youth.

"Where do you live?" was the next judicial interrogation.

"In West Twelfth street," was the evasive reply.

"It cannot be possible," solemnly remarked the judge, "that you are my cousin who was lost some months ago, and yet your singular name would lead me to that belief. Hold up your head and let me see your face."

The youth elevated his head to exhibit a scarlet countenance, and the judge, on scrutinizing it, said: "No, you're not the cousin; so you must be the other John Smith who gives me so much trouble here. Every time he is arrested he gives a different address and wears different clothes."

The youth protested that he had never been arrested before, but the judge said the records of the court would not justify his believing any such story. The clerk was directed to see how many times John Smith had been arrested during the week. The report came that he was entered nine times. Notwithstanding the documentary evidence to the contrary, the young man still held his ground. Finally the judge told the prisoner he would discharge him if he would swear he had never been arrested before. The youth swore; and, as he was leaving, the judge said, "I won't ask you to swear that your name is Smith."

A HIGHLAND minister, given somewhat to exaggeration in the pulpit, was remonstrated with by his clerk, and told of his ill effects upon the congregation. He replied that he was not aware of it, and wished the clerk, the next time he did it, to give a cough by way of a hint. Soon after he was describing Samson's tying the foxes' tails together. He said, "The foxes in those days were much larger than ours, and they had tails twenty feet long." "Ahem!" came from the clerk's desk. "That is," continued the preacher, "according to their measurement; but by ours they were fifteen feet long." "Ahem!" louder than before. "But as you may think this is extravagant, we'll just say they were ten feet." "Ahem! Ahem!" still more vigorous. The parson leaned over the pulpit, and shaking his finger at the clerk, said, "Ye may cough there all night, mon—I'll nae tak' off a fut more. Would ye hae the foxes with nae teels at a'?"

A MAN dressed in sailor costume was up in a criminal court, the other day, upon a charge of stealing a pair of boots. As he had no counsel, the Court appointed a young lawyer to take charge of the defense. The lawyer opened the case with a speech, in which he alluded to his client as "a child of the sad sea waves, a nursling of the storm, whom the pitiless billows had cast, a forlorn and friendless waif, upon the shores of time, after a life spent in fierce and heroic contest with the raging elements." Then the defendant was put in the dock, and the fact was revealed that he was cook upon a canal-boat, previous to which he had hawked fish. The "nursling of the storm" is now in jail for six months.

THE POET SMITH ON BABIES AND WIND.—Tell me, ye winged winds that round my pathway roar, do ye not know some spot where women fret no more—some lone and pleasant dell, some "holler" in the ground, where babies never yell, and cradles are not found? The loud wind blew the snow into my face, and calmly answered, "There is no such place."

"AH!" said a Sunday-school teacher—"ah, Caroline Jones, what do you think you would have been without your good father and pious mother?" "I suppose, mum," said Caroline, who was very much struck with the soft appeal—"I suppose, mum, as I should ha' been a horphan."

MR SPINKS is not going to do any more in conundrums. He asked his wife why he was like a donkey, and she said because he was born so; and he says the answer is very different from that.

HOW TO DISSUADE PEOPLE FROM MARRYING—Send them to the seaside, and they will be always hearing the moaning of the tied.

A COLUMBIA professor, reproving a youth for the exercise of his fists, said: "We fight with our heads here." The youth considered, and replied that butting wasn't considered fair at his last school.

A CHICAGO man insists that he saw a red and black snake forty feet long, and as big round as a barrel of whisky. We have no doubt that he did, but he unquestionably saw the barrel of whisky before he saw the snake.

THE editor of the Panama *Star* apologizes for the non-appearance of his paper by saying that he had to leave off to dig shot out of his legs.

The Nurseryman's Directory.

The undersigned have in preparation a NURSERYMAN'S DIRECTORY, embracing a list of the

NURSERYMEN, FLORISTS, SEEDSMEN & TREE DEALERS

OF THE UNITED STATES.

The work will be sold wholly by subscription, the price of which will be FIVE DOLLARS PER COPY. A limited space will be given to Advertisements, at the following low rates:

Full page, - $25.00 | One-third page, - $10.00
Half page, - - 14.00 | One-fourth page, 8.00
One-sixth page, $5.50.

For Sample Pages, and further information, address

D. W. SCOTT & CO.,
7-3-4m] Printers and Publishers, Galena, Ills.

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KEY STONE
PLANING MILL
ESTABLISHED 1847.
DOORS, SHUTTERS, BLINDS. SASH, MOULDING, BRACKETS.

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520, 522, & 524,
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MILL WORK
OF ALL KINDS
Manufactured in a superior manner.

Estimates Furnished
And all information concerning the business cheerfully given.

STRANGE BUT TRUE!

The TOONG QUA CUCUMBER grows to weigh *seventy pounds each*, and fine quality. 15 cents per seed; 10 seeds, $1. SNAKE CUCUMBER grows from 2 to 8 feet long, and coils like a snake. 20 cts. per paper. PERSIAN WATERMELON. Very superior, and keeps perfectly *fresh and sweet throughout the winter*. 20 cts. per paper. STRAWBERRY WATERMELON, finest in cultivation; 200 prizes; 10 cts. per paper. JAPAN RADISH. Pods 2 feet long, and delicious. 15 cts. per paper. MAMMOTH CABBAGE. Heads weigh from twenty to sixty pounds each; tender and sweet; ten cents per paper. CONQUEROR TOMATO, ten days earlier than any other variety; 25 cts. per paper;

JAPAN PEAS—Two hundred bushels per acre on common land; unequaled for stock or table use; grows on an upright stalk. Fifteen cents per paper; fifty cents per pint; eighty cents per quart.

CHUFAS—Furnish grazing all summer and food for yourself all Winter; fine for poultry, and fattens more hogs than ten times the area in corn; one hundred and fifty bushels per acre on poorest land; ten cents per paper; forty cents per pint; seventy cents per quart; ten dollars per bushel.

NO HUMBUG.—We have certificates to prove all these claims.

ROSE SLIPS—With good roots, of any variety the purchaser may choose, at four for fifty cents; nine for one dollar, twenty for two dollars, one hundred for nine dollars.

Also, potato, cabbage and other plants at low rates.

Seeds and roses by mail, *post paid*.

Send for our *free* catalogue giving full list, descriptions and *testimonials from those who have grown the above seeds.*

Address

SOUTHERN SEED & PLANT CO.,
Gallatin, Tenn.

H. B. PARRY,

LANCASTER, PA.,

With whom may be found, at Wholesale and Retail, a large assortment of

DRUGS, MEDICINES & CHEMICALS

Fancy and Toilet Articles,

SPONGES, BRUSHES, PERFUMERY, &c., &c.

Physicians' Prescriptions carefully compounded, and orders answered with care and dispatch. The Public will find our stock of Medicines complete, warranted genuine, and of the best quality. [7-1-6m

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NEW FURNITURE STORE.

GEO. W. BROWN'S
FURNITURE WAREROOMS,

No. 13 EAST KING STREET,

Over Lipp's Tin Store, next door to First National Bank.

PARLOR, DINING-ROOM
AND
KITCHEN FURNITURE.

UPHOLSTERING DONE IN ALL ITS BRANCHES.

HAIR, HUSK & COMMON MATTRESSES.

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CHAIRS.

All kinds of Furniture made to Order.

☞ Repairing of all kinds promptly attended to.

7-1-6m] GEO. W. BROWN.

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PROFIT A YEAR.

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STEAM SOAP AND CANDLE WORKS,

42 EAST KING ST. Factory—SOUTH WATER ST.

Keeps constantly on hand a good assortment of

SOAPS OF ALL KINDS.

Tallow and Fat taken in exchange at the highest market prices. Patent Wheel Grease for sale. [6m
7-2]

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GUARANTEED PURE.

MAUFACTURED AND FOR SALE BY THE UNDERSIGNED.

No. 1 VERY FINE.

Bagged and delivered on cars at Leaman Place in any quantity for 2½ cents per pound.

No. 2, SIZE OF WHEAT GRAINS,
2¼ CENTS PER POUND.

Address, **MILTON B. ESHLEMAN,**
7-3-3m LEAMAN PLACE, Pa.

EVERYTHING
FOR THE
GARDEN!
FOR

Florists & Market Gardeners,

at lowest rates—monthly wholesale lists of which mailed free on application.

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NEW YORK.
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Attorney-at-Law.

Office-204 Locust-st. House-27 S. Second-st.

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Notes, Bonds,
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ARBITRATORS, ROAD-VIEWERS, AUDITORS,

Or in any Courts of Lancaster County.

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EXECUTORS, ADMINISTRATORS & ASSIGNEES,

Or Trustees of any kind.

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Special facilities for Collections of Estates or Debts in Europe.

Consultations and Correspondence conducted in either the French, German or English languages.

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7-1-12m] Columbia, Penna.

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BANKING HOUSE
—OF—
BAIR & SHENK,

CENTRE SQUARE,

LANCASTER, PENN'A.

BUSINESS PAPER Discounted.
LOANS made on Collateral Securities.
Gold, Silver, Coupons, Government and other Securities bought and sold.
Interest paid on Deposits.
4½ per cent. 3 months, | 5½ per cent. 12 months.
5 per cent. 6 months,
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GEORGE D. SPRECHER,

DEALER IN ALL KINDS OF

ROOFING SLATE.

OFFICE:

No. 15 EAST KING STREET,
7-1-12m LANCASTER, PA.

The Lancaster Farmer

Prof. S. S. RATHVON, Editor. LANCASTER, PA., MAY, 1875. Vol. VII. No. 5.

THE COLORADO POTATO-BEETLE.

(*Doryphora decemlineata.*)

At the conclusion of our paper on this insect, in the April number of THE FARMER, in which we attempted to give an account of the most common *manual* and *artificial* remedies for its destruction, we promised to continue the subject in a paper on *natural* remedies, and in doing so we will mainly reproduce what we had previously published, which, with the aid of a few illustrations, we think will assist our readers in recognizing them when they find them in their potato fields, or elsewhere, and enable them also to make that discrimination to which we have alluded on various occasions, and without which the potato-growers will be standing very much in their own light. The utility of *predaceous* and *parasitic* insects, as destroyers of the noxious species, is becoming every day more manifest, and intelligent farmers every where are beginning to look more minutely into these things as subjects more or less connected with their material interests. As a very striking and hopeful example of the utility of *natural* remedies, we have just received from Huntingdon county, Pa., about twenty *chrysalids* of the "White Cabbage Butterfly," (*Pieris rapæ*) every one of which was infested with a small Hymenopterous parasite, to which we will allude specifically in another place, in this number of our journal. In continuation of our present subject, we may say that where ignorance does not prevent the free exercise of these remedies, the labors of the farmers and their families might be much lessened. Some of these natural remedies are, however, only temporary; but others, to a limited extent, are constant. It is not known that birds, as a general thing, manifest any partiality for these insects, and this is also the case with poultry in general. But we have been informed that *guinea fowls* are particularly fond of them, and probably would continue to feed upon them, until they had a surfeit of them. *Turkeys*, both the adults and the young, but especially the latter, are said to be fond of them.

Ducks have been instructed to feed on them, and in some instances chickens also; and last, perhaps not least, comes a report that a farmer in the vicinity of Elizabethtown saved his potatoes last year from destruction, by permitting a flock of tame *geese* to enter his enclosure daily, and that these birds became so fond of the insects that they every morning returned to the feast with renewed zest. History says that on one occasion a flock of geese saved ancient Rome from impending ruin, and if they can now save the potato crop, they will be entitled to a higher niche in the Temple of Fame, or in historic record, a larger page. It may be well to say here, however, that it would not be wise to permit fowls of any kind to enter an enclosure where Paris green, or any other poison, has been used.

In papers published a year ago, in the *Daily Express*, the *Daily Intelligencer*, and the *Morning Review*, of this city, we illustrated the *possible* increase of this insect, where no manual, artificial or natural remedies intervened to check its progress, and where all other circumstances were equally favorable; and the fact that it does not so increase, is largely to be attributed to the existence of many natural enemies to which it is constantly falling a prey, and without which our highest estimates might be realized.

Enemies to the Colorado Potato Beetle.

The first of these enemies is a two-winged fly (*Lydella doryphora*, *Fig.* 1,) a quarter of an inch in length, and half an inch across the expanded wings, of a black and silvery gray color, the *larva* of which burrows into the larva of the potato beetle, and makes it an unwilling but certain victim.

This figure is magnified, but the crosslines at the bottom, exhibit the natural length and expansion of the wings. This fly, according to Prof. Riley—to whom science and economic agriculture are indebted for the development of its history—deposits its eggs on the soft body of the *larva* of the potato beetle; and when the eggs are hatched, the little "maggot" penetrates the skin of its host, and feeds upon the internal substance of its body, and continues there, "waxing fat" and prospering generally.

Fig. 1.

When the larva of the potato beetle enters the ground to assume the *pupa* form, it carries the parasite with it; and whether it is able to effect its pupal change or not, it is all the same, for—

"Death is written in its face,
And sorrow's in it dwelling,"

and instead of a living *Doryphora* coming forth, a *Lydella* rises from its ashes, to the great joy of the farmer, and the overthrow of one of his most destructive insect foes.

Then we have at least four species of "Lady-birds," the *larva* of which feed upon the eggs of the potato beetle. Almost everybody knows what a Lady-bird is, but not every one knows its lizard-shaped larva, variously colored with pink and black, and orange spots; for we have seen those who were crushing the Colorado larva, including these useful little friends in their list of proscriptions.

Fig. 2.

Fig. 2 represents the "Convergent Lady-bird" (*Hippodamia convergens*) *a*, the larva, *b*, the pupa and c, the perfect beetle, the colors of which are blue, orange, orange-red and black, with a white margin and spots on the thorax of the beetle. Some years ago, when the "Oat-aphis" (*Aphis avenæ*) devastated the oat crop of Lancaster county, we found this species very abundant, regaling themselves on the soft bodies of the aphids. It is now found to be equally as fond of the egg of the potato beetle, and "feasts sumptuously every day" on them, both in the larva and the perfect state, and as it undergoes all its transformations on the vine, it is always conveniently on hand.

Fig. 3.

Fig. 3 is the "Spotted Lady-bird," (*Hippodamia maculata*) color, deep pink and black. This is one of the most successful hybernating insects that we know of, having found from three to five hundred of them in a single nest, under bark, in early spring. They are, however, not exclusively cannibal in their habits, for we have frequently found them abundant on the flowers of the "butter-cup" (*Ranunculus*) feeding on the petals, pistils and stamens. They are now known to destroy the eggs of the potato beetle, and that fact alone is worth all the butter-cups in christendom.

Two other Lady-birds, of the same cannibal habits, are known to feed on these eggs; namely, the "nine-spotted" (*Coccinella 9-notata*) and the "thirteen-dotted" (*Hippodamia 13-punctata*). These two we found numerous in potato fields last summer. Of course, applied Paris green would be equally as fatal to them as it is to the Colorado pest, but here no discrimination can be made; but many of those who depended on hand picking crushed both friends and foes together.

The "Spined soldier bug" (*Arma spinosa*, see Fig. 6) belonging to the order HEMIPTERA, also feeds extensively upon these potato pests, and not only on these alone, but also on other noxious insects. Belonging to the same *order* are three other *true bugs* which feed on the potato beetle, sucking out their substance and leaving little more than the empty shell or skin, namely: the "Bordered soldier bug," not common in this locality, but farther south. The "Many Banded Robber" (*Harpactor cinctus*), the "Rapacious soldier bug" (*Reduvius raptatorius*, Fig. 4), with whose *penetrating* habits we were made acquainted many years ago, and a few others have been known to attack and destroy the larva of the potato beetle in other localities; therefore we may count upon their assistance here.

Fig. 4

In addition to the foregoing, several other species of *bugs* have been discovered performing the same useful service; conspicuously amongst them, here in Lancaster county, is the "Wheel-bug" (*Reduvius novenarius*) which is not known to have been found in this county prior to 1855, although it was common about Philadelphia in Thomas Say's time. It is more than twice as large as Fig. 4, of nearly the same form, of bronze-brown color, and is particularly distinguished by having a longitudinal row of blunt spines on the middle of the thorax, that remotely resemble a portion of a cog-wheel, or the part of a circular above a plain surface.

Fig. 5.

Several species of "ground beetle," of the predaceous families, have been found feeding on the larva of the potato beetle, among which are the "Fiery ground beetle" (*Calosoma calidum*, Fig. 5, *a*, the larva, and *b*, the imago), a large black insect, with many coppery spots on the wing covers; and at least three other common and well-known species; and lastly, it is on record that the common gray "Blister beetle," which itself feeds upon the potato tops, as a change from its vegetable diet, manifests a redeeming trait by making *meat* of the Colorado beetle.

If recent observations have demonstrated that potato beetles will also feed on tomatoes, egg-plants, thistles, night-shade, lambs-quarter, horse-nettle, henbane, jimpson-weed, raspberry, currant, ground-cherry and several other plants, when the potato is not accessible, it is some consolation to know that time is also bringing to light more of its natural enemies.

But let not the farmers depend upon their friends alone, but co-operate with them; and we have written this paper solely with a view in some measure to acquaint them with the length and breadth of the "situation."

Fig. 6

The following communication from an intelligent source will practically illustrate the benefits derived from the aid of the "Spined Soldier Bug;" (*a*, the jointed piercer and sucker; and *b*, the bug itself, with the right wing expanded.) See Fig. 6.

NEW FREEDOM, York co., Pa.,
June 24th, 1874.

PROF. S. S. RATHVON—*Dear Sir:* Enclosed find (in a quill) a bug. While working in my potato patch to-day, I found him regaling himself by sucking the juices of Colorado potato-beetle grubs. He is, therefore, the insect for the times—what is his name and habits? Reply through the *Intelligencer*. Very respectfully yours, T. M. COULSON.

In replying to the above, we are happy to find such an unqualified confirmation of our statement in an article on the "Colorado Potato Beetle," published in the Lancaster *Inquirer* of June 27th, coming from such an intelligent source.

In speaking of remedies in the article alluded to, we stated that there were *natural remedies*, and that among these were certain species of predaceous insects, which preyed both upon the eggs and *larva* of the potato-beetle; and conspicuously among them is the species sent by our correspondent "in a quill." This is the *Arma spinosa*, (Fig. 6) of Entomologists, but commonly called the "Spined Soldier Bug," and belongs to the order *Hemiptera*, which comprises the *true bugs*. It is a suctorial insect, and feeds entirely upon the juicy substances of other insects, but does not confine itself exclusively to the soft *larva* of potato-beetles, but will also attack the larva of any other insect to which it can gain access. This insect is about three quarters of an inch in length from the front of its head to the end of its closed wings, and about one-quarter of an inch broad across the base of its wings. It has a large, acutely triangular piece (*Scutellum*) on the back, the acute angle pointing towards the hind end of the body. At the two outer angles of the base of the *thorax*, or chest, are two short, blunt spines, from which the insect derives its specific name. The color above is a dusky, clay yellow, and a brighter or greenish yellow beneath. The intensity of the colors vary, however, according to age or sex. Two-thirds of the wing-covers are hard, opaque or leathery, and the terminal third membranaceous. The *antennæ* are filiform and four-jointed, and the feet are clay yellow.

As to how this insect passes its immature period, we are not well-informed, and can only reason inferentially. We have known it for thirty years, and have observed and collected it under various circumstances, never detected its feeding on plant food, but *often* attacking other insects. On one occasion a female deposited about twenty eggs on a leaf, which we kept until the young were hatched. After keeping them a few days without discovering that they partook of vegetable food, we left them disperse, feeling assured that they were the friends of vegetation in all the stages of their development.

As they, however, belong to a family (PENTATOMADA) that is nearly allied to the family (COREIDÆ) which includes the common "Squash Bug" (*Coreus tristis*,) they may easily be confounded with some of their plant-feeding allies; and this circumstance seems to forcibly demonstrate the necessity of a practical entomological education among those who propose to make Agriculture, Horticulture, Floriculture, Arboriculture or Sylviculture, a secular specialty—involving at least a knowledge of the habits of those insects which are the enemies or the friends of vegetation, or other productions in which the human family has a domestic interest. American travelers are sometimes astonished at finding such correct zoological and botanical knowledge among the seemingly ignorant peasantry, in some districts on the continent of Europe; and when they learn whence it comes, it is found that the elemental principles of it have been taught in their schools. This may not be so necessary in sparsely populated America as it is in densely populated Europe, but a thought or look in that direction now is fraught with much more interest than it was twenty or thirty years ago; and before the close of the present century we may have liberally endowed *Colleges of Natural History*, non-progressive or retrogressive "fogyism" to the contrary notwithstanding.

But, to return to our insect again, we would endorse our correspondent's conclusions, that this is *one* of "the insects for the times," and should be fostered by an intelligent discrimination.

It is impossible even to estimate how many of the noxious insects annually fall victims to the rapacity of the innoxious and parasitic species; and when we find a redundancy of the former, we may infer that the equilibrium has somehow been destroyed through the interventions of human progress and improvement, aided by the absence of that *discrimination* to which we have alluded. Two years ago several specimens of the *larva* of the "White-Cabbage Butterfly" were sent to us from a locality in the western part of Lancaster county, and two-thirds of these were infested by parasites, which prevented them from developing the mature insects. We have, therefore, reasons to believe that these parasites will ultimately diminish, if not entirely extinguish, the cabbage pest.

In like manner the multiplication of the Colorado potato-beetle may be diminished ultimately; but we would advise human co-operation, rather than relaxation of all efforts to destroy them; simply because these insects are endowed with greater powers of reproduction than any of their enemies are. In conclusion, permit us to say, that as we have found *Arma Spinosa* late in fall and early in spring; we therefore conclude that it hybernates during the winter.

An Early Bait for the Colorado Beetle.

After two years' experience with the Colorado potato-beetle, I recommend the following: Plant a few potatoes quite early, hills far apart and not over two or three eyes to the hill, so that insects and eggs may be easily seen. The beetles come in advance of the earliest potatoes and are ready to begin operations as soon as the potatoes put in an appearance. They are not voracious eaters like the larva; they do eat, however, and they begin at once to lay their eggs, which they invariably deposit on the under side of the leaf. The patch being small and thinly planted it is soon gone over either with Paris green or hand-picking, and by taking the stalks in your hand and stroking them upward the eggs are brought to view and easily destroyed with a pair of broad tweezers or by picking the leaves and burning them. Thus the first stock of beetles is destroyed before the main crop of potatoes is up and there will be but few left to prey upon them, and if we could have proper co-operation we could soon destroy this pest, but there are those around us who plant potatoes apparently only to propagate the beetle. I use no Paris green, on account of my chickens. With the assistance of these faithful workers I manage them by handpicking. I confine my chickens beside the potato patch, letting them out part of every afternoon, when they feed upon the larva as they would upon earth-worms. I have thus far saved my potato crop uninjured. But after the potato tops in the neighborhood are dried up, they become great foragers and come upon us in such numbers that resistance seems useless. Tomatoes then appear to be their favorite forage, and the crop is very soon destroyed, even the bark is eaten from the vines. If they become as numerous along the sea-board as they do here during the latter part of the season they will certainly find their way across the water. They will be upon boxes, trunks, and everything else, and it will take more than a corporal's guard to every vessel to prevent "Doryphora" from taking passage.—J. D. G., Center Co., Penn.

The above, from the *Tribune* of April 30, is of some importance at this time, when farmers are about "putting in" their potato crops.

We knew an instance where a man saved his melon plants from the ravages of the "striped cucumber beetle" (*Diabrotica vittata*) by planting cucumbers around the base of his melon hills, a little earlier than he planted his melons. By the time they had destroyed all the cucumber plants their brief season was over and the melons escaped; a similar rule may be applied to the potato-beetles.

THE FACTS OF NATURAL HISTORY.

On page 330 of "American Natural History," by the late John D. Godman, M. D., of Philadelphia, (Vol. I) the following paragraph occurs in relation to the habits of the "Ground-hog"—*Arctomys monax:*

"At the commencement of cold weather the marmot goes into winter quarters; having blocked up the door from within, he there remains until the return of the warm season revives him again to renew his accustomed mode of life."

Having read the biography of Dr. Godman, and also his "Rambles of a Naturalist," we inferred that his remarks on the habits of the animals he describes were partly, if not wholly, made from personal observation, or upon the observations of intelligent and reliable authorities; and therefore, in our article "About Ground-Hogs," in the April number of THE FARMER, p. 53, we based our remarks mainly upon his authority.

At the meeting of the *Linnæan Society*, held on Saturday, April 24, Mr. Wilmer P. Bolton stated that in all his observations upon the habits of the ground-hog he had never known an instance in which the burrow of this animal was closed up during cold weather, and this statement was corroborated by Mr. W. L. Hershey. Both of these gentlemen—the former residing in Martic and the latter in West Hempfield townships—possess ample opportunities to make practical observations upon the habits of the animals of their respective districts, and from their intelligence and their general characters for veracity, we believe their statements entitled to respect. It is just the observations of such men on "the facts of natural history" that we need, to clear up many of the errors that find their way into books, magazines and newspapers, and are transmitted from one publication to another, all along the course of time and events, until they acquire a currency among those who have no opportunity to make personal observations, and finally settle down as authentic, when, in *fact*, they may have no foundation whatever, or one that admits of many important qualifications.

It is for this very reason that we have for years been urging our farmers, our rural citizens, and the public in general, for their *facts*—facts in agriculture, horticulture, arboriculture, floriculture, gallinoculture, ovaculture, domestic economy, and *facts in natural history*.

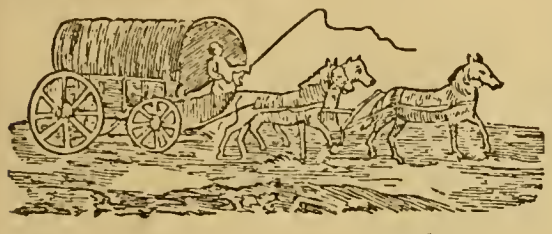
We care nothing about speculations and theories, however useful these may be when properly applied, but we desire the facts upon which speculations and theories should be founded, to be of any value in the illustration of a subject, in making it plain, intelligible and useful to the community at large. The greater number, if not all, our farmers are able to give us these *facts*, if they could only overcome their unwillingness to record them.

Although there appears to be something of a discrepancy between the historical record referred to, and the personal observations of Messrs. B. and H., it may still be not so great as it seems "at a first sight." Possibly Dr. G. meant that the animal closed up the hole in immediate proximity to his winter quarters, "deep down in the bowels of the earth," whilst these gentlemen may never have found it closed at its outer entrance, in which case both parties may be right, and, if so, it only affords another illustration of the loose manner in which many observations and records are made, and to which the article headed "*Good Correspondents*," page 24, col. 3, April No. of THE FARMER, specifically alludes, and the "corn" of which we are compelled to acknowledge, however humiliating it may be.

We once heard of a "crack-shot" who stated that he drove seven rifle balls into a mark the size of a "ten-cent piece," and when one of his auditors suggested that they must have all gone through one hole, he immediately qualified his statement by adding that he meant a ten-cent "shinplaster"—that being the elegant phraseology applied to the fractional currency of the period. With this explanation the matter became perfectly reconcilable with the possibilities of the case. At best, these are only illustrations of the problems involved in questions of *real* and *apparent* truth. For instance, we say *the sun rises*, and so would every unlettered man on earth say who had ever seen it rise; but it don't rise after all. The whole is only a phenominal *appearance* that is in perfect harmony with the hidden but *real fact*.

THE PAST AND THE PRESENT.

Perhaps in no respect is the great distinction between the past and the present, within the first historic century of America's progress, more strikingly exhibited than it is in the different modes of travel and conveyance over land and water in comfort, in convenience and in speed. Although the following illustration represents a period anterior to the date attached to the advertisement, yet it also represents *that* and a many years' subsequent period, as we approached the outer verges of civilization and improvement. Indeed, we are ourselves cognizant of a stage-line between Lower Alton, on the Mississippi, near the confluence of the Illinois river, and the then village of Chicago, on the southern end of Lake Michigan, Illinois, in the autumn of 1836, and we engaged a passage for the latter place in one of the stages, and only failed to consummate our intention by being "crowded out," and before the next trip occurred we had changed our mind and left for St. Louis. The stage, as it was called, differed in no very essential point from our picture—the same three-horse team, gray canvass bowed-top and common wagon box. It is true, that between Columbia and Pittsburg we had canal navigation, and the Portage Railroad, with its ten inclined planes, for summer travel; but in winter resort was had to stages, although of a quality far superior to the style set forth in our illustration, but still incomparably inferior to our present modes of conveyance, and the time occupied in transit.



Lancaster and Fredericktown STAGE.

THE Subscriber once more informs his Friends, and the Public in general, that he continues to run this Line, as usual. He starts from the house of Mrs. *Kimbol*, in Fredricktown, every Saturday morning, at six o'clock, and arrives at Lancaster on Sunday evening: sets outs again on Tuesday morning, at 5 o'clock, from Mr. *Ferree's*, sign of General Washington, King street, Lancaster; and arrives at Frederick on Wednesday evening. This line is calculated to suit the York and Balitimore Stages; likewise, the Frederick and Georgetown line, so that passengers, by taking this stage, can be accommodated with a passage, either to Baltimore or Georgetown, without being detained longer than the usual time of lodging, or feeding and changing horses.

The fare, from Frederick to Taneytown, is 1153; from Tancytown to Hanover, 756; from Hanover to York, 756; from York to Lancaster, 1153; with the usual allowance of 14lbs. baggage, gratis; 150lbs. paying the same as a passenger.

The Public Houses on this route are allowed as good and as reasonable as any on the Continent; And, as the Subscriber has furnished himself with good Horses and a comfortable Stage, he hopes his long experience, and regular attention to the Business, will merit the good will, and meet the encouragement of a generous Public.

WILLIAM SCOTT.

August 21, 1799.

The foregoing advertisement appeared in the *Lancaster Intelligencer* of Aug. 21, 1799, and also in handbills, with the cut, and exhibits the speed and usual accommodations which characterized the most improved stage travel of that period, throughout the most thickly settled portions of the country. But the cut also embellished the advertisement of John Butler, who ran a stage between Philadelphia and New York, which appeared in the *Weekly Mercury* in 1758—eighteen years before the Declaration of Independence.

Perhaps, among the great stage proprietors previous to the building of the Pennsylvania Railroad and canals, none were more prominent than the REESIDES; but, without knowing exactly how far they were interested in the stage lines between Philadelphia and Pittsburg, it may be safely stated that these lines were the most complete and expeditious of any on the continent of North America, and when they advertised that they made the trip between these two prominent points, through Lancaster and Harrisburg, in 72, and afterwards in 64 hours, the event was regarded as a wonderful achievement.

The following advertisement, which appeared in the *New York Gazette* in 1771, and which is a *fac simile* of the original, exhibits a specimen of the "blowing" of that period, over an achievement that would now only excite ridicule; and is very much akin to that kind of "flying" which John was doing when reproached by his employer for occupying two hours in eating his dinner.

Apropos of stage traveling in Pennsylvania under the old mode of transportation of passengers, near its close:

In November, 1833, we made our first trip to Philadelphia. We departed from our residence in a rural district at 3 o'clock P. M., and by a "gig" conveyance reached Lancaster about "dusk" in the evening. Here we took lodging at Sheriff Miller's Hotel, located on the present site of Woodward's music store, in East King st. At 3 o'clock A. M., next day, we took passage in a stage for New Castle, in the State of Delaware, taking our breakfast at Strasburg, and arriving at the former place at 1 P. M., where we dined.

After dinner we took passage on a steamboat, and reached Philadelphia just as the sun was setting, and "put up" at the *Indian Queen*, where, in discussing the subject, it was concluded that we had made "extra good time," although we had occupied one whole day and part of another. *Now* we could travel to New York and return in much less time.

Perhaps nothing can more strikingly illustrate the great advance made in the speed and comfort attained in public conveyances than that exhibited in our locomotives and palace cars on the different railroads of the country; and, especially where comfort and free exercise are mainly regarded, in the "modern floating palaces" which ply upon our rivers and upon the ocean. And yet not one of these advances has been made, from the very earliest to the latest, without encountering the most strenuous opposition and ridicule from a class of "old fogies" which seem destined never to die out in our country.

Our illustration of a "modern floating palace" represents one of the first-class steamboats as they are seen on the eastern and western waters of our vast country; but they do not differ very materially from what they were forty years ago, because, although canal and steamboat navigation may be better for the transportation of heavy freight, and also cheaper, yet as a means of expeditious travel, they seem to be in a manner superseded by the railroads, simply because the latter have the facility of cutting through mountains, passing over valleys, and otherwise diminishing time and distance, while the former are still compelled to pass through the tortuous channels of our inland streams, and are moreover subject to casualties of low water in summer, ice in winter, and extraordinary freshets in spring and fall.

In September, 1836, it took us eleven days to pass between a point in Lancaster county and the city of Louisville, by canal and steamboat; but now we could reach San Francisco, in California, passing over the entire continent of North America, in much less time, by railroad; and although this is an immense advance over the old mode of "doubling Cape Horn," or crossing the isthmus of Darien, it was long looked upon as wholly impracticable, and met with the usual opposition. With all these evidences of human progress, there are yet many who, with dismal forebodings, are constantly harping upon the degeneracy of these modern times, and predicting the approaching downfall of America.

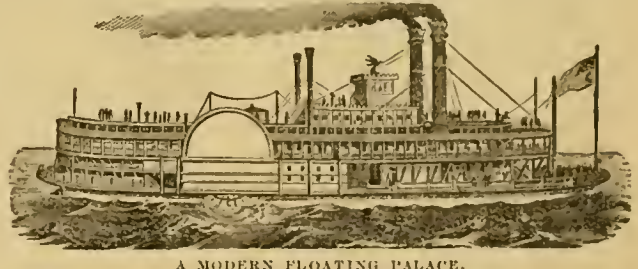
To the PUBLIC.

THE FLYING MACHINE, kept by John Mercereau, at the New-Blazing-Star Ferry, near New-York, fets off from Powles Hook every Monday, Wednefday, and Friday Mornings, for Philadelphia, and performs the Journey in a Day and a Half, for the Summer Seafon, till the 1ft of November, from that Time to go twice a Week till the firft of May, when they again perform it three Times a Week. When the Stages go only twice a Week, they fet off Mondays and Thurfdays. The Waggons in Philadelphia fet out from the Sign of the George, in Second-ftreet, the fame Morning. The Paffengers are defired to crofs the Ferry the Evening before, as the Stages muft fet off early the next Morning. The Price for each Paffenger is *Twenty Shillings*, Proc. and Goods as ufual. Paffengers going Part of the Way to pay in Proportion.

As the Proprietor has made fuch Improvements upon the Machines, one of which is In Imitation of a Coach, he hopes to merit the Favour of the Publick.

JOHN MERCEREAU.

Potter's Magazine, to which we are indebted for these quaint illustrations, contains several *fac similes* of old stage advertisements, bearing various dates from 1719 to 1758. From one of these (1719,) we learn that the Philadelphia *Weekly Mercury* changed its day of publication to suit the *Weekly* post (stage) from Philadelphia, a step in advance which had just been inaugurated. We subjoin the advertisement of John Butler (1758) referred to in another part of this article:



A MODERN FLOATING PALACE.

Philadelphia STAGE-WAGGON, and New-York STAGE BOAT performs their Stages twice a Week.

JOHN BUTLER, with his waggon, fets out on Mondays from his Houfe, at the Sign of the Death of the Fox, in Strawberry ally, and drives the fame day to Trenton Ferry, when Francis Holman meets him and proceeds on Tuefday to Brunfwick, and the paffengers and goods being fhifted into the waggon of Ifaac Fitzrandolph he takes them to the New Blazing Star to Jacob Fitzrandolph's the same day, where Rubin Fitzrandolph, with a boat well futed, will receive them, and take them to New-York that night. John Butler returning to Philadelphia on Tuefday with the paffengers and goods deliv red to him by Francis Holman, will again fet out for Trenton Ferry on Thurfday, and Francis Holman, &c., will carry his paffengers and goods, with the fame expedition as above to New-York. Teetf.

AGRICULTURAL STATISTICS.

Summary of Winter-Wheat Prospects.

From the monthly report of the Department of Agriculture for April, 1875, the area in winter wheat, we learn, appears to have been increased last fall by 7 per cent. A small portion of this area, partially or wholly destroyed by the severity of the winter, will be replaced by other crops: how much, will depend upon the vicissitudes of April weather and the pressure of spring work. The Middle States made a very small increase—only 2 per cent. in Pennsylvania and 1 in New York, with a decrease of 4 per cent. in Delaware—an aggregate increase of about 135,000 acres. The Southern States, from Maryland to Tennessee, inclusive, have made a large increase, adding half a million acres to an area of three and a half millions. It is largest in Mississippi—70 per cent. in the counties reported, 42 per cent. in those of Texas, 30 in Arkansas and Tennessee, and 26 in Georgia. Ohio counties return no increase in acreage, Michigan but 1 per cent., Indiana a decrease of 2 per cent., and Illinois an advance of 10 per cent. Missouri has enlarged her area in nearly the same proportion, and Kansas 30 per cent., in counties reporting. The aggregate increase in acreage planted considerably exceeds a million acres, and with that of California will equal one and a half millions.

The condition of the crop, as far as it could be judged by its appearance in April, in the more northern latitudes, before the ground was bare and free from frost, was below an average, and far below the status of last spring. In the South generally the prospects are quite flattering, and the crop is secure against all probable contingencies excepting rust. In California a large breadth has been seeded. Prompt germination and vigorous growth have followed the winter rains. The early-sown area is probably secure, but drying winds and the absence of the later rains excite apprehensions of failure of late plantings. The States in the valleys of the Ohio and Missouri report inferior conditions of wheat, as a result of winter killing. Those sections in which drought prevented early seeding and sufficient re-development before winter set in have suffered most. The protection afforded by snow has been exceedingly valuable in all the area north of the thirty-ninth parallel of latitude, the injuries sustained resulting mainly from thawing and subsequent freezing in March. In the Middle States this protection has been more uniform than in the West. The more exposed fields presented a brown and lifeless appearance, but the roots were found to be sound, except in patches long covered with ice. Everywhere the superiority of wheat seeded with the drill, and the great advantage of this mode over that of broadcasting, are conspicuously apparent.

The report then goes on to give a synopsis of the returns from the different wheat-growing States, specifically, and although there are from twenty to fifty county-returns, from many of them there is nothing specific in regard to the winter-wheat crop of Pennsylvania, and therefore its status must be looked for, so far as it can be identified, in the general remarks.

Condition of Cattle and Sheep.

The status of farm animals for the whole country is fully up to the average of spring condition in a series of years, notwithstanding the remarkable severity of the winter, and far above the average, taking into consideration comparative numbers of animals represented by the counties making reports. There has been no prevailing disease during the winter in any section. Scarcity of feed, that could not be met by better housing and care, or purchased supplies, has been confined within very narrow limits, and though, in the section north of the thirty-sixth degree of latitude, and east of the Pacific slope, the cold weather was of extraordinary intensity and duration, the atmosphere was dry, and the temperature comparatively uniform. While this induced more careful shelter and feeding, it stimulated in the animals vigor of appetite and muscle.

Almost the only drawbacks to the health and thrift of cattle and sheep, in any part of the country, have been the want of proper shelter, care and feed. Even in sections where, from the combined ravages of droughts, chinch-bugs and grasshoppers, scarcity of feed has been greatest, and this aggravated by cold of extraordinary intensity and duration, precaution in husbanding resources in hand, and in seasonably providing such others as could be made available, either for increasing or saving feed, has resulted in bringing stock through in better condition than in previous milder winters with abundant food, under different treatment.

The *cattle* returns, for condition, in all the States, foot up as follows: Total number of counties reported, 1,181; above average, 313; average, 524; below, 314; not specified. 30. From Pennsylvania the number of counties reported is 43; above average, 10; average, 24; below average, 9. Whether Lancaster county has made a report or not, on any of these subjects, cannot be ascertained from the source before us.

The condition of sheep is still better than that of cattle. For all the States, out of 1,039 definite returns, all except 162 are average or above. Returns from Pennsylvania indicate average condition, with few extremes. The return from the Sacramento Valley states, that "the increase of the flocks throughout California will be greater this year than ever known before," and that "the lambing season is well past, and good luck is reported everywhere."

As there has been a remarkable exemption from diseases among both cattle and sheep the past winter, the losses, except incidental, have resulted, almost exclusively from want of due shelter, feed and care, and although 43 counties in Pennsylvania report 28 counties less than the general average of losses, 9 of equal average, and 3 above the average, there is nothing to show that Lancaster county has been delinquent in "shelter, feed and care." The tabulated returns for all the States show that in 1,111 specific returns for cattle, only 198 report losses exceeding those of 1874; and in 1,050 specific returns of sheep, but 150 are greater—indeed, in some parts of Pennsylvania, the losses were less than ever known before.

Except in a class of cases loosely termed "Hog Cholera," less formidable, however, than last year, all kinds of farm animals, during the past year, have enjoyed a marked exemption from prevalent diseases; and it is found that even in those places where animals have suffered from the increased severity of the winter, and the failure of food crops, such suffering was greater in those counties where the policy of the merciful treatment of animals has never been understood or practiced, and that the external causes of disease, were much less active than in former years.

The Miscellaneous Statistical Circulars.

The March circulars sent to our statistical corps, which now represents 1,612 counties, including nearly all of the producing area of the country, are of a miscellaneous character, and not repeated annually. It was deemed desirable to obtain a statement of local preferences for fertilizers and modes of soil-fertilization, and also of the kinds and proportion of products for feeding and fattening animals, the length of time and cost of feeding in winter, and some facts indicative of the local surplus and local deficiencies of the different crops. The following list of questions was very generally answered in the returns which were received from 1,096 different counties:

1. What fertilizers are used in your county? What proportions of such fertilizers are farm-yard manures? home-made composts? commercial fertilizers? Are the latter deemed profitable?

2. What proportion of hay-fields are usually in clover? what in cultivated grasses, and principally of what kinds? what is native or wild grasses? Is green manuring with clover practiced? If so, is the full crop, the second growth, or only the stubble turned under? Please state the practice and its results in soil-improvement; specific and significant facts desired, rather than general views.

3. Number of months in a year in which domestic animals are fed exclusively? Number of months in which partial feeding supplements pasturage? and what are the principal kinds of forage used, and proportions of each? Is grain fed to animals? If so, when, how liberally, and to what kinds of stock? What proportion of your corn crop is consumed in the county?

4. What is the cost per head, in cash-value, of forage, for wintering horses? milch cows? sheep? What is your estimate of the average value of each of these classes of stock in autumn? in the spring? Is there an average increase of weight during the winter, or decrease? and how much of either?

5. What percentage, if any, of the value of your crops is sold to go out of the county? What is the leading crop thus sold? What proportion, if any, of your farm animals is sold to go beyond the county?

6. What products of agriculture are brought into the county for consumption, and what percentage of the home consumption? What farm animals, if any, are brought from abroad, and to what extent?

7. Has your county derived any advantage the past year from association and co-operation, in marketing crops, or in procuring supplies? If so, can you give an approximate estimate of the aggregate sum thus saved? Individual facts in this connection will be acceptable.

A Part of the Miscellaneous Returns.

The investigation demonstrates the fact that farmers are learning the necessity of increasing the store of plant-food in the soil, of having it in an immediately available form, and of supplementing notable deficiencies with specific fertilizers. They are becoming better versed in the philosophy of fertilization, and better able to adapt their practice to the peculiarities of their soils, and to their local resources in material for fertilization, both by increase in theoretical or scientific knowledge and in experience gained in successful application of such acquirement. Not all are thus intelligent; a large proportion yet see by the dim light of tradition, and follow only methods found successful in their personal observation, often with little regard to differing circumstances of soil and situation. It is true, nevertheless, that the average practice of these practical men is essentially sound, and really based on reason and science.

Though half of the counties in the United States are cultivated almost literally without fertilizers of any sort, and another fourth with the casual aid of green manuring, or a little lime or plaster, or cottonseed, or a "cow-penned" lot, or some trifling saving of farm-yard manure, it is still true the practice of systematic fertilization is increasing. It is not only increasing, but is followed with a better adaptation of means to ends, and with a superior economy in the choice of material.

"What fertilizers are used in your county?" The following table, which gives the proportions of farm-yard manures and other fertilizers, presents the average of the returns of each State, and doubtless with sufficient accuracy for the purposes of the investigation, of the true averages of all the counties of the several States. In examining the figures it must be remembered that they indicate percentages of whatever fertilizers may be actually employed, however small in quantity or unimportant in value, which are almost too insignificant for estimate in the States west of the Alleghanies:

[*See tabulated results published in the April number of The Farmer, page 56. Col. 3.*]

The manure of farm animals is seen to be the main reliance for sustaining fertility. Commercial fertilizers—organic and mineral—are somewhat in use in New England, especially in Maine and Massachusetts, including quantities of fish-refuse and sea-weed. They are also used sparingly in the Middle States; but the cheaper minerals, lime and plaster, and still cheaper green-manuring, monopolize a large proportion of the percentages credited to "other fertilizers." The South Atlantic States from Maryland to Georgia, inclusive, use not only the largest proportion of manipulated fertilizers, but the largest quantities in comparison with other sections. The cost of such material amounts to millions in each of these States. Little fertilizing matter is applied to the soil from Alabama westward, with the single exception of such quantities of cotton seed

as are not required for seeding, and for a few oil-mills. In the eastern portion of the Ohio Valley experiments are tried with commercial fertilizers by a few progressive farmers, and the use of clover as a fertilizer is considerably practiced there by immigrants from Maryland and Pennsylvania. And here we may stop. The remainder of the country has heretofore practiced the draining of farm-yard manures into creeks and rivers, or the removal of barns from their inconvenient accumulations; or, if they all have not literally adopted this practice, they have not indicated much faith in the necessity of manuring. And yet these returns show that the lands of Iowa and Minnesota, and even of Illinois, are made to bear an increase of 20 to 30 per cent. by a single experiment in green-manuring. Thoughtful western farmers are seriously pondering the economy and profit of prairie-land fertilization.

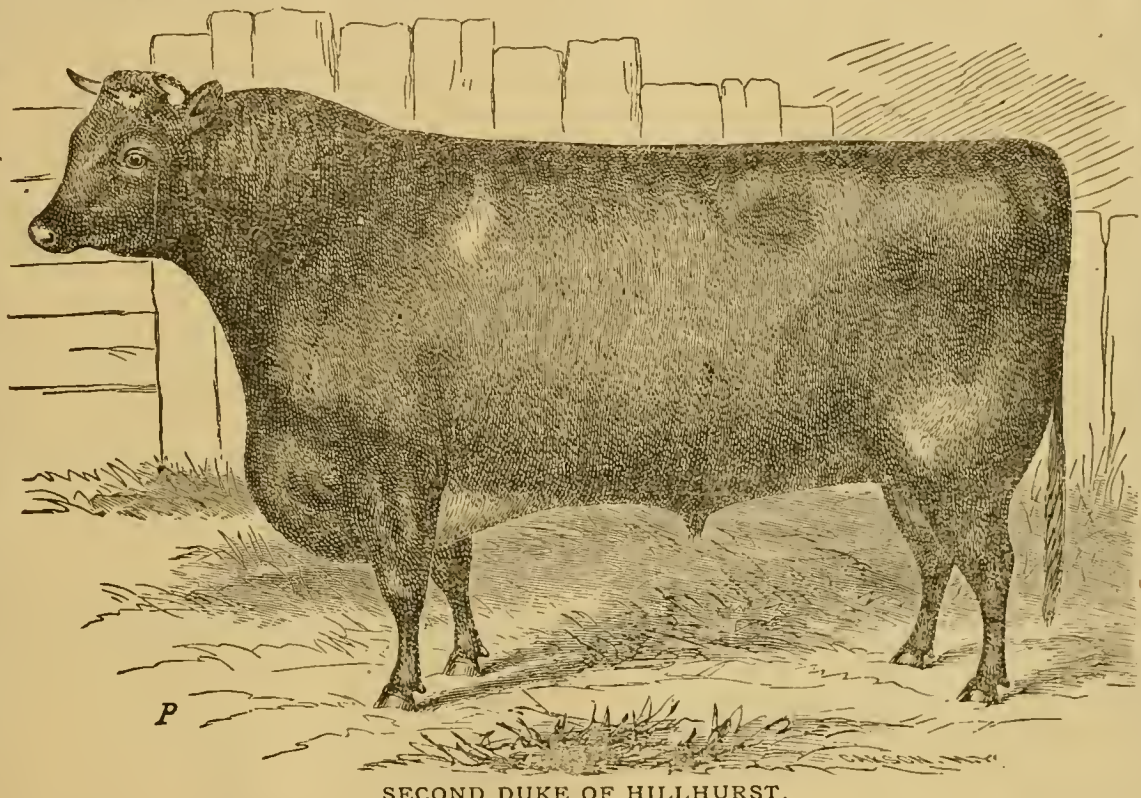
As to commercial fertilizers, our correspondents generally appreciate their value for specific uses; acknowledged their utility in supplying lacking material for plant growth; accord to them a positive value in hastening growth and maturity, but persist in the opinion that there is fraud in the manipulation of some kinds, and that the genuine are held at too high a price. They know that for the regular uses of farm fertilization they can obtain the needed elements at a cheaper rate.

Many examples are given of the renovation of worn and apparently worthless soils, and the increase of fertility in fresh but unpromising lands. Fields that have been cultivated exhaustively for twenty and even forty years have been restored to original productiveness, not by guanos and superphosphates, at $60 to $80 per ton, but by inexpensive local resources, the cheapest and most reliable of which is found in clovering. In one case, in Butler county, Pa., a section of thin, gravelly land, on which it was thought no one could secure a decent living, came into possession of German immigrants at nominal rates. They cleared off the brush, plowed, cultivated, turned under green crops; saved every fertilizing material available; never duplicated a crop in five or six years' rotation, and that tract is now a garden, and from worthlessness has advanced to the value of $100 per acre, and is yearly becoming more productive. These owners, in some cases, have raised and educated families, lived comfortably, ride in carriages, and have money at interest. In other instances in which the aid of clover has been invoked, swine-feeding in the clover-fields has been made a valuable means of soil improvement. In the South, a region which many northern writers on agriculture assume most erroneously to be unsuited to grass culture, and which southern farmers have strangely neglected as a meat-producing section for obvious reasons, a new era is dawning, and clover and orchard-grass are in many places found to be sources of immediate and heavy profit, and of greatly increased fertility. In light lands, of more torrid temperature, the cow-pea performs quickly and inexpensively the work of amelioration assigned to red clover in argillaceous soils. It is a plant literally worth millions to the South; possibly as good an ammonia-gatherer as clover; perhaps equally as good for fattening swine, and grown with greater facility in poorer soils. This investigation presents prominently three suggestive points: First, the use of fertilizers is becoming more general and more discriminating; second, few, if any, soils in the country are so rich that they cannot be made more productive by judicious fertilization; third, farm yard manures are the best for general use; green-manuring is the cheapest means of soil renovation, and commercial fertilizers are useful for quick results and for specific purposes.—*U. S. Agricultural Department Reports.*

THE CATTLE INTERESTS OF THE UNITED STATES.

Increase in aptitude to fatten and in average weight has been continuous and marked during the last half century. Since 1817 there have been imported into North America nearly, if not quite, one thousand well-bred animals for stock improvement, mainly the beef-yielding short-horn; but also many of the best specimen of the Ayrshire for quantity of milk, the Jersey and its congeners of the Channel Islands, for richness of cream and quality of butter, the black and white Dutch, Devons, Herefords, and other breeds, not excepting the fat cow of Brittany. So great has been the success of this attempted improvement, that the cattle of the central portions of the West have become high-grade short-horns of increased size and superiority of flesh, with a far smaller proportion of offal. Instead of degenerating, the thorough-breds have been improved by the skill and care of our wide awake breeders, until one family of short-horns, the Bates stock, has been for years exported to England at prices commencing at $2,000 to $3,000 each, advancing in a year or two to $7,000, as appreciation abroad was intensified, and culminated last season at the magnificent figures of $40,000 for an elderly cow, amid the excitement of competition between the two most skillful breeders of two continents.

The average weight of importations two and a half centuries ago, probably did not exceed 300 pounds; in 1720 the average in the London market had been reported at 370 pounds; at the beginning of the present century the London average had advanced to about 500 pounds, and now the official average is 600 pounds for British, and 500 for imported beeves. The stock of this country, not including that of Spanish blood, is now nearly up to the British standard of weight.



SECOND DUKE OF HILLHURST.

A FAMOUS SHORT-HORN.

The engraving gives a fair representation of the Second Duke of Hillhurst 12,893, at three years. He was sired by Sixth Duke of Geneva 7,933, out of Duchess 97th, property of Wm. S. King, esq., of Lyndale, near Minneapolis, Minnesota.

This animal is a *pure* Duke, and, without a doubt, the finest specimen of a short-horn bull this country has ever produced. He was the last bull at the head of the "Lyndale Herd," and, as is probably well-known to live stock fanciers over the whole country, was sold at the great Chicago sale to M. H. Cochrane, of Montreal, Canada, for $14,000, gold. His sire, the Sixth Duke of Geneva, was sold to Lord Dunmore, of England, for $15,000, gold, and his dam, Duchess 97th, was imported to Canada by M. H. Cochrane, esq., and also resold to Lord Dunmore on account of her high pedigree and intrinsic value. Both she and the Sixth Duke of Geneva were at one time owned by Col. King, and the result was the Second Duke of Hillhurst. His dam was bought when a heifer of Captain Gunter, of England, for $5,000, gold, by Mr. Cochrane. His last purchaser, however, failed to raise the money, and, therefore, he is retained in possession of Mr. King, as above stated. The subject of thoroughbred live stock, of all kinds, is becoming one of absorbing interest to our farming population. And well it should, for although the original outlay is very considerable, yet the results are always more satisfactory than raising common and unprofitable stock.

Stewart, in his prize essay on fattening stock, says time is often a matter of importance to the feeder. Sometimes a month gained is equal to 20 per cent greater weight at a later period. Cooking food renders its constituents more soluble and digestible, therefore entering on flesh and fat. As a condiment and appetizer for fattening animals, molasses has no equal. A small quantity of sweet upon hay will cause a larger quantity to be eaten with a relish. We have often tried molasses upon poor animals with great satisfaction. A poor horse will show a change in condition in a few days. The molasses is not only an excellent condiment, but an excellent food; being so soluble and assimilable that it produces an immediate effect upon the condition of the animal. Three pints may be fed to fattening animals per day, but to cows and breeding stock it must be fed sparingly, and not more than a pint per day to a cow, as too much sweet will prevent their breeding. When necessary to use straw in fattening stock, the use of molasses, diluted eight to ten proportions of water to wet the straw before steaming, will be found to render it very palatable, and cause it to be eaten, incorporated with other fattening food, as readily as hay.

ENTOMOLOGICAL.

Enemies of the Cabbage Butterfly.

ALEXANDRIA, Huntingdon Co., April 12, 1875.

Dear Sir: I send you by this mail a small paper box containing a number of small flies (males and females) which hatched out of some *chrysalids* of the cabbage butterfly. I suppose they are the enemy of the cabbage butterfly. Please report.

Yours truly, C. P. H.

However trivial the above incident may appear, we nevertheless regard it as *important*, for in it is involved an important practical question in economical entomology; moreover, it is a well defined confirmation of our own experience two years ago, and upon which we made the suggestion that in all probability the cabbage butterfly would ultimately pass away, or become diminished in numbers so much as to dissipate the apprehensions that have been entertained in regard to it by many people.

The above "small paper box" was duly received, and contained twenty-one *chrysalids* of the "Garden White" butterfly (*Pieris rapæ*) and over a hundred minute parasitic hymenoptera, of a beautiful metallic green color and clear membranaceous wings. Many of them were dead, but the majority of them were still alive. Out of these twenty-one *chrysalids* we do not think there is a single one that would have produced a butterfly. Every one is more or less punctured with small holes, out of which these little *flies* have issued forth in great numbers, a fruitful source of hope to cabbage growers everywhere, for if all the *chrysalids* in the country were similarly infested, the race of white butterflies and green cabbage worms would become extinct in a single year; and in order to continue their species (the parasites) we could have wished that their advent had been delayed a few weeks, until a *nidus* for their future progeny could have been found in the bodies of the *worms* of the present season.

These useful little parasites belong to a family of hymenoptera called "Chalcisflies," or Chalcidians, (CHALCIDIDÆ) and are always found infesting some one or other among the denizens of the insect world. Some of the species are exceedingly minute, and find sufficient nutriment to develop and sustain their tiny bodies and lives within the *eggs* of other insects. Most of the species are so small that we have never attempted to study them specifically, and probably never will; and therefore, to *know* they destroy the *larvæ* and *pupæ* of the "cabbage worm," or any other noxious insects, is perhaps as much as the "truck gardener" and farmer cares to know in regard to them. They seem to belong to the genus *Pteromalus*, and probably an entirely new species; but, until this view is corroborated by competent authority this nomenclature can only be considered *provisional*. We have submitted specimens to several specialists for their examination and identification, and if we hear from them before this goes to press we will append it in a foot note; or, on some future occasion, publish a fuller account of them, with illustrations, if practicable. Having this much we can afford to await future development.

Since writing the foregoing, we have found the following corroboration of the above experiences in the New York *Semi-Weekly Tribune*, of April 30th, 1875; and although Mr. Fuller may be mistaken as to the *species* of the insect, yet that is not of the least consequence in the general economy of the subject, and does not impair any of the essential facts.

The Cabbage Pest and Its Parasite.

It is to be presumed that everybody knows by this time that the parent of "the cabbage worm" is the Rape Butterfly of Europe, imported into this country about 1856 or 1857, appearing first in Canada, from whence it has spread over the greater portion of the United States. At first it appeared to have no natural enemy to keep it in check, but in good time and in some unaccountable manner the little parasitic fly which had long been known to attack it abroad, was discovered in this country, and has ever since been thinning the ranks of this previously formidable cabbage pest. The two insects appeared in the suburbs of New York city at about the same time, and their operations ran somewhat as follows: The first season the cabbage-worms were few, only an occasional one seen; the next year very abundant taking or nearly destroying the entire crop. In the autumn of this second season nearly every chrysalid, or at least the larger part examined, contained the pupa of the little parasitic fly referred to above, instead of an immature butterfly; the result, as might be inferred was, very few cabbage-worms the third season, and scarcely any since. This seems to have been about the general results in each locality visited by this species of cabbage butterfly, and all applications of poisons to the worms have done little good in lessening the number.

Of course, if the parasite does not appear in any particular locality, they can be readily procured and forwarded to any distance and let loose where they would do most good in attacking their natural enemy or food, as they can only exist where there are cabbage-worms. I think if cabbage growers will examine the chrysalid of the last season's brood of worms, which must at this time be abundant on the sides of outbuildings, fences, and even stems of shrubs and trees, they can readily determine whether the little parasite (*Pteromalus puparum*) has made its appearance or not. If, in breaking open the chrysalids they are found full of minute egg-like pupa, then it is certain that the enemy of the worms and friend of the farmer has arrived; but if nothing but the immature, half-formed butterfly is within, then it is safe to conclude that you may have to wait for deliverance from this pest another year.

Much can be done towards lessening the number of worms by gathering and destroying the chrysalids found attached to fences and buildings about the place in winter. But I would not advise destroying those of the pupa if parasites are found in any considerable number. The difficulty in killing the worms when upon the cabbages is, that any poisonous substance applied is likely to make them dangerous food, else very filthy. Guano, or superphosphate and lime mixed together, will destroy the worms; but who would want to eat, or feed to stock, such stuff, as more or less will remain among the leaves and inclosed in the head. I have used salt with good effect, but the worms that have penetrated into the head of the cabbage is safe from any outward applications. Under present circumstances, I would say, let nature take its course, for the little parasite will soon wipe out the enemy.—A. S. FULLER, *Bergen county, N. J.*

GARDEN CULTURE AGAINST FIELD CULTURE.

"The natural produce of wheat in our country under careless cultivation is about *sixteen grains to one*. The unusual produce under the highest order of garden culture has gone as high as *seven thousand four hundred and forty-five grains to one*."

The above paragraph, clipped from a copy of the *United States Gazette*, of the year 1867, was handed to us a few days ago by one of the most intelligent and practical citizens of the western region of Lancaster county—one who had spent many years of his life in farming and milling, but is now extensively engaged in the iron business. To him the paragraph seemed suggestive, but he had already retired from the farm and the mill, when it first came under his observation, or he certainly would have experimented to test the difference between "garden culture" and "field culture" in the production of wheat. In view of the fact that nearly everything subjected to garden culture—all other things being equal—has largely *appreciated* in quality and in yield, whilst nearly everything that has been left to the careless cultivation of the field has *depreciated* in quantity if not in quality, cannot but impress itself upon the minds of those inclined to that retrospective reflection which runs along the line of *effects*, and culminates in their primitive *causes*. The additional fact that the minds of wheatgrowers have of late been much exercised about the deficiency in its yield, has also an important bearing upon the general subject.

It is true the larger portion of the wheat produced in this country is a winter crop, and to which perhaps garden culture could not be practically applied, still this would not preclude the possibility of applying such culture to spring wheat, nor of substituting the latter entirely for the former. For instance, you sow broadcast the seeds of onions, red beets, turnips, cabbages, corn, radishes, beans, peas, tomatoes, tobacco and many other things that are subjects of garden culture, and you subsequently treat them just as you do wheat, rye, barley and oats, and what is the result of this species of field culture? Why, you have weak attenuated stalks, a little foliage and fodder, but no roots, bulbs, flowers, fruits, heads or seeds of any account. It requires the thinning out, transplanting, weeding, and the assiduous labors of garden culture to produce these successfully. The difference between the probable and the possible, between sixteen to one and seven thousand four hundred and forty-five to one, is so immensely great that it is not surprising the subject should become one of serious human speculation. How many heads of cabbage, of lettuce or of cauliflower would the housewife get if she sowed her seed broadcast, and then let the plants take care of themselves, as the farmer does the wheat plant? How many turnips, radishes and red beets under the same treatment? How many tomatoes, egg-plants, peas or beans? How many other products that are the subjects of careful and vigilant garden culture? Not many we trow.

Corn, potatoes, pumpkins, squashes, watermelons and other products that are grown in the fields, all receive garden culture or their yield would be too insignificant to even pay for the seed. We read of ancient * wheat fields—long before *maize* and other prolific vegetation was known to civilized society—but we know but little specifically about the ancient mode of culture, and we wonder how such immense populations could possibly be sustained upon such limited territory. What we now call "heads of wheat" were then called "ears of corn," and how do we know that they were not as large as the average of *our* present ears of corn?

Even if we could realize the one-half of *seven thousand four hundred and forty-five to one*, the result in material substance would be an immense advance upon our present productions of wheat. Farmers are "boxing about" in order to find some means by which the present yield of cereals may be increased. They know how to produce vigorous tobacco plants, with leaves, one of which would be almost large enough to perform the office of "Jonah's gourd." They know how to raise big heads of cabbage, mammoth beets, monster pumpkins, gigantic melons, huge turnips and potatoes, large tomatoes and vegetable eggs, and magnificent stalks and ears of maize, and they know that these are the results of garden culture; but they do not seem to know how to increase the yield of wheat the one-half of a sixteenth per cent.

A GOOD COW.

"Hon. H. G. Herrick, Sheriff of Essex county, recently lost a cow, "speckle," that was a grade Shorthorn of rare quality. She calved April 1st, 1874, and was to have come in March, 1875. The following is her record:

In April, 1874, she gave	1380 lbs.
" May, " "	1456 "
" June, " "	1440 "
" July, " "	1317 "
" August, " "	1175 "
" September, "	979 "
" October, "	942 "
" November, "	956 "
" December, "	746 "
" Jan'y, 16 days, "	366 "
Total,	10,757 lbs.

"Such a cow was worth keeping."

10,757 pounds of what? Milk, we presume; but standing as it does, so entirely disconnected with anything else by which milk might be implied—in the columns of the *Massachusetts Ploughman*—and, moreover, being of a magnitude so much greater than anything of the kind we are accustomed to in this locality, we are just unsophisticated enough to inquire what its specific meaning may be. If milk is meant, the product would be an average of 37 pounds; or 16¼ quarts per day. Will some of our Lancaster county dairymen give us the average product of their best cows, by way of comparison?

*When the disciples and their Divine Master passed through the fields and "plucked the ears of corn," we have the right to infer that they passed between the hills or rows, just as *we* would now, in passing through one of our fields of corn, (maize) and any other inference would subject them to the same reprehension *we* would deserve, in treading down a passage through a modern wheat field. The Jews did not accuse them of treading down the corn, but of plucking and eating it on the Sabbath day.

THE OLD AND THE NEW.

The Memories which Cluster Around our Approaching Centennial.

Everything connected with the signing of the Declaration of Independence is becoming invested with a peculiar interest as the first

INDEPENDENCE HALL AT THE PRESENT DAY.

centennial of our existence as a nation approaches. The signing of that great charter of liberty made immortal the men who pledged their lives, their fortunes and their sacred honor to secure certain "inalienable rights," among which were "life, liberty and the pursuit of happiness" to themselves and their posterity; and when we participate in our Centennial on the Fourth of July, next year, all the historical incidents of that memorable day, one century ago, will be revived in the hearts of the great multitude who will then be reaping in hope and joy the fruits sown by our forefathers in trembling faith, watered with tears and blood.

We have given in former numbers of THE FARMER illustrations of the beautiful buildings now in course of erection for the celebration of our Centennial. No doubt most of our readers have seen the "State House," or Independence Hall, as it now stands, on the south side of Chestnut street, between Fifth and Sixth, Philadelphia, and correctly shown in the accompanying illustration. None of them, however, ever saw the old building as it appeared in the day that the old Liberty Bell rang out from its belfry the joyous yet startling news that the colonies were from that eventful hour independent. We therefore present in this connection a correct and well executed engraving of the old historic Hall as it appeared in the last century. In that building, as here shown, the Declaration was signed on the day from which we date our national existence. The longer this building stands the more it is honored. It is more than one hundred and forty years old, having been erected between the years 1729 and 1740. Some changes have since been made, most of which were necessary to the preservation of the structure; but the general appearance of the main edifice remains much the same as it appeared when first built. There is much beautiful carving to be seen in the interior adornments, and altogether the building was remarkably fine and costly for that early day. The old Liberty Bell, which announced the reading of the Declaration, at 2 o'clock, on the 4th of July, 1776, is still to be seen, in the rear of the main hall or vestibule, where it was some time ago placed in a safe enclosure, convenient to all who wish to view the grand old relic. The bell, the metal of which was recast into the one now in existence, had been brought from England for the State House in 1752, but it was accidentally injured in removing it from the ship. It was recast by Isaac Norris, then a member of the Colonial Assembly. As if endowed with the spirit of prophecy, he cast upon it the memorable Scriptural legend (Lev. xxv. 10)—"*Proclaim liberty throughout all the land, unto all the inhabitants thereof.*" After seven years of privation, suffering and bloodshed, that prophecy was fulfilled, so far as the dominant race were concerned, when on the 19th of October, 1781, Lord Cornwallis surrendered his army at Yorktown, and its fulfillment finally acknowledged by the proud Britons in the Treaty of Paris of Sept. 3, 1783; but it was not until eighty years later, when our second Washington, Abraham Lincoln, issued his emancipation proclamation, that the prophecy was literally fulfilled in its relation to "*all the inhabitants,*" without regard to race, color or previous condition.

It is a great thought that, in the providence of God, we shall celebrate our first Centennial under the literal and complete fulfillment of this divine proclamation of the old Liberty Bell, uttered a hundred years before, and in the proud consciousness that the flag for which our fathers fought does not float over a single slave.

Our Farmers and the Centennial.

We trust that the farmers of this the richest agricultural county in the Union will realize, before it is too late, the importance of giving their aid towards making the approaching Centennial a success worthy of the great occasion. From our proximity to the Centennial buildings, we ought to do our full share, not only in subscribing to the stock and thereby contributing towards defraying the expenses, but we ought also to make a fair display of our industrial resources. The Centennial Board have just placed this matter in the hands of a local auxiliary board, consisting of Major R. W. Shenk, (Chairman) Hon. J. B. Livingston, Hon. D. W. Patterson, J. M. W. Geist, W. L. Peiper, Amos S. Henderson, Sam'l H. Reynolds, F. Shroder, S. S. Spencer, B. F. Eshleman, Wm. Aug. Atlee, H. M. North, R. A. Baer, J. C. Muhlenberg, Jno. A. Hiestand, A. C. Reinoehl, Ellwood Griest, W. U. Hensel, Frank P. Griffitts, and J. K. Barr, Secretary. The Financial Agent has written to them, impressing upon them the importance of prompt and vigorous action; and they are now arranging the organization of committees in the several districts of the county to co-operate with them in securing stock subscriptions. We trust, therefore, that when they are called upon, the readers of THE FARMER will not fail to respond as becomes patriotic citizens who feel an honest pride in their noble heritage. Aside from our personal knowledge of the Managers of the Centennial, their high character gives assurance that every dollar contributed will be judiciously expended and honestly accounted for.

Live Stock at the Centennial.

It is understood that the Bureau of Agriculture of the International Centennial Exhibition has determined to exhibit live stock within the months of September and October, 1876; the periods devoted to each class and family being fifteen days, and the division as follows:

Horses, mules and asses, (as one class) from September first to fifteenth.

Horned cattle, (of all varieties) from September twentieth to October fifth.

Sheep, swine and goats, (as one class) from October tenth to twenty-fifth.

An important rule regulating admission requires that all animals exhibited be of pure blood (trotting stock and fat cattle excepted). Another rule not to be overlooked excludes all animals, even though they be thoroughbred, which are not highly meritorious. The exhibition being open to the whole world, it is of the first importance that we bring forward the best of their kind only, as the character of our stock will be judged by the general average of those exhibited.

Exhibitors will be expected to provide for feeding their stock. An officer of the Bureau, specially charged with the duty, will furnish at cost prices all forage and other food, at depots conveniently located within the grounds. They will also be expected to furnish their own attendants, on whom all responsibility of the care of feeding, watering and cleaning the animals, and also of cleaning the stalls, will rest.

INDEPENDENCE HALL AS IT APPEARED IN 1776.

Though the Commission will erect ample accommodations for the exhibition and protection of live stock, contributors who may desire to make special arrangements for the display of their stock will be afforded facilities at their own cost.

All animals will be under the supervision of a veterinary surgeon, employed by the Bureau, and before whom each animal must pass, before admission, to guard against infection, and who will also make a daily inspection, and report. In case of sickness, the animal will be removed to a suitable enclosure specially prepared for its comfort and medical treatment. Rings will be provided for the display and exercise of horses and cattle.

We are informed that the Bureau is in daily receipt of applications for space, and it is highly important that all who design exhibiting should now make application, as the extent of preparation necessary can only be regulated by an estimate based upon actual demands. Inquiries may be addressed to the Chief of the Bureau of Agriculture, Philadelphia.

THE WEATHER.

The state of the weather is still a wonder to nearly everybody, the like having never been seen even by the "oldest inhabitant," and the would-be prophets who had predicted that after having endured such an exceedingly cold "spell" of weather from New Year until the close of March, we would surely have a fine April, have miserably failed in their calculations. Last week we recorded several snows, and we have had quite a number since last week's record was made. On Sunday morning the ground was covered with over an inch of snow; on Sunday afternoon it snowed again, on Monday more snow fell and on Tuesday morning there was another snow of about four inches in depth. Saturday, Sunday, Monday and Wednesday were as cold as the average days in mid-winter are, the ground being frozen so hard on Monday morning that it would bear a heavily loaded wagon. Farmers generally sow their oats the latter part of March, and corn is often planted as early as the 20th of April, but this year not one half of the oats is yet sowed and there is much plowing to be done yet.—*New Holland Clariot.*

But that is not the worst of it; for, now that the snow has passed away, it is found that much of the wheat in this county is winter-killed, owing to the continued frozen and icy condition of the fields—this is at least the case with many of them, according to reports from reliable authorities. As there has been a recent brisk demand for tobacco, and at renumerating prices, the remedy suggests itself to plant more tobacco and depend upon more favored districts for wheat. But then the protracted cold weather is unfavorable to the starting of the tobacco crop; therefore, if that fails, we will have to plant more corn, and rely on "pork and Johnny-cakes."

Coming back to the weather—what a wonderfully prolific subject the weather is, any how, in these dull times! On the 24th of April we had a sprinkling of snow in Lancaster city and county, and in New Jersey a perfect snow-storm prevailed to the demolishment of telegraph lines and sundry other serious damages. Nevertheless, there seems to be *some* good in these weather freaks, for they furnish labor to the poor in making the necessary repairs. "It is an ill wind that blows nobody good."

The Weather Two Years Ago.

This season is not, after all, an exceptionally severe one. A contributor to the Cleveland *Herald* sends a note to that paper concerning the spring of 1873:

"In looking over my notes of past springs I find the spring of 1873 fully as cold and wintry (less snow) as this. I send it to you as I find it in my book from April 21 to May 19, 1873:

The past winter has been long and cold; not much spring weather up to this. Cold weather set in the beginning of October, 1872, and kept on without much let-up to date. Peaches, Isabella grapes and other tender vines were killed.

April 24, 1873—Cold and wintry.

April 25, 1873—Snow and frost this morning; cold and wild snow storm all day.

April 27, 1873—Snow; last night frost.

April 28, 1873—Cold and frosty.

April 29, 1873—Fine day; cold at night.

April 30, 1873—Frost this morning; sun bright.

May 12, 1873—Somewhat warmer.

May 13, 1873—Thunder storm last night; cold to-day.

May 14, 1873—Snowing.

May 17, 1873—Cold and frosty all this week; a white frost this morning.

May 18, 1873—White frost this morning; cold north wind.

May 19, 1873—Spring weather commeneed.

THE WAIFS OF SOCIETY.

Here is a brief record of the zeal of a statistician most suggestive of the evils which result from the usual indifference to the waifs of society:

"Some of the most curious and remarkable criminal statistics ever obtained have been given to the public by Dr. Harris, of New York. His attention was called some time since to a county on the upper Hudson which showed a remarkable proportion of crime and poverty to the whole population—480 of its 40,000 inhabitants being in the almshouse—and upon looking into the records a little he found certain names continually appearing. Becoming interested in the subject, he concluded to search the genealogies of these families, and, after a thorough investigation, he discovered that from a young girl named "Margaret"—who was left adrift, nobody remembers how, in a village of the county, seventy years ago, and in the absence of an almshouse, was left to grow up as best she could—have descended two hundred criminals. As an illustration of this remarkable record, in one single generation of her unhappy line there were twenty children; of these, three died in infancy, and seventeen survived to maturity. Of the seventeen, nine served in the State prisons for high crimes an aggregate term of fifty years, while the others were frequent inmates of jails and penitentiaries and almshouses. The whole number of this girl's descendants, through six generations, is nine hundred, and besides the two hundred who are on record as criminals, a large number have been idiots, imbeciles, drunkards, lunatics, prostitutes and paupers. A stronger argument for careful treatment of panper children than these figures could hardly be found."—*Springfield Republican.*

Here a "pin should be stuck in," and this paragraph should be read every day, if it even is not correct in all its details, and the conclusions elicited therefrom; for the simple reason that there cannot be an *effect* without a *cause*. The aversion to mental culture, the dislike for literature, the apathy in intellectual exercises, and the ignorance and illiteracy resulting therefrom, are just as certain to follow their aversions, dislikes and apathies as any of the above enumerated effects should follow *their* primitive causes.

It is a fearful thing to think of, when we reflect that when man became a "living soul," he also became a subject of immortality. There are many contaminations and acquired evils in the world, but there are none that are more deeply ingrained in the human constitution, either physically or spiritually, than those that are transmitted through inheritance. If *evil* can be transmitted, as the above paragraph implies, so can *good*. To say that it *cannot* would be an imputation to Deity that we would not apply to man.

To Obtain Fruit from Barren Trees.

A correspondent of the *American Agriculturist* says: "I wish to describe to you a method of making fruit trees bear, that I blundered on to.

Some fifteen years ago I had a small tree that leaned considerably. I drove a stake by it, tied a string to a limb and fastened it to a stake. The next year that limb blossomed full and not another blossom appeared on the tree, and, as Tim Bunker said, 'it sot me a thinking,' and I came to the conclusion that the string was so tight that it prevented the sap returning to the roots; consequently it formed fruit buds. Having a couple of pear trees that were large enough to bear but that had never blossomed, I took a coarse twine and wound it several times around the tree above the lower limbs, and tied it as tight as I could. The next spring all the top above the cords blossomed as white as a sheet, and there was not one blossom below where the cord was tied. A neighbor seeing my trees loaded with pears, used this method with the same result. I have since tried the experiment on several trees, almost with the same result. I think it is a much better way than cutting off the roots. In early summer, say June or July, wind a strong twine several times around the tree, or a single limb, and tie it, the tighter the better, and you will be pleased with the result; the next winter or spring the cord may be taken off."

We are cognizant of a single, accidental, analagous case, but as that case was never resolved into the fundamental principle of a *theory* on the subject, we fail to understand the theory of the above, in some of its details. For instance, would not June or July be too late to have any effect upon the tree the same season the cord was applied?

Would not "next spring" be too soon to remove the cords, if trees are expected to "blossom and bear" the summer immediately succeeding? Or, do the beneficial effects only become apparent a year after the cord has been applied and removed? And does one application suffice for the entire subsequent life of the tree? Although there *is* something plausible about it, yet it seems very much like —"half a pound of flour, ¼ peck of plums, one egg, a little butter, a little salt, serve up hot."

SING MORE.

Cultivate singing in your family. Begin when the child is not yet three years old. The songs and hymns your childhood sang, bring them all back to your memory, and teach them to your little ones; mix them all together, to meet the similar moods, as in after life they come over us so mysteriously sometimes. Many a time and oft, in the very whirl of business, in the sunshine and gayety of Fifth avenue, and amid the splendor of the drive in Central Park, some little thing wakes up the memories of early youth—the old mill; the cool spring; the shady tree by the little school house—and next instant we almost see again the ruddy cheeks, the smiling faces, and the merry eyes of schoolmates, some gray-headed now, most "lie mouldering in the grave." And, anon, "the song my mother sang" springs unbidden to the lips and soothe and sweetens all these memories.

At other times, amid the crushing mishaps of business, a merry ditty of the olden time pops up its little head, breaks in upon the ugly train of thought, throws the mind into another channel; light breaks in from behind the cloud in the sky, and a new courage is given to us. The honest man goes singing to his work; and when the day's labor is done, his tools laid aside, and he is on his way home, where wife and child, and the tidy table and cheery fireside await him, he cannot help but whistle or sing.

The burglar never sings. Moody silence, not the merry song, weighs down the dishonest tradesman, the perfidious clerk, the unfaithful servant, the perjured partner.—*Exchange.*

We accord our unqualified endorsement of the above; and even *now*, although we have passed our three-score years, the songs of our youth are often resurrected, and we love to hum them over again, and often do so, in the lone hours of the night, when there are none to hear save ourself and the drowsy "gray spiders on the wall;" and while we are doing so, we feel less inclined towards "treason, stratagem and spoils" than at any other hours within the twenty-four. We fondly look upon the days when we were as musical as a hand organ (and perhaps as "cracked" as many of them, too,) and we plied our hands as nimbly, or as lazily, as the measures of the songs we sung. We often regret that time, circumstance, and advancing years have so effectually quieted our vocal muse. Although the sterner occupations of life seem to interpose a barrier to our youthful indulgence, still we often revert to the ballads of yore, and mentally exclaim—

"Sing me the songs I used to hear,
Long, long ago; long, long ago."

ADAPTATION TO CLIMATE.

It is exciting some remark in England that an insect like the Colorado potato beetle, a native of Southern Colorado and New Mexico, should be able to emigrate far to the North, and endure easily the rigors of a Canadian winter; and this fact is being taken into account when discussing the possibility of the insect getting a foothold in England. But this seems to be an attribute of the lower orders of both plants and animals. As we descend in the scale of organisms, there is an indifference to wide ranges of temperature exhibited. Man has the power of protecting himself against these extremes, and so can he adapt himself to most climates; but the next animals in rank to him are confined to comparatively limited latitudes. The same with the higher orders of plants, the most complicated being confined to the most limited districts, while the lower orders are often found in the same form all over the world—in tropical as well as very cold regions. The small fungus—*Peronospora infestans*—which in 1845 made its intensely destructive appearances in Europe, is a Peruvian or Brazilian fungus, parasitic on the wild species of *Solanum*, or potato-like plants found in the region. It was probably introduced by some of those great geniuses who had a notion which they called a "theory," that the best way to improve the potato is to begin with some poor scrubby stock from a place where the potato was supposed to be indigenous. Bringing in their "improvements," they brought the potato fungus at the same time, and it found itself just as much at home in Canada, England, Ireland, France and elsewhere, as in the burning atmosphere of its own home.—*Press.*

On the subject of adaptability to climatic contingencies, we think the Colorado potato-beetle can carry off the palm. In March, last, scores of them were dug up in this city, where the ground was still frozen two or three feet in depth, and yet these pests were capable of being crushed—as if they had not been frozen—and on placing them in a warm situation they revived, became lively, and seemed to be inquiring for a "potato-patch."

In addition to "John Bull" and the English Parliament—as mentioned in our April number—several of the continental governments of Europe are exercising themselves in regard to this insect.

Was ever insect so distinguished as to become such an object of profound solicitude among crowned heads, potentates, dukes, lords and most reverend seigniors, before the advent of *Doryphora.*

GLEANINGS—NO. 3.

About Wheat and Bread.

Under the Mosaic dispensation, strangers and the poor were allowed to *glean* in the fence corners and among the stubble after harvest. Although not a farmer, I hope the worthy farmers who read THE FARMER will allow the humble writer the right to *glean*, as many full and plump ears are scattered, and it is proper that some one should gather them,

"As the small ant, (for she instructs the man
And preaches labor) *gathers* all she can."

I also claim the privilege of presenting such matters as I may deem useful, in my own way, and to collect material from every source, like

"The royal bee, queen of the rosy bower,
Collects her precious sweets from every flower."

I also crave indulgence, should I attempt to be flowery, as a botanist. I love flowers, and being somewhat gifted with a taste for the beautiful in poetry and prose, I am, however, not unmindful of the matter of fact, useful and true; so that the utilitarian need not be offended by a poetic introductory transgression.

Now for the gleanings. First among wheat, as the staff of life, when made into bread. I of course quote on the authority of Baron Liebig, and other men of repute. 1. Grain, by its conversion into flower, loses in nutritive properties: that of rye by 10 per cent., that of wheat by 15 per cent.

The grain-fruit or seed is constructed similar to an egg; hence botanists call the young or immature seed of a plant the Ovule (Lat. *Ovulum*). The Ovary (Lat. *Ovum*, an egg) is the hollow case enclosing the ovules or young seeds. The yolk in the egg is rich in fat and poor in albumen, but is surrounded with a layer of albumen, or the white, as it is called. So in the grain the starchy nucleus is enveloped by a stratum of an albumeniferous substance, which, in being ground, passes into the bran; and this substance is the most important as a nourishment for the blood. Some 2 or 3 per cent. more of bread may be obtained by omitting fermentation. We know that when organic substances, under the influence of water, air and warmth, are abandoned to the reciprocal operation of their proximate principles—sugar, starch, gluten, etc.—they are entirely changed and decomposed, so that their ultimate principles—oxygen, hydrogen, carbon, and, in some cases, azote—combine in new properties, and thus give birth to various new compounds. By this is understood the process of fermentation. (See Ure's Dictionary for a fuller account.)

In times of scarcity, or in an economical point of view, 2 or 3 per cent. saved would seem worthy of some attention, since the same quantity of grain, in the form of bread from meal, will save for every thousand persons one hundred and twenty more from hunger and its concomitant results than bread from fine flour, freed as the latter is from bran.

"In regard to the greater value as nutriment of bran bread, it may be mentioned that in the Crimean war the Russian prisoners in the French camp, who were accustomed to the coarse bread, suffered by the use of wheat bread, and supplementary diet had to be granted."

"The means of preparing bread without fermentation are well known, and in constant use in England and the United States, as well as on their vessels. The simplest is the addition to one hundred pounds of meal of a pound of super-carbonate of soda, with an equivalent quantity of some acid, preferably tartaric or cream of tartar."

Mr. Liebig says: "I have for several months past been engaged on a thorough investigation of the changes which human food undergoes, as regards its value as nutriment by its treatment in cooking; among others also the preparation of bread, and one of the results arrived at is that bran bread, commonly known as '*pumpernickel*,' cannot be obtained of uniform character or constant nutritive value if made partly by fermentation."

"A number of facts eliminated by the recent Prusso-Austrian war lead to the conclusion that a method of baking which is independent of fermentation, and not apt to produce a bread which is subject to mould, would be of great value, not only for the army, but for the people at large; and the close research into these relations has confirmed me in the belief that bread of such qualities is not procurable except by the use of chemical means, and that these, if properly applied, furnish bread of higher value than that at present in use, and of a nature which leaves nothing to be desired." (Extract from a letter by Baron Liebig, copied into "Dingler's Journal," from the Augsburg "Zeitung"—1868.) In the supplement to Ure's Dictionary (vol. 3) I find on page 183: "Fermentation," says Liebig, "is not only the best and simplest, but likewise the most economical way of imparting porosity to bread; and besides, *chemists, generally speaking, should never recommend the use of chemicals for culinary preparations*, for chemicals are seldom met with in commerce in a state of purity. Thus, for example, the muriatic acid which it has been proposed to mix with carbonate of soda in bread is *always very impure, and often contains arsenic*," etc.

As a gleaner, I allow this to go with the above without comment: It was proposed, and extensively used in what was called unfermented bread, that instead of adding salt to the mixture of flour and water or dough, to use hydrochloric (muriatic) acid and carbonate of soda, in such exact proportions as to form common salt (chloride of sodium); in this case the evolved carbonic acid is received into the dough, causing it to rise to the same extent as by fermentation, and good and palatable bread may be made; but it is very difficult to obtain it free from small doughy lumps, in addition to risk of impurity in the acid used, containing traces of arsenic, when claimed to be purified.

Aerated bread-loaves are made by Dr. Dauglish's English patent of 1859. It is asserted that aerated bread was made in the United States prior to 1854. In this process an aqueous solution of carbonic acid, prepared under great pressure, is mixed with the flour in a proper apparatus, so as to produce a vesicular dough when the pressure is removed. The process is rapid, and prevents such deteriorations of the flour as are said to be attendant on fermentation in the usual way. Mr. David Pancost, about thirteen years ago, introduced this bread into Lancaster. I regretted it exceedingly when he discontinued it. Why is it not introduced? I am sure I relished it much better than our ordinary baker's bread.

Baking is no new discovery. In the Old Testament we find that bread-making was a duty performed by the family. Sarah, also Pharaoh's servant, the chief baker, are mentioned. So the farmer's wife is the baker, and no doubt makes the more nourishing bread, while we in the city depend upon the baker, and eat what he gives us. In my gleaning I find: The Israelites ate leavened bread, except on peculiar occasions. The Bedouin of the present day, as his ancestors did, cooks his unleavened bread in the embers, usually between layers of dung. We are not destitute of the same fuel on the western plains, but delicately term it *bois de vache*, or, more squarely, *buffalo-chips*. When the Arab bakes a pastry bread on a pan or griddle, he calls it *flita*, or flitters. Without intending to talk Arabic, we do the same sometimes. The Egyptian, like the London bakers, kneaded bread with their feet. The practice is probably more general than we know or care to believe. "Where ignorance is bliss, 'tis folly to be wise." If I have said too much, I beg pardon of bakers and consumers.

Ching-Noung, the successor of Fohi, is reputed to have first taught the art of making bread from wheat, and wine from rice—1998 B. C. This was the era of Terah, the father of Abraham, of the shepherd kings of Egypt, and of the fabulous wars of the Titans in Greece. A few years subsequently—1913 B. C.—Melchisedek brought out wine and bread to Abram and blessed him. (Gen. xiv. 18.) Fifteen years afterwards we find Abraham giving three strangers a morsel of bread to stay their stomachs, while his wife prepared hot cakes made *out of fine meal, kneaded*, and no doubt cooked in the ashes, as they had not then seen the Egyptian plan of baking in ovens. This was served up with butter—probably bonny-clabber, or curds, milk and veal.

The Hebrew bread was a flat cake, baked on the hearth or on a metallic plate. It was broken, not cut, and may have had indentations to form lines of easy fracture. Thus may have arisen Paul's remark—"We, being *many*, are *one bread*," (1 Cor. x. 17.)

In the time of Pliny we find that, though bread was made from a variety of grains, yet that wheat was held in the highest estimation—the wheat of Italy ranking first for weight and whiteness, while that of Sicily, one of the granaries of Rome, stood third, Bœotian wheat being preferred to it. He states that the weight of all commissary bread exceeded that of the flour from which it was made by one-third, and this is still held to be the proper percentage of grain in well-made bread from good flour. The German proportion, stated by Kohler in his *Rechenmeister*, is 156 pounds of dough and 153 pounds 11¼ ounces of bread from 100 pounds of flour. But I must stop, lest I satiate my gentle reader with *bread-gleanings*, and yet much of interest might be added by your humble caterer.—J. STAUFFER, *Lancaster, Pa.*

LETTERS, QUERIES, AND ANSWERS.

Mountain Tea.

The interesting article on this subject, page 58, in the April number of THE FARMER, gives a correct account. As an ex-druggist and botanist, I am perfectly familiar with the plant. It is also called "Sweet-scented Golden rod." Scientifically, the *Solidago odora*. Dr. Gray describes thirty-three species. The veins of the leaves are reticulate but obscure, edges entire or nearly so, thickish, stem slender, two to three feet high. The crushed leaves have a pleasant odor, which distinguishes it from the *S. pilosa* and the other species. As a family, the one-sided racemes or axillary clusters of golden yellow flowers are seen every where, of some one species or the other, in the summer and autumn, in our fence rows or woodlands, meadows, &c.

The leaves of the Solidago odora have a delightfully fragrant odor, partaking of that of anise and sassafras, but different from either. The transparent cells that dot the leaves contain a volatile oil, which when subjected to distillation possesses the taste and aroma of the plant in a high degree. The volatile oil is used in medicine as being aromatic, pleasant to the taste, gently stimulant, diaphoretic and carminative. These are the qualities given it by eminent chemists, and certainly recommend the plant as a wholesome beverage. Books say but little about it. Mr. Pursh informs us that this plant, when dried, is used in some parts of the United States, as an agreeable substitue for tea. He further states, that it has for some time been an article of exportation to China, where it brings a high price. This is news to many. Exporting tea to China! and why not? stick a pin there; if the exportation has discontinued—why? it certainly is an abundant, easily grown species, although not so common apart from the mountain district. When a boy, fifty years ago, we had an annual tea merchant to supply the family, and it was then called in the vernacular "Blow berger Ta," Blue Mountain Tea.—J. S.

Testing Eggs.

To the Editor of The Lancaster Farmer: On page 51, April number LANCASTER FARMER, I notice you give us Mr. Pyle's theory as to sex, &c., of eggs. Now I would ask you candidly, do your readers believe this theory? Do they believe that they can tell by examining a fresh, unbroken egg, whether it will hatch *at all* or not? I believe it impossible to distinguish even the sex of an egg before it hatches, but admitting that, are we foolish enough to believe that we can tell which egg will produce "lively cockerels of quick growth and light plumage?" Suppose it is a black Spanish, will his plumage be light? Are we foolish enough to believe that we can tell which eggs will produce pullets of "quick growth and good laying qualities?" also which will produce pullets of

slow growth, poor laying qualities, and *crowers?* I must admit that my stomach is not strong enough to digest it. I have only one objection to this theory, and that is, it is not true. It has been "tried and found wanting."—J. Y. Bicknell, *Westmoreland, N. Y.*

We, of course, cannot answer our correspondent's queries as to whether our readers believe Mr. Pyle's theory. We would hardly be justified in saying that we *believe* it ourself, inasmuch as we have not tested its truth by actual experiment. *That* is just what we asked our readers to do, and if Mr. Bicknell has tested it and found it wanting, there is so much gained, though it would no doubt have been gratifying to our readers if he had given them some of the details of his experiments. We printed the actual results of Mr. Pyle's experiments, (whom we know to be a reliable man,) the experiences of a correspondent of the London *Journal of Horticulture*, and the declaration of the editor of the *Poultry Exchange*, who said during the previous year he had brought to his notice no less than three experiments which seemed to be entirely successful in selecting eggs that would produce male or female as desired. We expressed no opinion of our own, contenting ourself with advising our readers to try the experiment for themselves, as it would cost them nothing, and giving them the details of Mr. Pyle's plan of doing it. If, as our correspondent and some others who have given us their opinons on the subject contend, there is "nothing in it," The Farmer will not hesitate to apprise its readers of the fact.

"Jots and Tittles" from Dauphin County.

When you go into the field to plow, have a few nails, twine or straps in your pocket; it will save much time.

Feed your cattle and horses, in the spring of the year, flour of sulphur; it acts on the skin and furthers the shedding of hair.

Haul out the manure as often as possible; three loads will rot down to one if left lay until fall; then you will get all the substance where it belongs—on the land.

Plow your land when it is in order—and not too wet—if you do you will have a rough field the whole season.

Make your own guano—hen manure, coal ashes and chip ground—it will pay on any crop as a top dressing.

Never drive a horse fast for the first mile or two on a full feed—it does more harm than you may imagine.

Feed your stock some salt at every meal, a little will do—half a teaspoonful—you eat salt at every meal, why should not the cattle have it?

When short feed is prepared for horses, first wet the chaff, cut hay or whatever it may be, stir it well so that all the particles become saturated, then put in "ship" and mix well. It will adhere more and feed better.

Lastly—subscribe for The Farmer, you will get your money back the first number.

We have tried the above without exception, and find them all correct as stated.—*B., April* 17, 1875.

We cheerfully publish the above practical suggestions of our correspondent, because they seem to have the "right ring," and moreover come from a most reliable and respectable source. It is almost needless for us to say that we "believe" in every one of them, *and especially in the last two.* Such "jots and tittles" make up the substance of the farmer's experimental life, and he must be a shiftless and improvident manager who cannot find time to "scratch them down," at least once every month, for the benefit of his brother agriculturists.

We hope our correspondent will continue his contributions periodically, not so much for the gratification of any selfish desire of our own, as for the advancement of the "common weal."

The Culture of Roses.

To the Editor of The Lancaster Farmer: In the article upon "Rose Culture," which you copy from the *American Farmer*, Mr. James Pentland, the writer, has committed a mistake or forgot a part of his practical lesson. "The proper soil is a stiff, strong loamy soil." Now, the *Thea roses* flourish best upon light, sandy loams; the *Bengal* and *Bourbon* classes also flourish well upon sandy loams, but the *Hybrid Perpetual* class flourishes best upon strong loams, well enriched with fertilizers, rotten manures. In growing the Thea, Bengal and Bourbon classes, skilled gardeners mix sharp sand with heavy loams and clayey soils to make them more friable; by that the plants grow more rapidly and bloom more profusely. In growing roses upon sandy soils, muck, marl, or cattle or hogs' dung are mixed with them. So fine roses can be perfectly grown upon a great variety of soils, and every lady can grow them.

Mr. Pentland's other statements are valuable, and he deserves praise for them. Rose culture will never be confined to strong, stiff loams. The *Thea* class flourishes upon very light soils, and the *Hybrid Perpetuals* flourish upon heavy loams; Bengals and Bourbons do better with sand mixed with heavy loams. We see roses flourishing wherever we travel. Every lady should grow roses.—Walter Elder, *Philadelphia, Pa., April* 26, 1875.

Fertilizers for Tobacco.

Can you or any of your practical readers inform me whether bone dust and unleached ashes are good fertilizers for tobacco?—B., *Warwick, Lancaster co.*

In regard to the second division of the above query, the *Rural New-Yorker*, excellent authority in such matters, says that "unleached ashes are more valuable than leached, but either is good. Ashes contain essential components of *all crops.* They should not be mixed with compost—that is, there is no gain in so mixing—but applied broadcast directly to the soil, whether it is grass land or land that is to be plowed. We never knew a farmer who could get more ashes than is profitable to apply to his land. One hundred bushels per acre is not too much to apply to old, cultivated lands. Any man who asserts that wood ashes applied to orchards is death to trees, either does not know what he is talking about, or has a selfish purpose in lying. Especially are ashes excellent for orchards. They should not be heaped right about the bodies of the trees, but spread over the roots which extend as far from the bodies of the trees as the branches do. Ashes are especially valuable as top dressing on old grass lands, or on lands cropped with grain. For root crops they are equally important; indeed, as we say above, *there is no crop grown and no land cultivated* that is not benefitted in a greater or less degree by the application of leached or unleached ashes—the latter being the more valuable."

The able report of the Doncaster Agricultural Association declares that one wagon load of small drill bone dust is equal to 40 or 50 loads of fold manure, and is particularly effective upon thin sandy land, acting for several successive crops. Pasture and grass lands are greatly benefited by it; white clover springs up wherever it falls; and the turnip crop is largely increased by its application. We see no reason why it would not be a good fertilizer for tobacco also.

Something About Grapes.

How can we make it pay if we raise more grapes than we need for our own use? It has been said that it is a profitable business. We can't see it in that light although we know that many persons have made it pay well by raising the stalks for sale (and doing considerable blowing to keep the thing a going). Now we would like to know how to make it pay when we have the grapes. A great many persons did not know what to do with their grapes last season. Why is this the case? we need more light on the subject, or else we may be obliged to cut down our vines and raise corn instead; this we think would pay better, although we mean to keep a good stock of vines for family use. But perhaps some person can give us better advice. If so, we shall try to profit by it.—John B. Erb, *Beaver Valey, Lancaster co.*

Scabby-Legged Chickens.

Some chickens get a hard crust of scabs on their legs, which makes the legs sometimes double as thick as they ought to be, from the knee-joint to the toes. What causes it I can't tell, but I concluded to soften them with coal oil as an experiment, so I soaked them with an old brush wherever there was any scruff, and in a few weeks the scabs were all pealed off and their legs smooth and clean.

Try coal oil; it will loosen more things besides the scabs on chickens' legs. If you want to unscrew tight burrs on bolts, apply a little coal oil, and it is good for loosening dirt on instruments, cleaning paint brushes, and many other purposes. But don't keep coal oil and butter very close to each other, if you don't want the butter tainted.—John B. Erb.

THE OLD HORSE'S LAMENT.

BY MRS. F. M. VAN DYKE.

What was I made for? the old horse said,
Munching his feed in a wind-rifted shed;
In all the wide world I have n't a friend;
My life is a curse from beginning to end.

It is nothing but drudgery every day,
Toil without mercy, or profit or pay,
And should I fall down with a merciless load,
I am made to get up with a merciless goad.

With whippings and cursings, cold quarters, poor feed,
With scarce half enough for a work horse's need,
With seldom a good feed of oats or fresh grass,
My master's a villain—he's worse than an ass.

Oh! why should we suffer such anguish and pain?
I fear, though, complaining will all be in vain;
Adversity gives men relief when in heaven,
But no such solace for poor horses is given.

When a colt I was frolicsome, happy and gay,
In green fields I gamboled with mother in play.
Together we feasted and played with delight,
As happy as kittens from morning till night.

Though fortune brings changes to horses and men,
The aged can never be youthful again.
But man has a future his hopes to supply,
The horse has no hope but to speedily die.

Did I say I was "friendless?" A pardon I crave,
Mr. Berge has a heart that is noble and brave;
I hope that his efforts will prove a success,
And all who may aid him kind Heaven will bless.

Coxsackie, N. Y., November, 1874.

OUR LOCAL ORGANIZATIONS.

Proceedings of the Lancaster County Agricultural and Horticultural Society.

The May meeting of this Society was held in the Orphans' Court Room, Lancaster, on Monday, May 3d, 1875, at one o'clock, p. m., Johnson Miller, President, in the chair. Present, Messrs. Henry M. Engle, Milton B. Esbleman, S. S. Rathvon, Levi S. Reist, J. Stauffer, J. M. W. Geist, John B. Erb, John Grossman, Tobias D. Martin, Peter S. Reist, Abm. Bollinger, Simon A. Hershey, Alexander Harris, Henry Erb, Jacob Buckwalter, D. G. Swartz, Wm. McComsey, Ephraim Hoover, Jacob B. Garber, Simon P. Eby, Israel L. Landis, John Miller. Mr. Harris, Secretary, being called away, Mr. Geist acted as Secretary, *pro tem.* Under the head of reports of Standing Committees, the following reports were made on the

Condition and Prospects of the Crops.

Johnson Miller, of Warwick, reported that he might as well make the same report he presented a month ago. With a good deal of snow, and the thermometer below the freezing point during the greater portion of the month of April, vegetation made very little headway. Winter wheat looks unfavorable. On his way to Lancaster, as well as over his own township, he noticed that fields looked spotted. In low places the grain is entirely killed by the ice, and on the whole is very much back. The indications are not sufficiently good to report an average crop at this time. Oats has all been sown, but the ground being cold and dry, will not come up for some time. Grass, particularly new fields, looks very "blue," and with the best weather the hay crop will be short. The farmers will now go to planting corn in a week or two, and that question will be discussed to-day and be in print in time for farmers to learn anything new which may be of use to them. As to the fruit, no more can be said than was reported at our last meeting. The prospect is not very encouraging. We may look for fruit and other things about a month late. Farmers are generally busy "fixing up;" whitewashing fences and beautifying homes are now in order and should be attended to until the weather settles down to what we used to call spring. As it is, the weather reminds us more of winter than anything else.

Mr. Esbleman said that he had a more favorable opinion of the wheat through the Paradise region a month ago than now. It was growing irregular and in spots. No corn had yet been planted. A few potatoes had been put in but they were evidently doing no good. He thought the prospects for a fruit crop are good.

Mr. Engle reported for the Marietta district. Wheat does not look so favorable as at last report. The fields are uneven and growing in bunches, and cannot possibly make a full crop. In coming towards Lancaster he noticed that it looks still worse. The general opinion of farmers over the county with whom he had conversed is, that there will not be over half a crop, unless the remainder of the season should be unusually favorable, when it may reach three-fourths of a crop. The prospects for a fruit crop are about the same as a month ago—favorable, and promise well. The young clover does not seem to have suffered, and he anticipated a good grass crop. He said it used to be remarked that the condition of the crops in Lancaster and Cumberland were generally about alike; but he understood from gentlemen from

Cumberland Valley that the wheat there looks much better than here.

Mr. Erb reported for Strasburg township and vicinity. The grain looks very uneven—some spots good and others very bad. Along the Pequea the grass looks well, although in some places the young clover is thinly set. Apple and peach buds look well. Pears not so promising, and raspberries and blackberries badly hurt. Some potatoes planted, and he saw one small field of corn put in. He noticed that a large area of ground was being prepared for tobacco. The cherry trees are very full of blossom buds; strawberry plants are very much back and unpromising.

Peter S. Reist, of Manheim, did not expect more than half a crop of wheat. The rabbits had badly injured his fruit trees by peeling, and he expressed a decidedly unfavorable opinion of any law which restricted sportsmen from killing such pests at their pleasure.

Simon A. Hershey, of West Hempfield, reported the crops in his section about the same as reported elsewhere—wheat bad and the fruit and grass crops promising well.

Mr. Bollinger, who had returned from spending three weeks in Cumberland county and Frederick, Md., reported the crops generally in good condition throughout that section. They anticipated a full crop of wheat, grass and fruit.

Why the Wheat was Winter-Killed.

Mr. Engle said it was an interesting question why there should be this difference; for although Cumberland is a little farther south it is often colder there than here—sleighing there when we had none. He would account for it by the fact that it lies at a higher altitude, the ascent being steady until you reach Mechanicsburg; hence they may not have had as much alternate thawing and less accumulation of water and freezing, which would account for their wheat not being winter-killed.

Mr. Eshleman concurred in the opinion that it was owing to less accumulated water and consequently less formation of ice. He used to think that ice-freezing would not kill wheat. And why should it have this effect one season and not another? He had noticed that where the field sloped south or east the wheat looked well but on north or west slopes it looked as bad as in the low flats. This difference must be owing to some special condition other than freezing, which he could not explain. Of all other vegetation he had observed that clover is the most injured by frequent freezings and thawings.

Levi S. Reist had observed that where the soil was smooth and level, and facing north, the wheat had been smothered; but where the ground was rough and uneven it was in better condition. He had seen a few fields of rich soil sloping south on which the wheat is good.

The President said he favored rough ground—that is, not too finely pulverized in preparing for seeding.

Mr. Engle's observation did not confirm the idea advanced by others of the difference between North and South slopes. It was only on the flats that he had noticed the wheat winter-killed. In regard to the question of rough or smooth ground, he said before the invention of the drills the clods served a purpose; they pulverized and covered the young rootlets of the grain; but the drill does this by mellowing and filling in the earth on the seed.

Levi S. Reist said that while as a general thing the drilled wheat looked better than that sown broadcast, his theory was that in rough or cloddy ground the clods allowed the air to penetrate under the ice, and thus prevented the plant from smothering.

Mr. Bollinger differed with the other speakers in regard to the respective merits of drilling and broadcast sowing. His neighbor, who sowed broadcast, had a promising looking field, while his own and that of some other neighbors who had used the drill, looked as if it might as well be ploughed under.

Peter S. Reist had seen wheat under water for days without being injured, while that on higher ground was winter-killed. In answer to a query whether he had seen a single good field this season, he answered yes, that he had seen a small field on Gravel Hill which was of uniform growth. He had observed in past years that wheat not ripe by the fourth of July was invariably struck by rust, and it was a question whether, owing to the lateness of the season, it will mature if the time evidently fixed by nature has elapsed. By way of illustrating this point, he asked whether if a portion of wheat frozen with the soil, was cut and placed in a cellar cold enough to keep it frozen until past the natural season for maturing, and then placed under the necessary conditions for growth, would it ripen at all? He thought not.

Mr. Engle was opposed to the idea going forth that this Society even looked in the direction of preferring the old fashioned broadcast sowing to drilling. The almost universal judgment of the agricultural community everywhere is opposed to such a notion, and this judgment is based on actual tests performed under all the usual varying conditions.

Mr. Bollinger said the argument of the last and other speakers proceeded on the assumption that we are improving in our methods of culture. Is this so in the main? Are we raising more grain per acre now than was raised years ago? Has not the drill been adopted more because it is a labor-saving invention rather than because it is a superior method of seeding? He instanced the case of an old neighbor of his who was prejudiced against the drill, and would not have it on his farm, and yet he raised as good crops as his neighbors who seeded by drilling.

Mr. Engle replied that the case cited was not a fair test. The drill could not have been adopted merely as a matter of economy and labor-saving, for drills cost money, and you can sow faster by broadcast than with the drill. The true test is to conduct experiments, side by side, on the same kind of soil, and under the same conditions. This has been done over and over again. It has been done so generally, and the general result has been so uniformly the same, that the fact should be no longer questioned. The few exceptions do not disprove the rule. When there is much upheaving by alternate thawings and freezings, the advantages of drilling over broadcast sowing become the more apparent. In answer to the question, why we don't raise as good crops as our forefathers, he would remind his friend that we no longer possess that rich virgin soil which they tilled. By constant cropping we have robbed it of certain elements necessary to the production of certain crops. Wheat crops are generally shipped off, while corn is more generally fed on the farm; and we raise as good average crops of corn in Lancaster county as in any other section of this country. Hence, in this way we are improving our soil for corn crops. When we better learn how to replace the plant food extracted by each crop, we will be equally successful in the cultivation of other cereals.

Mr. Buckwalter remarked that there could be no question of the fact that drilling is vastly advantageous over broadcast sowing when followed by a hard winter.

Peter S. Reist thought the thicker the stalks stand together the better they will be protected from the frost; and, therefore, a drill that would plant in hills, like corn, would answer the best purpose. As a general thing we drill too deep, covering the grain three or four inches when one inch is enough. On one occasion he drilled a part of a field with a very dull drill, which barely covered the grain, and on that portion he had the best crop.

Varieties and Cultivation of Corn.

The question, "What variety of corn is most profitable to grow, and what is the best method of cultivating it?" was then taken up for discussion.

Mr. Erb said he had proposed the first division of the question, because he had found such a difference in the corn he had purchased for seed, varieties differing so much in holding out in measure. He thought it an important as well as an interesting question to the farmer.

Mr. Engle said the answer to this question so far as it concerns variety, must depend very materially on what use is to be made of it. If it is to be grown for market, and a good market is convenient, the sugar corn would certainly be the most profitable. If quantity rather than quality is to be considered, the large white gourd will produce the most bushels to the acre. Other varieties will produce less but may weigh more to the bushel. The yellow gourd, being of smaller growth, can be planted closer, and in that way will yield as much to the acre. The rank growing varieties (reaching from 12 to 15 feet high) look very big but he doubted if they were the most profitable. This can be determined only by the actual cultivation of different varieties grown under the same conditions. He had raised 90 bushels to the acre of the yellow gourd, and had never had so good a yield of any other, though he had not tested them on the same ground at the same time. The larger growing varieties require a richer soil to develop their rank growth. In his experience he never found any variety of several he had grown to equal in value the small yellow gourd.

Mr. Grossman gave his experience during a series of years; had used different varieties; had tested them in wet and dry seasons with pretty much the same results so far as varieties were concerned. He planted in rows using the corn-planter. Sometimes he had the largest stalks, but his neighbor would have the best corn, and vice versa.

Mr. Bollinger thought any variety will make a good yield if it is well cultivated on good soil.

Mr. McComsey's experience had led him to believe there was a great difference in varieties. Some require a stronger soil to develop. The large gourd seed is of rank growth in the stalk, the ears long and thick, and requires a fertile soil for its development. If he had that kind of land he would plant the large gourd seed and be sure of a good crop. But for poorer soil he would select a variety better adapted to it, such as the old yellow flint, as that will mature better on poor soil than the larger varieties. What there is of it will be good in the grain, which is not the case with the gourd seed. Hence, he would be governed in the selection of seed by the quality of the soil. Another reason for selecting large gourd for rich soil is that it is capable of fully developing it, while the smaller variety will not grow any larger on this than on a soil of moderate fertility.

Peter S. Reist gave statistics from the agricultural reports going to show that the artificial fertilizers imported to grow good crops cost half what the corn is worth, and it was questionable whether this would pay. Instead of using artificial fertilizers, he would grow clover and feed it to stock, using stable manure and lime instead of artificial. He contended that we plow too deep. Four or six inches is deep enough. There is no use in turning up the sub-soil. Plant an orange tree in a box and it will grow until the roots strike the side of the box, and then it only begins to bear fruit. So with corn. It will not mature until the roots strike the subsoil which has not been mellowed with the plow. There is nothing gained by ploughing deeper than barely necessary for the normal development of the roots. In his judgment the variety which produces the largest ears is the best for bushels of ears and weight of grain. But, after all, it don't depend so much on the variety as on the soil, season and cultivation.

Mr. Hoover expressed his preference for the gourd seed variety—but would confine his remarks to the mode of cultivation. There is a great deal to do after the seed is planted, although there is a difference of opinion as to the best plan of planting. He had tried drilling and planting by single hill in rows, but had succeeded best by the old plan of marking out and checkering and planting by hand with the hoe. He could then cultivate both ways. Corn cannot be cultivated too much. He had no doubt that if the weeds could be kept down a system of planting by single grains would produce the most corn; but this would cost too much for labor. Therefore he prefers checkering and planting three grains to the hill, and keeping clear of weeds. When it can be no longer cultivated, remove the suckers and thin to three, and if the hills are close and the variety large, two stalks.

Mr. McComsey was not so sure about the utility of high cultivation. Some years ago he planted eight acres in corn, in good mellow soil, scoring both ways, and cultivated thoroughly so long as he could get through it with a horse and shovel-plow. The crop looked very promising; but soon after he had done cultivating it there came a heavy rain with wind so completely prostrating the crop that it never recovered. He drew the conclusion that if he had not cultivated so highly, making the soil so loose and mellow, he would not have lost the crop.

Mr. Eshleman could not endorse this proposition. It was merely accidental. Before the upper supports grow out and reach into the ground, the stalk stands very loosely, whether the ground be mellow or otherwise; but after they take hold it stands firmly. He was in favor of cultivating corn as much as possible. He had never been able to raise a good crop, as compared with others, and believed it was owing to adhering to the yellow flint variety. Those who raise the big crops plant the gourd seed. Mr. Cook had raised one hundred bushels to the acre by the use of phosphates. He had intended to house the crop carefully, and when dry test by actual weight the proportion of cob to grain. He had not heard the result, but it would be a fact useful to know. He didn't believe Mr. Reist's theory, that corn will not ear until the roots touch the subsoil, but he meant to test it this year.

The President, (Johnson Miller,) exhibited ears of six different varieties which he had grown. For seed he selects the thickest ears he can get—thick cob and long ear. The Mammoth Dent he considers the best. Furrows out and crosses with chain-scoring, so as to cultivate both ways, and keep perfectly clear of weeds. Plants three grains to the hill, and then thins out to two stalks. Shovel plows six or eight times, both ways, north and south, east and west—always trying to get the rows as nearly with these points of the compass as possible. He was opposed to hilling up. He has always been regarded as a successful corn grower, as was his father, who farmed the same land.

Mr. Bollinger said that in all this talk he had not yet heard how much to the acre was considered a good crop. He had raised an average of 82½ bushels on 15 acres. Did not believe that checkering had any advantage over planting in rows; nor did he believe in Mr. Reist's theory of earing depending upon roots striking the subsoil. On one occasion he planted corn where an old tree had been dug out, leaving the soil mellow to an unusual depth. He was sure the roots didn't reach the subsoil, and he wished Mr. Reist could have seen that corn growing fifteen feet high!

Mr. Reist replied that his friend's extreme illustration reminded him of the man's test of the feather bed. He had heard so much about the softness of feathers that he determined to try them. So he spread the feather bed on a rock, and got up with a very poor opinion of the softness of feathers! It should be borne in mind that the soil around an old tree is generally fertile, owing to an unusual amount of droppings from cattle, who seek its shade. Besides, he did not advocate extremes. What he meant to say was, that the soil should be plowed and pulverized only so deep as its fertility goes. He favored high cultivation, both before and after planting, and believed it better than manure.

Mr. Hoover said it was well known that you can't give young trees too much loose soil for the roots to branch out in. The rule is to make the pit as large as possible. Hence, trees planted in a newly

made yard or terrace flourish better than those planted in an old yard. Will this rule not hold good with corn?

Mr. Hershey believed in checkering, three feet apart each way, planting three grains and thinning out the stalks to two in a hill. In this way 105 bushels to the acre had been produced. Was in favor of high cultivation before and after planting. He had noticed that his neighbor, who shovel-plowed his corn twice, had better crops. He then adopted the same plan, and raised as good crops as his neighbor.

Mr. Stauffer gave the physiological view of the question. The seed must not be planted so deep that light, air and warmth will not reach it, nor so shallow that it will not attain the other essential conditions of germination—darkness, moisture and nutriment. The roots instinctively seek darkness, moisture and nutriment—the plant light, heat and air. The plant feeds on the plant-food which the small fibres instinctively reach out for. There should be sufficient looseness for the air to penetrate, and not enough to weaken the support of the roots.

Mr. Engle wanted to make sure that this society did not endorse the doctrine that ploughing five inches deep was sufficient, but he was gratified that the gentleman who advanced this theory had subsequently materially modified his statement. He admitted that soil which will not give deeper fertility will not bear deep plowing profitably, until it is made deeper by manuring, which should be the first aim of a good farmer. He is satisfied that soil for corn cannot be enriched too deeply. In the West, where the soil is from six to eight feet deep, they have grown good crops for a succession of forty years. In our bottom soils where the roots can penetrate deeply corn matures well. He cannot, therefore, agree with Mr. Reist, that the roots must strike the hard-pan before the ear will mature. He was glad that the majority of those present are in favor of good tillage. As a general thing we draw our conclusions too loosely from isolated results. We should try both methods side by side, under the same conditions, giving the larger growing corn the more space, for to give the smaller varieties an equal chance it is apparent they should be planted more closely. Good weather at earing season generally produces a good crop, even on stalks of moderate growth, and *vice versa*. He had a promising crop spoiled by a drouth at earing time, while, during the same season, a crop planted later which hit favorable weather when coming into ears, gave an excellent yield, notwithstanding the first had been well matured and the other had not. All these questions must be settled by actual test, and he doubted whether any present were prepared to settle the disputed points on this basis. It had been demonstrated by a trial test that drilling in rows fifteen inches apart produced the most bushels to the acre, when properly cultivated; but this is difficult and expensive, as it must be done by hand. He furrowed one way with the plow and cross-scored with chains attached to a pole, and found it equally good and more expeditious.

Mr. Landis concurred in Mr. Engle's views. When in Montgomery, Alabama, his attention was attracted to a load of corn which weighed 61 and 62 pounds to the bushel. It had been planted on scored ground and only one stalk to the hill. The yield was good and the quality the best he had ever seen. This showed how crops are affected by varying conditions.

Hungarian Grass.

Mr. Reist inquired for information concerning the proper time for sowing Hungarian grass. Mr. Engle replied that it may be sown at any time within sixty days before frost, as it requires that time to mature. It can be sown now and cropped in sixty days and then seeded from second crop if desired. He thinks it an important crop, in the cultivation of which our neighbors of Chester county are far ahead of us.

Influence of Country Life.

The Chair announced that Simon P. Eby, Esq., had been appointed essayist for the next meeting. His subject would be, "The Influence of Country Life."

Questions for Next Meeting.

The following questions were placed on the minutes for discussion at next meeting:

1. When is the best time to cut clover and timothy grass to make the best hay?
2. When is the best time to cut wheat?

The society adjourned to meet on Monday, the 7th of June, at one o'clock p. m.

The Pork Question.

The deficiency of the hog-crop in the west for 1874 is very perceptible, without considering the increase of population. This will no doubt be remedied for the present year, as we notice at a number of important points that farmers are opening their eyes to the fact that the most profitable disposal of their corn crop is to feed it. The transportation by rail being now fixed at a reasonable figure, hog-feeding will doubtless become more and more a specialty in western farming.—*Germantown Telegraph.*

"Large bounties to bestow we wish in vain,
But all may shun the guilt of giving pain."

BEES AND BEE CULTURE.

Artificial Swarming of Bees.

Dr. S. J. Parker, of Tompkins county, New York, communicates some interesting and valuable information on this subject to the Germantown *Telegraph*. Premising that the natural method of multiplying colonies of bees is by swarming, he says: Although artificial swarming is done in several ways, yet no art of man can equal for general usefulness that impressed on the natural instincts of bees by their all-wise Creator. Thus, dividing the combs of movable comb-hives often enables one to number by scores and by hundreds his hives vastly beyond the natural increase; but as the queens supplied are artificial, in the sense of compelling the bees to produce queens out of season, these swarms so produced are weak in numbers, and are very apt to die in the following winter, of which I could name instances of such severe loss as forty hives out of fifty; and in one case a hundred and twenty-eight out of a hundred and thirty-five. To a limited extent, with the natural surplus of queen-cells which each swarm of hives provides itself, a reasonable artificial swarming, by duplication of movable combs, may be had often quite satisfactorily. But the objection to this is that it needs a large apiary, and a skilled expert in bee-culture. One of these plans for this is: With ten large strong hives with movable combs, find one about to swarm; take out a comb from it with a queen-cell nearly ready to open. Put it in a hive, leaving the mother-queen in the old hive. Now add to this comb with queen-cell one comb from each of the other nine hives, each comb with plenty of brood, and no queen or queen-cell. Of course the old bees will go back to their respective hives, but the young workers will stay in the new hive, and so will the brood as it hatches new queen and young bees. This seems to be a very plausible method, as it gives healthy, natural queens. But the reader will see that when the hives have been robbed each of the ten combs, the chances are that at least a third of them have not built the new frames full of nice brood-cells during the time they were being robbed of their combs, and hence the result is at least a third weak old hives, and by mishap at least a half of the new hives are weak. So one has, as I often see in apiaries where it is practiced, out of, say ninety-nine hives, but a dozen really strong, prosperous hives, and eighty-six weak hives. But some one will say ten hives are not enough to use such a system on. True. But the results in ten hives are but little changed in the use of fifty or two hundred hives. That is the robbing of ten, twenty, one hundred, or of five hundred hives, each of a comb, and repeating it until the number of hives are doubled, leads substantially to the same results.

Hence, as seen in this example, the advocacy of artificial swarming finds friends mainly in those engaged in the culture of queens for sale, and in some special money-making plan. And for ordinary farmers, and a few hives for any family, it is not to be thought of. But the keeper of his ten to fifty hives awaits the time, usually in northern latitudes in June and July, for his ears to be greeted with the hum of the swarm, sees them light and hives them, easily and quietly. Thus he doubles them in numbers, and does it as nature dictates, and not by the uncertainties of any human plan, even though others may succeed by artificial swarming whose whole time is given to bees.

How to Italianize Your Bees.

To Italianize your bees safely and in the most profitable way, you must send for a good Italian queen to introduce in the strongest colony of your apairy. As soon as the new queen has arrived, take another empty hive of the same size, without bees, and insert a division board so that you will have on your left hand a little room in the hive for four frames. Now take from the colony, which shall have the new queen, two combs with plenty of sealed brood. On one of these combs cage the new queen and bring her with the second brood-comb and all adhering bees, but without the old queen, in that little room, and give still two other combs containing only honey. The other brood-combs of the colony transfer with the old queen and bees in that room on your right hand, close the hive and then set it on the old stand. After two or three days confinement of the new queen take out the two combs from the little room at your left hand, cut out every queen cell and set at liberty the new queen. The bees of this little colony will do her no harm. From this time you will have two queens in one hive, and each queen will fill the cells with eggs in proportion to the number of her worker bees in her room. After some days, at your leisure, you may hunt out the old queen in the strong colony. This done you open some passage of the division board cut in it, and closed before you have inserted it. Having opened the passages, the strong colony will not build queen cells, and so become acquainted with each other. After one day or two you remove the division board, fill up its place with a comb from the room at your left hand, and you have safely and in the most profitable way a new queen to a strong colony.

In the same way I have described, you will divide a strong colony early in the spring, we will say at the close of April or at the beginning of May, as the weather is favorable and the colonies are sufficiently strong. Give the little colony brood-combs with sealed brood, and eggs and larva, and let it rear a queen. (To give it a queen cell would be of great advantage.) Do this early that you may have a fertile queen in that little colony in the beginning of the swarming season.

To make an artificial swarm, proceed as follows: Hunt out the queen of the little colony after she has laid her first eggs, cage her and bring her with some brood-combs in a new hive of the same size, remove the old stock from its place and bring the new one with the young queen on the old stand. After two or three days, in the evening release the young queen and you will have a strong swarm. The old stock you may remove to any place you like. As the old colony has a fertile queen it will increase. Do not forget to give it some water in a sponge at the entrance during the first two or three day after you have the artificial swarm.—*Cor. National Agriculturist.*

A Home-Made Bee Hive.

A correspondent of the *Cincinnati Gazette* gives such plain directions for making a bee hive, that every boy on a farm with a bit of taste for mechanics, can readily make one for his own bees. He says: In the first place, you want rabbets half an inch deep, at each end of the hive, to receive the ends of the frame; next, you want your frames made true, so that they will hang plumb in the hive. Next, prepare your bottom-board and lay it level. Put your hive on the board so that the frames will run from front to rear; then elevate your hive about three inches, and your hive is ready for the bees. Make your frames just three-fourths of an inch shorter than the inside of your hive, and have them so that they will not touch at either end, nor swing against each other. I have a centre opening that is very convenient, and different from any that I have seen. I wish it understood that, when I raise the rear of the hive, I raise the bottom board with it. If your hive leans to one side, the bees will build across the frame. I have my bees in a yard, and each hive is covered with a cover, made by nailing two boards together, and resting it on the top of the hive. I make the top board of my hive in three pieces, by nailing two cleats on them and making two holes to run across the frames, each hole six inches long. This is to make room for the bees to pass into the surrounding honey boxes. When the boxes are on, the cover alluded to rests on the box.

Bee Veils.

A correspondent says every one—no matter who, whether he leads what is called a charmed life or not—requires the person protected while at work among his bees. To those who are commencing, and until familiarity causes the loss of fear, a pair of good gauntlet gloves and a veil are necessary, but after the fear and trembling occasioned by the thought of opening a hive full of bees has ceased to have its horrors, all protection except the veil will be dispensed with. A good bee veil is made by taking a yard of black netting—costing usually about twenty cents—and sewing the ends together, thus making a bag, open at top and bottom. Then with a half yard of good strong rubber cord, run through the meshes at the ends, you have a veil which will slip on over the crown of an old hat, and by drawing up and tying at the neck, you have all the protection required, for, if properly made and adjusted, no bee can touch your face or neck, consequently, there be no fear of stings, and besides if it is light, one can see through it nearly as well as if not worn.

The Enemies of Bees.

Never put a new swarm of bees in an old hive, as there will almost certain be the eggs of the honey moth deposited in the crevices of the hive, which will hatch out and probably destroy the swarm. When the moth once gains an entrance to the hive the bees appear powerless to expel them. When the maggots begin to eat their way into the combs, the sooner the bees are fumigated the better. Do not have a large round entrance to the hive, convenient to mice, slugs and other enemies; have an entrance of only a quarter of an inch in height, and from an inch in winter to four inches in length in summer. Should wasps or other bees attack a hive, the only plan is to narrow the entrance, so that only one or two bees can pass at a time. To destroy wasps, saturate a piece of woolen rag with spirits of turpentine, put it into the entrance to the nests, and leave it there one night. The next morning every wasp will be dead.

Joining Swarms.

Should you wish to join two swarms, lay down two short sticks nine inches apart; take one of the hives and knock it on the ground two or three times until the bees are all shaken out of the hive; then sprinkle them quickly with thin syrup, place the hive with the other swarms on the stick over those shaken on the ground for the night, and they will be found peaceably united with one dead queen in the morning.

THE FLOWER GARDEN.

The Love and Culture of Flowers.

Nothing is so pleasant and encouraging as success, and no success quite so satisfying as success in the culture of flowers. It is a pleasure with no compensating pain—one which purifies while it pleases. We gaze upon the beautiful plants and brilliant flowers with a delicious commingling of admiration and love. They are the offspring of our forethought, taste and care—a new, mysterious and glorious creation. They grew—truly, but very like the stars and the rainbow. A few short weeks ago the brown earthly beds were bare and lifeless; now they are peopled with the fairest and frailest of earth's children. We have created all this grace; moulded the earth, the sunshine and the rain into forms of matchless beauty, and crystallized the dewdrops into gems

of loveliness. There is no greater pleasure than this in all the earth, save that sweetest and noblest of pleasure, the fruit of good deeds.

There may be hard-hearted, selfish people who love flowers, we suppose; for there were bad angels in heaven, and very unreliable people in the first and best of all gardens; but it has never been our misfortune to meet with one such, and if by accident we should discover a monstrosity of this kind, we would be more frightened than we were a long time ago at what we thought a ghost sitting on a cemetery gate.

To LOVE flowers, however, because of their sweetness and beauty and companionship, and as the wonderful work of a Father's loving hand, is what we mean when we speak of the love of flowers. Many cultivate flowers from a desire to excel their neighbors, or as an evidence of their refinement and culture, who know nothing of the absorbing love that causes a man almost involuntarily to raise the hat and bow the head in the presence of so much heavenlent loveliness. This love of flowers is confined to no age or station; we see it in the prince and peasant; it is shown by the aged father tottering near the grave, who seems almost to adore the fragrant flower in his button-hole, and by the little ones, who, with childish glee, search the meadows for the Dandelions of early spring. The love of flowers, we fancy, is the most pure and absorbing with the young. The innocent and pure can love the pure flowers, we think, with an earnestness and devotion unknown to some

of us that are older. A beautiful sight greeted us not long since, which we will endeavor to portray with pencil and graver, but perhaps without much success, as the spirit of such scenes is not easily copied. A plant stood on the sill of the window, which attracted more than ordinary admiration from a little girl whose parents were probably the owners of both house and plant. Pleasure was expressed in every feature; and when we saw the gentle kiss imprinted on each flower and opening bud, we came nearer breaking that command which forbids coveting than we ever did before—and we didn't want the plant either. This little girl had been brought up in an atmosphere of love and flowers and plants, and you think her tastes would have been different with less favorable surroundings.

Several years ago we happened to be in one of our nurseries, when two little German girls, coarsely dressed, and apparently sisters, entered the grounds, and when first attracting our special attention, had made their way to the green-house, and were endeavoring to purchase a pot-plant. When one was selected and the price ascertained, each one brought a few pennies from the depths of her dress pocket, and an anxious counting commenced. Their united purses did not seem enough, and another search was made in the corners of the pockets, followed by a more careful counting; and when the sad truth became apparent that their means were insufficient for the purchase, we watched the sorrowful countenances, the silent tear—a beautiful study for an artist. When the good gardener, with a smile of pleasure—the glow of a kindly act—delivered the plant to his anxious customers, taking their little all in payment, their joy shed sunshine all around.

This is the genuine love of flowers that we wish to see spread all over our land. We want to see flowers in the mansion, the cottage and the garret; in the school rooms, the hospitals and the churches. Above all, we wish the young to cultivate flowers. This is why we write in a simple way of flowers, and of simple flowers, and leave fine writing about rare and costly things to others. These living preachers, through voiceless lips, are exerting an influence for good that few realize, and nowhere greater than in our new-born land, America. It is a pleasure to feel that we have been enabled, in some measure at least, to speed this good work,

which brings refinement and happiness to so many, and sin and sorrow to none. Perhaps we could not better conclude what we at first designed only for a few introductory remarks, than by copying some lines of Horace Smith's beautiful "Hymn to the Flowers:"

"'Neath cloistered boughs each floral bell that swingeth,
And tolls its perfume on the passing air,
Makes Sabbath in the fields, and ever singeth
A call to prayer.

"Your voiceless lips, O Flowers, are living preachers—
Each cup a pulpit and each leaf a book—
Supplying to my fancy numerous teachers
From lowliest nook!

"Floral Apostles! that in dewy splendor
Weep without sin, and blush without a crime;
O, may I deeply learn, and ne'er surrender
Your love sublime!

"In the sweet-scented pictures, Heavenly Artist,
With which thou paintest Nature's wide-spread hall,
What a delightful lesson thou impartest
Of love to all!"

—*Vick's Floral Guide.*

OUR GARDEN ROSES.

In our old Germantown gardens is a rose which does not seem to be known elsewhere, so far as we can judge by catalogues and other forms of literature, but which is well worthy of culture. Every old garden has it; indeed, it is only in old gardens that it is found. It is called the "May rose," as it is the first rose to bloom in the spring. The flowers are not large, but very double, of a deep pink color, and of a delightful spicy fragrance. Indeed, it is probably a double form of the wild cinnamon rose of Europe, and may have been introduced by our German ancestors, to whom we are certainly indebted for many good things, both among fruits and flowers. It is easily known by its dark red stems, few thorns, upright, raspberry-like canes, and a peculiar pea-green tint about the leaves. It has some resemblance to the tall swamp rose which is abundantly wild in wet places in this State, but a little examination soon teaches one the difference. A place should always be found for the May rose in gardens, no matter how great may be the claims of any novelty to a place therein.

Another old rose of Germantown gardens, which it always does us good to see, is the Russian rose. It has a terribly ferocious look, as not a particle of the stem can be seen for the profusion of long prickly spires that everywhere cover it. And then the flowers are quite single, and that is not a great recommendation to many to whom a flower is hardly a flower unless it be a double one. But it is the most deliciously fragrant of any rose grown. The flowers are over two inches in diameter, of a scarlet crimson, but in the centre a large mass of golden-yellow from its long and profuse anthers. It grows only about two feet high, and is a ragged-looking bush, but well deserves a place in the shrubbery border. The leaves have a very pretty wrinkled appearance, and give the plant some interest when not in flower. It is not quite so common in the old places as the May rose.

Then we have the old rose of all roses, the old Hundred-leaved rose, which is now no more in any rose catalogue, and which, though it cannot boast of blooming "all the time," is, while it is in bloom, equaled by none in beauty. In the days when it was famous we had plenty of "rose leavrs" giving a pleasant fragrance to our homes all the year, a luxury which has well nigh departed with the new fangled "improvements" of the present day. It was the expression of all that was delightful to "lie on a bed of roses," in the good old time. The Hundred-leaved rose would give us something worth lying on. But now such a rose bed would be hard unopened buds, with little more fragrance or blandishments of of any kind than though they were made by Ah Sin from carrots, beets or white turnips, and the last thing in the world on which any one could wish to lie.

Well, we are glad there are still some sensible people about who can once in a while delight us with a glance at these good old things. — *Germantown Telegraph.*

If we are not mistaken, the "hundred-leaved rose" referred to, like the beautiful "cabbage rose," still flourishing in some old gardens around Lancaster, is not found in the catalogues, because it cannot be grown from cuttings. New plants can be obtained only by separating young shoots with roots attached.

THE LITERARY OR CLASSIC SIDE OF GARDEN CULTURE.

To those of our readers who have any leaning towards the literary and classic sides of garden culture, we feel that the following from the *New York Semi-Weekly Tribune*, will be read with interest and edification. In the discussion of any subject, no matter how gross or material it is, there are standpoints from which it may be viewed, that are above the plane of "Buckwheat cakes and sausages;" and such a standpoint, as well as the historical, poetical and mythological elements which are involved in the article, we believe will invest the subject with sufficient interest to make it acceptable to the intelligent reader:

A GARDEN OF HERBS.

The Greeks had a proverb, "Many worts and pot herbs in Syria," though Syria was only the heir of

Babylonia, whose priests knew well the hidden virtues of herbs, and gathered many of them with magical observations, the traces of which remain in Northern Europe until this day. Certain it is that on this subject we are not the people with whom wisdom was born, and equally certain that much of the wisdom of the ancients died with them, or has come to us only as the bare tradition of a forgotten lore. I need but name

"the sweet balsamic oil
Which wept from herbs in Juda's fertile soil;"

the balm that Jacob thought a noble present for the royal Pharaoh, the plants of which were so precious

that Pompey, Titus, and Vespasian all boasted of having brought one or more to Rome. Josephus says that in his day Gilead had become exhausted, and that the royal garden of Balm was near Jericho. This garden, on their downfall, the Jews attempted to destroy, but were prevented; and henceforward the precious herbs shed their fragrant gum for heathen deities and the odalisques of the Turkish seraglios. Now the very plant cannot be certainly identified—it has become simply "a name to conjure with"—a password for the nostrums of quacks and impostors.

Of a very different spirit was the herb Basil. The Romans sowed it with maledictions, and while they trod it down with their feet, forbade it to grow, averring that, so contradictious was its temper, it always did best what it was forbidden to do. In Mary's and Elizabeth's reign a pot of Basil was considered a compliment to any lady, but remembering its peculiar habits, it is just possible the compliment was a covert sarcasm. No plant has had so bad and so good a name. Old Gerarde greatly praises it, and says, "It is good for the heart and the head, and taketh away sorrowfulness which cometh of melancholie." Tusser has a little sneer for its dainty tastes; and again, Lord Bacon commendeth its "fat and succulent leaves," which are yet such favorites with the French that none of their soups or sauces want the aromatic fragrance of Sweet Basil.

"Why should a man die who has Sage in his garden?" was a popular saying of Campania; for greatly was this herb valued for its healing qualities, and its power to strengthen the memory and induce wise thoughts. It has still some reputation as an emollient, and I saw instances during the late war when the leaves dried and smoked in a pipe greatly allayed that irritability common to men deprived of their customary tobacco. I would not speak positively as to the "wise thoughts," but I know the words were more reasonable after it. The Chinese are immoderately fond of Sage tea; and the early Dutch traders there drove an excellent bargain on this basis: 4 pounds of best Young Hyson for 1 pound of dried Sage leaves. In England, until within the last century, it was frequently mixed with cheese. Thus Gay writes:

"Marbled with Sage the hard'ning cheese she pressed."

Within my own memory it was eaten with bread and butter, or chopped fine and baked between rich pastry. Toads have a strong passion for it, therefore it is customory to plant among the Sage bushes a little Rue, an herb, specially distasteful to them.

"'Here is Rue for thee,' the poor Ophelia cried,"

Rue, which Shakespeare calls,

"sour herb of grace,
Rue, even for Ruth;"

and makes it grow where a wronged queen has dropped a tear. I think he is a little unjust. Rue has a record which deserves more honorable mention. Every physician knows that it was the chief ingredient of the famous antidote of Mithridates, the true receipt for which was as follows: "Two dry Walnut kernels, two Figs, 20 leaves of Rue, one grain of salt, pounded into mass. Whoever eats of this confection, fasting in the morning, no power shall hurt him that day." All the ancients, however, believed that for medical or magical purposes Rue ought to be stolen from a neighbor's garden. Pliny says that the Romans put this herb into their wine to prevent headache, and that painters and carvers chewed the leaves to preserve their sight. That some faith in its beneficence towards vision existed, even in the seventeenth century, is evident from Milton making the angel Michael purge Adam's eyes "with euphrasy and rue" in order to enable him to see down the long centuries of time.

It is said that weasels, before hunting rats, seek for Rue, and that in warm climates they find in it an antidote for the bite of snakes. Whether for its power of antidoting evil, or for that of conferring clearer vision, it received the honor of being used for sprinkling holy water, I do not know. However, in the middle ages that was its religious office. Later on it was used as a powerful disinfectant, and was also made into a pickle, the leaves being at first boiled and then preserved in vinegar—the same plant that charmed the bravest King of Pontus, that aromatized the Cæsars' wine, and gave insight to Grecian sibyls—the same, "but oh! how different!"

Perdita, in "The Winter's Tale," beautifully mingles Rue with Rosemary, thus:

"For you, there's Rosemary and Rue; these keep
Seeming and savor all the winter long,
Grace and remembrance be with you both."

And the fair Ophelia also uses the fragrant, dainty Rosemary in the same manner:

"There's Rosemary for you; that's for remembrance;
Pray you, love, remember."

The accepted type of fidelity in love and friendship, it was (and is yet in some places), the favorite funeral flower, the very best gift of love to the departed, placed upon the lips just before the coffin-lid is closed. To this custom Kirke White pathetically alludes while contemplating his own early death:

"Come, funeral flower, who lovest to dwell
With the pale corpse in lonely tomb,
And throw across the desert gloom
A sweet, decaying smell.
Come, press my lips, and lie with me
Beneath the lonely alder tree;
And we will sleep a pleasant sleep,
And not a care shall dare intrude,
To break the marble solitude,
So peaceful and so deep."

Rosemary has been a favorite subject with many English poets, particularly Herrick and Shenstone. It is very partial to gardens over which sea breezes blow, and I have seen cliffs which were wet with the spray of high tides covered with this delightful plant, whose fragrance is often the first land perfume that greets the homeward-bound. I am astonished that Rosemary (Dew of the Sea) is not a greater favorite with married ladies; for it is a universal tradition, "If Rosemary flourishes in the garden, then the lady rules the house." And how do we know what occult power is hidden in a sprig of Rosemary? Surely it is a fair and fragrant scepter. Bees are exceedingly fond of Rosemary, and the far-famed honey of Narbonne derives its exquisite flavor from the abundance of this herb in the vicinity.

Rucellai says that Nature made Thyme on purpose for bees to make honey of. If so, they improve her gifts much better than we do God's best gifts to us. The famous honey of Thymettus was not only the extract of its fragrant Thyme banks, but the condensation of Grecian sunshine, of cloudless skies, and heavenly atmospheres. Bees are not the only lovers of Thyme.

"Where the wild Thyme perfumes the purple heath,
Long loitering there the fleecy tribes extend."

The Thyme banks of the Cheviot Hills are the secret of the Cheviot mutton; and the celebrated Southdown—a saddle of which is a dish to be named with respect—owes its delicate excellence to the same source. In Spain they use a decoction of Thyme to wash out vessels for wine, and the Anglo-Saxon all over the world appreciates its flavor in his soups, ragouts, and forcemeats. Thirty years ago it was used instead of boxwood for bordering flower-beds—an old fashion now, I know, and one I never think of apart from some drowsy, quaint cathedral town—but it would bear transplanting to our fresh modern gardens; for if the borders are kept trimly out, nothing can be sweeter to the smell or fairer to the sight.

Mint is also a great favorite with bees, and if rubbed with honey inside bee hives it very soon attaches them to a new home. From the story of Baucis and Philemon we are lead to infer that the Greek peasants scoured their tables with this herb; and the habit was probably just as common among the Roman farmers, for Pliny says: "You will not see a husbandman's board in the country but is all seasoned from one end to the other with mint;" and he also mentions the custom of putting it in vinegar to eat with meats. Spearmint prevents the coagulation of milk, and is therefore an excellent salad for those who use a milk diet. Another variety—Peppermint—makes a popular confection, and also gives a name to a favorite American beverage composed of mint, sugar, ice and brandy. Omitting the last ingredient, we would venture to say it was at least "better than might be."

Surely there are bitter cups enough in life without mingling them, yet even wormwood has had its day. It was the "bitters" of the Egyptians and the Romans; and if any one desires to try it instead of "Plantation," here is the receipt: "1 oz. of wormwood, 3 scruples of Arabian gum, 3 scruples of spikenard (lavender), 3 scruples of saffron, and 180 gallons of old wine." I rather think the proportion of wormwood to the wine is something after the kind of Falstaff's "halfpenny worth of bread to an intolerable deal of sack." The Greeks dedicated wormwood to Diana, probably because dogs are great lovers of it, and use it in all their diseases. The English dedicated it to St. John the Baptist, and then, with strange inconsistency, used it (before the discovery of hops) in brewing their ale. Still, its consecration was believed to have made it a potent spell against witches; perhaps it was still more successful against moths and other insects. Nevertheless, the gift of Isis and the plant of Diana is now little more than

"the fat weed
That rots itself in ease on Lethe's wharf"

Yet surely there is some significance in herbs, else why has "the hyssop that springeth out of the wall" been so specially set apart for purifying and propitiatory services? This herb was distinctly ordered to be used in striking the lintels and doorpost with the bloodof the Passover lamb. It was prominent in the purifying services for the healed leper, and in the ceremonies for cleansing unholy or unclean places. David, in the very depths of his self-abasement, cries out, "Purge me with hyssop, and I shall be clean;" and when the Great Atonement was offered for the sins of the world, a sponge filled with vinegar, and lifted upon hyssop to the lips of the Lamb of God, was the consummating rite of that stupendous sacrifice.

See, then, how

"the meanest plant that grows can give
Thoughts that do often lie too deep for tears."

Are there not wayside flowers that consecrate "the fair humanities of old religion," secrets in a weed's plain heart well worth the winning, and homely herbs rich with the spoils of time and nature? Do not fear, then, the lowliness of the subject, for

"Wisdom is oftentimes nearer when we stoop
Than when we soar."

A. E. Barr.

LANDSCAPE GARDENING.

Improved Hardy Hybrid Rhododendrons.

Walter Elder, the well-known Landscape Gardener, of Philadelphia, furnishes a valuable paper to the Germantown *Telegraph* on the interesting subject of growing hardy rhododendrons. He says:

Ornamental gardening in Europe has made rapid advances in its improvements, within the present century, and it now surpasses in gorgeous grandeur its illustrious fame of former ages. The origin and introduction of finer classes of ornamental plants, their successful culture and judicious modes of arrangement have made a revolution. The hardy hybrid rhododendrons excel all other evergreen shrubbery that have gone before them in their neat habits, beautiful foliage, and the splendor and profusion of their blossoms, which dazzle the sight with their brilliancy. The individual blooms are large, and the trusses of immense sizes. Their colors and shades are from pure white to dark crimson, and from faint lilac to deep purple and plum colors. Every bloom is richly spotted or blotched with darker colors. The light colors shine like the finest silks, and the dark colors look as rich as the most costly satins; all glitter beautifully in sunshine. They are set in groups of various sizes and forms upon the well-kept lawns, just as we group bedding-plants. They make a most admirable show. They require but simple culture. After being properly set out they need no farther care than to keep them free of weeds. There they flourish and bloom in their annual bloom and glory. Nothing heretofore could equal them in the magnificent adornment they give to the park, the garden, and the shrubbery.

Many of our wealthy and liberal horticulturists are turning their attention to the culture of the improved varieties of rhododendrons. David Landreth, the great seedsman, has grown a numerous variety for twenty-five years back, upon his pleasure grounds. Many gentlemen call at Bloomsdale every May to see the rhododendrons when in bloom. Our leading nurserymen have choice collections for sale. In preparing for planting them, dig the soil a foot deep and mix well with it leaf mould or rotten tan-bark or rotten dung; pulverize fine and let it lie a fortnight or month before planting. The plants are in pots and may be set in May or June.

The following is a good list to begin with: Album Elegant, pure white, crimson spots, large, fine truss; Atrosanguineum, dark crimson, maroon blotch, large truss; Blandyanum, deep rosy crimson, dark spots, great truss; Broughtoni, shining rose, crimson spots, large, fine truss; Hendersoni, purplish crimson, maroon spots, large truss; John Waterer, brilliant carmine, dark blotch, immense truss; Everestianum, rosy lilac, dark spots, crimped, fine truss; Ignescens, bright scarlet, crimson spots, very large truss; Victoria, clear claret, crimson spots, very large truss; Sir Robert Peel, shining scarlet, crimson spots, very large truss; Mrs. John Cullton, clear white, rose spots, splendid large truss; Sir Isaac Newton, deep plum, maroon spots, a grand truss.

Build Nests for the Birds.

An exchange very sensibly remarks: "You who have for many years been in the habit of giving the birds a cold shoulder, if not actually destroying them and frightening them away, for this year try the opposite plan. Encourage the robin and blackbird to build in the apple orchard, and put up a few boxes about the yard and garden for the wren and the martin. Don't let the boys rob the nests, nor the town marksmen to slaughter them murderously. Take a little extra pains to watch your strawberries and cherries during the few days they are ripening; and let the birds have fair sweep at the myriads of insect pests that work destruction on every hand. Make the birds your friends, and, our word for it, they will more than repay you for the slight trouble and the few berries they eat, by the check they will place on the ravages of the insect pests of the farm and the garden.

Plant Trees--Useful and Ornamental.

Need we urge the importance of planting orchards, fruit gardens, shade trees, evergreens, flowering shrubs, roses, climbers? Do they not adorn, beautify and improve home and add to the happiness of all? Plant trees. Plant every year, that the new may take the place of the old. God has given us fruits to be enjoyed every day of the year. Save a few dollars from needless expenditures, that you may increase the number of your fruit trees, for nothing on the farm will pay so well. Prepare the ground with care, plant, prune and cultivate properly, and money expended for trees is better invested than if loaned at interest.

The Cherry was introduced into England by the Romans. Pliny says: "The cherry did not exist in Italy before the period of the victory gained over Mithridates by L. Lucullus, in the year of the city 680. He was the first to introduce this tree from Pontus; and in the course of one hundred and twenty years it has traveled beyond the ocean, and arrived in Britannia even."

DOMESTIC ECONOMY.

Curious Things in Housekeeping.

Every branch of science has its marvels; but, expecting to meet in nature with wonders that baffle knowledge, we are not so much astonished at these as at the startling facts that are forced upon us from day to day in social life. Some of the most surprising of these confront us in the developments of the science of housekeeping. They are entirely beyond explanation, and would be beyond belief if they rested upon mere assertion; but as all of us, unfortunately, have tested them by our own senses, we accept them with wonder, and with some show of resignation.

Take an important branch of housekeeping—cooking. How inexplicable are some of the results of culinary study. A woman, with whom we once lived for a time, had kept house for thirty-five years, had never had a servant, and had, during that time, as she informed us, "baked twice a week regular." Consequently, to go in to the statistics of the matter, bread had been baked in that establishment 3,640 times. Deducting 240 for occasional sickness or absence of the mistress (a large allowance, for she was healthy, and seldom went from home,) and we have 3,400 times that this woman has made and baked bread.

She used good flour, and yet bread was invariably damp, sticky, and unfit for a savage to eat, and no Christian stomach could possibly digest it with comfort. Now, surely this was a wonderful thing! By what methods, unfathomable to ordinary reason, could she have avoided, in a practice of thirty-five years, learning how to make good yeast, how much to work the dough, how long it should stand to get light, what temperature the oven should be, and the proper length of time to bake it? How could she help doing it right the three thousand four hundredth time? It would seem that a vast amount of labor would be necessary to do it badly! She was a woman of average good sense, and, no doubt, conscientious. She had no aspirations and no "mission," and read nothing but a weekly religious newspaper. Her whole mind was in her housekeeping, and here was the result!

Another woman, now over fifty years of age, has cooked, more or less (generally more), since she was twelve. She has a special liking for lamb chops, and has cooked them very many times. And, to this day, she serves up liver-colored chops, fried and swimming in a greasy liquid! Merely looking at them will give a right-minded person the dyspepsia. This woman has eaten lamb chops elsewhere, cooked according to the best civilized methods, and has praised them; but each time she returns serenely to her frying-pan and grease. Now, upon what hypothesis can this be explained? Can it be possible that there are human beings so constituted that their minds and bodies act independently, so that the sensation of taste has no mental effect whatever? For in these instances the results were not the effect of carelessness or indifference—they both thought their horrid abominations were feasts for the gods.

And not the least curious thing in these cases is, that these poor cooks have sharp eyes for the faults of the butcher and baker. The butcher knows better than to offer a stale or tough chop to No. 2; and if the baker were to serve No. 1 with such bread as she makes herself, she would refuse to pay for it, entirely unconscious of the reflection she would thus cast upon herself.

Why do some housekeepers continue, week after week, month after month, year after year, to use raw flour for "thickening?" Would it not be reasonable to suppose that after a number of years—say ten—the raw flavor, and the stickiness of the compound, would suggest to them the possibility of altering their manner of preparing it?

We have suggested but a few things that happened to occur to us, and these belong only to one branch of housekeeping; but, if we were to pursue our inquiry into other departments, we should be met at every turn with phenomena similar to the above. They indicate the existence, in the midst of our home life, of marvels that science has, so far, failed to explain, and for which reason can find no law.—*Scribner's Monthly.*

Beautifying Our Homes.

Will it pay to beautify my home with flowers and shrubbery? is a question which every one who has a home must answer for himself. There are few persons who cannot afford to invest a small sum in a few rose bushes or other ornamental plants to start with, and in a short time they will be well repaid for their slight expenditure and trouble.

Anything which adds to the beauty and cheerfulness of a home, adds to its permanent value. There are many gems in the floral creation which, when once implanted in the soil, will continue to grow year after year, and remain joys forever to the fortunate possessor. All will admit that this department of nature is well worthy the study of man. Flowers are not the trifles which many think them to be, or God would not have bestowed the care on them that he did. It is a noticeable fact that the culture of flowers exerts a wonderful influence for the better on the minds and habits of those whom they surround. Thus are flowers useful as well as beautiful. Their cultivation tends to form a taste for order and neatness. Who ever saw an untidy cottage with healthy, well growing flowers in the window?

Flowers are always in season and never out of place. In the woods, the garden and the house, they are a never-failing source of comfort and delight. If I have no coaches and horses, I can at least hang a tracery of vine leaves along my porch, so exquisite and delicate that no sculpture can match it. If I have no conservatory with its wonders, yet the sun and I together can build a tangled coppice of blooming things in my dooryard, of which every tiny leaflet shall be a miracle. Nay, I make my home, however small it may be, so complete in its simplicity, so fitted to its office, so governed by neatness, so embowered by wealth of leaf and flowers, that no riches in the world can add to it without damaging its rural grace; and my gardeners—sunshine, frost and showers are their names—will work for me with no crusty reluctance, but with an abandon and zeal that only ask gratitude for pay.—*D. G. Mitchell.*

Lime Water for Burns.

A correspondent of the New York *Sun* writes to that journal that the readiest and most useful remedy for scalds and burns is an embrocation of lime-water and linseed oil. These simple agents combined form a thick, cream-like substance, which effectually excludes the air from the injured parts, and allays the inflammation almost instantly. He mentions a case where a child fell backwards into a bath-tub of boiling water, and was nearly flayed from her neck to below her hips. Her agonies were indescribable; but her clothing being gently removed, and the lime and oil preparation thickly spread over the injured surface, she was sound asleep in five minutes. Subsequently the parts were carefully washed with warm milk and water three times a day, the oil dressing renewed, and the little patient rapidly recovered. Though all the scalded skin came off, she did not have a scar. This remedy leaves no hard coat to dry on the sores, but softens the parts and aids nature to repair the injury in the readiest and most expeditious manner. The mixture may be procured in the drug stores; but if not thus accessible, slake a lump of quicklime in water, and as soon as the water is clear mix it with the oil and shake it well. If the case is urgent, use boiling water over the lime, and it will become clear in five minutes. The preparation may be kept ready bottled in the house, and it will be as good six months old as when first made.

An Appeal to Mothers.

We once heard a good man say, that just as we conducted ourselves toward one another in our families, just so we would behave in the community to which we belong; therefore, we come to the conclusion, that a very great deal depends upon the mothers of our community. If we do all in our power to make home attractive to our children, sons, as well as daughters, will not seek for pleasure elsewhere; and will never hear the taunt that our children have received their education in the street. Many a son has been driven from home by *extreme* neatness. We have heard as an actual fact of a housekeeper in the State of Pennsylvania (a State noted for its housekeepers) who was so afraid that the boys would bring a little dirt into the house, compelled them to exchange their shoes for slippers before crossing the threshold. Neither do we advocate careless or slipshod housekeeping. While in a gentle manner we appeal to the children's feelings (for children do *indeed* have feelings as well as grown folks,) to spare mother's weary limbs, by helping to keep the house to rights, let us avoid too much scolding. If we govern ourselves and our children at home, one thing is certain, there will be no insubordination in our schools, and our pastors and teachers will have less need for using their authority. Besides, there would surely be fewer corner-loafers.

Provide Good Tools.

Few farmers are supplied with enough good tools. Give an honest laborer just the implements he needs for his job, and he will do it in half the time it will take him if poorly equipped. Now a fork is better than a shovel to move manure. It will do the work quicker and easier. Coarse manure may be handled with a six tined fork, while fine compost can be taken up rapidly with a ten tined and twelve tined fork.

A great deal of time is spent on farms spreading fine manure from carts on grass lands. It is a paying operation. If done in autumn or winter it insures on the right land a good return. Some years ago I abandoned high-sided, narrow cart bodies for this work, and had them made extending from wheel to wheel, wider and lower, holding as much as before. Now every common-sense cart has a simple arrangement at the forward end called a swivel. By this the load can be tilted so that it can be taken out easily. A common shovel is not the tool to lay out a load of fine manure. A strong, healthy man can easily take up from two to four shovelfuls of light manure without danger of hurting himself, and he should have for such work a many tined steel fork.—*Cor. Germantown Telegraph.*

Remedies for Chilblains.

For chilblains, cut up two white turnips, without paring, into thin slices; put the slices into a tin cup with three large spoonsful of best lard; let it simmer slowly for two hours, then mash through a sieve; when cold spread it on a soft linen cloth, and apply to the chilblain at night.

L. D. M., in the *Cincinnati Gazette*, says: "While working in the shop, I froze my feet very badly. Before I went to bed I had some mush made out of corn meal. I then took some tea and poured on boiling water, just enough to cause the leaves to unfold. After putting the mush on a piece of cloth, I laid on the tea leaves and bound the whole over the frosted parts. Doing this for two nights, the frost was all drawn out."

Another remedy, claimed to be better than anything else, and easily obtained and applied, and a sure cure for chilblains, is to soak the frozen feet in strong warm lime water. Mix it nearly to the consistency of whitewash. It will stop the itching in five minutes, and will permanently cure in a few applications. Let the feet remain in until the dead skin will freely rub off. Apply every evening until a cure is effected.

Grease Your Nails.

One of the technical journals says: "Every farmer who has had occasion to drive a nail into seasoned oak posts, knows its liability to bend and break. If the point be moistened in the mouth it will usually drive more kindly. Oil is still better, but then it is inconvenient to dip each nail separately into it. Another point observed is, that boards become loose eventually from the rusting of the nails, which, communicating to the wood, causes not only an enlargement of the nail hole, but the wearing away of the nail itself, rendering the fence or the building shaky and insecure. This may be prevented by heating any rough grease until it smokes, and then pouring it over the nails to be used. The grease will penetrate the pores of the iron, and cause the nails to last, without rusting, an indefinite period. Besides this, no trouble will then be experienced in driving them into the hardest wood. The reason is that the coating of grease prevents contact of air, and, consequently, oxidation. Oxygen is the great destroyer of iron, and moisture is the inducting cause."

Remedy for Cabbage Worms.

Hellebore, lime, salt and similar substances have been used with varied success for the destruction of cabbage worms. It is now stated that bran and buckwheat flour answer the purpose better than any other remedies that have been tried. The bran is simply dusted over the infested cabbages as soon as the worms make their appearance. If the worms are very thick, about a handful of bran is required to each cabbage head, and sometimes it is necessary to go over the plants a second time. A hundred weight of bran is sufficient for an acre. It must be applied when the worms are young. When they are full grown or very strong, it does not appear to affect them. The buckwheat flour is sifted upon them by means of a sieve, in the evening or in the morning—when the dew is on the plants. If one application does not destroy the worms, a second one should be made. It is probable that wheat flour, fine Indian meal, or any other pulverulent farinaceous substance would have the same effect.—*American Garden.*

A Word for Clean Cellars.

Looking after the cellars in a dwelling-house ought to be the business of the men-folk, but how seldom will they move in it of their own accord? When the subject is broached, though there may be very little out-door work to do, it is poo-poohed as entirely too soon, and then it is left from day to day until a warm day sets in and the vegetables kept in the cellar begin to decay and to infuse a most deleterious atmosphere over the house, causing dangerous fevers and big doctor's bills. My sister housekeepers should avoid this by insisting that the cellar be thoroughly cleansed out and given two good coats of whitewash all over except the floor. It will purify it and leave no hurtful gasses to pass up through the house to cause sickness, and it may be, death. "A word in season."—AUNT MARY, *Ger. Tel.*

Cooking a Shad.

We reside at a point where we can get every morning shad taken during the previous night, and can take our pick if we are willing to pay the price. Shad is somewhat like bread and beef, one can eat it every day as long as it lasts without getting tired of it. As to cooking shad I have tried various ways. It is a

moist fish and should not be fried, but broiled or baked. We have worn out several planks in our family in baking them over *hickory coals*. We thought the fish was not fit to eat in any other way. But when it became difficult always to have hickory coals in an open kitchen fire-place, we tried them over *oak* coals, and could discover no difference. Next we tried on a griddle over maple coals, and no one ignoraut of the manuer of cooking failed in praising the excellence of the fish. Afterwards when wood of any kind became scarce, I had them broiled—pardon, epicurean reader—over the anthracite coals in the range, and the fish was just as good as ever!

But to be more precise and certain, having a few sticks of hickory left, I had one shad baked upon a plank before these coals as formerly, and another broiled on a griddle over anthracite coal. They were placed side by side on the table, with a private mark on one of the dishes, and the family and a couple of guests were told that they were cooked in different ways and their opinion was desired. Pieces were taken and placed side by side on each plate, and in this way the question was decided—and how? Some said one was better, some said the other, and some said they could taste no difference. And such was the fact—there was no difference.—F., *Germantown Telegraph.*

Valuable Household Receipts.

Fire and Waterproof Paint: Slack stone lime by putting into a tub, covered, to keep in the steam; when slacked pass the powder through a fine sieve, and to every six quarts add a quart of rock salt and a gallon of water; then boil and skim clear; to every five gallons of the liquid add pulverized alum one pound, pulverized copperas half a pound, and still slowly; add powdered potash three-quarters of a pound, then very fine sand or hickory ashes four pounds; then use any coloring matter desired, and apply with a brush. It looks better than any ordinary paint, and is as durable as slate; will stop small leaks in roofs, prevent moss from growing thereon, make it incombustible, and render brick impervious to water.

Horse-Radish Sauce.—This sauce is a great improvement upon the plainly scraped or grated horseradish for eating with either hot or cold roast beef. A dessert-spoonful of olive oil or cream, same quantity of powdered mustard, a tablespoonful of vinegar, and two tablespoonfuls of scraped horse radish, with a little salt to taste, must be stirred and beaten up together until thoroughly well mixed. Serve separately in a sauce tureen. It will keep for two or three days, or longer, if oil and not cream be used. I have tried this two or three times lately, and am much pleased with it. It is an English idea, but will soon become an American one if its excellence is once known.—Aline, *in Ger. Tel.*

Jemny Lind Soup: Wash a quarter of a pound of the best pearl sago until the water poured from it is clear; then stew it quite tender in water or thick broth; it will require nearly or quite a quart of liquid, which should be poured on it cold, and heated very slowly; then mix gradually with it a pint of good boiling cream and the yolks of four fresh eggs, and mingle the whole carefully with strong veal or beef stock, which should always be kept ready for boiling. Mlle. Lind was in the habit of taking this soup before she sang, as she found the eggs and sago soothing to the chest and beneficial to the voice.

Furniture Polish: An excellent furniture polish is made of ten cents' worth of bees wax placed in a tin cup and melted in a hot oven. Into this pour two ounces of turpentine, and let it stand to cool. Apply it briskly to the furniture with a woolen rag, and give it a finishing rub with an old silk handkerchief. This polish is almost equal to a coat of varnish.

Shorts Pudding.—Take four eggs well beaten, a pint of milk, and make a thin batter with shorts. When boiling corned beef dip in your pudding bag and fill with the above. Have plenty of room in the kettle with the beef, and be sure the water is boiling, put in the pudding and boil two hours without letting it stop. Eat with sweetened cream or any other pudding sauce.

Indian Pudding.—Let a pint of sweet milk come to a boil; stir in enough corn meal to make a thin batter, cool with another pint of milk. Beat four eggs, one cup of sugar and nutmeg together, and stir into the other. Butter a pudding dish and put it in; steam or bake.

Fruit Pudding.—Take sour cream and saleratus and a little salt; mix and roll out as for biscuit. Line a basin with this, fill with any kind of fruit and cover with more of the crust, leaving a place in the centre for the air and steam to escape. Bake or steam as preferred. Eat with sauce.

Minute Pudding.—Put some milk over the fire to boil, salt and thicken with flour stirred in slowly, and sifted through the hand. As soon as it is thickened take it up and send to the table. Make one minute and eat the next. Sauce—sweetened cream.

Cheap Pudding.—One quart of milk, four tablespoonsful of corn starch, four eggs, six tablespoonsful of sugar, nutmeg; stew three-fourths of an hour. —Mrs. Turner, *in Germantown Telegraph.*

The Cotemporary Press.

The Agricultural Gazette, an Illustrated Journal for Landowners and Tenant Farmers, a weekly journal published in London, England, is one of the last and best additions to our exchange list. It is printed in the imperial magazine style, each number containing thirty-two pages, each page the size of The Farmer, and the columns the same width. It is the best printed agricultural paper that comes to our office. The paper is tinted and well calendered, of unusual weight and fine texture; the typography is as nearly perfect as good taste in the selection of material and care in "spacing" etc., can make it, while its illustrations are practical and well-executed, especially its photographs of live stock. It is hardly necessary for us to add that this, the leading agricultural journal of England, is edited with great ability, its discussions covering the entire range of subjects in anywise interesting the farmer and gardener. The subscription price, to subscribers in the United States, including postage, is £1 1*s* 8*d* per annum; and if any of our progressive readers want to keep posted in English agriculture, we commend them to the London *Agricultural Gazette.*

The Bushberg Illustrated and Descriptive Catalogue, a royal octavo pamphlet of 80 pages and a copious index, is, to our apprehension, certainly the best and most elaborate work of the kind that has ever issued from the American press. It contains 31 separate illustrations of the same number of varieties of grapes; 1 on the mode of planting; 10 on grafting, trellising, &c., and 15—including 37 figures—illustrative of the different noxious insects that infest the grape—its canes, its leaf, and its fruit—and amongst the rest the notorious grape root aphid (*Phylloxera vastatrix*) which has been so destructive to the finest varieties of the Europeau grapes, and for a safe and certain remedy against which the French government has offered a premium of *one hundred thousand francs.*

The Herdsman's Horn, by C. A. Harness, Piedmont, West Virginia. A 12 mo. pamphlet of 25 pages, purporting to be in the interest of the "American Grange;" very *flowery* in its language, and exceedingly utopian in its sentiments—so much so indeed, that the author complains that he has been charged with "communism." We, however, do not regard him as a communist by any means; he is too impractical for that, as instanced in the declarations, "A government without taxes; a church without tithes; a money without usury; a people without poor;" and, as a consequence—"a chief magistracy, a national Senate, and a House of Congressmen *without pay*," &c.; &c. Verily, with such an advocate, the grange might well exclaim—"*Oh save us from our friends.*"

Gallinoculture has become a very important branch of domestic and rural economy. The last number of The Farmer contained a carefully prepared statistical statement of its commercial importance, which presented some facts that astonished those who had not given the subject more than passing attention. Those who wish to be fully posted up in all branches of this specialty, including birds and all kinds of pets, as well as fowls, should subscribe to the *Fanciers' Journal and Poultry Exchange*, published by Jos. M. Wade, No. 39 North Ninth street, Philadelphia. It a beautifully illustrated weekly in magazine form, and costs $2.50 a year, or $2 to clubs of six. It is the best publication in that interest which has come under our notice.

The Pennsylvania Journal of Dental Science. "A monthly record of the proceedings of the dental societies, and dental science in general;" edited and published by Samuel Welchens, D.D.S., Lancaster, Pa., price $1.00 a year, in advance, single copies 25 cents. The April number of this publication has been laid on our table by the editor. It is a beautifully executed octavo of 50 pages, embellished with a finely engraved portrait of L. P. Meredith, M.D., D.D.S., of Cincinnati, Ohio, a biographical sketch of the same, and a large amount of first-class dental literature in general—a credit to the profession, the city of Lancaster, and the editor and publisher.

A Valuable Book: Jones Brothers & Co., of Philadelphia, have issued a new work by Theophilus Parsons, LL.D., entitled the Political, Personal and Property Rights of a Citizen of the United States—How to exercise and how to preserve them. This work is the most important which has ever been issued from the pen of this distinguished author, both because it contains the result of his life long labor and study, and because it is written for the great mass of American citizens. Sold only by subscription, and any one desiring an agency should apply to the publishers.

The American Artizan, a royal quarto of 36 pp. in the highest style of typographic and illustrative art. No. 4, vol. 19 of this journal of popular science is now before us, and we can conceive of no higher type in the scientific and mechanical literature of the country. Brown & Allen, 258 Broadway, N. Y.

Monthly Report of the Department of Agriculture, for February and March, containing a large portion of agricultural and horticultural matter interesting to the farmer, fruit grower, &c. Printed for gratuitous distribution.

THE PROGRESS OF INVENTION.

Official List of Patents,

Relating to the Farm, the Dairy, Apiary, &c.,

For the month, ending May 1st. 1875.*

Plows; Wm. Adams, Long Island, Kansas.
Horse Hay Rakes; Wm. S. Archer, Dayton, Ohio.
Oats Screens; J. N. Bell, Fort Dodge, Iowa.
Potato Harvesters; A. J. Davis, Prairie City, Iowa.
Mowing Machines; J. Garfield, Ayer, Mass.
Butter Workers; W. Johnson, Buffalo, N. Y.
Machine for Digging Stones, Stumps, &c.; C. M. Lufkin, Langdon, N. H.
Sod Cutters; Jas. McArdle, Winona, Minn.
Revolving Harrows; J. Philips, Thorntown, Ind.
Disk Harrow Cultivators; S. G. Randall, Greene, N. Y.
Harvester Cutters; Geo. J. E. & M. Vanvossen, Bethesda, Ohio.
Plow Standards; H. Borger, Urbana, Ohio.
Chinch Bug Destroyer; J. Cochran, jr., Roscoe, Mo.
Hay Elevators; E. V. R. Gardner, Jahnsen, N. Y.
Horse Stopping Apparatus; J. Laubse, Milwaukie, Wis.
Harvester; C. W. Levalles, St. Paul, Minn.
Mowing Machines; J. P. Lord, Readsborough, Vt.
Milk Testing Processes; A. Middaugh, Scio, N. Y.
Plaster Sowers; M. C. Moder, Hortonville, Wis.
Grain Separators; M. O'Brien, San Francisco, Cal.
Corn Harvesters; W. T. Orr, Kewanee, Ill.
Driers; John E. Register, Dover, Del.
Cultivators; L. G. Roberts, Gorham, Maine.
Fumigators for Greenhouses; T. Shaw, Danville, Pa.
Churns; H. A. Simpson, Greenfield, Ohio.
Heaters for Cheese Vats; L. A. Sunderland, Madison, O.
Grain Separators; W. Toepfer, Milwaukie, Wis.
Machine for Crushing Grain; C. C. Washburn, Madison, Wisconsin.
Well Reamers; Wm. Young, Troy, Iowa.
Plow Wheels; David Aller, Allegan, Mich.
Hay and Cotton Presses; H. K. Burnett, Poughkeepsie, N. Y.
Bag Fasteners; T. A. Danielson, Calumet, Mich.
Fruit Jars; Pierre F. Darche, San Francisco, Cal.
Peat Cutters; Benj. T. Denton, Oswego, N. Y.
Harvester Rakes; M. F. Gibbs, Livonia, N. Y.
Churns; Geo. P. Herndon, Tayelo, Miss.
Agricultural Boilers; F. N. Mitchell, El Paso, Ill.
Farm Fences; Andrew N. Moore, Trenton, Ky.
Butter Workers; A. H. Reid, Brandywine Manor, Pa.
Gang Plows; S. S. Scheumack, Victoria, Texas.
Seed Planters; U. T. Stewart, Rossville, Texas.
Windmills; J. M. Armour, Northwood, Ohio.
Mowing Machines; W. W. Briglin, Avoca, N. Y.
Farm Gates; S. R. Holt, Worthington, Ohio.
Wagon Bodies; R. W. McClelland, Cerro Gordo, Ill.
Wagon Standards; R. W. McClelland, Cerro Gordo, Ill.
Horse Hay Rakes; D. P. Sharp, Itqaca, N. Y.
Apple Slicers and Corers; H. S. Siler, St. Lawrence, N. C.
Corn Droppers; I. G. Vail, Logan county, Ill.
Machines for Hulling and Cleaning Grain; T. Wallace, Chicago, Ill.
Grain Scourers; T. Wallace, Chicago, Ill.
Earth Augers; Don Juan Arnold, Brownville, Neb.
Pruning Implements; C. B. Cannon, Keokuk, Iowa,
Harvesters; J. H. Elward, St. Paul. Minn.
Harvesters; J. H. Elward, St. Paul, Minn.
Cider Presses; D. F. Enery, Canton, Ill.
Horse Hay Forks; E. V. R. Gardner, Johnson, N. Y.
Bee Hives; G. H. Mobley, Nevada, Mo.
Seed Planters; W. Post, Warsaw, Mo.
Sulky Plows; E. Robertson, Fairmount Ill.
Grain Drill Teeth; J. B. Sandusky, Lexington, Ky.
Feed Cutters; J. A. Schwerdt, New York, N. Y.
Cultivators; F. W. Tolley, Coxsaxie, N. Y.
Apparatus for Breaking Horses; J. Z. Walling, Red Wing, Minn.
Butter Prints; R. S. Williams, Philadelphia, Pa.
Lever Attachment for Mowing Machines; A. B. Conde, Freemansburg, N. Y.
Ditching Plows; A. L. Harned; Boston, Ky.
Field Rollers; A Hilts, Springdale, Ohio.
Potato Diggers; H. W. King, Canaan, N. J.
Fruit Gatherers; Nathan Lash, Montpelier, Ohio.
Churns; P. La Tourette, Vestal, N. Y.
Apparatus for Bleaching Cane Fence; J. M. Lescale, Paincourtville, La.
Harvesters; S. S. Loudenslager, Polo, Ill.
Mowing Machines; H. C. & D. C. Markham, Lyons' Falls, N. Y.
Harvester Rakes; J. P. Monnett, Bucyrus, Ohio.
Filter Wells; Wm. P. Powers, La Crosse, Wis.
Horse Hay Rakes; A. Bugbee, Elkhart, Ind.
Comb Gang Plows and Cultivators; W. Clements, Fiskville, Texas.
Bee Hives; C. Gerry, Garden City, Minn.
Milk Coolers and Cheese Vats; C. W. Grannis, Cowanda, N. Y.
Sheep Shearing Chairs; C. H. McCall, Morristown, O.
Churns; C. W. Patton, Louisville, Ky.
Hay Slides; A. I. Reed, Pleasant Grove, Ind.
Cury Combs; J. O. Berry, Vienna, Va.
Horse Powers; G. E. Burt, Harward, Mass.
Seed Planters; J. T. Carr, Milo, Maine.

*Prepared expressly for The Lancaster Farmer by Louis Bagger & Co., Solicitors of Patents, Washington, D. C., from whom complete copies of the Patents and Drawings may be obtained.

Corn Droppers; J. Jackman, Richmond, Ohio.
Feed Wheels for Grain Drills; B. Kuhns, Dayton, O.
Harvester Rakes; W. N. Whiteley, Springfield, O.
Plow Standard Fastenings; G. B. Birmingham, Trenton, Tenn.
Broadcast Seeding Machines; D. Buist and Charles E. Alden, Philadelphia, Pa.
Farm Gates; Leopold S. Cohn, Berlin, Wis.
Sulky Plows; John Fay, New Boston, Mich.
Curry Combs; George Havell, Newark, N. J.
Churns; T. B. Jewett, Lawrence, Kan.
Stock Cars; John R. McPherson, Jersey City, N. J.
Farm Gates; L. V. W. Noyes, Springville, Iowa.
Riding Saddles; Robert Reiman, Sullivan, Ind.
Cattle Supports; F. H. Rhelp, London, Eng.
Harrows and Rollers; A. M. Strattan, Ladoga, Ind.
Cotton and Hay Presses; B. J. Wilson, Atlanta, Ga.
Cultivators; J. N. Bashaw, Geneva Lake, Wis.
Hay Presses; J. Dugan, San Francisco, Cal.
Stalk Cutters; J. Y. Eckman, Galesburg, Ill.
Cultivators; J. T. Henderson, Woodburg, Tenn.
Milk Conductors; E. Macy, Brooklyn, N. Y.
Butter Pails; C. B. Sheldon, New York, N. Y.
Hand Corn Planters; J. W. Cleland, Nevada, Mo.
Wind Wheels; C. T. Edwards, Moline, Ill.
Milk Coolers; D. Gurnsey, Watertown, N. Y.
Meat Cutters; J. H. Hollinger, Lancaster, Pa.
Harvester Wheels; M. L. Kellar, Luzerne, Iowa.
Milk Coolers; A. P. Myers, Prattsville, N. Y.
Harvester Rakes; A. Palmer, Rochester, N. Y.
Seed Sowers; J. W. Talley, Paxton, Ill.
Harvester Rakes; J. F. Appleby, Mazomanie, Wis.
Cheese Vats; A. B. Armstrong, Dorset, Vt.
Plows; B. S. Benson, Baltimore, Md.
Windmills; Jas. Hall, Ligonier, Ind.
Mowing Machines; Wm. Lorey, Philadelphia, Pa.
Gang Plows; T. M. Nichol, Sparta, Ill.
Churns; V. W. Pickett, Baldwin, Iowa.
Corn Planters; L. Scofield, Grand Haven, Mich.
Gang Plows; J. A. Sutherland, Elmwood, Ill.
Sulky Plows; L. W. True, Talladoga, Ala.
Horse Hay Rakes; J. E. Wisner, Friendship, N. Y.

REISSUES.

Harvester Rakes; J. Rynearson, Farmington, Ill. Patent No. 36,800; dated October 28th, 1862.
Harvesters; John E. Buxton, and Thos. J. Howe, Owatoma, Minn. Patent No. 147,477, dated Feb. 17, 1874.
Harvesters; J. H. Elward, St. Paul, Minn. Patent No. 113,990, dated April 25, 1871.
Grain Drills; Ransom S. Reynolds, Waterbury, Conn. Patent No. 38,985, dated June 23, 1863.
Neck Yoke Attachments; B. Foltz, Rockford, Ill. Patent No. 85,519, dated Jan. 5th, 1869.
Farm Fences; L. E. Hogue, Sandy Lake, Pa. Patent No. 158,941, dated Jan. 19th, 1875.
Corn Planters; J. Campbell, Harrison, Ohio. Old patent No. 133,199, dated Nov. 19, 1872.
Cultivators; R. M. Melton, Criglersville, Va. Old patent No. 24,227, dated, May 31, 1859.
Mowing Machines; J. P. Manny, Rockford, Ill. Old patent No. 18,510, dated Oct. 27, 1857; extended seven years.
Harvesters; J. P. Manny, Rockford, Ill. Old patent No. 17,798, dated July 14, 1857; extended 7 years.
Harvesters; J. P. Manny, Rockford, Ill. Old patent No. 17,779, dated July 14, 1857; extended 7 years.

Sanitary Chemistry of Waters.

A valuable report by Prof. Chandler upon the sanitary chemistry of waters, and suggestions with regard to the selection of the water supply of towns and cities, has just been reprinted from papers of the American Public Health Association, the whole forming an important manual in connection with the plans of water supply for towns and cities.

Prof. Chandler in this report considers the nature of the impurities contained in water and their effect upon the public health, and gives particular attention to the pollution of streams by the refuse from factories and by sewage. He is, however, quite satisfied that a certain class of impurities, especially those of an animal nature, in time become harmless by their decay, consequent upon their combination with the oxygen in running waters, this relief, however, not applying to the case of confined wells. The experiences of the Thames coincide with those of the Hudson in this respect.

It has been calculated that sewerage mixed with twenty times its volume of running water, after flowing a distance of ten or twelve miles, is absolutely purified by infusorial animals, aquatic plants, and chemical oxidation.

The professor makes a special application of his researches to the Croton water, and derives, as a general conclusion from the whole, that for the supply of cities, rivers and lakes are very decidedly superior to wells, which should always be viewed with suspicion, on account of the danger of contamination from the drainage of the soil, leakages from cess-pools and private vaults.

MEN OF ALL SORTS and callings may rely on finding an abridged succinct form *all that is most invaluable in our statistical, geological, geographical, financial and social knowledge* of this vast country we inhabit, in the CENTENNIAL GAZATEER, published by J. C. McCurdy & Co., Philadelphia, Pa.

OUR FENCE CORNERS

A PATENT-MEDICINE VENDOR who was dilating to a large crowd upon the wonderful efficacy of his iron bitters pronounced them all-potent in building up an iron constitution. "That is so—that is so," said a bystander; "what he tells you is a fact, gentlemen, every word of it." "Hear that, will you?" cried the delighted quack; "here is a man who has used the bitters, and can recommend them." "No, not exactly that," replied the old fellow. "I have never used the stuff myself, but, you see, my friend Jenkins did, and they just saved his life. You see, Jenkins had taken the bitters jest one week before he was shoved in prison for something. He was stripped of everything in the shape of iron about him, and yet he made a bar and worked his way out. He had taken this man's iron bitters, d'ye mind, and what does Jenkins do but open a vein in his arm, and took iron enough out of his blood to make a crow-bar, and prized the gates open with it and let himself out." The vendor set his dog at him.

A DORMANT WASP.—A West Hill minister picked up a frozen wasp on the pavement recently, and, with a view to advancing the interests of science, he carried it into the house, and held it by the tail while he warmed it ears over a lamp chimney. His object was to see if wasps froze to death, or merely lie dormant during the winter. He is of the opinion that they merely lie dormant, and the dormantest kind at that; and when they revive, he says, the tail thaws out first, for while this one's head, right over the lamp, was so stiff and cold it could not wink, its probe worked with such inconceivable rapidity that the minister could't grasp fast enough to keep up with it. He threw the vicious thing down the lamp chimney, and said he didn't want any more truck with a *dormant* wasp, at which his wife burst into tears, and asked how he a minister of the Gospel could use such language—right before the children too.

A CORRESPONDENT of the *Congregationalist* gives directions how to prevent currant bushes from being destroyed by worms. The eggs are deposited on the under side of a tender leaf about the time the suckers of the currant bush are a foot high. When the eggs begin to hatch, the young feed on the juice of the leaf until they can crawl. Then they drop down and scatter. Soon after the egg is deposited the leaf will turn a purple-redish color. Such leaves should be plucked as fast as they appear, and hundreds of little creatures will be found. The microscope reveals them plainly. The leaves should be cut so carefully that none of the destructive insects be scattered.

A GOOD JOKE is told of a certain professor—a stickler for ventilation. Being put in a room at a hotel with another guest, he asked the latter to raise the window at night, as the air was so close.

"I can't raise it," said the guest after working at the window for a while.

"Then knock a pane of glass out," said the professor, which was done.

After a while the professor got up and broke another pane; then he was able to sleep; but in the morning he discovered that they had only broken into a book-case.

A MAN was describing to Douglass Jerrold the story of his courtship and marriage—how his wife had been brought up in a convent, and was on the point of taking the veil, when his presence burst on her enraptured sight, and she accepted him as her husband. Jerrold listened to the end of the story, and then remarked, "She simply thought you better than nun."

AN Irishman, addicted to telling strange stories, said he saw a man beheaded with his hands tied behind him, who directly picked up his head and put it on his shoulders in the right place. "Ha! ha! ha!" said a by-stander; "how could he pick up his head when his hands were tied behind him?" "And, sure, what a purty fool ye are!" said Pat; "and couldn't he pick it up with his teeth? To ould Nick wid yer botheration!"

THE Paris *Figaro* thus neatly answers an anonymous correspondent: "A note, written by a female hand, asks us why, in polite society, etiquette allows a lady to pay a visit with her veil down. I really do not know, madame; but I would bet it is the ugly ones who set the fashion, and that it is only the pretty women who make inquiries about it."

SOME time-honored proverbial sayings need revision to suit the age. For instance, "Boys will be boys" is entirely wrong, for everybody knows that they endeavor to appear like men as much and as soon as possible.

IT is an extraordinary fact that when people come to what is commonly called high words they generally use low language.

THE old gentleman who spent a fortune in trying to raise colts from horse chestnuts, is now attempting to get it back again by cultivating the egg plant with a view to supplying the market with eggs and chickens.

OUR FENCE CORNERS

Typical Trees.

For gouty people—the ache corn.
For antiquarians—the date.
For school-boys—the birch.
For Irishmen—the och.
For conjurers—the palm.
For negroes—See dah.
For young ladies—the man go.
For farmers—the plant'in.
For fashionable women—a set of firs.
For dandies—the spruce.
For actors—the pop'lar.
For physicians—sye a more.
For your wife—her will, O.
For lovers—the sigh press.
For the disconsolate—the pine.
For engaged people—the pear.
For sewing-machine people—the hemlock.
For boarding-house keepers—'ash.
Always on hand—papaw.
Who this is written for—yew.

AT a late criminal trial both judge and counsel had a deal of trouble to make the timid witnesses speak sufficiently loud to be heard by the jury, and it is possible that the temper of the counsel may thereby have been turned from the even tenor of its way. After this gentleman had gone through the various stages of bar pleading, and had coaxed, threatened and even bullied witnesses, there was called into the box a young hostler, who appeared to be simplicity personified. "Now, sir," said the counsel, in a tone that would at any other time have been denounced as vulgarly loud, "I hope we shall have no difficulty in making you speak out." "I hope not, sir," was shouted, or rather bellowed, out by the witness, in tones which almost shook the building, and would certainly have alarmed any timid or nervous lady. "How dare you speak in that way, sir?" demanded the counsel. "Please, sur, I can't speak any louder," said the astonished witness, attempting to speak louder than before, evidently thinking the fault to be in his speaking too softly. "Pray, have you been drinking this morning?" shouted the counsel, who had now thoroughly lost the last remnant of his temper. "Yes, sur," was the reply. "And what have you been drinking?" "Coffee, sur." "And what did you have in your coffee, sir?" yelled the exasperated counsel. "A spune, sur," innocently bawled the witness, in his highest key, amid the roars of the whole court—excepting only the now thoroughly wild counsel, who flung down his brief and rushed out of court.

WE have always understood that love laughs at locksmiths, but we are hardly prepared to believe that Cupid was such an ingenious young fellow as the following anecdote shows him to be: A fellow out West was courting a pretty girl, but her mother would not permit him to stay after ten o'clock, greatly to his and her daughter's disgust. Last New-Year's day that young man presented the old lady a patent clock of great beauty and ingenuity. The prospective mother-in-law was greatly pleased, and gave her old ticker to a poor woman who lived in the neighborhood. Now that young couple are happy, for this new clock is so constructed that it will lose three hours between eight and ten in the evening, and make it up all right before morning. The old lady watches the clock carefully, and cries, "Ahem!" as usual when it gets to be ten. And yet, she says she can't understand what makes her get so sleepy before ten, and hate to get up so bad the next morning.

ACCORDING to a Cape of Good Hope paper, a "good-for-nothing wretch" was brought up before the magistrate on a charge of drunkenness. The evidence showed that he had been tipsy for a week, and he was asked what he had to say for himself. "Well, yer honor," he replied, "me and my old woman never did live easy together." "That's no excuse for your getting drunk," said the Court. "You're right, your honor, and so it ain't," was the answer. "We used to fight like cats and dogs together." "Drinking made it worse," remarked the magistrate. "That's true," rejoined the man. "She discouraged the life out of me, and kept me poor, until last week, when—" "Well, what did she do last week?" "She died, yer honor." "And you have been drunk ever since?" "Yes, yer honor; I never could bear prosperity."

AN Irish clergyman once broke off the thread of his discourse, and thus addressed the congregation: "My dear brethren, let me tell you that I am now just half through my sermon; but as I perceive your impatience, I will say that the remaining half is not more than a quarter as long as that you have heard."

THERE is a lady who will not permit her children to eat anything of which Indian meal constitutes an ingredient, for fear it will make them savage. She must be the same lady who would not let her children eat spinach, for fear it would make them green.

$1 a Year (To subscribers in the county.) SINGLE COPIES 10 CENTS. (To subscribers out of the county.) $1.25.

THE LANCASTER FARMER

DEVOTED TO AGRICULTURE, HORTICULTURE, DOMESTIC ECONOMY AND MISCELLANY.

"THE FARMER IS THE FOUNDER OF CIVILIZATION."—WEBSTER.

Prof. S. S. RATHVON, Editor. LANCASTER, JUNE 15, 1875. PEARSOL & GEIST, Publishers.

THE CHEAPEST AND THE BEST.

The terms of THE FARMER are only one dollar a year to subscribers residing within the limits of Lancaster county; six copies for $5; or ten copies for $7.50. When the quantity and quality of the matter contained in each number is taken into account, we hazard nothing in saying, that it is the cheapest local journal for the farm, the garden and the household published anywhere. In neatness of typography, also, THE FARMER is not ashamed of a comparison with any of its cotemporaries. At the end of the year it will make a book as handsome in appearance as it will be valuable in the practical information contained in its compact pages. Subscribe for THE FARMER.

Present and Future Values.

Rupp's History of Lancaster County was published thirty years ago by subscription, at *two dollars* a copy, and some of the subscribers, with indiscriminate and unmerited disgust, sold their copies as low as *fifty cents*. Two years ago we were instructed to procure a copy for a legal friend in the west—formerly a citizen of Lancaster—and we were compelled to pay *six dollars* for it, and we have known *ten* to be refused. To-day we could get *ten dollars* for an entire set of the six volumes of THE LANCASTER FARMER published prior to the present year, although the subscription price was only $6.75.

We would not be surprised if, before twenty years—although we do not expect to live so long—the present, the centennial, and the post centennial volumes of THE FARMER would command *five dollars* a volume, although, during the time pending, they may be obtained for *three*. Every new subscriber who appreciates true values, desires his subscription to commence with the *first* number of the present year.

Dew Drops.

Although we cannot say that THE FARMER has yet received any overwhelming *showers* of support—indeed, we never expected it would, for we knew the ground we were to travel over was occupied by hosts of other worthy travelers—still ever and anon it receives the slow but refreshing *dew drops* from the intelligent and appreciating tillers of the soil; and these are all the more valued because they come from old time friends—friends who *know* us, and who have an almost venerative regard for anything that emanates from Lancaster county; such, for instance, as the following:

"MY DEAR FRIEND: Will you please send THE LANCASTER FARMER to my son W. His address is W. H. B., jr., Salina, Saline county, Kansas. I ought to have attended to this long ago. Please send from the *first* number of the present year, or volume. W. is hard at work farming and raising stock. I enclose $1.25 subscription for the current year. Very truly yours, W. H. B., *May* 22, 1875."

To Advertisers.

This being the midst of the dull business season, when nurserymen, seedsmen, florists and others, who seek their customers through special mediums like THE FARMER, are through with their spring announcements and not ready for the fall campaign, we have dropped four of our supplemental pages which were added to to the March, April and May numbers to accommodate our advertising patrons. This will be only temporary, as we have indications of a large advertising patronage for the fall trade. We stated when THE FARMER came into our hands that we would not allow the advertisements to encroach upon the space allotted to reading matter, and we have kept our promise.

CONTENTS OF THIS NUMBER.

TWENTY-ONE ILLUSTRATIONS.

WRITE FOR THE FARMER.

While we have access to the best agricultural publications of this country, England and Canada, with an able correspondent at Paris, who gives us, monthly, the cream of the agricultural news of the continent of Europe, we want more of the practical experience of the farmers, fruit-growers, gardeners and housekeepers of Lancaster county. There is not a farmer or a farmer's wife who does not know something valuable about farming and housekeeping which we have no means of knowing, and which we would gladly communicate for the information of our readers. Don't say you "can't write." No matter about the spelling or the grammar—we will make that all right. Give us *facts*—the results of experience—why you failed and why you succeeded. Every farmer can help to make his paper interesting and valuable.

Far and Near.

THE LANCASTER FARMER is now read, and Lancaster county is familiarly known in England, on the continent of Europe, in the South Pacific Islands, in Japan, and elsewhere in foreign lands; therefore, to contribute to its pages or advertise in its columns, will be like "bread cast upon the waters," which will "return after many days." No man can properly estimate the grand results which sometimes flow from little starting points. A weary wanderer down on the extreme southern point of Africa was restored to his family, his possessions, and society, by reading a single paragraph on a bit of waste paper. Society is linked together by a wonderful chain—a chain that compasses the entire civilized, and much of the uncivilized world, and no man can truly say that he stands alone, and is independent of all, or *any* other man. It was only the affectionate pleadings of a beloved mother that prevented Washington from becoming a sailor, in which capacity he might never have earned the title of "*Father of his country.*"

Our Illustrations.

The illustrations given in THE FARMER are one of its most valuable features. They are not merely for ornament, but are of practical value, especially the engravings of insects illustrating the able articles of our editor on the insects which are so closely related to the interests of the farmer, gardener and fruit-grower. These engravings in any single number would cost the subscriber ten times as much as his year's subscription. If the farmers of Lancaster county will interest themselves in extending our circulation we will introduce original illustrations of local interest relating to improvements in stock, farm buildings and machinery, which will still further enhance the value of the publicatron.

Send for Specimen Copies.

We will cheerfully send specimen copies of THE LANCASTER FARMER to any person who desires to examine the merits of the publication. Subscribers will greatly oblige us by showing it to their neighbors, and speaking a good word for it; and if their copy gets soiled or lost, we will cheerfully replace it if requested to do so. We desire to get a copy into the hands of every farmer in this great county, being confident that THE LANCASTER FARMER needs only to be seen to be appreciated. Every farmer who aids in extending its circulation is doing a good work in elevating the standard of his noble occupation.

JAMES VICK, the eminent florist of Rochester, has laid us under obligations for the handsome engravings which adorn the flower garden department of THE FARMER. Husbands and wives will there find portraits of themselves "as others see them" among the flowers.

The Lancaster Farmer

Prof. S. S. RATHVON, Editor. LANCASTER, PA., JUNE, 1875. Vol. VII. No. 6.

THE STRIPED APPLE TREE BORER.

(*Saperda candida.*)

No subject of the insect realm has been more injurious to the health of the apple, the pear and the quince trees than the individual illustrated in its various conditions in this paper; and no time could be more appropriate than the present to guard the trees it infests against its approaches.

By the time this number of the FARMER gets into the hands of our readers the* "striped apple tree borer" will be coming forth from the trees in which it was bred, in the perfect form (as indicated by figure *c*,) and if we can effectually prevent the females from depositing their eggs at the base of the trees, from the middle of June until the middle of August, we shall have accomplished all that is necessary to *prevent* the insect from perpetuating its species, and when that end is secured the battle is nearly won.

a

Of course the evolution of this insect from the *pupa* form (as exhibited by figure *b*,) does not occur uniformly at the same *precise* period in all localities, nor yet in even the same locality; because it is influenced in its development by the temperature of the weather—either later or earlier—as this is favorable or unfavorable. But, within a month after its appearance as a beetle, the females become fertilized, and begin to deposit their eggs at the base of the trees, where all the conditions favorable to their incubation exist.

In from five to ten days after the eggs are deposited they are hatched, and the young grub, or *larva*, immediately penetrates the base of the tree at some tender spot favorable to that operation, and it is then so small that the aperture it makes is soon closed up by natural growth, and the larva for a whole year may be found burrowing immediately beneath the bark, mainly in an upward direction; but the second year it penetrates the wood, and the third year it goes in still deeper. (Fig. *d* is a cross section of a quince tree, which exhibits the different positions of the larva at these periods.) At the end of the third year the larva matures, and is then a whitish, fatty grub, (as seen at Fig. *a*,) and cuts a horizontal gallery out towards the bark, and there changes to a *pupa*, (Fig. *b*,) and awaits the period of its final development into a beetle, when it cuts its way out through the bark, (Fig. *c*.) It is then whitish beneath, and striped with light brown and white above, and the females are about the size represented in the figure, but the males are less robust—indeed both sexes vary considerably in size. When a tree is very large a few of these "borers" in it would not injure it very materially, although they would not do it any good. But in young trees, for which they seem to have a partiality, they are exceedingly hurtful, and often entirely destroy them. The native food-plant of this insect is said to have been the Hawthorn; and, indeed, we made our first collections of them on Hawthorn hedges many years ago, and long before we knew they infested domestic trees. But they now seem to prefer the young apple, pear and quince, as a more toothsome wood than the Hawthorn.

b

*In the *larva* or worm state, this insect, by way of distinguishing from a species of similar habits, is called the "Round-headed Apple-tree Borer."

We have designated this as the "*striped* apple tree borer," in order to distinguish it from several other borers which infest the apple tree; and yet it is a common thing to hear people talk about, and even *write* about—not only "The Tree borer," but also "The apple tree borer"—this insect, just for all the world as if there was but ONE species that infested the apple, or any other tree. From what we have written above, aided by the illustrations *a*, *b*, *c* and *d*, we think our readers will be able to form a pretty correct conception of the insect we mean, and also to recognize it when they see it. And now, a few words about

THE REMEDY,

if, indeed, it can be truly said that *the* remedy has been yet discovered.

If the reader has been attentive thus far, he will have perceived that the surest, cheapest and least dangerous remedy to the patient is *prevention*, and being instructed in reference to the season of the year when the insects are abroad in their fertile state, and the time and place when and where they deposit their eggs, he may also be able to learn how and where to apply *this* remedy at least. Almost any obstruction which may prevent the female beetles from approaching the base of the trees will answer the purpose, if it is applied in time, and continued long enough, say from the 15th of May, or 1st of June, to the 15th of September. (We have taken the insect on the Hawthorn as late as the 12th of August.) Old rags, old ropes, tow, wood, paper, oilcloth, tin, or old pieces of sheet-iron, closely applied to the base of the tree and continued from 12 to 18 inches up the trunk, will answer the purpose.

c

If this remedy is applied the present season on or shortly after the middle of June, it will be in time enough to circumvent the enemy. About the base of the application earth should be heaped, but it should not be continued up against the trunk, for this only shifts the field of operation from the *real* base to a temporary base a few inches above; for these insects usually deposit their eggs at or a little below the surface of the earth, unless the base of the tree is surrounded by rank grass or weeds. For incubation they require moderate heat and moisture, but not a hot sun, which would "dry them up" before they hatched. But the top of the application should fit close around the trunk, so that the insects cannot make an entrance under or behind it. Some people dig away the earth from the roots of the trees, and leave them exposed for weeks or months; but if this does any good, it is through that *drought* which destroys the vitality of the eggs, or the young grubs, before they can penetrate the bark. This is, however, mostly done only when it is discovered that the trees are infested, and then it is too late to do any *good*, and may do injury. Applications of lime, wood-ashes, gas-lime, decoctions of carbolic soap, tobacco, and other substances, are applied to the base or the roots of the trees, and, if applied just at the right time, may repel the insects or kill their eggs, but can have no effect upon the borers safely lodged within the trunk of the trees. In young trees with a smooth bark, and during the first year of the borer's progress, the external surface will indicate the locality of their internal operations in most cases.

If an incision is made at such places where the trees seem to be suffering, the borers may be dislodged. We have on many occasions cut out dozens of them fully half an inch in length—four or five sometimes in a single tree, almost girdling it.

After they penetrate deeper into the wood, it is difficult to dislodge them, the lower portion of their channels being closed up with their granular, woody excretions; but even there they may be reached with a long, flexible steel wire, with a barbed point, and either drawn out or crushed to death in their cells. The "Striped Apple-Tree Borer" is seldom found higher than two feet from the ground. We have seen them issue from a quince tree at about the maximum we have named, and in some instances they may go higher, but usually they are lower. Under any circumstances *prevention* is better than any cure in which the laceration of the trees is involved; therefore we would admonish apple, pear and quince growers to be particularly watchful of their trees during the months of June and July. Of course, they should also kill all the beetles they may find, and make a note of the dates of such finding. Without such a record, they will be apt to forget when or where they saw "such and such" an insect, and what it was doing for a living—whether it was in the spring or in the fall. So also in regard to remedies. There may be others even better than those we have suggested; and no persons have better opportunities of discovering these, and testing them practically, than those who are daily on the ground in pursuit of their secular occupations.

d

POTATO BEETLES.

Potato-beetles? Why, we noticed potato-beetles in Lancaster county as early as the summer of 1837—and striped ones at that—but for aught we know to the contrary, they may have been here at a much earlier period. We had no more idea then of becoming an entomological student than we had of becoming a missionary to the Fiji Islands, but these striped potato-beetles were so numerous that season—and also a beautiful red long-horned beetle with black spots (*Tetraopos tomator*) on the wild cotton (*Asclepeas*), that we could not help having our attention drawn to them, and collecting a bottle full of them, which we kept in alcohol for several years, although our specialty then was mineralogy, and incidentally Ornithology and Herpetolgy.

But although *striped*, they of course were not the "Colorado potato-beetle," nor no very near relation to them; moreover, they did not by any means confine themselves to the potato plant, nor to plants of that particular family, but whatever they *did* infest, they stripped entirely of its foilage in a very short space of time. These beetles, we subsequently learned, belonged to the family *Cantharidæ*—the same family to which the "Spanish-fly" or "Blister beetle" belongs. Fig. 1 represents this beetle, and it will readily be seen that in *form* it differs materially from the Colorado beetle, although it does not differ so much in color. Its habits are also different; moreover, its *larva* does not feed on the tops of the potato, nor on the *tops* of any plant we know of, and therefore little is known of the habits of the *larva*.

Fig. 1

Five years later than the year 1837, we became more familiar with this striped potato-beetle and its three cogeners in the county of Lancaster, and we have seen all of them feeding on the tops of the potato, in their mature beetle state; but although many

years have passed since then, we cannot say that we have ever recognized the *larva* of either of them. We have also seen them feeding on tomato and various species of common wild plants, especially the "Golden Rod" (*Solidago* and the "Wild Indigo," (*Baptisia tinctoria.*) The history of one is the history of all of them, although Figs. 1 and 4 are most frequently found in Lancaster county. They have been referred to different genera by different authors, (*Cantharis, Epicauta et Lytta*) but the last named, of FABRICIUS, has been most generally adopted, and seems to have priority.

We may possibly have seen the *larvæ* of these insects, but we have never identified them as such, and considering the vast numbers that sometimes occur in the potato fields of Maryland and Virginia, the *larvæ* in some of their stages of development must be quite as abundant *somewhere;* but where, or on what they feed, or of their transformations—except that they are under ground, and feed on the roots of vegetation—the published accounts are contradictory and unsatisfactory. Some of the allied species—the "Oil beetles" for instance, are parasitic on certain species of bees, or feed on their "bread," and have a very extraordinary history, transformation and progressive development, and are difficult to observe.

Fig. 2

According to Latreille, the *larvæ* of the "Spanish fly" reside underground, and feed upon the roots of vegetables, and are produced from a mass of agglutinated eggs deposited there by the female. "They have the body soft and of a yellowish white, composed of thirteen segments, with two short filiform antennæ, and six short scaly feet," and inferentially, our species of "blister-beetles," or "potato-beetle,"—as we may choose to call them—may approximate to the foreign species in habits and form.

Wherever they may pass the larval period, or on whatever they may feed, they usually appear suddenly in the midsummer in the perfect state, and remain throughout August and September. However greedily they may be feeding on vegetation, when disturbed they all have the habit of releasing their hold, drawing in the feet, and falling to the ground and we have often been surprised at the dexterity with which they are capable of hiding themselves. As we stated on page 34, col. 2, Feb. number of THE FARMER, the blistering properties of these beetles are as strong, or nearly as strong, in our species as they are in the Spanish-fly, and this fact may suggest what ought ultimately to be done with them if they should greatly and destructively increase in numbers in this country. They are rather pretty insects, but emit an unpleasant odor, and moreover, are so copious in their excretions, that they mar their own beauty as well as the beauty of any other insects that are confined with them, in an incredibly short space of time.

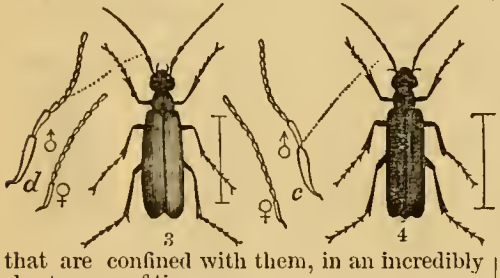


Fig. 1 illustrates the "Striped Potato-beetle," (*Lytta vittata*) and is sufficiently distinguishable from the "ten-lined" or Colorado beetle, to be recognized without a lengthy description. They differ very much in size, although the largest of them are scarcely as broad as the cut, except in the impregnated females. The colors of this insect are yellow and black, but the lines on the wing covers are not uniformly the same in all the specimens. In some there are *two* and others *three* black lines on each of the wing covers, and the two varieties are often found at the same time on the same potato vines, or other plants.

Fig. 2 is the "Margined Potato-Beetle," (*Lytta marginata*) the general color of which, above, is black with the wing-covers margined with ash-gray. It is also the same ash-gray color on the under side. This species does not usually occur as frequently nor as abundantly as No. 1. The cut is of about the natural size, but there is also a sexual and incidental difference in the size of this species.

Fig. 3 is the "Ash-gray Potato-Beetle," (*Lytta cinerea*) the whole insect being uniformly of the same ash-gray color. It is not quite as large as it is represented in the cut, the straight line on the right side representing the true size, *d* represents the difference in the antennæ of the sexes ♂ the male and ♀ the female. Although we have found this species feeding on the potato vines, yet it does not occur as abundantly as the *striped* or *margined* species, nor is it so frequently found on the potato vines.

Fig. 4 represents the "Black-rat potato-beetle" (*Lytta murina*), which, according to Riley and Walch, is the species that feeds on the potato vines, and we saw it so occupied last summer, but must have mistaken it for another species. It is entirely black, and we have seen it as large, or nearly so, as the cut; but it is more frequently found the size of the straight line on the right side of the figure. We have a smaller silky-black species in Lancaster county (*Lytta atrata*), which occurs on the Golden Rod and other plants more abundantly than any of the foregoing species, and which has four raised lines on the wing-covers, and has the antennæ, as shown at *c* ♂ male, ♀ female. This species is not only smaller than any of the others, but it is also more pointed at the hind end of the body, and the wing-covers are also more convoluted.

The last two insects are, however, so nearly alike that, without a minute examination, they are almost certain to be confounded. We have called these insects *potato-beetles*, simply because our subject has been the enemies of the potato plant, but more properly they should be called *Blister-beetles*, which they really *are;* and although they have been very destructive in latitudes farther south, they have not been so in any marked degree in Lancaster county. They have been successfully destroyed by placing dry straw or hay between the potato rows, and setting it on fire. This is said to kill the beetles, and yet not of much injury to the plant.

We will continue the subject in our next number. In the meantime our readers may perceive how indefinite it is to talk of THE potato-beetle.

INSECTS, NOXIOUS AND BENEFICIAL.

We are under obligations to Prof. Riley for a complimentary copy of his seventh valuable contribution to the economic entomological literature of the country.* It hardly expresses its quality to call it a pamphlet, it is rather an octavo volume of 200 pages in paper covers, and treats mainly of half a dozen of the most destructive species of insects with which any country could possibly be afflicted; namely, the "Colorado potato beetle," (*Doryphora 10-lineata,*) the "Chinch Bug," (*Micropus leucopterus,*) the "Flat-headed apple-tree borer," (*Chrysoleothris femorata,*) the "Canker Worms," (*Anisopteryx vernata et pometaria,*) the "Grape Phylloxera," (*Phylloxera vastatrix,*) and the "Rocky Mountain Grasshopper," (*Caloptenus spretus,*) with 39 characteristic illustrations, and many more figures; on all of which the historical and descriptive details are so elaborate as to occupy the whole volume.

The great loss to the country during the year 1874 in farm, orchard and garden products, from the depredations of these insects alone, is such as to amount to many millions of dollars; and, yet, there are many wiseacres in the halls of State and National legislation, who would permit these millions of *tribute* to be visited upon the people without appropriating a single shilling for *defence.*

If there is any one fact more strongly and distinctly brought out through Prof. Riley's inquiries, as detailed in his able report, it is the one with which we have been forcibly impressed for many years, and that is, even when valuable reports are published by State or National governments, they do not get into the possession of the people who most need them, and for whom they are ostensibly intended. We have seen the most magnificent public documents in the hands of those who had no manner of use for them, never read them, and who had little more conception of their utility than a bear has of a watch. We have also seen the shelves of second-hand book stands teeming with them, a year or two after their issue, but very few in the hands of our farmers, fruit-growers and gardeners. Even if it were true that our agricultural population do not read as much upon these subjects as they should do, when they have the opportunity, there is still no justification in depriving them of that opportunity when a contingency supervenes.

There should be at least one library of practical agricultural, entomological and chemical works in every rural town or township of the whole country, under the supervision of proper township officers, as the depositories of State, National and other documents, in duplication, and as a resort for farmers to obtain the latest and best information on all subjects relating to their occupations; or to obtain books on a limited loan; and there is where State and National governments should deposit such documents, and not merely in the hands of State legislators or members of Congress, who mainly distribute them among their political friends.

Of course, there are many honorable exceptions; but, judging from what we have seen, and from the complaints often made, we are convinced that the present distribution of public documents is sadly in need of a thorough reform. Even if it could be demonstrated that those who dispose of them to book-dealers are, or have been, recipients from public officers, it only proves that the documents got into the wrong hands, and that a proper discrimination had not yet been made.

But, to return to the matter of this report, we would like to place more of it before our readers than we possibly can in our present number. The publication of such a report itself speaks well for the liberality of the Legislature and State Board of Agriculture of Missouri. We wish we could say as much in behalf of the "powers that be" of the State of Pennsylvania; it would help to maintain her dignity as the "Key-stone" of the "Federal Arch."

The few insects whose "doings" in the State of Missouri and the Northwest Prof. R. portrays, form a fearful phalanx of destruction, and, when combined in one season, they leave little for the farmer to gather from the soil, and are sure to leave distress and suffering—if not absolute famine—in their wake. The Colorado beetle we have here among us now, and there is no reason why we may not have some of the others.

In regard to the precautionary measures of our English and Continental friends, the report reiterates what we stated to an English correspondent two years ago, to the effect that, if the beetle reached their shores, it would not be through the importation of potatoes from America, and that it was likely to get there whether they imported them or not, unless they adopted measures involving absolute non-intercourse. This spring these beetles issued from cellars in the city of Lancaster, where they had taken up their winter quarters last fall, and we have crushed them under our feet on the pavements. Having now reached the seaboard, they will pass their hybernating period in lumber-yards and warehouses, or any other convenient places, and may be transported in the cargoes of sailing or steaming vessels, just as they were brought into the county of Lancaster at least three

*"SEVENTH ANNUAL REPORT on the Noxious, Beneficial, and other Insects of the State of Missouri. By Charles V. Riley, State Entomologist. 1875."

years before they could have reached here by their ordinary progress through the Western States; therefore, "*Johnny Bull, beware!*"

Notwithstanding the learned "hubbub" made about the poisonous effects of *Paris Green* during the past year—its reported injury to the soil, the tubers, the plants, and the users of it—the previous ten years of practical experience among the western farmers, leaves their confidence in it as the best remedy yet discovered, perfectly intact. Of course it must be used judiciously, for no one denies that it is a rank poison, and if it were anything less, you might as well attempt to "choke a dog with butter," as to destroy potato beetles by an artificial application of any kind.

The "Chinch-bug" is the next in order, and its habits and "doings" cover a large space in the report. On some future occasion we will give a history and illustrations of this "naughty bug," simply because we don't exactly see why we may not ultimately have this insect in Lancaster county, seeing that we have many others of the same *order*, that are allied to it in habits and general appearance. We need now only admonish our farmers that a little insect without jaws, and "less than three-tenths of an inch in length," was so numerous in Missouri, during the summer of 1874, as to cause a loss of *nineteen millions of dollars* to the agricultural wealth of the State, and that this injury has been sustained by the wheat, corn, and oat crops alone. Dry weather and loose upland soils are favorable to the propagation and development of this insect, whilst low lands, wet weather, and compact soils are fatal to it. Although *artificial* and *natural* remedies have a tendency to diminish its numbers, there are none more effective than cold, continuous rains.

The "Flat-headed apple-tree borer"—so called to distinguish it from the "Round-headed apple-tree borer," illustrated and described in this number of THE FARMER—was very destructive to the apple-trees during 1874 in the State of Missouri. We are in possession of illustrations of this insect, and will publish a history of it in a future number of THE FARMER, because we have been cognizant of its existence in the county of Lancaster for more than thirty years.

Prof. Riley also pays his compliments to two prominent species of "Canker-worms," which devastate the *foliage* of apple trees in Missouri, and we have these also in our county. We will also illustrate the history of these insects in due time.

The "Grape Phylloxera"—the gall form of which we have noticed in the county for the past ten years—is also treated ably and at length. The French government has increased its premium to *three hundred thousand francs* for a sure remedy against the depredations of this minute, and almost invisible to the naked eye, insect. From all the observations and investigation made, it seems clear that the root and leaf insects are identical, and as we *know* we have the latter, we may infer that we have also the former.

The paper on this subject is very long, but very interesting and useful. We will refer to it again, but it may be necessary to say before we close, that among the most effective remedies has been the submergence of the soil, where it is practicable.

The chief counteracting reliance, however, is placed in *grafting*—grafting on stock not susceptible to the root attacks of the enemy. *Concord*, for this purpose, is regarded as A, No. 1, and accordingly it is estimated by competent authority that the importation of cuttings from America into France, during 1874–75, will amount to *ten millions* of this variety alone.

The injury to the grape crops in France alone has amounted to *fifty millions of dollars*, and it is rapidly spreading over the continent. In the United States, east of the Rocky Mountains, this insect has been recognized in Kansas, Iowa, Illinois, Missouri, Michigan, Ontario, New York, New Jersey, Pennsylvania, Maryland, Connecticut, District of Columbia, North Carolina, Texas, Florida, and elsewhere. No doubt grapes in this country have often been injured by these insects, and the effects referred to other causes.

The "Locust," or "Rocky Mountain Grasshopper," has caused a vast deal more distress and suffering than all the others, perhaps, combined. From the very peculiar constitutional character of this insect we hardly think it will ever infest Lancaster county; nevertheless, on this subject we shall have more to say hereafter, for we have a species very nearly allied to it, and which sometimes is very destructive.

INSECT FERTILIZATION AND HYBRIDS.

My neighbor, Mr. George Hensel, showed me a fine specimen of the Rocky Mountain Columbine, which has very long spurs to its nectaries, each of which was slit open by bees to get at the honey. This course is out of order, so with those that make a hole in the side of the calyx tube. The regular way is to enter the flower cup, and thereby get the pollen scattered to be conveyed to the pistil or glutinous stigmas of other flowers or plants to produce fertilization, as now claimed to be one of the offices specially delegated to the insect tribe, while the majority of bees actually do confine themselves to the proper functions in collecting honey and pollen in the regular way. Certain individual bees persist in taking a short cut, as if they were more knowing or more reckless—seeking to gratify themselves, without regard to any benefit to the flower; nay, indeed, rather damaging the flower they rob.

Darwin, on cross-fertilization, has brought many facts to light, giving quite a large list of plants that seem to avoid self-fertilization. According to his theory, all plants with conspicuously colored flowers, or powerful odors, or honeyed secretions, are fertilized by insects; all with inconspicuous flowers, and especially such as have pendulous anthers, or incoherent pollen, are fertilized by the wind. Whence he infers that, before honey-feeding insects existed, the vegetation of our globe could not have been ornamented with bright-colored flowers, but consisted of such plants as pines, oaks, grasses, nettles, etc. It is stated, by Mr. T. H. Farrer, that the parts of the flower of the scarlet-runner are so arranged that a bee, alighting on it in search of honey, of necessity shakes any pollen off his proboscis on to the stigma; while, at the same time, his proboscis, as he withdraws it, is covered with the pollen of this flower, and is thus prepared to fertilize another.

In Lobelia, the parts are so arranged that the pollen is ejected, in small quantities at a time, on to the exact spot of the back of the visiting bee on which it should be placed to be carried to the stigma of another flower, the stigma being so arranged that, at the next flower visited by the bee, it sweeps off the previously acquired pollen. Thus we find, by actual observation, that insects have an office to perform, and do not rob plants without some compensation. Farmers on the banks of the Rhine reported, years ago, that the orchards in which bees are reared are more productive than those in which there are none. The use of insects in fertilizing the fig, called "caprification," was thought essential in the times of Aristotle, as he, Theophrastes and Pliny speak of it. Burdach supposes certain insects assigned to certain plants, and experiments made by covering a plant with gauze to prevent insects to alight, while another of the same stood in the open air, where it was visited by insects, had all its flowers fecundated, while the covered plant produced no fruit. This experiment was made by the celebrated Willdenow, on the *Aristolochia Clematis*.

Every farmer knows that red and yellow Indian corn will mix naturally; this is a species of hybridity.

I may here introduce the remark of the late S. G. Morton, of Philadelphia, in a work published by him, in which he says: "Hybridity, whether in plants or animals, has been singularly neglected by naturalists. It has generally been regarded as a unit, whereas its facts are as susceptible of classification as any other series of physiological phenomena. Hence I have proposed four degrees of hybridity. *The first degree* is that in which the hybrids never reproduce; in other words, where the mixed progeny begins and ends with the first cross. *The second degree* is that in which the hybrids are incapable of reproducing, *inter se* (that is, among themselves), but multiply by union with the parent stock. *The third degree* is that in which animals of unquestionably distinct species produce a progeny which is prolific *inter se*, (among themselves). *The fourth degree* is that which takes place between closely proximate species—among mankind, for example, and among those domestic animals most essential to their wants and happiness."

M. Hooibenk's process for facilitating the fertilization of plants may be new to some. The process consists in touching the stigma of the flower, just before it blooms, with a pencil dipped in honey; or, better still, with honey mingled with the pollen of the plant which is being operated on. The process has succeeded admirably, it is stated, on fruit trees, and even on certain particular branches of trees which had never borne. On the portions thus treated fruit formed in natural course, while other parts remained in their normal condition. The effect may be explained by supposing that the honey retains the pollen grains on the stigma, and thus favors the formation of the indispensable pollen tubes."

Science has demonstrated, by the use of the microscope, that when pollen has fallen upon the stigma, and is retained by the hairs or gluten on the surface, a pollen tube is emitted, apparently owing to endosmotic action between the fluid exudation from the stigma and the contents of the pollen cell, which latter bursts and sets free the inner lining of the cell in the form of a cylindrical tube. This tube passes down between the cells of the style, lengthening out till it at last reaches the ovules in the cavity of the ovary. This lengthening was at one time thought to be merely extension, but is now supposed to be due to actual interstitial growth. Having arrived here, the pollen tube enters the foramen at the top of the ovule left by the imperfect closing of its investments, and thus comes in contact with the nucleus and embryosac. In this sack there are at the top some minute vesicles, called the germinal vesicles, one, or sometimes two of which, under contact, lengthen out into a slender cellular thread, and at one end of this thread is the embryo plant, as explained in the *Life of a Seed*, by Maxwell T. Masters, M. D.

As regards hybrids, much of interest might be mentioned from the experiments of Kolreuter, Naudin, Hunter, etc. Experiments alone can determine the amount of affinity beyond which fertilization is impracticable; but at present it seems to be restricted to individuals belonging to genera of the same natural group.

The tendency of the natural phenomena relating to hybridity is to prevent its taking place, and, when it has occurred, to arrest the propagation of varieties so produced, and to limit their generative powers so as to admit only a reversion to the original specific forms.

It would seem that in most cases the fertilizing particles had a specific power over the ova derived from the same species, or were attracted by them in a peculiar manner. It is true a few exceptional cases are cited, but the general rule is, that individuals of different species do not voluntarily hybridize. The salacious mare must be blindfolded, or she will not receive the ass to produce the most common and useful of hybrids, being termed, *par excellence*, the mule. This, however, establishes the rule of infertility of hybrids from different species, and is evidently an artificial and yet natural result. To conclude, the most successful mode of obtaining good and very distinct varieties in plants, is to employ the pollen from a male flower grown on another plant than that bearing the female parent. To avoid

previous and undesigned impregnation, the anthers in the female parent, if they are produced in the same flower with the pistils, must be removed by a sharp-pointed pair of scissors, and the flower inclosed in a gauze bag to exclude insects, until the desired pollen is ripe. Another effectual mode of avoiding undesigned impregnation, is bringing the female parent into flower a little earlier than its congeners, and removing the anthers as above described: the stigma will remain a long time vigorous if unimpregnated. When double flowers are desired, if a double flower should chance to have a fertile anther or two, these should be employed for fertilization, as their offspring are almost sure to be very double.

Those who make it their business to grow new sorts and varieties for sale, may not thank me for showing how the thing is done, but our farmers' daughters can experiment, and try their canny hand as well; all know of it, but, perhaps, many not exactly how it is done. These may be benefited, while no one will suffer by the knowledge.—JACOB STAUFFER, *Lancaster, Pa.*

MUSHROOMS--MORELS--TRUFFLES.

(*Agaricus, Morchella et Tuber.*)

In *Vick's Floral Guide* for 1875, p. 170, under the head of "Mushrooms," is the result of a correspondence on this subject, assisted by a very fine illustration, but which, nevertheless, seems to us very indefinite and unsatisfactory, notwithstanding an appeal was made to one "who dispenses the great knowledge he possesses with a generous hand."

It is true, it is not always safe to venture a specific name for a thing we have never seen, even when accompanied by a description and a drawing, but we are somewhat surprised to learn that Mr. VICK should "know of no variety of the Mushroom resembling the figure," in this country, (if the figure is correct,) and that Mr. FARLOW confesses that it "does not look like any fungus he ever saw."

We have been a citizen of Lancaster city for more than twenty-six years, and during all that time scarcely a summer has passed that a species of Mushroom—under the "Pennsylvania Dutch" name of "Mauricles"—has not been sold in this market, and the illustration above given is a tolerably good representation of it.

We have not purchased, nor, indeed, seen any of them for half a dozen years, simply because, in the first place, we never get into market early enough to secure them; and, in the second place, they are too expensive; but, so far as we can recall them, they were not as wide at the base of the cone, and had a longer stem than Vick's illustration, something between the *Morchella esculenta* and the *hybrida* of England and the continent of Europe—perhaps a different species only. Doubtless the German name, "Mauricle," and the English name, "Morel," are corruptions of the technical name *Morchella*. We must not forget to say, however, that our Morels or Mauricles cannot be said to be yellow, but we have seen analagous species, with a very long stem, that were a very bright yellow in color, which, without knowing positively anything about their qualities, we always regarded as poisonous. Our edible species are of a dull clay color, and get darker by cooking, but we have never seen them scientifically figured and described. They may be the *Lycapodon gemmatum* referred to by Mr. Farlow, but in the absence of a figure or description of that species we are unable to determine. Under any circumstances they are not so very far from the illustration in *Vick* that we would feel justified in saying we had never seen any fungus like it. If we are not very much mistaken our Mauricles are brought up to market from the southern portion of Lancaster county, and we *know* that some of our citizens have collected them in the Conestoga valley south of the city; and we also know that they are finely flavored and of a very delicious and edible character.

Of course, in favorable seasons, we have the common edible Mushroom (*Agaricus,*) in Lancaster county as plentifully as elsewhere, but no attempt has yet been made, to our knowledge, at their artificial culture.

As to Truffles, (*Tuber,*) the assertion that we have them in the United States, perhaps, needs a more explicit confirmation before it will be credited; but we have a faint, perhaps a *very* faint, recollection of having dug up, or seen dug up, something of the kind, under an "acorn tree," about fifty years ago, that had the intensified fragrance of a Mushroom. But having had no subsequent experience, nor having seen anything in print corroborating the notion that it was a truffle; and, moreover, the trees having been removed, and the land under cultivation these many years, we had kind of concluded that it must have been the bulbous root of a large mushroom—for it was larger than a walnut—and we probably would not have referred to the subject had not Mr. Vick's aged Indiana correspondent alluded to the *Tuckahoes* or *Truffles* of North Carolina.

If this subject illustrates any one thing more forcibly than another, it is the unsafety of relying entirely upon the local, common names of things. If the subscribers to the FARMER refer to Vol. I, 1869, pp. 4, 71, 126 and 170, they will find much to interest them on *Edible Fungi*, and the modes of propagating and cultivating them, should they feel inclined to embark therein.

THE FACTS OF NATURAL HISTORY.

NO. 2.

"And robins 'neath the barn eaves low,
Prepare their summer home."

When a local poetess wrote the foregoing couplet, it elicited the strictures of a number of critics, who very significantly asked—"WHAT KIND OF ROBINS?" and very confidently asserted that although swallows and phoebe birds might build their nests under eaves, yet "robins never do." Such critics must certainly have been mere "closet naturalists;" and because their books may have have recorded no instance where robins have departed from their *normal* habit in this respect, yet the instances are very numerous in the domestic history of these birds where they *have* made such a departure in a very marked degree, and have built their nests not only in boxes, deserted buildings, and elsewhere, but absolutely *under the eaves* of buildings.

As a rule, robins usually build their nests in trees, selecting a fork where two or three branches diverge, from ten to twenty feet from the ground, as may be most convenient. The foundation is usually made of sticks and mud, and the inside finished with softer and more pliable material. They also seem to prefer apple trees, either from their proximity to human habitations, or because they afford a more convenient support.

Doubtless there were robins in the county of Lancaster long before there were any apple trees in it, and of course all robins *then* were in the habit of building their nests in other trees than apple, just as some of them still do. The planting of apple trees was the beginning of civilization and domestic improvement, and the robin accommodated its habits to the new state of things, just as the wren, the bluebird, the barn-owl, the pigeon, and some other birds have; and there seems to be no definite limit as to what some birds *would* do or *would not* do under certain circumstances. We recall an instance of many years ago, where a pair of robins "prepared their summer home" for many successive seasons in a box-cornice, "under the eaves," that had an opening in the end, notwithstanding there was a cherry tree standing near it, the upper limbs of which were much higher than the cornice. Now, the birds may have reasoned thus: "These cherries will ripen and be gathered before our brood is fledged and able to take care of itself; therefore we will not subject it to the invasions of wanton boyhood, when they come to gather the cherries."

They were wise birds, although they *did* depart from the theories laid down in books, as to the nesting habits of the robin.

A year ago we had a robin which we obtained the previous autumn and kept all winter. In the spring we placed his cage in the garden and opened it; and although he daily left it and scavenged the garden, appropriating all the bugs, slugs and worms, yet he always returned to it in the evening. This bird had contracted the domestic habit of staying out later in the evening than birds usually do; but he would invariably resort to his perch in the cage for repose, whether the cage was left in the garden or brought into the house to save him from marauding cats. . . . Some weeks ago Rev. A. B. Grosh published a short but interesting paper in the columns of the *Marietta Register*, illustrating the departure of the robin from its normal habits under the influences of human civilization, in which the foregoing experiences have been corroborated, to which a Middletown correspondent in the same paper approvingly responds in the following language:

A. B. G.'s defense of the Lancaster county girl whose robin built its nest under the "barn eaves low," can be substantiated by ocular demonstration, to the satisfaction of all would-be critics. A robin is now brooding on her nest under the house eaves, within arm-reach from an upper window of the house in which we are now sitting. All that is required is some projection under the eaves, to allow the robin to place its nest on, to warrant whole colonies of these birds in building their nests under the house or "barn eaves low." That Lancaster county girl evidently knew what she was writing about, and her head is perfectly "level" and well balanced.

To this we may add, that a pair of robins have built a nest and are now brooding under the eaves of a three-story brick house (Mrs. Brenceman's), on the corner of Lime and Grant streets, in the city of Lancaster. In this case the nest is on the square capping of the water spout under the eaves.

If anything further were necessary, the following, from the correspondent of a local editor of the Lancaster *Express*, residing in Germantown, Pa., ought to be satisfactory:

From the third-story gable-window of my house can now be seen on the eaves a rude mud and stick nest, containing three young robins. There is also another nest similarly located on a neighbor's house.

The general impression is that robins prefer seclusion for their nests; and, although the season is very backward, and deciduous trees are late in being clothed with foliage, we have plenty of evergreen trees here, which many birds (robins, too,) have chosen for "nest-hiding."

These two instances, however, ought to be sufficient to verify the point of Jane Grey's poem, the only difference being the eaves of a barn and house.

No doubt many similar cases could be recorded by those who reside in rural districts, in villages, or in the suburbs of larger towns and cities, although such a thing might never be witnessed by the inhabitants of the compact, seven-storied structures of the city's centre, where all the *apparent* or real facts of natural history are gathered from musty, and often superannuated or obsolete, volumes. And if any such observations are more worthy of credit than others, it appears to us they are those made through a series of years by an intelligent woman. We may easily conceive how an observant woman might take the abnormal character of a bird, whose habits she had been noting for several seasons, for the general characteristic of the species, and then celebrate it in song, especially if it should happen to be the only individual that had come under her observation. Under any circumstances, a robin is more likely to build its nest under "the barn eaves low"—provided a perch is there—than a swallow is. In our boyhood we usually found more swallows' nests high up under the comb of the roof of the barn, than outside under the eaves. Birds, like other animals, often adapt themselves to the circumstances by which they are surrounded, and make a wide departure from their normal habits. It certainly cannot be classed among the normal habits of swallows,

to build their nests in barns or chimneys, for there must have been a period when there were neither barns nor chimneys to build *in;* therefore, to quote this habit of swallows in a poem, would be as great a license as that indulged in by the authoress of the poem "*on April,*" in regard to the robin.

We do not justify the unlimited liberty of introducing into poetry, under an assumed license, any assertion that would not be allowable in prose, as a *fact* in natural history or any other department of literature—unless it might be in a fable or parable as a means of moral illustration—and we go further, and suggest that any allusion to the habits of the animal world would make the subject clearer or less liable to criticism, if poets were only to make such statements as relate to the general, or widely known, habits of the animals they refer to; but, at the same time, a specific allusion to any object with which we are familiar, although unknown to any one else, is not fairly a subject of criticism until we have ascertained that the matter has no fact for its foundation. A critic ought to know *more* about the subject upon which he exercises his criticism than its originator or author; otherwise he only elicits a *counter*-criticism, and may likewise exhibit a greater amount of incompetency than is agreeable to acknowledge, if he does not make himself ridiculous.

We have written the foregoing only for the purpose of showing how exceedingly artificial the habits of the animal world may become under the influences of human civilization, and the changes which have been effected in the physical condition of the country through the progressive advances of improvement; and not for the purpose of vindicating any particular *person*, or of lampooning unjust criticism.

There are various standpoints from which the book of nature should be viewed before we are able to come to a just conclusion as to what it really teaches, and it often happens that those in humble life—if they are intelligent and gifted with proper habits of observation—have greatly the advantage of those possessing higher social and literary positions, and who may deem the investigations of nature beneath the dignity of their calling. An illiterate seaman may know more about the prognostications of the weather than a professed meteorologist or astronomer.

OUR WHEAT TRADE.

The accumulation of the extraordinary stock of five millions of bushels of wheat in Chicago is, we believe, an unexampled phenomenon in the history of the grain trade of this country. Now, that a "break" has at length been reached in the prices at which wheat has been held in the interior, there ought to be a brisk revival in the shipments from this and other ports, and prices ought to reach what may be called their normal equilibrium. The grasshopper "scare," which has been carefully nursed for speculative purposes, has lost any further power to influence the market, and the largely increased area of land under wheat in northeastern Nebraska, in Kansas, and elsewhere, joined to the most favorable reports of the appearance of the crop in these districts, has convinced the majority of producers of the folly of holding any longer for a rise.

The possibilities of our wheat exports during the next three months can be most correctly gauged by a reference to the English demand, and to the extent to which it has already been supplied. For the harvest year beginning Sept. 1, 1874, and ending Aug. 31, 1875, it was estimated by the best English judges that the demand would be 22,700,000 quarters. The yield of the last wheat harvest of the United Kingdom has been, with the nearest attainable approach to accuracy, set down at 13,700,000 quarters. The importation required for the twelve months ending August 31, is therefore nine millions of quarters, or seventy-two millions of bushels. During the eight months between September, 1874, and April 30, 1875, the United Kingdom had already received nearly forty-six millions of bushels of foreign wheat, leaving twenty-six millions of bushels to be supplied during the four months between May 1 and August 31. Of the forty-six millions above noted, twenty-five and one-half millions of bushels were received during the closing four months of the last year, and twenty and one-half millions during the first four months of this year.

The question which immediately interests the wheat-growers of the United States is what proportion of the British demand is likely to be drawn from this country. Of the twenty and one-half millions of bushels of wheat imported during the past four months of 1875, nearly twelve and one-half millions were drawn from the United States. Of the twenty-five and a half millions imported during the last four months of 1874, a somewhat larger proportion was contributed by this country. But taking the ratio maintained between January and the end of April, our proportion of the estimated British wheat imports up to the end of August ought to be about sixteen millions of bushels. The present stock of wheat in the country "in sight," as it is called, that is, practically on the market, is not less than ten millions of bushels. In the face of a more extensive demand last year, stocks were about two millions of bushels less.

Trustworthy estimates about the amount of land under wheat this year in the United Kingdom are not yet forthcoming. As the acreage of 1874 was 3,833,000, or pretty near the maximum area of available wheat land in that country, the British harvest of this year cannot be perceptibly affected by the increased quantity planted. The average yield per acre of British wheat was, last year, thirty-one bushels, or one and a half bushels above the "standard average." As the average yield of the last nine years has been one and a half bushel below the standard average, it may fairly be expected that the total yield of 1875 will fall short of that of 1874. The increased consumption consequent upon low prices must also enter into the question of future demand. Add to these considerations the fact that all our rivals in the British wheat trade, are, with the exception of Russia, practically out of the race. Even Russia, which used to send to England twice as much wheat as we did, has, even under the stimulus of a superabundant harvest, sent during the last eight months but little over a third of the amount of our imports. While, therefore, the prospects of our export wheat trade cannot be called brilliant, they are certainly reassuring. Only, producers must make up their minds to a pretty long period of almost stationary prices, while they may reasonably expect to find some compensation in the increased purchasing power of their money.—*New York Times.*

SHORT HAY CROPS.

How Shall We Make Up for the Deficiency?

I suppose this is not the only section of country afflicted by a short crop of hay, and not the only place where the cry is and has been, since the fore part of June last, What shall we do to supply the short crop? And as your valuable paper is extensively circulated among the farming community, I will make a good suggestion. I would say to those that are short of hay at the time, to commence at once and feed grain of some kind, and have it ground. I have come to the conclusion, by my own experience, that nine times out of ten, by feeding a little grain, it is cheaper than hay. If you feed but one pint per day to each animal, and continue it until spring, you will see good results. They do not require as much hay or other fodder. They look a little gaunt, but, when spring comes, they will shed off their old coats of hair as early, and generally earlier, than those that have all the hay they want to eat and no grain; and you will see that the cows that have had the meal all winter will give a good flow of milk. But we must devise some means or way to meet this deficiency in coming seasons, for we have been taught by bitter experience that we cannot rely solely on our hay crop for wintering our stock of cattle and horses. And now the question arises, What shall we substitute? or, in other words, what shall we sow or plant in the spring to take its place? In this neighborhood are sown corn and millet. I had a few acres of meadow last season that looked more like pasture than meadow. I started the plow in it on the 12th of June, and fitted it thoroughly, and sowed it on the 18th to millet seed, at the rate of half a bushel per acre, and rolled the ground so that I could cut it with a mowing-machine. The latter part of August I cut and cured it the same as you would hay. I think it yielded at least three tons per ton; and if I had left it for the hay crop, it would have been three acres per ton. I claim that there is no fodder that cattle or horses like as well as millet, if it is cut in its proper season and cured as it ought to be. There were other crops than mine grown in this neighborhood with as good or better results; and there were some that were sown later, after they had mowed the ground, that were not as good. I would advise those who sow for fodder to sow as early as the middle of June. After I had cut my piece of millet, I plowed it over and sowed it to wheat. The sod was thoroughly decomposed, and it made a fine dressing for the winter wheat. I think I shall take the same course this coming season with other meadow land, for it pays, and that is what we farmers work for, whether we get it or not. Then fit the ground good, and sow from three to four bushels per acre. Some sow Western and some State corn, and some mix them. I think on strong soils State is best; on higher soils, Western. The best way to harvest it is to cut it with your mowing machine; put it in good-sized heaps, and let it stand in the field until you wish to use it. There are some fields of it standing in heaps at this time that are nicely cured, and are in good condition. One would naturally think that it would spoil, but they will be happily disappointed with the results if they try it. I have seen some cut it with sickles or corn-knives, and then bind it in small bundles. This method requires a great deal of labor. I think it don't pay.—*R. South Courtland, New York.*

UTILIZING THE GRASSHOPPER.

We knew very well that the utilization of the grasshopper was only a question of time; we are too far advanced in science and civilization to be beaten by a bug as the ancient Egyptians were, and next year, if the western pest should be as numerous as last year, we expect to see what was undoubtedly a calamity turned into a blessing. In other words, the grasshopper is invited to come on; the department of agriculture is now ready for him. It intends to waylay him with deep trenches, squeeze a fine oil from him, and crush up his body into a compact mass, that will be dried and ground into a meal which will make a capital fertilizer.—*Ex.*

On this subject we would direct the attention of our readers to our remarks in the March number of THE FARMER, pp. 34 and 35. Not because we lay any special claim to originality on the subject—for we have very little ambition to gratify in that behalf—but to show that *utilization*, in some form or other, is being faintly forshadowed, and may ultimately be resorted to, to convert what, under ordinary circumstances, is almost universally considered a curse, into an unmistakable blessing. Why should not the *oil of grasshopper*, or the *oil of potato-beetle*, possess as much healing virtue, in special diseases, as "cod-liver oil?" Why should not an unction, a lubricant, or saponaceous element be extracted from these insects as well as from a variety of other animals? And then, as a fertilizer, what a splendid question of "tit for tat" is involved. To enrich the very soil they rob of vegetation, with the fertilizing fat of their own detestable carcasses, would indeed be "turning the tables" to some good account at last. Even if they were poisonous to the animal world this might not impair their value as a lubricant or a fertilizer. As a culinary preparation, provided it could be demonstrated that they are healthful and nutritious, surely there is nothing about them a hundredth part as revolting as the "*schnepfen-dreck*" of our Teutonian epicures.

A MAGNIFICENT HORSE.

We need not be at all surprised that so many men take a delight in "horse-flesh," for if there is any *one* four-footed animal on earth in which is combined the highest degree of grace, beauty, intelligence, strength, majesty and use, that animal is the horse. We are not much of a horse connoisseur, but a few days ago we saw, at the stables of Mr. S. S. Spencer, that beautiful specimen, THE JENIFER ARABIAN, a thoroughbred stallion, imported into Maryland by Col. W. H. Jenifer, of the Egyptian Cavalry, by permission of his Highness, the Khedive of Egypt, specially obtained. He is of a pure grey color—almost immaculate white—with a silver mane and tail; perfect in form, style and action; eight years old; 60 inches high, and has all the traditional marks of the pure bred Arabians, which descended from Mohammed to the present Arabs. He was bred on the desert by the Bedouin Arabs, from the stock of the famous Kochlani or Koheilan Arabians, a branch of the great Anaazah family, from Mejdee, the centre of Arabia, and his sire and dam were both of the purest blood.

He remained in Lancaster only a few days, in transit from the east to farther south, his next destination being Baltimore; but during that brief period there were, perhaps, few horse fanciers in and about Lancaster who did not pay their respects to him, for he is indeed a most admirable creature.

WINTER-KILLED VINES.

From the fact that two of our grape vines have not yet (June 1st) developed a single bud, we opine they were "winter-killed" some time during the late severe winter. These are an *Isabella*, fully an inch and a half in diameter at the thickest part, and a *Rebecca*, about half an inch in diameter. We don't exactly see why this should be so, seeing that an Isabella, about five feet north of the former, and a *Concord* and a *Telegraph* on the same line, have survived and are doing well—only the usual quantity of the last year's growth being killed. The Isabella stood on the north side of a close fence, and had very little sun all winter; but it has stood there for more than ten years without injury, and my neighbor's vines, on the south side of the fence, within six inches of the same latitudinal line as mine, have escaped entirely. The Rebecca stood on the east side of a close fence, and was protected from the cold northwest blasts all winter, and, moreover, had the benefit of the sun—when it shined—from about 9 o'clock in the forenoon until about 3 or 4 o'clock in the afternoon, and had been standing there for three years or more. The conditions, otherwise, were the same in all.

We have seen similar effects of cold weather before, in regard to grape vines, but more frequently in *Arbor Vitæ* hedges, where, "here and there," a single hedge-bush or more were killed down to the ground, and turned yellow the following spring, whilst the others all remained green, and put forth new leaves and branches—those killed never recovering again. Of course, there is some *cause* for this, and that cause is just the thing we would like to know. We have never had the *Phylloxera*, in the gall form, on our premises that we know of. Is it possible that we had the tubercular, or root-form of the pest, without our knowledge of the same? Have any of our readers or subscribers had a similar experience, and what is their opinion on the subject? If so, will they be so kind as to give us their experience or opinion on the subject? We have seen tens of thousands—perhaps hundreds of thousands—of the *Phylloxera vastrix* on the Clinton grape vines, to the almost total destruction of the crop; but we have not yet recognized any of the "root phylloxera," but we have inferred that where the one is the other will be also.

The root phylloxera is spreading in this country, and it is very probable that much of the injury sustained by grape vines may be owing to the presence of this little microscopic pest. Is it not possible that vines enervated by Phylloxera may become too feeble to successfully resist the effects of freezing cold.

Since writing the foregoing we find, on examining our Isabella vine, which we thought had been winter-killed, that it has only been retarded about one full month. To-day, June 5th, we find that the buds are pushing out all over the vine with as much vigor as the others did four or five weeks ago. This case exhibits a well-defined question of *retardation*, and is just as interesting as if our first surmises had been realized.

Unless the matter can be explained upon some other hypothesis, it may illustrate the distinction between a northern and southern exposure—the difference between the north and the south side of a fence even; but it does not make it quite clear to us why this difference should have been so manifest last winter, and not in any of the eight or ten preceding winters—because, whatever the characters of the winters may have been, the conditions were the same to all the vines, and especially to those on the north and the south side of the fence alluded to, and which were within six inches of the same line of latitude, and one, at least, on the same line of longitude. If it be attributed to the frost in the ground, we can hardly suppose that it should have observed such a distinct line of demarcation; for, although a fence might protect and shelter the tops, it could hardly afford a similar protection to the roots. It is singular to see one grape vine in bloom, and another one, only about six inches away from it, putting forth its buds—a developmental difference of a month or more.

SULPHURET OF LEAD.

Mr. J. B. Erb had some very fair specimens of *Argentiferous Galena* or *Sulphuret of Lead*, from his farm in Strasburg township, on exhibition at the meeting of Horticultural Society, on Monday, the 7th inst. All along, from the American Revolution down to the present time, more or less of this mineral, from time to time, has been found in the southern parts of Lancaster county; and tradition has it, that prior to the revolution a company of Welch miners were successfully working a mine of it in Martic or some other of the southern townships. When the Revolutionary War broke out, it is said, they abandoned it and closed it up, and as the war terminated fatally to the English cause, they never returned, and its exact whereabouts has never been since discovered.

When the first State Agricultural Fair was held at Lancaster, a large and beautiful mass of it, from Martic township, was placed on exhibition, but it never was reclaimed and we never learned who was the exhibitor. It is said to contain about 5 per cent. of silver, and hence it is called *argentiferous*. If this mineral could be obtained in quantity, the owner of the land might well forego the vicissitudes of agriculture and turn his attention to mining.

ABORTIVE STRAWBERRY.

Mr. J. B. Erb had on exhibition, also, an abortive strawberry plant. This was a fine, large, vigorous plant, having borne about *thirty* flowers, and all abortive but *two*, and he desired to know the cause.

This is a botanical question, and as we are not a botanist in any special sense, we can do nothing more than suggest the cause. By reading carefully the contribution of Mr. Stauffer, in this number of THE FARMER, it will become apparent that insects have more to do with the fertilization of plants than is generally supposed—some plants depending entirely on this resource. Now, if the weather is cold or wet at the fructifying period, and few or no insects are abroad, such plants will be imperfectly fertilized—not only because of the absence of the insects, but because, if wet, or copiously drenched by rains, the fertilizing granules will be washed away and abortion follow. There is considerable abortion among the cherries, the apples, and the strawberries the present season, whatever the cause may be. We would therefore admonish fruit-growers to make a note of this in their future experiences, because in it is involved the practical side of their noble occupation, and their opportunities to make observations far surpass those of any other class of men.

BALLOON METEOROLOGY.

Our townsman, John Wise, sr., the famous æronaut, has written to the *Bulletin* a letter on balloon meteorology, from which we make the following extract:

"The ascension made with Mr. O. Schneck's 'St. Charles' balloon, in which I was accompanied by Charles C. Cresson, the same person who accompanied me last October, in the 'Franklin' balloon, which ascended from the roof of the building at the corner of Market and Thirteenth streets, was purely for scientific purposes. We started off under a meridian sun, and in three minutes rose 5,000 feet. Notwithstanding this velocity of ascent, the motion in itself was imperceptible, so smoothly did the balloon cleave the air. The transition so suddenly from the solid earth to the fields of cloud-land was sufficient to awaken all the dormant sensibilities of the soul. While my companion was descanting upon the beauty of real estate homesteads dotting the country all around beneath us, I called his attention, or rather the balloon did, to another consideration. The sun having full play upon the air vessel and expanding its gas, caused carburetted hydrogen to pour down upon us a cloud of death, although we were twelve feet below the muzzle of the balloon.

"'Now, Mr. Cresson,' I remarked, 'this makes it plain to you how the Zenith party in France the other day had two of their comrades smothered in a hydrogenated atmosphere. You are already suffering, I see, and I am not very comfortable myself; my pulse is off on the double-quick, and you are getting pale, so I will now put a stop to this part of our experimentation by opening the valve.'

"We had now attained an altitude of 7,500 feet. Had the muzzle of the balloon been close on our heads, as was the case in the Zenith balloon, we could not have lived many minutes in such an asphyxiated atmosphere. The throwing overboard of an eighty-pound weight gas-bag by one of the Zenith party, done, no doubt, under a confused mental action, brought about by the inhalation of a noxious gas, explains the cause of the disaster. The rarefied condition of the atmosphere at an altitude of 30,000 feet will not cause death of itself. Green, the noted English æronaut, went up to that height without injury, though he used a bag of pure air to inhale from.

"The atmosphere was much perturbed. At five and six thousand feet up it was fluctuating to and fro, and I am more convinced than ever that we are yet to find a solution of our remarkable seasons from *outside pressure* upon our earth's elastic shell of air, a pressure from planetary perturbations in conjunctions, quadratures and oppositions. Were it not for outside interferences our seasons would necessarily have to be the same from year to year, assuming that the earth is regular in its motions and in its conditions of temperature as to equatorial heat and polar cold. Our planet is subject to direct pressure from Venus and Mars, and they in turn from Mercury and Jupiter. The photosphere is as subject to disturbances by pressure as is our atmosphere, and while the cosmogony is a harmonious sum total, its details are the differentiations of evolution through *motion*. Future experiments will be especially directed to that line of investigation.

"While we were suspended over the northern part of our built-up city the scene underneath us was peculiarly lively under the noonday sun. Everything shone out in radiant beauty, shimmering in the profusion of spangles and jewels.

"The transparency of the Delaware was very marked as we stood almost, if not quite, still over it for some minutes, and until a gentle, spasmodic puff of air sent us over the sandy plains of Jersey."

POLAND-CHINA BOAR---SWEEP-STAKES.

This magnificent specimen of the genus *Sus*, was bred by SHEPARD & ALEXANDER, of Charleston, Illinois, and when four years old weighed 1,086 pounds. We should suggest as a proper mate to this unwieldy animal, the Poland-China Sow, LADY JOHNSON, as figured in the Feb. No., 1874, of the *National Live Stock Journal*, the property of ARMSTRONG BRO'S, of Indianapolis, Indiana.

It would seem that pigs are so passive, under the direction of professional breeders, that almost anything can be made out of them, even to the obliterating of the original form of what we in times past recognized as a pig. Cut the tail and feet off "Sweep-stakes" and suspend him by the "snout"—by the addition of a coat of green paint—he would look like a gigantic *pa-paw*, or what he really is, a sack of lard. But he is more than that, for he possesses the element of reduplication in a most extraordinary degree, and has sired, and is still capable of siring, a numerous progeny of profitable porkers. Lard has become such an important item in the domestic products of the country, and is applicable to so many uses, that any effort to increase its quantity and improve its quality must be classed with human benefactions as well as useful productions.

As to the edible qualities of the muscular portions of such animals as *Sweep-stakes*, individual tastes might differ; and, therefore, some people might prefer pigs of less weight and smaller volume, but for profit, which is perhaps the leading idea, the case might be different.

We are indebted for this valuable species to the fact that the domestic hog and the wild boar of Europe, Africa and Asia are, generally speaking, of the same species, and will breed together and produce young capable of propagating their kind. The most improved of the English and American domesticated breeds are, for the most part, largely crossed and inter-mixed with the Chinese and, perhaps, Turkish varieties. The Chinese hogs, both white and black varieties, are easily fattened, and have small bones; indeed, they are generally too fat to be esteemed as pork, and are considered to make poor bacon; bred carefully, and mixed with other stocks, they are valuable animals. The Neapolitan is the most celebrated of the Italian breeds; and the stock of most of the English breeds, though not very hardy, the flesh is of superior quality. Crossed with the Berkshire breed, the form is improved and the constitution hardened, with a remarkable tendency to fatten easily; but its cross with the Chinese is more profitable, as the weight is heavier with light feeding, and the disposition milder. The Middlesex, a popular breed in England, and considerably imported into the United States, is derived from a mixture of the Chinese with some larger stock; the color is usually white, and the size larger than the Suffolk; the bones are smaller than in the Essex. The Suffolk, now the favorite English breed, is believed to have originated from the old Suffolk, crossed with the Chinese and Berkshire. It will therefore be seen that the blood of the China boar enters more or less into all the best and most popular breeds, and it is this fact which seems to lend significance and promise to the variety of the cross illustrated in our engraving, which is claimed to be the most remarkable specimen of the porcine family ever grown in this country.

IMPROVED HOGS AND BREEDING SOWS.

A correspondent of the *Southern Planter* gives the following on the adaptability of the Poland Chinas for this section, and some good suggestions on the care of breeding sows and young pigs:

"It is economy for every farmer and breeder to get a good sow of some first-rate breed, or else breed the best common sow you can find to a thoroughbred boar, and raise a good breeding sow. Good pigs are always in demand, and it is nearly as easy to sell a pair of thoroughbred pigs at from $20 to $25, as it is to sell a pair of common ones at $5, and the same amount of food fed to a good pig will make twice as much meat as to the other. The only difference in expense is in the first cost of the boar or sow. Some ask, what are the best breeds? If I wished a small breed of hogs for table use, my choice would be the Essex or Berkshire; but no breed possesses so many good points and qualities as the Poland-China hog. Their prolific qualities, their quiet, gentle disposition, their adaptation to being profitably slaughtered at nine or twelve months old, and, if kept still longer, continue to grow and reward the owner for every pound of food he gives them; and these excellent qualities put them ahead of any breed I am acquainted with, and I have tried all of the best breeds. They are good grazers, and will keep fat on any good pasture; they are not disposed to roam and fret, and are not gross feeders, but, like all other animals, require their food at regular intervals; and if kept and well cared for until twelve or thirteen months old, they will yield from four to six hundred pounds. Unlike all other large breed of hogs, they are not at all subject to the mange. What other animal will yield so much in so short a time from so small a beginning, with such a small outlay, and have so many good points and qualities to recommend them?

The Poland-China breed originated in Butler county, Ohio. It is by some called the "Gregory Creek" hog, by others the "Moore" hog, but is generally known as the Poland-China hog. They are composed of four distinct breeds, viz.: "Poland," "Big Spotted China," "Big Irish Grazier," and "Byfield;" this breed is of fine bone, but of large size, combining more eminently than others the excellencies of both large and small breeds. The Poland-China hogs are mostly spotted. I think they will become very popular in Virginia, combining every quality suitable as a cross on our common stock.

"My rule in selecting the pigs to raise from for breeders, is to count the teats. One with twelve fully-developed teats will infallibly be prolific and a good nurse, good for milk, and careful of her young. Fourteen teats should be preferred; but never try to raise pigs from a sow with less than ten good teats.

"Avoid breeding in-and-in. Another important point is that the sow should be so petted as to become fond of the person who has the care of her, and thus lose the natural ferocity of her kind. When she brings forth her pigs give a sufficiency of food to keep in good flesh and growing; a sufficiency, but not an excess of salt, and an abundance of drink. Keep warm in winter, and cool in summer. A pail full of water occasionally dashed on the animal on a hot day is very reviving, and conducive to good health. A sow goes with young sixteen weeks, and but seldom varies twenty-four hours from that time. She should have all the warm water she will drink. This is very essential, as it helps the flow of milk and prevents fever.

"The pigs should be taught to eat with their mother as young as two weeks, which may be done by having a broad, shallow trough, and gently putting them into it when the mother is eating."

POLAND-CHINA BOAR--SWEEPSTAKES.

MAKING LAND PRODUCE BOUNTIFULLY.

"Hortus," in the *Northwestern Farmer*, mentions a market garden he saw, the past summer, near Boston, in which every foot of ground was forced to yield several crops. Before one was taken off, another was on the way between the rows Ground which was growing green corn for market, had already furnished lettuce, onions, radishes or spinach, and was expected to supply a crop of turnips after the corn was removed, the seed being sown while the latter was maturing. Cabbage succeeded early potatoes, and late ones followed on the pea ground. Cranberry beans grew luxuriously between the rows of early salads. A bed of strawberries, comprising ten square rods, constituted a portion of the garden, the produce of which sold in market for one hundred and sixty dollars. The farmers and truck gardeners round about New York in some instances get three bountiful crops in one season, on the same land; but they manure heavily. In this way they make farming pay a large profit.

The above extract involves a question which, we think, has not received as much attention from farmers and gardeners as the subject is entitled to; at least, in the county of Lancaster, and also the greatest part of the State of Pennsylvania, this is conspicuously the case. Being one autumn on a visit to the city of New York, we were surprised to see such an abundance of green corn, green peas and green beans in the market and on the tables of the restaurants, about the end of October; and we were informed that between the months of May and November these and other vegetables, in more or less quantity, may always be found there. Of course, this does not relate to the canned vegetables, of which there is always a supply all the year round, but to that which comes fresh from the garden or field, and which is produced by a system of "cropping" very little practiced—or perhaps known—by the farmers of Pennsylvania, except a few around the cities of Pittsburg and Philadelphia. Of late years—even in Lancaster county—a little attention has been paid to the *cropping* of green corn; but that about ends the chapter.

At certain seasons of the year we have radishes, onions, lettuce and rhubarb—and the earlier supply of these comes from "further south;" but, generally speaking, we see them but once for a brief period, and then not again for a whole year. By a reasonable stock of chemical knowledge, and a generous manipulation of the soil, the result might be very different. Surely the study of the questions of exhaustion and supply, through which recuperation and reproduction are effected, are not so far beneath the dignity of the farmer and gardener as not to be worthy of their professional attention. It is true, in their natural seasons some of these productions may become a drug in the market; but this is rarely the case with those that are produced out of seasons which always command a fair price, and are always in demand. But to produce them in quantity and quality requires that vigorous culture to which we alluded on page 70 in the May number of THE FARMER, and which so strikingly exhibits the difference between "garden and field culture;" and *there* is where "the trouble comes in." Many people whose vocation is the *cultivation* of the soil, desire the soil to cultivate itself. They are willing enough to "plow and sow," or to "reap and mow;" but for the rest they desire it to come without any effort of theirs, or while they are sleeping or engaged in other speculations. We feel confident that whatever may be done around New York, Boston and Philadelphia, may also be done around Lancaster.

GREEN WOOD.

In the *Ploughman* of the 23d, I noticed an inquiry as to the economy of burning green wood; and your decided *no*, in answer.

Now, sir, permit me to answer *yes*, as decidedly. Your argument that it is sinful, waste, and wrong to do so, I contend belongs on the other side of the question, and that no one but a rich man can afford to burn *dry*.

To illustrate this, let us look at the system of steam heating which has come in fashion within your memory, for heating public buildings, offices, etc. Are you prepared to say that the heat required to evaporate water, (or in other words to generate steam,) in the boiler in the cellar of a building, which will heat the whole superstructure, "is absolutely lost and does nobody any good?" In burning green wood you are doing the self same thing; the process is crude, perhaps, but the *principle* is there, nevertheless.

I admit there is no economy of time or patience, in trying to *kindle* a fire with green wood. We will suppose our friend uses, as most farmers do, a cooking stove. Let him use dry wood enough in the morning for a good half hour's fire, when his stove will be intensely hot; as soon as there is room, put in the green wood and *keep the stove full*.

In this case, the twenty-five per cent of water you are so much afraid of, will be converted to steam in a few minutes; and why should it not heat the walls, flues, and funnel of a stove as much as though generated in a patent steam heater?

Will Subscriber select a morning when the mercury is at the bottom of the ladder; measure a given quantity of wood, both green and dried, including in the green enough dry to heat his stove *hot;* burn it and watch his thermometer. If he does not get more heat, and for a longer time, with green than dry, and be ready to say there is economy and comfort in green wood in cold weather, I shall be sadly mistaken.

We "scissor" the above from the columns of the *Massachusetts Ploughman* to whom it was furnished by "an old subscriber," simply because it revives an old argument in favor of "green wood," that we have not heard advanced for many years; not because of the fallacy of the argument so much, as because since that period coal has come more generally into use, even in the rural districts of a large portion of the country.

There are, however, yet some "wooden countries" and also some "wooden people," even in the county of Lancaster, and, as a question of economy, the matter may be of some interest to them.

We spent the winter of 1836 and 1837 in two villages in the States of Indiana and Kentucky, in which no stone coal was used at all, and we remember distinctly that there was not a single wood pile (such as would be recognized as a pile in Lancaster county) in either of them. The villagers cut and hauled the wood home green from the forest, just as their daily or weekly necessities seemed to require it; and, as a *reason* for such a seemingly improvident habit, they alleged that it generated a more intense, economical and pleasanter heat.

There was not a stove in either of the villages to our knowledge, but instead thereof large fireplaces and we confess we felt more comfortable that winter—so far as heat was concerned—than we did last winter.

Zinc Preventing Boiler Incrustation.

An engineer on board the *St. Laurent*, a steamer plying between New York and France, after making some repairs in the boilers, left accidently therein an ingot of zinc. Some time after, in searching for the bar in the generator, in which, meanwhile, steam had been maintained, he found to his surprise that the metal had disappeared, and also that the incrustation left by the water, instead of being hard and firm, was a mere mud, easily washed out. Repeating the experiment over another voyage, the same result was reached. M. Lesueur, of Angers, France, after examining into this circumstance, thinks that the zinc forms a voltaic couple with the iron of the boiler, zinc being the negative pole and the iron the positive. It then happens, as in all batteries, that the zinc is consumed; while the iron is protected both from oxidation and dissolution.

THE STATE FAIR.

The next State Fair will doubtless be held at Lancaster, that city having offered the best inducement to the committee appointed by the State Agricultural Society to select a site. On June 7th a despatch was received from Lancaster that the necessary additional ground to the property of the agricultural association of that city had been obtained—five acres—for the accommodation of stock and the display of farming and other implements. The State Committee on Site made this one of the conditions precedent to locating the fair at that point, and the requirements having been fulfilled, the exhibition will in all probability go there. Lancaster is situated in the midst of a rich agricultural region, and is convenient of access.—*Harrisburg Patriot.*

From the foregoing it seems pretty clear that Lancaster city will be the *locale* of the next annual STATE FAIR, and may also be that of several succeeding ones. We hope, therefore, that both city and county will put their shoulders to the wheel, and make the occasion a grand success; for, whatever is creditable to the State in its general capacity, must be a credit to the counties in their individual capacities, according to the degree of their co-operation and sympathetic reciprocation. Our individual opinion is, that all our local organizations that are in the habit of holding annual exhibitions, should, on this occasion, merge them in that of the State.

GOOD PUBLIC ROADS.*

This is a subject, brother Grangers, which interests *us* perhaps more than any other class of men, unless it is the country physician. In coming here to-day many of us have driven over four miles, and some five miles, of mud road, which, being quite passable now, we rumble over with scarce a thought of to whom our thanks are due. But a moment's consideration will satisfy each of you that it is to the Divine Ruler and the unprecedented dry weather, because there has not been any road-making done this spring; and if the season was half as wet as it is dry, we would scarce be able to assemble—at all events not in time, and most likely with broken vehicles. Now, I desire to draw your attention to this question, What should we do about it? We have all the rights and all the responsibility of individual farmers, farm-owners and taxpayers; and, beside that, we, in an organized body, have more power, and consequently more responsibility. I presume it is known to you all that we have a very good road law, which provides for the bridging of all streams, removing of all loose stones from the road-bed, macadamizing swampy places, and the making and keeping in the best of order all our roads; it describes how the road-bed should be high in the middle and sloping off to both sides, which would at once do away with all mud-puddles, chuck-holes, deep ruts, and render unnecessary all spring-breakers, except on the steep hillsides. Remember that we have organized for the elevation of the farming community, for the promotion of our personal comfort, for the encouragement of economical ways of husbanding our resources, and increasing our might and influence year by year.

The custom has been heretofore with farmers to complain and scold when the road-tax bill was presented, until the supervisors have actually gotten to be afraid to make up the roads, for fear that the tax will be increased. Now, it is for us to break down this old-time usage, to inaugurate a new regime, to realize for ourselves and teach others that we pay more every year in wear and tear of our rolling stock and horses, than would pay the tax to keep our roads in first-rate order.

I therefore propose that we (each one acting as a committee of the whole) make it our interest to urge it on the attention of every farmer we meet, and at the same time, as we pass around, keep an eye on the roads, and give notice to the supervisor of every neglected place, and make him have it attended to. There is no trouble about it, more than making a return to court of any neglect on the part of the supervisor, and the judge will soon tell him what he has to do. If we do this, in less than a year we will have good roads, let the weather be wet or dry, and we will feel an honest pride in paying the small increase in the tax.

There are many little jobs that we can do for the general comfort, such as kicking a loose stone off the road; opening a drain near one's house, just before a rainfall; throwing a few shovelfuls of ground into a deep rut or hole; putting a patch over a hole in a bridge, and the like; and if he is imbued with the full spirit of a Patron of Husbandry, it will not cost the township a cent.

* A paper read before the Strasburg Grange, Patrons of Husbandry, by M. B. ESHLEMAN.

LETTERS, QUERIES AND ANSWERS.

Dear Editor: Accompanying this letter I send you by mail a small box with several small white caterpillars in their nests that are injuring my grape vines. They seem to be partial to one variety—the Agawam—as I have Concord, Creveling, Iona, Clinton, Martha, and others close by, and I can find not a single caterpillar on them. Please describe them, with the best way of combating them, in THE FARMER, and oblige a grape grower and *subscriber.—Buck P. O., Lancaster county, Pa., June 5th*, 1875.

The box alluded to in the above was safely received, and contained *one* specimen of a pale, greenish-yellow caterpillar, a little over a quarter of an inch in length. The head was also yellowish, and the tips of jaws brownish. It was covered all over with small segmental tubercles, and from each a sparse tuft of white, bristly, divergent hairs. Superficially it appeared like the earlier stages of the "Fall web-worm" (*Hyphantria textor*), except that it lacked the black head. It seems to attack the young, unexpanded leaves, and to prevent their expansion by a thin web, with which it covers itself. Within this shelter it gnaws off the upper surface, and causes it to turn blackish. It refused food, and on the morning of June 7th we found it had changed to a *pupa* the previous night. This pupa is pea-green and pale yellowish in color, and a quarter of an inch in length; obliquely truncated in front, and tapering to a point at the hind end. The upper abdominal portion has small tubercles on each segment. It has two yellowish ridged longitudinal lines on the head and thorax, and a pair of brownish rutled appendages about the middle. We cannot yet tell what it is, except that it is *Lepidoptuous*. We do not think, however, that our correspondent need be much alarmed about it, for by this time its season must be over, unless it is double brooded. It is very probably the "Grape vine Plume-moth," (*Pterophorus periscelidactylus*, Fitch,) although the pupa differs from that figured by Prof. Riley in his first report.

By the time this gets into print the caterpillars will all have disappeared, but as there are two broods in a season, it may be expected again in a few weeks hence.

As to a remedy, it is difficult to suggest one. An alkalinous solution or a tobacco decoction might be effective, if it could reach them. But the web would be likely to resist these. Sulphur or coal-oil fumigation might be good. Hand-picking would probably be the most reliable. We cannot recollect that a similar case has come under our observation before.

Testing the Fecundity of Eggs.

In the April number of THE LANCASTER FARMER I noticed the results of some experiments made with eggs, in ascertaining the probabilities of their hatching, by means of the position of the air-cell. After patient investigation in a darkened room, by the light of a coal-oil lamp, I discovered in a number of eggs the air-cell in the different positions described in the article above alluded to; in other eggs no air-cell was discernible. I set a hen with fifteen eggs, in all of which the air-cell was plainly marked; the result was that out of the fifteen eggs, fourteen lively chicks were hatched. Heretofore we have had considerable trouble in having eggs hatched, the average being only from nine to eleven chicks out of a setting of thirteen or fifteen eggs.

I have not yet had an opportunity of testing the possibility of knowing whether a certain selected lot of eggs will hatch out cockerels or pullets; but it seems that the presence of the air-cell is likely to insure a good brood from a setting of eggs. I noticed the air-cells in all the positions described by Mr. W. J. Pyle, of Chester county; also, its entire absence in several instances.

I would be very glad to hear through THE LANCASTER FARMER of the results of experiments made by brother farmers. It is only by faithful investigation and repeated experiment that many truths of value to farmers can be ascertained; and only in this manner can we lift up the profession of farming from a servile routine and blind adherence to old methods, into the most intellectual and most noble pursuit in the world.—T. M. COULSON, *New Freedom, York county, Pa., May 26*, 1875.

The above communication, from an intelligent farmer—once an able local editor of the oldest newspaper in Lancaster county—speaks for itself, and so far as it goes, is what we intended should be elicited by the publication of Mr. Pyle's theory of demonstrating the quality and sex of hens' eggs. We have no interest in the question other than the publication in our columns of that which is "good and true" for the benefit of our readers. We, in common with our correspondent, "would be very glad to hear of the results of experiments made by brother farmers," and should take the greatest pleasure in making them known through the columns of our journal. *That* is the legitimate way of disposing of the question, and not by flat denial or ridicule, for there may be more in the hidden archives of nature than we in our wisest philosophy dream of.

The sexes and the abortiveness of eggs are *effects* that must have a relation to prior *causes*, and, therefore, are not the arbitrary results of mere chance. The laws of nature do not operate upon a plane of chance development—there must be a cause for every effect we see.

Although it might be profitless labor, still we wish Mr. C. had also experimented—in hatching—upon those eggs in which he could not discover an air-cell. It seems to us that this involves the most important point in the whole system.

The gallinoculturist wants to know beforehand whether an egg can possibly produce a chick or not. If it can not, then just so much is saved in time and material, for an unimpregnated egg is just as good for culinary purposes as one that is impregnated.

It is facetiously related of a distinguished Gothamite, that when he moved on a farm, the former occupant of which had failed, and finding a great many hens' nests with only one or two eggs in them, he exclaimed: "Ah, I see the cause, he scattered his energies too much; he needed concentration." So he gathered them all into two or three nests, and set as many "clucking hens" thereon to hatch. After waiting three weeks and three *extra* days, he entered into an examination of the case; and, although he was rewarded by "nary chick," he made the discovery that the "hen fruits" he had thus so carefully concentrated were only *porcelain nest-eggs*.

If this anecdote illustrates any one point in a stronger light than another, it is the importance of *knowing beforehand* whether an egg is fertile or abortive. Whether it is a male or a female may only be a secondary consideration. It seems to us, so far as marketing profit is concerned, that the demonstration of the first point, to the entire satisfaction of the farmer, would be a perfect vindication of the *uses* of the system, as well as of its *truthfulness*.

The Bee Moth.

I noticed in the May number of THE FARMER advice that old hives should not be used for hiving new swarms of bees, on account of the eggs of the moth, which are deposited in its crevices. I think an old hive should not be rejected on that account. For my own use I prefer an *old* hive, if not too nearly worn out, because it is already lined with propolis (beeglue), and the bees are thereby saved much work.

There is a prevailing opinion that the moth is an enemy of the bee, but experienced bee-keepers, who have used moveable-comb hives, have learned that the larvæ of these insects do no injury to the combs while the stock is in good condition. It is only when the number of bees is very much reduced, by the loss of the queen or otherwise, that the "worms" enter in sufficient numbers to destroy the combs. Indeed, in almost every case where many worms are found feeding on the combs an examination will show that the queen has been lost or become incapable of laying eggs, so that the family has become so much reduced that they cannot protect the combs.

The time is past for the venders of "patent hives" to humbug intelligent bee-keepers with "moth-traps." The light which apiaryculture has gained by the introduction of moveable-comb hives, has shown that the depredations of these insects is the *result* and not the *cause* of evil in the hive. In an experience of ten years I have not lost a single stock by the moth, although I have made no effort to check their increase or destroy them. If I do not discover that a stock has lost their queen until it is too late for them to raise another to advantage, I break it up at once, join the bees to some weak hive, and place the combs out of the reach of the moth.

The larvæ of the moth is covered with a tough skin, which prevents the bees from stinging it, but they can, and do drag it out of the hive whenever they can get hold of it. More or less of these larvæ are being developed in every hive during warm weather, but they do no injury while there are bees enough to cover the combs.

By cultivating the friendship of the common catbird (*Mimus carolinensis*,) in the vicinity of the aplary, more of these worms will be destroyed than by any other means I am acquainted with. They soon learn to watch the hives closely, and when the bees throw the worms out will gather them up. A pair of these birds will capture more worms in this way than any number of "split elders" or the most intricate "patent" contrivance I have ever seen.—*W. P. B., Liberty Square, June 8th*, 1875.

Mulberries.

The mulberry is a fruit too good to be treated as it commonly is. A good tree will yield nearly every season a good, splendid crop of fruit, if it is properly cared for and the caterpillars are kept off. They make good pies, and if "canned" in glass jars, with one-third of sour cherries, they make an excellent dessert after a regular meal. We gather them by shaking them—a limb at a time—into a cloth held by the corners. We then sort them and rinse them in cold water, before heating them for canning, as we do other fruit. They need not be too dead ripe, or the wind will shake them into the dirt. Try them.—J. B. E., *Lime Valley, June 7*, 1875.

The most pleasant and refreshing drink in summer is *lemonade*, a combination of substances that are "sweet and sour;" and therefore we have no doubt that mulberries and sour cherries would form a most palatable compound; and we would unite with our correspondent in recommending our readers to "try them." The mulberry has long been a neglected tree, occupying stony ridges, barren hollows, and other out-of-the-way places on the farm. No doubt, under more generous culture its fruit might be greatly improved.

Queries and Answers.

J. S.—The Tortoise-shaped beetles, which you found feeding on the sweetpotato vines, are the *Cassida bicolor*, and are often found—both beetle and larvæ—on "morning-glories" and other convolvulus plants, and, when numerous, are destructive. Dose them with dilute lye or soapsuds.

W. H. T.—The large, short, black beetle, which you struck down as it was buzzing around your room, is the "American Dor Beetle," (*Copris Carolina.*) It is at least innoxious, if not beneficial to vegetation in its habits.

R. S. F.—The "stink-bugs," which are now lively on the wing, and which you knocked down in the street, are the "squash-bug" (*Coreus tristis,*) "bobbing round" in search of a pumpkin field. Crush every one of them.

J. F. S.—The long, brownish "Snout-beetle" you shook down from the plum tree, is *Lixus concavus*, and belongs to the family of the "Curculios," although it is not known to "sting" that fruit.

Tan Bark for Potato Bugs.

A West Virginia correspondent of the *Farmers' Friend*, writes as follows, concerning what he claims as the accidental discovery of a new remedy for the ravages of the Colorado Potato Beetle:

"Having by accident learned how to dispense with the ravages of the potato bug, I hasten to inform as many farmers as I can, through your valuable paper, viz.: Having used all my stable manure around my apple trees last year, I had to resort to chestnut oak tan bark from my tomato to my potato patch, near my house, where I have been raising my early potatoes for twenty years, putting a coat of stable manure about one inch deep, broadcast before plowing, never failing to raise good crops. Year before last the bugs seemed determined to take them. Last year on account of the fresh bark, the bugs did not disturb one hill of my potatoes, and it was the second best crop of the ground. This year I coated my ground again; thus far there have been seven bugs found on the potatoes, whilst on two sides of me, within one hundred yards, there are two patches of my neighbors that the bugs seem determined to destroy. This morning I am treating the two last named patches in part each to one quart of bark to the hill, to see if it is certain that it is the tan bark, and will, as soon as I learn satisfactorily, hasten to give you the information."

That "Invitation to Dinner."

Editor Lancaster Farmer: I would cheerfully accept the invitation to a dinner from LEOLINE, but must, for the present, be content to remain in the dark as to who she is, and have reason to believe that, in this respect, she has the advantage of us.—TOBIAS MARTIN, *Mercersburg, May 27*, 1875.

OUR PARIS LETTER.

Farming on the Continent of Europe.

Correspondence of THE LANCASTER FARMER.

PARIS, May 15, 1875.

THE TREATMENT OF LAMBS FOR MARKET.

France has a good deal of lee way to make up in the matter of extensive horse-breeding; but in the rearing of cattle she is positively in an advanced position. What has been lost sight of in the case of horses is remembered in one respect in the matter of stock, suiting it to the locality, thus largely developing two objects—precocity and fattening. M. de Behague is not only a prominent illustration of these rules, but is conspicuous in making known his methods—their cost and their results. His specialty is the production of lambs for the Paris market, and this he effects by selling the animals at nine months old. He advocates that the lambs in their early age be liberally fed, so as to increase their power for assimilating food. Animals thus treated, in the early weeks of their existence, feed better subsequently and derive more profit from their food. To produce meat cheaply, presupposes great precocity, an end only to be secured by well nourishing the mothers pending the milking period, and acting similarly towards the lambs from the day of their separation from the ewes till delivered to the butcher. The animal that consumes the most food in the least time will be the most profitable for the farmer. M. de Behague made an experiment on 100 lambs, which were born in March, 1874, and sold to the butcher on the 8th and 28th of December following. Those lambs fed twenty days longer sold for 38 francs per head, being less by 4 francs than such as were disposed of twenty days earlier, in addition to the cost of twenty days' feeding. He attributes the difference to the more or less great aptitude of the animals to profit by their rations, and to the difference in precocity arising from the milk qualities of the mother. Of course, among the 100 lambs selected, the largest and fattest were sold off first. To produce meat at a cheaper rate, then, it is essential to select rams whose mothers have been remarked for their milking qualities, and at the same time to choose good milking ewes for breeding with. The 100 animals cost 16 francs per day for their keep, which comprised maize, rye and rape-cakes, lucern and clover, and the mean selling price was, wool included, 40 francs.

FATTENING CALVES FOR VEAL.

Veal is a commodity very much in request in the Paris market, and brings a higher price than beef or mutton. But then it must be well fed. The best veal comes from Champagne, and the animals generally represent a live weight of 5 cwts. The veal of Champagne is famed for the perfection of fattening and the whiteness of the flesh; now the soil of that region is poor and chalky. It is an error to believe this whiteness of flesh can be everywhere produced at will, or that feeding the calves exclusively on milk as in Champagne will secure the same end. The whiteness is attributed to the non-succulent herbage the peculiar soil yields, tending consequently to produce but little blood. In the Causses the soil is peculiarly favorable to the growth of sanfoin, and what is not a little singular in the character of this forage, it succeeds equally well after a short interval. In the same districts the cows receive each a name and answer to it at milking hours—four in the morning and three in the afternoon; in repeating the name the calf, which is kept apart, will also present itself. Both are rewarded with a little salt. The calf, with a cord around its neck, is allowed to suckle the mother for a few moments; then it is attached short to the left fore-leg of the mother, and the milking of the latter is rapidly proceeded with.

MEAT VERSUS WOOL.

An instance of the change that has taken place in farming matters is afforded in the districts around Chateau-Thierry. During the First Empire the primary object was to produce wool, regarding meat as less than a secondary consideration; when the sheep became too old they were disposed of at a nominal price to farmers in the neighborhood of Paris to be fattened. At present the production of meat ranks now in importance to what wool held under Napoleon I. Further, it pays to import the greater part of the food employed in the fattening of stock, the soil receives so much benefit from the resulting rich manure.

IMPROVING THE BREED OF HORSES.

Belgium is as engrossed as France with the question of improving the breed of horses. When it pays to breed and rear horses of a superior character, rather than to import them, the difficulty will be met. Since 1871 there has been a rapid decrease in Belgium in the production of pure blood. Only 18 animals were registered that year in the Stud Book, against double the number in previous years. There are not more than 18 breeders of pure blood horses in Belgium at present, and the number of all of the latter is but 115. M. Wahl, in his lately published work on Russia, where he has resided several years, speaks of the Russian horses—those of the Tcherkesses—with enthusiasm. The Russians proscribe winkers as a barbarity. The horses of the Tcherkesses are reared in the midst of the wild steppes, in the middle of nocturnal alarms and dangers, which develop their sagacity in a remarkable manner; the back is large, the breast powerful, the hams extraordinarily full, while the hoof is as hard as iron and as sure as a mule's. The head and neck are light. The animal is chosen from among the best in the troop, and the owner admits it virtually in the family circle, as it assists at meals, often sleeps in the room, the children speak to it, climb up and play between its legs, or pass the day on its back, so that the animal finishes by acquiring an exceptional intelligence. But no adult is ever permitted to mount till the horse is six years old—the period necessary to impart solidity to the frame. M. Male draws attention to the advantages of treating horses kindly, and laments the brutality to which they are so often subjected by reckless or drunken servants. He truly says, all animals maltreated will, in the long run, become vicious. Hence the difficulties to make them work, to sell well, or to obtain a good price for their progeny; for it is an established fact that vicious habits are transmittible.

THE TREATMENT OF HOVEN IN RUMINANTS.

Solutions of ammonia are commonly administered in France as a remedy against distention among ruminants. The accident is most prevalent during the season of young and succulent forage. The difficulty hitherto has been, to enable the ammonia to reach at once the paunch, and so combining with the carbonic acid gas, the cause of the hoven, reduce the distention. M. Salles has patented a trocar, having at the end an india-rubber ball filled with the solution and communicating with the trocar by means of a cock; when the trocar is inserted in that part of the animal formed by the thigh and the abdomen, the ball is pressed, the liquid enters the stomach and the inflation at once disappears; the gas can even be let off through the trocar. The animal has only to be kept on a low diet for a few days, till the little wound heals.

SOILS AS FILTERS—MANURES FOR SUGAR BEET.

M. Meunier has been experimenting on the power of soils to act as filters in retaining their clayey matters from being carried away. The presence of a small quantity of lime or magnesia was ever sufficient to make the most troubled water pass off clear, hence, why the water of field drains is so pure, and why that in the form of rain, or water distilled, remains muddy, even for a month, till coming in contact with mineral salts, precipitation is effected. M. Lacgrange, the director of an eminent sugar refinery, has for some time been experimenting, practically and chemically, with the various manures most suited for sugar beet; he finds sulphate of ammonia to be the best, and then ammoniacal salts in general; they augment the richness of the sugar, and the pulp contains a higher percentage of nitrogen, an advantage very valuable in feeding stock. The chlorides are most dreaded by the refiner, because they are rapidly absorbed by beet, and exist largely in the juice, where the animal black fails to act on them; they thus prevent the crystallization of the sugar, and favor the production of much molasses.

CONSERVING GREEN MAIZE FOR FODDER.

The Central Agricultural Society of France, has, by its practical and scientific commission, made an exhaustive report on the process for conserving green maize for stock feeding, during winter and spring, in covered trenches. The farm selected was that of M. Goffart, the agriculturist who has adopted the plan since 1852, and who has also made it first known in France, in 1870. There is nothing positively new in the idea. Since time immemorial vine leaves have been preserved in a green state, in the district of Lyons, and which has made the reputation of the famous Mt. Dore cheese. In cider-making countries the apple pulp is similarly conserved. In various parts of Germany, several vegetables are preserved in a green state for fodder, being generally seasoned with a quantity of celery; the same respecting beet pulp. M. Goffart's soil is peculiarly suited for maize; he prefers the South American varieties, the caragua especially, the stems of which often reach twelve feet in height. The maize is sown after rye, and is cut green, the latter receiving the manure. He cuts the maize before pitting it, and mixes cut straw and chaff with the mass. This induces regularity in fermentation, and best excludes the air. The larger the trench, the better the mass is preserved. Those who do not chop the maize, sow it thickly, to have fine stems. M. Goffart obtains as high as 65 tons of this green fodder per acre—double what beet would produce. He nourishes 30 cows with the conserve, and they eat it with avidity, despite its alcoholic odor and slightly acid taste. The cows yield from 25 to 30 quarts of milk daily, and their calves had the silkiest of skins—the eyes brilliant. No better test than this to demonstrate the value of food given to the mothers. About 60 lbs. per day per head is the average consumption of the conserved food. The commission testifies to the results obtained by M. Goffart, valuable in dry climates, but thinks much remains yet to be accomplished as to the best plans for preserving autumn green forage for spring feeding.

THE VINE BUG DISEASE—PHYLLOXERA.

There has been much erroneous news of late touching an alleged perfect cure for the vine bug disease—the Phylloxera. Unhappily, the question is just in the same state as it was in November, when both the vine and its enemy went into winter quarters. The evidence appears to accumulate in favor of manuring the vines, in order to fortify them against the insects; and the only poison powder to employ is that suggested by the distinguished chemist, Dumas—sulphocarbonate of potash or soda, at the rate of 85 lbs. per acre, dissolved in 500 times its weight of water—no small task for a vineyard—and to be applied after the manure; guano is preferred, at the rate of 5 cwts. per acre; has been incorporated with the soil. The salt, as it slowly decomposes, generates sulphuret of carbon and sulphuretted hydrogen—two poisons which kill the phylloxera; the potash or soda, set free, nourishes the roots at the same time. The present season will witness these remedies fully tried.

FRUIT TREES BY THE ROAD SIDES.

Like Belgium, France protests against the authorities arbitrarily planting elm, ash, poplar trees, &c., along the road sides, and demands that fruit trees be employed instead, as is the case in Switzerland and Germany, and whose roots would be less objectionable.

AGRICULTURAL PROGRESS IN ITALY.

Italy is actively improving her agriculture, by the foundation of special schools; she has now established some for the cultivation of apples, a product of great importance. The government has opened several depots for agricultural machinery, and has instituted lectures on mechanics. The soldiers have to attend the courses of agricultural lectures, two years preceding their discharge.

OUR LOCAL ORGANIZATION.

Proceedings of the Lancaster County Agricultural and Horticultural Society.

The June meeting of the Lancaster County Agricultural and Horticultural Society was held on Monday, June 7th, 1875, at two o'clock p. m., in the Orphans' Court Room. The following members were in attendance: Henry M. Engle, J. B. Garber, Hon. J. B. Livingston, Martin L. Kendig, Milton B. Eshleman, Simon P. Eby, esq., Abraham Bollinger, John Grossman, J. H. Musser, F. B. Bomberger, Jonas Buckwalter, Wm. McComsey, John B. Erb, Dr. P. W. Hiestand, Christian H. Herr (Manor), Jacob Witmer, Levi S. Reist, Peter S. Reist, John M. Kreiter, John Miller, esq., Henry Buch, S. S. Rathvon, Henry Erh, Christian Coble, Thomas Wood, Tobias D. Martin, John Braekbill, Benj. Ritter, Reuben Weaver, Johnson Miller, and Alexander Harris.

Johnson Miller presided, with Alex. Harris, esq., acting as Secretary. The meeting was well attended, and reports on condition of the crops being the first thing in order, President Johnson Miller, of Warwick, submitted the following:

Winter wheat has somewhat improved since last report, and, with favorable weather, may be set down as three-fourths of a crop, as compared with last year. It is fast coming in the head now, and fields begin to look more even than they did six weeks ago. Rye is now in bloom, and looking better than wheat in general. In my field of stubble were sown last fall wheat and rye, side by side; the rye makes about four times as much straw and double the number of bushels in grain; so that rye is the crop for corn stubble when wanted to seed in the fall. Oats has been a little refreshed by the showers we have had; while corn is coming up nice, and looks promising. Potatoes are growing finely, while the Colorado bugs are quite numerous in my neighborhood. One man has caught some 2,000 or 3,000, and, if others would do likewise, it would have an effect upon their ranks. As to my own, I have very few so far, and am not at all anxious to get more. Tobacco-planting is now in order with growers, but they have some difficulty in getting plants started, on account of dryness and the cutworms. Grass is rather short for the season, with some fields thinly set; will not make much more than half a crop with the best weather. Clover is coming into heads now, but will not make much growth, even with wet weather. Fruit prospects in general are very encouraging. Caterpillars have made their appearance in full force on fruit trees, and should be visited with a long pole with corn-cob attached, saturated with coal oil, and burned.

MILTON B. ESHLEMAN, esq., of Paradise, also made a written report, as follows:

Wheat—One-half crop, unless the late should be damaged by mildew, midge or blight; then one-quarter crop. Straw very short, but heads generally long.

Corn—Came up well, and is growing amazingly, considering the drought. I have some stalks of early corn that will stretch three feet high.

Oats and barley look very well—I think better prospects for good crops than for several years, and they will help to make out the supply of straw very materially.

Grass—Poor; the clover is fully out in bloom, and scarce a foot high, and beyond redemption. Timothy scarcely perceptible, but may come to something by the time the harvest has passed away.

Potatoes—Came up sparingly; in some places one-fourth of the seed rotted, and those that are growing are well patronized by the Colorado beetle. I saw

the first brood of grubs on Saturday, and gave them a dose of Paris green that sent them to their long home, and have plenty more ready for other nests as soon as they come to the proper stage.

Tobacco plants are ready, and some set out; but most farmers are waiting for a good, soaking rain.

H. M. ENGLE agreed, in the main, with the reports submitted. He did not believe wheat would be much over half a crop. Corn has come up remarkably well, when the dry weather is considered. Grass will be only about three-fourths the usual crop. The potato beetle has already put in an appearance, and in a week's time we shall be able to tell what they amount to in this section. The apple crop will be medium. The peach crop promises well, and also the grape.

M. D. KENDIG did not think the crop prospect very good. Wheat, for want of rain, will be light. Corn is setting out well, and so with the potatoes. Oats looks well. Many are yet holding back with their tobacco planting. The first crop will be only medium. He did not believe the wheat would yield more than one-fourth the usual crop in some sections of the county.

JOHNSON MILLER was of the opinion that wheat seldom does well when sown on corn stubble.

M. B. ESHLEMAN had found that wheat does well sown on corn stubble.

H. M. ENGLE said the general impression was that the reason why wheat looked better in the northern and northwestern part of Lancaster county was because that more snow lay upon it, thus affording protection.

Mr. KENDIG believed, from what he had heard from other counties, that Mr. Engle's explanation was correct.

S. P. EBY, esq., now read a very interesting essay on the subject of "The Characteristics of Farmers and Farming, and the evil arising from the general desire on the part of young men to avoid this honorable and independent position in life," for which he received a vote of thanks.

MR. ENGLE entirely agreed with the sentiments of the essay, and hoped the views enunciated therein would be lived up to. He approved the suggestion of the essayist that all persons should have an object in life, and that labor and pleasure could be united—thus making the world pleasanter for all.

MR. ESHLEMAN agreed also with the essayist, and thought it an excellent production.

JOHNSON MILLER took up the first question: When is the best time to cut clover and timothy in order to make the best hay?

MR. ENGLE had long been of the opinion that grass is allowed to get too ripe before it is cut. He thought clover and timothy should be cut as young as possible, only so that it be fully grown. He had cut it so early as to be considered eccentric. He believed better butter could be made from green cut grass than from that which was over-ripe. Even the color of butter is finer from young cut hay. He would be glad if our farmers would test the different methods of making hay. Green cut hay will endure more than old cut hay. When so cut it will not make as large a bulk, but its substance will be stronger and and of more benefit to the stock.

JOHN GROSSMAN did not believe that timothy should be cut too young. He thought the best time to cut clover was when its heads begin to get dry. When clover is cut it should be turned over until it is sufficiently dry.

LEVI S. REIST is not in favor of cutting grass too green. If it gets too ripe its leaves will break off. A good deal of judgment is required in order to know when to make hay. When it is entirely ripe, it can be cut and made and gathered into the barn the same day.

JOHN R. ERN agreed with Mr. Reist. He was not in favor of making hay too early, for he has tried it, and has lost all of it by wet weather.

PETER S. REIST is satisfied that good weather is required to make good hay; but he thinks the most important question is when to make it that it will yield the most nutriment.

JOHN MUSSER believed that Mr. Engle was pretty near right in his idea of making hay as he has observed.

WM. MCCOMSEY thought that the theory laid down by Mr. Engle was the correct one. When hay is cut young, the saccharine matter is in greater abundance than when it grows older; and he is satisfied, of course, that hay cut young requires longer time to dry and cure it. When it has fully matured, he thinks a larger quantity of hay will be obtained, but not so good in quality.

H. M. ENGLE admitted that young cut grass requires more time to cure it. Hay, when properly cut and cured, will look nearly the same as before it is cured. The hay tedder is as little in use in this county as elsewhere—perhaps not a dozen in the county. He would rather have his hay dried with as little sunshine as possible.

The second question was—"What is the best time to cut wheat?"

H. M. ENGLE was satisfied that wheat should be cut younger than it usually is.

MR. ESHLEMAN also inclined to the same opinion, believing that the best time to cut wheat was before it was fully ripe. We do not receive the high price for our flour that the western article commands, and he believed that something was wrong in our time and method of cutting the wheat.

PETER S. REIST believed in waiting until the wheat was ripe before cutting. If you cut before it is ripe, it will surely shrink, and not yield as much per acre as when fully ripe.

The question was further discussed at considerable length, by Messrs. H. M. Engle, Levi S. Reist, Peter S. Reist and John H. Brackbill.

JOHN R. ERN exhibited very fine strawberries, consisting of the following varieties: French Seedling, Early Scarlet, Early Wilson, Agriculturist, Jacunda, Lime Valley Seedling, and others without names.

On motion, society adjourned.

BEES AND BEE CULTURE.

The Wonderful Instincts of the Honey Bee.

How great is the instinct of this industrious little insect will be seen by reading this article. Nothing pays better on one's farm, with so little trouble and expense, than the honey bee. Each hive will give a profit of $20 in honey sold at wholesale prices, at no cost for gathering, as bee pasture is free, and now is the time for them to accumulate the best. The white clover is beginning to bloom, and honey from this plant is far superior to that made from any other. While this variety of clover is in bloom, they will gather from two to ten pounds per day, depending upon the strength of the hive and the condition of the weather.

The honey is taken from the flowers by the bees, and on their way home it is passing through a churning process, and by the time they arrive home it is churned. The body of the bee is put together in three sections or bands, and underneath the two front bands on each side there is an outlet or small hole, where the butter oozes out after being churned. This butter is the pure white wax. It is received by other bees and placed in the comb or cell, and by the mouth of the bee it is pressed out to its proper thickness, and the balance remaining, which, to carry out our simile, we may call buttermilk, is thrown up by the bees into the cells, and the longer it remains there the sweeter it gets, as it extracts the sweetness or virtue from the comb, bringing back the body of the sweets which it contained in its first gathering from the flowers; and, as before stated, the longer it remains in the comb the sweeter it gets—one pound in the comb three years old having as much medical virtue as three pounds one year old.

Besides the honey, there is the pollen, which is of more benefit to the bee than the honey. After it is deposited in the comb it is called bee-bread, as it is their principal living in the winter, and their young feed on it altogether, until they are ready to work.

Bees are very prolific, hatching out a brood every nine days, from early spring until late in the fall, from 2,000 to 5,000 each time; but as their life is short (only six weeks), during working season at least one-half of them die. When the hive becomes so full that it is uncomfortable for them to work, a certain proportion are driven out (which is called "swarming.")

The first hatching in the spring is from eggs laid late in the fall, which are protected in such a manner as not to allow them to hatch until new pollen is to be had. The last hatching is in the fall, and are those which are to live during the winter.

If you kill off the American Black Queen, and put in her place the Italian Yellow Queen, you will in six weeks have hybrids something larger than our own, with one yellow band around them, instead of three, as in their purity. This will prove the shortness of their lives. Hybrids do better for me than either in their purity.

There are but two classes of Bees, male and female; but there are three sizes, the Queen, Drone and Worker. They would all be of one class if the cells were all made of one size and shape; their disparity in size makes the difference. The drone is like other male bees, only that it has no sting. The worker is a female, but a non-fertile bee or "neuter." This is accounted for by the cells being only three-quarters of an inch long and three-sixteenths of an inch in diameter, while the fertile bee or queen is one and a quarter inch long and a quarter of an inch in diameter. If they were all queens there would be no out-door work, as the drones do nothing. The queen cells are always made on the outer edge of the comb, there being more room there to extend their length—the drones likewise—there being but one-quarter of an inch of space between the combs allowed for travel. The queen cells are but three and five in number, allowing one for each swarm; the rest are killed off.

The pollen is gathered in this wise: The back of the bee is covered with a fine wool or hair, and on entering the flowers the pollen sticks to it, and when necessary to release it, it is combed out. The bee has six legs, three on each side, and the middle one on either side has a comb on the under side, from the forked toe to the first joint. As this can reach only half way across the back, it is combed from both sides, and the pollen is taken from the comb by the two fore feet. It is then flattened by the two fore feet, and caught between the toes, and passed back to the thighs of the hind legs, each one receiving the same weight, as nearly as possible. The pollen is taken from the end of the petals of such flowers as the bee cannot enter while on the wing, the front feet being used for this purpose. The pollen is removed by putting the leg in the cell, when it is pushed off with the forked toe, and, stepping to one side, the other is cleaned in the same manner.

The drones are killed in the fall, the exact time depending upon the character of the winter we are to have, a fact which they surely know by instinct. If it is to be long and cold they are killed in the early part of September; if an open winter, not until the last of October. Last fall they were killed during the last of August and the early part of September; the previous fall, the first of November. I have carefully noticed this operation of the bees for the past seven years, and it has never failed.

A hive of bees will consume about fifteen pounds during the winter, or two and a half pounds per month. The weight of a swarm is from 3½ to 5 pounds. I have one of the best of my stock hanging to a patent beam scale, and can, therefore, tell the loss and gain as often as I choose.

We have nothing in the insect line which is more useful than the honey bee, and nothing more industrious, working early and late, and with economy, and on scientific principles. Their combs or cells are all six-sided. Owing to this shape, the cells of every other row are the only ones necessary to build, except the front and backs of the second ones, thus doing away with much labor; and there is nothing of any other shape which will hold more in the same number of square inches.

Truly, the Almighty has created all things in wisdom.—WM. J. PYLE, *West Chester, Pa., June 2, 1875.*

Buckwheat for Bees.

As the season for providing for the busy bee a honey-plant is upon us, none presents itself more worthy of consideration than buckwheat. This plant is well adapted to our entire State, and can be successfully grown upon inferior soil. Lands which will produce from six to ten bushels of corn will grow buckwheat from two to four feet high, which will begin blooming when not over six inches high, and continue till growth ceases or frost intervenes. The writer has had buckwheat to bloom in thirty-five days from time of sowing, and produce an unbroken succession of flowers from May 15th to October 1st. The first crop of blooms produce mature seed, while the plant continues to bloom. Seed may be saved by hand, by gathering from the plants, without injury to existing flowers.

In strong soil we have grown buckwheat four and a half and five feet high. With this condition it is inclined to lodge and fail to produce blooms. We therefore prefer lands of medium grade.

Prepare your lands for this plant as you would for wheat, leaving off fertilizers. Sow about half a bushel, never exceeding three-fourths of a bushel of seed per acre, running over your land with brush similar to that used for putting in wheat, or the ordinary roller without the brush.

Should you prefer preserving the plant for forage, after your bees have used the fields for six or eight weeks, you can do so and save an enormous yield of nutritious forage. Cut with ordinary scythe, or grass blade, just before the seed begins to brown, and cure as you would coarse characters of grass. The product thus secured will amply remunerate the outlay for seed and time and labor, and give to your busy little friends abundant stores of delicious honey. In addition to the above inducements for sowing buckwheat, the writer must be allowed to say nothing is more attractive to the sight of him who practices diversified farming than the buckwheat field in full bloom, and no sound more gladsome than the morning hum of myriad bees sipping its golden nectar.

Position of the Hive--Sunshine and Shadow.

For an apiary, or even a single hive of bees, the best position is a sheltered place on a low level, instead of an elevated and exposed situation, and as free as possible from damp, noxious smells, and disturbing sounds. A plot of well-kept grass, or a space covered with dry gravel, is frequently very desirable. There seems to be no definite rule as to the best position for the hive as regards the points of the compass; the bees have been found to thrive whether their abode fronts the south, the north, or any intermediate point. On this subject so much depends on the locality, the climate, and various other considerations, that it is difficult, or rather impossible, to prescribe any rule of universal application.

Too much heat is always injurious to bees; they ought not to be left exposed to the sun in sultry weather. It renders the insects extremely irritable, and exposes the combs to the danger of being more or less softened and even melted. It is very important, therefore, to protect the hive by sheltering it from the direct rays of the sun. A screen adapted to the purpose is very suitable, or a mat, which may be thrown over the hive. In our opinion, the screen is to be preferred, as causing a grateful shade, and at the same time permitting a better ventilation.

THE FLOWER GARDEN.

Insects on House Plants, and the Remedies.

In response to numerous inquiries we purpose to give a little more in detail than we have previously done, a description of the insects particularly injurious to house plants, show the best way to prevent their attacks, and the most approved means devised for their destruction. In general, we may remark that considerable heat and dryness of atmosphere are necessary for the hatching of insects. All have noticed in cool summers, or in a season when frequent showers occur, our common grasshoppers are scarcely noticed, but if a drought happens, then they come in full force. The same principle applies to plants in the house. Those who give their plants plenty of water by syringing, spraying, and bathing, will not be very much troubled with insects.

THE GREEN-FLY.

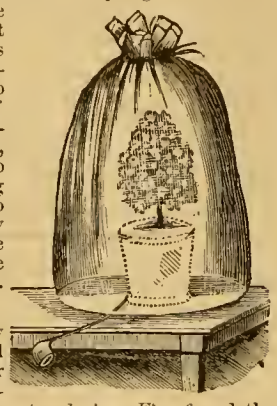
The "green-fly" every plant-raiser knows, and he knows, too, to his sorrow, how destructive it is if left to itself. The plants which this insect attacks are the softest and most succulent, and at the ends of the young shoots, and the softest leaves. It sucks the juices so as materially to injure the plant in a short time. The insects of this kind (*Aphis*) increase with such wonderful rapidity that REAUMUR has proved that in five generations one aphis may be the progenitor of six thousand millions, and there may be ten generations in a year.

GREEN-FLY (APHIS) MAGNIFIED.

The insect inflicts the injury by means of a long rostrum or beak through which it sucks out the juices—the rostrum, when not in use, lies inflected beneath the breast. Their bodies, at the hinder extremity, are furnished with two little prominent or knotty openings, from which exude almost continually little drops of sweet or honey-like fluid. As they take in great quantities of sap, they would soon become gorged if they did not get rid of the superabundant fluid. The leaves and bark of plants much infested by these insects are often completely sprinkled over with drops of this sticky fluid, which, on drying, becomes dark colored and greatly disfigures the foliage.

Of all the means that have been employed for the destruction of this insect, that which has proved most efficient and the one now almost universally practiced, is fumigation with tobacco. Those who use it frequently in green-houses, procure tobacco stems, when they are readily to be had, on account of their cheapness; or in suitable climates a small crop of it is raised for this purpose; but tobacco in almost any form may be used, and the amount necessary for a stock of house-plants is of inconsiderable value. Some plants, such as Heliotropes, Salvias, Lantanas, and some others with soft, downy foliage, will not bear ordinary fumigations without injury to the leaves, and these plants, therefore, should not be subjected to it. Many plants in full flower, but especially Pelargoniums, will throw off their expanded blooms after smoking, and therefore it is best to remove these before fumigating. Care should be used also to have the foliage of all the plants dry, for if they are wet or damp, the smoke will be apt to injure such as are of a soft texture. If the plants are in a conservatory attached to the house, the time chosen for fumigating should be a still evening when there is little or no wind stirring, and the temperature of the house should be pretty well up, as then the insects are more active and the smoke will more easily affect them. A few chips or a little charcoal may be placed upon a small furnace or a pan and ignited, and then a small quantity of tobacco placed upon it—the tobacco should have been previously dampened so as to prevent its burning too rapidly or blazing. See that the fire continues to burn, and add more tobacco, if enough has not been placed on at first, until the room is filled with smoke. It can be left this way all night, and in the morning the plants should be well syringed to free them of the dead insects, and to remove the odor of the tobacco. After a few days it is best to repeat the smoking so as to destroy any insects that may have escaped the first time. In this way fumigation is to be practiced whenever necessity indicates it; but as we have before remarked, a free use of the syringe and a moist atmosphere will render the necessity of less frequent occurrence.

When only a plant or two, or a small number of them are to be treated, they can be fumigated under an inverted barrel or large box in a back room or shed. Single plants may be fumigated by making a bell of a newspaper, as shown in the engraving. The smoke can be introduced by means of a tobacco-pipe. Fill the bowl two-thirds full of quick-burning tobacco, and, after lighting, place a piece of cotton cloth over the bowl, and blow the smoke through the stem, with the mouth. Instead of fumigation, a weak solution of tobacco may sometimes be used quite as effectively; this is often the more convenient way for a few plants. Soak or steep some tobacco in water until the strength is extracted. The strength of the water may be determined by dipping a leaf into it or letting it remain in it for a short time; if the leaf is brown or burned, or turns so when taken out of the water, the solution is too strong, and must be reduced by increasing the quantity of water. When the right degree of strength is acquired, dip the whole plant into the water, and afterwards syringe it off with clean water. What we desire to impress most forcibly on the minds of our readers, and especially those who keep only a small number of plants in the living-room, is the better way, of watching them so closely, and syringing and washing them so frequently, that the fly is kept under and the plants maintained in the highest state of health.



THRIPS.

This is an exceedingly active little insect, and seems to leap rather than fly. The engraving shows a thrips of natural size, *Fig. f*, and the same insect magnified, *Fig. h*. These insects are extremely small, and have long, slender bodies, with very narrow wings, which are fringed with fine hair. They live on leaves, flowers, in buds, and even in the crevices of the bark of plants, but are so small that they readily escape notice, the largest not being more than one-tenth of an inch in length. The color of the insect varies from a whitish-yellow to a dark brown. It attacks the extremities of young shoots and tender leaves, which becomes brown and shriveled, and will crumble to dust when rubbed between the thumb and finger.

The same means that have been recommended for the destruction of the "green-fly" serves for this little pest also, but it does not succumb so readily—the fumigation must be more frequently and persistently practiced. As we have said in reference to the "green-fly," so with this insect; it may be prevented to a great extent from multiplying, by syringing and frequently washing the leaves of the plants.

THRIPS.

If a vinery should be seriously attacked with thrips, wait until all the foliage and fruit are taken off the vines; then remove all kinds of plants that have green leaves into other houses, and shut up the vinery close, and fill it with the fumes of sulphur.

RED SPIDER.

The Red Spider (*Acarius tellarius*) is a troublesome little insect, and one which, if allowed to run unchecked, would speedily bring devastation and total ruin to the plants of the house or conservatory; but it is no doubt designed for some beneficial purpose. We can more clearly see the compensating good from its attacks than in the case of most other plant-preyers. If it were not for the wholesome fear which it continually inspires, gardeners and other plant-growers would probably very frequently maintain an atmosphere so dry as materially to injure or destroy their plants. If you catch a glimpse of a red spider, you may be sure that the atmosphere of your plant-room has been kept too dry—if it is your living-room, it has also been too dry for the health of the human occupants. It will be seen by the engraving that the insect is very minute, as shown by the little dot *a*; the same, highly magnified, appears at *b*. The body is of a blood-red color, and the feet a light red.

RED SPIDER (*Acarius tellarius*).

A plant upon which this insect has taken up his abode, in a short time shows some leaves turning yellow, indicating premature decay; when they are numerous they work webs on the under-side of the leaves, and sometimes all over it, until the plant becomes a mass of half-dead and decayed leaves.

Water is fatal to the red spider, and, as before remarked, with an atmosphere of proper humidity, this insect would never get a foothold. When once firmly established upon the plants, the speediest way to destroy them is by the fumes of sulphur. This remedy, however, must be used with much caution, as the free use of it will cause most plants to shed their leaves.

Fortunately, but little of it is required; and in the green-house it has been found sufficient to mix a little flour of sulphur with water, or with milk, which is said to be better, and to paint or smear with it a small surface of the heating pipes or the flue; a very little of it in the atmosphere proves sufficient for the destruction of the insect. In the case of a few house-plants, we think that sponging of the leaves on both sides, and syringing the plants so that the water is thrown on the under as well as the upper sides of the leaves, will be effectual, without recourse to sulphur.

SCALE INSECT.

The Coccus, or Scale Insect, is a common pest on some kinds of plants; the orange, the myrtle, the camellia, the oleander, and many other hard-wooded plants, are apt to be infested by them. There are many species of Coccus, varying slightly from each other. One kind of plants is the home of one variety, and another sort devotes its attention exclusively to some other kind. The grape, the pear, the elm, and almost every kind of our cultivated and forest trees, has its special representative of this class of insects. In the engraving the insect of natural size is shown, *a*; when magnified, the upper side, *b*, represents a shield, and the legs are only seen when it is turned on its back, *c*.

COCCUS, OR SCALE INSECT.

The remedy in this case is by washing the plant by hand, and forcing the insect off with the thumb or finger-nail; or take a small, stiff brush and soapsuds, and brush the plant until it is thoroughly clean. The name of the species that infests the myrtle, orange, oleander, etc., is Coccus Hesperidum.

The Mealy Bug (*Coccus Adonidum*) is similar to the previously-mentioned insect, except that it is covered with a white, mealy or downy substance. Both of them insert their beaks into the bark or leaves, and draw from the cellular substance the sap that nourishes them. A weak mixture of whale-oil soap and water, in the proportion of one pound of soap to five gallons of water, will be found destructive to them. With a few plants only, we would recommend the use of a soft brush and water, and in this way they can be readily removed.—*Vick's Floral Guide.*

How to Preserve and Restore Flowers.

Flowers may be preserved in a fresh state for a considerable time by keeping them in a moist atmosphere. Those who love to see plenty of fresh flowers in their parlors or sitting rooms will be gratified by adopting the following plan: Pour water into a flat porcelain or glass dish. Set a vase of flowers in the dish, and over it place a bell glass, with its rim in the water. The air which surrounds the flowers, being confined beneath the bell glass, is kept continually moist with the water which rose with it in the form of vapor. As fast as the water is condensed it runs down the sides of the bell glass back into the dish; and if means were taken to inclose the water in the outside of the bell glass, so as to prevent its evaporating into the air of the sitting room, the atmosphere around the flowers would remain continually damp. Those who wish to "linger on the beauty" of a rare flower or bouquet will be repaid by this experiment. It can be tried on a small scale by inverting a tumbler over a rose-bud in a saucer of water. Another method by which some flowers may be preserved for many months, is to carefully dip them, as soon as gathered, in perfectly limpid gum water, and after allowing them to drain two or three minutes, to let them upright, or arrange them in the usual manner in an empty vase. The gum gradually forms a transparent coating on the surface of the petals and stems, and preserves their figure and color long after they have become dry and crisp. Faded flowers may be generally more or less restored by immersing them half way up their stems in very hot water, and allowing them to remain in it until it cools, or they have recovered. The cooled portion of the stems must then be cut off, and the flowers placed in clear, cold water. In this way a great number of faded flowers may be restored; but there are some of the more fugacious kinds on which it proves useless, but flowers may also be preserved and their tints deepened by adding to the water a little of the solution of carbonate of ammonia and a few drops of the phosphate of soda. The effect of this, in giving the flower a deeper color and a stronger appearance, is quite wonderful; and by cutting off every other day about one-half inch of the stems of the flowers with a sharp knife, they may be kept as long as their natural life would last.

Full length Portrait of some unhappy woman's husband. The man who thinks it nonsense for wife and girls to make flower beds.

Portrait of the fortunate woman's husband, who makes wife and children happy and home pleasant.

Violets.

Violets are the sweetest flowers in Flora's garden, and are almost universally admired. There are three varieties now cultivated, viz.: the Neapolitan, the Russian, and the English, or *b. odorata*. The Neapolitan violets are far more tender than all other species, and cannot be brought to perfection without the aid of artificial heat or some protection to preserve them from frosts. In a cold frame or under hand-glasses they can be kept in bloom from November to May. During summer they will take care of themselves, with but little attention from the gardener; but as soon as cold nights approach, the glasses should be put over them; and during severe cold they must be protected by matting, and the frames banked up with stable litter. For window gardening these violets are not a success unless the plants are purchased when in full bloom and kept in a cool temperature. As pot-plants they require shifting into larger pots, as their roots spread, and should be liberally supplied with water while in bloom. In beds, to maintain a good succession, a new bed should be planted as soon as the old plants cease to flower; but if this can not be easily done, let the old plants remain and cut away all the suckers they have made, and give the bed a top-dressing of rich loam and well-decayed manure, half-and-half. All through the summer the suckers should be cut away, and the plants will need water occasionally if the season is dry. By this method very strong plants can be had for winter flowering, and only one sash and frame be required.

The woman whose flower seeds never come up unless they are scratched up.

The Russian violets are much more hardy than the Neapolitan, but to blossom freely they need a rich soil, with plenty of water when in bloom; it must, however, be well drained, so that the water will not settle at their roots, as this will cause them to decay. Fresh beds made every year from the offsets will produce the greatest profusion of flowers, and the old beds can be renovated with a top-dressing after their flowering ceases. The suckers can be planted when the old beds are in full bud, but all suckers produced the first year should be removed, so that the plants can form compact crowns, which will produce flowers in great plenty. The Czar violet is the most popular variety that is cultivated, but its flowers are of a pale blue, and single, yet their delicious fragrance is always appreciated. It has, however, a tendency to run to leaf rather than to bud, and, therefore, should not have too rich a soil; a sandy loam seems best adapted to its wants.

These violets can be cultivated like mignonette, so as to form a miniature tree. Take a strong, well-rooted sucker with a long stem, and plant it in a pot of light, rich mold with the stem tied up to a slender support. Put the pot where it can have bottom heat, and as soon as it seems to be growing well, nip off all the side branches with the exception of two small shoots. Continue to do this, keeping only the middle and side shoots, and as the three-inch pot (which should be used at first,) becomes filled with roots, shift it to the next size, and continue doing this as often as the roots touch the sides of the pot. Fresh soil and a supply of weak manure-water must be given to promote its growth, and every flower-bud picked off as soon as it is seen. In three years this course of treatment will have produced a stem at least half an inch in diameter, and a bell-shaped head, which may now be allowed to bud and bloom, and it will prove a charming basket-plant, or an ornament for the window, garden, or greenhouse. The sweetest-scented flowers are not always the most brilliant colored, for Nature rarely bestows upon one plant so great perfection, although the rose may claim this distinction; but violets possess the pleasing tints of dark blue or purple, pure white, and pale blue, while the shape of the flowers is always lovely. No one who has a garden should be without a bed of them.—*S. O. J. in New York Tribune.*

The woman whose flower seeds all come up.

"I WILL not mar the works of God by wanton cruelty."

Button-Hole Bouquets and Bouquet-Holder.

Within a few years the wearing of button-hole flowers and button-hole bouquets has become quite fashionable, and it is one of those tasteful and innocent pastimes which we can fully commend. The button-hole bouquet proper, which is composed of a very few fine flowers tastefully arranged, must not be confounded with the button-hole flower, which is simply a single flower, like a rose-bud or a Tuberose, with some pretty sweet-scented leaf for a background, to the stem of which the flower is attached by a thread or light string. This is designed to be inserted in the little Bouquet-Holder herewith illustrated, and for which we are indebted to our friend VICK, who sends them by mail for twenty cents. No leaves are more desirable for this purpose than the sweet-scented geraniums, of which the Apple and Balm are among the most desirable. The holder is made of glass, of any desired color, is filled with water, and attached to coat, dress or hair, by the pin. In this way the flowers will keep fresh for a day or two. The button-hole bouquet is arranged differently. The stems of the flowers are covered with a little damp moss or cotton, the whole being surrounded with tin-foil, and fastened to the coat or dress with a common pin. Of course, the holder may be used with either, or both may be arranged for tin-foil. Mr. Vick says "the very beautiful cut foliage of the *Rose* and *Verbena* Geraniums are sufficiently attractive in form alone to insure general popularity; but when added to this is their delicate and delightful fragrance, we know we shall be pardoned for urging every one who cultivates flowers to secure at least one of these plants. They grow easily from slips, and do nicely in the house, and, when once secured, there will be no necessity for again purchasing during a life-time; for in the early autumn slips can be taken off and potted for winter use in the house, and in the early spring slips can be potted, and in three or four weeks they will be sufficiently rooted to transfer to the open ground."

THE FRUIT and VEGETABLE GARDEN.

The Pear Tree Must Have a Retentive Soil.

The pear tree requires a retentive soil, in order to give good returns, but not when water stands on surface or sub-soil. The loss of fruit trees within three years, in Illinois, is estimated at about three millions of dollars, and that the retentive clay loam sub-soil of the prairie lands is the cause, and that the farmers have adopted the plan of ridging their orchards by repeated ploughings, commencing at the same ridge and ending at the same furrow, to remedy this evil. We do not apprehend that this is simply owing to their clayey sub-soil, for in New England we find that pear trees flourish better on land with a sub-soil or pan of clay. The difficulty with them is undoubtedly owing to the adhesiveness or peculiar quality of their clay, which prevents the percolation of water through it. Such land requires a good system of draining. On the quality of the sub-soil depends in a great measure the capacity of the surface soil for retaining or parting with the water and heat. Of these, the worst is clay kept wet with subterraneous water, so destructive to fruit trees, and the best are those of clay resting on gravel or porous rock. This last is the best for a garden, because, while the water finds a ready means of escape, the roots of the trees are prevented from extending too deep into a cold and uncongenial soil.

The Propagation of Celery.

Celery is a native of Norway and Sweden, where it grows near the edges of swamps. This plant is rarely cultivated as it should be, hence the stunted specimens which appear in our markets. A deep trench should first be dug, at the bottom of which a layer of sticks of wood, say six inches thick, should be placed, a drain pipe being placed endwise upon one or both ends of the layer. The sticks should be then covered with about a foot of rich mold, wherein the plants should be set, in a row and about five inches apart. The plants should be kept well watered, the water being supplied through the drain pipes, so that, passing through the layer of sticks, which serves as a conduit, the water is supplied to the roots of the plant. In earthing up, care should be exercised to close the stems of the plant well together with the hand, so that no mould can get between them. The earthing process should be performed sufficiently frequently to keep the mould nearly level with the leaves of the outside stems. If these directions are carefully observed, the plant may be grown at least four feet in length, and this without impairing the flavor, which deterioration is commonly noticed in overgrown vegetables and fruit.

The Tap-Root.

Roots and stems are always in a certain degree reciprocally proportionate to each other. The tap-root does not form a part of every plant; but when it does so, it is an essential part of that plant. Our nurserymen at the present day invariably cut off this tap-root, and generally the laterals or side shoots. It is not to be supposed that trees form tap-roots to their own prejudice. These roots descend into the earth for some special service. Tap-roots are undoubtedly essential to the healthy growth and durability of the tree.

Professor Darby thinks that "If the seed for stock were planted where the trees were to grow, and grafted or budded in their natural positions, we should have fruit orchards for a generation." We apprehend that this cutting off the tap-root and pruning the side limbs of our trees, when young, is a bad practice. We should allow them to grow as nature indicates, thereby increasing the ratio of the surface for the descending sap, as compared with the ascending. If the tap-root were not essential for the life, health and thrift of the tree, such a root would never be produced.

Ploughing Orchards.

Whether it is better to plough young orchards, or to keep them permanently in grass, is a question to which different answers are returned by men who have had both experience and observation in the premises. Without attempting to decide this point, upon which the "doctors disagree," we wish to offer a suggestion to the large number of our readers who think it is advisable to plough among their trees. That is, that they use a great deal of care while doing the work. A great many trees have been permanently injured by having the roots badly mangled or the bark mutilated on their trunks. The latter often proves to be a very serious injury, and, even where only a small piece of the bark is removed, it frequently induces disease and finally kills the tree. For ploughing where trees are thick, oxen are better than horses, as there is much less danger of injuring the trees. But where oxen cannot be had, horses must be used, and a great deal of care should be taken by the driver to keep them from getting too close to the trees.—*New England Homestead.*

Caterpillars.

The caterpillars have just commenced their ravages on the fruit trees, and in some localities appear to be very numerous, and promise to do great damage. Now is the time to give them a general quietus; for if they are not killed by one of our recent frosty nights, they will do an incalculable amount of mischief, not only destroying the fruit for the present season, but retard the growth of the trees. One of the best ways to destroy them is to take an old stub broom dipped in a strong lye, or ashes and water, and rub them off of the limb in a thorough manner. Do it just at evening, and you will be pretty sure to catch them all in the nest, and one attack will do the whole work. Using fire to burn them off often injures the tree more than the worms would if left alone. But do it somehow, and do it thoroughly, for every worm destroyed this season will save the trouble of destroying many more next year.

Advantages of Mulching.

Mulching should be resorted to to obviate the evil results arising from tough sod around orchard trees, or from mutilating the abundance of small fibers that fill the surface of the soil, which would be the case if the plow should be used. I know of instances of mulched orchards bearing heavy crops of fruit every year, and of others where the mulching operation was discontinued, and where the trees at once deteriorated. Mulching is also of great use in the garden, to save labor, as well as to preserve the soil moist and cool. After hoeing, if the surface of the ground is covered with a good coat of weeds or straw, and among our tomatoes, currants, raspberries, &c., the effect will be plainly seen. I think blackberries cannot be successfully cultivated without resorting to this system.—W., in the *N. Y. Tribune.*

To Keep Away Cutworms.

Spirits turpentine poured upon seed corn before planting, and thoroughly mixed by stirring, so that all the seeds shall be impregnated with it, is a specific for the terrible ravages of the cutworm. I have never known it to fail in one instance. My own practice has been to put one quart of turpentine to a bushel of corn, or in that proportion, which is sufficient; and I have always thought that corn came up two or three days quicker when thus treated. Besides, the scent of the turpentine, which can be detected several weeks after planting, aids much in keeping crows at a distance.—*Charles Currier, in N. Y. Tribune.*

The Cut Worm in Cabbages.

To prevent the ravages of the cut worm, take pieces of newspaper, six inches square, tear a slit in one side to the middle, and insert the plant. Bring the slit edges together; and place a little earth or pebbles on the corners, and the work is done. A platform of paper is formed around the plant, through which the worm cannot penetrate.

The Asparagus Trade of Long Island.

The growing importance of the asparagus business on the north side of the island may be judged from an approximate statement of the amount of business done last year. There were 166,575 bunches shipped from the Locust Valley depot. About 150 acres at Bayville produced 120,000 bunches; 20 acres at Mill Neck, 20,000 bunches; 50 acres at Oyster Bay, 50,000 bunches; and 20 acres at Glen Cove, 20,000 bunches, making a total of nearly 400,000 bunches, which is considered rather under than over the product.

To Destroy Bugs on Cucumbers.

The striped bug on cucumbers and melons may be destroyed, as follows: 1. By a strong solution of henhouse manure, say one peck of the manure to one and a half gallons of water; let it stand twenty-four hours and sprinkle the plants freely with it after sunset. 2. By sifting charcoal dust over the plants; if repeated three or four times the plants will be entirely freed from the annoyance. 3. Plant a few kernels of buckwheat in each hill of cucumbers or melons, and striped bugs will not trouble the vines.

A Little Garden.

From fifty rods or five-sixteenths of an acre in the town of Clayton, N. Y., planted as a garden with cabbages, there was gathered the following crop: 1,700 heads; sold 1,140 at 10 cents, $114; gave away about 200; saved 60 for family use, and made 1½ barrels of sauerkraut. The cabbages were set 2½ feet apart each way. The results are equal to the return of $640 per acre.

Market Gardening.

A market gardener near Boston, Mr. W. D. Philbrick, says that some of the best gardeners within seven miles of this city employ a capital of $700 per acre. The expenditure for manure and labor often amounts to $500 per acre, and they get their pay in the immense crop of early cabbages, early corn for the table, peas, potatoes, small fruits, and garden truck.

THE FARM AND THE DAIRY.

Shade Trees in Pastures.

An Illinois correspondent of the Germantown *Telegraph* suggests that while much has been said and written of late on the advisability of planting shade trees in pastures as a means of promoting the comfort of stock, not one word recommending the same thing to promote the comfort of the men who hoe our corn, and spend ten long hours of each day, not only enduring the fatigue of hard labor, but the same hot sun on a more sensitive being. This shows that the disciples of Mr. Bergh are in advance of our philanthropists; that the "brutarians" are ahead of the humanitarians. But is it profitable to have shade in pastures? The truth of the statement that "the treatment that gives most comfort to the animal gives most profit to the owner," is not disputed on general terms; yet the question is a practical one of dollars and cents, of pounds of beef, butter and cheese. He thinks cattle suffer less from sun and heat, if out the whole time, than they do when out a part of the time; and it is certain that cattle put on much more flesh if in a clean pasture, free from everything like shade or ponds and creeks, with only a variety of grasses and pure water in a tank, that they cannot stand in as they do in creeks and ponds. He adds:

"While this cannot be controverted when put to actual test, it is susceptible of proof without the trial. I will speak of cattle grazed for beef only, and give some statements which I think no one will dispute. The more cattle eat the more they will thrive. The more time they spend eating the more they will eat. The more time they spend in the shade or the water, the less time they spend eating. If these are facts, I need say no more, but will venture on your patience by mentioning horses. Let them be turned to pasture during the hot months, where they have access to an open stable. They will spend scarcely an hour of sunshine in the pasture, but nearly the whole day in the stable, however hot the stable may be, and will grow poorer every day; whereas, on the other hand, if kept in a pasture free from shelter, they will at the same time thrive. Shade trees and all trees are excellent in their place, but become a plague when out of place; and I insist that if we have shade for stock we should provide it for the harder-worked men. And what then?"

How to Make Farm Life Attractive.

Dr. Youman, in his Dictionary of Every Day Wants, gives the following excellent instructions for making farm life attractive:

1. By less hard work. Farmers often undertake more than they can do well, and consequently work too early and too late.

2. By more system. Farmers should have a time to begin and to stop labor. They should put more mind and machinery into their work; they should theorize as well as practice, and let both go together. Farming is healthy, moral and respectable, and, in the long run, may be made profitable. The farmers should keep good stock, and out of debt.

3. By taking care of health. Farmers have a healthy variety of exercise, but too often neglect cleanliness, eat irregularly and hurriedly, sleep in ill-ventilated apartments, and expose themselves needlessly to cold.

4. By adorning the home. Books, papers, pictures, music and reading, should be brought to bear upon the in-door family entertainments; and neatness and comfort, order, shrubbery, flowers and fruits should harmonize all without. There would be fewer desertions of old homesteads if pains were taken to make them agreeable. Ease, order, health and beauty are compatible with the farm, and were ordained to go with it.

5. We have no doubt if Dr. Youman had been writing simply for the farmers of Lancaster county, he would have closed his practical hints for making the farm and home happy by urging them to subscribe for THE LANCASTER FARMER, for in it they are sure to find just such things as every farmer who aims to keep up with the times ought to know. We, therefore, supply the omission.

How Scientific Farming Pays.

The Oxford (Maine) *Democrat* contains an interesting description of the "White Mountain Stock Farm," owned by Judge Burbank, of Boston, who read law with Daniel Webster, and now occupies the same office, although he spends much of his time at the farm. He knows every one of his animals by name, and is thoroughly acquainted with everything done on the farm, having a "daily farm report" sent to him in Boston. He is the inventor of several farming implements, and takes a lively interest in every thing which effects a farmer's welfare. The farm proper contains 1,000 acres; but, including pastures and woodland, he owns 2,250 acres in all. Last year he cut 250 tons of hay, nearly 175 of which was consumed by his stock during the winter. The remaining were sold at the highest market price, on account of the careful and excellent manner in which it had been preserved. The meadows from which a great portion of the hay is cut are smooth as a barn floor, and teams can be driven over them with as little jolt as upon a country road. They extend to the Androscoggin, and are one and a quarter miles in length. The whole farm is one and three-quarter miles long.

The Board Fence the Best.

They have an agricultural society in Washington county, Pa., which appoints a committee every year to visit farms and report the novelties and improvements thereon. The report is printed in pamphlet form, and distributed among the members. Last year this committee visited ten farms at home and in an adjoining county in West Virginia, and their report in relation to them fills thirty-five closely printed pages, and contains much information of practical value to farmers. Among others they visited and reported on the farm of Lewis Applegate, of Brooke county, West Virginia. Mr. Applegate stated that he had a post and rail fence that stood forty-two years, and a board fence thirty years, without repair. He showed the committee a fence built in 1851, now good. All things considered, he has found the board fence the best, and states it will be stronger and last longer if capped, in the manner illustrated in the April number of THE FARMER, and that he can keep a farm in better order and at less expense than by using worm fence.

A Hint to Farmers.

In some sections—and if would be a decided advance in thoughtfulness and kindness in all sections—farmers give each of their boys, and girls, too, a strip of land to raise whatever they choose upon it, and dispose of the product for their own benefit. It is a favor that they all appreciate, and it is a pleasant and serviceable employment for them in their leisure hours. They will vie with each other in their skill at raising their little crops, and the proceeds applied to their own use are frequently of some value; and the whole arrangement, while it instructs them in the cultivation of the soil, early implants in the children the idea of thrift and economy. Sometimes, where a good many animals are raised, a pig, a lamb, a calf, up to even a colt, according to the age of the children, is given to each to rear and to keep or sell. Farmers, think of this; it will more than repay you in the happiness and confidence it will impart to your sons and daughters.—*Germantown Telegraph.*

Cure for Kicking Cows.

A method which will break the most vicious cow from kicking (and which should supersede the cruel practice of beating and whipping, and is the work of but a few minutes, is as follows: Take a strap the size of a common bridle rein and buckle tightly around the cow (while milking), just forward of the bag. This, practiced a few days, will effect the desired result, as we are aware from actual experience.

The Farmer Feedeth All.

BY CHARLES G. LELAND.

My lord rides through his palace gate,
My lady sweeps along in state;
The sage thinks long on many a thing,
And the maiden muses on marrying;
The minstrel harpeth merrily,
The sailor plows the foaming sea,
The huntsman kills the good red deer,
And the soldier wars without e'en fear;
But fall to each, whate'er befall,
The farmer he must feed them all.

Smith hammereth cherry red the sword,
Priest preacheth pure the Holy Word;
Dame Alice worketh broidery well,
Clerk Richard tales of love can tell;
The tap-wife sells her foaming beer,
Dan Fisher fisheth in the mere;
And courtiers ruffle, strut and shine,
While pages bring the gaseon wine;
But fall to each, whate'er befall,
The farmer he must feed them all.

Man builds his castles fair and high,
Wherever river runneth by;
Great cities rise in every land,
Great churches show the builder's hand;
Great arches, monuments and towers,
Fair palaces and pleasing bowers;
Great work is done, be it here or there,
And well man worketh everywhere;
But work or rest, whate'er befall,
The farmer he must feed them all.

DOMESTIC ECONOMY.

Skeletonizing Leaves.

The solution for destroying the soft tissues is made by first dissolving four ounces of common washing soda in a quart of boiling water; then add two ounces of slaked quicklime, and boil for about fifteen minutes. Allow this solution to cool; afterwards pour off all the clear liquor into a clean saucepan. When the solution is at the boiling point, place the leaves carefully in the pan, and boil the whole together for an hour. Boiling water ought to be added occasionally, but sufficient only to replace the loss by evaporation. The epidermis and parenchyma of some leaves will more readily separate than in others. A good test is to try the leaves after they have been gently simmering (boiling) for about an hour, and if the cellular matter does not easily rub off betwixt the finger and thumb beneath cold water, boil them again for a short time. When the fleshy matter is found to be sufficiently softened, rub them separately, but very gently, beneath cold water until the perfect skeleton is exposed.

The skeletons at first are a dirty white color; to make them pure white, and therefore more beautiful, all that is necessary is to bleach them in a weak solution of chloride of lime. I have found the best solution is a large tablespoonful of chloride of lime to a quart of water; if a few drops of vinegar are added to the bleaching solution, it is all the better, for then the free chloride is liberated. Do not allow them to remain too long in the bleaching liquor, or they will become very brittle, and cannot afterwards be handled without injury. About fifteen minutes are sufficient to make them white and clean-looking.

After the specimens are bleached, dry them in white blotting paper, beneath a gentle pressure. Of course, in this, as in all other things, a little practice is needful to secure perfection. Simple leaves are the best for young beginners to experiment upon; vine, poplar, beech and ivy leaves make excellent skeletons. Care must be exercised in the selection of leaves, as well as the period of the year and the state of the atmosphere when the specimens are collected, otherwise failure will be the result. The best months to gather the specimens are July to September. Never collect specimens in damp weather, and none but perfectly matured leaves ought to be gathered.

A soft tooth brush is a capital instrument for removing the soft tissues—much better than the finger and thumb. Indeed, it is always advisable not to touch the leaves during the process, but to float them on a piece of wood when the brushing process is to be gone through.

How to Dress Salad.

We notice in a western paper an elaborate receipt for dressing a salad. It says: "Take the yelks of three hard-boiled eggs, crumble them with a fork or spoon, add about a teaspoonful of ground mustard, a teaspoonful each of sugar and salt, and mix all well together. Then add in three portions a dessert-spoonful of olive oil, and rub the whole to uniform smoothness. The addition of twice the quantity of oil adds to the flavor with many. Next, give a dash of Cayenne pepper or pepper sauce; finally, add a gill of vinegar." This is one way, but by no means the best. We prefer our own decidedly. We use head-lettuce invariably when it can be had.

For a table of six persons take four eggs; boil three

of them hard. Mash these, adding a *little* vinegar, in order that the hard yelks may be rubbed smoothly. Add some oil, salt, mustard, red pepper, and the yelk of the fourth egg *raw*. This will make everything free from lumps, if stirred well. Then add the rest of the oil, which should be liberal; salt, pepper, mustard, &c., to the taste. There should not be more than a tablespoonful of vinegar altogether, unless you wish a pickle; and, as you love us, not a mite of sugar! Pour this over the lettuce, which is laid in the dish in whole leaves.—*Germantown Telegraph.*

Mend Your Own Tinware.

Every housekeeper may not know of what they are capable in the line of keeping their tinware in order. For the benefit of such I will say that it is easier to solder such things than to pay a traveling tinker two prices for mending them. Take a sharp knife and scrape the tin around the leak until it is bright, so that the solder will stick. Then sprinkle on a little powder resin (they have liquid "flux" to sell, but resin will do just as well); lay your solder on the hole, and with your soldering-iron melt it on. Do not have the iron too hot, or the solder will adhere to that. After two or three trials you can do a job that you will be proud of. If you do not own a soldering-iron, procure one by all means; but when hard pressed I have used the knob on the end of the fire-shovel, or a smooth piece of iron, or held a candle under the spot to be mended. Anything is better than stopping leaking pans with beeswax or rags. Try it, young housekeepers, and see how independent you will feel. Your pans should be dry when you take them in hand.

How to Make Good Apple Dumplings.

First procure good, sour, juicy apples, pare and core, leaving them in halves. Get all your ingredients ready before beginning to mix your dough; sugar, soda, sour milk, lard, salt, flour and apples. Now make a dough, as for soda biscuits, only adding a little more lard to make it shorter. Take a bit of dough out on the kneading-board, and after kneading roll this as for pie crust. Then cut in pieces long enough to cover an apple, allowing for lapping the edges. Put in two of your apple halves, sweeten according to taste, and cover apple and sugar with dough. Lay the dumplings in your bread pan, the smooth side up, first having your pan well buttered. Proceed in this manner until you get your pan well filled, (be sure it is a large sized pan, for they will go off like hot cakes,) then place a small bit of butter on the top of each dumpling, sprinkle a handful of sugar over all; then place in a moderate oven and allow them to bake an hour. Serve (not too hot) with pudding sauce, or with sugar and cream.

Study to Save Steps.

If farmers would get in the habit of spending half an hour each day in thinking how steps may be saved, work would turn to much more account. Some barns are so unhandy that thousands of steps are taken every year that might be saved. In the house, and especially in the kitchen, is this the case. Many a farmer spent hours and hours last winter by the fire, kept in by the cold, when he would have been much better engaged in digging a well under the kitchen, so as to have a pump bring water into the sink. Such an improvement will save miles of travel every year; and whenever water is drawn therefrom, blessings will be pronounced. Some pantries are so inconvenient, and so deficient in drawers and shelves, that time is lost in hunting for things, and temper is soured. Pray—stop, consider, devise, execute; and if it does not suit, try again—and do have things convenient, and save steps.—*N. Y. Tribune.*

A Preventive Against Moths.

A very pleasant perfume, and also preventive against moths, may be made of the following ingredients. Take of cloves, caraway seed, nutmeg, mace, cinnamon and Tonquin beans, of each one ounce, then add as much Florentine orris-root as will equal the other ingredients put together. Grind the whole well to powder, and put it in little bags among your clothes, &c. This will answer for furs also; but I never tried anything more certain as a protection against moths in furs than to first shake out or beat out every foreign substance before putting away for the season. Then wrap them up in a perfectly sound newspaper. What I mean by sound is, that there shall be no holes or breaks in the paper. Make a bag of the paper by pasting; pack in and paste up the mouth of the bag. Put in a drawer where it will not be disturbed. If well done, not a moth will ever be found inside. Try it.

Wife, Mistress and Lady.

Who marries for love takes a wife; who marries for fortune takes a mistress; who marries for position takes a lady. You are loved by your wife, regarded by your mistress, and tolerated by your lady. You have a wife for yourself, a mistress for your house and friends, and a lady for the world and society. Your wife will agree with you, your mistress will rule you, your lady manage you. Your wife will take care of your household, your mistress of your house, your lady of appearances. If you are sick your wife will nurse you, your mistress will visit you, your lady will inquire after your health. You take a walk with your wife, a ride with your mistress, and go to a party with your lady. Your wife will share your grief, your mistress your money, your lady your debt. If you die, your wife will weep, your mistress will lament, and your lady wear mourning. Which will you have?

Cherry Jam.

Cherry jam is one of the most delicious sweetmeats this fruit affords, and being so, it should be made in the most enjoyable manner. Let the fair confectioner take equal weights of white sugar and stoned cherries; make a sirup of the sugar; simmer the cherries slowly in the sirup for twenty minutes; take them out with a perforated skimmer, and spread them on dishes to cool; boil down the sirup till it is quite thick; put the cherries back, and let them boil at once, then seal in glass cans. Canned cherries may be put up like any other fruit in a fourth of their weight of sugar, or even less than that; they should be thoroughly cooked, and sealed when boiling hot. —*Western Rural.*

Perpetual Paste.

To make perpetual paste—which will remain sweet for a year—dissolve a teaspoonful of alum in a quart of water, to which add sufficient flour to make a thick cream. Stir in half a teaspoonful of powdered resin and half a dozen cloves, to give a pleasant odor. Have on the fire a teacup of boiling water; pour the flour mixture into it, stirring well at the time. In a few minutes it will be of the consistence of mush. Pour it into an earthern vessel; let it cool; lay a cover on, and put it in a cool place. When needed for use, take out a portion and soften it with warm water.

California Beer.

As the warm weather is coming—if it is to come this season—and this is a delightful, as well as a harmless beverage, and easily made, we give the following recipe: Take a good sound Irish potato, say the size of a large hen's egg, and grate it fine. Then take a quart of rain water and sweeten with molasses. Put the grated potato in the water and set away. In a few days the "seed" will begin to grow and make good beer. A very small quantity of the "seed" will make a large jug of beer.

Household Recipes.

How to Make "Maryland Biscuits."—"Aunt Leisurely" tells us, in the *Ladies' Floral Cabinet*, how she found out the true way of making genuine "Maryland Biscuits," which are good either warm or cold, invaluable for sandwiches for lunch, traveling and pic-nics, and will keep fresh a long time. She says, the trouble was, she could not obtain a correct receipt for making them; everybody said they were easily made; the main thing was to pound them well, as that was what made them light; but they could not give the exact proportions for mixing. In despair, she applied to an old colored woman, who made them to perfection, and this is the result of their conference:

"Aunt Dinah, will you please tell me how you make your biscuit? Yours are so nice that I want the recipe."

"Wy, bless yer heart, honey, dey's nuffin to make; ole Diner don't have no 'ceit nor nuffin, and her bixits is allus good."

"Yes, I know, Aunty; but there are some people have such a genius for cooking that, no matter how they mix anything, it always comes out right; but I'm not one of that kind, and I know I won't get them right, unless you tell me exactly how much of everything to put in."

"Well, honey, jest yer take a pan of flour—and it must be good flour, too—and a clever-sized lump 'o shortnin' and a smart pinch o' salt, and some water, and tote it to de bixit block, an poun' it as if ole Nick hisself was in it, make dem out de size of a cake o' sassage, hab yer stove *'jis so*, shove 'em in, and when dey's done take 'em out, and dat's all."

I was disappointed; but, after all, her recipe was as definite as that "ob de white folks," for all had told me to take a *pan* of flour and a *lump* of lard.

Grammar informs us that "a" or "an" are the only indefinite articles we have, but I have found out another, and that is "lump;" for, after wavering between one the size of a walnut and one the size of your fist, you are in a miserable state of indecision whether, after all, one the size of your head was not intended. So, in our recipes, dear friends, don't let us have any *lumps*, please, for some of us are so stupid we don't know how much it is.

So, having exhausted all available sources of information, with about the same result, I set to work to find out myself, and, by dint of measuring, and weighing, and experimenting, and spoiling, I can at last make them as good as Aunt Diner's, and if any lady tries my recipe and succeeds, I shall be gratified.

To two pounds of flour and two ounces of lard, well rubbed in, one tablespoonful of salt, and enough of cold water to make a dry dough, (it takes about a pint,) put the water in a little at a time, so as to be sure not to get it too moist. Then work the dough until in shape, lay it on a solid place, like a meat-block, and pound with the back of an axe, for half an hour or more; if it cuts through the dough at every stroke, so much the better. When it is flattened by the blows, fold it up and pound again, but don't add a sprinkle of flour after it is first mixed. After being pounded awhile it will blister, and, if you pull off a piece, will soap, which shows it is getting light. When ready to mould do not cut them, but pull off pieces about the size of an egg, mould them to round balls, and flatten them with your hand, stick with a fork, and bake in a quick oven about half an hour. Some persons are careful not to brown them, but I do not object to seeing them a little browned, and they must be thoroughly baked to be good.

The biscuit-block and pounder are as necessary to a Maryland kitchen, in any county below Cecil, as the coffee-mill; many have pounders for that particular purpose, made of a short bar of iron, with a long wooden handle; but many use an axe, and it answers just as well.

Treasury Department Whitewash: This recipe for whitewashing, sent out by the Lighthouse Board of the Treasury Department, has been found, by experience, to answer on wood, brick and stone, nearly as well as oil paint, and is much cheaper. Slake one-half bushel of unslaked lime with boiling water, keeping it covered during the process. Strain it, and add a peck of salt, dissolved in warm water, three pounds of ground rice put in boiling water, and boiled to a thin paste; one-half pound powdered Spanish whiting, and a pound of clear glue, dissolved in warm water; mix these well together, and let the mixture stand for several days. Keep the wash thus prepared in a kettle or portable furnace, and, when used, put it on as hot as possible, with painters' or whitewash brushes.

Cooking Cauliflower.—I notice several ways recommended for cooking this fine vegetable, and perhaps some people prefer some of these to my own, because I regard "doctoring" cauliflower and asparagus as an injury to them. A cauliflower should be cooked with the outer line of leaves on, clipped of course down to the head. Let it soak in cold water for half or a whole hour, and then boil it steadily for an hour or until it is perfectly tender, drain and dish, and send to table just as it is, with some drawn butter for those who prefer this sauce. I like a little good oil, but pepper and salt only bring out the good qualities of the vegetable much better than any sauce.—*Aline, Germantown Telegraph.*

Saratoga Potatoes: The following is said to be all there is of the cook's secret for producing those world-renowned potatoes served at Moon's Lake House, Saratoga Springs, every summer: Peel good-sized potatoes, and slice them as evenly as possible; drop them into ice water. Have a kettle of lard, as for fried cakes, and very hot. Put a few at a time into a towel, shake them about to dry them, and then drop into the hot lard. Stir them occasionally; and when of a light brown, take them out with a skimmer. If properly done, they will not be at all greasy, but crisp without, and mealy within.

Cement for Petroleum Lamps: A cement particularly adapted for attaching the brass work to petroleum lamps, is made by Puscher, by boiling three parts resin with one of caustic soda and five of water. The composition is then mixed with half its weight of plaster of Paris, and sets firmly in half to three-quarters of an hour. It is said to be of great adhesive power, not permeable to petroleum, a slow conductor of heat, and but superficially attacked by hot water. Zinc white, white lead, or precipitated chalk may be substituted for plaster, but hardens more slowly.

Green Pea Soup: Take two quarts of green peas, one small onion, and a sprig of parsley cut fine; add two quarts of hot water, and boil slowly for half an hour, then add a pint of small new potatoes which have been peeled and laid in cold water an hour; put in a tablespoonful of sugar and a little salt, boil till the potatoes are done, now add a teacupful of cream or a pint of milk, boil a minute or two, and serve with small slices of toasted bread or gems cut in halves.

Boston Breakfast Cake.—One quart of flour, two teaspoons of cream-of-tartar rubbed into the flour, one tablespoon of butter rubbed into the flour, two tablespoons of brown sugar rubbed dry in the flour, a little salt, teaspoon of soda dissolved in as much sweet milk as will make the ingredients about the consistency of pound-cake dough. Grease a pan with lard, place the muffin rings in the pans, having them also well greased; fill them half full and bake in a quick oven.

Crackers: Take one large cupful of bread dough, very light, and roll it out on your moulding board; then spread on it a piece of butter and lard together, as large as a goose egg; dredge a little flour over it,

fold it up and *pound it with something heavy a long time.* After this is done, take a small piece at a time and roll out very thin, stamp with the clock key, and bake quickly, and you will have far better crackers than you can buy.

GREEN PEA SOUP WITHOUT MEAT: Two lettuces, two cucumbers, three onions and a pint of peas: put them cut up into a stew pan with a quarter of a pound of fresh butter, and a little pepper and salt; cover them down and let them stew till tender. Have a quart of peas stewing in two quarts of water with a sprig of mint; when done pulp them through a sieve, add the liquor they were stewed in and the other ingredients.—*Ger. Tel.*

TO DRIVE AWAY MOSQUITOS: Camphor is recommended as valuable for the expulsion of mosquitos from a house. It is used as follows: Take of gum camphor a piece about one-third the size of a hen's egg, and evaporate it by placing it in a tin vessel and holding it over a lamp, taking care that it does not ignite; the smoke will fill the room next morning, even though the windows were open all night.

TO CURE SUMMER COMPLAINT: Take about two tablespoonfuls of grated comfrey root and the white of one egg, beaten well together, then have ready a pint of boiling milk, into which stir the comfrey and egg. It will thicken like "pap," and it is not unpleasant to take.

LITERARY NOTICES.

THE CENTENNIAL GAZETTEER OF THE UNITED STATES: A Geographical and Statistical Encyclopædia of the United States, Territories, Counties, Townships, Villages, Post-Offices, Mountains, Rivers, Lakes, &c., in the American Union: showing the extent of its growth, the vastness of its wealth and resources, and its educational, industrial and political status at the end of the first century of the Republic, embracing the data furnished by the census of 1870, and the most recent official reports; BY A. VON STEINWEHR, A. M.: Published by Ziegler & McCurdy, Philadelphia.

The foregoing contents of the title page gives a comprehensive statement of what the book contains, and needs nothing more in that behalf from us. The book itself is a royal octavo of 1016 pages, with an appropriate preface and list of abbreviations. The first 58 pages are devoted to a condensed history of the United States; their boundaries; surface; rivers and lakes; climate and vegetation; population; cities; occupations and branches of industry; agriculture; manufactures; mining; commerce; railroads, telegraphs and canals; education; government; and general history. The work is substantially bound in leather, printed on good paper with fair type, and is embellished with several finely executed full page illustrations, including the capitol at Washington; headwaters of the Arkansas river; city of Boston; New York; Cincinnati; Chicago; a private home, Pacific Railroad scene; the pine forests of Maine; a lumberman's camp in the woods of Maine; Capitol of Michigan; Pittsburg; Plymouth Rock; Genesee Falls, Rochester, N. Y.; St. Louis; Vicksburg, &c., &c. It is very interesting to look over this volume, and note, in many cases, the great duplication of names. As an instance, John C. Fremont was nominated as a candidate for President in 1856, and now there are over forty places in the United States named FREMONT. Eighty-eight places have honored the name of ADAMS; BUCHANAN is honored with twenty; Clay with over one hundred; whilst three hundred and thirty-seven "bear the patriot's honored name" of WASHINGTON. We have thirty-four LANCASTERS in the Union; over fifty COLUMBIAS, and sixteen MARIETTAS. We can give only these few names, embracing the local and general character of the work, but they will serve to illustrate the necessity of precision, in directing packages, papers, books, magazines, letters or anything to be forwarded by post, express, or other means of transportation. It may also assist us to curb our uncharitable and impatient impulses, and to "let down" officials more considerately, when anything happens to go in the wrong direction, and which we are prone to think ought to come to hand without a peradventure, because it belongs to *us*.

The Centennial Gazetteer is a volume which commends itself to all wishing information concerning our country. It presents in readily accessible shape the results of the late census, and whatever is of value from hundreds of geographical, statistical and descriptive works. It represents the labor of years on the part of the author and a large corps of assistants, and an expenditure of nearly $20,000. The country at large, each state, city, town and township, the principal rivers and mountains, are treated in separate articles, in their alphabetical places, and so fully as to bring to every reader the most desirable facts respecting each, and shows the gigantic results of the first one hundred years of the greatest Republic the world ever saw. The work is a national standard, and will prove as indispensable to every class as a Webster's or Worcester's Dictionary.

NEW ATLAS OF LANCASTER COUNTY.—Among the recent local publications, there is none more important, or more entitled to local patronage, than the "New Historical Atlas of Lancaster County, Penna.," by Everts & Stewart. This is a royal folio, containing a beautifully embellished title page, a map of the United States, a map of Pennsylvania, a map of Lancaster county, and separate maps of each particular township in the county—forty-four in number. It also contains maps of Lancaster city, of Marietta, Columbia, Gap village, Strasburg, Ephrata, Christiana, Petersburg, Manheim, Washington, Bainbridge, Maytown, Rohrerstown, Quarryville, Adamstown, Millersville, Mount Joy, Litiz, Elizabethtown and Springville. Also, fine illustrations of the Court House, Soldiers Orphans' School, County Almshouse and Hospital, State Normal School, Prison, and one hundred and three other illustrations of private residences, business houses, manufactories, churches, farm views, &c.; with historical sketches of the county, the several townships, all of the principal towns, and many of the villages and hamlets; and also business directories of the city and the various towns and villages in the county, and much other historical matter, making it a valuable work of reference, that all who need it should possess.

THE HISTORIC CHRIST: An octavo pamphlet of 12 pages, on tinted paper, by Prof. T. C. PORTER, D.D. "Read as an essay before the Ministerial Association of Easton, Pa., December 7th, 1874, and published by the request of the Association." This subject, like everything emanating from the mind and pen of the distinguished author, is discussed with his usual eloquence and literary ability, and is at once an able answer to those schools of philosophy which deny the Divinity of the Saviour on the one hand, and those who regard His incarnation as a mere myth on the other hand.

THE FARMERS' UNION: Published at Minneapolis, Minnesota, by W. J. Abernethy, a quarto weekly sheet, has been enlarged from forty-eight to fifty-six columns. It is now one of the largest, as it has always been one of the best, agricultural newspapers in the country. Its motto is, "Farmers, write for your paper," and they do it. The young West is ahead of the old East in this respect.

THE LADIES' FLORAL CABINET: Published by Henry T. Williams, New York, is the handsomest and most useful of ladies' journals which have come under our notice. It is an illustrated repertory of household art, flowers and home literature. It is beautifully printed and illustrated, and costs only $1.30 a year, with a handsome chromo thrown in.

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Official List of Patents,

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Bean Harvesters; W. C. Barber, Knowlesville, N. Y.
Plows; C. L. Carter, Union City, Ind.
Corn Planters; C. Hutchins, Carthage, Mo.
Dough Mixers; E. A. Morrison, Haverhill, Mass.
Harrows; C. W. Strombeck, Syracuse, Ind.
Attachments for Plows; E. N. Yardley, Tonganoxie, Kan.
Grain Scourers; M. D. Beardslee, St. Louis, Mo.
Hay-Loaders; P. C. Craig, East Troy, Wis.
Plows; J. Lane, St. Louis. Mo.
Gang Plows; L. O. Rockwood, Ottawa, Ill.
Cider Presses; D. C. Starks, Hermitage, N. Y.
Cultivators; A. B. Colver, Albany, Oregon.
Automatic Gates; C. E. Gillespie, Edwardsville, Ill.
Grain Separators; E. Knapp, San Francisco, Cal.
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Curry Combs; A. F. Migeon, Wolcottville, Conn.
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Churns; B. F. Price, Mt. Sterling, Ill.
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Reels for Harvesters; F. Wyman, San Buenaventura, Cal.
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Farm Fences; T. W. Owens, Granville, Ohio.
Corn Planters; J. Stoll, Lincoln, Ill.
Corn Shellers; W. Stover, Auburn, N. Y.
Farm Gates; J. N. Wilson, Carthage, Mo.
Comb. Hay Tumblers and Rakes; G. W. Bishop, Castleton, Vermont.
Grain Car Doors; E. Fee, Colfax, Iowa.
Potato Diggers; I. I. McKinnon, San Francisco, Cal.
Hand Corn Planters; H. Ogborn, Richmond, Ind.
Churns; A. Vot, Oswego, N. Y.
Horse Detatchers; A. Barker, Nebraska City, Neb.
Hitching Devices; C. H. Bauch, Holyoke, Mass.
Seed Planters; W. V. Burgess, Baxter Springs, Kan.
Devices for Felling Trees; C. C. Curtis, Coos, N. H.
Straw Carriers; G. Gentsel, Spring Mills, Pa.
Plows; C. A. Hege, Salem, N. C.
Wagon Bolts; J. W. Hollenbeck, Auroraville, Wis.
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Milk Coolers; H. S. Murray, Andes, N. Y.

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Grain Distributors; J. Walker, New York, N. Y.
Seeding Machines; J. C. Barlow, Quincy, Ill.
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Wagon Brakes; I. N. Downs, West Newton, Pa.
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Improvements in Thrashing Machines; B. Jackson, Woodland, Cal.
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Plows; J. P. Zeller, South Bend, Ind.

REISSUES.

Seed Planters; Geo. W. Brown, Galesburg, Ill. Patent No. 46,615, dated Feb. 28, 1865.
Seed Planters; Geo. W. Brown, Galesburg, Ill. Patent No. 46,615, dated Feb. 28, 1865.
Harvesters; J. H. Elward, St. Paul, Minn. Patent
Harvesters; J. H. Elward, St. Paul, Minn. Patent No. 127,324, dated May 28, 1872.
Plows; John Lane, jr., Chicago, Ill. Patent No. 113,436, dated April 4, 1871.
No. 104,290, dated June 14, 1870.
Hoes; Moses Johnson, Three Rivers, Mich. Patent No. 159,332, dated Feb. 2, 1875.
Straw Feelers; D. Morey, Watsonville, Cal. Patent No. 135,659, dated Feb. 11, 1873.

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Directions for making Puddings, Custards, etc., accompany each one-pound package.

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THE FRANKLIN HERD.—As the Franklin Herd is now fairly wintered and in marketable condition, consisting of fifty head, mostly THOROUGHBRED SHORT HORNS and JERSEYS, including a few grades, I now offer for sale about twenty head, as a portion of the above named Herd. The number offered for sale consists of COWS, HEIFERS, HEIFER AND BULL CALVES of almost any age or size to suit purchasers.

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Prof. S. S. RATHVON, Editor. LANCASTER, JULY 15, 1875. PEARSOL & GEIST, Publishers.

WHAT OTHERS SAY.

Reader, did you ever see a kitten in pursuit of its tail? Away it goes, whirling round and round, tumbling heels over head, and "up and after it again." Simple kitten; if it would just stop one moment it would find the end of its tail right at its nose. That's the moral of those people who are in blind and heedless pursuit of *something* which is right before their noses, but which they fail to see or appreciate, because it has not the prestige of a foreign stamp. To be consistent, we would call the attention of such to the following extracts, which contain, in part, the substance of *what others say:*

A Compliment from Over the Pond.

The following letter was received this morning from the editor of the London *Agricultural Gazette* (the leading weekly agricultural journal in England), addressed to the editor of THE LANCASTER FARMER, in which the latter publication is highly complimented:

AGRICULTURAL GAZETTE OFFICE,
7 Catharine street, Strand, W. C., June 7, 1875.

My Dear Sir: We beg to thank you for your article on the *Agricultural Gazette* in your number for May 15. We do our best to make the *Agricultural Gazette* as good a paper as we can, and are glad to have your good opinion. We shall also find THE LANCASTER FARMER *as useful an exchange as any American paper we receive* Its get-up is very good.

I am, dear sir, yours very respectfully,
HENRY F. MOORE, Sub-Editor.

The force of this compliment will be the more apparent when it is remembered that all the leading American agricultural papers, such as the *American Agriculturist*, *Rural New-Yorker*, *Country Gentleman*, *American Farmer*, etc., are received at the office of our London cotemporary. The fact is, if THE LANCASTER FARMER was as highly appreciated at home as it is by the best judges abroad, it would today have a circulation of five thousand copies in Lancaster county. Although the aim of the editors and publisher is to make it a *local* journal for the farm, garden and household, its general is greater in proportion than its local appreciation. But while the farmers of Lancaster county are slow to move, when once aroused to their own interests we always know where to find them.—*Lancaster Express.*

Should be on the Table of Every Enlightened Farmer.

THE LANCASTER FARMER, published at Lancaster, Pa., by Pearsol & Geist, the farmer's organ of the wealthiest agricultural county in Pennsylvania, a monthly newspaper, edited by Prof. S. S. Rathvon, fully up in general interest, news, and intelligence to the best papers published, is entitled to a place with the leading agricultural papers of the country, on the table of every enlightened farmer. There is no neighborhood but what would derive profitable information by giving THE FARMER a liberal circulation and support. It pages are filled with practical ideas valuable to all."—*Poultry Organ of Central New York.*

"Ought to be in Every Family in Lancaster County."

I have been greatly interested in that valuable periodical published by the publishers of *The Express*, "THE LANCASTER FARMER." It is truly a valuable addition to our stock of current literature, and ought to be in every family in Lancaster county. The information therein contained is so varied that one can not fail to find something to please and instruct. I was much interested in the remarks on "bee culture," as I have dabbled a little in that business myself, but not to any extent. The household recipes are very valuable, and many other things are of equal interest.—*L., Chestnut Level, July 1, 1875.*

CONTENTS OF THIS NUMBER.

EIGHTEEN ILLUSTRATIONS.

Filled with Useful and Entertaining Reading Matter.

THE LANCASTER FARMER: The June number of this agricultural monthly is filled with much useful and entertaining reading matter, and is profusely illustrated—among the illustrations being correct portraits of the apple-tree borer, several varieties of potato beetles and insects that infest house plants and flower gardens. Also, a picture of the prize boar, "Sweepstakes," and several smaller pictures. Among the contributors we find the name of our old friend, T. M. Coulson, who writes an article on "Testing the Fecundity of Eggs."—*Lancaster Intelligencer.*

The Best and the Cheapest.

THE LANCASTER FARMER is a welcome guest. We regard THE FARMER, as it is now published, as the best and cheapest agricultural journal we are acquainted with, and the list is quite numerous. Our assertion is based on the fact that THE FARMER is a *practical*, and not a mere *theoretical*, farmer's paper. Besides, its editor is one of the most distinguished entomologists in the country, as Prof. Riley himself admits. THE FARMER will be found on file at this office, where any of our readers can examine it. Pearsol & Geist, Lancaster, Pa., publishers.—*Journal, Louisiana, Mo.*

The Farmer in the South.

"Some time ago I received the January, February, March, and April numbers of THE LANCASTER FARMER for 1875, and lately the May and June numbers. I examined each number, and find THE FARMER contains useful information for all readers, and more especially for the tiller of the soil, whether he be a raiser of grains, grasses, roots, fruits, flowers, and live stock not excepted."—*M. R., Salisbury, N. C.*

Constantly Securing Popularity.

This agricultural newspaper (THE LANCASTER FARMER) is constantly securing increased popularity, and is well filled with instructive and useful reading matter. Published by Pearsol & Geist, Lancaster, Pa.—*York (Pa.) Telegram.*

Brought Fully to the Standard.

THE LANCASTER FARMER, monthly, comes to us with a new dress and new publishers. The editorial management is, as usual, done by Prof. S. S. Rathvon. It is brought fully to the standard. One dollar a year.—*Farmer and Gardener.*

Full of Good and Useful Reading.

I have received THE FARMER of June 15, and find it full of good and useful reading. I therefore send you herewith $1.25 for a year's subscription.—*W. J. P., West Chester, June 25, 1875.*

Secure the Back Numbers.

Believing that all who appreciate the value of such a publication would want them, we printed an extra number of THE FARMER from the beginning of this volume, so as to be prepared to supply back numbers to new subscribers. We are still prepared to do so, and would remind subscribers that at the close of the year the volume will be of great value—worth a great deal more than the subscription price.

Artificial Fertilizers.

This issue of THE FARMER contains some strictures on the adulteration of artificial manures, of which there is great complaint among farmers. In this connection we call attention to the advertisement of the old and reliable house of Harrison Brothers & Co., Philadelphia, who will guarantee their chemical fertilizers to be what they represent.

OUR FENCE CORNERS

THE BEST COW: A pretty rich thing occurred at the establishment of Simpson not long since. Simpson used to be our milkman, and we attribute to him, in a great measure, our loss of confidence in humanity generally, and milkmen in particular. Mike Welch had been recommended to Simpson as a fit man to assist in taking care of horses and cows; so Mike was hired, and placed in charge of this department.

One morning, after Mike had been a month at the place, Simpson, who had made ready to start off with his milk-cart, said to him:

"Mike, you may give the cows some oat meal this morning, and be sure you give my best milker an extra quantity."

"The best milker, is it, sir?"

"Yes; you know the old cow that gives the most milk?"

"Bedad, I think I do, sir."

"Well, you give her four quarts of the mash."

"All right, sir. I'll do that same."

On the evening of that day Simpson had occasion to go to the old wooden pump in the yard. He tried the handle but it wouldu't work. The pump seemed to he entirely choked up. Finally, he diseovered that all the upper part was loaded with something very nearly resembling oat-meal mash. He called his man servant.

"Mike," said he, "what is the matter with this pump?"

"The pump, is it sir?"

"Yes. How came this oat-meal mash in here?"

"Sure, sir, I put it in meself."

"Stupid blockhead! why did you do that?"

"It was yerself that told me, sir."

"I—I told you to put it in here?"

"Indade ye did, sir."

"Why, you thick-headed rascal! what do you mean?"

"Don't be in a passion, master. Did you not tell me to give yer best milker an extra quantity of the mash? and where in all the world, I'd like to know, is the crathur that gives so much milk to yer cans as does this old pump?"

The story leaked out, and added greatly to the distrust already entertained by Simpson's customers.

THE Springfield (Mass.) *Union* says: "Mr. Springfield is the postmaster at Tyner, Tenn., and Mr. Tyner is the agent of the Post-office Department at the postal-card factory in Springfield, Mass. Mr. Springfield of Tyner, needing some postal cards, ordered them from the Post-office Department. The order from Mr. Springfield of Tyner was forwarded to Mr. Tyner of Springfield; and Mr. Tyner of Springfield sent the cards to Mr. Springfield of Tyner, but Mr. Springfield of Tyner not getting the cards from Mr. Tyner of Springfield, Mr. Springfield of Tyner wrote to Mr. Tyner of Springfield making inquiry regarding the cards ordered to be sent by Mr. Tyner of Springfield to Mr. Springfield of Tyner, and this letter from Mr. Springfield of Tyner to Mr. Tyner of Springfield inquiring about the cards ordered to be sent to Mr. Springfield of Tyner by Mr. Tyner of Springfield, Mr. Tyner of Springfield now keeps to show to his friends when telling the story of the postal cards ordered by Mr. Springfield of Tyner and sent to Mr. Springfield of Tyner by Mr. Tyner of Springfield, and finally received by Mr. Springfield of Tyner."

A PASS TO HADES: There is a newspaper man in the eastern part of Michigan who is being bantered as the champion railroad pass beggar. "Passing" him by, we want to tell a little story about an old acquaintance who once published a paper on the line of the Detroit and Milwaukee Road. He was a mighty poor compositor to begin with, and the first issue of his paper was a sight to see. He had borrowed old stereotypes of bitters and buchu to fill up with, and his "salutatory," as he called it, contained about two hundred typographical errors and half that number of grammatical blunders. But it was a foundation, and he went to receiving subscriptions and sending for railroad passes. He "went for" superintendents until he had a pass over every road in the State; but these were not enough. He sent abroad, and finally he addressed the superintendent of an Ohio road. No answer. The editor wrote again. No answer. He wrote a third letter, and an answer came back, "Go to h——!" The editor turned the letter over and wrote, "Send me a pass on your road and I will." The pass came and he was made happy.

A GOOD story is told of an old farmer, whose son had for a long time been ostensibly studying Latin in a popular academy. The farmer not being perfectly satisfied with the course and conduct of the young hopeful, recalled him from school, and placing him by the side of a cart one day, thus addressed him: "Now, Josepb, here is a fork, and there is a heap of manure and a cart; what do you call them in Latin?" "Forkibus, cartibus, et manuribus," said Joseph. "Well, now," said the old man, "if you dou't take that forkibus pretty quickibus, and pitch that manuribus into that cartibus, I'll break your lazy backibus." Joseph went to workibus forthwithibus.

The Lancaster Farmer

Prof. S. S. RATVON, Editor. LANCASTER, PA., JULY, 1875. Vol. VII. No. 7.

POTATO BEETLES—[Continued.]

(*Lema trilineata, et. al.*)

What! another striped potato beetle? Exactly so; and one, too, whose influence we have felt, and whose form and figure we have known from early boyhood—long before it was known that such an insect as the "Colorado Potato beetle" was in the country. However filthy and repulsive the Colorado pest may appear to others, to us the "Three-lined" or "Three-striped potato beetle" is almost incomparably "more so," where it occurs in large numbers, which is occasionally the case. This insect is much smaller than any of the species heretofore described, the size being indicated by the hair line on the right of the figure; but in color and family relationship, as well as in its general habits, it makes some approximation to the famous Colorado scourge. Its small size, its restricted thorax, its longer limbs, its paler colors, and its distinct trilineation, must be sufficient to distinguish it from all other striped potato beetles, by any person who can ever hope to learn the prominent distinctions between the genera and species of insects. This much, assisted by a careful study of our illustration (Fig. 1), will be sufficient, we think, to enable the intelligent readers of THE FARMER to identify the insect when they see it. It has often been mistaken for the Colorado species, long before that insect made its appearance here. This insect may, however, be more surely distinguished from the aforenamed species, by the singular habits larva has of casting its excretions on its back, as seen at *a*, *Fig.* 2. The purpose of this is not clearly known, but the most reasonable supposition is, that its object is concealment from its natural enemies, whatever they may be. Letter *b* shows an upper view of the terminal segments of the larva, with the anal orifice on top, whereas other larvæ have it at the extreme end or beneath. Letter *c* exhibits a ventral view of the pupa, and *d* the eggs on the under side of the potato leaf, not much unlike those of *Doryphora*. These eggs are deposited by the females of the previous year, in May, and by the end of the month of June the larvæ go into the ground, and in about two weeks thereafter come forth a perfect beetle, as seen at Fig. 1, and are ready for a second brood; and it is this second brood that is always the most numerous and destructive; but fortunately the potatoes have then made such headway that, generally speaking, the damage done is not very serious, although some bad cases of infestation are on record. The second brood remains in the ground until the following spring.

Fig 1.

Fig. 2.

Whatever remedies may be employed to destroy the Colorado beetle, may be also applied with like effect to these insects.

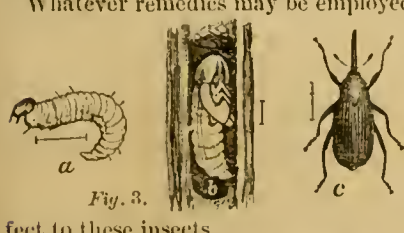


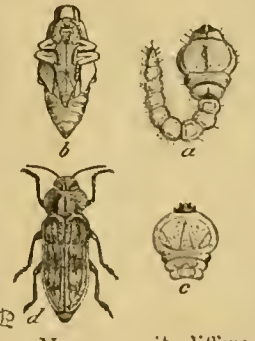
Fig. 3.

Another enemy to the potato plant, is the "POTATO STALK WEEVIL" (*Baridius trinotatus*), and we have had dozens of potato stalks, of a sickly character, brought to us, all of which had a white grub like *a*, Fig. 3, excavating their heart. The female, letter *c*, makes an incision in the tender stalk with her long snout, and deposits one or more eggs therein—usually only one—and as soon as it has hatched out, the young larva bores into the heart of the stalk, and continues downward until it reaches the end, under ground, where it changes to a pupa, as seen at *b*, and there remains until August or September, when it comes forth a small black beetle, the length of the hair line at the left of the illustration *c*. This insect belongs to the great *Curculio* or "Snout beetle" family (CURCULEONIDÆ), and we know no remedy against it but to pull up the infested stalks, slit them open, and kill the larva, the pupa or the beetle that may be found therein. The beetle hybernates during the winter, and we have taken it late in autumn and early in spring, under bark and flat stones, on the sunny side of a hill. When it first comes forth from the pupa, it has three black velvety spots at the base of the thorax, and is covered all over with short, fine, ashen, prostrate hairs; but these easily rub off and leave the whole insect a jet black. *More anon.*

FLAT-HEADED APPLE-TREE BORER.

[*Chrysobothris femorata.*]

The *larva* of this insect, by way of distinction, has been named the "Flat-headed Apple-tree borer," in order that it may not be confounded with the "Round-headed" or "Striped Apple-tree borer," illustrated on the first page of the June number of THE FARMER. When inquiry has been made of us as to the form of this borer, we have, in an off-hand way, replied, that it very nearly approached the form of a "horse-shoe nail," or, except in color, like a "tadpole," and the reader can now see how near the larva, *a*, approaches those forms. Likening it to a tadpole, however, was not fortunate, for one of our correspondents somehow confounded it with the "pear-slug;" therefore its identification can only be fixed by the addition of its scientific name and illustrations. This insect belongs to the old family group of beetles known as SERRICORNIA, or "Saw-horned beetles;" whereas the other species of borer alluded to belongs to the LONGICOMIA, or "Long-horned" family group. Moreover, it differs very materially from its long-horned" confrere in its habits, and especially in this, that it does not invariably infest the base of the tree-trunk, but is usually found higher up, or among the larger branches.



We collected specimens of this insect in Lancaster and York counties more than thirty years ago; but at least fifty years ago we have known a little bird belonging to the "Woodpecker" family, familiarly called the "Sapsucker," (*Picus villosus,*) to puncture the bark of the apple trees, which must have been in search of these flat-headed borers, sometimes making a half-dozen or more perforations in a row, in order to capture them. But we were then instructed to shoot them without mercy, because it was supposed they punctured the bark thus in order to suck the sap, as their name implied; and as this was the very life of the tree, they were universally regarded as one of the farmers' worst enemies. We have reason also to believe that they are still so considered by many people, and have known them to be stoned out of orchards not ten years ago, not so much because they were sucking out the sap of the trees, as because it was alleged there were no *borers* present, and the owners did not want their trees mutilated, just as if the bird did not know better than they did whether there was a worm present or not. These birds are not likely to make a mistake as to the *presence* of a worm, but they may abandon its pursuit without securing it, because it may be too deeply imbedded in the solid wood.

We took our first specimen of this insect in the summer of 1842, high up on the Round-Top, in York county, where we discovered it sitting on the sunny side of a small pine tree. Of course we did not then know—nor for some years afterward—that it was an enemy to the apple-tree; moreover, there were no apple, peach or cherry trees within half a mile of the place, but plenty of pines, oaks, chestnuts and chestnut-oaks.

We have occasionally heard complaints from different places in this county of damages done to the trunks and larger branches of the apple, pear, peach and cherry, which, from the nature of the "hurt,"—although no specimens were sent to us—we have no doubt were the depredations of this insect.

According to Prof. Riley's *seventh annual report* on the noxious insects of Missouri, as well as from some of the agricultural journals of the Western States, the "Flat-headed Apple-tree borer," was very destructive in those States during the year 1874, especially in young or recently planted trees, or those enervated by bad culture, bad pruning, unfriendly soil, or a dry season. On one occasion we received about a half pint of these insects, and two or three other allied species, from the shores of Lake Michigan, where, according to our informant, (the late Jos. Childs,) they could have been gathered up on the beach by thousands. They must have been driven out into the lake by the winds, fallen in and drowned, and then driven back to the shore by the waves. We make this record only to show the source from whence noxious insects are likely to come. The trees known to have been infested by this insect are the oaks, maples, sycamore, mountain ash, linden, box-elder, beech, apple, pear, plum, cherry and peach; and if there is any significance in these facts, it is, that as our forest trees are cut away we may expect more of these insects to infest the cultivated kinds, for they are "bound to make a living" somewhere.

Our illustrations convey a better idea of their form and appearance, in their various stages of development, than any description we can give. Fig. *a* is the *larva*, a whitish grub, set with short, sparse, stiff bristles. In point of *fact*, the head is not very conspicuous; it and the first segment of the body being retractile within the second—like the claw of a cat—so that nothing protrudes but the ends of a pair of blackish jaws (*mandibles*). It is the enlarged second thoracic segment that gives it the distinctive character of "flat-headed." Fig. *b* is the *pupa*, at first white, but subsequently approximating to the color of the mature beetle, according to Prof. Riley, who was the first to figure and describe it. Fig. *c* is an underside view of the thoracic and first abdominal segments of the larva. Fig. *d* is the *imago* or perfect beetle of the natural size; a dark greenish bronze in color above, and a coppery or brassy color beneath. We have found it most numerous sunning itself on the flat surface of old stumps, in clearings and orchards, where we presume it must have bred, from the fact of having also found the larva under the bark of the same. The eggs we have never seen, but according to Riley they are a pale yellow, and

irregularly corrugated, and are glued by the female under the loose scales, or within the crevices of the bark, several frequently being found together, although it is evident that they must also sometimes be deposited on the smooth bark, and that the female makes punctures with her jaws for their reception. When the young larva are hatched they penetrate the bark and feed on the fibre immediately under it, and cut broad flattened channels, filling up the space behind them with their packed excretions. Their location under the bark, especially in smooth young trees, is plainly visible from its paler unhealthy color; and on one occasion in which we removed a piece of bark about six inches wide and two feet long, we discovered in that space, as nearly as we can recollect, fully fifty of them, of half-a-dozen different sizes. It is not certainly known whether it requires only a single year or a longer time to complete the larval period, but when the larva waxes older and stronger it is said to penetrate the solid wood, although we have never found it thus circumstanced. We are inclined to believe that it only penetrates the wood sufficiently far to form a horizontal channel in which to pass its pupal period, similar to the habit of the Round-headed borer. In this locality the beetles appear about the beginning of June, and may be found as late as August and September.

Of course this insect, like many others, has its natural enemies. Woodpeckers, especially the busy little "sap-sucker," before alluded to, if permitted, will appropriate many of them; but many of them are destroyed by several species of Hymenopterous parasites, and perhaps these are doing more to check or destroy them than any remedy human ingenuity can devise. While they are just beneath the bark, of course they may be successfully cut out, but if we could be sure that the parasites were present there would even be no need of this laceration. They seem to prefer young, or weak and decaying trees, but will also attack strong and healthy ones in certain emergencies. As a preventive, painting the trees once or twice during the season with soap and lime, has been reasonably successful in the West. The avoidance of contusions and sacrifications of the bark is also recommended, and in particular where large branches are removed, the face of the stumps and other incidental wounds should be protected by grafting wax or paint, for these places crack open and admit the rain, inducing rapid decay, and the female beetles will take advantage of such places to deposit her eggs. Mr. Briggs, an experienced farmer of the West, recommends a thorough examination of trees from May until fall, watching for the exudations of sap from the bark "which is a sure indication of the presence" of the insects. Carelessness in that respect cost him over 300 young trees in one season.

THE CUT WORMS.

[*Agrotis jaculifera, et. al.*]

Complaints come up to us thick and fast from all parts of the county—and, indeed, from a large portion of the whole State—that at no former period have the "cut worms" been more numerous and destructive than they have been the present season; and although the worst may be over before this reaches our subscribers, still they can "stick a pin in it," and use it on some future occasion.

Cut worms are merely the larval form of a genus of nocturnal moths called "Agrotans," or "owlets," (*Agrotis*) of which there are a large number of species in our county. They are a fat, greasy-looking, hairless—or nearly so—caterpillar, of a gray or brownish color, shaded with darker brown or gray, on the different segments of their bodies.

When they are disturbed, they usually double themselves in the form of a crescent or semi-circle—in some instances with the head and tail touching each other—and remain thus as long as they are not molested, and as they make no attempt to escape, they fall an easy prey to those who may happen to unearth them from their cover during the day, where they lie like "sneak thieves," waiting for night, or dark, cloudy days, under cover of which they do their evil work. These "surface grubs" have long been known to cut off and destroy almost all kinds of field and garden vegetables; such, for instance, as young corn, cabbages, beets, etc.; but the present season they have been particularly destructive to the young corn and tobacco plants, as high as a dozen or more having been found in a single hill.

The moths which are developed from these worms expand from one to two inches, having their fore wings variously marked with black, brown and gray or ashen colors, and the hind wings shorter and broader, and of a light or dark silvery color.

These moths, in warm evenings, enter houses through open windows, and flit around gas or other lights, and many of them heedlessly "come to grief" by plunging into the flames; sometimes hundreds of them may be picked up in the morning around the city street lamps and in illuminated windows. This fact seems to suggest that traps for their destruction might be devised on this principle.

A gentleman in Philadelphia, some years ago, sent us some five or six hundred insects which he had captured in large-mouthed bottles containing sweetened water, which he had hung among the branches of his trees, and fully one-half of these insects were the moths of various species of cut worms. It is true that these remedies destroy our friends as well as our foes; but if the latter fall, we will have less need of the former.

It is hardly necessary to attempt a specific description of these insects without specific illustrations, and as soon as we obtain these, we will give the patrons of THE FARMER the benefit of them. It may suffice at present to say that they differ very materially in their transformations and habits. Probably the worst kinds are those that pass the winter in the immature larva state, buried in the earth. These are on hand early in the spring, about one-half or three-quarters grown, and hence about the time that beans, cabbages, beets, corn and tobacco are well up, or set out, these pests attack them at night or during dark, cloudy days, not only cutting off the plants at or near the surface of the ground, but also in some instances drawing the plants into their holes and totally consuming them. We have often found cut worms in the winter and early spring nearly full grown, in fields that had contained green vegetation the previous year—such, for instance, as clover and different kinds of weeds—and when two or three days of mild winter or spring weather followed each other, these worms would come to the surface and feed on any green vegetation within their reach, showing that many of them are in the soil all winter and only require a moderate portion of heat to reanimate them.

Of course, the best remedy is to be on the "look-out" for the worms when they come out to feed, or to dig them out of their holes near the plants. Many artificial remedies are, however, recommended by persons who represent that they have practically experimented upon these worms with various degrees of success. Among these are salt-water—an ounce of salt to a quart of water—tobacco water; quick-lime, put on the plants when wet; dry soot dug into the ground; soap-suds, made of one pound of whale-oil soap to ten gallons of water, applied warm; four ounces of aloes, dissolved in one gallon of water and applied to the plants, is said to destroy them; lime-water or lime ashes applied to the soil; also gas-lime; smooth holes made in the soil by forcing in a smooth probe or hoe-handle, will make pitfalls to retain them long enough to capture or destroy them in the morning; coal-oil and water—a tablespoonful of the oil to one gallon of water—is said to drive them away, and not injure the plant; wrapping the plant three or four inches with stiff paper is a good protector, but it is very troublesome. Plowing up the ground late in the fall and early in the spring will expose them to wet and cold, or crows and other birds, and destroy many of them. The following from the Lancaster *Intelligencer* will speak for itself, and can easily be tested, but we confess we doubt it:

Mr. Jacob S. Heiland, of Manor township, informs us that he has put a stop to the ravages of the cut worm among his tobacco and sweet potato plants by the use of a very cheap and simple device. He merely places around each plant, and a few inches from it, a circle of wheat bran. The worms prefer the bran to the plant, and eat voraciously of it. This unaccustomed luxury swells them up, and they generally burst open and die, and those that are not killed become so sick and torpid that they cannot get away, and may easily be picked up and destroyed. Mr. Heiland informs us that since his adoption of this device he has destroyed thousands of worms that would otherwise have destroyed thousands of his plants. The best time to spread the bran around the plants is late in the afternoon. The plants may then be examined in the morning and the sick worms gathered up and destroyed. This is certainly cheap and, we have no reason to doubt, an effective way of getting rid of an annoying enemy. Other plants besides tobacco and sweet potatoes may be protected in the same way.

BOGUS POTATO-BEETLE.

(*Doryphora juncta.*)

If the reader will turn to the first page of the April number of THE FARMER, in the first and second columns, he will find that we alluded therein to this insect, which we received from Wisconsin in 1845, and at that time supposed was the *Doryphora 10-lineata*, which, however, subsequently proved otherwise. By a close examination the distinctions between the two species, in their details, will become apparent, although superficially they may seem the same. Place the two numbers of THE FARMER containing the illustrations side by side, and then only will

the difference become manifest. It will be seen that the *larva* in this species, *b b*, has only one row of lateral spots; that the head is of a pale color; that the first segment behind the head is dark in color and margined entirely with black, and that the legs are pale. The arrangement of the spots on the thorax of the mature beetle, in both species, are substantially the same, but they differ materially in other respects; but this difference only becomes conspicuously visible under a microscopic examination.

Figure *d* is a magnified wing cover, in which it will be seen that the dark stripes are edged by a single regular row of punctures, placed in a groove, and that the second and the third stripes are united behind, the space between them being generally brown; and the leg *c* is entirely pale, with a black spot on the middle of the front *femur* or thigh.

But the greatest distinction between the *true* and the *bogus* beetle is in their habits. The *D. juncta*, so far as known, has never attacked the cultivated potato, although it has been known to exist where domestic potatoes have been cultivated for forty years or more.

Its native food plant is the "Horse-nettle," (*Solanum carolinensis*, Lin.) a wild, solanaceous plant which grows, according to Dr. Gray, "from Connecticut to Illinois, and southward." This insect has been found in Virginia, Georgia, Missouri, Alabama, Kentucky, Illinois, Wisconsin, and elsewhere and, so far as positively known, it nearly always has been feeding on the horse-nettle, which, although belonging to the same great family that includes the cultivated potato, is quite distinct from it. Whether it will or will not ultimately abandon its native food plant and adopt the cultivated plant, as its congener has

done, can only be demonstrated by the lapse of time and practical observation; but it is believed that it has not done so yet, and certainly it is desired that it never should.

Notes on the "Colorado Potatoe-beetle" and the Remedies Employed for its Destruction.

Much has been said and written on this subject since the advent of this insect amongst us, "wise and otherwise," and it almost seems as if there was no end to the discussions on it, and especially on that embracing the best means to destroy it.

As we stated from the very beginning, we have no immediate interest in the question any farther than it relates to the welfare of our patrons and the country at large. In order, therefore, to keep them posted in the latest intelligence, both *pro* and *con*, we submit the following extracts, embracing the views of those high in authority, leaving our readers draw their own conclusions and make their own application. We are reasonably well acquainted with the parties to the question, have a just appreciation of their integrity and abilities, and therefore entertain the most profound respect for their opinions even where we feel unable to agree with them. The first extract we clip has been "going the rounds" of the papers in general:

THE USE OF PARIS GREEN.

J. L. Le Conte writes to the Philadelphia *Press* an interesting letter in answer to the popular query "Can the farmers use Paris green for the destruction of the Colorado potato-beetle without danger of permanent injury?" Mr. Le Conte not only takes the position that the use of this virulent poison must be accompanied with great personal care, but is of the opinion that its frequent application to vegetation in such manner that it finally enters the soil will be attended with serious evils in the future, and that the present advantage of the destruction of injurious insects will be followed by such an accumulation of mineral poison in the soil as will eventually destroy (perhaps at a remote period) its fertility, and reduce our present fields to a desert waste. He says "the answer to the question thus proposed therefore involves interests amounting to incalculable millions. It is a question whether our descendants will be able to raise from the soil thus polluted sufficient food to support themselves. I wish, before the nation enters upon a wholesale slaughter of these and other pernicious bugs, that the intelligent citizens would wisely and deliberately consider the possible evils which may ensue in the future ages, when we will be replaced by human beings wiser and greater than ourselves.

That the moderate use of Paris green by persons well instructed as to its qualities, and in no greater quantity than is required to produce the destruction of the insect pests, will be attended with immediate danger I do not believe. But for this intelligent use several precautions are necessary:

First. The Paris green, as issued from the manufactory and dispensed by the trader, must be *pure*, so that its strength is known.

Second. It must be applied at such a time as the insect is most easily affected by it.

Third. It must be used in the smallest possible quantity required to produce the desired effect.

Fourth. It ought to be dispensed only to responsible persons who will be fully accountable for the use made of it, and carefully handled, so that it may be used for no other purpose than that of destroying the agricultural pests.

Further, in order to make the campaign against the potato-bug effective, the remedy must be properly and universally and carefully applied. Without a combined effort on the part of all farmers engaged in raising potatoes, the result will be entirely temporary, as colonies of the pest will still remain for subsequent extension."

As an offset to Dr. Le Conte's apprehensions, but at the same time in effect approving his four precautionary admonitions, Prof. Riley, in his Seventh Report, sums up with the following on pp. 12, 13:

"Finally, we must not forget that both arsenic and copper are widely distributed throughout the organic world, and are found naturally in many plants; and so far from injuring plants in minute quantities, arsenic occurs in the best superphosphates, and the volcanic soil around Naples, which, like all volcanic soils, contains an unusual amount of it, has the reputation of being a specific against fungoid diseases in plants. A certain quantity may therefore be beneficial to plants, as it appears to be to animals, since horses fed on a grain or two a day are said to thrive and grow fat.

"The green as now used could not well collect in sufficient quantities to be directly deleterious to man in the field in any imaginable way, while its injury through the plant is, I think, out of the question; for the plant could not absorb enough without being killed. The idea that the earth is being sown with death by those who fight the Colorado potato beetle with this mineral, may therefore be dismissd as a pure phantasmagoria.

"In conclusion, while no one denies the danger attending the careless use of Paris green, and all who have recommended its use have not hesitated to caution against such carelessness, a careful inquiry into the facts from the experimental side bears out the results of a long and extensive experience among the farmers of the country, viz.: that there is no present or future danger from its judicious use in the diluted form, whether as a liquid or powder, in which it is now universally recommended. Nor is the wholesale charge made by Dr. Le Conte, that the remedy has been recommended by persons who have observed only the effects of the poison on the insects to which their attention has been directed, warranted by the facts. It is in this as in so many other things, a proper use of the poison has proved, and will prove in future, a great blessing to the country, where its abuse only can be followed by evil consequences. Poison is only a relative term, and that which is most virulent in large quantities is oftentimes harmless or beneficial to animal economy in smaller amounts."

Finally, the Professor thinks the farmers will regard with interest the work of the committee appointed by the National Academy, but until a better and less dangerous remedy than Paris green is discovered, they will continue to use that which has heretofore saved them so much labor, and given them so much satisfaction. He therefore admonishes eastern farmers not to be alarmed at what has been written on the subject of Paris green, but to profit by the experience of their western brethren, and not to allow the Doryphora to destroy their potatoes when so simple a remedy is at hand.

The following from the proceedings of the Academy we clip from the columns of the *Public Ledger:*

THE POTATO BEETLE.—At the last meeting of the Academy of Natural Sciences, Dr. LeConte spoke of the desirability of botanists experimenting to ascertain what power leaves have of absorbing mineral poisons, and thus to determine the value of certain plans for destroying noxious insects. It was stated that, although Paris green was believed to be insoluble, still, when applied in quantity to growing plants, these plants died, as also the larvæ of insects.

Dr. Kœnig said the death of the plant was owing to the fact that the Paris green underwent certain chemical changes in respect to its arsenic when in connection with the leaves, which destroyed the water cells of the growing plant, causing it to wither. He thought the substance ought not to be used on plants.

Colonel Bryan referred to the poisonous character of the beetles which infested the potato vines, and that the instances in which this character was noticed were of beetles taken from fields in which Paris green had been used.

Dr. Le Conte expressed his belief that hand labor would be the most appropriate way of dealing with the potato beetle.

Mr. Speakman counselled the examination of the plants as soon as they appear above ground, and dwelt upon the importance of crushing the clusters of orange-colored eggs on the under side of the leaves.

"When doctors disagree, who shall decide?" But suppose, for the sake of the argument, that Dr. LeConte's apprehensions are correct: the area under potato culture, compared with the area of the whole country, is so small, and the evil effects involved are so remote, as well as the salvation of the potato crop being so immediate, that farmers whose crops are badly infested would be apt to heed such warnings about as much as they would the astronomical doctrine that the earth is every year approaching nearer to the sun, and after some millions of years may be drawn into the vortex of that fiery orb and be consumed. We would not knowingly counsel any course that would ultimately end in such a fatal disaster to the human family as the destruction of the fertility of the soil of our country, even at a remote period, but it seems to us that all the artificial compounds that the world contains would be resolved into their native elements before it could occur, through the slow but sure course of chemical mutation. We do not think there is a particle more now of any composing element of the earth, than there was "in the beginning," and all the *Paris green* or other poison that is now compounded and used, must be, or have been, somewhere in the earth before it became an article of manufacture and traffic, and that it will finally return to its first estate. *Read the following:*

HOW MUCH PARIS GREEN IS HURTFUL? The fear that the too free use of Paris green in the destruction of the potato bug might cause it to be absorbed and assimilated in the economy of plant growth, or by its presence in the soil exert an injurious influence upon vegetation, has led to an investigation by high scientific authority, and the idea is considered absurd, since actual experiments show that plants have no power to absorb and assimilate Paris green or arsenic in chemical combination.

Prof. William M'Murtrie, of the department of agriculture, says that while their presence in the soil may exert an injurious influence on vegetation, yet they are practically without effect until the quantity present reaches—for Paris green 900 pounds per acre, for arsenite of potassa 400 pounds per acre, and for arseniate of potassa about 150 pounds per acre.

He concludes an exceedingly interesting letter on the subject thus: The fears of many of our agriculturists need, therefore, be no longer entertained; yet, though they will suffer no injury from poisoning by arsenic in chemical combination with vegetable products, great care should be exercised in the matter of removing any particles adhering mechanically to them.

We must also offer the warning, which cannot be too frequently repeated, that every one using such compounds should be particularly careful about storing them, since nearly all the accidents that have occurred from poisoning by Paris green and other things of like character have resulted from carelessness in this particular.

THE FACTS OF NATURAL HISTORY.

No. 3.

In this paper we propose to present a few of the marvellous *notions*, both ancient and modern, that at times, and by some people, have been accepted and defended as the veritable *facts* as they existed, and still exist, in the domain of nature. We can hardly dignify them by the name of *opinions*—because they do not seem to be supported by reason—and therefore we are compelled to place them in the category of *notions*, if they are not "downright" *superstitions*. We admit that *superficially* viewed—*very* superficially indeed—there may be the *appearance* that these notions are facts, but investigation and the most common experience have proved the ancient ones entirely erroneous, and time and experience will, no doubt, demonstrate that the modern ones have no higher claims to credence. But then, be it remembered, these notions must be dissipated by practical experiment, and not by mere denial or groundless ridicule. Where erroneous notions are entertained on any subject with honesty and sincerity, and by those whose opinions on other subjects are entitled to respect, a due allowance must be made for the appearances which seem to sustain those notions. With these preliminary remarks, we will proceed to illustrate our subject by adducing a few examples, as we find them recorded on the pages of the past and the present.

In volume 2, page 2, of a series on the "History of Insects," entitled the *Library of Entertaining Knowledge*, we find the following notion entertained by the celebrated KIRCHER, one of the most learned men of the seventeenth century. "Take some snakes, of whatever kind you want, roast them, and cut them in small pieces, and sow these pieces in an oleaginous soil; then, from day to day, sprinkle them lightly with water from a watering pot, taking care that the piece of ground be exposed to the spring sun, and in eight days you will see the earth strewn with little worms, which, being nourished with milk di-

luted with water, will gradually increase in size till they take the form of perfect serpents. This, "he subjoins with great simplicity. "I learned from having found the carcass of a serpent covered with worms, some small, others larger, and others again that had evidently taken the form of serpents. It was still more marvelous to remark, that among these little snakes, and mixed with them, were certain flies, which I should take to be engendered from the substance which constituted the aliment of the snakes."

This is a "specimen brick" from a large "kiln" of the same kind, which the book contains, but it shows how exceedingly superficial the observations of "one of the most learned men of the seventeenth century" were; and yet his theory may have been supported by some *apparent* facts.

Some years ago a farmer in Martic township killed a large female snake, and from a hole cut in her body by the killing there issued a large number of "snakelets" from three to five inches in length, sixty-five of which he bottled in alcohol, and these are now in the museum of the Linnæan Society. Suppose now, that eight or ten days after the killing some "learned Kircher" had discovered this dead carcass, and found flies, maggots and young snakes all mingled together, how easily it would have been for such an one to mistake this appearance for a confirmation of his theory.

The equally learned REDI, "moved by the authentic testimony of this most learned writer," says, "I have frequently tried the experiment, but I could never witness the generation of these blessed snakelets made to hand." But although he could not produce snakes, his experiments furnished a goodly quantity of maggots, which being confined in a covered box, in due time developed a swarm of flies of a "vivid green and marvelously brilliant color, probably the *Musca cæsar* of Linnæus."

Pliny, in explaining how eels are produced, gives the following experiment: You dig up a sod on the banks of a stream, having first sprinkled it with water, and turn it over with the grass downward, in the evening, and on visiting it next morning you will find beneath it a number of young eels. This was the plan we adopted, when we were a boy, in order to trap "fish worms" (*Lumbricus*) in which we seldom failed to get a number of the largest kind.

But here is another illustration of the *facts* of natural history—ironically speaking—published in the same century, but which had its origin at least a hundred years earlier, and it may well astonish us now to learn that such views had been entertained and received a learned endorsement, after a hundred years of scientific and literary progress. In reference to the "Barnacle Goose," which had been originally figured and described in SEBASTIAN MUNSTER'S "Cosmographia Universalis," 1572, GERARD, the father of English botany, a man of no ordinary character and one accustomed to close observation and trained to note minute differences, thus very confidently speaks, in his "Herbal," 1636: "What our eyes have seen, and our hands have touched, we shall declare. There is a small island in Lancashire, called the Pile of Flounders, wherein are found broken pieces of old bruised ships, some whereof have been cast thither by shipwreck, and also the trunks of old and rotten trees, with their branches, cast up likewise; whereon is found a certain spume or froth, that in time breedeth into certain shells, in shape like those of the mussel, but sharper pointed, and of a whitish color, wherein is contained a thing in form like a lace of silk, finely woven, as it were, together; one end whereof is fastened unto the inside of the shell, even as the fish of oysters and mussels are; the other end is made fast unto the belly of a rude mass or lump, which in time cometh to the shape and form of a bird. When it is perfectly formed the shell gapeth wide open, and the first thing that appeareth is the aforesaid lace or string; next comes the legs of the bird hanging out, and as it groweth greater it openeth the shell by degrees, till at length it has all come forth, and hangeth only by the bill. In a short space of time it cometh to full maturity and falleth into the sea, where it gathereth feathers, and groweth to a fowl bigger than a mallard and lesser than a goose, having black legs and bill or beak, and feathers white and black, spotted in such a manner as our magpie, called in some places pie-annet, which the people in Lancashire call by no other name than tree-goose; which place aforesaid, and of all those adjoining, do so much abound therewith, that one of the best is bought for three pence. For the truth hereof, if any doubt, may it please them to repair to me, and I shall satisfy them by the testimony of good witnesses."—*Science-Gossip*, p. 169. 1873.

No comment is necessary on this curiosity in scientific literature, and we merely give it as one of the assumed *facts* in natural history long since exploded. But we now come to some *facts* of more modern date—indeed of the present period—which we think calm and thorough investigation will ultimately place in the same category.

In the *Agricultural Gazette* (an English journal) on page 499, April, 1875—in an address by the President of the "Society of Arts" on field experiments, that officer—Mr. Clare Sewell Read, M. P.—in the discussion which followed, said: "If they sowed oats one year, and when they came up kept them cut close to the ground, and allowed them to remain till next year, they would get a crop of something else." This doctrine was endorsed by Mr. James Howard, who said they would get barley or wheat. "He had sowed a small plot of oats in June, had kept them cut close with shears, and covered them up with straw during the winter, and next year they appeared as wheat."

This brings out in the May number, page 589, a correspondent in the following style:

"OATS TURNED TO BARLEY OR WHEAT.

"I was somewhat surprised at reading in the *Agricultural Gazette* of April 17, that oats sown in June and kept constantly cut down the first year would produce wheat the summer following. This was stated as a fact by Mr. Clare Sewell Read, M. P., and as I understand, confirmed by Mr. Howard, the former recommending Londoners to try such experiments as coming within their reach. I have heard the same thing as long as I can recollect, but from my boyhood never believed it; but seeing it stated as a fact by such eminent agriculturists that such a perversion of nature was possible, I should like to hear something more upon the subject, and take the liberty of suggesting some further experiments of the kind, such as keeping animals in an unnatural state; my opinion being that a cow kept in a stable upon oats and hay regularly singed and exercised, would as soon produce a foal, as oats under any treatment, would yield barley or wheat. Mr. Read may have had a crop of wheat where oats were sown, owing to his having protected the oats during winter with wheat straw. Grains must have fallen out of the straw, and planting themselves, taken the place of the oats; had he used barley straw, the result would have been barley. That those ignorant of farming who seek agricultural information may not be deceived, I hope that you, Mr. Editor, or some undeniable authority, will clear up this long-talked absurdity, by saying whether such a perversion of nature is possible or not.—H. S. H."

In a subsequent number, page 622, a writer signing himself "*South Norfolk*," confirms the theory of Mr. Read, and adds: "Now for another fact for your correspondent. During the year 1864, and the two following years, we sowed with tares for a crop, rye which was grown from barley, at East Wrentham, and the only reason for our discontinuance of sowing it, was the trouble we had in separating the tares from the rye, as the latter was much larger than the common rye. That the barley did produce rye, was vouched for by, a man 'whose word was truth,' and who, after living on one farm for more than half a century, died respected and beloved by all who knew him."

To this the editor replies, that "H. S. H. never doubted the truthfulness of Mr. Read, but that it is quite possible to hold confidently the untruth of a statement, which has, nevertheless, been made by one whom everybody knows to be a man of scrupulous honor." He then, very significantly, asks *South Norfolk*, "Are there no such things as blundering and self-deception? Did he ever investigate the parentage of any of the examples which the readers of our societies have often offered of litters of pigs, condemned by the veterinarian as being of various ages, which have nevertheless been exhibited by men of unquestioned honor as being of one farrow;" and winds up with, "We assert, nevertheless, that it would not be one bit more astounding to find a cow, after special treatment, produce a foal, than to find a grain of oat bring forth a plant of wheat."

Our readers will bear in mind, that the foregoing opinions relating to the "facts of natural history" have been entertained—and no doubt honestly entertained—by the most intelligent men of their day, in their special callings, and not merely by clodhopping and illiterate boors. It will be seen that "Johnny Bull" is as much exercised over these questions in the present as he has been in the past; and that just now he is engaged in a discussion involving as knotty a point as that entertained by "Brother Jonathan"—and still entertained—in regard to the transmutation of *wheat* into *cheat*. We believe, however, that *time* will settle the question of "oats producing wheat and barley," as effectually as it finally has the questions of the propagation of snakes and the barnacle goose.

In conclusion, however, we may add, that these problems, as we said before, will be sooner and more effectually solved by actual experiment, however absurd they may appear, than by ridicule and bold denial. Opinions, no matter how fallacious they may be, are a sort of property which men are loth to part with without an equivalent. Not every one is capable of reasoning *a priori*, and many not even *aposteriori*, and these can only be induced to abandon old or erroneous views through ocular demonstration.

PRESERVE THE FARMER.

The present volume of the THE LANCASTER FARMER will contain a general history of the economic entomology of Lancaster county, so far as it relates to agriculture and domestic affairs, and will be applicable not only to Lancaster county, but to all Southern Pennsylvania, and Northern Virginia and Maryland. And as the subject will be amply and accurately illustrated by appropriate figures, it will constitute a standard volume on that and kindred subjects, that may be profitably consulted for many years to come, even if the future should develop better remedies for the destruction of insects than those therein recommended. We would therefore admonish our present subscribers to "preserve THE FARMER" and have it bound for future reference; and new subscribers to avail themselves of the present opportunity of securing it from the beginning of the seventh volume. From the testimonials in its behalf, from abroad, the citizens of Lancaster county ought to be able to reverse the disparaging maxim of that dark age of the world, when it was literally true that "A prophet hath honor, save in his own country and among his own kindred." We feel confident of future appreciation, and that confidence will sustain us in our present efforts to build up THE FARMER.

KILLING POTATO BEETLES.—The *Country Gentleman* recommends feeding the potato bugs as soon as they begin to come with old potatoes sliced thin, dusted with Paris green, mixed with plaster of flour, one part green to ten of the latter; drop them about the fields or truck patches where the bugs are found; put but a few, and often. The bugs will go for the fresh cut potatoes, eat them, and it will be their last meal.

SHORT-HORNS OR DURHAM CATTLE.

"Old Sam," the fine specimen of Short-Horn bull whose portrait we give on this page, was justly regarded as a magnificent animal, and was one of the three celebrated bulls which stood at the head of the great stock farm of Col. W. S. King, at Lyndale, near Minneapolis. "Old Sam" was bred by Mr. R. H. Crabb, at Great Baddon, Chlemsford, Essex, England. He was a noted animal, taking many first prizes, among them the first at the great St. Louis Fair, in 1870 and 1871, "for best bull of any age or breed." He was sold to a gentleman in California, three years ago.

The Short-Horn or Durham is becoming the favorite breed in the West. The model of this breed forms a solid rectangle or parallelopiped, when the head and legs are removed, leaving no untilled space and much solid meat, with little offal. Of this breed "Allen's American Short-Horn Herd Book" says: "They are, as a race, good milkers, remarkable in the richness of its quality, and the quantity is frequently surprising. For beef they are unrivalled. Their capacity to accumulate flesh is enormous, and they feed with a kindliness and thrift never witnessed in our native breeds. In milk, instances have been frequent in which they have given 24 to 36 quarts a day, on grass pasture only, for weeks together, yielding 10 to 15 lbs. of butter per week. Cows have slaughtered 1200 to 1500 lbs. neat weight with extraordinary proof, and bullocks upward of 2500 lbs." The Short Horn crosses with native stock are much prized, proving good milkers, easy keepers, and profitable animals for beef, and in the hands of ordinary farmers prove better than the pure breed of Short-Horns. The improvement of cattle has made great progress in this country during the past twenty-five years, and there are few neighborhoods where traces of improved blood may not be found; indeed, the high prices for cattle and their products which have prevailed since 1850 have done much to stimulate breeders to improvement; but much still remains to be done in this direction among the farmers of Lancaster county. In a future issue we will give a history of the various breeds and their origin; and we would esteem it a favor if such of our readers as have experimented with improved stock would give us brief statements of the results of their experience, and their views as to which breeds they find best adapted to this locality and most profitable for milk, yoke and shambles. There are many fine specimens in our county, no doubt as worthy of description and illustration as those pictured in agricultural publications, and we hope before long to be able to furnish engravings of some of them. Our friends can help us to make this department of great interest and value to the farmers and dairymen, if they will respond to this invitation. The leading aim of THE LANCASTER FARMER is to develop our local resources and let the outside world know what a great county we live in.

"OLD SAM," A NOTED SHORT-HORN BULL.

SOMETHING ABOUT HORSES.

We clip the following from a Paris letter entitled "The Grand City to a Stranger," as containing matters of interest to dealers in live stock:

"Before concluding my letter I must tell you of a little sample of American enterprise that recently came under my observation. Among the throng at the Longchamps races on Sunday last were two Iowa farmers from the western part of that State. They were dressed as if they had but just come from the field or stable, and their slouched hats bore hayseed on their brims; but there were probably few persons present who watched the races or studied the points of the racers with a more keen and intelligent interest than they. Their business in France was to buy a few of the powerful but hardy and compactly built farm horses for which Normandy is justly celebrated. Lighter in the leg than the English cart horses, of which such magnificent specimens may be seen in Liverpool, the Normandy horses are superior to the latter in activity and hardiness, and but little inferior to them in size and strength. Of this noble variety of the equine species our two Iowa farmers had bought nine fine stallions, one of them four and the other five. They had seen some specimens of the stock which had been imported several years ago, and had also seen the stock obtained by crossing them with the native breed. The result of considerable study and attention was to decide them to make an importation on their own account; so, without knowing a word of the French language, they came over here, spent several weeks in traveling hither and thither in Normandy, attending horse-fairs in the towns and visiting farmers in the country, until they at length succeeded in selecting the number they desired. When I saw them they were about to start for Iowa, and were sanguine of doubling their money on their purchases, in which case they intend returning for another lot. They hold that the introduction of a larger breed of horses will conduce to the improvement of Western agriculture, the lightness of the American horse being, according to them, the cause of shallow plowing. If this opinion be correct—and it seems probable enough—the enterprise by which they seek, quite legitimately, to line their pockets, will not be without a certain degree of public importance."

A NEW HORSE DISEASE.

A new horse disease has made its appearance recently at the Bellefontaine car stables, St. Louis, Mo., and causes a good deal of alarm and discussion among horse owners and dealers. It is difficult to say whether there are any grounds for apprehending that the disease will become general. Experiments are being made to test the contagiousness of the disease, and post-mortems have been made to discover the cause of the disease. Several horses have died in various parts of the city and in two cases the symptoms were in some respects similar to those of the new disease. There is quite a difference of opinion among veterinary surgeons as to the nature, cause and treatment of the disease. A *Republican* reporter called upon Dr. Harvey, an English veterinary surgeon, No. 14 South Fifth st., to ascertain if he had known in England any disease similar to the one which had attacked the horses at the Bellefontaine stables. He said he had visited the horses at that place, and their disorder reminded him of a disease known in England as gastritis, or acute inflammation of the stomach. At one time the British army lost a large number of horses by it. The disease was caused by a bitter and poisonous herb, called "yew." When fresh or green the horses would not eat it on account of its extreme bitterness, but when dried they would eat it readily. He had seen the same disease caused by May-weed and water-parsley. The symptoms were precisely the same as those manifested at the car stables. In answer to an inquiry, the doctor said he thought the disease was produced in the present cases by some vegetable poison mixed with the hay or other food, or by musty hay. The inflammation of the brain and spinal cord, he considered, was due almost entirely to the presence of poisonous matter in the stomach. Dr. Swift contended from the first that the disease was cerebro-spinal meningitis, and to show his confidence in its non-contagiousness, and his disbelief in the "poison" theory, he has been in the habit of putting his buggy horse in one of the stalls of the Bellefontaine stables and of feeding him with the same food eaten by the horses affected. The post-mortem held by several scientific physicians confirms this view.

THE STRAWBERRY QUESTION.

In reference to your article on page 86 of the June number of THE LANCASTER FARMER, with regard to the fine, large, vigorous plant having borne about *thirty* flowers, and all abortive but *two*, exhibited by Mr. J. B. Erb, who desired to know the cause, without saying any more about the intervention of insects to what has been said on page 83 same number, I shall confine myself to a consideration of the question from a botanical standpoint.

I herewith illustrate a strawberry blossom cut through the middle, (Fig. 1). The lowest limb is the green flower cup or calyx spreading out upon the peduncle. The stamens are shown attached by their filaments to the inner side of the calyx around the central rounded receptacle—hence perigynous. This receptacle increases in size, and forms the edible pulp or fruit, upon and in which are embedded the achenia or real fruit and seed, also called carpels. Fig. 2, magnified, showing the lateral stile and stigma, or jointly the pistil. The anthers contain the pollen, and are supported on the filaments, and jointly called the stamens or male organs, and the pistil the female. The petals, two of which are shown from the corolla or flower. Thus we have in the strawberry a perfect flower composed of calyx or sepals, corolla or petals, stamens and pistils, all in one; hence called complete also, and hermaphrodite, the true normal character of the strawberry; but by suppression from various causes the whorl of stamens are only rudimentary, without anthers, and of course without pollen, while the pistils may be perfect; in others, the pistils may be abortive and undeveloped: thus a male plant when perfect stamens and anthers only are formed, and female when pistils only. The strawberry (*Fragaria*) belongs to the sub-order ROSACEÆ proper, but included with the tribe 2, Dryadeæ, where the fruits are achenia, or sometimes little drupes, and when numerous, crowded on a conical or hemispherical torus, as in the strawberry, raspberry and blackberry, all considered as bearing *complete* flowers. When either a pistil, stamen, corolla or calyx is wanting, the flower is said to be *incomplete*. But it is by no means rare that one or the other may not be *suppressed*—considered an *abortion;* a result arising to a great extent by crossing. R. T. Clarke crossed two prolific members, Myatt's B. Queen and Keen's seedling, with the Wood and Hautbois, and in each case he raised only a single seedling; one of these fruited, but was almost barren. Mr. W. Smith, of York, has raised similar hybrids with equally poor success. There is a great difficulty, and yet hybrids sufficiently fertile have been produced. Prof. Gray informs us that this takes place in the districts where they grow wild, and result in producing puzzling intermediate forms. Much controversy has taken place with regard to sexes. The true Hautbois properly bears the male and female organs on separate plants, and was consequently named by Duchesne *dioica*. But it frequently produces hermaphrodites, and Lindley (Gardner's Chronicle, 1847, p. 539) by propagating such plants by runners, at the same time destroying the males, soon raised a self-prolific stock. English varieties introduced into the United States, when cultivated in rich soils, commonly produce plants with separate sexes. Thus a whole acre of Keen's seedlings in this country proved almost sterile from the absence of male flowers; but the more general rule is, that the male plants overrun the females. Some members of the Cincinnati Horticultural Society, especially appointed to investigate this subject, report that "few varieties have the flowers perfect in both sexual organs," &c. The most successful cultivators in Ohio plant for every seven rows of "pistillata" or female plants, one row of hermaphrodites, which afford pollen for both kinds; but the hermaphrodites, owing to their expenditure in the production of pollen, bear less fruit than the female plants. The truth is, there is an actual constitutional difference in varieties. Some too tender, except under peculiar conditions, will fail to yield fruit, where other varieties will succeed perfectly. Much depends on the soil. A famous gardener in England said that "no mortal could grow the British Queen at Shrubland Park unless the whole nature of the soil was altered." This, in other near localities, is found delicious and prolific. Evidently the climate is the same. Some are hardy enough to withstand the Russian winters, but easily burnt by the sun, so that they will not succeed in certain soils either in England or the United States. Other varieties require more water, as the Filbert Prince Strawberry, and if the plants once suffer from drought they will do little or no good afterwards. Cuthill's Black Prince Strawberry evinces a singular tendency to mildew. No less than six cases have been recorded of this variety suffering severely, while other varieties growing close by, and treated in exactly the same manner, were not at all infested by this fungus. The time of maturity differs much in different varieties. Some belonging to the wood and Alpine section produce a succession of crops throughout the summer. The Red Bush Alpine Strawberry (one of the *F. vesca* sections, fields and rocks, common one of our wild indigenous species) does not produce stolens or runners, and this remarkable deviation of structure is reproduced truly by seed. Another sub-variety—the White Bush Alpine—is similarly characterized, but when propagated by seed it often degenerates and produces plants with runners. I shall not attempt to enumerate the numerous species of this delicious fruit which have been cultivated, and follow up the rapid improvement within the last fifty years. We have now briefly shown that great diversity exists in this *fragrant* fruit, hence its botanical generic name *Fragaria*. During the years 1853 and 1854 a great controversy went on in the papers on the "Strawberry question." Walter Elder maintained the "eternal laws of nature," in which there is as little invariability in varieties as in species. "In this respect," he continues, "it is not in the blossom, but in the sexual organs where stability rests. If it were otherwise, on what would animal life depend for subsistence? Suppose that all vegetation were to change sex and become abortive for one year only. What an awful desolation would ensue! It was only the wise foresight of our Maker which renders these laws unchangeable." I quote him, because in part he is correct; but it mainly refers to that law of CONSERVATISM which is divinely established amid a varied influence, each also governed by law that operates in nature. Yet, "thus far shalt thou go and no further." So the case with Job and Satan. Limits are set, but deviations are permitted, for good and wise reasons, no doubt. Mr. Elder also says: "All cultivators of the soil should study botany, at least so far as reproduction is concerned, and it would enlighten their paths many times when they grope in the darkness without it. If agricultural periodicals, as well as horticultural, had departments of botany, and publishers enlisted the assistance of scientific botanists, they would be doubly remunerated for their extra expense by increased circulation and the additional price their journal would command. The knowledge conveyed through such papers would be tenfold more beneficial than whole books on the subject, as no more information would be given in any one number than an intelligent cultivator could study and comprehend in a month, and by such instructions," &c., perhaps putting the matter a little stronger in his conclusions than I would be willing to endorse; yet there is great force in what he says. I would like to quote him at large on the Strawberry question, between a certain "trio" and himself, called an "old fogy" by them.

Let us look into some of the many cases of abortion in reproduction. If there is much rain or humidity in the atmosphere while the plants are in bloom, the pollen gets clogged in the anthers and fails to impregnate the pistils, which proves abortion. High winds at the time the pollen is matured, carries it off and causes a failure; frost may blight the pollen, and the sun may scald it, and prevent reproduction. If a plant is in an over-luxuriant state of growth, its succulency either destroys the albumen or carries it off towards the enlargement of the plant, and prevents the formation of pollen. Want of sufficient light and air has a like effect. Wm. R. Prince, Longworth, Elder, Hanson, Mehan, G. W. Huntsman, etc., were mixed up in the question. One party claimed that stamens were turned to pistils. Walter Elder says:

> "Whenever cohesion turns about,
> And 'pulls Newton's apple off the tree,'
> Then stamens may become pistils,
> Or pistils the contrary," &c.

He concludes nine verses of eight lines each as follows:

> "Let all your plants prove themselves,
> (Keep them free of weeds),
> And those will be hermaphrodites
> Of themselves that bear good seeds.

He affirms "that pistillates can set fruit, for it has been tried and proven." That Mr. Huntsman says that it is not the fact that there can be pistillate and staminate plants of the same variety—which was disproved by Mr. Meehan's plants of McAvoy's strawberry having two scapes from one root—one bearing pistillate, the other staminate blossoms. That fact can't be denied, for a plant was seen by the editor of the *Farm Journal*. Moreover, they were of the true kind, for the committee of which Dr. Brinckle was chairman, awarded a premium for fruit grown on these plants." The pistillates and staminates among the wild strawberries are, no doubt, frequent, hence some insist that the true character of the plant is monœcious—rather than polygamous or hermaphrodite. Now, Indiana corn is *monœcious*, the tassel, the staminate and the pistils, the silk to the grains of corn developed in the ear. I have seen, on several occasions, actual grains of corn and abortive ears mixed with the staminate tassel—this is more marvelous than in the strawberry. Hemp is *diœcious*, because the male and female flowers are born on different plants, when, on the contrary, some plants have the three kind of flowers, those having stamens only, and others pistils only, while some have both stamens and pistils, actually perfect or hermaphrodite. On the strawberry question I have never yet inspected a so-called pistilate flower that I did not discover the rudiments of the abortive stamens adhering to the calyx, evidently suppressed, termed abortion. Causes for such abortions have already been given, but there are, or is a natural force, that acts two-fold, like in the magnet with which you can repel or attract a needle, it simply depends upon the needle's magnetic relation to the acting force. There are hidden operating causes underlying the apparent ones that the microscope cannot reach, and by simply looking at the result, and a superficial view of the matter will lead to very conflicting theories, and once we can clearly understand the relation of soil, climate, and the stimulus that acts on the various tissues to develope them, and also have some conception of the subtle force given out by light and heat, and the special action under given conditions, then will we be able to solve these knotty questions truly; so far we can only do so theoretically. But let us have facts and then draw conclusions.

In studying books we find much given as facts and truth that clash with each other. When the great Patrick Henry was in the prime of life some friend of his suggested to him the propriety of studying certain authors, to which he made answer—"Books are very useful for instructing the young, and I have been much benefitted by them, but now I must gather knowledge from experience, and read men and things—the world is my book." So with horticulturalists. The field, the garden and the growing vegetation is a book ever open before them; learn enough of established and known principles and apply them to the facts,

and the study will be profitable. If you can not comprehend the fact that all parts of a flower are but modifications of the leaf, gradually unfolding from the crude chlorophil or green calyx to the soft and delicate petal, thence to the stamen and final fructifying centre, the pistil with its germ, in which the vital force of the plant concentrates into a passive nucleus in the seed, ready, under proper conditions, to reproduce its parent. I have given a medley of statements, and, perhaps, have drawn no practical conclusions, but the mind must be prepared before even correct conclusions can be fully received. I shall therefore rest for the present. It will take a full month to digest the apparent conflicting facts stated.—*J. Stauffer, Lancaster, Pa.*

Berries.

After having written about strawberries, and considering it rather dry reading, allow me to serve you up a dish of berries more to the taste of some, and offering at least "variety," as it is called the spice of life. I see no reason why it should be excluded from so solid and grave a paper as THE LANCASTER FARMER. I had to smile when I read it, and so may you, perhaps; so here it is:

"Charles Mathews, the comedian, was served by a green-grocer, named Berry, and generally settled his bill once a quarter. At one time the account was sent in before it was due, and Mathews laboring under an idea that his credit was doubted, said, 'Here's a pretty *mull*, Berry. You have sent in your *bill*, Berry, before it is *due*, Berry. Your father, the *elder* Berry, would not have been such a *goose*, Berry; but you need not look so *black*, Berry, for I don't care a *straw*, Berry, and shan't pay you till *Christmas*, Berry.'"

There you have an assortment of berries to digest without fear of hurting you. J. S.

TRAPS EMPLOYED TO CIRCUMVENT THE POTATO-BEETLES.

If the potato-beetle was endowed with the least sensibility it would either die out or leave the country in disgust, merely because everybody speaks ill of it, and the hand of every man—not too lazy to work—is turned against it. Or, if it was endowed with that pusillanimity which characterizes so many of the human species, it would emigrate in order to escape the many snares that have been invented to effect its death or discomfiture. But it is too greedy, dull, and stupid to comprehend the dangers by which it is surrounded, and thus is destined to fall a victim to the human machinations that are employed against it. These traps embrace several different contrivances and employ different principles, all culminating in the destruction of the beetle.

Acknowledging Paris Green as the universal remedy, Mr. Frank M. Gray, of Jefferson, Cook co., Ill., has invented a tank which is strapped on the back, something like the patent fire-extinguisher, with a section of small gutta percha or gum-elastic hose attached to the bottom on each side, to the ends of which are attached sprinkling nozzles, which are taken in each hand, and the operator passing between the rows can sprinkle two at a time, and thus facilitate the work. This tank, or can, holds about three gallons of water, in which is thoroughly mixed and strained three table spoonfuls of good green. Inside there are three shelves to help to keep the mixture agitated, with an air tube on top, and a lever at the bottom, which shuts off the flow of the liquid at the will of the operator. It is said that one man with this apparatus can sprinkle from five to eight acres in a day, and will use from one to one and a half pounds of green. This machine is manufactured and kept for sale in Chicago, Ill.

Some people in Lancaster county have used a common watering can, but without any satisfactory effect, simply because the green won't dissolve in water, but is merely held in suspension, and therefore, unless constantly agitated, it gravitates to the bottom, and the plants only get the water or a very weak dilution of the green.

By far the best and most ingenious apparatus we have yet seen or heard of, for using a poisoned liquid, is PECK'S LIQUID ATOMIZER, for the destruction of all kinds of insects and insect larva that feed on the foliage of trees, shrubs, and plants. We have seen this machine in operation, and although perhaps not perfect, yet by comparison it is superior to "anything out," because it can be used for potatoes, cabbages, currants, gooseberries, roses, and for shrubbery, plants, and dwarf fruit trees in general; and what is of the greatest importance, the undersides of the leaves are as easily wetted or moistened as the upper sides; and a simple and ingenious device at the bottom of the tank acts in connection with the motion imparted to the liquid by the operator in walking, to keep up a current that prevents the Paris Green or other substance, held in suspension, from settling at the bottom. The tank will hold three gallons and will run for an hour without refilling. A man with this apparatus strapped upon his back will go over half an acre of potatoes in one hour. There is a double bellows strapped under the left arm which is easily worked with an oscillating crank or handle, and this, through a rubber tube, furnishes atmospheric pressure on the liquid, and conveys another stream of air through the pipe attached by a tube to the the bottom of the tank, by which the stream is *atomized*—converted into a spray—and reaches every portion of the leaf below and above. The nozzle has a socket attached into which a handle can be introduced, of any length desired, for the purpose of using the liquid on trees and shrubs as well as plants. We think it will be a capital thing for plums, pears, quinces and roses. Six ounces of pure Paris Green to three gallons of water, is the proportion used, and the distribution seems to be very economical. The machines are manufactured at West Grove, Pa., and cost $12.00.

But all of the foregoing mean *Paris Green;* and as some people are dubious about a too free use of this poison, they may prefer a trap of a different kind—something to supply the place of hand-picking—and we would direct the attention of those to a recent invention patented by Mr. Anthony Iske, of this city. It is a machine simple in construction, but is quite effective in sweeping the bugs from potato and tobacco plants into receptacles provided for that purpose. It is composed of two pieces of tin gutter pipe, about two feet long, which hang near the ground, one on each side of the row of plants, while above them is suspended a broom. The revolution of the wheels on which the machine is propelled causes the broom to vibrate from side to side, knocking the bugs off the plants against wooden shields, which are placed behind the gutters into which the insects fall. The gutters are adjustable and accommodate themselves to the shape of the ground and the size of the plants.

We have witnessed the operation of the above machine, and consider it the most ingenious contrivance of the "sweeping" kind that has yet been invented, although two others of similar construction have already been patented. One in the west is drawn between two rows of potatoes by a horse, and by revolving brushes strikes off the beetles on each side into a central trough. Various shaped scoops and pans have also been employed for catching the beetles, which are cheap, if effective, and free from danger.

Our practical and kind-hearted friend, John B. Erb, of Beaver Meadows, Lancaster county, called upon us a few days ago, and was delighted with the manner in which he "got ahead" of the potato beetle the present season. He began early in the season and employed a deep dusting pan with a handle and an inclined side in the one hand and a new short-handled corn broom in the other, and swept the insects into it. He also paid special attention to the mature beetles and the eggs. He also kept conveniently a tub of thick whitewash, almost as thick as mortar. Into this he emptied the insects and stirred them up, thus avoiding the poisonous fumes of burning, and the vapors of scalding; and what is more, he thinks by the addition of earth and stable manure, the compound will make a capital fertilizing compost.

FARMING AS A BUSINESS.

However farming may be regarded as a profession or pursuit by those who are actually engaged in it, it is certain that the literature of agriculture has a sort of fascination to a very wide class of readers, and that agricultural works are read by very many engaged in other occupations. We have observed this tendency for years, and know that the literature of agriculture, and the sciences intimately connected with it, has a very extensive circle of readers. We find the same fact also confirmed by the editor of the *Journal of Chemistry*, who says, there is in his family of readers a large number of physicians, druggists, clergymen, merchants, chemists, etc., and he has never heard a word of complaint from any of them that he bestowed too much attention upon agriculture, or that they were not interested in the subject. Agriculture is so fascinating, so noble, so grand in all its relations and bearings, that all classes of readers, if they do not own a rod of land, are fond of agricultural literature. There are but very few in any of the professions, or in any of the industrial pursuits, who do not cherish a secret hope or expectation that some day they will own a farm, and till it, and die upon it. As people grow older they love to think of mother earth; they love to look upon broad acres, covered with the bounteous gifts of a kind Providence; they love to hear the birds sing; they love to look up into the heavens, broad and expansive; they love to bathe in sunlight, and feel the mild breezes of summer laden with sweet odors from woods and flowers. Young men often say they *hate* farming and all that is connected with the pursuit. They would, like John Randolph, go out of their way a mile to kick a sheep; and as to cows, oxen, and all animals but a horse, they never wish to look upon them. If they live to middle life, they "meet with a change," and if their success has been indifferent, in whatever pursuit they may have fallen into, then the wish is heard expressed, that they had remained upon the farm. The tilling of the soil is a glorious calling, and depend upon it, young men, the time is coming when it will be more remunerative than most trades and professions.

The fact that agricultural journals and other works on the subject are so widely read, is a hopeful sign for the future, and shows that the interest of all classes is intimately connected with the tillage of the soil.

REMEDY FOR CABBAGE WORMS.

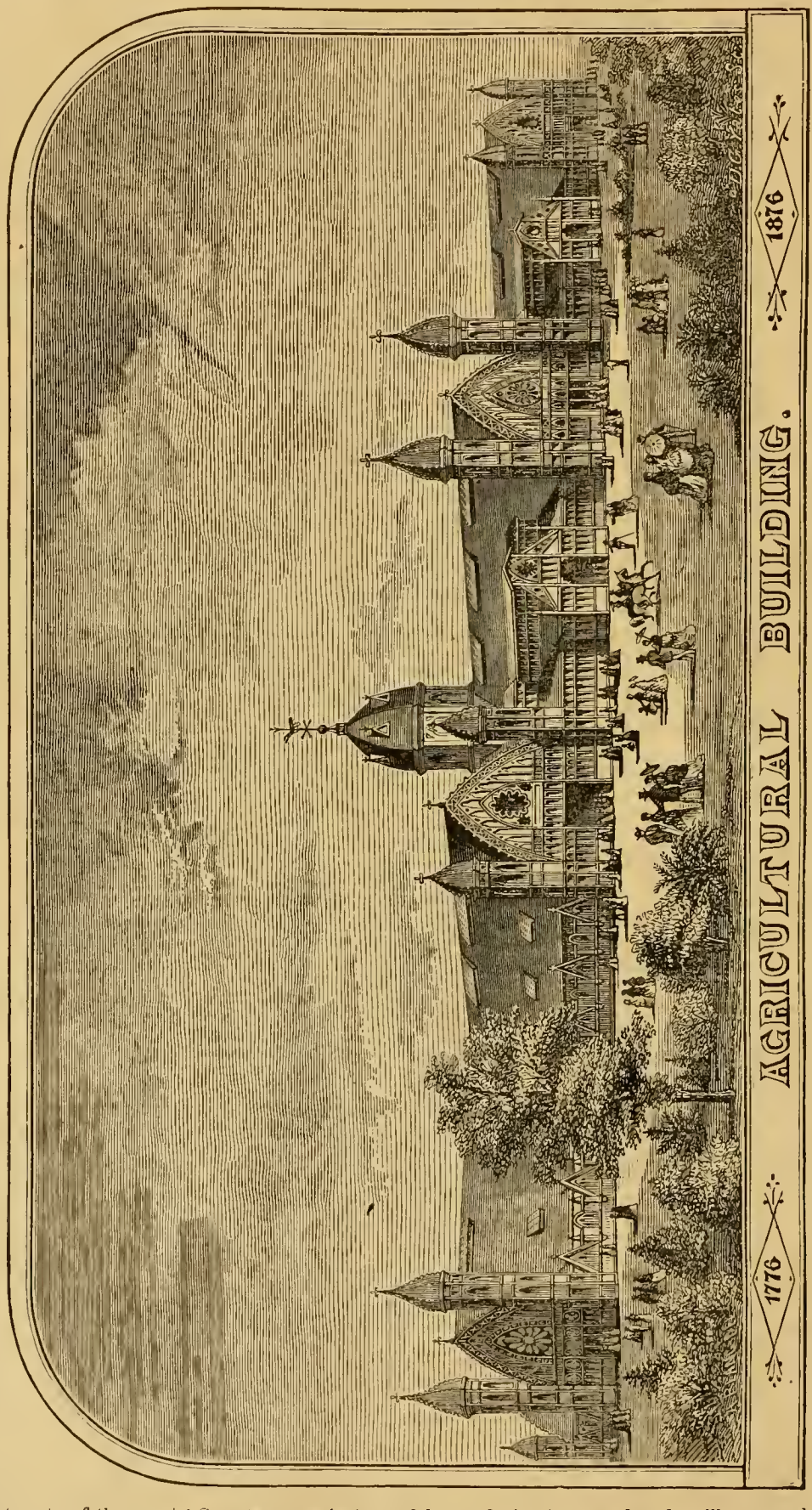
Hellebore, lime, salt and similar substances have been used with varied success for the destruction of cabbage worms. It is now stated that bran and buckwheat flour answers the purpose better than any other remedies that have been tried. The bran is simply dusted over the infested cabbages as soon as the worms make their appearance. If the worms are very thick, about a handful of bran is required to each cabbage head, and sometimes it is necessary to go over the plants a second time. A hundred weight of bran is sufficient for an acre. It must be applied when the worms are young. When they are full grown or very strong, it does not appear to affect them. The buckwheat flour is sifted upon them by means of a sieve, in the evening or in the morning—when the dew is on the plants. If on application does not destroy the worms, a second one should be made. It is probable that wheat flour, fine Indian meal or any other pulverulent farinaceous substance would have the same effect.—*American Garden.*

JOHN M. MARSHALL, of Hampton Falls, recently lost a colt, which died from the effect of eating apple pomace from the cider press; and two or three other horses have died from the same cause in that town.

OUR NATIONAL CENTENNIAL.

The New Agricultural Building.

In the February number of THE FARMER we published an illustration of the Agricultural building as then designed to be erected in Fairmount Park in connection with the other Centennial buildings.—The plan of that structure having evoked a great deal of unfavorable criticism, as being ungainly in appearance and unsuited in some respects to exhibit the great industry in whose interests it was projected, the architects were instructed to remodel the design. This they have done, and on this page we present the Agricultural building as it will stand in Fairmount Park, and for which the ground was broken on the fifth of this month, with imposing ceremonies. On the opposite page we also present a view of the ground plan of the building, showing the arrangements of the various sections devoted to the display of agricultural products. A comparison of this with the engraving in the February number will show that the new design is a great improvement over the original. It will cover over ten acres, and will be constructed of wood and glass. It will stand on the north of the Horticultural building, and on the eastern side of Belmont avenue. In its immediate vicinity will be the stock yards for the exhibition of horses, cattle, sheep, swine, poultry, &c.



In the course of a visit to the Centennial headquarters in Philadelphia the other day, we found the officers were very much encouraged with the now assured success of this great enterprise. We bespeak for them the hearty co-operation of the farmers of Lancaster county. It is an event in which the honor of our great nation is bound up, and it is moreover an event which can occur but once in the history of a nation. No one, however young, living at this our first centennial, can hope to live to see the second; and every one should therefore take an honest pride in making it a success worthy of the greatest and freest nation upon which the benignant smiles of heaven rest.

In the May issue of THE FARMER we stated that the Centennial Board had placed the interests of the great exposition for Lancaster county in the hands of a local auxiliary board, consisting of Maj. R. W. Shenk (Chairman), Hon. J. B. Livingston, Hon. D. W. Patterson, W. L. Peiper, Amos S. Henderson, J. M. W. Geist, S. H. Reynolds, F. Shroder, S. S. Spencer, B. F. Eshleman, Wm. Aug. Atlee, H. M. North, R. A. Baer, J. C. Muhlenberg, Jno. A. Hiestand, Maj. A. C. Reinoehl, Ellwood Greist, W. U. Hensel, Frank P. Griffiths, and J. K. Barr (Secretary).

Our Share of the Expenses.

At a recent meeting of this committee, the Secretary was instructed by resolution to prepare a table showing the amounts that should be subscribed in each district of the county to make up the $40,000 assessed on Lancaster county by the Centennial Commission. The following is the result, as reported to Major Shenk, chairman of the committee, the calculation being based on the assessments as returned to the County Commissioners' office:

Adamstown borough	$ 100
Bart township	500
Brecknock township	300
Carnarvon township	550
Cocalico East	500
Cocalico West	650
Colerain twp	450
Columbia bor	1,600
Conestoga twp	600
Conoy twp	500
Clay twp	500
Donegal East	1,300
Donegal West	450
Drumore twp	600
Ephrata twp	1,000
Earl twp	1,100
Earl East	800
Earl West	900
Elizabeth twp	400
Elizabethtown bor	150
Eden twp	250
Fulton twp	400
Hempfield East	1,200
Hempfield West	1,300
Lampeter East	1,100
Lampeter West	900
Lancaster twp	450
Lancaster city	6,650
Leacock twp	850
Leacock Upper	900
Little Britain twp	400
Martic twp	300
Manor twp	1,900
Mount Joy bor	200
Mount Joy twp	750
Marietta bor	250
Manheim bor	200
Manheim twp	1,300
Paradise twp	700
Penn twp	800
Pequea twp	600
Providence twp	400
Rapho twp	1,450
Salisbury twp	1,400
Sadsbury twp	400
Strasburg twp	800
Strasburg bor	200
Warwick twp	1,100
Washington bor	100
Total	$40,000

It is understood that local committees will be appointed in the several districts to receive subscriptions towards this fund, and we hope their efforts will be met in a spirit of liberality commensurate with the ability of our great county.

Horned Cattle at the International Exhibition.

The Centennial Commission proposes to adopt a scale to regulate the respective numbers of each breed of neat horned cattle to be entered for competition.

It is assumed that seven hundred (700) head will cover all desirable entries; and upon that basis will be calculated the number of stalls which will be apportioned each breed. The scale divides the aggregate number into ten parts, and of these, four-tenths are assigned to Short Horns, two-tenths to Channel Islands, one-tenth to Devons, one-tenth to Holsteins, one-tenth to Ayrshires, and one-tenth to animals of other pure breeds.

The exhibition in each breed will comprehend animals of various ages, as well as of both sexes. Draft and fat cattle will be admitted irrespective of breed. The exhibition of horned cattle will open September 20th, 1876, and continue fifteen days.

It is desirable that all persons who contemplate exhibiting will make application for stalls

without delay, and if necessary at a later day such applications can be amended. Inquiries may be addressed to the Chief of the Bureau of Agriculture, International Exhibition, Philadelphia.

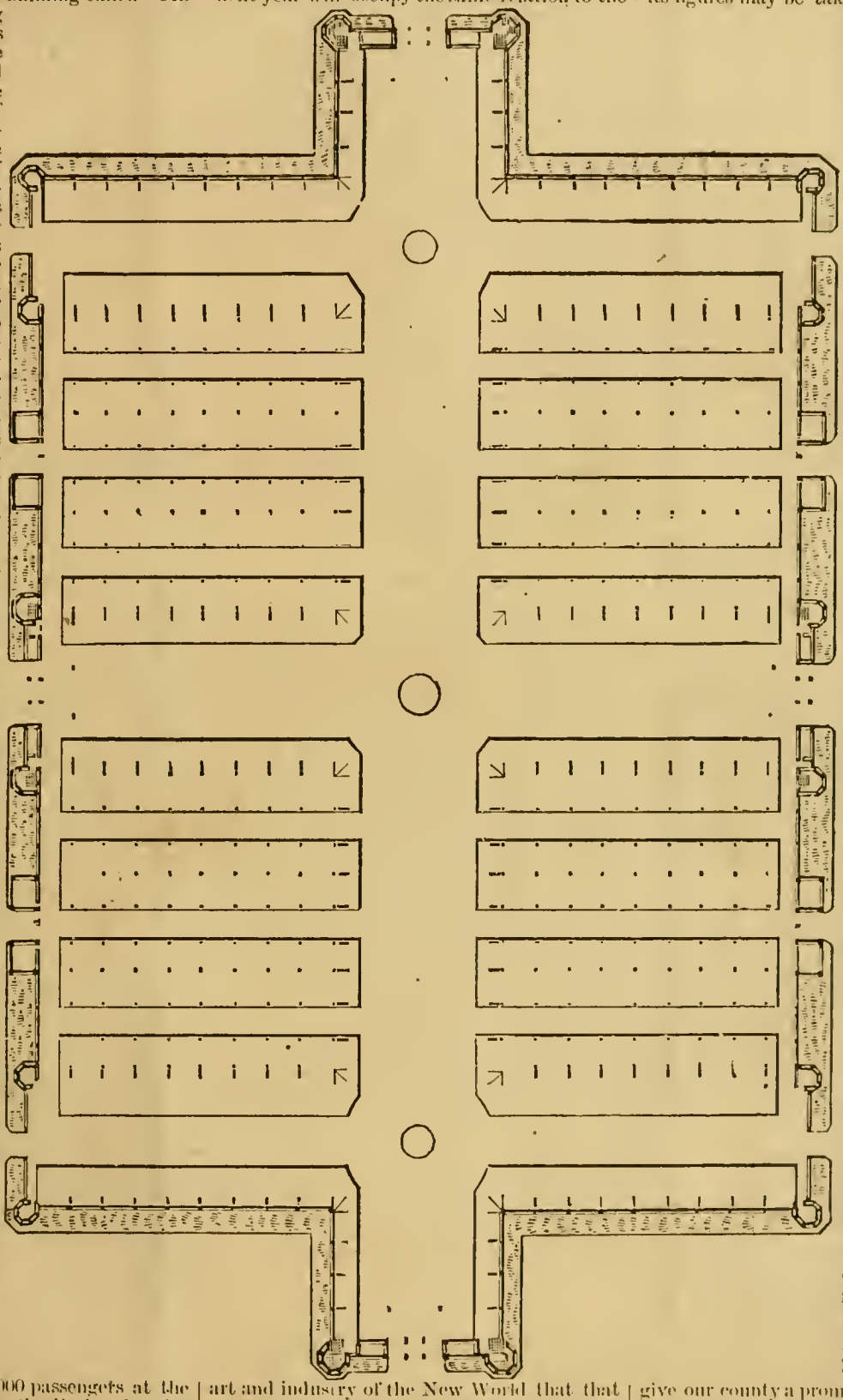
The Centennial Grounds on the 4th of July.

The ninety-ninth anniversary of our national independence was celebrated on the Centennial grounds on the 5th of July, in a style far surpassing anything ever before witnessed in this country. The immense building called "Machinery Hall," covering nearly eleven acres, was so far completed as to be used for singing and speaking, and one of the most pleasant features of the day was a grand concert by over 3,000 of the public school children of Philadelphia. The immense structure was crowded with spectators; and as the whole area is equal to 558,440 square feet, the reader can form some idea of the number present. Allowing two square feet to each person, it would hold over 275,000 persons. For the purpose of obtaining some reliable information in relation to the number of persons who were present during the various celebrations and ceremonies, and also with the object in view of finding out as nearly as possible the number of passengers conveyed to Fairmount Park and the Centennial grounds by the various passenger railway lines on that day, with the number of vehicles that entered the Park, and kindred information, a visit was made on Tuesday by a reporter of the *Ledger* to the different points and places mentioned below. At the depot of the Market Street Passenger Railway Company, Forty-first and Haverford streets, which company runs a branch line directly to the Centennial grounds, it was ascertained that the cars of this company carried to the terminus of their road, near Machinery Hall, 45,000 passengers, and for this purpose 66 cars were kept in constant use during the day. The Chestnut and Walnut street line carried 27,472 passengers to the Centennial grounds. The Race and Vine street line to the Centennial grounds carried something over 45,000, counting children and all; 57 cars were kept in constant use all day. The Union line passenger cars deposited about 25,000 passengers at the Brown street entrance to the Park. Inquiry was made at the terminus of the Girard avenue line, near the eastern end of Girard avenue bridge, and it was learned that this company had 37 cars running constantly all day, and nearly 38,000 passengers were conveyed over their route to Fairmount Park.

The following statistics of the number of vehicles, &c., that entered the Park on that day, was obtained from Capt. Chasteau: At Green Street Entrance—Single carriages, 2,310; double teams, 770; horsemen, 110, and a 16-horse team. Landsdown Entrance—Single teams, 2,900; double teams, 1,000; 4-horse vehicles, 13; horsemen, 210. It is estimated that 75,000 pedestrians passed Landsdown Entrance alone on their way to the Centennial grounds during the day.

International Exhibitions Contrasted.

The Centennial exhibition in Philadelphia next year will occupy the same relation to the art and industry of the New World that that of London in 1851 did to the labor, manual and mental, of the Old World; for although the Crystal Palace fair in New York, in 1854 affected to display the works of industry of all nations, it was incomplete in many departments, and a failure as a whole. It was not projected on as grand a scale as that which commemorates the Centennial of Independence; it had no such patriotic associations, and the country was younger and poorer and its products crude. The industries, which have since become great, were then in their infancy; American art was in its leading strings, and all the elements which go to make such an exhibition a success—wealth, culture, governmental patronage, easiness of access by our home people, and facilities for their intercommunication with foreigners—it was sadly lacking. The London World's Fair of 1851 was the first great exhibition of its kind, and its figures may be taken as bearing some proportion to our own, although the difference between the habits of our people and those of England, and the greater influx there is certain to be to Philadelphia in 1876, will tell largely in our favor. Still the statistics of that exhibition furnish an approximate idea of the magnitude of the great event for which we are now preparing. The London exhibition opened its doors May 1, 1851, and continued them open until October 11 of same year. Between these two dates it was visited by 6,201,856 persons. The grand total of receipts from all sources was £505,107, or nearly three millions in greenbacks at their present depreciated value. The largest number of visitors was on Tuesday, the 7th of October, showing that the attraction did not decline in the closing days of the exhibition. On this day over twenty-five thousand dollars were taken in at the gates. There was no paper money received, and the weight of the silver, which embraced more than four-fifths of the receipts, was thirty-five tons. The greenbacks received from the twelve millions who will visit the Centennial next year will probably be sufficient to paper the walls of every house in Philadelphia.



Our State Exposition.

In this connection we would impress upon the farmers and mechanics, and all others engaged in industrial pursuits in Lancaster county, the important bearing that the holding of our next State Agricultural Fair in Lancaster will have upon the exposition of our local material progress. The holding of this fair here this fall will secure it to us next year, and that being the Centennial year, it will give our county a prominence before the world which it could not otherwise attain. Lancaster being within less than three hours' ride of the Centennial grounds, hundreds of strangers from all parts of the world will visit us on that occasion who would not think of doing so under less attractive auspices. It is therefore important that we do all we can to make the State Exposition this fall a success. As the richest agricultural county, Lancaster ought to take the lead in the exhibition of her products.

LETTERS, QUERIES AND ANSWERS.

Entomological Correspondence.

GRAPE VINE PLUME MOTH, (*Pterophorus periscelidactylus.*) We would inform our correspondent at Buck P. O., whose communication appeared in our June number, page 89, that about the time THE FARMER was mailed to our subscribers (June 15) the moth bred from the little caterpillar he sent us, emerged, and proved to be what we suspected, as above named. It is a very delicately formed insect; the wings of a tawny yellowish color, marked with white and pale brown, and the abdomen is marked with the same colors. The legs are long and slender, dark at the joints and conspicuously distinguished by long spurs on each side. It is called the *plume*, from the fact that the wings are divided into separate lobes, the hinder ones fringed around like feathers or plumes. It is very probable that there will be another brood of them the present season; for maturing so early, "it is difficult to understand how the race could be perpetuated without another brood." Now that we have developed this much of its history, it recurs to our memory that we bred it out on a former occasion, fully twenty years ago, but we have not seen it lately, until the present season. The best remedy we can suggest is hand-picking, and this seems to be the opinion of all the authorities to which we have access. This moth belongs to the family ALUCITIDÆ, and was first named and described by Dr. Fitch, of New York, in his "Reports," vol. 1, pp. 139, 140, 141.

Prof. S. S. Rathvon:

DEAR SIR: As you will see, from the specimen I herewith send you, that this worm is making sad havoc among the grain fields in this section of the country, will you be kind enough to give us what information you can hearing upon the subject.

Very respectfully,

H. L. ECKERT.

Gordonville, Lancaster Co., Pa., July 3, 1875.

The "worms," above alluded to, were delivered to us by the bearer of this note, and are the "White-lined Army Worm" (*Leucania albilinea*) a history and description of which, in their *larva*, *pupa* and *imago* states, will be found on pp. 165, 166, 167 and 168 of the ninth volume of the proceedings of the "Pennsylvania State Agricultural Society," for the years 1872-3, one hundred copies of which, we believe, were distributed in Lancaster county, (we gave away 20 copies ourself) and we observed some days ago a local notice in one of our dailies, to the effect that Senator Warfel had a number of copies for distribution. We have nothing additional to add on the subject, except that this insect seems to be becoming more numerous in Lancaster county every returning harvest season, and should its increase make any approach to that of the "Common Army-Worm," it may be easily seen how destructive this insect may become to the wheat and timothy crops in the future, unless it is "checkmated" by a parasite, or by human intervention.

The Egg Controversy.

To the Editor of THE LANCASTER FARMER:

I have received the back numbers of THE FARMER, and am much pleased with them; they contain much good reading.

I see in the May number, on page 73, a little comment on my egg mystery, by Mr. J. Y. Bicknell, of Westmoreland, New York. Mr. Bicknell, as well as others of the poultry ring, are a little sore over my mode of testing the sex of eggs, because it was not discovered by some one in the ring. Not only this, but many other things they do not like to admit, in which some one outside of the ring got ahead of them, especially if it happened to be a plain farmer. I will here give you a few facts concerning the difference between Mr. Bicknell and myself.

About a year ago he published a challenge in the *Fanciers' Journal* (published by Jos. M. Wade, Philadelphia), offering quite a sum if a hen would be produced which would lay out a full laying of eggs, the eggs hatching from a single intercourse with the cock. I answered it, saying they would, anything outside the Legborns, and that I could show him each and every egg which contained the life-principle; that by so doing he could tell the last egg which contained it; and he could then give her the male bird again. He became somewhat excited over this, and answered through the *Journal*. The controversy was kept up until he found he was getting cornered. He then communicated with me by mail, which continued about three months. Finally he wrote thus, under date of August 4, 1874:

"I will send you to-morrow nine eggs, three from each of three hens, all numbered. I wish you to examine them before a light, and tell me which will hatch and which will not, and give me the numbers. Then set them and see how they turn out."

I did not ask for these eggs, nor know of their coming, until I received the above. Under date of August 10, 1874, I replied as follows:

"I received those nine eggs, all in good condition, and have given them a thorough examination. I find eight of them non-fertile; the air-bubble is not to be seen. More than this, the eggs are not full; by looking about three-eighths of an inch down from the top of the large end you can see the egg move on the inside of the shell. Such eggs will never hatch, the life-principle being absent. The ninth one has the appearance of having been sat on some three or four days, or tampered with in some way. This one purports to have been laid July 27th, this being the mark and date."

I received no reply to the above. After two weeks setting, I examined the eggs with the egg-tester, and wrote Mr. Bicknell again, under date of August 18, 1874, as follows:

"I examined those eggs to-day with the egg-tester, and found them in accordance with my previous examination. The one marked July 29, the one I supposed to have been tampered with, was rotten, streaked with blue and yellow, and did not smell very pleasant; the others were clear, and had the appearance of fresh eggs, but the yolks run when broken, and no smell from them."

I received no reply from Mr. Bicknell until after I had the transaction published in the *Fanciers' Journal*, some time in September. He then answered by saying, that I knew nothing about them by my examination. I thought I did, and that he did also; but he would not acknowledge the corn.—WM. J. PYLE, *West Chester, Pa., July* 1, 1875.

Something About Eggs.

I often hear the question asked through the poultry papers, "How long will an egg keep that I may rely on its hatching, provided I turn it over every day?"

I have given the answer in the papers aforesaid, but still the question continues to be asked, showing that the experiment has not been tried or they surely would be convinced. Break the shell on one side, and on looking you will see a small yellow speck on the yolk. Paste paper over the hole, turn it over, and break it on the opposite side, and you will see the same, showing that you can turn the shell but not the egg. The flesh and bone of the chick are developed from the white of the egg, and when properly advanced the yolk is drawn to the navel, or umbilical orifice of the *fœtix*, or chick, by two blood veins protruding from the navel, enclosing the yolk. This yellow spot is drawn towards the navel of the chick, and from this is derived a portion of its nourishment, but it is very little diminished in size, until a few hours before it is hatched. It is then drawn into the abdomen, the umbilical orifice closes, and the shell "piped," and we soon see the beautiful work of nature in the form of a chick, after the egg has been brooded over by the hen for three weeks.—*W. J. P., West Chester, Pa., July 1st*, 1875.

Post Scriptum.—The yolk is hung in the centre of the egg, by two spiral cords, or springs, attached to each end, each being twisted contrary to the other. The one at the big end of the yolk is enclosed partly by the life principle of the male, and the small end is the life principle of the female. If the air bubble is not to be seen the life principle of the male bird is not there; the egg, therefore, is only fit for culinary use.—*W. J. P.*

[Our correspondent seems to have a proper knowledge of his subject, and to discuss it from a philosophically physiological stand-point, and those who engage in a "tilt" with him on the subject must meet him on the same level.]

The Cultivation of Celery.

July is the chosen month of practical gardeners in the northern half of the nation for transplanting celery, which is of the most simple culture. Formerly it was only grown and used by the wealthy, the blanched stalks being used as a winter salad. Within the past score of years, by chemical analysis, it has been discovered that celery is one of the most valuable vegetables, both as a part of food and for some diseases. The bleached stalks, eaten along with other food, allays nervousness and undue anxiety, and gives placidity to the mind, thereby imparting vigor to the system. Chemists now extract its essence to use in all seasons to flavor drinks.

A skillful physician of Baltimore has of late years compounded the essence of celery with that of camomile, which has proved to be a panacea for all nervous diseases and undue irritability; and it also lessens pain in other maladies; thousands of lives have already been saved by it. A farmer may open furrows with small corn plows, running forward and back in the same furrow; spread dung in the furrows as much as for potatoes; work it in the soil with a spade or hoe or dung drag; set the plants six inches apart in the furrows, and the furrows may be five feet apart. Draw back the loose soil from the edges, and upon the ridges between the furrows plant husk beans. They will be all used before the celery needs earthing up. Keep the weeds down between the rows with a cultivator, and hoe between the plants in the rows. Transplant in the evenings and give a heavy watering at once, and every evening for a week after. On the second week water every second evening, and give occasional waterings after that. If there be much rain, no artificial waterings will be needed. Every farmer should grow a portion for the good of his family, and it is a most profitable crop to sell in the market. Those who have no plants can procure them from the seedsmen and nurserymen, who raise thousands for sale. No earthing up is needed until the middle of September, when other farm work is less pressing. Two men in an hour will earth up several hundred celery plants. We may notice the progress of the earthing up in a couple of months after this.—AN OLD HUSBANDMAN.

The Crops in North Carolina.

I am not now, and have not been engaged in farming for ten years past, but having been solicited to contribute to the columns of THE FARMER, I will endeavor to do the best I can for you, so far as my ability goes and my opportunities to give information extend. I shall deal in *facts*, so far as I can command them.

At present I can only say that, so far as I have seen and heard generally, the wheat crop, from appearance in the field, promised well, but on harvesting it I hear persons from different sections of this (Rowan) county say that they have smut in their wheat, some more and some less. I am inclined to believe that the crop of wheat here this season will be less in quantity and inferior in quality, owing to the cold weather and frost in April. In this opinion some agree with me, while others express themselves otherwise. I hope I and those who agree with me will be disappointed in our judgment.

The oats crop, fall and spring sown, is universally good, so far as I have seen and heard, in this and adjoining counties. The grasses, such as clover, orchard and natural grass, were certainly fine, and much good hay has been made. The corn, cotton and tobacco so far promise well, and a large acreage of ground has been planted; and it is believed if nothing hereafter interferes there will be good crops. From present prospects, there will be more corn made in Rowan county than has been made here in any one year since 1860.

If I can do so, I will contribute monthly to THE FARMER until further notice, such matter relative to crops, lands, productions, climate, &c., &c., as may come to my knowledge from time to time.

No rain here in the last ten days. We are not, however, suffering yet for want of it. The prospect for rain now is good.—M. R., *Salisbury, N. C., July* 2, 1875.

Cut off the Decayed Blooms.

The lovers of ornamental gardening can double their pleasures by cutting off all decayed blooms, and thus prevent the plants from bearing seeds. By this method roses and most other flowering plants will push out new shoots and blossom afresh. All the ever-blooming roses can be kept in bloom from May to December by cutting off the blooms after they fade. All flowering shrubbery will grow better and bloom more profusely in their natural season by displacing faded blooms. Many smaller flowering plants can be re-invigorated and made to bloom again by nipping off the faded blooms; such as mignonette, sweet alyssum, drummond phlox, coryopsis, sweet-williams, canterburybells, snapdragons, larkspurs, and many others. But if they are allowed to bear seed, they will die off, as do the farmers' grain crops when they go into seed-bearing. By a little care, all blooming plants will keep green and bear blooms longer and more profusely; all of which will double the pleasures of ornamental gardening.

There is a pale green worm which comes upon the *mignonette* and *sweet-alyssum*, and eats their leaves greedily; and as these two annuals are the most sweet-scented in their blooms, the worm should be watched for and destroyed. When the leaves appear eaten, search for the worms and kill them at once.—WALTER ELDER, *Philadelphia, June* 22, 1875.

"Jots and Tittles" from Dauphin County.

1. In making board fence break the joints; it will last twice as long.

2. Handle the colts when young; when you wish to break them in they are already half broke.

3. Weeds are advantageous to hoed crops; the more we have to pull and hoe the more we stir the soil; the oftener the soil is stirred the faster the crop will grow.

4. It is a mistake not to cultivate corn or potatoes in dry weather; the more the soil is cultivated the greater amount of ammonia, &c., it absorbs from the air; the atmosphere is full of fertilizers.

5. If you wish to keep clear of potato bugs and bogus watch peddlers subscribe for THE LANCASTER EXPRESS and THE FARMER. B.

We welcome "Jots and Tittles," and assure our correspondent B. that "not a tittle shall be stricken from the law until all is fulfilled," and that a neglect of *number five* subjects any man to "the penalty of the whole." How long will the farmers of Lancaster county continue to withhold their "jots and tittles"—not from us, for we are not living for ourselves alone—but from their brother farmers of our good old commonwealth. *We ask how long?*

Abortive Strawberries.

I see Mr. J. B. E. had on exhibition at the June meeting of your Society an abortive strawberry plant. This is something new to me, although I had a friend last fall to ask me for strawberry plants, and he wished me to give him the *female* plants, if I knew the difference. I said I did not. I had always been taught that *all plants were male, and that the earth is the mother*, and that the reason why some were barren was because the pollen was not mixed from one flower to others, and that this was done by bees or other insects, or by the winds. A stalk of corn growing by itself will produce no corn, or is not likely to, because there being no bloom of its kind except its own, and its own likely to be blown past the cob, intended for the corn, the result will be an abortive ear.—W. J. P., *West Chester*.

The italicizing is our own, because the sentence involves a philosophical question of which we may have something to say on a future occasion.—ED.

OUR PARIS LETTER.

Farming on the Continent of Europe.

Correspondence of THE LANCASTER FARMER.

PARIS, June 12, 1875.

FRAUDS IN COMMERCIAL MANURES AND A REMEDY.

Independent of all the facilities that exist for obtaining the aid of analysis, and of the official warnings and punishments, the frauds in commercial manures were never so rampant as now. They increase in proportion to the demand for fertilizers. This state of things can only be attributed to the inability of farmers to emancipate themselves from dependence on local dealers, so that the efforts being adopted for farming societies, to collectively guarantee the purchases of members from responsible manure agencies, must have everybody's good wishes. The plan ought to be as beneficial as farmers' clubs insuring their own live stock, and their crops against hail storms. Agriculturists are commencing to learn that there is no manure veritably complete in itself; even guano must have a complement in the case of certain soils. The best plan is for the cultivator to have recourse to various manures; the wise merchant never puts all his goods in one ship, nor the market man all his eggs in the one basket. In the North of France, where nitrate of soda has been employed five years in succession, it has finished by exercising no influence at all on the production of beet. Analagous results are to be witnessed in Vaucluse, where the use of oil cake as a manure has ceased to be advantageous in the production of the chief crop of that region, namely, madder. When one makes use thus of an unique manure, the food of plants presents itself no more in that total of immediate principles that vegetation demands from the soil. Neighborjng farmers club together to purchase costly machines; now a very useful machine in connection with the foregoing remarks, has appeared lately at shows, being destined to mix and grind artificial manures. The farmer buys the raw materials pure, mixes them on his premises, and in proportions suited to his land. The machine can be either worked by the hand, or turned by a connecting strap to a steam engine or horse round, and the teethed cylinders revolving in a wooden receptacle can be graduated so as to reduce the mixture to a fixed degree of pulverization. Bear in mind that science and practice recommend the presentation of artificial manures in the most impalpable form, in order to produce immediate effects on a crop. Many French agriculturists, who contract for stable, &c., manure in the cities, in order to lessen carting, deposit the loads on the headlands of the fields where it is intended to be employed; a layer of earth two feet deep is placed as a base, and the heap is also coated with the same. The rain is thus excluded and the valuable products of fermentation secured.

SHEEP FARMING FOR WOOL AND MEAT.

In the question of sheep-farming, many farmers are inclined to hunt two hares at once; that is to say, desire to have both wool and meat at the same time. For France, nothing is clearer than that the preference ought to be given to the precocious production of meat. Often there is only Hobson's choice, as the production either of wool or meat depends on soil and climate. For example, sheep with wool, fine and full, like Merinos, do not succeed on poor and humid soils; in all seasons they demand a good supper and a good bed, to nourish and develop their beautiful fleeces. Further, fine wool breeds have want of a dietary more succulent and choice than those intended ostensibly for the butcher, the latter possessing simple habits, and a facility for being reared. M. Mayre, an eminent sheep farmer, contrasts the profits of rearing merinos for their wool, and southdowns and their crossings for their flesh. Taking one of the former, he shows that during four years, at the end of which it will be slaughtered, the net value of the wool for that period is 74 francs, and the meat and offal, 102 francs, or a total of 176 francs. In the case of the Southdown, sold to the butcher at two years, the total wool produced is 17 francs, and the meat, &c., 118 francs, making a total of 135 francs, or for four years, with two Southdowns, 270 francs; showing a difference, as compared with the Merinos' net value (176 francs) of 94 francs. Thus, taking a base of four years, the profit is in favor of rearing and fattening two Southdowns during that period, rather than one of the best fleeced Merinos. Then, as meat sells at nearly the same price as wool, profits are more promptly realized.

FORAGE-PLANTS—BUCKWHEAT—HUNGARIAN MOHA —ITS CULTIVATION.

The dry spring and the present continued drought, have seriously affected the yield of forage plants. As last season, there will be a great scarcity of fodder, but farmers are now resorting, before it is too late, to sowing substitutes. The short supply of food comes, unhappily, after a winter where most animals, "to be saved," had to be put on short commons, the owners calculating on spring for a supply of succulent food. Buckwheat is a favorite. It can be sown up to the early days of July, and thrives on poor soils, only partially manured. The earlier buckwheat is sown, the better will be the straw for forage. Weight for weight, the grain has double the nutritive value of hay. Hungarian moha has many admirers; it belongs to the grass tribe of plants, vegetates with great rapidity, and victoriously supports drought. In two months, when not intended for seed, it can be cut. It suits average soils—if sandy or calcareous, so much the better, and a slight dusting of a commercial manure will work wonders. Horses and cattle relish it, but its stems are too hard for sheep. If cut before flowering, it will push forth a vigorous aftermath, making excellent pasturage. It can be sown as late as the middle of July, and later, even, if intended to be consumed green. The seed is very fine and light, and requires to be mixed with ten or fifteen times its volume of fine sand before sowing. Three pounds of seed are sufficient per acre, and many sow double the quantity. The soil being well pulverized, and the guano, &c., scattered, the seed is then sown and harrowed in by means of a thorn-bush harrow. Poultry like the seed, and horses the stems after being threshed. In France moha succeeds best when near the sea. Buckwheat, when intended as forage for horses, is generally sown mixed with oats and barley—the former above all—and with white mustard when intended for cattle. Given abundantly to sheep, buckwheat afflicts them with giddiness, their ears and head become swollen, and they cannot bear the rays of the sun.

UTILIZING DAMAGED FODDER.

These interculary or stolen crops do not supersede the culture of maize, where circumstances suit, of its consumption and preservation in pits in a green state for winter and spring feeding. Nor should it be forgotten, that in the case of damaged fodder, of hard or large stems, of potatoes, beet, turnips, Jerusalem artichokes, cut and mixed with chaff, colzapods, chopped straw, watered with a solution of salt or oil cake, and allowed to ferment 24 hours in summer, and 36 in winter, form a mash that live stock will eat with avidity. In the east of France the best agriculturists largely cultivate Jerusalem artichokes. The stems are as much appreciated as the roots, and horses receive as many as twenty pounds of the latter daily.

IMPORTANCE OF GOOD FEEDING.

In the feeding of cattle, as a general remark, it is well to bear in mind that under-feeding is a mistake. Animals ought to be considered as machines, which transform into divers products the aliments they consume; their keep will be most lucrative, in proportion as they best utilize, at least expense, the matters given them to transform, either into meat or milk. Good feeding is essential in the case of well-bred animals, to maintain their vigor, precocity, and special aptitudes, otherwise they will be only so many costly machines for producing manure.

THE MANUFACTURE OF DUTCH CHEESE.

France imports largely Dutch cheese, familiarly called "Moors' heads;" these alone resist long voyages on sea and in warm climates. Experiments are now being conducted to prepare this kind of cheese in Auvergne, which in point of milk-produce, very much resembles Holland. The fatty matter which cheese contains, and that imparts to it its fine and savoury taste, is at the same time the most active cause of its decomposition. In Holland the milk is partly skimmed, more of the fatty matter escapes in the breaking and drainage of the curd, and the rest exudes during the pressure. To eliminate all cream is the secret in the preparation of Dutch cheese; and the salting of it during ten or twelve days, the use of luke warm brine baths, coating it with linseed oil and a color, to give it a crust, and well drying it in airy rooms, complete the preparation. According to the learned M. Pasteur and other chemists, milk coagulates from the presence in grand quantity of microscopic beings.

CAUSE OF THE LAYING OF CORN.

The laying of corn from natural causes is attributed to a bad organization of the the woody fibre, which induces a weakness in the stem. The experiments of Koch confirm this view; he has shown, that the absence of light produces a lengthening of the stem and its cells, at the expense of their thickness. Such was what he detected when rye stems were covered either in whole or in part by earthen tubes, and this weakness was most perceptible, about the lower part of the second knot in the stem. The absence then, or feeble presence of silica in the stem is not to be considered as the cause of the weakness; too rich manuring produces the same effect as shade by augmenting precociously the foliage and thus shade; and similarly may be explained the feebleness of stems, in the case of thick sowing—they exclude the light.

THE CURE FOR THE VINE BUG.

The cure for the vine bug has not yet been found, but it would be wrong to assert no progress has been made. The whole matter is in a state of continued experiment. The sulpho-carbonate of potassium, as recommended by the celebrated chemist, Dumas, to be applied in a state of solution, could not be carried into practice, the quantity of water required being too great. Dumas now suggests the employment of three parts of Peruvian guano, one of well burnt gypsum, and one of the sulpho-carbonate, mixing the first two well, before adding them to the latter; the paste which is formed can be pulverized readily after the lapse of 24 hours. Two cwts., of the mixture will be enough for an acre, and the portion for each vine ought to be placed at the depth of seven inches in the soil, selecting moist or threatening weather for the purpose. All this has yet to be tested on the large scale.

THE CLOVER AND LUCERN PESTS.

In the south of France, and in Spain, clover and lucern are severely attacked by a small black insect, called *colaspe*, which eats the leaves. In the early morning a trough moving on wheels, and putting in motion a light thin board, by means of a connecting belt, is pushed over the field. In its passage this board or fan gently shakes, without breaking them, the leaves and stems, so that the bugs fall into the trough, out of which they are taken and burned, or killed with boiling water. To destroy that terrible weed, meadow saffron, eradication, plant by plant is the only remedy.

OUR LOCAL ORGANIZATIONS.

Proceedings of the Lancaster County Agricultural and Horticultural Society.

The time for the regular monthly meeting of this Society having fallen on the day for celebrating the ninety-ninth anniversary of our National Independence, there was not a quorum of members in attendance, and consequently no meeting was held. We however occupy the space usually allotted to their proceedings with the excellent address delivered by Simon P. Eby, Esq., at the June meeting, on the Characteristics of Farmers and Farming, and the evil arising from the general desire on the part of young men to avoid this honorable and independent position in life. This address contains many excellent suggestions of a practical nature, and we commend its careful perusal to our readers.

Farmers and Farming, and Farmers Sons.

Mr. President and Gentlemen of the Association: Four years ago I had the privilege of addressing you on a subject not strictly horticultural. It came, however, at an opportune moment, as the community seemed to be ripe for its reception. And the faint note then uttered found a ready response. A number of our most humane citizens formed an association, which has since relieved a great deal of suffering and prevented much abuse of our domestic animals.

The subject to which I desire to call your attention to-day relates more directly to the agricultural and horticultural welfare of our county, and if I succeed in awakening half the interest I did on the former occasion, I shall consider myself fortunate.

I refer to the growing tendency of young men, particularly farmer's sons, to leaving their homes and farms in the country to engage in the already crowded occupations in the towns and cities. This tendency I believe to be the result of a mistaken idea that farming has become less respectable than other business pursuits; a distaste for manual labor, and,

that after a young man has acquired somewhat of an education he is no longer fitted for a farmer, but for something better, by which he can make money faster and easier. All of these notions are radically wrong, and the sooner they are corrected the better.

First, as to its respectability. I venture to say that farming is an honorable, if not the most honorable of all occupations; because it lies at the foundation of all others. There is no pursuit, trade or profession that is not dependent on it. All live off the farmer. The soil will not produce sufficient without culture. Stop farming and mankind will have to return to savage life and subsist by fishing and hunting.

Farming is honorable because it is an honest occupation. When I say *honest* I mean that it produces—adds something to the common stock and common wealth of the community, besides feeding itself—causing blades of grass, ears of grain, clusters of fruit to grow where none grew before.

The manufacturer and artizan add wealth only by converting the raw materials into articles of usefulness, while the merchant and professional man are, strictly speaking, non-producers—mere assistants, helpers, and some of them not even that.

Again, farming is honorable because it is the great parent of civilization. Without it there could be no civilization, for the reason that a civilized community could not exist without being in some way supplied by agricultural products. In a new country the coming of the first farmer is the harbinger of civilization, as the appearance of the first swallow is the harbinger of summer. The hunter's lodge may be built in the forest, or the trapper's tent pitched upon the prairie, yet they give no assurance of civilization, for in a few days the lodge may be deserted, and the tent folded and gone; but when you see the trees felled, the furrow turned, and the corn growing, you may be certain some one has come who means to stay; and civilization has begun, because the farmer has arrived.

Again, farming has been made honorable, if honor can be conferred upon an occupation, by its illustrious patrons. Many of our great men, who had the means, owned farms. Washington, Clay and Webster gave their personal attention to the affairs of their farms; and it is related of the latter that he was particularly fond of spending his time on his farm at Marshfield; that he took great delight in his crops, and his fine breed of cattle; that shortly before he died, when no longer able to see after his stock, he directed his cattle to be driven up to the house where he sat, that he might look once more into their honest faces and smell their fragrant breaths. His cattle knew him, and came lowing to see their sick master for the last time.

To the young man who hesitates to acknowledge that he is a farmer, or that his ancestors were such, I would say: If lesser examples are not sufficient to convince you, go to these illustrious ones; learn from the farmers of Mount Vernon, of Ashland, of Marshfield! He who led the armies of our infant republic, and earned the revered title of "Father of his country," where did he acquire the exalted patriotism, the Christian fortitude, the mental vigor, the unconquerable will, and the physical strength that enabled him to conquer the armies of Great Britain? I answer, in the country, upon the farm, in the garden, where his father taught him the first precepts of religion and morality. These grew with his youthful growth and strengthened with his strength amid the virgin forests of Virginia, and ripened into healthy manhood under the sunshine and shadows of Mount Vernon. Were the measures of Clay any less potent in the councils of the nation, think you, because they were oftentimes originated on his farm in Kentucky? Or were the speeches of Webster any less eloquent and effective because composed within sight of his waving grain fields, and within sound of his lowing cattle? If these giants of intellect, who stood in the very front of the front rank among men, and had reached the topmost round of honor and confidence, did not consider it dishonorable to be farmers, need you consider it so? Bismarck, the man who at present controls the politics of Europe, who overturns thrones and makes and unmakes emperors at his pleasure, his biographer tells us, loves to shake off the cares of State for a season, and retire to his extensive country seat, to recuperate health and strength of body and mind.

The distaste for manual labor, and aversion to work, with which many of our young men are troubled, is closely allied to laziness. It is a failing, a disease, an infirmity, which, like other diseases, must be resisted and overcome. Many a man no doubt would prefer to work less, and take the world easy, but is impelled by a sense of duty to be industrious. He will receive the reward of his obedience. Who is more useful and respected in a community than the industrious man? Who more worthless and contemptible than the loafer? The fiat pronounced six thousand years ago is in full force to-day. "*In the sweat of thy face* shalt thou eat bread;" and he that disobeys the sacred injunction pays the penalty; for it is alike true that "*idleness is the devil's workshop.*"

Again, man's physical organization is in perfect harmony with the moral side of the question. He seems to be somewhat of a vegetable, and must touch ground occasionally to preserve health and vigor of body and mind. He should occasionally smell the fresh turned soil, exercise in the open air, labor in the field, so that the pores of his skin be opened, the excess of bile thrown off, and the iron of the sun's rays let into his system.

Exercise in the open air (that is judicious exercise,) promotes health. Hence the benefit which the inhabitants of cities and towns seek, and generally find, in a trip into the country, to mountains or seashore. It is the exercise they take in the open air that does them good. And it is curious to observe that fashionable young men, who would not on any account perform manual labor, will play base ball, row boats, fish and hunt, until they come back, as tired, hungry and sun-burned as if they had been working in the harvest field. And that fashionable young ladies, who would scorn to work, will play croquet, and go pic-nicing over the hills, until they return, with dresses torn, hair dishevelled, and faces glowing with health, as if they had raked hay in the meadow, or carried water from the spring. Fashionable people consider it highly respectable to take exercise without an object, and pay for the privilege, but to combine exercise with usefulness they regard as very vulgar.

Of course it is not meant that a person should labor beyond the power of physical endurance, and to the injury of bodily health, as some do, so that the accumulations of the first half of a lifetime cannot be enjoyed during the latter half, on account of the stiffened limbs and racking pains caused by overwork.

The soil of the earth—the great Book of Nature—like the volume of Holy Writ, yields a ready return to the humblest husbandman; yet the profoundest scholar has never yet fathomed half its mysteries. The more intelligent and educated the man, therefore, the better fitted will he be for a farmer. To the young man who has received a liberal education I would earnestly and sincerely say, desert not your paternal acres. Be not deluded into the false belief that your education is not wanted upon the farm, or that you could acquire wealth and honor more rapidly in the crowded marts or professions in the city. A rich and varied intellectual, as well as agricultural field, lies open before you at home, ready for the mental as well as the steel plowshare. Hesitate not! falter not! "Put your hand to the plow and look not back."

The science of Mineralogy as to the soil you work; of Botany, as relates to the crops you cultivate; of Chemistry, as pertains to both, and the fertilizers you ought to use, will give you sufficient employment for all you have ever learned at college, to say nothing of other subjects that concern the animals with which you will be surrounded, and insect enemies you will have to fight. A wide field and plenty of opportunity to distinguish yourself, and enroll your name among the benefactors of our race. And, when old age overtakes you upon your farm, amid the golden sunlight of declining years, depend upon it he will *find you a better man*, in better health, with a clearer conscience, more respected by your neighbors, and the chances are, with more money on your farm and in your purse than if you had bartered your glorious birthright of a farmer for the feverish excitements of a city life.

For, remember, while wealth is more evenly distributed among an agricultural people, in the city dwell the extremely rich and the abject poor. Fortunes are made and lost sometimes in a day. Many venture, fail and sink out of remembrance, while the few successful ones only are held up as examples. Who can tell on which side you would be found should you venture. Even if you make more money in the city, you also spend more, and at the end of the year you would find yourself worse off than if you had remained in the country. You are liable to contract bad habits, are surrounded by temptations which if yielded to will destroy both health and reputation; the very atmosphere is full of unseen impurities, and everything you eat or drink is more or less tainted by them: whereas, in the country the air comes to you pure, filled with the spicy freshness of the woods or the sweet fragrance of meadows and grain fields. Your vegetables reach your table fresh from the garden; your milk new, rich and nutritious from the dairy; and your fruit ripe and luscious from the trees within sight of the place where you enjoy them. Even the warmest day is succeeded in the country by a temperature that will render sleep refreshing, while in the cities the night dews falling upon heated roofs and pavements are thrown off in suffocating vapors, tainted with the fumes of the filth and garbage that accumulates along the alleys and by-ways, rendering sleep next to impossible. It is true that minds are sharpened by attrition—by being brought into contact with other minds. So men sometimes go to the cities to become polished, as the diamond goes to the lapidary to be cut with the dust of its own substance. But the diamond itself is a production of the country, and like the mind must have been *formed* before it can be polished.

And now let me close with a few quotations from the gifted and learned who had tasted both of country and town:

"Now from the town
Buried in smoke, and sleep, and noisome damps,
Oft let me wander o'er the dewy fields,
Where freshness breathes, and dash the trembling drops
From the bent brush, as through the verdant maze
Of sweethrier hedges I pursue my walk.

"God made the country, and man made the town.
What wonder then that health and virtue, gifts
That can alone make sweet the bitter draught
That life holds out to all, should most abound
And least be threatened in the fields and groves.

"Here, too, dwells simple Truth; plain Innocence;
Unsullied Beauty; sound, unbroken Youth;
Health ever blooming; unambitious Toil;
Calm Contemplation, and poetic Ease."

And now in conclusion I can only wish that such of you who own farms and country seats may live long to enjoy them, and those who have none may speedily obtain them.

THE ORCHARD AND GARDEN.

Mulching.

This subject, which is gaining additional prominence every year, owes much of its unpopularity to the abuse of its application. I have in my mind's eye an instance that illustrates the damage done the system, simply by employing workmen who were not conversant with the principles involved. What could ever induce a rational being to cover the surface of an orchard two feet deep with straw, is more than the majority of fruit growers could possibly guess; and yet such was the fact. Of course it injured the trees, soured the soil, and made a capital home for all manner of injurious insects, besides whole villages of mice. The advantages to be derived from the use of mulching material may be summed up somewhat as follows: First, the desire to keep the soil moderately moist and cool. Secondly, to prevent the surface from baking hard through the combined influences of the rays of the sun and the high winds. Thirdly, as a preventive from weeds. For newly planted trees all of these are necessities; the mulch preserves the surface moist and cool, and this is precisely the condition under which young fibres are formed. It keeps the soil open and porus, another *sine qua non* for the formation and growth of young roots. That it smothers out the numerous weeds that would invariably start was the surface not protected, is a self-evident fact.

For three or four seasons past we in the Middle States have suffered terribly from the severity of the drouths, and had it not been for the beneficial effects of mulching, in many instances the losses would have been frightful. Paradoxical as it may appear, water applied as we will does not answer the purpose altogether. We need something more; shade is absolutely essential, together with an equal temperature. Nature sets us an example in this respect in the fall of snow. It is not so much the moisture contained in the covering that falls so lightly and covers up our plants so evenly; not at all. It is the adequate protection afforded the roots, that no matter how severe the succeeding weather may be, these are preserved cool and unchangeable so long as the snow shall last. I know not of a more beautiful illustration in horticulture than this lesson that nature vouchsafes to teach us.

The material that should compose our mulch differs with the plants to be protected, as well as with the season when it is applied. We may rest satisfied, however, that all green or unfermented substances are deleterious in their nature, and not unfrequently do more harm than good. We occasionally hear of instances, however, where such have been used with good effect—as, for example, the use of turnip-tops for mulching strawberry beds. Still the principle is bad, and should be discouraged. Heat and moisture engender decomposition in green vegetable tissue, and the heat consequent upon rapid decomposition is very injurious to plant life, when placed in immediate juxtaposition therewith. It calls into active life innumerable forms of fungoid structure, many of which are the forerunners of disease, and all are deleterious in their effect upon the health of the higher orders of vegetation. It forms a proper hot-bed for the propagation and dissemination of millions of insects, the greater portion of which damage the roots and bark of our trees and plants. And lastly, it imparts a sour and saddened character to the soil beneath, which must affect the well-being of the plant.

What are the best materials to be used is not so easily answered, although there are some things like spent tank-bark that really seem adapted to almost all manner of plants. The healthiest pear-trees I ever saw were kept constantly mulched with a good thick coat of this, and each autumn a slight sprinkling of well-rotted manure was scattered over the surface. Tank-bark is applicable to most kinds of growing plants, from the largest orchard trees to the strawberry beds in the garden. Straw, not too long, and pliable, cannot well be excelled. It is clean and affords a pleasant shade, devoid of any deleterious effects. Hay I do not like, unless very coarse, and green grass kills more than it cures. Manure should never be used in a fresh state, although such is occasionally resorted to around large trees.

Plants in pots—that is the ordinary varieties usually grown for this purpose, including roses—are

greatly benefited by a slight mulch of old hot-bed manure. And conifers, too, show the effect of this fertilizing covering by an increased color and a more vigorous growth. Bright straw is after all the best covering for winter vegetables, such as spinach, lettuce, cabbage, etc. Leaves are excellent for most things, but not around young evergreens. I have seen whole beds of these entirely destroyed by the compact mat which leaves form by spring, and this preventing a free circulation of air, kills the plants in many instances. The subject may be summed up in a few words. After planting, most forms of vegetable growth are benefited by mulching; during dry seasons everything enjoys it to a moderate extent. The number of trees and plants that have been saved by this process is beyond our calculation. Then why not apply the remedy more extensively?—JOSHUA HOOPES, *Chester Co., Pa., in N. Y. Tribune.*

"The Way to Cultivate Flowers."

Under this caption Mr. S. E. Todd thus writes to the *Practical Farmer:*

"Flowers of all sorts like a rich and mellow soil. If the ground is heavy, adhesive, and inclined to be wet, the surplus water must be drawn away through drains. Then fine chip-manure, old saw-dust, half-decayed tan-bark or fine mold from the forest, must be worked into the soil. At the same time, fine scrapings from the barn-yard, or even street dirt will be found excellent in preparing flower beds. Sifted coal ashes in generous abundance will render the soil light, and will also improve the fertility. It is an excellent practice, also, to collect a few bushels of fine coal dust—the finer the better—also, iron turnings, iron filings, and the sweepings of blacksmith shops and iron foundries. By supplying growing plants with iron filings, sand and potash, or soap suds—which will subserve the same purpose as potash—blossoms will be developed of a more velvety appearance and of deeper hues than can ever be produced if the substances alluded to are scarce in the soil. Where the ground is naturally heavy, like the geological formations along the slopes of many of our northern lakes, a great deal of coarse manures, leaves, chip dirt and such like, needs to be worked into the flower beds until one can dig up the surface with a small hand fork or transplanter. There is no secret in the successful cultivation of flowers of any sort. Success will depend mainly on the judicious exercise of more common sense than scientific knowledge. Still in the scientific and literary world, the person who can pronounce the longest and most unintelligible botanical names, and tell over the origin, the habitat, and prominent features of a worthless plant, is usually accounted a more eminent florist than he or she who is possessed of sufficient skill to prepare a congenial seed-bed, put in the seed properly, and rear fully developed plants having many colored petals in all the gorgeous beauty of the rainbow."

While the specific directions which Mr. Todd gives are in the main correct, from his standpoint, they would get the amateur flower-culturist into trouble, and lead from one failure to another if followed indiscriminately. What he says about improving heavy adhesive soils, inclined to be wet, is practical common sense, and when followed in such soils will lead to success; but the amateur who follows this advice in light alluvial soils may get himself into trouble. The writer of this has had such experience in a garden of exceedingly light soil, being from two to three feet deep, and as mellow as an ash-heap. Plants once started grew luxuriantly, our castor oil plants (*Ricinus*) and other strong feeders growing to a prodigious size. But the greatest difficulty was experienced in getting seedlings and other young plants established. Two years ago we acted on the reverse of Mr. Todd's advice, and added several loads of tenacious *clay* to the loose soil, which being thoroughly mixed, greatly improved its quality for growing seedlings. It is still too light for successful floriculture, and ought to have as much more clay incorporated with it. In this, as in all other matters relating to farming and gardening, the more one exercises his judgment and observation, in applying rules, the more successful he will be. And we are surprised that a man of Mr. Todd's experience and ability as a writer, should lay down general rules without guarding his readers against such an important exception to their application as we have pointed out.

The Care of Lawns.

In his address before the Alumni of Rutger's College, Rev. Dr. Appleton, in speaking of the antiquity of Oxford College, said, it is stated that a visitor to Oxford was once greatly charmed with the remarkable richness and verdure of the turf. Inquiry was made of the college porter as to the cause of this richness and beauty. The reply was that this result was obtained by giving to the turf close personal attention three times a week for eight hundred years. Whether this was literally true or not, it illustrates the importance of frequent mowing of lawns to give them a close velvety turf.

THE POULTRY YARD.

The American Poultry Association.

At a recent meeting of the Agricultural and Horticultural Society, some of the members suggested the policy of organizing a local Poultry Association, for the dissemination of correct information in regard to breeds and culture. We have no doubt that such a society could be invested with much interest and be productive of mutual advantage. In view of this suggestion, the following circular may be of interest to some of our readers:

To the several Poultry Associations of America, and to Individual Fanciers: The Executive Committee of the American Poultry Association will hold a meeting during the month of the ensuing August, and will doubtless take steps to put into practical operation the plan which was adopted at the recent Convention of the American Poultry Association, of *appointing qualified persons to act as judges* of the different varieties of domestic fowls that are now recognized in the American Standard of Excellence.

As this is a question of genuine interest to breeders and fanciers, the Executive Committee particularly desire the hearty co-operation of all poultry societies, as well as of individual fanciers throughout the continent, and especially invite all organized societies to call special meetings without delay, to take prompt action in the selection of such persons as they may confidently believe to be fully competent to act as judges of the several varieties of fowls that may be submitted to their judgment, and to forward such names at once to Mr. E. S. Ralph, Secretary of the American Poultry Association, Buffalo, N. Y., after learning that parties, so chosen, are willing to accept the responsibilities of such preferment.

It is proper to add that the A. P. A. will feel constrained, through a sense of deference and responsibility to breeders and fanciers, to act with great caution in the matter of appointing judges, so as to avoid mistakes that might prove fatal to the system which they are solicitous to see successfully inaugurated; and they believe they will be sustained in critically scrutinizing the merits of all nominations for judgeships before deciding upon their acceptance.

One of the prerequisites that will be particularly insisted upon, will be that *judges must put aside all personal prejudices and considerations, and render their decisions in compliance with the impartial demands of the American Standard of Excellence.* And it will be deemed essential also that any person applying to the Executive Committee for the position of a judgeship, and who may not be personally known to the said Committee to possess the necessary qualifications, shall have his merits so well authenticated, by acceptable recommendations, as to satisfy the Committee that the applicant is worthy of the place which he aspires to fill.

Blank applications will be forwarded to such persons as may desire to become judges, on application to Mr. E. S. Ralph, Secretary of the American Poultry Association, Buffalo, N. Y.—CHARLES A. SWEET, *President A. P. A. Buffalo, N. Y., June* 19, 1875.

Management of Sitting Hens in Hot Weather.

In order to obtain the best results in hatching chickens at this season of the year, it is advisable to follow nature as much as possible in the construction of nests intended for sitting hens. It has transpired that the natural place for a hen to select for her nest in which to deposit her eggs (from which, after weeks of patient brooding, she brings forth her downy little ones), is upon the bare earth. By that wonderful gift called instinct she is impelled to choose a secluded spot, often beneath a brush heap, hay barrack, or some such place where the ground is always shaded, hence always moist. Where is the fancier who cannot recall instances of this kind, of hens that were annually in the habit of stealing their nests under the barn, or somewhere out of the reach of meddlesome urchins, and who rarely, if ever, failed to bring forth from a dozen to fifteen strong, healthy chicks? Then grandmother would say, "Hens allus do best when they steal their nests and sit themselves." Somehow we never could agree with the "Old Lady" on this point, but we often had to acknowledge our defeat, when, after an absence of three weeks, a hen would come proudly marching up to the door surrounded by her numerous progeny.

After many failures, we at last learned two things: first, that the hen was a "breeder." By this we mean that all hens are not suitable for breeding, and their eggs are often sterile, but a hen that is inclined to steal her nest is in a healthy breeding condition, and will court the attention of the cock, and every egg will as a rule be found fertile, and if they could be found and set under another hen, would hatch just as well under favorable circumstances. The second thing that we learned was, that the hen invariably chose a rather moist, damp, or shaded place, on the bare ground; therefore, in making your nests for sitting hens at this season of the year, make them on the bare earth, if possible; if not, fill a box of the proper dimensions two-thirds full of damp earth, make a slight depression or hollow therein, then cut a sod to fit, and set your hen upon that. I do not pretend to say that eggs cannot be hatched otherwise, but I think better results may be obtained by the above plan.—W. E. FLOWER, *Shoemakertown, Pa., in Poultry Exchange.*

Hatching Eggs.

A correspondent of the *Canada Farmer* has the following to say in regard to the hatching of eggs:

The number of days required to hatch the eggs of poultry is twenty-one, but this time may be considerably increased in cold weather by an inattentive sitter. Something, too, depends on the state of the eggs when set; stale eggs will require longer time to hatch than fresh ones. Hamburgs not unfrequently hatch out on the twentieth day. Turkey eggs require from twenty-six to twenty-nine days; Guinea fowl, twenty-five to twenty-six, and sea-gull twenty-eight to thirty days. Pheasants hatch on the twenty-fourth or twenty-fifth day, and partridges the same. Ducks hatch on the twenty-eighth, and geese on the thirtieth day. In warm weather, and if the hen be a close sitter, a day or two in some cases may be gained on this time. We have had hens that would never leave the nest until removed, and even then scarcely take sufficient time to eat enough to satisfy nature; but we have not found such very close sitting produce chickens any quicker than did the hen which took a reasonable time off the eggs once in every twenty-four hours.

Another, writing to the *Western Rural* on the same subject, says:

I am an old chicken breeder, having forty years' experience, and I know that often chickens never see daylight until the shell is broken, and very often not then. Who that has raised many chickens does not remember finding chicks with all the outer shell chipped away by the mother, while the chick was still enveloped in the inner membrane of the egg, often alive, often dead? This thing often happens in very dry seasons. Last summer, for instance, I saved many chicks by breaking the egg myself, knowing the period of incubation was past, from the fact of most of the other eggs being hatched, and by strict care observed in setting the hen, every egg being dated when laid, etc. I had more than twenty chicks skin-smothered last summer. I think, from observation, the chipping belongs to the chick, the shell breaking to the hen.

How to Fatten Fowls.

I have not so much experience with poultry as with some other things, but I will give my way of fattening fowls: The first care should be to allow them as little room as may be—just enough for the number to stand up, but not enough for anything like exercise. If six are allowed the same space that would serve for a dozen they will not fatten as soon or as readily; therefore, a space for the fattening coop should be divided off, and thus allow them only room enough to stand. The food for the fowls intended to be fattened should be ground oats mixed with skimmed milk. This feed should be given three times a day, and mixed to such a consistency that when it is spread upon a board it will not run off. I have fed corn and oats with good results. If fowls are fed with regularity, no cramming is needed. They will fatten in several weeks time. When fed on corn alone they will not fatten as well as on the food I have recommended.—*Practical Farmer.*

Sit and Set, Lay and Lie.

The two words "sit" and "set" are too much mistaken for each other. When a grammar class is asked for the first time if it is right to say "hens set," "court sets," one-half of them perhaps will vote one way and the other half the other. The court means the judge or judges; the judge sits, the court sits, the jury sits, hens sit, birds sit. "Setting hen" is wrong; hens are not "setters" or pointers. Set requires an objective case; we set a chair, but we sit in it. There is a similar difficulty in the use of "lie" and "lay." In families whose hens "set," everything "lays," and all "lay abed." The quoted words are wrong. Lay means to place, and requires an objective, as the "hen lays eggs," "Now I lay me." We should say the book lies on the table; he lies abed; lies low; everybody lies, if you please, but nobody lays unless he has something to lay.

Bone Meal for Poultry.

I never knew the value of bone meal for poultry until recently. I purchased a sack, and I was surprised to find how well they liked it, and the effect it had on the eggs. I have no doubt that it makes strong bone in the fowl. They must have something to make bone and shell, and I believe that coarse-ground bone is just what they need. It is best to keep it before them in a narrow trough or box, near the wall, so they cannot scratch it out, and can help themselves when it is wanted.—*Poultry Nation.*

THE POULTRY INTEREST has become one of great importance, and we shall be pleased to have practical suggestions on the subject from any of our readers who are posted in the details of Gallinoculture.

THE FARM AND THE DAIRY.

Frauds in Commercial Fertilizers.

As will be seen by our Paris letter, the adulteration of commercial manures is attracting much attention in Europe as well as in this country. It was the subject of a lively discussion at the last meeting of the Farmers' Club of the New York American Institute. The subject was brought to the attention of the club in a letter from Mr. Conrad Nilson, of Stoutsburg, N. Y., who said that among the numerous important facts presented at a late meeting of the club is one that cannot fail to arrest the notice of American farmers. It was stated by Mr. Scoville in his excellent paper on "Experiment Stations in Europe," that the results obtained from feeding experiments at a single station in Prussia had been worth more to the farmers of that country than the entire cost of all the stations up to that time. This was stated on the authority of the Minister of Agriculture, and leaves no room to doubt the fact or to undervalue it. But even this fact, immense as it seems, is only a partial indication of the real utility and value of such stations. Besides the new and recent facts developed in regard to feeding, these institutions are also continually shedding new light on the other questions and especially on the relative value of commercial manures and on the frauds practised by the venders of them. This question of adulteration of fertilizers is growing in immense proportions and can no longer be neglected with impunity. Commercial fertilizers having a value of less than $3 per ton have been sold in the market for $60. So states the *Northeastern Farmer* on its own personal knowledge, and there seems to be, in fact, no end to the vast and systematic swindling by which farmers are robbed without limit and without shame. Now, if the establishment of experimental stations in this country would have the same effect here as abroad; if, along with its other benefits, it would lead to the extirpation of this nefarious traffic; if it would drive out from the presence of honorable men the vile swindlers who have so long polluted the channels of trade that suspicion is beginning to rest even upon honest goods and truthful men; then, I say, let us have these stations at the earliest moment, for the benefit to all parties would be greater than any of us now realize. Let us have at least one of these establishments in our own State, and we may be very sure that others will shortly follow.

H. E. Colton said that he accidentally learned that the Peruvian government having been aroused by the notice of frauds in their guano authorized their agents to manipulate the guano so as to make it even in quality and the phosphoric acid soluble. They are also now allowed to sell in the open market instead of as formerly by cargo alone. These gentlemen are erecting machinery and will soon furnish an article of Peruvian guano guaranteed always forty per cent. nitrogen and ten per cent. soluble phosphoric acid.

The Largest Farm in the World.

This is rather a large claim to make, even in this country, where real estate lies around in parcels of considerable size, but according to the St. Louis *Republican*, it may be fairly applied to the estate of Mr. George Grant, founder of the Victoria colony, in Kansas. His farm embraces the entire county of Ellis, is larger than any dukedom of Europe, and contains 576,900 acres. Mr. Grant devotes himself principally to stock raising, and has accomplished a great deal by the introduction of the best blooded stock and exhibiting the best methods of rearing, feeding, and improving the foreign and domestic breeds of horses, cattle, and sheep. He has just wintered 7000 sheep, with a loss of less than one per cent., the secret of his success lying in providing good shelter. He is the owner of the thoroughbred stallion Flodden, valued at $25,000, the father of which won the Derby race in 1860. He has just purchased for his farm thirty odd brood mares in Ohio, Virginia, and Kentucky, and he has $250,000 invested in stock. Among the large number of resident colonists and stock-raisers who have purchased land of him, and are now raising stock in Victoria Colony, are many young men of prominence, both in this country and England. The Hon. Walter Maxwell, younger son of Lord Herries, of Everingham Park, Yorkshire, England, owns two sections, and is comfortably settled down to the healthful life of the ranchero. Then there are three bachelor sons of a Derbyshire clergyman, and the nephew of the Earl of Winchelsea, who is now on his way over from England to take up his home there. Two nephews of Mayor Guthrie, of New York City, and two young Shields, of Boston, are also among the number.

Making Butter in Winter vs. Summer.

At a recent dairymen's association, O. F. Pixley, of Oakland, thought making butter in the winter the most profitable. He uses a square box churn, with a shaft running through the centre; churns fifteen minutes; had rather churn a half hour, because he thought quick churning injured the grain of the butter. He does not wash his butter, and uses Ashton salt, and when salted sets away twenty-four hours; it is then taken and worked till brine comes clear. The butter is then packed in small packages and shipped. The lowest rate at which he sold the past winter was thirty-five cents. He thought in that section every farmer should engage in dairying. It is the safest and surest, and he does not think it can be overdone. He had noticed that in his own case he had never been able to meet demands against him with the ease that he had since he went into dairying. He took milk to the cheese factory in the summer. He colored his butter with carrot juice, and fed clover hay, sugar beets and bran in the winter. He raised 800 bushels of beets and 150 bushels of carrots on 149 rods of ground at an expenses of $25. The net price for butter during the winter was about thirty-two cents per pound, and he realized on twenty cows last season, including calves, $50 per cow. He believed strongly in feeding bran and in high feeding generally.

MISCELLANEOUS.

The Culture of Peppermint.

At a recent meeting of the Farmers' Club of the American Institute of New York, Dr. E. Ware Sylvester, of Lyons, New York, read an excellent paper on the culture of peppermint, which contains much interesting information new to us. Dr. S. said:

"In Wayne county we raise about $500,000 worth annually. Let not the unsophisticated for a moment suppose that we thereby increase enormously the consumption of mint juleps, for it is with great pleasure that I inform him that mint juleps are made from spearmint and not from peppermint. Since 1871 the price of peppermint oil has fluctuated from $2 to $6 per pound in our market at Lyons. In 1874 I planted five acres, which yielded thirty pounds per acre, and sold for $5.11 per pound, amounting to $766.50, or over $150 per acre. The latest quotation in village papers was $5 per pound. Since the publication of my paper on the cultivation of mint I have received from numerous persons these questions: Where can I procure the seed? Do you plant the root, the stem, or the seed? It is these questions which I now propose to answer. I have no doubt that peppermint may be grown either from the root, stem or seed, but the most desirable portion of the plant is the rooted runner from last year's growth. Perhaps you will be enabled to understand me better if I detail the production of this 'rooted runner.' For instance, in the spring I plant an acre of mint roots. These grow, are kept free from weeds, and in July or August the tops have grown from one to two feet high, and when in blossom the tops have been mowed off and converted into peppermint oil by distillation. About this time small shoots or runners are seen growing from the neck or collar of the mint and remaining on the surface of the ground. These runners take root and each for himself becomes a living plant, though still clinging to his mother's breast. It is these plants, full of life and vigor, which you must plant if you would grow mint successfully. I once planted seven acres with these runners in November, and the mint was as productive as other mint in the same field planted in the spring, but the general practice is to plant the runners in the spring. Just at this juncture comes the important question. How shall we protect these infant runners during our cold and often inclement winters, so that they shall possess sufficient vitality to be separated from the parents and commence a vigorous, productive existence in the new field to which they are removed? If snow falls on the ground before it is much frozen and remains on until spring, covering the runners with a white, soft blanket, they will come out of the winter as bright and smiling as a tottering infant; but if, as too often happens, we have severe weather, without snows, and the ground is frozen a foot or more in depth, fierce winds sweep across your mint field, and in the spring they look brown or black, their young rootlets are dead and they are unfit for planting. How shall we obviate the effects of the winter and have fresh, healthy runners? I answer by relating my own experiments. Last autumn I divided my new mint fields into three unequal sections, which I numbered 1, 2 and 3. Section No. 1 was ploughed in November very carefully about five inches deep, the surface laid flat and not lapped, so that the runners were by this process covered with soil about five inches deep. Section No. 2 was covered to the depth of five or six inches with buckwheat straw early in December; the straw was spread evenly from a wagon driven over the field and was not pressed down or rolled. Section No. 3 was left unprotected in any way; just as the runners grew so they were left to care for themselves during the very severe winter which has just passed.

The result was that the runners on the section covered with straw came out in the spring bright and healthy; those left without any attention were the next best, and many of them used in planting; while section one, which was ploughed over, was very much injured by the winter, and none of the runners were used in planting, but they have come up through the soil to some extent and now promise a fair crop of oil this season. The method of ploughing over is not always so successful. In some seasons the very best results are obtained by this plan. It depends much upon the nature of the soil and the vagaries of the winter. I am of the opinion that a light covering of straw is the best method, and that wheat or rye straw will answer as well as buckwheat; what is wanted is some light application on the surface of the ground to hold the light snows, if there are any, and practically protect the young rootlets from severe cold. But, the novice asks, why the anxiety about roots; after you have planted a field can you not mow the mint year after year, as we do meadows? I answer no; the mint is usually cut for two years and then replanted; in very rare instances three crops are gathered. How many roots do you plant to the acre? This is a fair question, and I should much prefer to answer it than count the runners we plant on an acre. When the runners are numerous and well rooted, and all alive, from ten to twenty square rods will afford sufficient for one acre; hence you perceive, then, one acre of runners will plant from eight to sixteen acres of new mint. But if I were so situated that I had to transport my roots to a great distance, then I would mark off an acre in furrows of three feet each way and plant in the crossings. This would require about 5,000 plants to the acre; and then the next year would plant my new field, using the runners from twenty square rods in each acre. There is money to be made by growing peppermint when the oil brings in the market over $3 per pound, if every detail is well managed; and it has this positive advantage—it does well on and utilizes soil that is too wet for the successful cultivation of corn or wheat.

Utilizing Water by Irrigation.

The frequent failure of certain crops, especially strawberries, by excessive drought, suggests the western plan of irrigation, where immense crops are raised by this plan. There are many farmers and gardeners in the east who could so manage small streams at their convenience to supply the deficiency of the clouds, and it would pay them handsomely. Indeed, to have water at hand just when wanted would often save an entire crop. The western folks use their water in a very simple manner. The little stream is brought on a level along the hillsides, giving it the appearance of "running up hill." Then it is carried across hollows or round them; wooden troughs being used when the water is too scant, or the soil too sandy to forbid waste. When there is a tract to be irrigated the water is brought to the highest points and run across in the trough on a dead-level, so that the water will course down hill. In this, every few feet, holes are bored through which water can run when wanted, and be stopped by a plug when not.

Some suggestive facts on the general subject of irrigation were given in Mr. Diffenderfer's excellent paper on "Irrigation in the Valley of the Rio Grande," in the April issue of THE FARMER. There the farmers must depend altogether on irrigation for their crops, and have necessarily reduced it to a complete system.

DOMESTIC ECONOMY.

How to Can Fruit.

The principle of canning fruit should be understood in order to work intelligently. The fruit is preserved by placing it in a vessel from which the external air is entirely excluded. This is effected by surrounding the fruit with liquid, and by the use of heat, to rarify and expel the air that may be entangled in the fruit or lodged in its pores. The preservation does not depend upon sugar, though enough of this is used in the liquid which covers the fruit to make it palatable. The heat answers another purpose; it destroys the ferment which fruits naturally contain, and as long as they are kept from contact with the external air they do not decompose.

The vessels in which fruits are preserved are tin, glass and earthenware. Tin is used at the factories where large quantities are put up for commerce, but is seldom used in families, as more skill is required in soldering than most persons possess. Besides, the tins are not generally safe to use more than once. Glass is the preferable material, as it is readily cleaned, and allows the interior to be frequently inspected. Any kind of a bottle or jar which has a mouth wide enough to admit the fruit and which can be securely stopped, positively air-tight—which is much closer than water-tight—will answer. Jars of various patterns and patents are made for the purpose, and are sold at the stores. These have wide mouths, and a glass or metallic cap, which is made to fit very tightly by an India-rubber ring between the metal and the glass. The devices for these caps are numerous, and much ingenuity is displayed in inventing them. Dr. Yeomans says, "we have used several patterns without much difference in success, but have found there was some difference in the facility with which the jars could be opened and closed. The best are those in which atmospheric pressure helps the sealing, and where the sole dependence is not upon screws and clamps." To test a jar, light a slip of paper and hold it within it. The heat of the flame will expand the air and drive out a portion of it. Now put on the cap; when the jar becomes cool the air within will contract, and the pressure of the external air should hold the cover on so

firmly that it cannot be pulled off without first letting in air by pressing aside the rubber, inserting a pin under it, or by such other means as is provided in the construction of the jar. When regular fruit jars are not used, good corks and cement must be provided.

Cement is made by melting 1¼ oz. of tallow with 1 lb. rosin. The stiffness of the cement may be governed by the use of more or less tallow. After the jar is corked, tie a piece of stout drilling over the mouth. Dip the cloth on the mouth of the jar into the melted cement, rub the cement on the cloth with a stick to break up the bubbles and leave a close covering. The process is as follows:

Everything should be in readiness, the jars clean, the covers well fitted, the fruit picked over or otherwise prepared, and cement and corks, if these are used, at hand. The bottles or jars are to receive a very hot liquid, and they must be gradually warmed beforehand, by placing warm water in them, to which boiling water is gradually added. Commence by making a syrup in the proportion of a pound of white sugar to a pint of water, using less sugar if this quantity will make the fruit too sweet. When the syrup boils, add as much fruit as it will cover, let the fruit heat in the syrup gradually, and when it comes to a boil ladle it into the jars or bottles which have been warmed as above directed. Put in as much fruit as possible, and then add the syrup to fill up all interstices among the fruit; then put on the cover or insert the stopper as soon as possible. Have a cloth at hand dampened in hot water to wipe the necks of the jars. When one lot has been bottled, proceed with more, adding more sugar and water, if more syrup is required. Juicy fruits will diminish the syrup much less than others. When the bottles are cold, put them away in a *cool, dry and dark place*. Do not tamper with the covers in any way. The bottles should be inspected every day for a week or so, in order to discover if any are imperfect. If fermentation has commenced, bubbles will be seen in the syrup, and the covers will be loosened. If taken at once, the contents may be saved by thoroughly reheating.

Another way is to prepare a syrup and allow it to cool. Place the fruit in the bottles, cover with the syrup, and then set the bottles nearly up to their rims in a boiler of cold water. Some wooden slats should be placed at the bottom of the boiler to keep the bottles from contact with it. The water in the boiler is then heated and kept boiling until the fruit in the bottles is thoroughly heated through, when the covers are put on, and the bottles allowed to cool. It is claimed that the flavor of the fruit is better preserved in this way than by the other.

All the fruits that are used in their fresh state, or for pies, etc., and rhubarb, or pie-plant, and tomatoes may be preserved by the foregoing methods. Green peas and corn cannot be readily preserved in families, as they require special apparatus. In preserving strawberries, the hard-fleshed sour varieties, such as the Wilson, are better than the more delicate kinds. Currants need more sugar than the foregoing. Blackberries and huckleberries are both very satisfactorily preserved, and make capital pies. Cherries and plums need only picking over. Peaches need peeling and quartering. The skin may be removed from ripe peaches by scalding them in water or weak lye for a few seconds, and then transferring them to cold water. Some obtain a strong peach flavor by boiling a few peach meats in the syrup. Peaches have been kept three years, and were then better than those sold in the stores. Pears are pared and halved, or quartered and the core removed. The best, high-flavored and melting varieties only should be used. Coarse baking pears are unsatisfactory. Very few put up apples, but those who try some high-flavored ones will be pleased with them. There is a great contrast between quinces preserved in this way and those done up in the old way of pound for pound. They do not become hard, and they remain of a fine light color. The most thorough and reliable mode of canning tomatoes is first to sufficiently steam, not cook them, so as to scald or loosen the skin. They are then poured upon tables and the skin removed, care being taken to preserve the tomato in as solid a state as possible. After being peeled they are placed in large pans, with false bottoms perforated, so as to strain off the liquid which emanates from them. From these pans they are carefully placed by hand into the cans, which are filled as solidly as possible—in other words, all are put in that the cans will hold. They are then put through the usual process and hermetically sealed. The cans, when opened for use, present the tomato not only like the natural vegetable in taste and color, but also in appearance; and, moreover, when thus sealed they are warranted to keep in any climate, and when opened will taste as naturally as when just plucked from the vine. The general practice, however, of putting them up is to cook them very thoroughly, as if prepared for table use, but in this way they lose much of their natural flavor.

Any intelligent person who understands the principle upon which fruit is preserved in the way we have described, will soon find the mechanical part of the process easy of execution and the results satisfactory if ordinary care is taken in the preparation of the fruit and sealing the cans.

Oatmeal vs. Beefsteak.

At the British Association in the section of Biology, Professor Redfern, in the course of a paper of a valuable character on the food of plants and animals, went on to point out that there were few social problems more important than how to acquaint the wife of the laborer or artisan, or even the wives and servants of the middle classes, how to expend a fair share of their income upon food to the greatest advantage and how to prepare it without destroying its nutritive properties. A savory dish of meat was often prepared by mincing or cutting the meat into small and more or less cubical blocks. It was then stewed, or more frequently boiled. The outer surface of each little block had its albumen firmly coagulated, and the whole surface was converted into about as indigestible a mass as could well be imagined—the high-priced and highly-nutritious meat having been destroyed for the purposes of nutrition and the action of the digestive organs probably injured for some time to come; or good and valuable fresh meat was subjected to the process of salting, which first of all abstracted the juices of meat, and then harden the fibers, so as to destroy or greatly deteriorate its digestibility. No doubt it was convenient to have a hardened, dry mass of meat, incapable of much change for months, and ready to be used for the purpose of filling the stomach and effectually satisfying the appetite; but these were not the purposes for which food was intended to be used. It ought to be capable of supplying the waste of the body and of being easily converted into heat and motion. If it failed in these particulars, it would also fail in nourishing the brain and aiding in the evolution of intelligence, and thus intellectual and bodily power was lost to the community and deterioration of race was promoted. His colleague, Dr. Gordon, said that he recollected running races, putting stones, wrestling, and other athletic exercises being the favorite amusements of the sons and servants of the farmers in the County Down. Now nothing of the sort was heard of. These young men found a short day's work almost too much for them, and at the end of it they were to be seen lying about indulging in idle conversation. Coincidently with this they imagined themselves the equals of their masters and mistresses, and that the healthful oatmeal porridge and buttermilk twice daily, with beans and bacon for dinner, was too strong and coarse. They insisted on more delicate fare and demanded a supply of tea and white bread. They were unconscious that persons in their position but a few years ago possessed amazing vigor and performed twice the amount of labor with greater ease, and when the day's work was over actually reveled in the display of surplus strength, which nothing but their better and more rational diet could have yielded them. *London Medical Record.*

Eggs Versus Meat.

Would it not be wise to substitute more eggs for meat in our daily diet? About one-third the weight of an egg is solid nutriment. This is more than can be said of meat. There are no bones and tough pieces that have to be laid aside. An egg is made up of ten parts shell, sixty parts white and thirty parts yolk. The white of an egg contains 86 per cent. water, the yolk 52 per cent. The average weight of an egg is about two ounces. Practically, egg is animal food, and yet there is none of the disagreeable work of the butcher necessary to obtain it. The vegetarians of England use eggs freely, and many of these men are eighty and ninety years old, and have been remarkably free from illness. A good egg is alive. The shell is porus, the oxygen of the air goes through the shell and keeps up a sort of respiration. An egg soon becomes stale in bad air, or in dry air charged with carbonic acid. Eggs may be dried and made to retain their goodness for a long time, or the shell may be varnished, which excludes the air, when, if kept at a proper temperature, they may be kept good for years. The French people produce more eggs than any other, and ship millions of them to England annually. Fresh eggs are more transparent at the centre, old ones at the top. Very old ones are not transparent at either place. In water in which one-tenth salt has been dissolved, good eggs sink and indifferent ones swim. Bad eggs float in pure water. The best eggs are laid by young healthy hens. If they are properly fed, the eggs are better than if they are allowed to eat all sorts of food. Eggs are best when cooked about four minutes. This takes away animal taste that is offensive to some, but does not so harden the white or yolk as to make them hard to digest. An egg, if cooked very hard, is difficult of digestion, except by those with stout stomachs; such eggs should be eaten with bread and masticated very finely. An excellent sandwich can be made with eggs and brown bread. An egg spread on toast is fit for a king, if kings deserve any better food than anybody else, which is doubtful. Fried eggs are less wholesome than boiled ones. An egg dropped into hot water is not only a clean and handsome, but a delicious morsel. Most people spoil the taste of their eggs by adding salt and pepper. A little sweet butter is the best dressing. Eggs contain much phosphorus, which is supposed to be useful to those who use their brains much.—*Kansas Farmer.*

Cheap Food and Good Food.

Dr. Dio Lewis says, that "to make the best bread that can be made of wheat, obtain good wheat and grind it without bolting; mix it with cold water until it is as thick as can be well beaten with a spoon; after it is thoroughly beaten down, put it into a large iron pan, composed of many little ones, which must be first made hot; put it then quickly into a hot oven and bake it as rapidly as possible.

"Indian corn makes excellent nourishment. It contains a large amount of oil, has remarkable fattening qualities, and is likewise remarkable as a heat producer. Rice keeps its consumers fat, but it lacks the elements which feed the muscles and brain.

"Potatoes, both Irish and sweet, are very poor for brain and muscle.

"Of meats, the best for heat and fat are pork, mutton, lamb, beef, and veal; for muscle, beef, veal, mutton, lamb, and pork; for brains and nerve, beef, veal, mutton, lamb, and pork.

"In cold weather, fat meat, butter, and the like will keep the body warm; and in warm weather, milk, eggs, bran bread, and summer vegetables will keep it cool.

"There is no difficulty in a poor man's having meat for his family every day. Take, for example, what is called a shank of beef. The very best can be bought for a fraction of what the dearest parts cost. A single pound cooked in a stew, with dry bits of bread, will make a meal for an entire family."

Clean Out Your Cellars.

If you did not follow the advice given in a former issue of THE FARMER, and clean out your cellar in the spring, lose no time in doing so. This is the season for malarious diseases arising from decaying vegetation. Diseases which attack a man and beast lurk in the foul air, caused by decaying vegetable substances, and many a family has suffered from neglecting to clean cellars under dwelling houses. All decaying vegetables should be removed as early as possible, and the remainder handled over and aired, after which a thorough whitewashing of walls and woodwork may follow with the best results. Filthiness of cellars is not wholly confined to the country, but it is to the farmer we chiefly address ourselves, supposing that he may be negligent of certain duties as well as other people; and as this subject of cleaning cellars is one of some importance, we again call attention to it.

The Tea-Pot Assailed.

The *Journal of Chemistry* asserts that tea is not the simple harmless beverage that is generally supposed; but that its effects, in this character, may rightly be claimed to be classed with those of tobacco and alcohol. The *Journal* adds that "many disorders of the nervous system are the direct results of extensive tea bibbing. Tea is a "narcotic poison;" its essential principle, theine, is allied in composition and properties with strychnine and morphine. It first excites the nervous system and then exhausts it. Experiment shows that both in man and in other animals, it impairs power in the lower extremities; so that it affects the "understanding" in a double sense—literally as well as figuratively. It is not the harmless exhilarant it has been considered, but a powerful agent, whose effects are often serious."

Valuable Household Recipes.

BLACKBERRY SYRUP: Take a sufficient quantity of ripe blackberries. Put them into a sieve placed over a large broad pan, and with a potato masher, or something of that sort, press out all the juice. Or, having bruised them first, put the blackberries into a linen bag, and squeeze out all the juice into a vessel placed beneath. Measure it, and to every quart of the strained juice allow half a pound of powdered loaf sugar, a heaped teaspoonful of powdered cinnamon, the same of powdered cloves, and a powdered nutmeg. Mix the spices with the juice and sugar, and boil all together in a porcelain kettle, skimming it well. When cold, stir into the above quantity half a pint of fourth-proof brandy. Then bottle it for use. This is a good family medicine, and is beneficial in complaints incident to warm weather.

BLACKBERRY JAM: Gather the fruit in dry weather; allow half a pound of good brown sugar to every pound of fruit; boil the whole together gently for an hour, or until the blackberries are soft, stirring and mashing them well. Preserve it like any other jam, and it will be found very useful in families, particularly for children—regulating their bowels and enabling them to dispense with cathartics. It may be spread on bread, or on puddings, instead of butter; and even when the blackberries are bought it is cheaper than butter. In the country every family should preserve, at least, half a peck of blackberries.

LEMONADE: A hot lemonade is one of the best remedies in the world for a cold. It acts promptly and effectively, and has no unpleasant after effects. One lemon properly squeezed, cut in slices, put with sugar, and covered with a half pint of boiling water. Drink just before going to bed, and do not expose your-

self on the following day. This remedy will ward off an attack of the chills and fever if used promptly.

GRAHAM FLOUR PUFFS: One quart of tweet milk, three well-beaten eggs, two and a half cups of oatmeal, one and a half cups of Graham flour, and a little salt. Use a medium sized cup. Heat and oil the gem irons and bake in a quick oven.

INDIAN CAKES WITHOUT EGGS.—One pound of Indian meal, one pint of cold milk poured over it twelve hours before using. Just before baking add one pint of milk, pinch of salt, a small teaspoon of soda. Then add wheat flour enough to make it a proper consisteney for baking on griddle.

RASPBERRY CUSTARDS: One pint of cream; three-quarters of a pint of raspberry juice, and half a pound of white sugar. Boil the cream; dissolve the sugar in the raspberry juice; mix it with the boiling cream, stirring it till quite thick, and serve in custard glasses.

LITERARY NOTICES.

THE BOOK OF THE SEASON: We have received a copy of the first number of an illustrated publication, which is being issued by Allen, Lane & Scott and J. W. Lauderbach, No. 233 South Fifth street, Philadelphia. The title of the work is "A Century After," and its object is to convey, in an entertaining and agreeable manner, by means of superb illustrations, aided by charming and piquant literary matter, an idea of the wonderful progress of Philadelphia and its sister cities of the State in civilization and the attendant arts and sciences, which has marked the growth of the nation in its first century of existence. On glancing over the pages, we confess to a sense of pleasurable surprise at the beauty and artistic merit of the illustrations which adorn this elegant and seasonable book. There is that in it which will amply repay the time devoted to an examination of its pictorial treasures, and the trifling expenditure necessary to the ownership of a work of intrinsic beauty and value. Here is something that possession will not tire of—an inexhaustible fund of refined enjoyment. From the foretaste which is here given us, we hazard the opinion that the future numbers will be eagerly looked for in advance of publication, and that, when completed, it will be not only a remarkable book, but a delightful souvenir of the Centennial of American Independence. The original contributions by Darley, Moran, Bensell, Schell, Hamilton, Woodward, and other well known artists, will consist of character sketches and picturesque views of scenery (much of it associated with incidents of romance, possessing a local and national interest), taken from points in Philadelphia and vicinity and throughout the State. The whole work, as announced by the publishers, is intended to be a Monument of American Art, Skill and Thoroughness. It is excellently printed on a toned paper of superfine quality, the size of the page being about 10x12 inches, and will be published in fifteen semi-monthly parts, at fifty cents each, and sold only to subscribers.

POULTRY AND PET ORGANS: The poultry trade is surprising in its growth and importance, if we may judge by the number and excellence of the journals devoted to that interest. First on our list is the *Fanciers' Journal and Poultry Exchange*, a weekly magazine, beautifully printed and artistically illustrated, published by Joseph M. Wade, Philadelphia, at $2.50 a year. It is now in the middle of its second year, and one of its most marked interesting features is the great variety of its poultry and small pet advertising, which aptly illustrates the magnitude of the interest to which it is devoted.....The *American Fanciers' Gazette* is a new candidate for the favor of poultry fanciers, just started in Philadelphia, by W. Atlee Burkee and W. H. Merry. It is a monthly of sixteen pages, $1 a year, and its list of contributors contains the names of quite a number of able writers and skillful fanciers.....The *Poultry Nation*, another handsome monthly, devoted to poultry and pet stock in all their branches, is published by the Poultry Nation Company, at Birmingham, Ohio, W. H. Todd, editor, at the low price of 60 cents a year.....Here also is the *Poultry Organ of Central New York*, published at Ithica, by Charles G. Day, at $1 a year, which is conducted with ability, and has reached its sixth number. There are quite a number of other publications devoted to this interest, which are not on our exchange list, but whose existence and general prosperity indicate the growing interest in the important and profitable industry of gallinoculture. As we intend to devote some attention to the subject in THE FARMER, we shall be pleased to make their acquaintance.

THE BUTTERFLIES OF NORTH AMERICA: By W. H. EDWARDS. A quarto work, published in quarterly parts at $2.50 each, containing five full-page plates to each part. Hurd & Houghton, publishers, No. 13 Astor Place, New York. This is the second series of Mr. Edwards' work, and will be a companion volume to the first series, which now sells at $30.00. Taking it for "all in all," no work of a similar character has ever issued from either an American or a foreign press that excels this one. All the subjects are life size, finely illustrated, and colored by hand in the highest style of art. The paper and letter-press are superb, and the matter, in historic detail, more elaborate than any scientific work on Butterflies that has ever preceded it. We write experimentally on this subject, for we have given it some study, were one of the subscribers to the first series, and would not be without the second for twice the subscription price. Part third has just been received, and is rather above the standard of those which have preceded it, containing *forty-four* beautifully colored figures, including the upper and lower sides of males and females, and in some instances of the *larva*, *pupa* and *egg*.

"A THOROUGHLY AMERICAN ENTERPRISE:" Circular and specimen pages of a new and popular PICTORIAL HISTORY OF THE UNITED STATES. Johnson, Wilson & Co., propose to publish an entirely original work, embracing a complete history of the United States from the discovery of America down to the first Centennial period of the Republic in 1876, written by Benson J. Lossing, LL. D., whose great reputation as a historical writer ought to be a sufficient guarantee of the merits of the work to make it sell freely without a peradventure. The work will bear the title, expressive of its scope and aim, of OUR COUNTRY; *a Household History for all Readers*. Royal octavo in form, fair type, tinted paper, and finely and elaborately illustrated. If the "specimen pages" are a true criterion of the entire work, both in "mind and matter," we think there is a place for it in our historical literature that has never yet been supplied, and that *ought to be* at this time.

KANSAS AND COLORADO GAZETTE: A medium folio of twelve pages, published "occasionally" at Kansas City, under the auspices of the KANSAS-PACIFIC RAILWAY, for free distribution. Vol. I, No. 2, for May, 1875, is on our table, full of reading matter the most entertaining to emigrants, travelers, invalids, or occasional and transient visitors; embellished with fifteen scenic views of the most rare beauty and artistic execution, besides a series of facetious and characteristic illustrations of "life upon the plains." There is perhaps no part of our country that possesses greater climatic advantages than the high and pure aired portions of Colorado, and before many years it may become the Mecca of those whose condition has become physically and financially enervated or disorganized, and this journal contains all the necessary information to that end.

THE AMERICAN GROCER, "The Champion of the Retail Dealer," is a weekly commercial journal expressly for country merchants, conducted with marked ability. It is a large quorto of twenty-four pages, and enters upon its fourteenth volume with the current issue. It seems to us to be indispensable to any one engaged in the retail grocery trade, while its "Home Department" is filled with just such useful and entertaining matter as should be in every family. It is also the uncompromising foe of all kinds of frauds and swindles. Its constant and standing advice to its subscribers is, to "count, measure, weigh and gauge every thing you buy," and almost every week its columns expose some of the various methods of swindling made use of by unprincipled tradesmen. Published by the American Grocer Publishing Company, 141 Chambers street, New York, at $4 a year.

THE UTAH POMOLOGIST AND GARDENER: "Devoted to the Orchard, Vineyard, Farm, Garden and Household." This is a monthly demi-folio, published by J. E. Johnson, at St. George, in the Territory of Utah, at $1 a year, Small, but very compact, and has the rare faculty of judicious condensation, so that its readers get only the solid wheat of the literature to which its columns are devoted. We feel sure it occupies a place that could not be filled by any other journal, and hope "its shadow may *never* grow less."

FIELD AND FOREST, devoted to general natural history—Bulletin of the *Potomac-side Naturalists' Club*; edited by C. R. DODGE; $1.00 a year; Washington, D. C. An octavo magazine of 8 pages. The first number, which is now before us, is admirably gotten up, in tinted paper, fine typographical execution, and excellent reading matter, and will be a great help to those who take any interest in natural history.

BLACK HILLS BULLETIN, a tinted paper quarto of 16 pages, and map illustrations. Boston, Mass. Price, 10 cents a number. Published "occasionally." This journal being in the interest of the "Black Hill Speculation," of course gives a glowing account of everything that relates to that far off *El Dorado*, which, nevertheless, it would be well to consult before making a departure for that region.

MEAL FEEDING AND ANIMAL DIGESTION: A textbook for all who feed condensed food, by LINUS W. MILLER, of Stockton, New York, published by request of the American Dairymen's Association, before whom it was delivered March 14, 1875. Price, 35 cents. This is a 12 mo. of 48 pages, neatly printed, on a subject that is eliciting an unusual interest at this time all over the country.

THE TOBACCO LEAF: "Organ of the tobacco trade of the United States; the largest special trade paper in the world." A royal folio of eight pages, published weekly by the "Tobacco Leaf Publishing Company" at $4.00 a year, wholly filled with tobacco advertisements, tobacco statistics, and tobacco literature, in general and particular, No. 142 Fulton street, New York.

THE PROGRESS OF INVENTION.

Official List of Patents.

RELATING TO THE FARM, THE DAIRY, APIARY, &c.

For the month ending July 3, 1875.*

Butter Packages; H. W. Campbell, Montgomery, Vt.
Swivel-Plows; J. Hapgood, Shrewsbury, Mass.
Grain Tallies; S. A. Hazleton, Bethany, N. Y.
Wheel-Plow; J. Keys, Coultersville, Ill.
Hog-Traps; H. Ogborn, Richmond, Ind.
Butter Coloring Compound; J. C. Rorick, Waubeon, Ohio.
Milk Strainers; J. W. Bray, Laharp, Ill.
Farm Fences; D. L. Hoffman, Aullville, Mo.
Feed Mills; O. B. Knapp, Brandon, Wis.
Berry-Cups; D. W. Kniffin, Marlborough, N. Y.
Sliding Gates; J. P. McMurray, Oregon, Mo.
Machine for Mixing Wool; S. R. Parkhurst, Mt. Clare.
Fence Posts; E. Cowell, Delaware, O.
Farm Gates; W. H. Pratt, Prattsville, Mich.
Row-Gages for Plows; W. Edward, Montezuma, Ga.
Harvester Rakes; C. Wheeler, Auburn, N. Y.
Mowing Machines; C. Wheeler, Auburn, N. Y.
Potato and Seed Planters; W. H. Whitney, Scranton.
Straw Cutters; D. Belcher, Chicopee Falls, Mass.
Harrows; C. Buswell, Etna, Maine.
Milking Tubes; S. A. Smith, Muscatine co., Iowa.
Grain Binders; J. H. Whitney, St. Louis.
Rakes for Harvesters; J. H. Mears, Oshkosh, Wis.
Plow Irons; Gilpin Moore and Geo. Curkendall, Moline, Ill., assignors to Deere & Co., same place.
Corn-Harrows; J. McCormick, Peoria, Ills.
Whilletree Hooks and Clips; Isaac N. Pyle, Decatur, Ind.
Band-Cutters for Thrashing-Machines; Evan L. Beard, Thorntown, Ind.
Plows; Holcom Olson, Mount Pleasant, Iowa.
Harrows; Ayres Ross, Victor, Iowa.
Farm Fences; W. E. Carey, Bloomfield, Iowa.
Apparatus for Manufacturing Iron and Steel; John B. Pearse, Philadelphia, Pa.
Horse Rakes; J. Pennypacker, Ridley Park, Pa.
Reversible Plows; J. McCabe, Woodbury, Tenn.
Harvesters; Sidney S. Stultz, Cedar Bluffs, Neb.
Hoes; Daniel Moore and Edwin Moore, Brooklyn, E. D., assignors to themselves and Richard D. Alliger, New York.
Horse-Rakes; R. Brown, Dayton, Ohio.
Earth-Augers; S. H. Horn, Bloomfield, Iowa.
Machine for Bunching Asparagus; I. A. Ireland, Bakersville, N. J.
Corn Harvesters; G. A. Schwartz, Orangeville, Ills.
Plows; B. C. Bradley, Chicago, Ills.
Churn Dashers; W. C. Chamberlain, Dubuque, Iowa.
Cultivators; B. C. Cox, Cooper's Hill, Mo.
Grain Drills; J. C. Daman, Elk Point, Dakota.
Seed Sowers; R. Furnas, Decatur, Ind.
Thrashing Machines; A. Johnston, Lockport, N. Y.
Barbed Fence Wires; C. Kennedy, Hinckley, Ill.
Mowing Machines; A. L. Little, Sheboygan Falls, Wis.
Plows; J. B. Norris, Richmond, Va.
Rotary Churn Dashers; J. J. Robinson, Gibson, Ill.
Feed Cutters; R. Seelig, Chicago, Ills.
Horse-Power Equalizers; A. A. Sheets, Maumee City, Ohio.
Corn Markers; M. A. Throckmorton, Andersonville, Ohio.
Potato-Diggers; E. Vanderveer, Manolapon, N. J.
Horse Rakes, C. M. Clinton, Ithica, N. Y.
Farm Fences; Wm. A. Ellason, Statesville, N. C.
Farm Gates; J. Golden, Bradford, Vt.
Rotary Churns; Jas. Goodman, Pittsburg, Pa.
Horse-Powers; L. Stewart, Camp Hill, Pa.
Portable Fences; C. Vau De Mark, Hillsdale, Mich.
Horse-Powers; Z. D. Waters, Brookville, Md.
Horse Hay-Rakes; R. Wilson, Ithica, N. Y.
Cultivators; W. L. Hopper, Monmouth, Ill.
Automatic Gates; R. A. Harning, Sterling, Ill.
Machine for destroying Potato Bugs; T. Job, Schuylkill co., Pa.
Rotary Churns; V. M. Merrick, Chillicothe, Ill.
Cultivators; J. H. Coombe, Des Moines, Iowa.
Harvester Cutters; R. Dutton, Yonkers, N. Y.
Fertilizers; W. McE. Dye, Cairo, Egypt.
Rakes; F. W. Hawkins, Ypsilanti, Mich.
Plows; Ch. Myers, Maryville, Cal.
Fences; S. Olmstead, Brooks, Ind.
Hay Presses; W. H. Penniston, Fox, Mo.
Milk Coolers; P. Reed, Hainesburg, Vt.
Grain Drills; H. Rucheller, Belleville, Ill.
Harrows; Jos. Rioth, Mt. Sterling, Ill.
Churn Dashers; W. H. Silver, St. Louis, Mo.
Portable Fences; J. L. Welchans, Aulville, Mo.
Fertilizer Distributors; C. Bailey, Kinston, N. C.
Barrel Churns; J. H. Dunbar, Philadelphia.
Wire Fences; J. Haish, DeKalb, Ill.
Wire Fences; L. Merrill, Turkey River, Iowa.
Farm Gates; T. Schneider, Fort Worth, Texas.
Hay Presses, W. H. Tappey, Petersburg, Va.
Corn Planters; L. K. Wilter, Chicago.

*Prepared expressly for THE LANCASTER FARMER by Louis Bagger & Co., Solicitors of Patents, Washington, D. C., from whom complete copies of the Patents and Drawings may be obtained.

OUR FENCE CORNERS

JOSH BILLINGS ON ROOSTERS: "Roosters," says Josh Billings, "are the pugilists among birds, and, having no suitable shoulder to strike from, they strike from the heel. When a rooster gets whipped, all of the hens march off with the other rooster, if he ain't half so big or so hansum. It is pluck that wins a hen. Roosters, as a class, won't do enny household work; you kant git a rooster to pay any attention to a young one. They spend most of their time in crowing and strutting, and once in awhile they find a worm, which they make a great fuss over, calling their wives up from a distance, apparently to treat them, but jist az the hens git there this elegant cuss bends over and gobbles up the worm. Just like a man for all the world!"

A CHICAGO gentleman, occupied all day, but having some "hours of leisure in the evening," instead of advertising for books to write up, has set up a semi-suburban private patrol, charging his neighbors $4 a month for watching their premises. When asked whether he did not find it exhausting to work all day and walk round all night, he admitted frankly that he only visited his customers once a month, and that was to collect. "But don't they find you out?" said the querist. "O, no," he replied, "they hear the burglars going round and trying the doors, and they think it's me."

A YOUNG lady entered a book store and confidently said to an assistant, "I want *My Father*." The young man looked astonished. "What did you say you wanted, ma'am?" "*My Father*." "I don't know him, ma'am. We don't keep fathers on ice here. This isn't a home for decayed old gents, nor an inebriate asylum," said the assistant. "It appears to be a lunatic asylum, and you're a first-class inmate. What I want sir, is a novel called *My Father*." Now this young man colors up and coughs and walks away in silence when any of his fellow young men say anything about "father."

A CLERGYMAN informed his people, at the close of his sermon, that he intended in a few days to goon a mission to the heathen. After the congregation was dismissed a number of the members waited for their pastor, and, crowding around him, expressed their astonishment at the new turn in his affairs, asking him where he was going, and how long they would be deprived of his ministrations. He said to them, "My good friends, don't be alarmed. I'm not going out of town."

"PRAISE God whom"—and all through the congregation there is a general stir to find hats and draw on overcoats, so that by the time those who have nothing more important to do than join in the singing have come to "Praise him all creatures here below"—a number of these same "creatures" are in a deadly wrestle with sleeves and lining by a backward measurement of arms. Much they are thinking about praising the Highest!

A YOUNG lady in one of the stores in Terre Haute, Ind., Christmas eve, was looking at a music-box that had just ceased playing. Wishing to hear it again she attempted to start it, but without success. "Oh, pshaw," said she, "It won't go for me." One of the proprietors overhearing the remark, stepped up and said, "I wish I was a music-box—I'd go for you." She told him he might go. And that did not seem to please him.

A THOROUGHLY loyal gentleman at the South recently had a new carriage, the lining of which was gray. He made a call on a secesh relative. The lady went to the door to look at the vehicle, and, noticing the lining, said, "I like that color." "Yes," quietly remarked her kinsman, the owner, "it's a *subdued* color."

"SHUT your eyes and listen mit me," said Uncle Van Heyde. "Vell, de first night I open store I counts de monies and finds him nix right: I counts him and dere be tree gone, and vat yer tink I does den?" "I can't say." "Vy, did not count him any more, and he comes out shoost right ever since."

A DOCTOR and a preacher were batudying words on physical prowess. "One blow from my fist," said the D. D., "would show you the meaning of 'blue mass.'" "And one blow from mine," said the M. D., "would be a new and cheap method of spreading the Gospel."

"I SEE very little of you," said an old gentleman at a fashionable ball to a young lady whom he had not met for a long time before. "I know it," was the artless reply, "but mother wouldn't allow me to wear a very low-neck dress to-night, the weather is so cold."

AN exchange asks: "What becomes of all the pins?" If the writer of that will move around the house in his stocking-feet, after a day of dress making, he will get more real valuable information on the subject than all the books in the world can give him.

SOME one wrote to Horace Greeley inquiring if guano was good to put on potatoes. He said it might do for those whose tastes had become vitiated with tobacco and rum, but he preferred gravy and butter.

$1 a Year (To subscribers in the county.) SINGLE COPIES 10 CENTS. $1.25.

Prof. S. S. RATHVON, Editor. LANCASTER, AUGUST 15, 1875. PEARSOL & GEIST, Publishers.

THE FARMERS HOME ORGAN.

The Lancaster Farmer;

A MONTHLY NEWSPAPER,

DEVOTED TO AGRICULTURE, HORTICULTURE, DOMESTIC ECONOMY, AND MISCELLANY,

WITH PRACTICAL ILLUSTRATIONS.

Founded under the auspices of the Lancaster County Agricultural and Horticultural Society.

Edited by Prof. S. S. RATHVON.

With the January issue (1875) THE FARMER entered upon its seventh year, under a change of proprietors, the publication having been transferred to the undersigned, who propose to make it in all respects a first-class local organ of the important interests to which it is especially devoted.

With this view THE FARMER has been enlarged and its form changed to the Imperial Magazine style, each number containing twenty-four pages Imp. 8vo., measuring 9½ by 13 inches, at least seventeen of which will be exclusively devoted to reading matter, the advertisements and "standing matter" being limited to the remaining pages. This increase of size and change of form, together with the use of a more compact type, enables us to give twice as much reading matter as was contained in the old form.

If this effort to give the agricultural community of Lancaster county a publication worthy of their honorable calling is liberally seconded, we propose to add other improvements from time to time, including illustrations of important topics of general interest, and papers from special contributors on the more important local industries and resources of the county—a wide field, which has been very little cultivated by our local press.

The contributions of our able editor, Prof. RATHVON, on subjects connected with the science of farming, and particularly that specialty of which he is so thoroughly a master—entomological science—some knowledge of which has become a necessity to the successful farmer, are alone worth much more than the price of this publication.

THE FARMER will be published on the 15th of every month, printed on good paper with clear type, in convenient form for reading and binding, and mailed to subscribers on the following

TERMS:

To subscribers residing within the county—

One copy, one year,	$1.00
Six copies, one year,	5.00
Ten Copies, one year,	7.50

To subscribers outside of Lancaster county, including postage pre-paid by the publishers:

One copy, one year,	$1.25
Five copies, one year,	5.00

All subscriptions will commence with the January number unless otherwise ordered.

All communications intended for publication should be addressed to the Editor, and, to secure insertion, should be in his hands by the first of the month of publication.

All business letters, containing subscriptions and advertisements, should be addressed to the publishers,

PEARSOL & GEIST,
Express Buildings, 22, South Queen Street,
LANCASTER, PA.

RATES OF ADVERTISING.—Ten Cents a line for each insertion. Twelve lines to the inch.

CONTENTS OF THIS NUMBER.

FIFTEEN ILLUSTRATIONS.

EDITORIAL ARTICLES: PAGE.

OUR FENCE CORNERS

THE INVENTION OF THE WHEELBARROW: Says a writer in the July *Scribner:* It takes a great man to do a little thing, sometimes.

Who do you think invented that very simple thing called a wheelbarrow? Why, no less a man than Leonardo da Vinci.

And who was he?

He was a musician, poet, painter, architect, sculptor, physiologist, engineer, natural historian, botanist and inventor, all in one. He wasn't a "Jack of all trades and master of none," either. He was a real master of many arts, and a practical worker besides.

When did he live?

Somewhere about the time that Columbus discovered America.

And where was he born?

In the beautiful city of Florence, in Italy.

Perhaps some of you may feel better acquainted with him when I tell you that it was Leonarno da Vinci who painted one of the greatest pictures in the world—"The Last Supper," a picture that has been copied many times, and engraved in several styles, so that almost every one has an idea of the arrangement and position at the table of the figures of our Lord and His disciples, though I am told that without seeing the painting itself, no one can form a notion of how grand and beautiful it is.

And only think of the thousands of poor, hard-working Americans who really own, in their wheelbarrow, an original "work" of Leonardo da Vinci.

LONG WORDS: "Rob," said Tom, "which is the most dangerous word to pronounce in the English language?"

"Don't know said Rob, "unless it is a swearing word."

"Pooh!" said Tom, "its *stumbled*, because you are sure to get a tumble between the first and last letter."

"Ha! ha!" said Rob. "Now I've one for you. I found it one day in the paper. Which is the longest word in the English language?"

"Valetudinarianism," said Tom, promptly.

"No, sir; it's *smiles*, because there's a whole mile between the first and last letter."

"Ho! ho!" said Tom, "that's nothing. I know a word that has over *three* miles between its beginning and ending."

"What is that?" asked Rob, faintly.

"Beleaguered," said Tom.—*St. Nicholas.*

LENDING A PIE: "Mother," cried Johnny, "haven't you a pie you would like to lend to the Lord?"

"Why, Johnny, what do you mean?" she asked, for she thought at first it was a joke.

"Don't you remember," he said, "that the Bible says, 'He that giveth to the poor lendeth to the Lord?' I don't believe old Betsy has had a pie for a long time, and I thought perhaps you would like to have me to take one over to her; then you would be lending to the Lord, you know."

One of mother's best pies went to old Betsy; only she was sorry she had not thought of sending her one before. But if she had, she would have lost Johnny's way of "putting it."

HIBERNIAN WIT AND GALLANTRY: A sudden gust of wind took a parasol from the hand of a lady, and a lively Irishman, dropping his load of bricks, caught it.

"Faith ma'am," said he, "if you were as strong as you are handsome, it would not have got away from you."

"Which shall I thank you for first, the service or the compliment?" asked the lady, smilingly.

"Troth, ma'am," said Pat, again touching the place where once stood the brim of what was once a beaver, "that look of your beautiful eye thanked me for them both."

A PRETTY FAIR STORY: One of the Paris almanacs has this pretty story, which is referred to Laboulaye: "A lazy girl, who liked to live in comfort and do nothing, asked her fairy godmother to give her a good genius to do everything for her. On the instant the fairy called ten dwarfs, who dressed and washed the little girl and combed her hair, and fed her, and so on. All was done so nicely that she was happy, except for the thought that they would go away. 'To prevent that,' said the godmother, 'I will place them permanently in your ten pretty little fingers. And they are there yet."

"ISH der some ledder here for me?" inquired a German at the general delivery window of the post-office. "None," was the reply. "Vhell, dot ish queer," he continued, "my neighbor gets sometimes dree ledders in one day, und I get none. I hays more daxes as he does, und I haf never got one ledder yet."

HE that considers how little he dwells upon the condition of others will learn how little the attentions of others is attracted by himself. The utmost that we can reasonably hope or fear is to fill a vacant hour with prattle and be forgotten.

The Lancaster Farmer

Prof. S. S. RATHVON, Editor. LANCASTER, PA., AUGUST, 1875. Vol. VII. No. 8.

"THE DROP WORM."

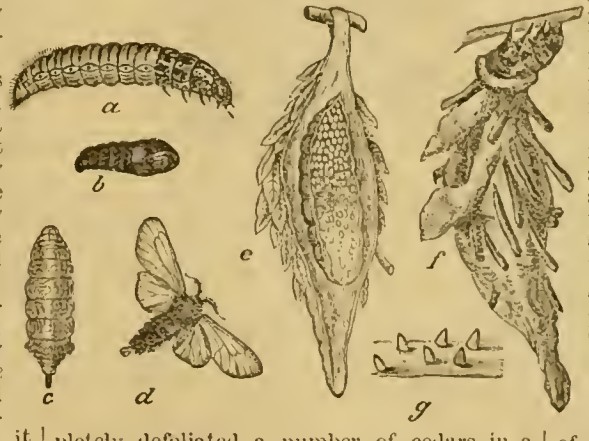
Thyridopteryx ephemeræformis.

The "Bag-worm," *alias* "Basket-worm," *alias* "Drop-worm," *alias* "Sack-bearer," *alias* "Sack-trager," of the Germans. This is a very old insect depredator in the Commonwealth of Pennsylvania. Thirty years ago we read the re-publication of a paragraph containing an allusion made to it by Rembrant Peal, of Philadelphia, about the year 1820. Mr. Peal merely noticed several follicles presented to him as curiosities for his museum, that had been taken from a tree on the banks of the Schuylkill, or the Wissahickon; but although he knew they contained a *worm*, he did not know but what they always remained a worm—at least he did not know anything about the *imago*, or mature insect, nothing about their sexual distinctions, their transformations, their developmental progress, their seasons, their destructive habits, nor yet the kinds of trees most generally infested by them—only a "natural curiosity."

In 1848 we removed from Marietta, Pa., to the city of Lancaster, and although during the five previous years we had pretty extensively canvassed the south-west end of Lancaster county and the north-east of York county, in all that time we had never noticed the follicles of this insect in a single instance. Our first knowledge of it was in the summer of 1849. The late F. J. K——, one Sunday afternoon, called our attention to the foliage of a large apricot tree in his back yard. The tree was full of fruit, but the leaves were drying and becoming faded and crisp, and what was most singular, they did not fall to the ground, but in the calmest weather they would seem to be occasionally agitated, and would be moved from place to place with a sort of *jerk*. Occasionally one or more follicles would fall from the tree, and become suspended for a time, and then find its way back to the tree again. One of the branches of the tree almost extended into a window in the second story, the extreme end resting upon the window sill, and it was "then and there" that *we* discovered the nature of the "blight," and recognized the presence of a *queer sack*, fastened by one end to a leaf or a twig, and it was then and there, too, that we first discovered these insects, and had the first sight of the lively little larva that was snugly concealed within the precincts of the follicles.

We made no further observation at that time, but during the summer of 1850 a linden tree on the corner of North Queen and Orange streets was seriously infested, having thousands of these follicles upon it, almost defoliating it. Then we commenced a series of observations, which continued for four years, and we examined about five hundred of the insects and their sacks before our observations were completed, and all the different stages of the insect brought to view. These observations, with a series of illustrations, were subsequently published in the *Pennsylvania Farm Journal*, Vol. IV., pp. 111, 153, 272, then published by J. L. Darlington, West Chester, 1854. The only work on American Entomology to which we then had access was "Harris' Treatise on Insects Injurious to Vegetation" (borrowed from the State Library by Mr. S.), and as this contained not a single line in reference to this insect, we availed ourself of all the book information we could obtain bearing upon the subject, from Vol. VII. of the *Naturalists' Library*, pp. 110-115, plate 9, extracted from a paper by the Rev. Lansdown Guilding, published in the XVth vol. of the "Transactions of the Linnæan Society" of London, 1826. Mr. Guilding's observations were made on a West Indian species, in 1817, which he named *Oiketicus kirbyi*, and the analogy between his observations and ours were such—as well as the figures—that we referred our species to the same genus.

From the fact that this insect had been noticed in Pennsylvania more than fifty years ago, and not *knowing* that it existed elsewhere, we named it specifically *pennsylvanicus*, but our manuscript remained unpublished for a year or more after our observations had been completed, and therefore did not appear in print until 1854. Subsequently we found in the October number of the *Albany Cultivator* for 1853, an account of what appeared to be the same insect, from the pen of Dr. Harris, in which he had named it *conifferum*, from the fact that his specimens—sent to him from Virginia—had been found only on cone-bearing trees. At that period we had never found it on cone-bearing trees at all, but subsequently we did, but not conspicuously frequent to dedicate such a name to it. Then, and since, we have found it on apple, cherry, pear, quince, nectarine, apricot, peach (rarely), locust, linden, maple, elm, arbor-vitæ (very frequently), hawthorn, beach, spruce, rose and oak. Indeed there is hardly a tree that it will not feed upon, but it seems to be partial to arbor-vitæ, linden and locust—at least *we* have found it most numerous on these trees, and on a single occasion which came under our notice it completely defoliated a number of cedars in a church-yard; but on pines we have only found it sparingly. When it is allowed to become numerous, it can disfigure a tree in a very short space of time.



When Mr. Haworth described it, or *when* he gave it the scientific name by which it seems to be generally recognized *now*, is more than we can tell, for we have never seen his description, but we suppose that his "precedence" is, of course, perfectly legitimate. Under any circumstances it has a "terrible long name" for such a little subject. *Oiketicus*, the generic name to which we first referred it, is a Greek term and means, substantially, a solitary inhabitant of a house. *Thyridopteryx*, we believe, has a similar significance. The specific name, *Ephemeræformis*, we presume, alludes to its resemblance of an *Ephemera*—a "Day-fly," or "May-fly." There is one fact, however, that came under our observation, which we have not found specifically corroborated by others, except in a single instance, and that was by the late venerable Maj. LeConte, and that is, when the male insect first emerges from the pupa state, the wings are all opaque and nearly black, except about the posterior half of the hind wings; but the moths are so restless and flit about so heedlessly and vigorously, that in a very short time the wings become all transparent, or nearly so. The male has the power of extending the abdomen to an incredible length, and while so extended, and with the wings transparent and expanded, a faint resemblance to an *Ephemera* may be more or less recognizable; but in repose the wings are closed against the body, and deflexed. In the latitude of Lancaster county, and under our observations, the young are excluded from the eggs from the 20th to the 28th of May, and the males evolve from the *pupa* about the middle of September, but the females never come from the follicle or sack alive. Almost immediately after the females are fertilized the males die—that act seems to entirely exhaust them. The figures accompanying this paper sufficiently illustrate this insect in its various stages of development not to need a more specific description. Fig. *a* is the mature *larva*. The head and three anterior segments are glossy and mottled with black and blueish white, and the remainder of the body is swarthy and fleshy. Fig. *b* is the male *pupa*, dark brown or nearly black. Fig. *c* is the female, without feet or other organs, save an ovipositor—a mere sack of eggs, which can be seen through the white skin and extending up to the very head. A ring of brown silky floss adorns the antepenultimate abdominal segment. Fig. *d* is the male *imago* with the wings expanded, thickly coated with dark brown, or nearly black, flossy fur or hair. Fig. *e* is an opened follicle, showing the female with the pupa-skin removed and exposing the eggs, a yellowish white. Fig. *f* is the *larva* in the sack, showing the manner in which it carries it about. In repose it is fastened to a branch, and the entire body is drawn in. Fig. *g* shows the young in their cone-shaped follicles, a short time after their exclusion from the eggs.

On one occasion the young came forth from a follicle suspended in our *sanctum*, and it was quite amusing to notice the agility of these little subjects of the insect realm. Each possessed its own silken cord, down which it slid like a sailor, until it reached some object below, where each began almost immediately to construct its *habitaculum*, out of the material at hand. Some fell on books and constructed them of paper and leather; others fell to the floor and used Chinese matting, with which it was covered; whilst others attached themselves to the wall and used small scales of lime "whitewash." These follicles are at first cone-shaped and erect and they continue in that position until they get too "top-heavy;" after which they are suspended as seen at Fig. *f*. Out in the open air these infantine follicles are made of the epidermis of the leaves and branches, especially the latter.

These insects are often infested by hymenopterous parasites—especially species of ICHNEUMANIDÆ, half-a-dozen or more being found in a sack, each spun in a separate cocoon, but all adhering together. We question, however, whether they are ever destroyed by birds, unless they swallow "sack and all;" for the material is strong, and they have the power of collapsing the ends, and making their dislodgment therefrom very difficult.

The "Bag-worm" belongs to the crepuscularious LEPIDOPTERA—twilight flying moths—and the family PSYCHIDÆ. It has an extensive geological range, having been found on Long Island and in other parts of New York State, New Jersey, Pennsylvania, Ohio, Maryland, District of Columbia, Old and West Virginia, North and South Carolina, Georgia, Alabama, Kentucky, Tennessee, Missouri, Indiana, Illinois, and no doubt in most of the Southern and Southwestern States, although in Harris' time it was not known in any of the Eastern States.

Our history and observations were also published in the *Farmer and Gardener*, of Philadelphia, some ten years ago, and should there

be a demand for it in the future we will transfer them to the columns of THE FARMER. In all that we have read upon the subject, outside of our own experience, we have found but little that was new to us. We are not acquainted with a single destructive Lepidopterous insect that is easier circumvented than the "Bagworm," if the attempt is made at the right time. Any time between the fall of the leaves in autumn and the leafing of the trees in the spring, is the proper time, for then the *bags* or follicles may be seen hanging on the naked branches, seemingly reproaching the slovenly housekeeper and cultivator for their want of the necessary observation and energy to discover and remove them, since they are so easily seen and removed.

It is true that not all of those pendant follicles upon the trees may contain the eggs of the previous season, but many of them do, and each of these is capable of producing from three to four hundred young; and no matter how cold the winter has been, the following month of May or June is sure to hatch out a goodly number of "leaf-eaters," unless they have been destroyed by a *parasite*, of which unhappily there are, proportionately, only a few. We presume every intelligent and thrifty farmer or fruit grower has a pair of pruning-shears, that is operated by a spring, a pole and a cord. With such an instrument he can reach to the utmost ends of the branches of any fruit trees, and clip off those "pandorean boxes," and never permit them to be opened and let out their hidden evils upon the vegetable world. According to *our* observations, the females *always* attach their *bags* to a living twig, and so firmly too, that no rain, wind or storm has any loosening effect upon them. Some of the males do the same thing, but not *all* of them. We have always found the latter in excess of the former by nearly one-half, and many of these attach their follicles to a stem of a leaf, and of course these will fall to the ground with the leaves, but not before the male insects have escaped therefrom. They thus exhibit a wonderful instinct, for the females seem to *know* that their habitations must have a permanent foundation, in order to perpetuate the species, and they make provision accordingly. As we intimated before, the females never leave their bags alive, but sometimes their shrunken bodies get wedged into the neck below, and then, of course, the young cannot come forth, and consequently perish. After the females are done depositing their eggs their pupa skins are nearly full of them, securely packed in the silken floss which they have rubbed from the hind ends of their bodies. Except those that were bred under our own supervision, we never saw but a single male insect abroad, and that one somehow entered the bulk window of a grocery store, in which a brilliant light was burning. This was probably one of those "discontents," in excess, that never had been mated, and had gone abroad in search of those pleasures denied him at home. Finally, our advice is, "first, last and always," to wage an indiscriminate and simultaneous war against them.

THE APPLE WORM--CODLING MOTH.

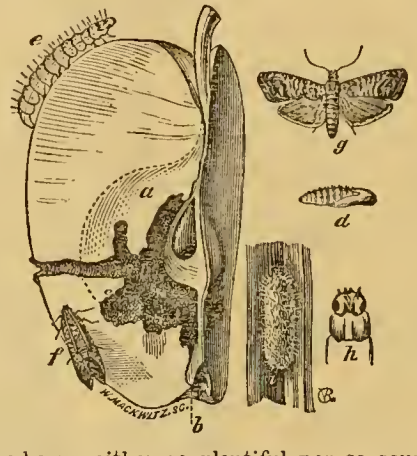
(*Carpocapsa pomonella.*)

When apples were generally more abundant than they are now—or, when they were of less consequence as a culinary contribution than they are now—there were just as many "apple worms," or "codling moths," as there are at present, or as there have been at any period since that time. When we were a boy, say forty-five or fifty years ago, we could go to almost any farmer in Lancaster county and obtain permission to carry away as many apples as we wanted—even bushels of them—without any other expense than saying, "thankee," only provided we picked them off the ground. The ground was perfectly covered with them, and we could scarcely place our foot anywhere, immediately under the trees, without treading on one or more apples. Fully eighteen out of every twenty of these apples were infested with a pink or white "worm," and many is the one we have bitten in two, and perhaps swallowed the one-half of it before we had discovered its presence; and many a time, too, we have "gagged" in attempting to disgorge it.

Of course, the infested apples fell first, and *practically* these worms were a benefit rather than an injury, for the trees certainly could not have matured all their fruit without this pruning process.

The fallen apples were used to make cider or "apple-jack," for immediate family use, and to give away. Those that hung on the trees were carefully picked and stored away for winter use, or were sold; and at least two out of every twenty stored away contained a worm. Nobody seemed to care much about the worm, and few, perhaps, ever knew that it was afterwards transformed into a "codling moth."

We served five years among different farmers, and we are sometimes astonished that we cannot recall the habitual use of apples as a culinary preparation, except in *applebutter* and "schnitz und knepf." We remember distinctly the "buckwheat cakes and sausages," but very little about apples, except between meals or as a night lunch. But all this is changed now; apples, for the past twenty or thirty years,



have been neither so plentiful nor so sound, nor yet so cheap as they were fifty years ago, and this is caused by the increased population and greater demand through new uses of this fruit, as much as the scarcity of the fruit itself; and this brings the codling moth, or apple worm, prominently into the foreground, and the reason it appears more formidable than in earlier days, is because there are more people now to dispute its depredations upon the apple, and because of its somewhat diminished domain—that is, the diminished quantity of apples—making its presence at any given place seem larger than formerly; for if, for instance, the apple worm in the early days we allude to, destroyed one-fourth or one-third of the crop, and we had still an abundance in what remained, its destructive character would not appear so great as where, from the diminished quantity and greater demand, it took two-thirds or three-fourths and only left a small residue. It is very certain that our apple crop in Lancaster county has, sometimes for several years in succession, not been as large by fifty per cent. as the quantity formerly destroyed by the codling moth, and probably its entire extermination, if such a thing were desirable, never can be accomplished until we cease to grow apples or pears, or any other fruit that would likely be agreeable to its taste.

The codling moth belongs to the order LEPIDOPTERA (butterflies and moths) and to the *Tortrix* family (TORTRICIDA), and is supposed to have been introduced into this country about eighty years ago, as it is identical with a species existing in Europe, and probably is now as wide in its geographical range as the apple itself. It is said to produce two broods in a season, but these broods, from local causes, are sometimes very irregular in their periods, for we have found the worm in apples in early, middle and late summer, in autumn, in early and midwinter, and in early and late spring. It evidently can adapt itself to almost any circumstances, only so that it has apples, pears or quinces to prey upon. The illustration accompanying this article will convey a sufficient idea of its different stages of development, without a scientific description. Fig. *e* represents the mature worm, about the natural size. In its earlier stages it is white, or nearly so, but when mature it is of various shades of pink in color, and is sparsely covered with short hairs, which arise from small tubercles distributed over the different segments of the entire body. Fig. *h* represents the head and first segment enlarged, which are of a brownish color; Fig. *d* shows the pupa; Fig. *f* the perfect insect in repose, and Fig. *g* the same with the wings expanded, and also of the natural size. Fig. *i* shows the cocoon, white inside, but more or less covered on the outside with debris of various kinds. The pupa is a light brown, and has rows of small spines on its back, by which it pushes itself out of its flattened cocoon, when it emerges into the outer world a perfect "codling moth." It is then a *very* "pretty creature," its front wings being irregularly streaked, crosswise, with undulating bars of brown and gray, and on the hinder angle is a moderately large brownish spot, with lines of a bright metallic or golden lustre. Its real beauties become more apparent under a moderate magnifier. Numerous as this insect is, and great as has been its destructive character, it is not generally known, even to applegr owers, and although its excavations as a worm in the apple are anything but a benefit to it, yet when the fruit is large, a moth may mature in it without damaging more than an eighth or a tenth of it, and the remainder can be used; but when the fruit is small, it is often rendered entirely useless. In this locality the moths make their first appearance about the middle of May, sometimes earlier, and the females deposit their eggs in the young fruit, at the point marked *b* in our illustrations, where the young worms, as soon as they are hatched from the eggs, enter the fruit and excavate it, in the manner shown at *a*, also exhibiting its channel and aperture of escape, when it has finished its course as a worm.

If all things are favorable, these worms mature in about a month, therefore the first brood of the season leaves the apple from the fifth to the fifteenth of June, and the moths again appear between the first and the middle of July; but there is no uniformity in their development, for about the time some of the worms are mature and are leaving the apple, others are only hatched from the eggs and are entering. Generally there is but one worm in an apple at a time, but we have sometimes found two. We believe, however, that more than two is rarely ever found. Some apples, of course, do not fall, even when infested with these worms, and even some entire kinds resist them in this respect, but the majority of the apples infested fall. Now, if these fallen apples are gathered before the worms have escaped, and are fed to swine or cattle, or if swine are permitted to have the range of the orchard, many of them will be destroyed. They do not, like the *curculios*, leave the apples to go into the ground, but seek a shelter elsewhere, above ground, in which to spin their cocoons. In crevices of the rough bark, or under scales and chips of bark, or in bunches of dry leaves, are favorite places for this purpose.

Therefore, it is recommended to furnish such places of shelter artificially, by placing old pieces of cloth in the crotches of the limbs; by tying hay, straw, or cloth bands around the trees; and examining them at least once in every ten days, and then destroying the worms and cocoons that are found there. We have seen it suggested that old cloth bands should be used, and every week or two they should be taken off and passed through a *clothes-wringer*. The late broods of these insects remain a long time in the worm state, even after they are spun up in a cocoon. We have found the worm in the apple in midwinter; and where apples are kept in barrels for shipment, when the barrels are opened in the latter part of winter, or early spring, sometimes

dozens of cocoons, on the inside, will be found each containing a worm, so that their pupal period must be comparatively short. There are many interesting traits in the history of the codling moth which would be more properly detailed in a work exclusively devoted to insects. The foregoing must suffice in this place for the present.

THE PENNSYLVANIA CROPS.

The wheat harvest in this State is nearly over. In some of the richest agricultural counties, such as Lancaster and Chester, the crop is unusually light, and in the western and northern counties many of the fields are not considered worth cutting. The extremely cold weather and the scarcity of snow last winter are responsible for the small yields. In the Cumberland, Lebanon and Juniata valleys, where the deep snow covered the ground uninterruptedly for several months, the crop is heavy and considerably in excess of the average, and in the eastern, central and southern counties it is generally large and excellent. In Dauphin and surrounding counties, with one or two exceptions, the wheat crop has not been better for several years. Oats are almost ready to be harvested. The crop is uniformly good, and will be the heaviest for five years, almost doubling that of last year. Corn, although backward in many places, because of the spring drought, promises more than an average yield. The drought has generally rendered the hay crop very short, especially clover. The potato crop will be immense, notwithstanding the ravages of the Colorado-bug.

The above, which is going the rounds of the press, is a fair reflex of the crop *status* of the whole country. In passing down through the entire State of Delaware, about the middle of July, we found all the wheat and rye harvested, and some farmers had commenced cutting their oats; and while, in the aggregate, the results did not seem promising, yet there were some fields that presented as fine a "show"—judging from the number and size of the standing shocks—as ever we have seen anywhere, or at any time; especially on the lands pointed out as belonging—or having belonged—to the distinguished Clayton family; and as to *peaches*, the great fruit staple of the State, the crop will be *distressingly* large; and this will be augmented by a comparatively large crop of peaches in Pennsylvania and Maryland. Since that time, we have had a conversation with our friend, J. R. H., of the Mt. Joy *Herald*, who had just returned from an extended trip through Pennsylvania, Ohio, Indiana, Illinois, Missouri, Kansas, Nebraska, Colorado and Utah, and he represented the crops as generally good, in some localities superlatively so, the drought, the "chinch," the grasshopper and potato-beetle, to the contrary notwithstanding. Corn, potatoes and tobacco, on the whole, look exceedingly promising, notwithstanding their late start. If the weather is favorable after the seed is planted, late planting makes but little difference in the perfection of the grain or fruit. A very striking instance of this kind came under our observation the present season. As one of the effects of last winter's cold, we have a grape vine that only began to put forth its leaves on the first of June, when other vines in proximity to it were already in bloom, and, of course, we naturally supposed these would be a month behind the others all through the season, but this is likely to be otherwise. When these late ones were in bloom, the others had already clusters of grapes with the berries as large as marrow fat peas; but now (August 10) there is no distinction whatever between them. Both are Isabella, and both bid fair to ripen at the same time. Of course, if the retarding causes continue, there will be a difference in the ripening periods, corresponding with the starting period, but if other things are favorable to natural development, the outcome will be alike in late or early planting, budding or blooming.

In a recent conversation with Col. B., one of the Kansas "colonists" who left Lancaster a few years ago, and who has returned to Pennsylvania to fill an appointment at Bethlehem, he informed us that the agricultural prospects of Kansas never were better than they are now, notwithstanding the depredations committed by the "Rocky Mountain Locusts" last year. The second brood of these insects are a sort of "mules," and are incapable of procreating a third brood. Moreover, they become infested by a species of parasite, which either destroys them or renders them abortive. Besides, our country is so vast, and so diversified in its soil and climate, that a general failure in the crops is an almost impossible event. Add to this, our net-work of extended railroads, canals, and lake and river navigation, is so great, our means for the diffusion of knowledge so ample, and our other facilities generally are so multitudinous, that when a failure in the crops occurs in one State or district, the deficit can be easily and promptly supplied by another one more favorably situated, and this almost without limit.

Bad as things are represented in Lancaster county the present season, before the end of it comes, it will be found that the crops will result in their usual equalization, unless some improbable and unforseen calamity should suddenly prevent it.

In this connection we would state that the oats, corn and potatoes, of Lancaster county, including also the tobacco, promises an average yield. The wheat, rye and hay will be short, but the quality was never better, and the prospects *now*, for a "second crop" of hay are as good as usual. Mr. Milton B. Eshleman, of Paradise township, sent to us two specimens of oats as fine as we have ever seen. They were of the varieties known as the "skinless" and the "potato oats." The former was four feet tall, and the latter four and a half feet, and the seeds of the latter were as plump, heavy, and abundant as usual. The *skinless* variety was, perhaps, not so prolific. The grain of this kind comes from the husks or glumes, naked, like wheat or rye. From three grains of this variety, distributed through the Agricultural department, he raised seventeen large stalks, as before stated, and each containing the usual quantity of seeds. Oats in general will be short in the straw, but the yield and the weight of grain will be far better than was at first anticipated. The general garden and late field crops, are abundant and of an excellent quality. Potatoes, peas, beans and cabbages were never better at this season of the year, and radishes are a *drug*. On the whole, it seems almost profane to indulge in lamentations.

Condition of the Wheat Crop.

A despatch from Washington says that the returns of the Department of Agriculture for July 1st show the condition of spring and winter wheat together at about 82 per cent. on an average. Winter wheat, including California, average 74, and spring wheat 96. The spring wheat States in the Northeast and Northwest are generally in high condition. Of the winter wheat area, the South Atlantic and Gulf States are generally above the average, but in the Middle States the condition is very low, New York ranging down to 45. West of the Allegheny the prospect is better, the State average being between 71 in Ohio and 95 in Iowa. California reports winter wheat at 76, and spring wheat at 55.

BITS AND DIMES.

There are comparatively few of us, perhaps, who are not in the habit of using improper and ungrammatical words and expressions, knowing them to be such; many of which, through forces of habit, have become so common among the masses, that they seem almost excusable; yet here in California there are some which stand out so prominent that they seem almost unpardonable. The most universally adopted, yet inexcusable word for business people—men and women of sense—to use, is "bits," when applied to money—twelve and one-half cents—just as bad and no worse than "levy," the name commonly made use of for the same sum in the Southern States. Now I neither know nor care how, why, when, or wherefore those terms came into use; it is enough to know that there are no such denominations in federal money—as most school children are doubtless aware; therefore I would humbly suggest that "children of a larger growth" discard the use of the outlandish words, "bit" and "levy" altogether, and, as loyal American citizens, adopt in their stead, dimes and cents, that our brother citizens from other States, may not feel that they have entered a foreign country the moment they commence to do business in California or the South.

The above extract we clip from the California correspondence of the *Camp News* of May 1st, 1875, on the monetary system of the "Golden State." We admire the writer's patriotic zeal, but we think any attempt to reform the coin nomenclature of a specie-circulating community, will only be an exhibition of Don Quixote's attack on the windmills, and quite as ineffectual.

He need not have gone so far as California to find a field of labor of that kind, for the term "bit" is still used nearer home. Although the terms "fip" and "levy" were very generally used in Pennsylvania almost up to the period of the last suspension of specie payments by the banks, yet, forty years ago, and at a more recent date—perhaps at the present time—the terms *picayune* and *bit* were applied to half dimes and dimes, and to the Spanish and Mexican sixteenths and eighths of a dollar—commonly called "sixpence" and "elevenpence"—all along the Ohio and Mississippi rivers, from Pittsburg and St. Louis down to New Orleans. Therefore California is not responsible for the *origin* of these names; they were carried over along with many other vulgarisms by emigrants from this side of the Rocky mountains, and they will probably remain where they are forty years longer.

Indeed, we think that "picayune" and "bit"—especially the latter—are likely to survive longer, and will be more difficult to eradicate than "fip" and "levy" have. In this fast age people adopt things "for short," and it has always been a mystery to us how the term *picayune* became so general along the Ohio and Mississippi rivers, seeing that it is a word of three syllables. In some parts of New York State the terms "sixpence" and "shilling" are still used for our fractional currency, although the originals which these terms represented have been long replaced by our present paper issue. To effect a thorough reform, the whole population must engage in the work; and especially merchants and shopmen of different kinds, must fix and name their prices, in accordance with our national denominations. *Three cents*, *five cents*, and *ten cents*, are too long for our people, and if *dime* becomes ever universally adopted, it will be because it is short.

The suspension of specie payments and the issue of fractional currency, have done much in displacing the terms *fip*, *bit* and *levy*, but still the terms *dime* and *half-dime* are hardly ever used, except as a "flash" term. It is wonderful how tenaciously we adhere to old names, even when their significance has passed away.

Some years ago, seeing that the people *would* insist on short names, a very learned and intelligent authority suggested "thrip" for the first three cent pieces coined, and "tip" for the five cent pieces, "dime" being deemed sufficiently short and expressive; but, to use a vulgarism, he might as well have attempted to "pump thunder," as to get the people to listen to it or heed it.

These things are not only so in regard to our money nomenclature, but they also pervade many other things in the application of common names. Even with the destruction of millions of dollars worth of property by the "Rocky Mountain Locusts" in the Western States, and their identity with the "Egyptian Locusts," people still insist on calling them *grasshoppers*, and in applying the name of *locust* to an insect that cannot possibly *eat* anything, and cannot even *suck* anything, except it is in a fluid state, and is rarely or never seen doing even that.

More, much more light must yet be diffused on all subjects, and that light must find a plane for its reception and its efflux, before there can be a thorough and practical reform in any department of human life and action. These views may not be "loyal," but they are—FACT.

Geese always flock together,
Eagles are usually solitary.

THE APPLE.

Its Origin, History, Varieties, Habits, Diseases and their Remedies.

The Apple is the fruit of *Pyrus malus*, of the natural order ROSACEÆ. Although the apple is mentioned in the Bible, and by Theophrastus, Herodotus and other ancient writers, it is probable that other fruits were designated by that name. Even now the word apple is used to designate a fleshy fruit, as the love-apple (tomato), pine-apple, rose-apple (*myrtaceæ*). The derivation of the word is curious. Anglo-Saxon *apl* (German *apfel*), one of the few names of our common fruits not derived from the Latin or French, is, according to Dr. Prior, of common origin with the Zend and Sanscrit *ab* or *ap*, water, and *phala*, fruit. The Latin *pomum*, from the root *po*, to drink, would also signify "a watery fruit." Whatever be the parent country of the apple, it was doubtless of Eastern origin. Pliny mentions the crab and wild apples as small and sour, so sour "as to take the edge from off a knife"; but some, he says, are remarkable for their "fine flavor and the pungency of their smell." Many varieties were cultivated about Rome, and they usually bore the names of those who originated them or grafted them. More than twenty sorts are mentioned by Pliny, but none of these, if in existence now, can be identified from his brief and imperfect description. Probably the Romans introduced the apple into England, as well as the pear, but the early chronicles are silent as to its subsequent history in that country, until after the establishment of Christianity, when the monks and heads of religious houses planted orchards, and thenceforth the fruit became common. The early settlers of America brought apple-trees, and an island in Boston harbor, where they were planted, still bears their name. The Indians helped to spread the fruit through the country, and "Indian orchards" are common throughout New England.

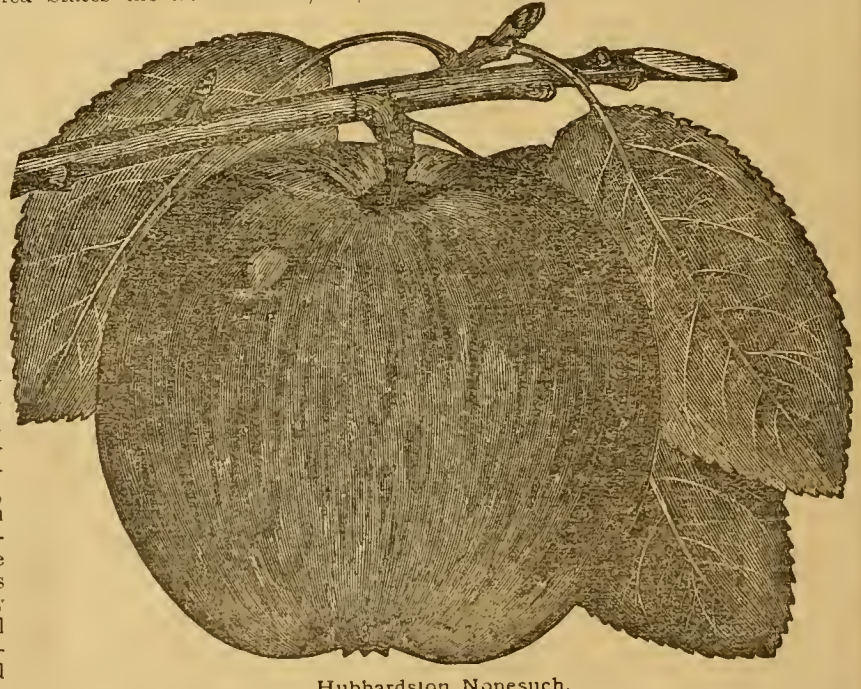
Whether in the wild state or cultivated, the apple is by no means a handsome tree. The stem is slow-growing, low-branching, with rigid, irregular branches, in many varieties pendent to the ground; the bark, after the tree has passed its early youth, becomes rough and scaly; the diameter of the head is usually greater than its height, which seldom exceeds thirty feet; the leaves are broad, tough and rigid, those of sweet-fruited trees being usually of a darker green; the blossoms are generally tinged with red and are sweet-scented; the fruit is more or less depressed at the insertion of the peduncle; woody threads (10) pass through the fruit, being regularly disposed around the 2-5 carpels, which contain two seeds each. The apple tree is very tenacious of life, many specimens bearing fruit in this country at an age of nearly two hundred years, and the best artificial varieties last from fifty to eighty years.

Gravenstein Apple.

The Gravenstein is large; flattish round; the skin very smooth and fair, of a whitish-yellow ground, mostly covered with a brilliant red, generally in stripes; stem short, rather stout, in a deep, rather broad, and somewhat uneven cavity; calyx large, open, in a wide, deep, uneven basin; flesh whitish, very juicy, crisp, of a high, sprightly, vinous flavor; rather acid early in the season, but when fully ripe and mellow it becomes mild and pleasant. It is both excellent for the table and for cooking. In use during September and October.

Various species of the genus *Pyrus* grow spontaneously in Europe; the *P. malus* is found as far north as 60° in Western Russia. In the United States the *P. coronaria*, or American crab apple, is abundant in the Middle States and southward; it is about twenty feet high, and the blossoms, which appear in May and are large, rose-colored and sweet scented, are followed by a greenish-yellow, fragrant fruit, about an inch in diameter. The apple does not grow very well in warm climates, and although cultivated in China and India, it is only in the cooler and mountainous parts that it lives long, and the fruit is less abundant and inferior in quality. In the Hawaiian islands the apple trees planted some years ago seem to have entirely changed their habit of growth, and send up long, vertical, almost branchless shoots. Wherever the apple occurs in its truly wild state, it is usually armed with thorns while young.

New and choice varieties of apples are obtained by planting seed, as about one in 10,000 of the resulting trees will prove better than the original, and a desirable kind once obtained may be continued by grafting or budding. In culture deep limestone lands are the best, as indicated by the analysis of apple wood and bark by Prof. Emmons, who found in one hundred parts of the ashes of sap wood sixteen parts potash, eighteen lime, seventeen phosphate of lime; in one hundred parts of the ashes of bark, four parts potash, fifty-one lime. The young trees should be planted in holes of considerable size and depth, setting the tree at the same depth it was in the nursery, taking care to replace none of the barren subsoil, and covering the surface of the ground with a mulching to retain water or liquid manure, which may then be applied without danger of caking the earth about the rootlets. The distance between trees should be from twenty-five to forty feet, according to variety, some spreading much more than others. Usually the trees are planted too closely; and the system in New England of lining the stone walls with these trees has much to commend it, as the walls retain moisture and also allow the leaves and snow to drift and accumulate at their sides, thus supplying needed nourishment to the trees; and, moreover, as the rocks wear away they replace the potash in the soil, or, if it be a limestone rock, the limestone which the tree so much needs. Apple trees will not grow well in wet soil, nor where the sod surrounds them; the ground should be stirred up about the trees and well manured with plaster or animal manures, as indicated by the soil, for several years after planting. Alkaline washes on the trunk will preserve the even green bark until the tree is ten or fifteen years old. The rich soils of the Western States yield apples of unequaled size, but the flavor is inferior to those produced on eastern limestone soils, or where the proportion of vegetable matter in the soil is less, and that of red oxide of iron greater. Dwarf apple trees are sometimes cultivated for hedges or ornament, and the Chinese raise the tree in pots. Many varieties grafted on the wild crab do well and are dwarfed; but in Europe the favorite stock for dwarfing is the French paradise apple, a naturally small tree, or the English *douzain*. In England and France the trees are trained on walls, as espaliers and balloon-shaped, to insure ripening; but in the United States no such precaution is necessary.



Hubbardston Nonesuch.

This apple is a fine large winter fruit, which originated in Hubbardston, Massachusetts, and is of excellent quality. The tree is vigorous and bears very abundantly, and is worthy of extensive culture. Fruit large, roundish, oblong; skin smooth, with irregular broken stripe of bright and pale red, which nearly cover a yellow ground; flesh yellow, tender, juicy and highly flavored.

Of ornamental blossoming apple trees, the common crab and the double-flowered Siberian crab, both red and white, are much cultivated.

The wood of the apple-tree, in its wild state, is fine-grained, hard, and of a light-brown color; and, in exception to the general rule, the cultivated wood is of a still finer and closer grain, weighing in the proportion of about sixty-six to forty-five of the wild wood. In a green state the wood weighs from forty-eight to sixty-six pounds per cubic foot, and it loses in drying about a tenth of its weight, and from an eighth to a twelfth of its bulk. It is much used by turners, and for the manufacture of shoe lasts, cogs for wheels, and some kinds of furniture; stained black and polished, it passes for ebony; and the wood of the roots is cut into thin sheets or veneers for interior decoration.

The apple as an article of food is probably unsurpassed, except by the banana, for its agreeable and nutritive properties. Unlike most tropical fruits, it requires no training to become acceptable to the palate, and whether baked, boiled, made into jellies, or preserved with cider in the shaker apple sauce or apple-butter, is popular everywhere. The exportation of New England ice was accompanied by the exportation of New England apples, which are better suited for this purpose than Western ones; and at the ice ports of China and India, American apples are to be purchased in as fine a condition as in our own markets. American apples always command a good price in England. Every farmer cuts and dries a supply of apples for use in the late spring and early summer, and immense quantities of apples are pared and cut by machinery, and slowly dried in ovens or in the sun, furnishing an important article of trade. The flavor is much injured by long exposure to the sun. When properly prepared, dried apples will remain good for five or six years, if kept in a dry place; and for use it is only necessary to soak them in water a short time previous to cooking. Crab apples make the best jelly, and are also much used for a sweet pickle. The *raisine compose* of the French is made by boiling apples in must or new wine. By mixing the juice with water and sugar a light fruit wine is obtained. Cider in the United States has never acquired much celebrity from the care of its manufacture, as it has usually been made from the refuse of the orchard. That made from wild apples or seedlings is much the best. In England, in the counties of Herefordshire, Worcestershire and Devonshire, much cider is made of superior quality. To these uses of the apple it may be added that a mixture of apple pulp and lard was the original *pomatum*.

The orchard products of the United States (mostly apples) are stated in the census returns for 1870 to be worth $47,335,189. More than a million acres are under cultivation as orchards, but many more acres of hilly land might be used profitably for this purpose, where no other fruit would grow well. In New England the crop is apt to be irregular, and some years the abundance is so great that the fruit will not pay for picking and sending to market, and is used for cider or to feed swine. The apple-tree is not subject to disease, and years ago the fruit was perfectly fair and uninjured by worm or caterpillar, in New England, as still in Oregon and the West; but now the borer (*Saperda bivittata*) attacks the stem, perforating it a little above the ground; the woolly aphis attacks the tender shoots; the caterpillar (*Clisiocampa Americana*) builds its cobweb nests and devours the leaves; the canker-worm (*Anisopteryx vernata*) also devours all foliage; the apple moth (*Carpocapsa pomonana*) lays its egg at the edge of the calyx, and the larva when hatched enters the fruit; and the bark louse (*coccus*) attacks the bark. The borer may be destroyed, as well as the bark louse and aphis, by potash washes (1¼ lbs. of potash to 2 gallons of water), if applied when the egg is unhatched; but after the borer has entered the stem it may be killed by thrusting a wire into the hole. The apple moth is destroyed by feeding all the fallen apples to swine, thus preventing the larvæ from entering the earth, where they undergo their transformation.* The caterpillar comes from eggs laid in the fall on the smaller twigs, encircling them, and, as the whole community collects in the nest, may be burned by torches on poles thrust among the branches. The canker-worm is not so easily managed, from the vast number of its armies. As the females are wingless, they may be prevented from ascending the stem to lay their eggs, when they issue from the chrysalis in the ground at the base of the tree, by tar or any viscid substance that will entrap them, and by digging around the trees in the fall and exposing the pupæ to the weather.

The varieties of apples suitable for growth in different parts of the United States have been made the subject of many experiments by the best pomologists; and the National Pomological Society, founded in 1850 by the late A. J. Downing and others, has published the results. To these reports, and to the publications of local societies, cultivators are referred for the best kinds for orchards in their vicinity. For general cultivation, the Williams Favorite, a large red apple, the Porter, Newtown Pippin, Early Bough, Red Astrachan and Gravenstein are recommended for fall use; while for winter the Baldwin, Rhode Island Greening, Danvers Winter Sweet, Fameuse, Hubbardston Nonesuch, Northern Spy, Spitzenberg, Minister, Vandevere and Roxbury Russet offer a variety both for cooking and dessert. For exportation, the Baldwin, Rhode Island Greening, Newtown Pippin, Spitzenberg and Swaar are most in demand. In the Boston market native apples command a higher price than Western ones, although the latter are usually larger and fairer. Apples are commonly sent to market in barrels, which weigh about 150 lbs.; and Pliny says that this was one of the two fruits known in his time that could be preserved in casks. On the Western coast, however, apples are always marketed in boxes somewhat smaller than standard orange boxes, holding about a bushel. —*W. T. Brigham, Esq., Boston, in Appleton's New American Cyclopedia.*

*The above is a misstatement in regard to the moth that attacks the fruit of the apple. Its larva never goes into the earth. The writer evidently has confounded the *Curculio* (which also infests the apple) with the apple moth, whose natural history and habits (see page 114) are treated at large in a leading article in this number of THE FARMER.

METHOD.

Of course, much is due to method in the accomplishment of labor. There are many people among all classes of society, who can never find time to either read a page or write a single paragraph. These people have it ever upon their tongues, that *they have no time* for these exercises. It is only necessary to say that such people cannot possibly make much progress, either mentally, morally, or intellectually. Not because they have not time, however, but because they have not the *will*. No one can become an intelligent, discriminating, and self-denying Christian, that does not *read*. In many cases God's word and the precepts therein contained have no more effect upon their life and conduct than water has upon a duck's back. It is evident that they have not the *will*, from the fact that as soon as they *have* a little spare time, they spend it on the door step, or in some dark window recess, and gaze listlessly and gaddingly into the street; and thus rust their lives out in the darkest illiteracy and ignorance; and they have no compunctions of conscience at all, that they are doing wrong or that that wrong will one day react fearfully upon themselves. Such a habit may be reformed in youth, but when it becomes confirmed in old age, it may then well be said, "Can the Ethiopian change his skin or the leopard his spots? So may they do good, who are *accustomed* to do evil." We do not by any means infer from these remarks that all the intelligent are good and all the ignorant or illiterate are evil; but, if an intelligent person is evil, it is not *because* of his intelligence; and on the other hand if an ignorant person is good, it is not *because* of his ignorance. Indeed there are many intelligent people in the world so under the dominion of self-aggrandizement, that they *desire* the masses to be ignorant that they may enjoy a monopoly of intelligence, and subordinate the ignorant masses the more easily to the advancement of their own ambitious ends; and there are many ignorant or illiterate ones, too, who settle down in the belief that intelligence is a special gift in which they can possibly never be partakers, and hence they never cultivate even the *will* to be anything but ignorant or illiterate.

The foregoing reflections have been elicited from having received a contribution from a farmer's wife, in which she remarks that "People are so ignorant here, that they hardly take even a weekly newspaper in their houses, while I read five weeklies and THE FARMER over and over, and sometimes two or three books out of the library. I do all the work in a family of *seven*, and still have time to return occasional visits." Depend upon it, that woman has *method*, and mainly through method is she able to accomplish so much. Hers can not be a merely impulsive, aimless and random life. She does not defer until to-morrow what *ought* to be done to-day. She does not *fritter* away the early portion of the day or evening, and then "owl it" into the late hours of the night, in doing what ought to be done in the earlier hours of the day or evening. Such a one is capable of moral regeneration through the *gentler* precepts of Divine truth; whilst her ignorant and obdurate sister can only be approached through "the thunders of Sinai," in some death or other calamity in her household; and even then she may only be temporarily awed, but not reformed.

SNAILS.

One of the singular industries pursued by the Parisians is that of fattening snails for the market. That the demand for this article of diet is large is proved by the fact that a great number of persons find profitable employment in furnishing an adequate supply. Most snail-breeders, who carry on their business outside the "barriers" of Paris, fatten the mollusks in tanks, but some prefer to keep the creatures in the open air. The preserver in which snails are fed is divided into eight or ten separate inclosures, each of which is surrounded by a line of saw-dust four inches broad, and freshly laid each morning. This simple hedge is an effectual barrier to the passage of any helix tempted to indulge vagabond propensities and stray beyond the boundaries of its allotted precincts. Each daily consignment of snails is deposited in one of the parks or inclosures, and is left to fast for 48 hours. After this they are removed to another park, where they are provided with abundance of food, consisting of cabbages, lettuce, endives, thyme and vine leaves. Purified by their prolonged fast, the snails eat with voracity, and in eight or ten days are fat enough to satisfy the eye and taste of a Parisian epicure. The tax upon fatted snails is very small, but it is estimated that, were the levy to be raised to one-quarter of that set upon oysters, and fifty snails to be counted as one dozen bivalves, the revenue annually arising from their consumption in Paris would amount to 200,000 francs.

It is stated that a diet of snails reduces a man's flesh until he becomes a mere skeleton. The edible snail of the Gold Coast has a shell three inches long by two inches deep. From this he protrudes a pair of tentacles four inches in length. These tentacles are the choice part of the animal, and are served whole in that savory compound called snail soup.

Shrimp-fishing is also an extensive industry in France, and is mostly pursued by women. The shrimps are plentiful on sandy shores, and the fishers wade knee-deep into the sea, pushing before them a net in the form of a wide-mouthed bag sewed around a hoop, and fastened to the end of the pole by means of a cross-piece. A bag tied around the waist receives the animals as they are caught. In the winter the shrimp retires to deeper water, and is there captured in nets drawn by boats. These nets are now made of galvanized wire, which resists the action of the water, and is a great improvement upon twine. Shrimps are sometimes left by the retiring tide in sandy pools, and when alarmed will bury themselves in the sand by a dexterous movement of their fan-like tail. In feeding they grasp their prey by the short rake-like appendages between the claws proper and the tail, and pass it along up to the claws, and so on to the mouth. The choice between shrimps and snails as food is a mere matter of taste. Many persons who partake of the one reject the other with loathing, but there seems, in fact, no reason why both are not as cleanly and wholesome as the oyster.

The snail is a *univalve* mollusk, and belongs

to the genus *Helix*, of which our common land snail is an example; and we have seen many a large "fat fellow" in Lancaster county that no doubt would have made a Frenchman's "mouth water." The oyster and the clam are *bivalves*, and belong to the genera *Ostrea* and *Mactra*. Nearly everobody admits that the bivalves named are most excellent shell-fishes, especially the oyster; but no reason can be assigned why a *bivalve* mollusk should be more "toothsome" than a *univalve;* and this may also run along down or up the scale, until we reach shrimps and grasshoppers. *Apropos* on this subject, on our visit a year ago to Delaware, Bay we captured some prawns and shrimps, which we preserved in alcohol. They were originally nearly white, but turned *red*, like a boiled crab or lobster. We also captured a number of white, or nearly white, grasshoppers, on the sandy flats, which we also preserved in alcohol, and these also turned as red as the shrimps and prawns, showing that chemically their substance must have been nearly the same. We merely give this as a singular coincidence, for what it may be worth.

QUERIES ANSWERED.

S. P. E. The brown earthy, cocoons and brown pellets, resembling "rye coffee"—which you took out of the decayed portion of an old apple tree, in June last, are those of a *Calcopterous* insect, belonging to the section *Lamellicornia*, and the family *Cetoniadæ*. The beetles—seven in number—issued from the cocoons between the 12th and 20th of July. They are fine, large specimens of *Osmoderma cremicola*. Like all of their family they are only found in old wood that is very far gone into decay. The pellets are the *fæces* of the *larvæ*. The *larva* which we took out of one of the cocoons is a yellowish-white crescent-shaped "grub," with brownish head and feet, and the anal end of the abdomen much enlarged. The pupa is dark brown, but could not be well described without an illustration.

J. Z. The "curious" caterpillar, of a velvety, olive-green color, and with two eyelike, and eye-brown-like spots on the front of the body, which you picked up off the pavement, and under the silver poplar tree, was the *larva* of a butterfly, known among entomologists, under the name of *Papilio turnus*, or one of its varieties, of which there are many.

The butterfly is four inches across the expanded wings, of a pale orange-yellow color, and marked with black—rather pretty, and commonly called a "swallow-tail."

H. C. The large moth which you captured on the piazza, was the "Satellite moth" (*Philampelus satellitia*) the larva of which infests the grape vines, usually known as the "Grape Sphynx," although there are several species of them.

I. B. A. Your "bug" is a *beetle.* (*Gymnetis nitida*), known among boys as the "Goldsmith," or "Gold-bug." It belongs to the Cetonians, and the *larva* is one of the white grubs found both in the ground and in decayed wood. Some cruel boys are in the habit of tying a string to one of their legs, "just to see them buzz."

I. S. G. The *larvæ* sent to us about the middle of July last, and which were on Mr. M.'s grape vines, Marietta, from the head of one which we preserved—all else being a putrid mass—were evidently the "Abbot Sphynx." (*Thyreus abbotii*). We obtained one a few days afterwards from Dr. Atlee's premises, the heads of which corresponded. This one changed into a chrysalis, of a dark brown color, on the ground, under a grape leaf, about the 20th, but the moth will not appear until next spring, and will be of a beautful chocolate brown and yellow color, and measure full two and a half inches across the expanded wings. It never occurs very numerous, is one brooded, and its feeding season short.

THE STATE FAIR.

Only one more issue of THE LANCASTER FARMER, and the annual exhibition of the State Agricultural Society will be upon us. In our next number we expect to give a synopsis of its details. In the meantime we admonish our friends, and all the friends of agricultural enterprise, and especially those in Lancaster county, to study the matter thoroughly as it is reflected through the columns of our daily and weekly newspapers, as well as through the published pamphlets and monthly journals. Lancaster city and county have been peculiarly distinguished in having been selected as the centre of the operations of the agricultural interests of the State on this occasion. They cannot be passive, for there is something important to *redeem*. We commend the broad and liberal action of our local society, because we believe in sympathy and co-operative *union for the sake of union*. Let Lancaster make her mark in any event; *it will pay in the end.*

According to the Premium List, a copy of which is before us, and the general scope of which will be found in our literary record, the following persons from Lancaster county have been appointed among the Judges, at its Twenty-third Exhibition, commencing September 27th, 1875:

Division 2. Part 2. S. S. Spencer, Trotting Horses, &c.

Division 4. B. J. McGrann, Reapers, Mowers, &c.

Division 6. S. S. Haldeman, Minerals, Glass, &c.

Division 8. James L. Reynolds, Fruits, Vegetables, &c.

Division 9. William L. Peiper, Cloths, Embroidery, &c.

Division 10. J. G. Engle, Domestic Cookery, &c.

Division 11. R. A. Evans, Musical Instruments, &c.

Division 12. S. S. Rathvon, Miscellaneous Entries.

It will thus be seen that Lancaster county is represented in eight out of the fourteen divisions.

Mr. S. S. Spencer is also one of the Vice Presidents, representing the 9th Congressional District. Prof. S. S. Haldeman is also Chemist and Geologist.

PRIMITIVE FARMING.

BY FRANK R. DIFFENDERFFER.

In the April number of THE LANCASTER FARMER, the writer of the present article had something to say about the present system of "Irrigation in the Valley of the Rio Grande," and he will now supplement that account by a further statement of the farming operations as they are to-day carried on in that non-progressive country. Unlike the United States, it is not the land of the reaper and mower, of the threshing machine, the cultivator, the plow and the thousand other implements and contrivances of improved modern agriculture. We are not wide of the mark when we say, that in many particulars, the usages still prevalent there differ little from those practiced by the patriarchs in the earth's morning age, after the Almighty fiat had made the lineage of Adam toilers for their daily bread. With all the inherited indifference of his Spanish ancestry to enterprise, improvement and general progress, the modern Mexican has, through his Indian blood, had this non-progressive spirit confined and intensified; and while here and there an isolated case of unwonted effort toward a higher and better state of things manifests itself, it serves only, by contrast, to call into fuller prominence the indifference and stagnation by which it is everywhere surrounded.

Although the early spring and late fall would allow several crops to be raised on the same ground during the year, such a plan is never pursued or even thought of. After the wheat crop is taken off, the fields are left to lie fallow until in the natural course of time the planting season again comes around. The succulent and rapidly growing grasses that spring up in such fields towards fall, when the rainy season comes on, are used for pasturage at times, but the more general custom is to send the cattle out to graze on the surrounding hills or wherever else sufficient pasturage may be found.

January and February, in ordinary seasons, are the months when the farmer prepares his fields for the wheat crop. Notwithstanding that they lay uncultivated so long, they are not as weedy as one might suppose; generally, unless the ground has been broken but a few years, they are clean, and the few weeds that are there, are cut down with a hoe. The field is then well irrigated, to allow it to be easily worked and afford sufficient moisture to insure the germination of the seed. When the surplus water has been evaporated and the ground in the required condition, the wheat is sown broadcast, much as is the custom here; no plowing, harrowing or other disturbance of the soil is attempted prior to sowing the seed, but as it was during the six previous months, so even does it receive the newly sown grain. Immediately after the sower, however, come the plowmen, from one to half a dozen in number, as the size of the field may require. The plow is the rudest and most simple device that can well be imagined for such a purpose; it consists of a horizontal beam or pole twelve or fourteen feet long, to one end of which is attached a single curved piece of wood, which serves as a handle; on the under side of the pole is affixed another shorter piece of wood, somewhat inclined from the perpendicular, after the style and serving the purposes of the coulter, the point being shod with a piece of iron to prevent its rapid wearing away and also to increase its strength. It will be seen from this, that the upper surface of the ground is not turned under or plowed down, but the result of dragging such a clumsy contrivance through the ground is simply to throw up a narrow ridge or furrow on each side while part of the loosened earth falls back into the slight depression made by the iron-shod coulter. The grain may therefore be said to be plowed under, nothing further being done in the way of harrowing it in.

By this crude system of planting, the grain is very irregularly covered, and as the oxen are not under very good control, very often patches of greater or less width remain uncovered. Sometimes, too, the previous fall's growth o grass is not fully torn up by the plows, and in consequence, it is difficult to tell whether it is a grass or a newly sown grain field that lies before you.

In plowing, as indeed nearly all other farming operations, oxen are almost exclusively used, mules infrequently, and horses still more rarely. Instead of the yoke in vogue here, a heavy beam of timber, fastened in the middle to the plow-beam and projecting on both sides, is laid on the head of the ox immediately behind the horns, to which latter it is fastened with thongs of raw-hide; the animal pushes therefore with his head, instead of with his shoulders. This method is a barbarous one and often causes oxen much suffering. When yoked up without sufficient care, the head is often unequally strapped to the beam, tighter on one side than the other, and must be held awry; a horn is also often snapped off in consequence, and signs of pain and suffering are constantly observable. The superiority of the American yoke is admitted, and yet it is very rarely substituted.

There, as here, the wheat has its enemies. Of these the principal one is the jack-rabbit or American hare (*Lepus Callatis.*) The fields lying on the outskirts of the villages and settlements are often so devastated by these rodents as to leave no crop worth harvesting. The common wild goose (*Anser Canadensis*) at times does considerable damage to the young crop, not so much by eating the tender blades as by treading it into the soft, irrigated ground. Of late years, smut has been developed to such an extent as to very seriously damage the crop, although its ravages have been partially stopped by steeping the seed-wheat into solution of

blue vitriol. A full crop of wheat largely depends upon a liberal rain-fall; a moderate crop is nearly always certain through irrigation, in spite of the drawbacks just enumerated, but a heavy crop requires moisture in the shape of rain. The young wheat grows rapidly and requires no further attention until harvest time, save irrigation every eight or ten days.

The farmer's most serious troubles begin when his grain is ready to harvest. Help at this season is always scarce; fruit is then abundant and laborers manage to get along with very little work; the sickle is the only implement used to cut the crop, and the progress is correspondingly slow. As but a small portion of the straw is utilized, as will be seen further on, the heads are cut off at about half their height above the ground, with just about enough of the straw still attached to not render them difficult to handle. If not ready to thresh his grain at once, it is loaded on carts and hauled to some large room or building where it is carefully housed until such time as the owner finds convenient to market it. Most generally, however, the grain is at once threshed on the field, and this is by no means an insignificant matter.

A threshing floor is prepared—the same one is generally used for many years—on the highest available ground, by carefully removing the surface earth, together with all the grass, weeds, stones or other objectionable materials; the exposed surface is then trodden and pounded until an even, hard floor has been made; this threshing floor is circular in form and from fifteen to fifty feet in diameter; around the circumference, at intervals of eight or ten feet, stout upright poles or posts are firmly sunk into the ground; a strong rope is fastened to these posts, passing entirely around the enclosure several times and making a very effective temporary fence. On the threshing floor thus prepared and so enclosed, the unthreshed wheat is now placed, generally forming a high circular mound. The animals whose laborious task it is to tread out the grain are now admitted. Horses and mules are commonly used, but even horned cattle and goats are sometimes employed. There are always persons who go about from ranch to ranch with a herd of horses and tramp out the farmers grain for a stipulated price, generally one-tenth of the amount of grain threshed, but often the services of these men are not to be obtained when needed and the farmer is consequently thrown on his own resources, hence the employment of the inferior domestic animals for this purpose; neighbors frequently lend each other mutual aid on these occasions and thus save the professional threshers' percentage.

Tramping out the grain is no light task, either for man or beast; the animals are not ridden around the ring, as with us, but turned in loose; a man then enters, armed with a heavy whip, and begins to drive them over the grain, slowly at first, but faster as the straw is gradually broken up. A stranger or more picturesque sight than this cannot easily be imagined. Because of the great heat during the day, this work is principally carried on at night, when several lamps are hung around at convenient distances, to afford the necessary light. Horses soon tire of this kind of work, and the lash and the voice are in constant requisition; they are not allowed to walk, but are urged over the yielding material at a rapid trot, or even a gallop. To follow the horses in their weary tramp is equally tiresome to men, and these therefore relieve each other at short intervals in the fatiguing task of driving. A ride at night, during the harvest season, will usually discover a number of places where this work is going on; long before a glimpse of the lights is obtained, the cracking of the thong, interspersed with shouts and objurgations, fall upon the ear.

This toilsome work being at last accomplished, the equally difficult task of separating the straw and chaff from the grain begins. Forks, extemporized out of mezquit or tornillo wood, are most commonly used; the coarser straw, or *paja*, is first removed; and this is a matter of no little trouble, as it is broken quite fine. The chaff presents even greater difficulties; the fanning mill is as unknown as the reaper, and the free winds of heaven are relied on by the Mexican to complete the winnowing process, even as they were five thousand years ago in Asia. But winds and breezes come not at man's will, and sometimes when he most needs them they are absent and most persistently remain so. I have known a farmer's crop to remain on the threshing floor two weeks, simply because there was not wind stirring to permit winnowing operations. All this while, night and day, some one must remain by the grain pile, to prevent theft, as, unfortunately, many of these people are not given to draw such close distinctions between *meum et teum* as are desirable.

When the anxiously awaited winds do come, the grain pile becomes a scene of much activity; the as yet unseparated mass is tossed high in the air and against the wind, which quickly drives off the chaff; the lighter the breeze the more laborious the process and the more frequently it must be repeated, while a stiff wind soon completes the operation. The rainy season follows close upon harvest, and if the latter is much delayed, rains often fall while the threshed grain still remains unwinnowed; this is a critical time for the farmer; wagon-covers, blankets, and every available piece of canvas that can be borrowed is brought into requisition to shield the exposed grain, and often those who cannot command these necessary coverings garner their crop in a damaged condition, sprouted and musty.

[TO BE CONTINUED.]

GOSSIP ON FRUIT CULTURE.

"Plant fruit; yes, fruit! in no niggard hole, to rival the slug worm's toil;
But wide as the patriot's unbought soul, and deep in the cream of soil!
Fruit to temper the winter's ruth, to soften the summer's rage;
Fruit to brighten the morn of youth, and mellow the eve of age."

Yes, plant fruit, they bloom in early spring and make your surroundings fragrant with perfume, and as ornamental as choicest flowers, while the bud of promise is cheering to behold and calculated to draw out our grateful hearts in love and adoration to Him who dispenses so many blessings.

God bless those who cultivate and bring to our doors, at a trifling cost, these delicious berries and refreshing fruit, so luscious and conducive to health. I can say with Burns, away

"Wi' sauce ragouts, an' sic like trashtrie,
That's little short o' downright wastrie."

Nevertheless, we find horticulturists, like other folk, have difficulties to meet, and often find their labor and vigilance will not protect them from frost, blight or insect foe, or fungus spoliation. Thus it is, force in nature is twofold attraction and repulsion—growth and decay—antagonism seems to be one of the fixed principles to propel—the kite rises only when held by the string and acted upon by the wind. This suggests a puzzling question, but in the sweat of the brow we shall earn our bread, and there is certainly the best reason for it, to stimulate our otherwise indolent habits. Did the fruit grow, as in the tropics, that we had nothing to do but recline in the shade and eat, and vegetate as the savages do, we would be no more advanced than they; but stimulated to exertion, we profit by experience, and if duly exercised in our tribulations we shall be the wiser and the happier for patiently submitting—provided we do not wilfully and knowingly violate fundamental laws that must necessarily govern us and all our surroundings for time and eternity. Well, although I can not say with the thrifty "old school" husbandman,

"I eat my own lamb,
My chickens and ham,
I shear my own fleece and I wear it,"

I can sympathize with those who are so blessed.

When I commenced my gossip I intended to answer, or rather gossip, on the blackberry question. The worthy editor of this journal places in my hands specimens of leaves, stem and fruit, from the green berry, through various grades, to fully ripe, given him for inspection by our worthy friend J. B. Erb, who says that all the blackberry bushes on the whole of his patch were so affected—partially so last summer. I think, also, on microscopic inspection of a dry leaf, I noticed the incipient stage of a fungus, and also detected a minute, reddish larva. But to neither of these do I attribute the disease of the berry. I notice, even in the green berry, all the terminal achenia, or pips, or seed envelopes, which constitute the fruit when ripe, were cracked or shriveled. Thus the conic outer tips, rather a little one-sided, were all affected in like manner, and from one and the same cause; it gave the ripe berries an unsightly appearance; while plump, full and juicy as usual below and upward, except the conic top, which was of a shriveled or rotten, gangrenous, diseased aspect, making the berries objectionable. Now comes the question, Why are they thus? Remember, I am gossiping, and if

"Words are like leaves, and where they most abound
Much fruit of sense beneath is seldom found,"

I'll own the "corn." You are invited to the "shade" of the leaves, if fruitless. As a gossip I do not feel under obligations to "keep shady," but say my say.

First, there was a marked uniformity in all the decayed tips of the fruit, as rather one-sided. I should like to know whether this was facing the east, since, when the pistils, like minute bristles, form upon the rachis of the fruit-bearing central column, and the ova just forming to assume fructification—the lower part of the same being shielded by the calyx and filaments of the young anthers, also developing—moisture lodged among the terminal pistilla involving the tender ova, a cold night, a slight frost, might expand the delicate texture of the ova and produce a slight rupture even from its own juices thus exposed, while those lower down on the rachis are protected, it would only affect the terminal or exposed ones. Then again, in this condition, a bright morning sun striking this benumbed or frosted portion, may cause such a change in the tender tissues as to prevent subsequent development of that portion of the fruit, which would not prevent the enlargement of the rachis and the further development of the rest of the berry. Such seems to me to be the only rational ground upon which to form an opinion that would meet the case. Whether my conjecture is correct in fact, I shall not declare, as no one has a better right to know the perplexing theories in vogue as regards the action of cold, frost and freezing on vegetation, than myself, having carefully studied the published accounts to be met with in our various monthlies, as well as the older experimentalists. See *Gardeners' Monthly*, p. 177, June, 1872: "How Hardy Trees are Killed by Frost," which also refers to *Hovey's Magazine*, the great battlefield in which the conflict of ideas with established opinions first took place. It was held to be heretical that moisture in the atmosphere, or moisture in any way, had aught to do with our winter losses. Subsequently Dr. Lindley, that noted botanist, in *The Gardener's Chronicle*, took up the subject of the disruption of cells by frost. *The Gardener's Monthly* undertakes to show that it was "evaporation and not the mere degree of frost which destroyed usually hardy things," and throws a fling at "those who choose rather to borrow lights from the tapers burning in the vaults of dead but honored names, than open their eyes in the daylight of facts which surround them." "Even men," he continues, "or at least one man bearing the usually respected title of 'Professor,' descended to low scurrility and abuse of the editor personally for the views advanced in this magazine (*The Monthly*). But the day of justice has come," he adds triumphantly.

While I agree with the author so far as his remarks apply to the severe winter of 1871, in connection with the drought, both in the ground and in the atmosphere of the preceding summer, as the cause of the severe losses by frost; besides, the communications of Mr.

Josiah Hoopes and Mr. Sargent carry great weight and force with them, and demand our respect and attention. *The Gardener* says: "We suppose even 'Professor' Featherman himself will now understand that it does not require a man to be 'convinced against his will' in order to believe it. Those who have observed the details of the 'freeze' can trace the drying out step by step to the death of the tree." Suppose, on the other side of the question, that no matter what proportion of moisture may remain in the sap vesicles, that surely cannot be utterly evaporated to perfect dryness; in which case a "freeze" is not required to be able to "trace the drying out step by step," since the tree is virtually dead already, for the drying out is accomplished by the evaporation. Now if we assume Lindley's view, that the frost destroys or ruptures the protoplastic partition walls of the cells, causing the opposite nodes of its galvanic or vitalforce to commingle and change its properties, so that new cells cannot be developed in that direction, then of course evaporation will complete the business, and dry twigs or dead trees be the result. But they show that death need not follow a "freeze." Plants have and do recover under favorable conditions, no matter how hard the frost. Even when split by it they have survived.

In *The Gardener's Monthly*, p. 228, for August, 1875, a Hudson River (N. Y.) correspondent details some singular losses in transplanting of some yuccas and hollies, and then goes on to say that he attributes the losses "to what I consider the most unaccountable of our unaccountable winters," stating what and the care taken in transplanting various species of thuja, &c., adds, "nothing could have looked finer or greener than it has, the finest specimen of a Thuja Lobbie, moved with a perfect ball, not a root exposed, until last Sunday—nearly seven months—when it suddenly began to turn brown and the leaves to fall off, and I suppose in spite of my shading and syringing, I shall loose it. Quantities of pears, fifteen in a row—Espaller—blossomed profusely and as suddenly faded away and died. Several hardy evergreens in the vicinity of a cryptomeria died, the cryptomeria not even being burned or scorched." The cryptomeria is a Japan Cedar, allied to Taxodium, called the C. Japonica, the C. na'na, dwarf—North China. I mention this, as the writer gives no other name than "cryptomeria." The writer says, "My idea is, that the prolonged steady cold of the winter, thermometer at zero during nights, for several weeks, and some three to five feet frost, so demoralized (if I may use the expression,) the ground as to make it entirely irresponsive to the external air, which was mild and balmy, being very hot at one time—85° in the shade. When the ground and roots would be hardly above frost, a midsummer heat for two or three days, acting upon trees and plants in a most exhausting way, got no assistance from the roots or soil, and a sort of *coup de soliel* took place, and that I think affected the hollies and yuccas."—H. H.

The editor says, "We can give no explanation whatever of our correspondent's experience, and the one offered by himself does not commend itself to our judgment, and yet what can the matter be?"

Why not consider it, as the writer evidently does, a clear case of "evaporation," if not on the drought theory then take the "freeze" theory, and the thing is plain. Not to enter upon a controversey on this "battle-field," let us get facts, and let the theories square with all the facts before we adopt them, or ridicule any one who takes one phase or special case to the exclusion of other conflicting cases. This is the only way to find the true state of each case, separately considered. Effects are one thing, causes may vary.

One observer says, "Early peas, and some other forward crops, are frequently in moist situations, the most exposed to danger where they have eastern exposures, and where there are alternate frosts and thaws. as the winds from that quarter are apt, in such cases, to bring with them a portion of muriatic acid, which readily turns the crop black and wholly destroys them."

So I might give statement upon statement, scattered through various publications during a period of many years; and, indeed, did space permit, it could do no harm to ventilate the whole subject fully. I have said this much, that I may not be accused of forming a hasty conclusion upon a subject as important as it is interesting to horticulturists generally. Therefore, what is said in "gossip," need not necessarily pass for "Gospel." I gave my opinion as to the cause of the dead ends on Mr. Erb's blackberries; if others have a more rational opinion by all means let us have it.—*J. Stauffer, Lancaster, Pa.*

PUBLIC WATERING TROUGHS.*

Brothers and Sisters: I desire to draw your attention to-day to what I consider a "good thing," viz.: "Public Water Troughs." Do not understand me to mean rain-water spouts, nor horse-troughs in your farm-yards; neither do I mean such as the railroad company has put up at Leaman Place, to enable the locomotives to scoop up water while they run. I mean none of these; but water troughs put up along the roadside, and constantly supplied with pure, fresh water. I have, from my earliest recollection, fairly worshiped the kind hearts, the public spirit, and the "Good Samaritan" principles, that had prompted some persons to provide public watering troughs at their private residences. I noted all such places for miles around, and always honored the men who had provided them. I entertained for them more than ordinary respect. I almost envied them the sweet consolation I imagined they might enjoy when looking at the noble but jaded beasts drinking in the refreshing draughts provided by their hearts and hands. But never until last month, when I drove to Maytown, in this county, did I fully realize and enjoy the great comfort they afford to travelers in a strange district of country, who have a humane feeling for their horses, to say nothing about the comfort to the horses themselves. When one is passing through a section where he is unacquainted with the native streams and water courses, or knows not where to find the best stopping-places; or one who would rather not stop at a public house to water his horse, for fear of the frowns of the landlord if he should water and then drive on without going in to take a drink; under such circumstances he cannot approach or pass a watering trough without a thankful heart and a silent prayer for the beneficent individual who has provided it.

Possibly it may be asked, How can a country tavern-keeper be expected to keep up his establishment and a watering trough for the wayfarer without compensation? Well, we have only to say that *he* don't make the water; that is God's beverage, provided for the human family, and if any man cannot co-operate with the Deity in furnishing it free to the hand of man or beast, let him place up an appropriate card, and have printed thereon, "*One cent* for a man, *three cents* for a horse." The wayfarer can then drink freely without feeling that he is under an obligation to go in and call for *something* at the bar which he does not want. No doubt many young men—yes, and old ones, too—are drawn into hotels to drink what they do not desire, because they are afraid to water and drive on while the landlord stands in the door. How many poor jaded horses are driven past, from the same cause, when they are in need of water! It seems to be an easy thing for a man to form an evil habit, and the effects of compulsory drinking at the public houses soon grows into a habit, and often renders men incompetent to take the proper care of their horses, often ruining the poor brutes for life, to say nothing about the great injury to themselves.

This subject ought to interest every one who has a proper care for his beast—every one who feels a sincere interest in the cause of temperance—the tender heart of every *matron* and every *patron* of Husbandry, who are expected to possess the necessary qualities of head and heart, and carry them out in their lives. I appeal to every member of the Grange who has running water on his farm, to erect a public watering trough, as monuments to the great blessings we have obtained from our noble association; and believe, me you will have a comfortable feeling all around the heart every time you see a poor beast quenching his thirst at the fountain you have prepared.

This is not a question of mere dollars and cents; it is a question of humanity in behalf of a noble animal, made subservient to the profits and pleasures of the human family. Contemplate for a moment the great benefits conferred upon society by the use of the horse. How patiently, how faithfully, and often how cheerfully he subordinates himself to the behests of his weaker master. With all the grand schemes of conveyance, by ship, by steamboat, by railroad and by canal, still there is a vacuum in our social and domestic concerns that can never be supplied by any other animal than one of the equine race. He is God-given, and to God we are accountable for a right use of him. Therefore it behooves us, out of our abundance, to supply his humble wants at such times and places as he stands most in need of our ministrations. In giving thus, we give unto ourselves in the same degree that we give to others. I cannot but think of the dying words of the old millionaire, in taking a retrospective view of his life, at its close, and which he had engraved upon his tomb:

"What I spent I kept:
What I saved I lost:
What I gave I have."

This embraces the whole story of human life. All we really have is our boarding and clothing; all that we carry with us into the other life is that which we have charitably, humanely and judiciously *given* while we are here.

*An Address read before Strasburg Grange, No. 62, July 10, 1875, by M. B. Eshleman.

For The Lancaster Farmer.

ARTIFICIAL WATERINGS.

Artificial waterings are absolutely necessary for plants recently transplanted. If the weather is hot and dry, fruit and ornamental trees, shrubs, flower plants and vegetables, and even seed sown, are all benefited by occasional artificial waterings. It is well known that all kinds of plants grow more in wet summers than in dry ones; and that heavy rains give fresh growths to all living crops in dry seasons. That should teach all cultivators the necessity of applying waters to individual plants in very dry seasons. The quantity and frequency of application may be considered by the quality of the soil and the grade of the lands. An orchard of fruit trees set out in spring upon high or sloping lands, will require more frequent waterings than trees of the same varieties set upon low and level lands, and the more especially if the high lands have a gravely subsoil. All waterings should be applied on late afternoons or evenings; and for trees, a mulch should be put over their roots to retard evaporation. That will keep the soil longer moist, and the waterings will be doubly beneficial. Cabbages, broccoli, celery, and many other vegetable plants, should be watered after being transplanted, if the weather is hot and dry. Many plants in the flower garden should be watered when need be.—An Old Husbandman.

For The Lancaster Farmer.

ORNAMENTAL GARDENING.

Most of the ornamental foliage bedding plants should not be let bloom. Whenever flower buds form upon the ends of the shoots, nip them off with a piece of the shoot. That will make the plants push out more branches, and they will form massy plants; the leaves will be larger and more numerous, and their colors will be clearer and more distinct, and variegations will be more beautiful. *Abutilon Thompsonii* is a beautiful, small tree, whose leaves are marbled with green and golden yel-

low. It forms a massy, elegant bush by nipping off the points of the shoots occasionally to make it branch more profusely.

Coleus has three classes: a very dark class without variegations; a class with dark leaves, edged with green; and the golden class has brown and crimson leaves, edged and blotched with yellow. When this latter class is used in ribbon beds, along with the dark leaved classes, the contrast is beautiful. *Achyranthus* has but four varieties: two with deep crimson leaves, one with very dark leaves, and one whose leaves are variegated with green, yellow, white and deep crimson. The Achyranthus seldom produce blossoms, but Coleus are often disfigured by producing blooms. *Alternantheras* are all of dark foliage. Don't let them bloom. *Peristrophe angustifolia* is a dwarf creeping plant, with leaves yellow and green, very showy; its blooms are purple, and contrast beautifully with the leaves. It should be allowed to bloom, to render it more ornamental.—WALTER ELDER, *Philadelphia, July*, 1875.

LETTERS, QUERIES AND ANSWERS.

Seasonable Hints.

Dear Editor of The Farmer: It is with pleasure that I once again find so much time as to write a few lines for your journal. I have been too busy to write any sooner, for I like *time* to write, just as well as I do to work; and it is hard work for me, sometimes, to get on paper that which I could communicate with ease, and in a short time, in conversation.

Lilies.

What is the matter with the White lilies, that they do not bloom? Does the root require deep or shallow planting? They push up buds, and the buds dry up before they expand. Do I not keep them wet enough, or too wet, or what else is the cause? Will some experienced lily grower please inform me through THE FARMER?

Rose Slugs.

If the "Rose Slug" eats up your rose bushes, get *Paris green*, mix it with flour and dust it all over them. It is sure death to the slugs, and will not injure the bush any. Mine, so treated, are fresh, green and healthy, and free from slugs.

Flower Slips.

Now is the time to plant flower-slips for the long winter—Roses, Verbenas, Geraniums, &c. Set them in a shady place until well rooted. Of course everybody knows this, but they do not always *think* of it in time.

Wine Making.

I will try to give you my method of wine making, and see if you do not agree with me:

In the first place pick your fruit (whatever it may be) on a dry day, rejecting all that is green, decayed, or damaged, crush it (the sound fruit I mean) by the aid of a cider or hand-press, or any other means you have at hand, so that it is thoroughly crushed. Put it into a clean salt sack; tie tightly shut and put it in the press. Now press out the juice and have ready your cask, well cleansed; or a large stone jar, whichever is most convenient, and put in the juice. The containing vessels must be perfectly clean, or you are likely to have sour wine. After the juice is expressed, having been previously measured, to each gallon add from *five* to *seven* pounds of good white sugar. As some fruit has more acid than others, the quantity of sugar will differ. Dissolve the sugar in the juice before putting it into the keg. The quicker you can do this the better. Fill the vessel entirely up with good juice; I never use water when I can help it. Now, place it in a cool, dry cellar. When it is done fermenting you can "rack it off"—if you wish to do so—but I never do, for that which falls to the bottom of the keg is what keeps it good; it is practically, "wine on the lees."

To Make Jellies.

To make good jellies use a brass kettle and good white sugar. Put in a pint of juice at a time, and one pound of sugar. When it begins to boil, look at the clock, and let it boil just fifteen minutes; pour it out, and you will have beautiful jelly. Boil only a pint at a time if it is a little more trouble.

Tin Fruit Cans.

I do not agree with those who discard tin cans, after one year's use. I have tin cans which I have had in use for ten years, and only lost one in all that time. I use them only for peaches, pears and tomatoes, as those fruits keep better in tin than they do in earthen or glass jars.

Old tin cans are nice to plant flowers in. Punch holes in the bottom to let out the surplus water; paint the outside; plant in your flowers and set them in a saucer, and they are ready for the window.

Butter-Milk Cakes.

One quart of wheat flour; *one* teaspoonful of soda; *salt* to taste; *three* eggs well beaten; and stir in enough of butter-milk to make a batter as for "flannel cakes." Put two tablespoonsful of lard in a pan, and bake your cakes, replenishing the lard as needed.

Strawberries.

As I read everything in THE FARMER of interest, I of course read the Strawberry articles.

What is good to prevent the ants from getting at the roots of strawberries, especially young plants?

I always have trouble with them when I set out a new bed. Is the soil too heavy? I would not know what else. LEOLINE.

Elizabethtown, July 28, 1875.

We do not think the soil has anything to do with it, for this insect is found in almost all kinds of soil, light or heavy, rich or poor, hard or mellow, and even where there is no soil at all, if they can find anything to eat there. In regard to them, therefore, we call the attention of our fair correspondent to the following "seasonable hints," some of which we have tested years ago, and among which is one on the subject of ants. The best trap, perhaps, for ants, is to lay old ropes saturated with sweetened water, between the rows of strawberries and other plants, and when they become covered with ants—which they soon will be if there are any about—raise them carefully up and immerse them in hot water, and "set them again."

As to the lily query, we commend it to some of our floriculturists. Of course something depends upon the variety of lily meant in the query.

SEASONABLE HINTS.—The *Scientific American* says: If mosquitoes or other blood suckers infest our sleeping rooms at night, we uncork a bottle of the oil of pennyroyal, and these animals leave in great haste, nor will they return so long as the air in the room is loaded with the fumes of that aromatic herb. If rats enter the cellar, a little powdered potash, thrown into their holes or mixed with meal and scattered in their runways, never fails to drive them away. Cayenne pepper will keep the buttery and store-room free from ants and cockroaches. If a mouse makes an entrance into any part of your dwelling, saturate a rag with cayenne in solution, and stuff it into the hole, which can then be repaired with either wood or mortar. No rat or mouse will eat that rag for the purpose of opening communication with a depot of supplies.

Destroying Cut-Worms.

Editor Lancaster Farmer:—DEAR SIR:—The July number of THE FARMER states Mr. Heiland destroyed cut-worms by feeding them with wheat bran. I also made experiments, but I took leaves of the common Plantain (*Plantago major*,) moistened them and then thoroughly mixed with them a preparation of Paris green and flour. In the evening, the leaves so prepared, were laid on the ridges where we intended to plant tobacco, and the next morning we found from one up to twenty-three dead worms. I afterwards found out that the leaves of the common "poplar" or tulip-tree, (*Leriodendron Tulipifera*) served the purpose better, as the worms are very fond of them, and they do not wilt as soon as the plantain leaves. Now, why not combine the two plans and mix Paris green with the bran and put it on a field known to be infested before commencing to plant? Mr. Heiland's plan may kill some, but mixing the poison among the bran would kill all the worms and would save the time and trouble of hunting up and killing such as would not die of the regular "Graham diet." In both plans, in order to be entirely successful, there should be no weeds in the field, as many of the worms will eat of them instead of "going" for the "put up" article.

I have found the striped potato-beetle (*Lytta vitata*) in large numbers on our early cabbage, but as they keep to the lower and outside leaves, and the cabbage has nearly perfected its heads, they cannot do much harm. Should they attack recently planted late cabbage, I think they would entirely destroy it in a few days.—*A. B. K., Safe Harbor, Lancaster county, July* 17, 1875.

Jots and Tittles from Dauphin County.

Let the boys and girls be the sole proprietors of something—a calf, pig, sheep, or several rows of potatoes, to raise as their own. You will lose nothing by it. The boys will whistle and the girls sing more, consequently the work will be done easier and better.

Raise plenty of turkeys. Send them into the wheat fields—they will destroy the army worm and many other noxious insects, and not injure the grain.

It is not every one who knows how to climb a fence. Nine out of every ten will go over in the middle of the panel. If there is a weak rail, down it will go. Get over near the post.

When following the plow think out a few items; when you get home commit them to paper; send them to the editor of THE FARMER (I believe he will cheerfully receive them) for publication—practical hints, founded on experience. It will please you to see your own writing in print, and some one will be benefited. It may be the means of producing many blades of grass where but one grew before.

We believe in learning something every day.

Hay crop very short; wheat good; oats, corn, potatoes, Hungarian grass, quite promising.

July 23, 1875. Yours, &c., B.

Nothing gives us more pleasure than to receive and print these brief but practical "Jots and Tittles" from our correspondent B., and especially his kind words for THE FARMER. They constitute many green spots in the desert of our editorial life, and also benefit others. Who will be kind enough to furnish us regularly similar contributions from Lancaster county?—ED.

Letter from North Carolina.

It is very strange in this day and time that so few of the young men of our country take the proper view (as we think) of farming. But few, comparatively, engage in it, while the many *try to be* lawyers, doctors, merchants, and other professional characters, none of whom are producers, but consumers, and none so independent as the intelligent and industrious tiller of the soil, the noblest calling in which man can be employed. It is a great mistake to suppose because lawyers, doctors, merchants and others dress fine, that they, and they alone, are making all the money, and having all the comforts, luxuries and pleasures this life affords. I say, and without fear of reasonable contradiction, that a farmer's life, if properly carried out, is the only truly independent one (in the true sense of the word) that a man can live on terra firma. To prove this, look around, and you can readily see who are the head, body and life of our country. Farmers and mechanics, beyond a doubt; and the cause is plainly seen by those who will see. Cats with gloves on catch no mice, much less rats.

New flour in this market sells at $3 per sack of 98 lbs.; new oats at 40 cents per bushel. Frequent fine seasonable rains, good for upland cotton, but not so good for cotton or corn planted in low lands; yet all our planters seem to be in good spirits, looking forward to reap good crops. Martin Richwine, of this place, planted one Early Peerless potato, cut into nine pieces, on the 15th of April, and dug up on the 13th of July 15 lbs. nett weight—30 to 1, and no extra culture at that. Joseph Harrah sowed last fall 1¼ bushels Fultz wheat, on three-fourths of an acre of ground, which yielded 36¼ bushels of clean and good wheat; a good yield we think, and that without what we call good farming—showing what the lands here would produce if worked as your Lancaster county farmers work their lands. Here we believe is a fine field open for all good and working people, farmers, mechanics, manufacturers and laborers. Then I say again, why do the people from your and adjoining counties go to the far West? Here is a fine climate all the year round, not surpassed in this Union, good natural soil, an abundance of timber for building and manufacturing purposes, minerals of different kinds, granite of various qualities; a fine country to raise fruits of all kinds, and fine for grape culture. All grains and grasses grow here, and of good quality. At the World's Fair held in London some years ago, the bread which took the first premium was made out of flour, the wheat of which grew in North Carolina. At a fair held in New York city, not many years since, the apples which took the premium were raised by Mendenhall & Westbrooks, in their nursery, five miles west of Greensboro', Guilford county, North Carolina.

All this speaks well for this State, and nature has favored her above and beyond others in different respects. All she needs is to have the right workers within her borders to show what she can and will do. I should like to see persons emigrate here, and especially from Lancaster county, and develope her resources. No one need fear to come here. Life and property are just as safe here as in any other State, and more so than in many other places. I belong to no ring, but speak of what I know, without any other motive but that which I believe is to the interest of my fellow beings who wish to migrate to better their condition.—*M. R., Salisbury, N. C., July* 15, 1875.

The Ant Pest.

Can you or any of your readers inform me of an effective remedy for ants infesting a pantry? I have been "worried" almost out of patience this summer with the depredations of these pests—both red ants and the large black ants. The pantry is kept as clean as I know how. I have tried all the cures of books and newspapers, including "chalking," borax, carbolic acid, flour, camphor, cayenne pepper, pennyroyal, etc., but "the cry is, still they come!" I have had some success in fighting the little red fellows, but the big blackies seem to have neither palates nor olfactories—they walk right over all, and seem to enjoy the fun. The pantry is on the first floor, adjoining the yard, and over the cellar.—*Housekeeper, Lancaster, Aug.* 9, 1875.

OUR PARIS LETTER.

Farming and Stock-Raising on the Continent of Europe.

Correspondence of THE LANCASTER FARMER.

PARIS, July 15, 1875.

EXPERIMENTS IN FATTENING CATTLE.

Prof. Sanson, of the Agricultural College of Grignon, is the well-known advocate of the theory of fattening stock, to produce the greatest quantity of meat possible, by methodic feeding, in the shortest time. His writings tend to show that there is a stage in the fattening of animals, when the prolongation of the processes of fattening ceases to be remunerative, despite the animal's avidity for food. The latest experiment M. Sanson records, was that conducted on a Durham bull, tied up on the 24th of December last, in an ordinary shed with cows. The animal was not cut, weighed 15 cwt., and valued at *fr*358. The food consisted of beet, dried vetches, wheaten chaff and bran. The same ration of the first three substances was continued throughout the 64 days the fattening was pursued, but after 21 days, the original feed of bran, 14 lbs., was increased by one-half, and doubled during the last three weeks. After the second stage of fattening, the animal increased in weight at the rate of 5 1-5 lbs. daily; during the last stage, and with an increase of farinaceous diet, the flesh put up daily was about 4½ lbs., gradually diminishing to 3 lbs. It was at this point the animal was sold to the butcher, producing 51½ per cent. of meat as compared with its live weight, realizing *fr*581, being *fr*223 difference as compared with its value when put up. The food is valued at *fr*140, so that the net benefit was *fr*83, in addition to the manure.

THE AGRICULTURAL DISTRICT OF AMIENS.

One of the most interesting agricultural regions in France is that of which Amiens is the centre, because it not only exhibits great variety of soil, but also methods of cultivation. Yet, in the time of Arthur Young, that traveller could find no agricultural merit in the district. As Picardy was the seat of so many wars, its backwardness is thus easily explained. At present it is a thriving seat of agricultural and manufacturing industry. To the native methods of cultivation are joined those of Flanders and England; a large sea, or estuary board, and excellent canal and river accommodation, contribute much to the prosperity of the rural population; sixty per cent. of the land is devoted to the growth of wheat and industrial plants. Much bog land is tilled according to a system of root-crops and kitchen gardening. Having dried and leveled the soil, it is divided into parallelogram beds, 10 or 12 feet wide, each separated by a ditch or canal 6 feet in width, and connecting with the river. This canal serves to water the beds and to receive all vegetable refuse, for the latter is never directly buried in the soil, being as just stated, allowed to rot to form liquid manure. A three-course rotation is pursued, where salads, radishes, carrots, onions and leeks are alternated with potatoes, peas, cabbages and turnips; some cabbages weigh from 30 to 50 lbs; beets from 20 to 30; turnips 12 to 18, and the Tournery radish from 12 to 24 lbs. A visit to the market will confirm these weights. The breeds of cattle are naturally adapted to this almost tropical production of green cropping, and where deep culture and high manuring go hand in hand. The Flemish breed of cattle is in great favor, although the Dutch commence to be more in favor. Professor Sanson asserts these two belong to one and the same race, and where color seems to play an exaggerated part. The Dutch cow is an immense feeder, but then she can give as much as 40 quarts of milk a day, and from 20 to 30 is quite the ordinary yield. The Flemish cow has a greater disposition to fatten than the Dutch. The Durham breed is however preferred for fattening. When three years old, such an animal will be as ripe for the butcher, and twice fatter than a Flemish ox aged five years. To ensure this quality of precocity, crossings are in favor, and are found to distribute better that fat between the muscles, which in the Durham too often forms only a layer between the flesh and the hide. Sheep are not much reared in Picardy, but when so, the Southdown is preferred for its merit. At the Amiens Agricultural Show, sheep shearing contests, with the exhibited shears, take place; forty minutes is the average time for clipping an animal; prizes are also awarded for wool exhibited in the fleece; osiers also are entered for competition. By the intermittent drainage of marsh lands, the green osier can realize *fr*500 per acre. Pear and apple pulp, or pate, is a new agricultural product; it is highly prized, and if stored in a dry place will conserve the flavor of the green fruit for years. Five parts of water, added to one of the paste, and boiled for 30 minutes, forms an excellent, healthy, and cheap preserve.

THE MANUFACTURE OF CHEESE.

M. Paynel, of Caen, is one of the principal manufacturers of the famous Camembert cheese, of which he sends 100,000 every year to Paris, where they are sold for *fr*8 the dozen, or 13 sous a piece; now it takes two quarts of the best milk to make a Camembert, which represents over six sous the quart for the milk. M. Manetti, the director of the cheese *station*, or experimental farm, at Lodi, in Lombardi, holds that the preparation of good cheese depends more on the farmer than the dairy maid; it is by attending well to the meadows, the forage, in a word, that the excellence of cheese is determined. He shows that in case of two fields, side by side, of the same geological character, the soil of one was porous and friable, and produced excellent herbage, the other was undrained and stiff, the forage indifferent; when the animals were fed on the latter the cascine was deficient and the milk turned rapidly; in the former the contrary effects were produced. On analysis, the bad fodder was found to be deficient in mineral matters, alkaline phosphates above all. M. Manetti concludes that to obtain good milk for cheese-making, every effort should be made to produce a forage rich in quality rather than in quantity.

FORAGE AND FODDER.

Fodder will be again scarce this year, so that farmers are feeling themselves driven to sow maize, sorgho, Hungarian moha, &c., all of which possess the property of resisting drought, and can be preserved in covered trenches, when well packed, in a green state—air and rain excluded—for winter and spring feeding. The culture of green maize has revolutionized Belgian farming; it succeeds in all wheat soils, and ought to be manured, or succeed a manured crop; many sow some breadths every fortnight, from April to July, to have successive green cuttings; white mustard is a favorite autumn plant for milch cows with French farmers, and is familiarly called the "butter plant." After securing a supply of food, the next step is to ensure its economical consumption, that is, to present the aliments to the digestive forces of the animal, under such a form as to re-act without fatiguing, and to extract the largest number of assimilable elements. For example, in the case of grains, these do not nourish or fatten according to the quantity consumed but to the proportion digested, or, in other words, assimilated, and to promote the latter the food ought to arrive in the stomach well masticated and impregnated with the secreted fluids. To develop flesh, blood must be first made, for this is the source of organic growth; and fat blood can only be best obtained from rich food, administered in a moist form. In a dry state, alimentation demands too much effort from the digestive organs, and this is great even where the food is chopped or crushed. Too much time devoted to mastication is so much taken from nutrition, for it is not when in the act of eating that the animal puts up fat, but when it digests. Food for cattle ought to be then steeped in boiling water, and allowed to ferment and cool for 24 hours; the mixture becomes slightly acid, a taste the animals do not dislike; a little salt added will not only excite appetite, but promote assimilation. All cattle diet can be thus prepared. Chopped straw, cut roots, &c., mixed. In the case where twigs have been cut with their leaves, and stacked for feeding purposes, where hay, &c., is scarce, to sprinkle a little salt and water on them, when put in the rack, will increase their palatableness.

FLAVOR AND COLOR IN MILK.

Plants of the cruciferæ order, as mustard, &c., impart a flavor to milk when given to cows in too large a quantity; but it is not yet established that there is a connection between the food and the color imparted to the milk; madder, if mixed with fodder, will impart a red tinge, carrots a yellow, buckwheat and shave grass a blue; but these colors are not developed until the milk has had some time to settle; hence why many believe the oxygen of the air brings about the change, and to prevent which some dairies add a little "buttermilk" to the fresh milk. There are colorings, too, in the milk, that the nature of the food cannot at all account for.

WINTER IRRIGATION OF FARMS.

With the view of combating the drought in spring in the case of meadows, it is recommended to irrigate them as much as possible during the winter, when vegetation is suspended, save when the water is the product of melted snow, as in the mountain districts. The constant trickling of water allows the accumulation of elements of fertility, which rapidly benefit the grass on the arrival of spring. It is well known that the grass along the border of a streamlet is of a dark green, proof of the efficacy of a running watering. It is an error to depend on spring irrigations alone, for at the moment when the grass commences to vegetate, little water is required; it demands only moisture, not wetness. The surface of a meadow ought to be so leveled that within an hour after the water has been turned off, one can walk on the grass in a pair of pumps without wetting the stockings. If the water accumulates instead of flowing, the good plants will perish, and reeds and sedges succeed, indicating at the same time the leveling to be incomplete. When the water is not of first quality some fertilizers can be dissolved in it, or liquid manure added. In Hanover, meadows, in spring and after the first cutting, receive dressings of commercial manures, a short time before the water is turned on.

GROWING RYE-GRASS SEED.

Two methods are employed on the Continent to grow rye-grass seed; either to devote the second year's crop to that end, or to plow down after the first year, and sowing rye. Sufficient of the timothy will sprout between the furrows, and can be allowed to ripen along with the rye, separating afterwards with a sieve. Sowing timothy in autumn alone for seed is not a favorite practice.

HEIFERS AND FIRST CALVES.

Is it advantageous that heifers ought to produce the first calf when two years old? Small farmers adopt this practice; large holders defer that event till the third year, alleging that such rest is essential for the development of the animal, and important when the intention is to employ the cow for breeding purposes only. Where the period of two years is adopted, the heifer cannot be too well fed.

YOU MAY SMILE OR BE SHOCKED.

I regret to have to introduce an agricultural fact with something like an apology. A German agriculturist, M. J. Swartz, of Hofgaarden, has 200 milch cows and 40 horses. Some years ago, in face of a penury of fodder, and aware that the cows had no repulsion for it, he fed them on the fresh excrements of the horses, and has since continued the usage. The practice is very common in Sweden. A cow receives at first, eight quarts of this fecal matter daily, a horse yielding five times that quantity in the same period. M. Swartz affirms that his Durhams cannot be surpassed in health, nor does the milk, butter, and cheese possess the slightest bad taste. M. Leffler, of Staflosa, employs the same substance mixed with beet pulp and chopped straw to fatten his stock, adding a little crushed grain at first to deceive the animals. He sees no more objection in converting the organic matter of fresh horse dung into beef, butter, and cheese, than into succulent mushrooms. So, gentle reader, you may indulge in a smile or a shock as the fact strikes you.

THE GREAT INUNDATION.

The agriculturists at Toulouse, suffer by the inundation of the Garonne, a loss estimated at two hundred millions of francs. The crops on 130,000 acres have been destroyed, and the surface soil washed away or covered with gravel. The valley was one of the gardens of France.

OUR LOCAL ORGANIZATION.

Proceedings of the Lancaster County Agricultural and Horticultural Society.

The stated monthly meeting of this society was held in the Orphans' Court-room, on Monday afternoon, the 2d of August, Johnson Miller, President, in the chair.

Members present—Johnson Miller, H. M. Engle, M. B. Eshleman, M. D. Kendig, Daniel Smeych, M. M. Brubaker, John R. Bricker, Jonas Buckwalter, Elias Hershey, S. S. Rathvon, J. Stauffer, Benjamin Ritter, William McComsey, C. L. Hunsecker, D. G. Swartz, S. P. Eby, P. S. Reist, and the reporters.

The meeting, though not largely attended, was very interesting.

Reports of members on the condition of the crops being in order,

President Johnson Miller, Warwick, said that, since their last meeting, great changes had been going on in this county, in which the farmers have had a busy time. Fields have been gleaned of their crops, and some plowed over again. Barns have been filled, but not so full this year as is generally the case in Lancaster county. We see now very few hay and grain stacks, which were wont to be so plenty heretofore; this proves to us that those crops have fallen short. Altogether, however, there is a tolerable good crop, and the hay, if short, is of the best quality. Wheat, although short in the straw, turns out good sized and well filled heads, so that there will be much more wheat than was expected in the early part of the season. The oats crop turned out good, especially the late sown, which was also long in the straw. Mr. Miller reported his Canada and Western oats—the latter of which he sowed the greater portion—as having all turned out better than usual. Corn looks well since the late rains, and with such weather as in July we shall have a heavy crop, and the fodder will be unusually long. Potatoes are fine, and the late plantings will yield a good crop. The bugs are still at work, but the potatoes are past injury by them. Pasture was never in better condition at this season. The prospect of much fruit is not encouraging—grapes excepted. Tobacco is very irregular, and cannot, under the best circumstances, yield a full crop. Mr. Miller said that he had experimented with several varieties of wheat, some of which were from the Agricultural Department at Washington, but had not threshed the samples out, so that he was not able to give any more certain data than what could be seen by the members, from the samples produced.

Milton B. Eshleman, Paradise, reported that he believed the wheat, in their district and through the county, would turn out fairly, much better than had, earlier, been expected. Potatoes were yielding well in spite of the bugs, to which he had given one meal

of Paris green, and satisfied them. The older crops had given a fair yield, but the late fruits may be expected to be short in the crops.

M. D. Kendig, Manor, reported that the wheat just harvested, in their district, would not yield half a crop—not more than forty per cent. of the usual return. Hay crop also very light. Corn promises exceedingly well. Potatoes, except where the bug was permitted to commit ravages undisturbed, will be plenty. Tobacco looks well. Pasture improving with the late rains. Apples, pears and peaches will be scarce, but grapes promise well. Mr. Kendig also reported that he had sown a sample of Canada oats, received from the National Agricultural Department. In order to test their comparitive value he sowed the Norway (white) and the Birlie—the latter received, two years ago, from the department. They were all sown on the 9th of April last, in the same kind of soil and received the same kind of treatment. On the 2d of May the Norway came up, then the Canada and Birlie—three days later. There was then no marked difference in them. In three weeks the Canada began to put on a dark green appearance, indicating strong growth, which is maintained and matured three days earlier than the other varieties. The grain of the Canada he reported as being very plump and full, and the straw stiff and about six inches longer than the Norway. The Birlie also promises well, but not anyway equal to the Canada. Mr. K. will try them again next season and more fully report.

Martin Brubaker, of East Hempfield, reported the wheat in his district as yielding but little better than half a crop. The corn full and potatoes promising fair, they having conqured the Colorado visitors by feeding them on Paris green.

H. M. Engle, of Marietta, agreed generally with the reports already made, as being the average yield of the county. Hay had been generally short, but those, he thought, who secured it early made the best crop in quality. The pasture, he said, was now in first-rate order, and will be good unless there is too much rain. He preferred pasture not too rank, or knee-deep; cattle, he thought, thrived better on it. He found that the Hungarian grass had been more generally sown, and it was not now too late for any one who desired to sow it. The quality of the wheat, if not the quantity, was good. Oats gave about three-fourths of a crop. He thought the corn would not be so productive as calculated by many, especially if much rain should continue. The potatoes had evidently got ahead of the bugs, and would produce a good crop if hot attacked with the rot. Apples scarce and much infected by insect. Early peaches had fallen from rot, but late ones may make a fair crop. Pears may produce better than apples, but the insect is in them also. Grapes never promised better, unless wet weather brings the rot to them. Tobacco appears as if it would give an average crop in his district.

Sudden Decay in Apple Trees.

Mr. Eshleman asked for information concerning the cause of a sudden decay in his apple trees, which had promised well—the decay not commencing until about harvest time. The observations of Messrs. Stauffer and others was given, in response, as well as received opinions on this subject. Some suggested that the late frost took such a deep hold in the ground that the roots of some trees were frozen, and thus the required quantity of sap was retarded, and nurture being denied decay followed. It was also suggested that these limbs may have been affected by lightning.

Milton B. Eshleman then read the following paper:

Live Stock and Flies.

This warm, sultry weather it is painful to work with a horse, and much more so with oxen, while they are tormented beyond endurance and have not one moment's relief from the stinging and biting of flies—horse flies, cow flies, woods flies and house flies. The plagues of Egypt could not have been worse. Stamping the feet, switching the tail, and snapping when within reach, so wear out the strength and patience of the poor brute, that he often gets so excited and enraged as to become frantic and run off, in hopes of getting away from his tormentors. Fly nets, muslin covers, and washes with fish brine, carbolic acid, walnut leaves and jimson, give only partial or temporary protection, and the dread of a bite in some exposed part haunts him continually. The shades of night alone disperse his fears, and give a sure relief; but during the fly season the nights are so short it is no wonder that the suffering brutes grow poor and haggard, notwithstanding the additional feed. It does seem strange that the inventive genius of America, goaded on by the society to prevent cruelty to animals, and the sense of sympathy for the noble horse that exists in almost every breast, does not discover some antidote. It is not only for the horse, but for the colts, the cows, the stock cattle in pasture, and the pig in his sty. It is a question that has given me much thought every summer, and I have adopted what is certainly the most humane system, being the nearest approach to the desired end; that is, to provide for all my stock dark stabling during the whole day, and let them pasture at night; and any one who sees them cannot but admit that they are doing well under the treatment. And whenever I see a herd of cows or colts fenced out from the stable, but gathered as near to it as they can get, or standing under a tree switching, biting and stamping until the pasture is all destroyed and their feet are sore, I feel as if the proprietor ought to be tied down on one of the New Jersey flats, with his sleeves rolled up, in mosquito time. In about ten minutes they would introduce into his blood some new ideas in reference to home protection. It is a question that has been often discussed whether shade trees in pasture ground are beneficial or not, and it is now generally admitted that they are an evil rather than a benefit; for some kind of flies cannot endure the bright sunshine, and will not attack an animal when standing in its full glare; but the animal seeking the comfort of the shade rushes into a greater evil; besides, the tree growing in the field displaces more or less grass, and often attracts lightning and conducts it into the herd beneath. In my mind, the dark stable is the *ne plus ultra* of protection to the idle stock; but the horse, when in service, must be protected by artificial means. As liquid applications have failed to give the desired relief, we must fall back on the fly net, which, though expensive, unsightly, and attended with much work putting on and off, does, when properly applied, protect the greater part of the horse; but, as you have all noticed, the flies are not long in making the discovery that the thongs of the net cannot reach them when under the body of the horse, and the only way he can dislodge them is by raising his hind foot and shoving it forward along his belly, which causes a stop and a jerk each time, which is extremely annoying to the driver and very severe on the harness. To counteract this, I contrived a short net of leather thongs, that fits under the belly of the horse and is supported by straps which pass over his back. This answers the purpose admirably. The application of it is certainly attended with some trouble, but I shall continue to use it until I learn of something better.

Mr. Engle supposed much must be left to the humanity of man, in the treatment and protection of his cattle. He was sure cows would thrive better and give more milk when not worried; and he would be glad to hear of some genius supplying the needed protection spoken of by the essayist, and thought it would pay well if a premium was offered for such invention.

Mr. Stauffer informed the meeting that a patent had been taken out for a gause covering for horses, which, whilst it entirely enveloped him, gave him air and freedom, so that this showed our inventative geniuses had not been neglectful of this want.

The State Agricultural Fair.

A communication was presented by Johnson Miller, chairman, urging the importance of an active, energetic co-operation of the society in making the coming State Fair a success, and suggesting that the usual county fair be held, also. The President read, in addition to this communication, a preamble and series of resolutions, pledging the hearty and undivided support of the society to the State Fair, acknowledging the honor conferred upon Lancaster by holding it here, and providing for the appointment of a committee—consisting of five members from the city and one from each township—whose duty it shall be to work up an interest in the coming exhibition, gather material for the same, &c.

Mr. McComsey was opposed to this Society holding a County Fair, because he feared it might interfere with the State Fair. It would certainly divide the efforts of the agriculturists and horticulturists, who went to no inconsiderable expenditure of time, labor and means to promote the success of these exhibitions. He felt like seeing one grand, concentrated effort to make the State Fair a success, and to encorage the managers to hold the fair here again.

Mr. Daniel Smeych, city, did not agree with Mr. McComsey. He could not see how a fruit show in the fall would interfere with the State Fair. The fruit which would be ready for the fruit show—say early in September—could not be kept until the later season of the State Fair, and if not exhibited at a county fair it could not be exhibited at all. He referred particulary to peaches, pears and the best varieties of grapes.

D. G. Swartz, esq., was also opposed to a county fair. It had been some years since the State Fair had been held in this county, and the managers doubtless had some cause for not holding it here. Perhaps they had not been properly encouraged. He believed in a concentrated effort toward the accomplishment of one object—the success of the State Fair, and, in order to give it proper shape, he moved that this society forego holding a fall exhibition this year.

Mr. Stauffer moved to amend by adding that "whereas, it had been *proposed* in this Society to hold a fall exhibition, the Society resolved to forego the same, in order to give all the aid in their power toward making the State Fair a success."

After some little discussion, Mr. Swartz's motion, as amended by Mr. Stauffer, was adopted, and the resolutions were adopted, as a whole, as follows:

WHEREAS, The Pennsylvania State Agricultural Society have determined to hold their State Fair at Lancaster, in the autumn of 1875, an event to which we look forward with unusual interest; and

WHEREAS, It has heretofore been customary for the society to hold its fair for two years in the same place, which, being observed in this instance, will secure it for our county during the approaching Centennial Year of American Independence, an occurrence to be esteemed by us of the very highest importance; therefore, be it

Resolved, That the Agricultural and Horticultural Society will use all their influence and employ every effort, in their power, in order to render the State Fair, to be held in our midst, a great and triumphant success.

Resolved, That every member of the Lancaster County Agricultural and Horticultural Society will esteem it his duty to exhibit at the Fair anything that may be of agricultural interest, and do all else in his power to prove that our county was worthy of the honor that has been conferred upon her in having been selected as the place for holding the State Fair at the most important epoch in the history of our Commonwealth and Nation.

Resolved, That we, the farmers and agriculturists of Lancaster county, in due appreciation of the consideration that has been shown us, will meet the agriculturists of our State and country with an open and hearty welcome, and we promise them kind and considerate treatment of our whole community.

Resolved, That we will endeavor to make our efforts to promote the success of the Fair fittingly comport, to the best of our ability, with the title which common acquiescence has accorded our county in being styled "*The Garden of the Keystone.*"

Resolved, That in order to make the State Fair a complete success, and that our efforts may the more unitedly be directed thereto, we forego the holding of our usual annual county exhibition.

Resolved, That the President of the Lancaster County Agricultural and Horticultural Society shall appoint a County Committee of the friends of agriculture, consisting of one from each district and five in the City of Lancaster, whose special duty it shall be to gather all matter of interest, co-operate with State committees of like character, and exert their utmost efforts to crown the State Fair, to be held amongst us, as a brilliant triumph of agricultural display.

Resolved, That a copy of these resolutions be printed in THE LANCASTER FARMER, and in the local papers, and that a copy be forwarded to the President of the State Agricultural Society.

Under the foregoing resolution, the President, Johnson Miller, has appointed the following

COUNTY COMMITTEE.

Adamstown	Abraham Lutz.	Leacock	Benj. Landis.
Bart	Hervey Baughman.	Lanc'r City	S. S. Rathvon, Wm. L. Peiper, Wm McComsey, Henry Benedict, J. M. W. Geist,
Brecknock	John H. Good.		
Carnarvon	Geo. W. Compton.		
Cocalico East	Samuel Royer.		
Cocalico West	Joel Weist.		
Colerain	Robert Hogg.	Leacock Up	Isaac Bushong.
Columbia	C. S. Kauffman.	Little Britain	Jas. Fetterson.
Conestoga	Casper Hiller.	Martic	Wm. E. McCreary.
Conoy	John M. Engle.	Manor	Martin D. Kindig.
Clay	Ab'm B. Snyder.	Mt. Joy bor	John A. Grier.
Donegal E.	Henry M. Engle.	Mt. Joy twp.	Henry B. Reist.
Donegal W.	Jacob H. Musser.	Marietta	G. H. Etila.
Drumore	Jas. A. McPherson.	Manheim bor.	J M Eusminger
Ephrata	Dr. Hertz.	Manheim twp.	Eph. Hoover.
Earl	Martin Bitzer.	Paradise	M. B. Eshleman.
Earl East	Sam'l S. Martin.	Penn	Israel G. Erb.
Earl West	Joel Wenger.	Pequa	J. L. Breneman.
Elizabeth	George Fontz.	Providence	Benj. F. Rowe.
Elizabethtown	Addison Eby.	Rapho	M. L. Greider.
Eden	Rob't Montgomery.	Salisbury	Geo. Kinzer.
Fulton	R. K. McClellough.	Sadsbury	William Brinton.
Hempfield E.	John Gingrich.	Strasburg bor.	H. Brackbill.
Hempfield W.	J. H. Hershey.	Strasburg twp.	E. Brackbill.
Lampeter E.	Calvin Cooper.	Warwick	Johnson Miller.
Lampeter W.	Amos H. Mylin.	Washington bor.	J L Shuman
Lancaster tp.	Jac. M. Frantz.		

Mr. M. D. Kendig, of Manor, was named by the chair as essayist for the next meeting, but respectfully declined to serve.

Among the questions suggested for discussion at the next meeting was this: What is the best means of inducing young men to adopt the pursuit of farming?

President Engle suggested the question: "Would it be advisable for Lancaster county farmers to engage more extensively in dairying?"

Mr. Swartz suggested the question of the artificial hatching of chickens, and mentioned the fact that he had recently been called upon by a man who had a system or process for artificial hatching. He would like to hear the practicability of the thing discussed by the members.

Mr. Engle remarked that the difficulty was not in hatching them, but in taking care of them *after* they were hatched. If a man should take hold of it who thoroughly understood the process, a fortune could be quickly made, for he doubted not that tons of chickens would be wanted in Philadelphia during the Centennial.

Peter S. Reist said it *might* be a profitable business, but he had found nothing more uncertain than "counting chickens before they were hatched."

Mr. Stauffer knew a good deal about the subject, and was asked to prepare a paper on it for the next meeting, which he consented to do.

Johnson Miller exhibited five specimens of Red Mediterranean, Tappahannock, Clawson's Winter, Dudley and Jennings white wheat, and Winter rye; and Milton B. Eshleman, esq., exhibited a very fine specimen of Potato oats.

On motion, Society adjourned to meet on Monday, September 6th.

For The Lancaster Farmer.

AURORA.

BY MARY F. VAN DYKE.

Who is she with step so sprightly,
Poised on eastern hills afar,
Flinging back all shadows nightly,
Lifting up day's curtain brightly,
Prompting Phœbus thus to lightly]
Vault within his golden car?

Robes translucent, thickly spangled
With dew diamonds, wrought by Heaven;
Spun gold tresses, mist entangled,
As among them elfs had angled,
Danced and skipped, and kissed and wrangled,
Since last fairy haunted even.

From her misty clouds, that cover
Seeming ghosts, slow glide away,
And in mountain dingles hover,
Like a maiden coy from lover;
Lest the daylight should discover
That for which he still must pray.

Prithee, is her name Aurora,
Empress of the golden dawn,
Beauteous goddess, light restorer?
All things lovely wake before her,
Bird and bee, and man adore her,
Only guilt she finds forlorn.

Hail! all hail! thou Queen of Glory!
Time can ne'er thy grandeur blight;
Thou hast laughed o'er earth's glad story,
Wept o'er fields of carnage gory,
Grieved to see bright locks grow hoary,
Ever since God spake the light.

Since the stars of night first chanted,
Echoed by old ocean's wave,
Thou hast checked their song, undaunted,
Woke the forest-bird enchanted,
And in rainbow colors painted
Everything outside the grave.

That will hide our best endeavor,
But cannot o'ershadow thee;
For till Nature dies—forever
Queen of morning, thou shalt sever
Light from darkness—God the giver
Thus ordained thy destiny.

Thine example should remind us
That we have a mission too;
Morn should wake and ever find us
Faithful to the work assigned us,
Constant to the ties that bind us,
Hopeful, loving, earnest, true.

Coxsackie, N. Y., July 31, 1875.

THE GARDEN AND ORCHARD.

Geraniums.

Many people are obliged to rely upon the scarlet Geranium as the only plant that will resist the burning summer suns and at the same time give brightness to their yards. This makes it necessary to preserve a large number of plants. Although the Geranium is less essential in the comparatively moist atmosphere of New York State, I have found it desirable to use several hundred plants this season. Of course, they cannot be stored in the conservatory. My plan is the following: First take a large number of young wood cuttings and strip them of all buds and of all leaves except the germinal ones. Cut them smooth with a sharp knife below a joint. Fill a box ten inches or a foot deep with soil within two inches of the top. Let the dirt be simply in its natural condition as found in the garden—moist, but not wet. Press the cuttings down half their length or a third into the soil, without making holes for their insertion. Set them in as close as convenient, without positive contact. Then with the fingers carefully press the soil down between them. Not a drop of water must be put on. Set the boxes in a cool room, out of the sun, or in a light cellar. Let them stay there till spring. A few will rot; most of them will have started roots; the rest will be ready to do so. In early spring, if convenient, bring the boxes into a warm room till it is safe to plant out. Those without roots, when once in the garden, will not be slow to do their duty. The cuttings should be taken off in October or sooner. Meanwhile I cut back my old plants, strip off the leaves until they sail under bare poles, and when they are trim and compact pull them up or pry them out and shake off most of the dirt. In the cellar is placed a box ten feet by six and four or five inches deep. In this I plant or cover the roots of the geraniums, in close array as possible. No buds or large leaves remain, and, above all things, no water is applied until they are again planted out in the spring. My cellar is moderately dry and cool and light. If, now, a person has burdened the house with a half-dozen or dozen large plants, let him cut them into slips at once and leave the old roots to a quiet, dry winter's rest.—*E. W. Powell.*

Propagation of the Double White Moss Rose.

This beautiful rose is not easily propagated, affording no suckers and seldom growing even from layers. An intelligent gardener of Lanarkshire, Scotland, has been quite successful in increasing this favorite plant by layering in a peculiar way. The part of the garden occupied by the white moss rose and other choice plants was low and sheltered, the soil consisting almost entirely of rotted bark or tan formerly used in the hot houses and melon frames. This substance is not congenial to the growth of plants so long as it contains any of the tannin or matter which renders bark useful to tanners, but when decomposed and reduced to a black mould it is superior to any other soil for choice plants.

In this soil the roses were planted, and after they had established themselves for a year or two, his plan was to layer them—not in the usual way, by bending down the branches and inserting a part in the soil, but by bending down every branch and covering with an inch and a half of mould. Had he left a single shoot uncovered, his opinion was that the tendency of the sap being to flow upward, too much of it would find a passage in that direction, but when all the branches were covered, they all received a like impulse; and this theory was borne out by the fact that every eye pushed forth a vigorous shoot, which took root below the surface. By managing in this way more plants were produced from a given number of stools in a single season than could be produced in ten years by the old common method.

By similar treatment the tree peony may be increased in a manner that is really astonishing. A single shoot, put down by the same gardener, for the purpose of proving the excellence of the plan, had twenty-seven rooted plants attached to it. Several other choice plants that are not easily propagated in the usual way, may doubtless be rapidly increased by this simple and inexpensive mode of treatment.

The Story of a Rose.

A rose with so pretty a little story and so full of romance as this ought to be beautiful, and so is the Cherokee Rose. Here is the story told of it:

"An Indian chief of the Seminole tribe was taken prisoner by his enemies, the Cherokees, and doomed to torture, but fell so seriously ill that it became necessary to wait for his restoration to health before committing him to the fire. And, as he lay prostrated by disease in the cabin of the Cherokee warrior, the daughter of the latter, a young, dark-faced maid, was his nurse. She fell in love with the young chieftain, and, wishing to save his life, urged him to escape. But he would not do so unless she would flee with him. She consented. Yet, before they had gone far, impelled by soft regret at leaving home, she asked permission of her lover to return for the purpose of bearing away some memento of it. So, retracing her footsteps, she broke a sprig from the white rose which climbed the poles of her father's tent, and, preserving it during her flight through the wilderness, planted it by the door of her new home in the land of the Seminoles. And from that day this beautiful flower has always been known in Florida and throughout the Southern States by the name of the Cherokee Rose."

A Wonderful Flower.

One of the most exquisite wonders of the sea is the opelet, a flower resembling very much the German China-aster. It has the appearance of a double aster with a quantity of petals of a light green color, glossy as silk, each petal tipped with rose-color. These lovely petals are never still, but wave about in the water, while the flower clings to the rock. So innocent and lovely-looking, no one could suspect it of eating anything; certainly, if it did, only a bit of rainbow or a drop of dew. But those beautiful waving petals have other and more material work to do—to provide food for a large mouth, which is cunningly hid deep down among them. They do their duty famously, for as soon as a silly little fish comes in contact with those rosy tips he is struck with a poison fatal and quick as lightning. He dies instantly, and the beautiful arms wrap themselves about him and drag him into the greedy mouth. Then those lovely petals unclose and float innocently on the water just like our water-lily. This flower was long ago talked of, but its existence doubted until the last century. Now the opelet is known to be a thing that really exists.

Ashes in Orchards.

The point to which we now call attention is that our farmers and fruit growers have ignored, or rather been ignorant of, the importance of wood ashes as a vegetable stimulant and as the leading constituent of plants. Even coal ashes, now thrown away as useless, have been shown, both by experiment and analysis, to possess a fair share of alkaline value. We will relate only one experiment: Some twenty-five years ago we treated an old hollow pippin tree as follows: The hollow, to the height of eight feet, was filled and rammed with a composit of wood ashes, garden mold, and a little waste lime (carbonate). The filling was securely fastened in by boards. The next year the crop of sound fruit was sixteen bushels from an old shell of a tree that had borne nothing of any account for some time, and for seventeen years after filling, the old pippin tree continued to flourish and bear well. —*Scientific American.*

Exterminating Live-Forever.

Do you know of any way to exterminate *live-forever* and tansy, except grubbing them out? I purchased a farm which has both the above pests on it. Perhaps some of your readers may be able to help me by knowing some way to get rid of them. A. V. M.

[Probably the easiest and simplest way is smothering. On a small scale, this is most easily done by burying deep under the soil. On a large scale, by plowing under with an extra large double Michigan plow, when they will not see daylight for a year, and the task will be finished. In some particular instances they might be deeply covered with tan or saw-dust, and smothered.]—*Country Gentleman.*

THE POULTRY YARD.

Breeding Poultry for Profit.

So many subscribers have made inquiry about "breeding on a large scale," and "breeding for profit in eggs and poultry," that we give our views with some hints on the subject.

Doubtless a large majority of those who engage in poultry-keeping expect to make it pay, at least, expenses, while there are many who anticipate profits, larger or smaller, according as the cast of the individual is the more visionary or practical. When a breeder starts in fowls, and goes down to the "hard pan" of practical utility, success is certain. If fowls are rightly managed, they can be made to pay a handsome profit, though none be sold for fancy prices. The question then is, How can this be done?

The nature of fowls requires certain conditions, which if disregarded will result in failure; then, in order to succeed, how important it is that we understand the natural conditions under which they thrive the best. Give a few fowls the range of a farm in summer, and with a small amount of grain how well they will do. The demands of nature are fully supplied from the animal and vegetable kingdoms, and the nearer we can imitate and follow these conditions of nature, the surer will be our success; it is from these we must reason and base all our operations. As regards the number of fowls one can keep, they are limited only by his facilities; but whether we keep many or few, it is a safe rule to keep no more than we can keep well. It is unnatural for fowls to be kept together in large numbers, as they are deprived of proper range, and their supply of green food is apt to be insufficient; besides, their runs become more or less fouled, and the exhalations from a large number generates a poison in the surrounding atmosphere which predisposes the birds to roup, cholera, and epidemic diseases. Another very strong objection to keeping a large number under one roof is, that the attack of an epidemic or contagious disease would result most disastrously in sweeping through the flock, and carrying off a large number; while if the fowls were scattered in small detached buildings, disease would appear in one first, where it could be checked at once without spreading through the flock, and the loss would be comparatively small. We have kept several hundred fowls, from year to year, and aside from fancy prices, have made them very profitable, especially for eggs. We have always followed the plan of colonizing or scattering our birds over considerable territory, in suitable houses, which are fully described in *The Nation* for March. Of the large breeds, we do not keep over thirty or forty in one flock, and prefer to divide this number in two rooms under the same roof; of the smaller breeds, forty to fifty could be kept in one lot. Small flocks always do better in proportion to their cost than large ones, and we consider a building that will comfortably house fifty fowls, large enough to be compatible with the best thrift and health of its inmates.

It is asked, "How much room is needed for fifty or one hundred fowls?" So much depends on soil and location, no definite answer can be given. On an acre, fifty to one hundred birds can be safely kept, but in no case should the number be so large as to destroy the grass. To preserve this, and keep every part of the grounds untainted, is necessary. When a spot once becomes bare, it is fouled and tainted, and the surface should be pared, dug up, and dressed with fresh soil once or twice a year; or, better, if the fowls can be kept off, to seed it anew. Yards can be so arranged as to leave part of them vacant, and the fowls changed from one to the other often enough to preserve the grass and keep it fresh. Plenty of shade should be furnished, and if orchards are not at hand, the quickest-growing shrubs and bushes should be planted; quinces, dwarf pears, cherries, grapevines, elders, etc., all thrive well in hen yards, and soon make a good shade; better than nothing are rank and tall-growing vegetables, such as corn and sunflowers. The best soil is gravel or sand; but whatever the soil may be, the drainage should be good enough to keep the grounds dry and free from mud.

We have already published so much about feeding it is hardly necessary, in this article, with the exception of a few general remarks: The breeder must understand the properties of the different kinds of grain, etc., to feed intelligently, and for a purpose. For instance, he should know that corn, buckwheat flour, boiled potatoes, peas, milk, and scraps, fatten; that for egg-producing, wheat, rye, oats, barley and lean meat are best. Where eggs are the object, and the large breeds are kept, the food that fattens must be used sparingly, for over-fattening disposes to broodiness and sluggishness. Where corn is used it is best to mix it with coarser qualities of food, such as bran, ground oats, barley, boiled turnips, etc. Two meals a day are sufficient, and they ought not to be fed more than they can eat up in three to five minutes, or of cooked food, about a tablespoonful to each fowl, and of grain, one grab of the hand will do for two or three fowls; we prefer to give a hot cooked mess in the morning and grain in the afternoon. The soft food should not contain more than one-fourth cornmeal in summer, and not more than one-half in winter. The balance may consist of ground oats, barley, screenings, bran and finished middlings, with boiled vegetables in the shape of turnips, potatoes, cabbage, etc. The use and proportions of these may be varied, to give variety, as fowls do not relish the same dish or a mess always served the same way. One variety of grain may be given each day, for the sake of a change, or the grain may be mixed. In feeding grain it is best to scatter it as much as possible, as this prevents the fowls eating it too rapidly, and gives them exercise. The smaller breeds are more active, and there is not the danger of over-fattening them. As a rule, we would give them all they want, and they may even be allowed constant access to grain without injury.—*The Poultry Nation.*

Poultry at the International Exhibition.

The prospect for a grand display of poultry at the coming Centennial is now quite well assured, and those having a fancy for fine fowls will doubtless have ample opportunity to study and investigate every known variety.

It is to be hoped that the display of poultry will be in keeping with the enterprise and advancement of the nineteenth century, in that direction.

That contributions of stock will be made from all parts of the poultry world, and we doubt not American breeders will contribute in a way that will do credit to an occasion which can come but once in a hundred years. We append a notice issued by the United States Centennial Commission:

"It is desired by many that there be a permanent, as well as a temporary exhibition of poultry, and if applications for space for the exhibition of fowls during the six months covered by the exhibition, are received in sufficient numbers to warrant the outlay, the Commission will probably adopt some measures to afford the proper facilities.

"If the design of a permanent exhibition be carried out, the display should be such as would impress the character of each breed upon the mind of the observer.

"This cannot be done when the exhibition is confined to trios in separate coops, but only by the display of as large a number as can be placed in one enclosure; thus affording by the multiplication of individual birds, each of the same breed, an opportunity of studying the characteristics of each particular family. Prominent poultry breeders could readily supply the birds for such an interesting and instructive exhibit.

"The temporary exhibition will commence on October 26th, 1876, and last till November 10th, a period of fifteen days. The Commission will erect shedding, and the birds will be exhibited in the same boxes or coops in which they were transported. For the purpose of preserving uniformity, these boxes will all be made according to specifications furnished by the Bureau of Agriculture.

"Exhibitors will be required to assume all responsibility of feeding and general attendance on their birds.

"Only such specimens will be received as are of pure breed, and even these must be highly meritorious.

"Further information may be had by addressing the Chief of the Bureau of Agriculture, International Exhibition, Philadelphia."

Judging Poultry.

J. W. P. Hovey, writing in *The Poultry Nation*, considers the subject of judging poultry from a different standpoint than the one usually taken. He says, "there are few men, (perhaps very few, and certainly too few,) who are competent to judge at our 'big' shows. Who, then, shall do it at the multitude of State, and county, and even district shows, which are held all over the country, in which the exhibitor is so often injured and disgusted? We want a growing crop of judges who, by practice at the smaller shows, shall be competent at least to criticise, and, by thus doing, insure greater care and better judging at the larger gatherings. Again, we need better judges among the exhibitors, which would enable them to select their best birds, and properly match them. At one show at which I acted on Asiatics, the largest exhibitor, who had the best collection of fowls, failed to receive the premiums, his due, from inability to match his trios. Before I had looked through the poultry, or commenced judging, I requested of the Executive Committee to be allowed to change a few birds into different coops, but the request was very properly denied, and the best stock failed to win what it deserved. The point I wish to make is this: Every poultry-breeder should practice judging on his own poultry. Every year destroy the culls. Watch the growing flock, and thin, thin, thin out. Editors say, 'Boil down your articles.' Nurserymen say, 'It is always the time of year to prune when the knife is sharp.' Fruit raisers say, 'Thin out the fruit, as a bushel of choice will bring more money than three bushels of inferior.'' That these rules apply to choice poultry, however choice, I am satisfied. Watch your growing chickens, thin them out, giving the best a better chance. It is always the right time to kill off the poorer and boil them down, literally, unless you prefer a broil or roast. Because your breeding-stock cost big money, don't save a mean product; and remember, too, you are practicing the first lessons which may make you capable of judging at Chicago or Buffalo in the future."

THE FARM AND THE DAIRY.

Hungarian Grass.

The cultivation of this species of millet is beginning to attract some attention in this county, and inquiries were made concerning it at a recent meeting of our Agricultural Society. It is extensively grown with profit in our neighboring county of Chester. The following, from a reliable authority, may interest some of our readers:

This is a variety of millet that was originally introduced into cultivation in France as early as 1815, and has since been introduced and cultivated in this country, where it is regarded as a very useful addition to our forage plants. Its value has been more fully appreciated within the last three or four years, on account of the severe droughts and the open and severe winters, which have greatly injured our mowing lands, killed out the true grasses in many places, and reduced the yield very generally, making it necessary for farmers to adopt some plan, late in the season, to meet the exigency of a short crop of hay and high prices in prospect for a coming winter.

Hungarian grass, or as the French call it, *Moha de Hongrie*, or Hungarian millet, is the *Panicum germanicum* of Linnæus, and differs from common millet in appearance by having a close and upright head or panicle, while that of common millet is open and diffuse or spreading. It is thought to be more nutritive, also, while the yield is quite as abundant, and by many thought to be much more so.

Hungarian grass is an annual, and requires to be sown every year. It is best adapted to light lands, and endures our droughts remarkably well. It should be sown late. The first of June is quite early enough, and it will do as well as late as the tenth, fifteenth or twentieth of that month. This gives an opportunity to turn over any "bound out" old sward land, or to use any piece of land that could not be planted with corn. It requires good corn weather and good corn land, and does not make much growth till the warm nights come. If sown early it will come up, but will not make any growth to speak of till the season is well advanced, and then it will grow with great rapidity, and may be cut in the milk in July or early in August, so that it occupies the land but a short time. If the land is plowed early in the spring, and allowed to lie a little while, the weeds will start, when a thorough harrowing, and cross harrowing occasionally, will destroy them. It operates as a fallowing, and by repeated surface cultivation the soil is mellowed and the weeds destroyed. We have found the Shares or the Nishwitz harrow very excellent for this work. They do not tear up the old sod as much as the common tooth harrow. Upon sod land turned over in the fall or early spring we use the Shares harrow first, after the weed seed, if there is any in the land, has germinated. Then, a few days after, we harrow crosswise with the Nishwitz harrow. That has a series of sharp disks, that chop and cut up the weeds most admirably, leaving the ground mellow and in good tilth, without making the surface rough and unmanageable by turning up the sods.

It is easy to see what effect a repeated cultivation of this kind, which does not take up much time or expense, has. It destroys the weeds. That is of great importance. It gives a mellow surface for a seed bed, and the work comes after the planting season and the great hurry of spring work is over. If the manure has all been used up on the corn, potatoes and roots, use some concentrated fertilizer that contains plenty of ammonia, phosphoric acid and potash. Ward's special grass fertilizer gave excellent results last year, and we know of nothing better. Four hundred pounds per acre of this article ought to insure a satisfactory yield.

A half bushel per acre of Hungarian grass seed is a heavy seeding. If it is all fresh and good, fourteen quarts is abundant, but we always make a little allowance for poor seed and loss by birds, too deep covering, and other casualties. It is to be harrowed and brushed in just as is common with other grain crops or grass seed. The time to cut is soon after the blossom has passed, or when the seed is in the milk, and it is excellent feed for milch cows and horses. It is good, also, to cut green, as fodder.

Practical versus Fancy Cattle Breeding.

On reading from time to time the wonderful accounts of the Shorthorn sales that are taking place, I am at a loss to know the reason why such large, and, to my mind, ridiculous prices are given for cattle; for, after all, they are, in a practical sense, only means for producing so many pounds of human food, and cannot be used, like race-horses, for instance, to win large amounts of money. Perhaps some of your correspondents could inform me why, in the interests of farming (putting aside fancy altogether), a pure Bates Duchess is so eagerly sought after, for example. Is that particular tribe of cattle capable of making more pounds of beef in a shorter time, or of producing more milk and butter than any other? If not, why are such prices given as we hear of? Some argue that Booth cattle are superior, and some Bates; either, no doubt, are good enough for any practical purposes. All the high priced fancy tribes are in hands of large landed proprietors and rich men; it is simply an ambition among them to obtain the largest average at their annual sale, just in the same way as to kill the best bag of hand-reared pheasants, and have something to talk about and make themselves remarkable. Of course it is to the interest of every farmer to breed from pure bulls of good pedigree, but I maintain that a man would obtain just as good animals for use and the market, if he purchased a sire of any well known strain at a moderate price, as if he were to buy a pure Duchess bull. Why is that particular tribe so much run after? Surely for no practical end. I am confident that if the 2,000 gs. bull was called some other name, and if he were bought by a farmer, and used on his stock, he could do no more practical good than any other bull of good pedigree with color, size and quality. Again, in comparing Shorthorns with Herefords, I do not think the latter are sufficiently known beyond their own particular districts, although they are extensively bred in the colonies and other places abroad. I hear in Australia they are becoming more liked than the Shorthorns, owing to their being so much more hardy. They will live, without doubt, on less and coarser food than Shorthorns, and the way they are reared gives them constitutions that will stand any climate and resist nearly all the diseases so prevalent among the Shorthorns, such as quarter felon, pleuro-pneumonia, and milk fever. The general practice is to rear the calves on their dams, and if they calve in the fields when the weather is at all favorable, they seldom require bringing into shelter. They are the more suited to rough it than the present fashionable Shorthorns, which are pampered from the day they are calved. At all the large fat stock exhibitions they hold their own both in weight and quality. Why, then, are the prices for the best Herefords so much less than those paid for the best Shorthorns? It must be fancy. They have been tried together in every way, both in the stalls and as graziers, and their worst enemies cannot say that they do not compare well with their rivals. Perhaps they are not, as a rule, good milkers; but then neither are the highly priced Shorthorns unless bred especially from milking tribes. And as lately as the Croydon show the best animal in the yard was a Hereford bull. Why do they then average, say 50 gs., for all ages in a large sale of a crack herd, while the Shorthorn averave their 200 gs. and 300 gs. Surely a great deal of this must be fancy. One great reason no doubt is because the Herefords are almost entirely in the hands of tenant farmers, who keep them as rent-payers and not as fancy stock. Of course the high prices paid for the most fashionable tribes of Shorthorns have a corresponding influence on all the breed. I expect if some of our leading aristocracy were to take up Herefords in the same way they have done Shorthorns their prices would rise accordingly. The great mistake made in all breeding is the keeping the young male animals intended for sale in too high condition, it often leads to disappointment to the purchaser. This applies in a great degree to Rams which are fattened to such a degree that they are perfectly useless. I wish some rule could be made to prevent breeding animals, shown in an unprofitable state of fat, being awarded prizes; It is very hard to draw the line, as some of the most noted prize-takers have bred constantly—but I think it is far worse in the male than in the female animal.—*London Agricultural Gazette.*

Butter-Making.

Pennsylvania is the great butter-making State, for which purpose her soil is well-adapted. If rightly managed there is doubtless more profit in the manufacture of butter than any other branch of dairying taken alone, provided a first-rate article be made and put upon the market in the best possible condition, and this will always be so from the fact that more than two-thirds of all the manufacturers of butter, even in Pennsylvania, fail to make a really first-rate

article; and strange as the fact may seem to be, there are not one-half of the butter-makers who really know what a first-rate quality of butter is or how to make it. Then again many of them do not care if they can get within a few cents a pound of what the best of butter sells at; they would rather sell at a less price if they cannot convince the buyer that it is equal to the best, and if so they save a little labor, but the result in the end only shows that they were "penny wise and pound foolish." To have the credit of making the very best of everything which we manufacture is worth more than a few pennies on a pound or two of butter.

Among the prominent faults with butter is one so needless and one that is the result of so much negligence and carelessness that it needs a passing notice. I allude to the want of sufficient *working* to dissolve the salt. There is no fault that is so soon detected as this.

Another department of the dairy business is that of making cheese. This, too, if rightly understood and carefully managed, is a remunerative business. It takes five quarts of milk to make a pound of cheese in most seasons of the year. In September and October cows that have given milk through the summer will make a pound of cheese from about four and a-half quarts of new milk, the milk being richer in the fall than in the spring. It is claimed by very good dairymen that just as good cheese can be made from milk after taking off what cream rises over night as from entirely new milk. Certain it is that if the cream is allowed to rise it might as well be taken off and made into butter, as it will not not go into the cheese but will melt and run off into the whey and be lost. Yet I thiuk the milk if made into cheese as soon as the animal heat is gone from it will make the best cheese. Yet I am aware that as good cheese can be made from skim milk as the average of cheese from our farm dairies, especially in the months of September and October.

Another prominent fault is the want of cleanliness in all its details. Without this precaution it is impossible to make a first-rate quality of butter. If care is not exercised in milking, the butter will be rank from the dust adhering to the can, especially in the winter, when cows are kept in the stable. It is true that the quality of butter depends very much upon the feed upon which the cow is kept, as well as the particular breed of the cows from which it is made.

We have in our county a man (Mr. F. R. Starr) of whom I have once written you. As I before stated, his cows are all Alderney, and the milk is churned new without skimming. His means and preparations are ample for making the best butter that it is possible to make from new milk, and I learn it sells for a dollar a pound, and this too when other butter of good quality sells for only forty-five to fifty cents a pound, and much more is sold for thirty cents.—*Ger. Telegraph.*

Loss by Weeds and Insects.

It is estimated that the value of produce annually raised in this country is $2,500,000,000, of which amount nearly or quite one-fifth, or $500,000,000, is lost, according to the *American Naturalist*, from the attacks of injurious plants and animals. A single campaign of the army worm costs the farmers of eastern Massachusetts $250,000 worth of grass. Missouri alone loses from fifteen to twenty million dollars annually from insect depredations. The annual damage to the apple and pear crop from the codling moth amounts to several million dollars, and the work of the curculio is equally costly. A partial remedy is to be found in a close study of insect habits, with a view to ascertaining what insects there are, and the means to hold them in check or destroy them. It is hardly possible to estimate the havoc annually wrought by the grasshopper and the potato beetle, for example; and any bird or insect which would reduce such pests would be a substantial benefactor to the farmer. As to the "injurious plants," or in the common vernacular, weeds, the only method that is feasible is to kill them at their very germination by means of proper agricultural machines. The *Country Gentleman* affirms that the annual growth of weeds in this country amounts to eight million tons, or enough to load a compact train of wagons long enough to span the globe. Precisely how the *Country Gentleman* arrives at this very definite estimate, we are at a loss to determine; but it would certainly be better for the farmer if the weeds were actually loaded into the "compact train of wagons" referred to, rather than to have them to choke his crops and leave an unwelcome legacy of liberally sown seed for future seasons. Farmers have only to consult their own experience to realize the extent to which the depredations of weeds and insects are carried, and any measures which tend to even partial extirpation of these pests are worth the trying.

Raising Chestnut Trees.

Chestnuts sell readily at five dollars a bushel. Suppose twenty trees to an acre, and that from these you take half an acre, and that from these you take half a bushel of nuts from each tree, this will make fifty dollars—a snug little sum to foot up some of the innumerable little hills arising from the purchase of foreign luxuries. Who does not see the value and the necessity at this time of our great pecuniary need of studiously seizing upon every item that might be turned into a source of wealth? No more need be said under this head, unless it be to give some directions for the proper cultivation and care of nut trees, which I do not propose doing at present. I trust that all who read this short article will begin, if they are not already in the habit of doing so, to drop a nut here and there wherever there is room for a tree, and do not be deterred because the time may be long before you reap the fruit. Have you never eaten the fruit of trees planted by those long since gone, and can you deny to others what you have enjoyed yourselves? Scatter the seeds far and wide, and you and your children will reap a rich and lasting reward. How much may not be added to the revenue of the South, in a few years, by this single item alone, if all who have land will follow these suggestions, and occupy a spare hour the coming year in planting white and black walnut, pecan, chestnut, filbert, butternut, and Madeira nut.—*Church Union.*

Thoroughbred Stock Sales.

Clifton Farms, Kennett Square, Chester county, Pa. have recently made the following sales of improved and thoroughbred stock from their choice herds: Jersey cow, "Nellie 4th," to James Benney, jr., Pittsburgh, Pa.; Jersey bull, "Clifton Farmer," to Frank Lee, esq., Madison, Indiana; Jersey Heifer, "Clifton Charm," to John F. Heazlit, Berea, Ohio; Jersey bull calf, to S. M. Leaming, Cape May, N. J.; Jersey heifer, "Norway Belle," to Will J. Row, Greensburgh, Pa.; Jersey heifer, "Lady Velvetine," to Jas. Benney, jr., Pittsburgh, Pa.; Ayrshire heifer, to Jas. Smith, esq., Kent county, Md.; Ayrshire cows, "Ellie Deans" and "Handsome Nellie," to Joshua Hunt, Lehigh county, Pa.; Ayrshire bull, "Norway Duke," to Benj. W. Passmore, Concord, Pa.; Ayshire heifer, "Crystal Belle," to Jos. R. Goodell, Lancaster city, Pa.; Ayrshire heifer, "May-Day Belle," and Ayrshire bull, "Sir Denton," to John Van Wagner, esq., Hudson City, N. Y. Also, the Jersey heifers, "Mostilla," "Valley Belle," and "Primrose of Clifton," and the Jersey bulls, "Sir Dexter" and "Clifton Champion," all to the Dauphin County Agricultural Association; also, to the same society and at the same time, the Ayrshire heifer, "Crystal Fancy," and the Ayrshire bull, "Forrest Duke," all choice specimens. Also, very many choice and prize bred "Chester White Pigs" and other stock, to various parties in the different States, among others the following to citizens of this county: W. L. Peiper, Lancaster; James Duffy, Marietta; John Sides and James McKenna, Lancaster.

Butter and Cheese.

In the last twenty years the product of butter and cheese in the United States has been more than doubled. Last year it amounted to 650,000,000 pounds of butter and 200,000,000 pounds of cheese, of which more than one-fourth of the butter and nearly one-half of the cheese were made by the State of New York. The cheese factories number about 2000, employ about $5,000,000 capital, and use the milk of three-fourths of a million cows. The *American Grocer* states that the production this year is likely to greatly exceed that of last year, but does not believe that the production will even exceed the demand. The cheapening and improvement of butter and cheese by artificial means will tend rather to overstock the market. —*Farm and Dairy.*

How Drains Act.

The water that runs into drains dug in tough clay soil, enters from the sides and bottom, and not from immediately above the drains. The toughest clay is sufficiently permeable to water, to allow it to pass through readily, and after the drains have been in operation some time, regular and permanent water channels become established in the soil, leading from above to the bottom of the drains. In digging drains in tough, compact clay, numerous small veins of water are cut, which show very clearly how readily the water will pass through such soil, as soon as outlets are provided. The advantage of deeper drains is thus explained, and it is readily seen that their influence extends very much further in proportion to their depth.

Benefits of Advertising.

One of the patrons of the advertising department of The Farmer writes us that the money he has expended in making known, through this channel, what he had for sale, has paid him a handsome return. There can be no doubt that this holds true generally. We believe The Farmer is more thoroughly read than any other of our local publications. It comes to the home only once a month and is prized for useful information it contains. It is, moreover, read by a special class, and those who wish to reach this special class can not do it as effectively through any other channel. It should be borne in mind, too, that while there are more solid farmers in Lancaster than in any other county, The Farmer is the only journal devoted exclusively to their interests.

[For The Lancaster Farmer.

WE ARE GROWING OLD TOGETHER.

BY JANE GREY.

We are growing old together,
Friends of childhood, ye and I—
We who crossed o'er blooming heather
Under childhood's cloudless sky:
We who gathered springtime's flowers
In the same delicious May;
We who rested 'neath rose bowers
When aweary of the day.

We are growing old together,
You and I who in life's morn
Lightly crossed the blooming heather,
And through fields of tasseled corn.
Many, many who were fairest
In that dawning glad and bright,
Have been gathered where the rarest
Buds shall blossom without blight.

But if care our brows have shaded,
Or our locks be turning gray,
Or if morn's sweet bloom be faded
And our roses swept away;
We have kept the breath of blossoms
In the spirit's inmost fold,
We have treasured in our bosoms
Faces that can ne'er grow old.

We have sunlight ever, ever
Shining brightly in the heart,
And the dove of Peace can never
From such shelt'ring home depart;
For the horizon glows brightest
When the sun rolls down the west,
And th' immortal soul gleams whitest
As it nears the land of rest.

Lancaster, Pa., July, 1875.

BEES AND BEE CULTURE.

Time for Dividing and Preparing for Winter.

It would be very strange if, in years of experience, we had learned nothing that would change our practice in bee-keeping in some important particulars.

We have been slow to make changes, but on looking back we find that in many things we cannot now give the same advice which we would have given ten years ago.

In nothing has our practice changed more than in the time and manner of dividing bees. We used to make all divisions as early as possible, aiming to get our number of colonies as large as we could, consistent with strength, by the time of the Lime harvest.

The last three seasons we have succeeded better by keeping as many bees as possible in our hives, and making no divisions until after the best honey is gathered.

We use large hives and keep them crowded with bees, preventing the swarming fever by giving the queen ample room for brood.

If the object be to receive large amounts of honey, there is no better way than this. It is from these large colonies that the quantities of honey are taken, which seem almost fabulous to those who do not understand the size of the hive from which they are obtained.

Before this number of the Magazine reaches our readers, the Lime and white clover harvests will be over.

In some places this is the last abundant yield of honey, but still in most localities, nine seasons out of ten, bees will gather ample stores for their own support until frost.

In localities where buckwheat is raised much surplus honey is secured.

We do not find that large colonies winter as well as smaller ones.

In our experience, hives containing from 2,000 to 2,200 cubic inches, winter best, all other things being equal. We then, after the Lime harvest is over, divide our colonies, proceeding just as we used to do when dividing in May or June. From one of these large hives we make two small ones, taking most of the honey from the combs, and supplying to each half, if possible, a fertile queen. These queens may be easily reserved during the honey harvest in nuclei, which every progressive bee-keeper will keep in his apiary in order to have spare queens on hand for any emergency.

We made last year twenty colonies from eight of these large hives, each one of the twenty containing nine frames a foot square each. When divided, not one of them contained any honey and very little brood, but by the first of September all were stocked with honey and brood, and all of them wintered well. Some seasons it will be found advisable to feed occasionally during the very dry or rainy weather, but even without this, such strong colonies as these will be from the *start*, will fill up without trouble.

In our Western autumns, with these abundant fall blossoms, we often get considerable surplus honey from these divided colonies.

We cannot too strongly advise beginners to examine every hive at the close of the Lime harvest, and

be sure that there is room for the queen to deposit eggs. Many colonies go into winter quarters with no young bees in the hive, from neglect of this precaution. If room is given, the queen will go on laying until fall, and the force be replenished with young bees, and, in our opinion, the presence of these young bees is indispensable to successful wintering.

We have examined hives in August, and found the combs entirely filled with honey, not a dozen empty cells in it. Such hives, if left in this state, would be depopulated by fall, and the owner, if a beginner, would wonder what had become of his bees. "A hive full of honey and no bees." The busy gatherers of this honey had died a natural death, and no provision had been made for the queen to supply their places.

The use of the extractor makes it easy to remedy this *now*. If left until later, it is not easy to induce the queen to deposit eggs.

We would urge those who have allowed natural swarming, to take care of the swarms; be sure that the second swarms and the old hive have secured fertile queens. If bad weather comes, feed your swarms liberally; it will pay well. If the bees have been put into empty hives and are expected to fill them with comb, help them to do it by feeding.

We are testing the new *comb foundations* with great satisfaction, and are sure they will be a great help to those who are not supplied with comb.

It is too much the custom among bee-keepers to defer all preparations for wintering until cold weather; but in this month the bees must be aided to go into winter quarters in good order, and we trust these few hints will aid some in the work.—*Mrs. S. E. Tupper, in Bee-Keeper's Magazine.*

City Bee Culture.

A manufacturer of a summer drink, which seems to be quite popular during the present heated weather, has taken a store in the neighborhood of our offices, and placed in the show window a bee hive, in which, in full view of the crowd which constantly gathers, the busy insects make the honey which, it is asserted, is mingled with the cooling beverage. The window is open at the top, and the bees are allowed to collect their materials from the street refuse. The honey seems to be of excellent quality, and the bees require no further care nor attention than if foraging among their favorite clover fields.

At the Fair of the American Institute last fall, a very fine case of honey was exhibited, the contents of which, we were informed, had been obtained by the bees entirely from the swill barrels, the sugar-house waste, and the flowers in the public parks of the city. There was nothing about the material to distinguish it from the best honey made from clover, and it undoubtedly should and probably did find a market just as readily. The quantity of such honey-yielding refuse wasted in the metropolis is enormous. Why then should it not be more widely utilized through the bees? Private apiculture can be carried on just as well on a house top or in a back yard as upon a farm, and any one with such space at his disposal might easily manage a few hives and build up a paying business, and it would afford amusement to the experimentor and his friends. There are many people, out of the thousands seeking work here just at present, to whom some such new occupation—for such bee culture would be, thus carried on in the city—might be of considerable assistance in eking out a support during the stagnation of business peculiar to the heated term.

A contemporary suggests bee culture as an excellent employment for women, an idea with which we fully concur. A case is mentioned of a lady who started with four hives purchased for $10, and in five years she declined to sell her stock for $1,500, it not being enough. Besides realizing this increase on her capital, she sold 22 hives and 436 pounds of honey. Another instance is on record, of a man who, with six colonies to start with, in five years cleared 8,000 pounds of honey and 54 colonies. Fine honey readily fetches, at retail, from 25 to 40 cents per pound.—*Scientific American.*

What and How to Feed Bees.

The *National Bee Journal* answers a dozen letters enquiring how to make sugar syrup for bees, by assuring the inquirers that there is no mystery about it. Simple sugar, Coffee A, is best; dissolve by pouring boiling water upon it. It really makes little difference whether it is fed thick or thin, when the bees can fly and get water. We have fed sugar dry, sugar simply moistened, sugar dissolved, and sugar made into candy. But, if we must give a rule for the syrup, we will say a gallon of water to four pounds of sugar. No glycerine, no cream of tartar. We don't say that they are injurious, but they are unnecessary. Fifteen or sixteen pounds of sugar are amply sufficient to winter a colony from November to April, if they had not a pound of honey.

To Clarify Honey.—Melt the honey in a vessel standing in boiling water; strain, while hot, through flannel previously moistened with warm water.—*Hunter's Manual of Bee-keeping.*

DOMESTIC ECONOMY.

The Luscious Tomato.

This vegetable has become one of the most important of all garden products. Hundreds of acres are planted in the vicinity of all large cities, and the ease with which it is managed places it under the control of the least experienced. The first use of tomatoes as food was learned of the inhabitants of the Mayla yan archipel a-go, though a German philosoph-er had as early as 1583 tasted them 'with pepper, salt and oil,' and pronounced the theretofore parlor ornament to be a delicious relish. From the one single variety brought originally from Peru, gardeners in this country have in the few late years multiplied the kind and quality until one of the seed catalogues announces thirty-five species, one of them, the latest sport of a disordered fancy, said to be even when ripe as green in color as the rich leaves around it. One of the best seed-growers says more rivalry is displayed by market gardeners to produce an early crop of the tomato than any other vegetable. With all this rivalry it is doubtful whether any for general crop purposes excels the old variety known as the Early Smooth Red. Being now in season, we give below instructions for cooking this delicious and healthful vegetable in various styles, the recipes being taken mainly from Mrs. Paul's "Cooking from Experience," the latest and best authority on this important branch of household economy:

Tomato Salad.—Take fine ripe tomatoes, peel them without scalding, as that spoils them for salad; slice them evenly, not quite half an inch in thickness, and as you cut them, replace the slices to look like whole tomatoes; lay them on a dish covered with broken ice, until you have all done and are ready to serve them; then arrange neatly, side by side, on a shallow dish, and garnish them with red and yellow nasturtium blossoms; make a dressing as for lobster salad and serve it separately in a little ornamented dish with cover. This is a dish which tastes as good as it looks, and that is saying a great deal. Raw tomatoes may also be sliced and put on the table plainly, to be eaten with pepper and vinegar.

Stuffed Tomatoes.—Take fine large ripe tomatoes, cut out the blossom end, and scoop out the insides as clean as you can without breaking the skins; chop this fine, add to it equal parts of cold roast beef, mutton or chicken, cut as fine as possible with a chopper, and as much green corn as meat, cut raw from the cob; mix all together, and add a few bread crumbs made very fine; fill the tomato skins with this mixture, put a piece of butter as large as a nutmeg on the top of each one, and place them side by side in a buttered baking dish large enough to hold them without putting them over one another; bake them nearly an hour in a good oven.

Tomato Catsup.—Cut in pieces one bushel of ripe tomatoes, put them over the fire and boil them until very soft; press them through a sieve to take out the skins and seeds, add to them half a gallon of good cider vinegar, three half-pints of salt, two ounces of whole cloves, two ounces of cayenne pepper, two tablespoonfuls of black pepper, five heads of garlic skinned and separated; mix all together and boil three hours, or until reduced one-half; then bottle without straining, and seal up. This is more easily and quickly made if the tomatoes are peeled before they are cooked. An onion sliced may be used in place of the garlic.

Baked Tomatoes.—Pour boiling water over them to loosen the skins, peel them, and cut out any green core there may be; butter a baking dish, put in the tomatoes whole, two layers, each one seasoned with pepper, salt, a sprinkling of sugar, and little pieces of butter put over quite thickly, and bread crumbs, rather more crumbs on the top layer than the other, strew pieces of butter, pepper and salt over the crumbs on the top, bake nearly two hours in a good oven, serve them in the dish they are baked in. Canned tomatoes, which have been put up without cooking, are very nice done in this way.

Stewed Tomatoes.—Pour boiling water over the tomatoes to loosen the skins, let them lie in it for a few minutes, peel them, cut out the green core, and squeeze a little of the juice from them, cut them up, and put them in a shallow uncovered vessel, season them with pepper, salt, a teaspoon heaping full of sugar, and set them over a brisk fire; cook them twenty minutes or half an hour, stirring them frequently. When they are cooked, add a tablespoonful of butter with half as much flour rubbed in it, simmer one minute longer and serve. They are very nice thickened with grated bread crumbs instead of flour.

Cold Tomato Sauce.—Peel half a peck of ripe tomatoes, *cut* them in small pieces (chopping spoils them), drain them on a sieve for six hours; then add to them one teacup of salt, one of sugar, one of mixed black and white mustard seed, one gill of nasturtium, a good sized root of horseradish cut in strips or grated, two roots of celery, two tablespoons of celery seed, two tablespoons of black pepper, one teaspoon of cinnamon, one of allspice, one of ground mace, and three pints of good sharp cider vinegar; bottle, and it will be fit for use in a week, and will keep for years.

Tomato Soup.—Wash a quarter peck of tomatoes, cut them in pieces and chop them fine in a wooden bowl; put them in your soup kettle with a beef or mutton bone, or two pounds of lean meat of either kind, pepper and salt, and three quarts of cold water; bring to a boil, then simmer slowly for three hours; take out the bone or meat, and strain the broth through a fine sieve, pressing on the tomatoes lightly; return the liquor to the soup-kettle, mix a tablespoonful of flour with a little cold water, stir it in the soup, boil five minutes, and serve.

Tomato Sauce for Pickles.—One peck of green tomatoes and a quarter of a peck of white onions sliced thin; sprinkle them with salt in alternate layers. Let them stand all night, then strain off the water, cover them with vinegar, and simmer gently twenty minutes. Mix together half a teacup of ground mustard, a quarter of a pound of mustard-seed, half a cup of brown sugar, a quarter of a cup of ground ginger, half a cup of good sweet oil, and any other spices you please. Stir these into the pickles when half cooked.

Fried Tomatoes with Cream Gravy.—Wash and wipe large ripe tomatoes, and cut them in slices half an inch in thickness, season with pepper and salt, and fry them in sweet drippings or half butter and half lard. When they are all done, dish them, and dust a little flour in the pan, pour in a teacup of rich cream, give a boil up, pour over the tomatoes, and serve. A nice breakfast dish.

Broiled Tomatoes.—Wash and wipe fine large ripe tomatoes, cut them in half horizontally through the middle, put them on a gridiron with the cut side down, over a clear fire. When partially cooked turn them over, and finish them with the other side next the fire; lay them on a hot dish, and season with butter, pepper and salt. A nice breakfast dish.

Tomato Butter.—To ten pounds of fine ripe tomatoes, put five pounds of good brown sugar, a pint of cider vinegar, a tablespoonful of cinnamon, one of allspice and cloves mixed, and boil gently for three or four hours. Skin the tomatoes, and cut out the green core.

Eating Fruit.

We hardly know how to account for the popular impression that still prevails in many rural districts, that the free use of fruit is unfriendly to health. It has much to do with the scarcity of fruit gardens and orchards in the country. As a matter of fact, cities and villages are much better supplied with fruit the year round, than the surrounding country. There are hundreds of farms, even in the oldest parts of the land, where there is no orchard, and the only fruit is gathered from a few seedling apple trees grown in the fence-corners. The wants of cities are supplied not so much from the proper farming districts as from a few men in their suburbs, who make a business of growing fruit for market. The farmers who raise a good variety of small fruits for the supply of their own families are still the exception. The villager, with his quarter or half-acre lot, will have his patch of strawberries, his row of currants and raspberries, his grape vines and pear trees, and talk intelligently of the varieties of these fruits. His table is well supplied with these luxuries for at least half of the year. But there is a lamentable dearth of good fruit upon the farm from the want of conviction that it pays. It does pay in personal comfort and health, if in nothing else. The medical faculty will bear testimony to the good influence of ripe fruit upon the animal economy. They regulate the system better than anything else, and forestall many of the diseases to which we are liable in the summer and fall. A quaint old gentleman of our acquaintance often remarks, that apples are the only pills he takes. He takes these every day in the year, when they can be found in the market, and fills up the interval between the old and the new crop with other fruits. He has hardly seen a sick day in forty years, and pays no doctor's bill. We want more good fruit, especially upon our farms, and the habit of eating fruit at our meals. This is just one of the matters in which farmers' wives can exert an influence. Many a good man would set out fruit trees and bushes if he were only reminded of it at the right time. One right time will be this autumn—at least in all but the very coldest parts of the country. A few dollars invested then will bring abundant returns in from one to five years. It is more intimately connected with good morals, than our philosophers think. With good digestion it is quite easy to fulfill the law of love.—*American Agriculturist.*

To Clean Lime Out of the Tea Kettle.—Boil in the kettle Irish potatoes with the skins on. This softens the lime, which is easily washed out.

LIVE STOCK MISCELLANY.

Rules for Purchasing a Horse.

First—Examine the eyes in the stable, then in the light; if they are in any way defective reject.

Second—Examine the teeth to determine the age.

Third—Examine the poll or crown of the head, and the withers, or top of the shoulders, as the former is the seat of poll evil, and the latter that of fistula.

Fourth—Examine the front feet, and if the frog has fallen or settled down between the heels of the shoe, and the heels are contracted, reject him; as he, if not already lame, is liable to become so at any moment. Next, observe the knees and ankles of the horse you desire to purchase, and if cocked, you may be sure that it is the result of the displacement of the internal organs of the foot, a consequence of the form of the foot and injudicious shoeing.

Fifth—Examine for interfering from the ankle to the knees, and if it proves that he cuts the knee, or the leg between the knee and the ankle, or the latter badly, reject. Speedy cuts of the knee and leg are most serious in their effects. Many trotting horses, which would be of great value were it not for this single defect, are by it rendered valueless.

Sixth—Carefully examine the hoofs for cracks, as jockeys have acquired great skill in concealing cracks in the hoofs; if cracks are observable in any degree, reject. Also, both look and feel for ringbones, which are callouses on the bones of the pastern near the foot; if apparent, reject.

Seventh—Examine the hind feet for the same defects of the foot and ankle that we have named in connection with the front foot; then proceed to the hock, which is the seat of the curb and both bone and blood spavins. The former is a bony enlargement of the posterior and lower portions of the hock joint; the second, a bony excrescence on the lower, inner and rather interior portion of the hock, and the latter is a soft enlargement of the synovial membrane on the inner and upper portions of the back. They are either of them sufficient reason for rejecting.

Eighth—See that the horse stands with the front feet well under him, and observe both the heels of the feet and shoes, to see if he forges or overreaches, and in case he does, and the toes of the front feet low, the heels high, and the heels of the front shoes a good thickness, and the toes of the hind feet are of no proper length, reject him; for if he still overreaches with his feet in the condition described, he is incurable. If he props out both front feet, or points them alternately, reject.

Ninth—In testing the driving qualities, take the reins while on the ground, invite the owner to get in the vehicle first, then drive yourself. Avoid the display or the use of the whip, and if he has not sufficient spirit to exhibit his best speed without it, reject. Should he drive satisfactorily without it will then be proper to test his amiability and the extent of his training in the use of the whip. Thoroughly test his walking qualities first, as that gait is more important in the horse of all work than great trotting speed. The value of a horse, safe for all purposes without blinds, is greatly enhanced thereby.

Tenth—Always purchase of the breeder of the horse, if practicable; the reasons are obvious.—*Maryland Farmer.*

Caution to Stock Raisers.

It is not uncommon to see farmers and others throw unhusked corn to their horses and cattle. I have often wondered whether they were aware of the injury they might be thus doing their stock. Every farmer is familiar with what we call smut in corn, but perhaps very few are aware of the power it possesses. This smut, in technical terms, is *Ustilago maidis*. The medical history of this fungus growth is very meager; but so far as its effects on the system are known, it acts very much like the ergot of rye. Medical writers speak thus of it. Prof. E. M. Hale says:

"In a cow house where cows were fed on Indian corn infested with this parasite, eleven of their number aborted in eight days. After their food was changed none of them aborted."

Lindlay says: "Its action on the uterus is as powerful as the ergot of rye, and perhaps more so."

Rowlin says: "Its use is attended with shedding of the hair, both of man and beast, and sometimes even of the teeth. Mules fed on it lose their hoofs, and fowls lay eggs without any shells. Doubtless its power causes the egg to be extruded before there has been time for a shell to be formed."

Other proof on the subject might be given, but perhaps the above will suffice. My own observation in relation to it is quite limited. One case, however, came to my knowledge within the past month. A mare in the town of Sumner, Fillmore county, aborted a few weeks since, from no other cause than that of eating smutty corn. I would suggest that when you feed corn, especially to pregnant animals, husk it and be sure that they get none containing smut.—*Cor. Farmers' Union.*

Sheep on the Farm.

Sheep are undervalued by the mass of landholders as a means of keeping up the fertility of the soil and putting money into the pockets of farmers. The moment one begins to talk of sheep husbandry, the listener or reader begins to look for wool quotations—as if wool was all that yields profit from sheep. One might as well look for wheat quotations alone when there is talk about the profit of farming.

Sheep on a farm yield both wool and mutton. They multiply with great rapidity. They are the best of farm scavengers, "cleaning a field" as no other class of animals will. They give back to the farm more in proportion to what they take from it than any other animal, and distribute it better with a view to the future fertility of the soil. Prove this? There is no need of proof to those who have kept sheep, and know their habits and the profits they yield. To prove it to those who have not the experience, it is necessary they should try the experiment or accept the testimony of an experienced shepherd.

But the live stock of a farm should not, necessarily, be sheep exclusively. Cattle, horses, swine, have their respective places in farm economy. How many of each to keep is a question that locality, character of markets, adaptation of soil, predisposition, taste and skill of the husbandman must decide. But one thing ought not to be forgotten, that the more stock a man keeps on his farm, the more grass and grain it ought to, and if properly managed, it will grow. The rates of increase will correspond with the business tact, technical and practical knowledge, and skill of the husbandman.

Feeding Wheat to Horses.

Feeding wheat to horses in some portions of the west, is by no means uncommon. A writer in the *Prairie Farmer*, living in St. Clair county, Ill., says that six acres of wheat are there sown to one of corn, as the latter is a very uncertain crop, and that while wheat sells at $1 per bushel, corn brings 75 cents, thus, regarding the product of both, wheat is the cheaper article to feed; but what is rather surprising, it causes the horses to sweat more than corn! The way it is prepared for feeding, is to put it in a barrel and add water so as to cover it six inches, and let it remain for thirty-six hours, by which time it becomes soft and sometimes even sprouts. It is generally fed with cut straw, in feeds commencing with two quarts of the wheat to four quarts. At the beginning the animals do not take readily to it, but gradually get to like it, and work upon it as well as upon corn. Oats is very little used there.

LITERARY NOTICES.

Premium List and Judges of the Pennsylvania State Agricultural Society: Twenty-third Annual Exhibition at Lancaster, Monday, Tuesday, Wednesday, Thursday and Friday, September 27, 28, 29 and 30, and October 1, 1875. This is a royal octavo pamphlet of 62 pages, beautifully printed on fine white paper, in colors, giving lists of officers, executive committee, ex-presidents, judges, rules and regulations, instructions to the judges, premium lists, special laws, and all other matters relating to the approaching State Exhibition, in which there appears to be a more than usual liberal distribution of prizes, consisting of money premiums from *one* to *one hundred dollars*, silver cups, silver and bronze medals, and diplomas. The articles for which these are offered are divided into fifteen divisions, with appropriate committees to superintend each, consisting in part of horses, cattle, swine, poultry, farm products, machinery, implements, husbandry, domestics, mechanics, paintings, fruits, vegetables, minerals, and many other things which cannot come within a general notice.

Diseases of the Horse, and How to Treat them; a concise Manual of Special Pathology, for the use of Horsemen, Stock-raisers, and Students in Agricultural Colleges in the United States. Robert Chawner, an eminent New York veterinary surgeon, has evidently supplied a want in this neat little volume, as no work on the subject has appeared within twelve or fifteen years—Youatt's, Mayhew's and Percival's works being republications of foreign books which were written for the past generation. This professes to instruct owners of horses in the latest and most approved modes of treatment in all diseases of the horse, including the late epizootic and spinal meningitis. It is designed to meet the wants of that large class who handle horses, but who will not employ, or have not the opportunity to employ, a veterinary surgeon. Published by Porter & Coates, Philadelphia. Illustrated 12mo. 180 pp. Cloth, $1.25.

The Scientific Farmer: A quarto of 16 pages, published at Amherst, Mass., at $1.00 per annum, by T. G. Huntington and E. H. Libby, editors and proprietors. This is a new caterer and solicitor of public favor, and judging from Nos. 1 and 2, now before us, it deserves to succeed, and if it does not it will only be another exhibition of that want of appreciation and co-operation which has "killed off" so many of the good and useful things of this world. The print, the quality of the paper, and the appropriate literary matter, are altogether unexceptionable. We regard it, in every respect, essentially what its title imports, and tender it a friendly greeting.

THE PROGRESS OF INVENTION.

Official List of Patents,

Relating to the Farm, the Dairy, Apiary, &c.,

For the month ending August 7th, 1875.*

Seeding Machine; F. B. Bushnell, Fond du Lac, Wis.
Harvesters; V. N. Collins, Nordhof, Cal.
Harrows; C. Brodrick, Champaign Co., Ill.
Plows; A. Griggs, Lafayette, Tenn.
Hay Racks; J. Hall, Riverside, Neb.
Seed Drills; J. R. Simmes, Hamilton, Ohio.
Plow Cleaners; T. Wallas, Auburn, N. Y.
Farm Fences; L. M. Wheelock, Yorkshire, N. Y.
Harvester Reels; Jas. F. Black, Oshkosh, Wis.
Harvesters; H. H. Britenthal, Latrobe, Pa.
Automatic Gates; H. Hammond, Smithfield, O.
Lifting Gates; W. Lundy, Attalissa, Iowa.
Harvester-Rakes; J. S. Marsh, Lewisburg, Pa.
Sulky Plows; J. Moore, Rock Island, Ill.
Plows; L. B. White, Norfolk, Va.
Corn Cultivators; A. F. Batcheller, Cedar Falls, Iowa.
Gateways; S. L. Fisher, Krimfield, Ill.
Grain Drills; E. D. Meade, Shortsville, N. Y.
Rotary Churns; J. J. Shelton, Washington, Mo.
Feed Cutters; F. Webb, Elyria, Ohio.
Plow Points; G. Wyard, East Avon, N. Y.
Hay Presses; L. D. Whitgardner, Ill.
Rotary Churns; H. Felk, Carlyle, Ill.
Milk Coolers; W. H. Johnson, Belhigh, N. Y.
Harrows; J. Mastern, Alexandria, Ohio.
Corn Planters; M. Newton, Kentland, Ind.
Corn Stalk Cutters; A. C. Smith, Ft. Madison, Iowa.
Cultivators; F. F. Vandegrift, Wabash, Ind.
Feed Cutters; E. Waggoner, Westminster, Md.
Corn-Drills; J. Cammel, Harrison, Ohio.
Fertilizers; C. H. Narr, Somerville, Mass.
Corn and Cane Harvesters; T. Merrill, Dixon, Ill.
Plows; G. Ringen, Smith City, Mo.
Farm Gates; W. Waggoner, Creston, Iowa.
Seed Planters; D. F. Ballantine, Mt. Gallagher, S. C.
Barbs for Wire Fences; G. F. Duffey, Chicago, Ill.
Machine for destroying potato-bugs; C. E. Mathewson, Franklin Corners, Pa.
Hog-ringing Machine; S. Sparks, Bowinsville, Ohio.
Harvesters; G. B. Webster, Stockton, Cal.
Harvesters; G. H. Elward, St. Paul, Minn.
Corn Planters; W. B. Gerouble, Springfield, Mo.
Potato Diggers; J. H. Louch, Rome, Ind.
Milk Coolers; E. N. Porter, Morrisville, Vt.
Harvesters; J. M. Rosebrook, Hoosic Falls, N. Y.
Agricultural Boilers; W. H. Swarthout, Aurora, Ill.
Seed Sowers; J. Birk, Sycamore, Ill.
Seats for Harvesters; W. E. Matherson, New Brunswick, N. J.
Automatic Gates; K. D. Kuntson, Clinton, Wis.
Mowing Machine; D. Lockhead, Hocelaga, Can.
Harvester Droppers; T. McDonough, Ottawa, Ill.
Mowing Machine; C. Wheeler, Auburn, N. Y.
Automatic Gates; O. P. Clinton, Menasha, Wis.
Machine for cutting corn-stalks; T. O. Bryon, Barnard, Mo.
Gang Plows; H. Opp, Belleville, Ill.
Corn Planters; P. S. Shaur, Pink Hill, Mo.
Grain Separators; W. S. Klymuns, Burnt Cabins, Pa.
Cultivators; J. N. Donevan, Byhalia, Miss.
Fence Posts; E. Gear, Beloit, Wis.
Churns; A. Goodnough, Portland, Oregon.
Potato Diggers; G. W. Hagg, Milton, Pa.
Plow Mold-Boards; J. Holmes, Pittsburgh, Pa.
Seed Drills; W. A. McClintock, Pittsfield, Ill.
Plows; W. K. Allen, Kansas City, Mo.
Automatic Gates; L. N. Allends, Poughkeepsie, N. Y.
Rotary Churns; Tilson Landt, Ilion, N. Y.
Farm Gates; R. Miller, Stephensville, Wis.
Corn Shellers; E. C. Morgan, Valdosta, La.
Harrows; W. F. Parlin, Canton, Ill.
Corn Planters; G. W. Shepherd, Afton, Iowa.
Milk Cans; J. W. Smith, Philadelphia, Pa.
Fertilizer Distributors; W. F. Wheeler, Dorchester, Mass.
Corn Drills; J. Canterbury, Harrison, Ohio.
Harrows; J. Chamberlain, Melmore, Ohio.
Butter Workers; M. Hutchinson, Owatonna, Minn.
Hay Knives; R. Keuer, Battle Creek, Mich.
Milk Strainers; F. L. Oliver, Friendshirp, N. Y.
Long Plows; E. P. Pullion, Palmyra, Mo.
Plows; J. R. Sample, Liberty, Miss.
Plows; O. P. Sanford, Dateville, Ala.
Hay Loaders; E. R. Whitney, Magog, Canada.
Plows; G. Wiard, East Avon, N. Y.

To Preserve Posts.

The *American Chemist* says that a western farmer discovered, many years ago, that wood could be made to last longer than iron in the ground. Time and weather, he says, seem to have no effect on it. The posts can be prepared for less than two cents apiece. This is the recipe: Take boiled linseed oil and stir into it pulverized charcoal to the consistency of paint. Put a coat of this over the timber, and, he adds, there is not a man who will live to see it rot.

*Prepared expressly for The Lancaster Farmer by Louis Bagger & Co., Solicitors of Patents, Washington, D. C., from whom complete copies of the Patents and Drawings may be obtained.

OUR FENCE CORNERS

WE call attention to the advertisement of the Mount Hope Nurseries, Rochester, N. Y., one of the oldest, most extensive and reliable establishments in the United States.

THE story of the absent-minded man who, meeting his own son on the street, shook hands with him, and asked him how his father was, has been equaled by the forgetfulness of a Wisconsin farmer. The man drove to town to transact some business, and was accompanied by his wife. Leaving her at a dry goods store, he proceeded to carry out his intentions. Having finished his business, he forgot all about the little circumstance of bringing his wife with him, and started home. Arriving there, he put his horses up and proceeded to do the chores. In the meantime his wife had learned that her husband had left town without her. Hiring a conveyance, she was driven home. She did not wait to take off her things, but seizing a press-board made her way to the back-yard. The husband had just seated himself on his milking-stool, and had just opened a conversation with the cow on the subject of "h'sting," remarking frequently that it was "so boss." He was just settling down to business, when a whistling sound, as of something rapidly cleaving the air, came from the other side of the cow. It was the press-board, and his wife was at one end of it. An instant after it fell with crushing weight upon his knees. The cow, having conscientious scruples about standing between husband and wife, left very suddenly, and in a hurry kicked the poor man in the immediate vicinity of the vest pocket. The unhappy victim of circumstances scrambled up on all-fours, when the press-board again descended, striking him opposite to where the cow had left her tracks. His wife then asked him if he would ever forget her again, and his answer was plain and to the point, "Not much."

NEWSPAPERS: A man eats up a pound of sugar, and the pleasure he has enjoyed is ended; but the information he gets from a newspaper is treasured up in the mind, to be used whenever occasion or inclination calls for it. A newspaper is not the wisdom of a man or two men, it is the wisdom of the age—of past ages, too. A family without a newspaper is always half an age behind the times in general information; besides, they never think much, nor find much to think about. And there are the little ones growing up in ignorance without a taste for reading. Besides all these evils, there's the wife, who, when her work is done, has to sit down with her hands in her lap, and nothing to amuse her mind from the toils and cares of the domestic circle. Who would be without a newspaper?—*Franklin.*

PROF. TYNDALL illustrates the value of a potato by supposing that all but one was destroyed; that one would contain in itself the possibility of again stocking the world with an invaluable article of food. If one potato would produce, when plenty, only a crop of ten potatoes, in ten years the total product of the produce of this one potato would be equal to 10,000,000, which would be sufficient to stock the world with seed. The real value of that single potato, then would be such that it would be better that the city of London or New York should be destroyed than that tuber should be lost to the world.

A BOY'S FORETHOUGHT: A Cass street boy of tender years entered the house with a big pair of pincers in his hand, and when his amazed mother inquired the use he meant to make of them, he replied:

"I've got a pin-dart, haven't I?"

"Yes."

"Well, if I shoot it into the baby we can draw it out with the pincers and not have to call a doctor," he continued, wearing a smile of victory.—*Detroit Free Press.*

RECEIVED: THE LANCASTER FARMER, Lancaster, Pa., a very useful periodical, devoted, as its name implies, to the agricultural interest. Nowhere else have we seen such exhaustive descriptions of the potato bug. We feel thoroughly in harmony with our friend when he goes for the commercial manure frauds in a way that should put his constituency on the alert respecting them.—*New York American Grocer.*

"IT is well enough for you to name your son, Elias," said Mrs. Partington, "but for gracious goodness sake don't name him Alias, 'cause the Aliases are always cutting up bad. Here's Alias Jones, Alias Brown, Alias Thompson, Alias Ring-tailed Squealer—all been took up for robbin' and stealin'."

"DID anything about the defendant strike your eye as remarkable?" asked a judge of the plaintiff in a case of assault and battery—"It did, yer honor."—"And what was it?" continued the judge.—"His fist, yer honor."

DARWIN acknowledged himself sold when his little niece asked him, seriously, what a cat has that no other animal has, and he gave it up after mature deliberation, and then the sly little puss answered, Kittens.

$1 a Year { To subscribers in the county. SINGLE COPIES 10 CENTS. To subscribers out of the county. } $1.25.

Prof. S. S. RATHVON, Editor. LANCASTER, SEPTEMBER 15, 1875. PEARSOL & GEIST, Publishers.

STATE AGRICULTURAL FAIR.

The County Committee appointed by the Lancaster County Agricultural and Horticultural Society to co-operate with the officers of the State Society in developing an interest in the approaching State Fair, held an adjourned meeting in this city on Monday. On motion of Mr. Engle, Hon. Esaias Billingfelt was called to the chair. He stated the object of the meeting in a few appropriate remarks. Though not himself a farmer, he felt a deep interest in all that pertains to husbandry, and looked upon the farmer as a benefactor. He referred to the great resources of this county, and expressed the hope that they would be so well represented in the State Fair that strangers might form some adequate idea of the greatness of the garden county of the State.

Hon. Henry M. Engle, of Marietta, was chosen Vice President, and Johnson Miller, of Warwick, Secretary. There was a general interchange of ideas on the best means of securing a representation of our products at the fair, in the progress of which Mr. W. D. Seiler, Secretary of the State Agricultural Society, was introduced, and addressed the committee, urging each member to do his best to get his neighbors interested in the exhibition. He said the premiums offered were liberal, but the great inducement should be the honor of exhibiting the best products of their skill and industry. He answered numerous queries in regard to premiums and the rules and regulations of the fair.

The importance of leaving no efforts untried for securing a representatson among exhibitors which would reflect credit upon our county, was earnestly urged by Messrs. Billingfelt, Engle, Miller, Hoover, Ettla, Dr. Hertz, and others, in a conversational way.

Mr. Geist, of the EXPRESS, favored the appointment of a Committee on Publication, consisting of five members, whose duty it would be to furnish such items to the local press relative to the regulations of the fair, and the inducements held out to exhibitors, in order that a proper interest might be aroused among the citizens of the county. He had no doubt every editor would gladly publish brief articles of general interest, as the object was for the promotion of the general good. He would make a motion to that effect, with the proviso that he was not made chairman.

The motion was adopted, and the chair appointed Prof. S. S. Rathvon and J. M. W. Geist, city, Dr. E. A. Hertz, Ephrata, Henry M. Engle, Marietta, and J. M. Ensminger, Manheim.

Mr. McComsey said he could not more forcibly impress upon those present the responsibility they had assumed, than by calling their attention to the resolutions of the Society under which this committee had been created. They were as follows:

WHEREAS, The Pennsylvania State Agricultural Society have determined to hold their State Fair at Lancaster, in the autumn of 1875, an event to which we look forward with unusual interest; and,

WHEREAS, It has heretofore been customary for the Society to hold its fair for two years in the same place, which, being observed in this instance, will secure it for our county during the approaching Centennial Year of American Independence, an occurrence to be esteemed by us of the very highest importance; therefore, be it

Resolved, That the Agricultural and Horticultural Society will use all their influence, and employ every effort in their power, in order to render the State Fair, to be held in our midst, a great and triumphant success.

Resolved, That every member of the Lancaster County Agricultural and Horticultural Society will esteem it his duty to exhibit at the fair anything that may be of agricultural interest, and do all else in his power to prove that our county was worthy of the honor that has been conferred upon her in having been selected as the place for holding the State Fair, at the most important epoch in the history of our Commonwealth and Nation.

Resolved, That we, the farmers and agriculturists of Lancaster county, in due appreciation of the consideration that has been shown us, will meet the agriculturists of our State and country with an open and hearty welcome, and we promise them the kind and considerate treatment of our whole community.

Resolved, That we will endeavor to make our efforts to promote the success of the fair fittingly comport, to the best of our ability, with the title which common acquiescence has accorded our county in being styled "*The Garden of the Keystone.*"

Resolved, That in order to make the State Fair a complete success, and that our efforts may the more unitedly be directed thereto, we forego the holding of our usual annual county exhibition.

Resolved, That the President of the Lancaster County Agricultural and Horticultural Society shall appoint a County Committee of the friends of agriculture, consisting of one from each district, and five in the City of Lancaster, whose special duty it shall be to gather all matters of interest, co-operate with State committees of like character, and exert their utmost efforts to crown the State Fair, to be held among us, as a brilliant triumph of agricultural display.

Resolved, That a copy of these resolutions be printed in THE LANCASTER FARMER, and also in our local papers, and that a copy be forwarded to the President of the State Agricultural Society.

After resolving that each member would do all in his power by personal solicitation between this and the time for closing the entries (Sept. 20) to get a local display worthy of the county, by personal solicitation or otherwise, the committee adjourned to meet in the Orphans' Court room on the Thursday of the fair week, and make a formal visit to the exhibition.

There having been some changes in the committee since it was first announced, we print it as at present constituted:

COUNTY COMMITTEE ON STATE FAIR.

Adamstown, Esaias Billingfelt; Bart, Harvey Baughman; Brecknock, John H. Good; Carnarvon, Geo. W. Compton; Cocalico East, John S. Heiser; Cocalico West, Joel Weist; Colerain, Robert Hogg; Columbia, C. S. Kauffman; Conestoga, Casper Hiller; Conoy, Simon Engle; Clay, Ab'm B. Snyder; Donegal East, Henry M. Engle; Donegal West, Jacob H. Musser; Drumore, James A. McPherson; Ephrata, Dr. E. A. Hertz; Earl, Benjamin Weidman; Earl East, Samuel S. Martin; Earl West, Joel Wenger; Elizabeth, George Youtz; Elizabethtown, Addison Eby; Eden, Robert Montgomery; Fulton, R. K. McCullough; Hempfield East, John Gingrich; Hempfield West, J. Hoffman Hershey; Lampeter East, Calvin Cooper; Lampeter West, Amos H. Mylin; Lancaster township, Jacob M. Frantz; Lancaster city, S. S. Rathvon, Wm. L. Peiper, Wm. McComsey, Henry Benedict, J. M. W. Geist; Leacock Upper, Isaac Bushong; Little Britain, James Patterson; Martic, Wm. E. McCreary; Manor, Martin D. Kendig; Mt. Joy borough, John A. Grier; Mt. Joy township, Henry B. Reist; Marietta, G. H. Ettla; Manheim borough, J. M. Ensminger; Manheim township, Ephraim Hoover; Paradise, M. B. Eshleman; Penn, Israel G. Erb; Pequea, J. L. Breneman; Providence, John M. Shenk; Rapho, M. L. Greider; Salisbury, S. Kennedy; Sadsbury, Wm. P. Brinton; Strasburg borough, H. Brackbill; Strasburg township, E. Brackbill; Warwick, Johnson Miller; Washington borough, J. L. Shuman.

CONTENTS OF THIS NUMBER.

OUR FENCE CORNERS

To THE best of our recollection, he was an Arkansas clergyman who had been accused of trailing his "true inwardness" in the company of the wrong woman. Under these painful circumstances, his wife was frequently compared to a "noble Roman matron;" but she didn't seem to mind it, and firmly declared her belief in her husband's innocence. When the day of trial arrived she sat in court beside him, and moved the jury to tears by arranging a fifty-cent bouquet in the buttonhole of his coat. The case was at last opened, and the witnesses for the prosecution called. There were thirty or forty of them; but before half a dozen had testified a mighty change came over the face of the wife, and, getting right up and addressing her remarks to the bench, she said: "See here, Judge, I'm satisfied, if you are. Don't mind me; I can stand it. I reckon it's into me, Judge, to get even. Just hold on to him till called for, and if enny woman wants him, he's hern, and no questions asked." Then, turning to her husband and snatching the floral tokens from his buttonhole, she bitterly exclaimed: "Remember, from this time forward my home's a den of ragin' lions, and you ain't no Daniel."

AFTER DINNER NAPS: Many persons are in the habit of sleeping for half an hour immediately after dinner. Ten minutes' sleep before dinner is worth more than an hour after. It rests and refreshes and prepares the system for vigorous digestion. If sleep is taken after dinner, it should be in a sitting posture, as the horizontal position is unfavorable to healthful digestion. Let those who need rest and sleep during the day take it before dinner instead of after, and they will soon find that they will feel better and that their degestion will be improved thereby.

GOOD HUMOR: Good humor is the clear blue sky of the soul, on which every star of talent will shine more clearly, and the sun of genius encounter no vapors in his passage. It is the most exquisite beauty of a fine face—a redeeming grace in a homely one. It is like green in a landscape, harmonizing every color, mellowing the light, softening the hues of the dark, or like a lute in a full concert of instrumental sounds, not at first discovered by the ear, yet filling up the breaks in the concord with its deep melody.

A MAN who hadn't much talent for conundrums, in attempting to get off one at a tea party at his own house, the other evening, got exceedingly mixed. He intended to ask the old question, "Why is woman like ivy?" the familiar but gallant answer to which is, "Because the more you're ruined the closer she clings." But he put it, "Why is ivy like a woman?" which none of the ladies could tell, and so the unfortunate man himself told them it was "Because the closer it clings the more you're ruined."

"WHAT are ye dancing around fur?" inquired a bootblack, yesterday, of a boy aequaintance whose face was covered with smiles, and who was executing a double shuffle. "Golly, 'nuff for one day," replied the lad, jumping still higher. "Cow got into the garden this morning and tramped every bed flat as your hat, and I won't have to pull a weed this summer!"

MADAME'S FEET: Madame X. has charming features, charming arms, charming hands—but she has monstrous feet. Just recovering from a long illness, she said recently to one of her friends, "I am still very feeble, but I begin to be able to put one foot before the other." "And that is not saying a little," murmured the excellent friend.

IT was a rich old widow who wondered that the handsome young man had fallen in love with her. "Yes, it is wonderful," said Mr. Spruceup; "but I do love you to distraction; why, I even love the ground you walk on." "I thought so," observed the widow; "but I am not in want of a landlord at present."

A BLIND MAN was sitting in company with some visitors a few weeks ago, when one of the party left the room. "What white teeth that lady has," said the blind man. "How can you tell that?" asked a friend. "Because," was the ready answer, "for the last half hour she has been doing nothing but laugh."

A COUPLE of Yankee neighbors became so inimical that they could not speak to each other; but one of them having been converted at a camp-meeting, on seeing his former enemy held out his hand, saying, "How d'ye do, Kemp? I am humble enough to shake hands with a dog."

A CLERGYMAN says, "I once married a handsome young couple, and as I took the bride by the hand, at the close of the ceremony, and gave her my warmest congratulations, she tossed her pretty face, and pointing to the bridegroom, replied, 'I think *he* is the one to be congratulated.'"

A DAUGHTER is almost always right when she endeavors to imitate her mother; but we do not think the mother is equally right when, at a certain period of life, she tries all she can to imitate her daughter.

The Lancaster Farmer

Prof. S. S. RATHVON, Editor. LANCASTER, PA., SEPTEMBER, 1875. Vol. VII. No. 9.

LANCASTER'S OPPORTUNITY.

Before the issue of the October number of THE FARMER, our approaching State Agricultural Fair will be numbered among the things that *were;* and, inasmuch as Lancaster county's seat of justice has been selected as the local centre of that important event, it is not expecting too much from her citizens to lend a willing and effective hand in making it an event of which any county might feel proud, besides reflecting credit upon a State of which she has long been accorded the distinguished title of being the "garden spot." Possessing all the necessary elements of being a great agricultural, manufacturing and commercial centre, she ought also possess all the energy and enterprise of making this annual exhibition of our material resources a complete success, without the aid of her sister counties. Never was such an opportunity for Lancaster county to *make her mark* presented before. With the patronage of the whole Keystone State, and its central organization, together with all the appliances and conveniences of the Park Association to back her up, there is nothing to prevent her from wreathing her brow with victorious laurels but the apathy of her own people. Under such circumstances, and under such auspices, there is only one consideration that ought to be paramount, and that is the honor and dignity of our great county, and the great commonwealth of which she is a distinguished portion. In the main, the moral tone of such exhibitions is elevating, expansive and progressive, whatever incidental irregularities may attend them; and the most enterprising and progressive people are those who do the good that is in them, without permitting inadvertent evil to prevent or thwart them. At no period within an experience of three-score years has a single season passed in which the county of Lancaster could not have made a creditable display of her material productions, if she chose to exercise the *will*, and during all that long period, no time has been more propitious than the present. Indeed, such an opportunity may not occur again for another century, because its influence will not be exhausted in the approaching occasion, but, if successful, will be extended to our National *Centennial*.

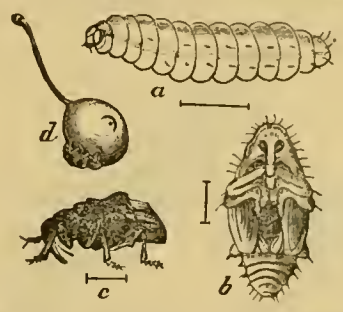
One thing has very forcibly struck us at nearly all the State or County Agricultural exhibitions we have ever witnessed, and that was the meagre exhibition of the vegetable and floral productions of the garden, both in quantity and quality; and we have more than once felt humiliated or chagrined, when we heard visitors remark that "they have better vegetables and flowers at home," or that had they "just thought of it," they would have exhibited "this, that, or the other thing," which they did not find there at all. These things will perhaps always be so, so long as people only selfishly think of being personally entertained, amused, or instructed, without contributing to the entertainment, amusement or instruction of their neighbors. And we happen to know, too, that many such visitors have afterwards regretted that they had not themselves been exhibitors. Now, this is a matter on which people have only to exercise a little forethought, and a cultivation of the *will* to carry that forethought into visible effect. Although the *premiums* awarded can never be regarded as a compensation for the labor required in the necessary preparation, yet if that were a requisite stimulant, by consulting the premium list of the State Society, it will be found that they have made a very liberal provision for such products, and we hope their expectations will be *realized*. Farmers and producers it behooves you to "be up and doing."

THE "CURCULIO," OR PLUM-WEEVIL.

(Conotrachelus nenuphar.)

This insect, in its long career before the horticultural world, has attained to greater notoriety than perhaps any other individual belonging to the long and dark catalogue of fruit destroyers of the American continent in the nineteenth century. We accord to it no such thing as *fame*; it is simply and infamously *notorious*, and how to circumvent or exterminate it has already cost more profound and perplexing thought, more inventive genius, and more mechanical skill, and we might appropriately add, more blank disappointment at results, than any other subject of the insect realm, and we are very little nearer a sure and effectual remedy to-day than we were twenty years ago. It is true, by laborious and untiring perseverance, its numbers have been, in some special cases, greatly diminished, but the least relaxation, or suspension of such labor, has only witnessed a return of the pest to a renewal of its destructive propensities, and a further embargo on the fruit cultivator's industry.

This insect belongs to the order COLEOPTERA, or "Sheath-winged insects;" and the family CURCULIONIDÆ, or "Snout-beetles," from *Curculio*, which simply means a "weevil." The Curculio has always manifested a partiality for the fruit of the plum, and the cherry, but it also injuriously infests the apple, pear, peach, quince, apricot and nectarine. In the absence of fruit, it is said, also, to deposit its eggs in the tender branches, or in the soft fungous protuberances or swellings, that prevail sometimes on plum and cherry trees, under



the name of "Black Knot." For many years it has been so destructive to the plum crop that fruit-growers generally were compelled to discontinue its cultivation, and then the insect turned its attention to the peach and the apple, and *now* they are sometimes found as numerous in the apple as the "Codling Moth," and between the two, that fruit has as fatal a gauntlet to run as the plum and peach. There is probably but one distinct brood of this insect during a year, but this fact, if *fact* it may be called, is not distinctly clear. One consideration is very apparent. If any one desires to destroy the Curculio, he must begin early in the spring, as soon as the fruit they infest is in bloom, and continue his labors until late in autumn, or until all the fruit is gathered, and even *then* he may not succeed to his own satisfaction. We have taken the Curculio in almost every month of the year, and we therefore feel convinced that it belongs to the hibernating class; and this *fact* also supports the theory that it is one-brooded; but, rarely depositing more than a single egg in a fruit—according to size—it requires some days, perhaps weeks, before the female has them all deposited, and hence it will appear as a succession of broods during a greater part of the season, and the insects will seem to be coming all the while; therefore, the necessity of continuing the war against them will become apparent, a fact that fruit-growers do not sufficiently heed. Before there was cultivated fruit, this insect no doubt confined itself to various species of wild fruit, especially the wild cherry, and even now that fruit becomes occasionally infested with it.

This insect is generally regarded as a native of North America, infesting wild plums, apples and cherries, but when domestic fruit began to be cultivated, like many other species of insects—the Colorado Potato-Beetle, and the Apple Tree Borers, for instance—it deserted the wild varieties and took to the domestic varieties, as suiting its taste and convenience better; and this accounts for the fact that domestic fruit is generally more infested than wild. We presume that, at least, the major part of our readers have seen a Curculio, or Plum-Weevil, and are, therefore, tolerably well acquainted with its appearance; and those who have not this knowledge will be assisted in the identification of the insect by the accompanying illustrations, the size being indicated by the "hair lines" near each figure—*a*, *b*, and *c*, being magnified.

Fig. a is the *larva*, a white fleshy grub, entirely without feet, thickest in the middle, and slightly tapering towards the anterior and posterior ends. It is composed of a head and thirteen segments, or rings; and is soft, smooth and glossy, with a few white hairs sparsely distributed over the body, but which are scarcely perceptible without the aid of a magnifier. Although destitute of feet, it still possesses considerable locomotive power by means of the longitudinal expansions and contractions of the segments of the body.

Fig. b is the *pupa*, of a dirty white or light clay color, perhaps somewhat modified in shade by the nature of the soil in which it is found, which is also interspersed with a few short, erect, bristling hairs, and in which an approximation to the perfect insect may be seen. The snout, the eyes, and the upper portion of our figure, bear a striking resemblance to the "Phiz," of "Boss Tweed," as caricatured in the public journals, and in saying this we mean no disrespect whatever to the—*Curculio*.

Fig. c is the mature beetle, mottled with ashen gray, white and brown, with its long snout bent under and backward, and with a peculiar hump on its back. When it is disturbed it suddenly draws its feet and antennæ close to its body, drops down, and "acts possum," as if it were dead. In this respect it seems to exhibit a low cunning that is something more than mere instinct; for should it pretend to recover, and find that the danger has not been removed, it immediately relapses into its *possum* state again, and remains for some time after the apparent or pending danger is fully over, seeming to exercise a reconnoisance two or three times before it ventures to move again. *Fig. d.* shows a young plum, and a curculio on it in the act of depositing its eggs. Near the upper disk is a crescent shaped incision, and a small black dot, to represent the position of the egg, under the skin of the fruit. It is questionable whether this insect can make any other than a circular incision with its jaws. Its *proboscis*, or snout, has a swivel-like action in its head, and, in turning right or left, it must describe a circular line, on account of the rigid articulation. After the incision has been made, it carefully lifts up the edge, and plunges in its snout about where the dot is, and then turns around and deposits an egg therein, after which it reverses its position, and pushes the egg into the hole it had previously made, smoothes down the upraised edge of the skin again, and the work is accomplished. The fruit represented is a young plum, showing about the size it is when the curculio deposits its egg in it, for when the fruit is small it rarely deposits more than one egg in it. Later in the season, when fruit is larger and more fleshy, and the insects more abundant, two, or even three or more, may be found in a single fruit. A large number of the insects belonging to this family

(CURCULIONIDÆ) infest the seeds or kernels of vegetation, and this individual makes some advance in that direction. On one occasion we picked up fifty plums that had fallen from a tree, and in about forty of them we found the larva of the curculio in the kernel of the young fruit. Later in the season, when the stone had hardened, they were found in the pulp outside of the stone. This was, perhaps, owing to the fact that the kernel was the softest part of the younger fruit. After the *larva* has matured it leaves the fruit, whether it is hanging on the tree or is lying on the ground, and burrows into the earth, where it is transformed into a pupa, as *Fig. b.*, from whence it comes forth a perfect beetle, as at *Fig. c.*, in from ten to fifteen days, and is ready to go through the same process its parent did, if the season is not too far advanced; otherwise, it will survive and hibernate until the next fruit season, and thus we have found it, from early autumn until late in the following spring, under bark, timber and flat stones. The individuals that go into the ground late in the season no doubt remain there in the pupa or beetle form until the following spring. Since plums have ceased to be a leading article in fruit culture, on account of the depredations of the curculio, the insect has greatly multiplied in peaches and apples, so that, in the latter crop, probably as many fall in the earlier stages of the fruit from the infestations of this insect as from that of the codling.

Remedies.

From the widespread and long continued depredations of such an insect as we have been describing, it is very natural that fruit-growers should desire the discovery of some quick and certain means to effect its entire extermination, or, at least, such a reduction of its numbers as to afford some encouragement to those engaged in the laudable occupation of fruit culture; but nothing has been discovered that does not involve a great deal of labor, and more patience and perseverance than is possessed by the generality of men.

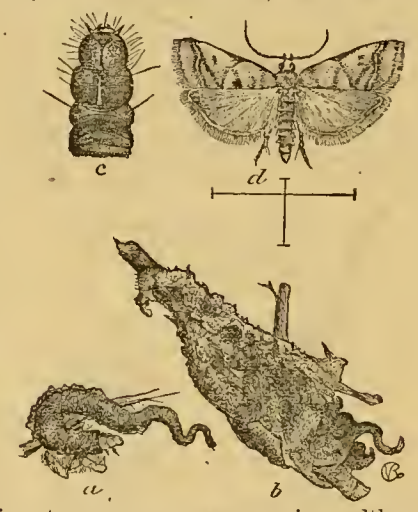
The boring of holes into the trunks of fruit trees, and filling them with sulphur, calomel or gunpowder, as remedies, is now entirely obsolete; and almost in the same category may be included most, if not all, of the decoctions, solutions and fumigations, that from time to time have been conspicuously placarded before the public, although, to a limited extent, *some* of these may have been beneficial. There is very little to be hoped for from *natural* remedies, although there are incidental cases where these have been locally beneficial. The curculio is exposed to few parasites, if any, and in the mature state it is not sufficiently tempting to attract the attention of fowls or birds, although some no doubt fall a prey to these. Indeed, they have frequently been detected in the stomach of birds, but not to any remarkable extent. *Artificial* remedies, as we before intimated, don't amount to much. Therefore, the almost sole reliance must be in a universal and simultaneous effort in *mechanical* remedies. *First*, all the fruit should be immediately gathered as fast as it falls from the trees, or the ground beneath the trees should be accessible to stock and poultry, particularly swine. This gathered fruit should be scalded, and then thrown into the swill. So far as this remedy goes it is very beneficial; but the farmer or fruit grower must not stop here. By laying pieces of flat stones, shingles or boards on the ground under the trees in spring and early summer, and examining them every morning, if the insects are numerous, many of them can be captured in these traps daily. This may be called our *second* remedy, and, so far as it goes, it will be found useful. *Thirdly*, a vigorous and continuous process of tree-jarring is perhaps the best remedy that has yet been discovered. If one of the lower branches is sawed off, leaving a stump two or three inches, upon which to strike with a wooden mallet or maul, it will bring the insects down from the trees, if any are there. Before this is done a muslin cloth should be spread beneath the tree being jarred. When suddenly interrupted, the curculio has the habit of letting go its hold, drawing in its feet and antennæ, and dropping on the ground, and, as we before stated, "acting possum"—shamming death. When it first falls it looks like a dry bud, and for some time makes no attempt to escape. It may then be gathered and scalded. There are also traps made in the form of large inverted umbrellas, placed on wheels, and having handles like a barrow. These are run against the trees with a sudden force, which will produce a jar sufficient to dislodge the most of them. A cleft is left in one side of this apparatus, wide enough to admit the body or trunk of the tree, and where the apparatus strikes the tree it ought to be protected against sacrification or bruising by a "bumper." If this were persevered in by all who have fruit trees, the *curculio* would soon be "played out."

THE "RASCAL" LEAF-CRUMPLER.

(Phycita nebulo.)

Order Lepidoptera, Family Phycidæ.

This insect is becoming quite common in the Western States, but we have no specific report from it either in the Eastern or Southern States; but the middle States seem to be a common or neutral ground, upon which are often found insects that are common in other localities, either north, east, west or south. We do not know that this insect is yet numerous in Pennsylvania, but we have heard of it from several quarters, and if we are not greatly in error, we have seen it in Lancaster county on several occasions, and once upon a



quince tree upon our own premises; although, from our ignorance of its habits we failed to breed the fly, or rather *moth*, but surely we have captured the same, or a very nearly allied species, on several occasions, in June and July, among the many that are in the habit of entering dwellings and flitting about gas lights.

There are many leaf-crumpling caterpillars, and therefore Mr. B. D. Walsh, late of Rock Island, Illinois, who was the original describer of it, by way of eminence, has named it the "*Rascal*" *Leaf-crumpler*. During the winter small bunches of leaves are often seen curled partially up and attached to the ends of the branches. In many cases these are the winter quarters of the *larva* of this insect, for it belongs to a numerous class that hybernate in the larva state. Indeed, this insect *might* be present in great numbers and not be suspected, for it has the art of hiding itself among the heavy foliage that usually decks the trees in May and June. Although comparatively new in Pennsylvania, and perhaps not yet very numerous, we have not developed its history yet from personal observations; therefore, we acknowledge ourself mainly indebted to the observations of Mr. Walsh and Professor Riley, of St. Louis, for what we may have to say upon the subject, and we only illustrate it in this place in order to forewarn our nurserymen and orchardists of an enemy to the apple and pear that they may have to contend with hereafter, and also to make such remedial suggestions as may enable them to meet the case when it comes.

When the trees are denuded of their leaves, this serpentine larva becomes conspicuously visible in its little house or case, either singly, as seen in *Fig. a.*, or closely attached in clusters of half a dozen or more, hidden in a few crumpled leaves, sewed together with silken threads, wherein it passes its winter season and begins its defoliating operations in the spring again. In these winter quarters it is able to bear all the exposure from cold and rain with almost perfect impunity. But its leaf-eating propensities are not its worst characteristics, for during a warm early spring it also attacks the young swelling buds, and often becomes exceedingly injurious to young nursery stock, when it is numerous.

So far as known, there is but one brood in a year, and the larva attains one-half or one-third its growth before the winter sets in, and remains in a torpid condition about that size until the following spring, when the expanding leaves arouses it from its winter fast. It then unmoors its twisted case (*a*) and sallies forth in quest of its leafy food and ravenously breaks its winter fast. It is then of a reddish brown color, but when it attains its maturity toward the end of May, it assumes often a deep green color. *Fig. b.* represents a cluster of these serpentine cases grouped together around a small branch. *Fig. c.* represents the head and the three thoracic joints of the mature *larva*. *Fig. d.* represents the moth, the size indicated by the cross lines beneath it. The fore wings are of a pale ashen gray color, variegated with dark brown and cinnamon brown, while the hind wings are of a uniform dusky grey, and the antennæ are simple filaments tapering from base to point. The male is mainly distinguished from the female by a little horn-like tuft near the base of the *antennæ*. The *role* of this insect's depredations may be inferred from the fact that according to the observations of Prof. Riley, it has been found not only on the apple, but also on the cherry, both wild and cultivated; the quince, the crab-apple, the peach, and on the wild and cultivated plum. The pear, so far as known, seems to enjoy an exemption from it.

From what has already been said it will be manifest that this insect feeds on the foliage of trees in the early and late summer; in midsummer being in the *pupa*, the *imago* or moth, and in the *ova* states. It feeds chiefly at night or on dark cloudy days, for that purpose coming forth from its case and returning to it again, remaining concealed during the day. Being but single brooded, the remedy for its destruction is exceedingly simple. It is merely to remove the cases from the trees after the leaves have fallen, when they are plainly visible. It is recommended to deposit them in the centre of a large field, where they would perish before they could reach a tree again, and this would allow the development of two species of parasites (*Tachina et Limneria*) with which they are frequently infested.

THE SEXUAL SYSTEM OF PLANTS.

"Can such things be,
And overcome us like a summer cloud,
Without our special wonder!"

In the June number of THE FARMER (page 107) in the article on "Abortive Strawberries," we placed in italic a part of the following paragraph, and intimated that we might have something to say on the subject on a future occasion; namely: "I had always been taught that *all plants are male, and that the earth is the mother*," inferentially, of course, the *female*. It is not often that we find such a sentiment recognized in popular systems of theology, philosophy or natural history, and yet when viewed from a rational standpoint it seems to be *very natural;* nor is it often that we find persons among the masses, or in the ordinary walks of life, who can say that they have "always been taught" such a doctrine.

Let us look at the subject a little deeper or more in detail, and in illustration of it, allow us to quote an extract from a distinguished

author who flourished nearly eighty years ago in England.

"The Linnean system of botany, supposes plants to be male and female, because of certain distinctions between their parts called the *stamen* and the *pistil*, the union of both of which is necessary to render them prolific. But this distinction in plants, is no more a sufficient reason for calling them male and female parts of a plant, than a similar distinction which may be observed in all male *animals* is for supposing there are male and female parts in one and the same animal. The characteristic peculiar to male animals is the formation of *seed* in themselves, which is first conceived in the understanding, then formed in the will, and afterwards translated to the lower parts of the body, where it is enveloped with a material covering, and from thence conveyed into the womb, and last of all, brought forth into open day. By tracing this anology in the vegetable kingdom, we may easily see what is male, and what is female. All plants are male, because they produce of themselves *seeds only*, and not new plants. The distinct parts of the plant, which some mistake for the male and female organs of generation, are nothing but analagous resemblances of the will and the understanding which are equally distinct in every male animal, and like them, necessarily unite in the formation of seed. But the animal seed cannot produce new animals, until it is conveyed into the womb of a female, where, after undergoing a state of corruption, similar to that of death, it rises again in all the strength and vigor of a new and living animal. In like manner, the seeds of plants which are all males, cannot produce new plants until they are sown in the womb of the earth, which is the common female, where they equally undergo a state of corruption similar to death, and after that rise up by vegetation into new plants. As therefore, the formation of the *seed* is peculiar to the male, and the nourishment and expansion of it is peculiar to the female, it follows, that all the subjects of the vegetable kingdom are males, because they are concerned only in preparing the *seed* for the production of the plant, and that the earth alone is the common female—and also the common mother of the vegetable Kingdom—because she nourishes and expands the seed, and thus actually brings forth new plants."

Whether we adopt this or not, as the true sexual system of plants, it cannot but set us to thinking if it be possible for the vegetable kingdom to produce new plants, or even to *exist*, without the common motherhood of the earth, which contains the great matrix or womb of the vegetable world.

We are aware that this system may *appear* too metaphysical or "far-fetched" to meet the views of popular Botany; that it may be objected that plants can be produced and reproduced without seed at all, by cuttings, scions and tubers, and that, by parity of reasoning, this rule might also apply to the animal kingdom; but can they be produced without the aid of "mother earth"? The fact that parasitic plants do not require an earthy matrix for their reproduction, is by no means a conclusive argument against this sexual system, because the vegetation upon which they are parasitic *do*, and their drafts upon their hosts are sometimes such as to greatly enervate or destroy them, involving thus their own destruction. May not then, what appears to be male and female organs in plants be merely the representatives of the male and female principles in the animal world? They do not produce a plant or tree, they only produce seeds or fruit, and what is fruit, fundamentally, but a modification of the leaf? and often in both flowers and fruit, we see an effort to return to the leafy condition. There are male and female faculties in the mental constitution of all animals, whether they are controled by reason or instinct, corresponding to the *intellectual* and the *affectional*—the *understanding* and the *will* in man; and it requires the exercise of these two faculties in ultimates, before seed can be produced; but without a womb or matrix they will remain or perish as seeds. It is also so by analogy in plants. The grains of wheat that had remained 3,000 years in the hand of an Egyptian mummy, would have remained there as seed to eternity, if an earthy womb had not supervened.

METEROLOGICAL AND AGRICULTURAL OBSERVATIONS FOR THE YEAR 1874-5.

The summer of 1874 was rather dry; no settled rain of any consequence occuring, few thunder showers, and few or no water flows. The hay and wheat crops were only ordinary, the oats very light—not half a crop, and of poor quality. Corn was an average crop. Apples an ordinary crop, but very knotty and imperfect. Pears were a middling crop; berries did not make a full crop, owing to the dryness of the soil; the grapes, however, were rather good. No real soaking rain all summer. The last good rain was about the 7th of August. The autumn was also very dry, so much so that farmers could not get the soil in good order to put in their winter wheat. The wheat made a poor growth in the fall, and the winter commenced cold. The ground was thoroughly frozen from November, 1874, to April, 1875. Most fields were literally covered over with ice for four months. The ice disappeared about the end of March. No water could soak into the earth during winter. Wells and springs became dry that had never been known to be dry before. In March and April no rain of any very special benefit to vegetation fell, nor until about the 20th of June, 1875. Wheat was very short and thin, averaging scarcely ten bushels to the acre, and often only one load of straw from three or four acres of wheat; but the quality was good. Oats were three or four inches high on the 20th of June, and after heading out grew to a foot or fifteen inches, nevertheless it turned out better than the crop of 1874. The great drawback in many places was a mixture of green and ripe oats, making it troublesome to harvest on account of the shortness of the straw, and often being full of bitter wormwood and other noxious weeds. The hay crop of 1875 was the smallest for thirty years, farmers getting from five to fifteen loads from an entire farm—their barns are not half filled, and they will sustain a great loss in making manure the coming winter. The wells and springs were dry or low in June, and the streams, last spring, had not been lower for fifty years.

Hungarian Grass has been sown in different parts of the county the present season. This may be sown from the 1st of May to the 1st of August, and requires sixty days to mature. I saw some cut on the 1st of August that had matured perfectly in sixty days, that was over two feet long. Should it prove what is claimed for it, it will become a settled provender in the county—like timothy. Refreshing rains set in in July, yet the new clover, in new fields, is a failure. The clover from the spring sowing has generally perished. Farmers resowed clover in July. One firm in Lancaster city sold between four and five hundred bushels of clover seed the present season.

Horses at best sell lower than they did last year. In consequence of the scant hay crop, they bring from one hundred to one hundred and fifty dollors lower than horses of the same quality formerly brought, or that sold for from two to three hundred dollars, making a difference of a hundred per cent. Sucking colts can be bought at thirty or forty dollars. Two yearlings at fifty or sixty dollars. All other kinds of stocks are proportionally lower than formerly.

AUGUST 20TH.—Since the foregoing was written, settled rains have occurred, continuing for a week or more, and springs and streams are replenished by the hand of nature, and in some places so lavishly as to produce destructive floods and overflows. Corn promises to be more than an average crop. Tobacco is doing remarkably well, and will make more than an average crop, and will also make more than ordinary weight, but it is somewhat in danger of becoming *foxy*, or brittle, on account of wet and cloudy weather.

Apples only about one-third of a crop, and even that very imperfect. Pears are doing well, as a general thing. Grapes seem to be a failure, in some parts of the county, probably owing to the cold and icy condition of last winter; some vines dying and others partially barren. Peaches are doing well, as a whole, in the county, although in some places they are prematurely dropping or rotting. Berries have done tolerably well.

The two last seasons have been noted for the presence of the "Colorado Potato-Beetle." They made their appearance for the first time last year in sufficient numbers to be seriously injurious to the crop. They have probably not been quite as numerous the present season as they were the last. They have been more effectually destroyed, generally by vigorous hand-picking, more than by *Paris green*, which has not come into general use in my neighborhood on account of its poisonous quality, which is generally abhorred. The yield of potatoes will be large throughout the county. In places where the vines were shaded the beetles did very little damage, but in exposed places, and where they had been neglected, the bugs destroyed everything. They seem, however, to be decreasing from some cause, and I hope that in a very few years they may be too few to inflict injury upon the crops.—L. S. R., *Oregon, Lancaster county, Pa., August* 20, 1875.

We hope that L. S. R.'s hope, in reference to the Potato-beetle, may be realized; but at the same time we would not counsel our readers to *supinely* indulge such a hope. No doubt something is due to *natural* causes, for this apparent decrease of the beetle; but this ought not to interfere with continuous and vigorous *artificial* causes, as an aid. We think however that his ideas in regard to the clover-hay crop will not be generally realized. We took a drive about five miles up the Harrisburg pike on the 2d of September, and at several places found the farmers engaged in raking and hauling home second-crop clover hay; and we do not think we ever noticed a heavier crop than we did on this occasion, in at least *one* of the fields we passed. All looked well and reasonably abundant, but, the *quality* may be inferior, inasmuch as we had much more rain than was necessary for it, and it grew very rapidly, which is considered unfavorable to quality.—ED.

THE FACTS OF NATURAL HISTORY, No. 4.

Night Hawks vs. Whip-poor-wills.

Many more people have *heard* a "Whip-poor-will" than have *seen* one; although many may *think* they have seen one, when, in fact, they may have only seen a "Night-hawk;" yet, notwithstanding the fact that these birds are often confounded, there is a very marked distinction between them; they, however, both belong to the old family CAPRIMULGIDÆ, or "Goat-suckers;" and the natural order INCESSORES, or "Perchers." But they belong to different genera, and, therefore, the difference between them is not merely *specific;* it is *generic* in its character. The Whip-poor-will —*Antrostomus vocifierus*—is a bird "to the manor born" of Lancaster county, although it is also native to other localities from eastern United States to the central plains. It is about ten inches in length, and the wings are six and a half inches. The general color is pale rufous, and the top of the head is reddish-brown, with blackish streaks, or ashen gray, modified by age or sex. The bristles of the bill, which become very conspicuous when the mouth is open, are without laternal filaments, and assist the bird in capturing its insect prey. Although the bill is very small, yet the mouth is large, opening back a little beyond the eyes, like the mouth of a snake. It utters three distinct notes, which have at least a fancied resemblance to the syllables *whip-poor-will*, and from this it derives its common name. It begins its song soon

after sunset, and continues until late at night, or very early in the morning, and if you happen to be very near one, and listen a long time to its song, it will sound less like whip-poor-will than when you are farther away—indeed it always sounds to us more like *whip-pow-wow*, with the emphasis on the first and last syllables, but heaviest on the last. Its tail is rounded, especially at the outer angles, and extends considerably beyond the tips of the wings, and this alone might be sufficient to distinguish it from the "Night-Hawk." During the day the whip-poor-will sleeps either upon the ground, on a fallen tree trunk, or on a low branch, and may often be very nearly approached before it becomes alarmed and flies away. When it is sitting on a trunk or a branch, its body is said to be always parallel with them, and never crosswise. It lays two eggs on the bare ground, or on dry leaves, in the month of May. The color of these eggs is greenish white, blotched and spotted with bluish gray and light brown, and short, elliptical, and much rounded in form.

Although the eggs seem to be carelessly deposited on the ground, yet they are not easily discovered, for the bird usually chooses for this purpose the most secluded parts of a thicket, or other unfrequented place. The feet are very small, and appear very far forward on the body. There are three species of this bird known to the territory of the United States, namely: "Chuck-wills-widow"—*Antrostomus carolinensis*—of the South Atlantic and Gulf States, and "Nuttall's whip-poor-will"—*Antrostomus nutallii*—of the central plains and westward to the Pacific coast.

There is a superstition that obtains in Lancaster county, in reference to this bird, (A. *vociferus*) to the effect, that if it sits upon a house, or near it, wherein a sick person is lying, it is a sign that such sickness will terminate fatally to the patient. Indeed, we were on one occasion a good deal amused when a person told us "how mad he got" when the whip-poor-will came singing aronnd his house, while he was lying with a fever. Although he survived it, yet "that goes for nothing," for he knew a man that *did* die under such circumstances, and that was a sufficient confirmation of the superstitious theory to last him for a lifetime. His own escape was probably owing to some incantation equally superstitious.

The "Night-hawk," *alias* "Night-jar," *alias* "Fern-owl"—*Chordeiles popetue*—is a very different bird from the foregoing. It is about nine inches long, and the wings are eight inches, extending beyond the end of the tail, which is pointed at the outer angles, instead of rounded. It has a white bar across the wing, which is visible on top, and very much so beneath, even when the bird is at a considerable height in the air, and also a white throat. In its colors and their distribution it strongly resembles the whip-poor-will, but it lacks the conspicuous bill bristles, and its mouth does not open quite as far as the eyes. Its *locale* is North America generally, and it is more common than the whip-poor-will. Night-hawks, as their name would seem to imply, are not strictly nocturnal birds, but are often upon the wing during the entire day, especially if it be a cloudy day. They are, however, most active during twilight, and retire as soon as it gets dark. They have a loud squeaking note, which is familiar to all who are in the least given to observation, and those must also be familiar with their habit of rapidly descending towards the earth, and making a loud booming noise just at the point where they suddenly turn to ascend again. This descent is sometimes made from a great height, and the peculiar sound "is said to be produced by the concussion caused by the new position of the wings at the moment when the bird passes the centre of its plunge, and commences its ascent again." The night-hawk, like the whip-poor-will, makes no nest, but deposits its eggs on the bare ground, or sometimes on a flat rock, in fields, or in open woods. These are two in number, similar to those of the whip-poor-will, but less blotched, more freckled, and not so elliptical in form. When the female is interrupted while sitting on her eggs, she suddenly flutters off and acts as if she was wounded; and so well does she dissemble this, that persons are tempted to follow her and try to capture her; but somehow, no matter how helpless she may appear, she always contrives to elude the grasp of her pursuer by an inch or two; and after she has decoyed him far enough away from her eggs or young to secure their safety, she darts out of sight in a moment, and often leaves her pursuer in the most profound astonishment or chagrin at her rapid recovery, or the *ruse* she had adopted to secure the protection of her progeny. We distinctly recall an occasion of this kind, wherein we were led into a chase after one of these birds in a corn-field, when we were a boy; but of course the bird came off conqueror by an adroit retreat, and we were disappointed.

To recapitulate: The whip-poor-will has the month margined with long, stiff bristles, while in the night-hawk they are hardly appreciable. In the former the wings are short, not reaching to the end of the tail, whilst in the latter they are long and sharp-pointed, reaching beyond the tail. In the whip-poor-will the tail is short and rounded, while in the night-hawk the tail is rather narrow and emarginate, or forked. There is also some difference in their colors and markings; but color is not always constant, and therefore the most reliable points are those above enumerated.

There are also several distinct species of night-hawks. The "Western Night-hawk"—*Chordeiles henryi*—of New Mexico, and the "Texas Night-hawk"—*Chordeiles texensis*—of Texas; and there are probably other North American species.

We have prepared this article because we are often asked numerous questions about these birds, and about nine out of every ten of our interlocutors enter into a disputation, and contend that the night-hawk is a whip-poor-will, any experimental or recorded *facts of natural history* to the contrary notwithstanding. Nevertheless, there may be others who think it worth while to have a knowledge of the truth *as it is*.

A BEAUTIFUL TREE OF FRUIT.

"Rich and Rare."

Not more than about thirty feet from the inner southeast angle of Centre Square, in the city of Lancaster, stands a plum tree, bearing a crop of fruit as remarkably well formed and prolific as any that ever adorned a fairy tale. The tree is on the premises of Dr. B. Mishler; it is trellised against an eastern exposure of a western wall, and is about eighteen feet in height. The fruit is oblong, or egg-shaped in form, of a pale yellow in color, and tolerably uniform in size, averaging about two inches in length. The inclosure, on the west side of which it stands, is hardly twenty feet square, so that it can only get the benefit of the late morning and mid-day sun. The ground is paved with brick up to within an inch or two of the base of the tree. The fruit and the leaves look exceedingly healthful, not one being infested by the *Curculio* or any other insect. Dr. Mishler informs us that it it was grafted on a wild-plum stock, which he purchased and planted about six years ago; but he had forgotten or did not know by what name it was sold. There are about four bushels of plums on the tree, and on some of the limbs they hang in clusters of from ten to twenty. The fruit, at this writing, (Sep. 3,) is not yet ripe, but from its size, form, texture, and color, we should adjudge it to be COE'S GOLDEN DROP, or one of its allies or varieties. The seed is about an inch in length, over half an inch in width, flattened, and in its broadest outline approximates to the form of the fruit. In its present condition the flesh is solid, a pale yellow in color, and adheres to the sharp edges of the seed, and in taste it is pleasantly tartish. The stem is about three quarters of an inch in length, firm, and moderatety sunk into the upper end of the fruit, and the suture is tolerably distinct. "Coe's Golden Drop," is represented as an English variety, with characteristics similar to those we have mentioned; that it matures late, is excellent for table use, and comes in after other varieties are over: that it is sometimes confounded with the "Yellow Egg plum," which is a little larger; that it will keep a long time after it is gathered, if wrapped in fine paper and kept in a dry room; and judging from its texture, we should consider such to be the case. It is regarded by good authority as one of the most delicious of all plums, and is recommended for this latitude by good judges.

Query.—Has the paved yard anything to do with the healthy condition of the fruit, and its exemption from the ravages of the "Curculio?" Some years ago we witnessed a similar case near the southwest angle of Centre Square, (rear of now Locher's building) where a plum tree stood in an enclosure—all except one limb, about a fifth of the whole—in which were confined ducks, chickens and pigeons. Not a single spear of grass of any kind grew in the yard, and the soil was beaten down and bare, as it usually is in poultry yards. The tree matured a large crop of sound fruit, all except the one limb, which hung over the garden, on which every plum was stung with the *Curculio*.

Years ago, this kind of culture had been recommended as a *preventive* of this insect, but subsequently it was contradicted by the experience of others, and hence we made no allusion to it in our paper on the "Plum Weevil," in this number of THE FARMER. The theory was that the female Curculio will not deposit her eggs in fruit hanging over water, a paved yard, or any other condition of the ground under the tree which would prevent the grub from burrowing after it had left the fruit.

THE STATE FAIR.

It may be interesting to visitors and exhibitors at the coming State fair to know that the general admission fee will be 50 cents; life member's fee 20 dollars; and that all entries, except horses entered for speed, will be FREE, whether they are entered for competition for a *premium*, or merely for exhibition; and that all exhibitors have the privilege of purchasing *five* tickets for *one dollar* on each day of the fair, limited, however, to twenty-five at that price; all beyond that limit will be at the general price of 50 cents each.

No premiums will be offered or awarded to reaping or mowing machines, sewing machines or musical instruments: *Provided, however*, that Judges in their reports may notice the specific advantages, if any, claimed by the exhibitors or makers.

Books of entry were opened on the 31st of August, at the office in Lancaster, and will remain open until September 20th, at 10 o'clock p. m., and all exhibitors must have their animals and articles entered before that day, (Sep. 20th.)

Horsemen will be allowed to enter the enclosure on payment of 50 cents additional, for horse and rider, and the same for a single horse vehicle. A pair of horses and driver, 75 cents, and all additional passengers 50 cents each. Seats for spectators will be provided at the charge of 25 cents each, good for the day.

No animal or article without a descriptive card attached, can be permitted to be placed within the inclosure by the superintendent or his assistants, and when properly entered, they cannot be removed from the ground before the close of the exhibition (except by permission of the President) without forfeiting any premium that may have been awarded them.

If one day's notice is given, the State Society will convey, *free of charge*, all articles from railroad depots to the fair ground. The most liberal arrangements have been made with the various railroads of the State for the transportation of all articles intended for exhibition, both *to* and *fro*, of which information will be given by application to D. W. Seiler, Secretary, at Lancaster or Harrisburg, and complete details will be given.

Competition is co-extensive with the United States and Provinces, and the citizens of the several States and the Dominion are cordially invited to compete for prizes.

The Executive Committee may revise the premiums awarded, and if, in its judgment proper and advisable, they may alter or reverse the award of the Judges, at any regularly called meeting.

Agricultural implements of every description that can be subjected to a practical test on the grounds may be awarded premiums by the Judges, not exceeding the value of a bronze medal, said awards to be subject to the revision of the Executive Committee.

It is required that all exhibitors shall obtain cards, or their articles will be refused admission to the enclosure; and said cards can be obtained by mail, or otherwise, on application to the Secretary, and denominating by name and number each article entered.

We have condensed the foregoing from the *Rules* for the government of the State Fair, and it would be well, both for visitors and exhibitors, to note them.

POT AU FEU.

Nothing so well symbolizes the economical habits of continental Europe, and especially France, as the *pot au feu*. This is an iron pot kept constantly simmering upon the fire, into which is put from day to day all the wholesome remnants of food which in this country are thrown away. Our people, in their magnificent way of doing things, never stop to consider how much nutriment adheres even to well-picked bones of porter-house steaks, mutton-chops, ribs of beef, legs of mutton, etc. All these, and many things beside, are put into the *pot au feu*; water, seasoning and fragrant herbs are added as required, and the constant simmering—a solvent for even the toughest of Texan beef—extracts every particle of marrow even, and the bones come out as clean and white as if they had been bleached for years in the sun. Among the common people more than half the nutriment of the day comes from *pot au feu*, and if any member of the family comes home at an unusual hour hungry, it affords at all times a meal at once warm and wholesome. This explains how, as Hugh McCulloch tells us, the 40,000,000 of France could live on what the 40,000,000 of America throw away, and when we consider the wretched cookery that prevails in this country, it is not too much to affirm that they live twice as well as do our farmers and day laborers.

We acknowledge that we have *faith* in "Pot au feu," although untried by us. We seem to inhale and relish its fragrant odor. Anything but the execrable cookery that characterizes the greater number of the domestic establishments of America, even where the material is bountifully provided. A woman may pass through fifty or sixty years of married life, and during that period she will adopt every fashion, mode and custom, as it is introduced, and would feel very uncomfortable and even unhappy, if she could not do so, no matter how expensive, inconvenient, or unbecoming such fashions, modes and customs might be; and yet, during all that long period she will persevere in following, fundamentally, the style and manner of cooking and baking that she learned from her mother. She will cheerfully discard the costumes and fashions of her mother, but, without the least reflection or inventive genius, she will retain all her obsolete modes of cooking and baking, and if perchance she *should* make any "departure" from these, it will only be superficially, retaining all the underlying *principles*, just as of old.

Therefore, give us *Put au feu*, even if it is composed of grasshoppers, snails, rats or horse, rather than this stale and monotonous style of cookery.

The housewife inadvertently attends market, and—for cheap—buys a "shin-beef." This she puts into a pot of water and boils, and boils and boils, adding water as it "boils away." She will then introduce some chopped cabbage, tomatoes, carrots, green corn, parsley, potatoes, turnips, a little pastry and perhaps some herbs. When this is all thoroughly boiled, and the necessary quantity of water added thereto, it is turned out into a tureen and is served as nothing but a common *soup*, when, perhaps, it is the best, most wholesome and most relishable thing she could possibly make. This approximates to *Pot au feu*. But what becomes of the shin? Why, there it is; a dry, shrunken, bleached and tasteless mass, about as easily digested as scraps of leather, and fit only for the stomach of an ostrich. The substance has nearly all been taken up by the soup. What then should be done with it? Why, there are many things that might be done with it, and would require less executive skill to accomplish, than is required to "do up" an old or unfashionable dress or bonnet. If it were finely minced and onions, cream and herbs, with other proper seasoning were added it might be made palatable and wholesome, although the strength extracted by the soup could never be restored.

Why is it that there are so many restaurants, dining saloons and "refectories" in the country, where one individual spends daily as much as is appropriated to sustain a family of six or eight? Not because all men go there from choice, unqualified by other considerations, but because they are *compelled to make a choice* between the savory and orderly served up meals they get there, and the unsavory and carelessly served meals they get at home. No human being can be mentally and spiritually comfortable who is not so physically. And while we would unequivocally repudiate every species of gourmandism, or that ulterior motive which merely "lives to eat," we as earnestly insist upon properly prepared, properly served, properly appropriated and properly timed meals, as we do upon proper periods of labor, and proper religious exercises. The manner, the time and the quality of the meal should be the good housewife's *first* consideration, and everything else should be subordinate to it; when, in point of fact and physical importance, everything else seems to be superior to it; which is all wrong, seeing that our physical, moral and social structures and their economies, are based upon rational eating. Besides, the meal is perhaps the only time in the twenty-four hours in the day, when the whole family are brought face to face together; therefore, all we eat and drink should be "eaten and drunken to the glory of God."

HISTORIC TREE—A LANDMARK OF THREE COUNTIES.

At the point where the counties of Berks, Lebanon and Lancaster come together, there stood for many years an immense chestnut tree, which served to mark the boundary point of the three counties. This tree was one of the most remarkable in this section of the State. The circumference four feet from the ground measured twenty-nine and one-half feet, and the branches of the tree covered nearly half an acre of ground, some of the limbs extending in a horizontal direction from the tree for a distance of seventy feet, making the diameter of the circle covered and shaded by the tree some 140 feet. The tree was apparently over a century old, and gave evidence of living to a still greater age. There were signs of decay at the top, however, and old dead branches protruded at various points through the deep green foliage. This tree served to mark the boundary of the three counties, from the time that Lebanon was cut off from Lancaster, at which time it is said to have been a very large tree, and was selected on account of being the monarch of the forest in which it stood. Some twenty-five or thirty years ago the tree was struck by lightning, and partially destroyed. A few years later it was again visited by lightning, and the wreck of the tree completed. A sandstone pedestal was afterwards erected in the centre of the stump, having three sides or faces, the name of the corresponding county being cut on each face. The name on the Berks county side has been spelled by the stone-cutter, "Barks," and that on the Lebanon side, "Libanon." This stone marks the most northern point of Lancaster county, and is situated on the highest point of land between Berks and Lancaster. It is situated in a dense tract of chestnut timber, about twenty rods from the public road leading from Robesonia to Reinholdsville, Lancaster county, about four miles south of the former place. The stump of the chestnut tree mentioned can still be seen. The tree, on account of its great size, has been heretofore indicated on different county maps, and been marked as the "Big Tree."—*Reading Times.*

The foregoing revives the recollection of a visit which *we*, in company with Messrs. J. Stauffer, L. S. Reist, C T. Fox and A. Harris, made in the summer of 1870. The famous old tree—then already numbered with the things that *were*—indeed did stand in a most lonely spot on the high grounds that form a natural dividing line between the counties of Berks, Lancaster and Lebanon; and the peculiar manner of spelling Berks recalled the frightful fireside tales of an old gentleman, born and bred there, who visited "our house" about five and fifty years ago, and who invariably pronounced the name of the county "Barricks." The translation of the name is probably due to some ancient "Pennsylvania Dutchman," not well versed in changes in the sounds of the *vowels*, and who prided himself in being *literal*, if not *liberal*, in his translation. The letter *e* in the German, being of the same value as *a* in *bale*, might easily have suggested the letter *a* instead of *e* in the translation; and that supervening, it would very readily run into the sound of *a* in *ark*, which is the most common sound of *a* among the "creole" Germans. Perhaps every fifth man in the rural districts of Berks county would this day pronounce and write the name *Barks*, or *Barricks*.* The names of both Lancaster and Berks are derived from the two shires of those names in England, *shire* being of the same value as *county*. By the same rule the letter *i* in German is of the same value as *e* in English, and hence Libanon would *literally* follow. But that is neither "here nor there" just at this time, for no matter how people may spell the names of these three great Pennsylvania counties, the counties themselves are *there*, and in agricultural and mineral resources are able to take their stand among the productive counties of the State and nation.

On the visit we refer to our party took shelter, during an impending rain-fall, under the "balcony" of the Textor mansion, the lands of which lie in the three counties above named. Our purpose had been to visit the "Millbach head" and take a view of the Ephrata valley, but the view was obscured by a heavy pall of dark clouds, and our object was entirely defeated, and has not since been attained.

We saw nothing about the Textor farms—a tract of about thirteen hundred acres—that was very tidy or attractive, although the stock and culture were of a good order. Things considered *essential* were well attended to; but in the *non-essentials*, things looked hap-hazard, slovenly and uninviting. The ruling spirit seemed to be to get out of the soil all that was in it, and to hoard it in the form of money or its equivalent; and if the soil was replenished, it was only with the ultimate object of getting more out of it. Such a thing as embellishing and beautifying the external surroundings never seemed to have had a place in the domestic *curriculum* of the proprietor.

If we mistake not, the "historic tree" above alluded to stood upon this farm. We mounted the "sandstone pedestal" in the centre of the old stump, and cast stones into the counties of Lancaster, Berks and Lebanon, and recalled the time, when a boy, long years ago, we stood in the extreme angle of Rapho township, and cast stones into the townships of West Hempfield and East Donegal, and thought it an extraordinary feat.

PEACHES.

As a whole, the peach crop of Lancaster county, the present season, has been a partial failure, although in some localities they have done well, making perhaps two-thirds of a crop, and of good quality. Nevertheless, our market is flooded with peaches, to an extent that we have never noticed before. These are mainly brought here from the State of Delaware, and are sold at prices ranging from fifty cents to one dollar per basket. Of course, the low priced articles are very inferior. Indeed, the crop in that little State was too large to mature good fruit as a general result. Owing to the high freight, peaches still command a high price proportioned to the quantity on hand. It is remarkable how uniform the prices are all over the county, the whole

*Just as there are still many people in Lancaster county who pronounce the name *Leng-gesh-ter* or *Lank-is-ter*, instead of *Lan-cas-ter*.

market of foreign fruit being in the hands of "middlemen," and our local crop is still higher. Hygienists urge us to eat plenty of peaches, as a sanitary measure; but in the present scarcity of remunerative labor, and the comparatively high prices of this fruit, the poor cannot afford to partake of it except very sparingly. Twenty-five cents a *quarter* peck, a *half* peck, or even a *whole* peck, is too "steep" to allow the poor the luxury of peaches. Here would be work for a philanthropic *Grange*.

ABOUT "EGYPTIAN" WHEAT.

A correspondent of the New York *Observer* sends that paper an extract from a recent correspondence of *The Lancaster Express*, giving an account of a visit to the farm of Andrew Holtzworth, at Petersburg, and the writer's observations of the "Egyptian" wheat then growing on that farm. The usual story was detailed by Mr. Holtzworth to this correspondent, about the seed from which this wheat has grown having been taken from an Egyptian coffin, where it had lain "for thousands of years." The *Observer* correspondent wants to know whether this story, which he had before seen in another form, is true. To this the editor makes the following reply:

"This story of Egyptian mummy wheat has been current for the past twenty-five years—long enough to have supplied the world with the wheat, if there be any truth in it. It is not uncommon to find grains of wheat, as well as loaves of bread and roasted fowls, in Egyptian tombs; but the grain has no more life in it than the fowls. It will never germinate. The Arabs in the Nile valley are accomplished swindlers, and one of their most common tricks on travelers is the sale of small pottery vases, made at Esstout or at Gheneh, which they offer to travelers 'in the original package"—that is, closed and sealed. They shake it and something rattles. The traveler buys it, opens it, finds some grains of wheat, which, in his innocence, he believes to be wheat of the time of Joseph. He takes it to Europe, plants it, and grows wheat from it, which he well may, for it is last year's grain of the Nile valley. In this way men honestly believe that they have wheat grown from the wheat of the Pharaohs. Many careful experiments have shown that no grain found in Egyptian tombs retains life. It will not germinate."

Many years ago an honest son of the Emerald Isle met a waggish friend, and inquired: "What's the news, Jone?" John replied: "Daniel O'Connel is a candidate for President of Ireland, and all the Irish in America will be allowed to vote for him." To which the former very approvingly responded: "Well now, Jone, thot lukes rasonable."

We confess that the above argument against the germination of Egyptian mummy wheat looks "reasonable," and yet we have no doubt those who are growing that kind of wheat are honestly under the impression that it *really* is genuine. Why are old garden seeds generally discarded, but because they are supposed to be too old to germinate? Why are seedsmen so particular to impress, through their advertisements, the fact that they have just received a lot of *fresh garden-seeds?* Why, because it is the general opinion of seedsmen that *old seeds will not germinate*. Under any circumstances, it is a question that needs some confirmation before it will be implicitly believed, although we are far from believing that any one engaged in cultivating it is participating in willful fraud. Of course, if there are exceptions to this rule, the exceptors will be able to clear up the case.

PLENTY OF POTATOES.

The sources from which we generally derive our statistical returns have not yet reported on the prospective potato-crop, but the papers of our large cities are tolerably sure it is to be a scanty one. The opinion is based chiefly on the fact that the "bug" is about us; but from all we can gather, in spite of the bug the crop will be a large and abundant one. Around our large cities, and up and down along rivers and railroad lines, locations affording cheap transportation to this miserable insect, there has been undoubtedly much damage done; but if they had shortened the supply it would have enhanced prices. But this has not been the case. The early potato market has been as well supplied and prices as reasonable as they ever were.

And as to the late crops, the crops in which the great bulk of potato capital is invested, those who have had the opportunity to judge tell us in the more out-of-the-way places where the insect has not had time enough to reach, many more than usual have been planted, and that the crop never looked better. On the whole it is clear that though the crop will be this year a remunerative one, it will not be near as scarce and high-priced as our city folks apprehend.

Indeed the day is gone by when any trouble of this kind is to seriously interfere with crops or prices. The agricultural newspaper keeps the farmer well posted as to what is coming and the people prepare for it. It was the suddenness with which, when there were no telegraphs or newspapers, no general diffusion of knowledge, that made these occurrences such scourges as they were. We have indeed cause to be thankful that with so many things yet to be improved we are still permitted to live in the age we are.—*Germantown Telegraph.*

Happily we can substantially corroborate the above in this locality, without pretending to say what may be the final effect, should the autumn be a moist one. Up to the present period, potatoes, in this market, have been abundant, of good quality and moderate in price. Early in the season there seemed to be a disposition to "speculate" on the probable presence of the "bug," but it soon "played out." The spring opened cold and continued so, which was as unfavorable to the insects as it was to the potatoes. It then became dry, and vegetation tardy, which afforded an opportunity to fight the bug successfully. It then changed to wet, which was another unfavorable condition to the insect but favorable to the potato. It is true, that in some localities the pest was bad, but the people are better acquainted with it and know better how to meet it. Still, we have apprehensions about future years, because we fear these things may throw people off their guard.

DESTRUCTIVE WORMS.

About a week ago a peculiar worm, about an inch long, made its appearance by the million in the vicinity of Oakland, and threatens to be much more destructive than the potato-bug. So far their depredations have been confined principally to the oats and timothy. Grass plats that they have passed over look as if they had been burned. Hundreds of acres of oats have already been literally destroyed in the vicinity of Oakland and Deer Park, from which points they appear to be spreading in all directions. In starting up the oat stalk they first cut off the blades and then the oats, leaving every straw trimmed as clean as a whip, and the ground covered with grain. Some call it the "army worm," and think it was taken up in the south and brought here in a whirlwind. With every one it is as yet a mystery where they came from and how they got here.—*Garrett County (Md.) Gazette.*

The above extract we clip from a recent number of the Baltimore *Sun*. Of course it is very indefinite as to what the insect *really* is, further than that it is a "peculiar worm," of which there are legions in the world, all of them, in some particular respect, being very peculiar. Very probably, however, this is the true "Army Worm"—*Leucania unipuncta*—a description and illustration of which we will give in our October number. We are not prepared to agree with those who "think it was taken up in the south and brought *there* in a whirlwind." Although it is not an unusual event for the winds to facilitate the migration of *winged*-insects—as, for instance, butterflies from the continent of Europe to the English Island, and our own "Rocky Mountain Locusts"—we believe there is no instance recorded where *caterpillars*, or the *ova* of insects, have been so transported. Very likely a few of these insects were in that locality last year, and all the circumstances being favorable, they have greatly increased the present season. For the past two seasons the "White-lined army worm"—*Leucania albilinea*—has been depredating, in moderate numbers, upon the wheat and timothy crops of Lancaster county, and in future years they *may* suddenly appear in vast numbers.

Write and Talk for The Farmer.

If every farmer interested in the progress of his calling would write and talk for this journal, our circulation would soon be doubled and its usefulness greatly enlarged.

PRIMITIVE FARMING--No. 2.

BY FRANK R. DIFFENDERFER.

Like the thriftless farmers in the far West, the Mexican farmer often leaves the straw and chaff lying in the field, either to rot or become the sport of the winds; the more prudent ones, however, house a portion of it and feed it to their horses in small quantities along with corn. In no particular is the bad farming of these people more apparent than in their utter indifference to the impoverishment of their soil and to any attempts at renovating it artificially. No case, on the part of a Mexican, to utilize the manure made by his cattle, ever came to my notice. The wealth of many farmers consists mainly in cattle; during the day these are sent out to graze, sometimes alone and sometimes in charge of a herder; in the neighborhood of towns they are generally brought home for the night and housed in *corrals* made for this purpose. These corrals are adapted in size to the ranchero's herd, be it large or small; some few are adobe enclosures, but more commonly of less elaborate construction; a circular space is marked out in a convenient place, and cottonwood poles are sunk into the ground all around; sometimes the poles are placed so closely as to form a stockade, but generally they are some distance apart and the space between them is filled up by intertwining brushwood, willow or tornilla, forming an inexpensive but very serviceable cattle pen. No straw or other litter is ever thrown into them and no attempt at manure making is made; in the course of a few years the ordure of the cattle accumulates to such an extent, rising so high on the inside of the pen as to necessitate the removal of the corral to some other point, virtually imposing trouble and expense on the farmer because he refuses to avail himself of the best and cheapest fertilizer, so imperatively needed to stimulate his exhausted soil. After removing the surrounding fence, the manure is often set on fire, smoldering and burning for days, besides causing a most intolerable stench. Small quantities are sometimes used as fuel to burn the coarse crockery and earthenware used for household purposes. When, however, the corral wall is built of adobes, other means must be adopted to get rid of the surplus manure; often huge blocks of the dung, consolidated by time and the continual tread of the cattle over it, adorn the top of the corral wall, adding to its height and thereby prolonging its usefulness.

Every farmer knows full well the important part manure plays when spread over his fields, and he only too often realizes how several hundred years of continuous cropping has left them so impoverished that his labor is very inadequately rewarded, yet he willfully and persistently ignores the means placed ready to his hands to renovate his farm and restore his naturally fertile acres to their old-time productiveness. When remonstrated with he will tell you, so his forefathers farmed and toiled for centuries, always raising enough for their support, and that is enough for him. I remember only too well how frequently I was compelled to listen to this argument in 1868. In that year I had sent out half-a-dozen light American plows, which I induced some of the most intelligent and influential farmers to buy; several of them bought plows with the sole purpose, as I believe, of getting rid of my importunities, but without ever giving them more than a day's trial. Even the few American farmers that live among them, after a brief trial threw them aside and again took up the more primitive Mexican implements and modes. Even the useful fanning mill, through whose instrumentality they might be saved a world of trouble and expense, even to the extent of their entire crops sometimes, failed to make good its footing; I took out one for my own needs, and that its utility was plainly demonstrated to them was evidenced by their frequent applications to borrow it; yet never a second one was taken into the district while I lived there.

Of the several cereals grown, corn is much

the most important, exceeding the wheat crop in quantity at least in the proportion of four to one. It furnishes the inhabitants with their principal article of food and is almost the only grain fed to horses. Made up into tortillas, it is present at every meal, and even a local failure of the crop entails no little inconvenience and ofttimes much distress; happily however, this is rarely the case, and generally it is both abundant and cheap; in ordinary years the price in El Paso was from $2 to $3 per fanega of 2½ bushels; in the agricultural towns of the interior, remote from a market, the price runs from fifty cents up to a dollar. I omitted to say further back that wheat is worth about one-third more than corn, and subject to greater fluctuations in price.

The land for corn is prepared much like that for wheat; when ready, the corn is dropped into hills and covered with the hoe; it is irrigated at intervals, as its condition seems to require or as the water supply will admit. It is also worked between the rows once or twice, but never more than one way, the fields never being checquered. The custom is to plant too thick, to put too many grains into each hill, and as there is besides a great tendency to develop an abundant crop of suckers, which are never removed, the field is apt to be too choked for the growth of very heavy crops. When, however, the season proves favorable, these drawbacks are overcome and the crop astonishing. I am unable to give the bushels raised on an acre, as I never knew of any measurements either of ground or corn being made with this end. The corn seems to ripen somewhat unequally, some early and some late. New land, if not too wet, produces most abundantly. The saline and alkali incrustations visible in so many places on the surface of the ground prevent a good crop, and although continuous cultivation overcomes this objection in a great degree, land entirely free from this feature is preferred.

The corn is husked in the field while the stalk is still standing; it is thrown together on heaps and then hauled home in carts; it cannot be kept in a close room like the unthreshed wheat, but necessity has invented for them a corn crib called a *troja*, which is well adapted to their needs. They are constructed in the following manner: four, six or eight timbers, generally butts of trees, are firmly set in the ground, and extending three or four feet above it; on these heavy logs or stringers are laid as a foundation, and transversely upon these latter, thinner poles, sufficiently close together to prevent the ears of corn from falling through; the shape given the *troja* is either square or oblong, commonly the latter; long, thin poles are set up all around the outer edge, and are fifteen or twenty feet high; brushwood is interwoven from one to the other until the log and brush structure is as high as necessary. In its construction, size and shape excepted, it very much resembles a gabion. Into this rude but excellent crib the corn is thrown, where it remains until otherwise disposed of. Rain seldom falls during the fall and winter, so the grain suffers little from exposure to the weather.

For some unaccountable reason, which no one was ever able to explain to me satisfactorily, they husk their corn before it is sufficiently mature, before the grain is well hardened, and to this reason I attribute the fact that it cannot be kept over the year without great care and trouble. When left on the cob it does better; but if shelled, then as soon as summer comes the weevil gets into it, and it becomes difficult to preserve. To do so, it becomes necessary to take it out into the open air, say about every two months, and winnow it as you do wheat; this is expensive and laborious, and it was to diminish both these items that I took out the fanning mill already spoken of. If shelled in the spring and not cleaned several times during the summer, it will be found when fall comes that very little of it, except the hard outer shell, is left, the softer parts of the grain having been entirely eaten. I never tried the experiment, but it was always my belief that if left in the field until fully hard and ripe it would better escape the ravages of the weevil. It has often been told me that in the States of Guadalaxara, Zacatecas and lower Mexico generally, no trouble is experienced in keeping corn two, three, or more years. There the large ranches have specially erected granaries for this purpose: these are built in the shape of a huge sugar loaf, open only at the top, where the corn, still on the cob, is thrown in. When full, these storehouses are hermetically closed, thus preserving the corn sweet and undamaged for years.

Shelling the corn is a very tedious and laborious operation. Until recently, the hum of the modern corn-sheller never fell upon the ears of these primitive farmers; in its stead they had the *ceranda*, a contrivance of home-made construction, which I will attempt to describe. Four stout forked poles are set in the ground, about five or six feet apart, and about two feet above the ground; strong poles are laid in these forks from one to the other, making a continuous frame-work around the top; the green hide of an ox is then cut up into strips, or ribbons, an inch or more in width, which are then stretched across the frame-work from side to side, and passed around the poles composing it; when the whole has been gone over in this way, the operation is repeated in the transverse direction, the strips being passed under and over those already put, or in other words they are placed just as the matting is we use on our floors. When the rawhide dries it shrinks somewhat, and through the interstices thus opened the corn drops down. This machine is so woven as to be a little baggy, and into the depression the ears of corn are thrown; men take their stand around it armed with heavy wooden clubs, with which they belabor the ears until all the grain has been hammered off and fallen through, and nothing but a mass of broken cobs remains in the *ceranda*. Sometimes the method of making this rude corn-sheller is varied; the ox-hide is left entire, the edges being cut even to admit its being adapted in size and shape to the frame-work; round holes are then cut into the skin, through which the corn falls.

If the farmers are careless about preserving their straw, they are not so with their corn-fodder. After the corn is taken out of the field, the stalks are cut down, laid in heaps, and without being tied up into bundles hauled home in carts. Every farmer's house has attached to it a stable yard, in which his horses and mules are kept. In one corner of this yard, and sometimes in the centre of it, an elevated platform is erected, and on this *tapestia* the fodder is stacked, serving not only as food for the cattle, but also as a shelter during rainy and inclement weather.

Hay is never made artificially by the Mexican farmer. He very often sows a patch of ground with that species of clover called *alfalfa*, better known to seedsmen as lucerne; but this is cut and fed green, never cured and preserved. It is a very valuable grass, grows with uncommon rapidity, and in favorable seasons can be cut as often as half a dozen times; if left stand too long, the stems grow thick and hard, and cattle no longer eat it with the same avidity. *Gramma* grass, that most valuable of all the grasses of the far West and South, is his dependence for hay. This is not only invaluable as pasture, but it has in addition the great merit of curing into most excellent hay in the fall, while still standing on the ground. Should his fodder give out, or he wish to give his stock a change of food, he puts his oxen to his cart and goes out five or six miles where the *gramma* is abundant, and with that, to him, most useful of all implements, the hoe, soon cuts off a load. Making hay with a hoe must seem to a Lancaster county farmer the most absurd of all absurdities. Barley is also grown to a limited extent for food, being sometimes fed in its green state, and sometimes the grain itself.

One of the most important productions of Mexico is beans. They are the favorite food of all classes and conditions of people, and to eat a meal without this particular dish is not to be thought of. The chinch bug has for a series of years so attacked the bean crop in the Rio Grande valley, that it is no longer planted there. In all parts of the interior it does finely, and from thence supplies are drawn by the less favored sections. A pint of beans, boiled and then fried in lard, six tortillas, and a small plate of *chile* or green pepper, is the usual meal placed before the day laborer; on it he manages to do a good deal of hard work, keep in robust health, and thrive generally.

Perhaps the greatest drawback under which the farmer labors is his lack of capital, arising chiefly from his thriftlessness and want of proper management. He seldom manages to lay by anything for a rainy day; at least not one in ten does. Like the planters of the South in *ante-bellum* days, when harvest-time comes around it finds much, if not all of his crop either sold or hypothecated, with barely enough left to furnish him bread. Perhaps as many as one-half of all the farmers begin to sell their prospective crop before it is planted. They stand in need of some necessary article, and not having the money to buy it, sell so much of their corn or wheat crop as will purchase it. In this course there is much risk to the seller, and still more to the buyer; there may be a failure of the crop, either partial or total, when, of course, the farmer cannot pay, or he may be able to pay only part, leaving the rest standing against him until the following year, in which case about fifty per cent. is added to the indebtedness by way of interest; and in this way the farmer soon finds himself in embarrassed circumstances.

This embarrassment is not, however, altogether on the part of the planter. Nearly all merchants, both native and foreign, are dealers in grain, and are given to this practice of advancing goods and money on the ungathered crops. This often leads to sharp competition, of which he is quick to avail himself. He begins selling grain to a certain merchant, and after a while, the latter believing his customer has sold about as much as he will be able to pay, the acreage planted and the condition of the seller's crop being closely observed, refuses to buy any more from him. In such a case the farmer goes to some other dealer, and the latter, believing the farmer's word, also purchases grain from him; and in this way an unscrupulous person may sell his crop to two or three different men; and this often leads to quarrels between the rival purchasers. It matters little to the planter which of them gets it, his interest in it having long before been realized and spent. Some dealers have agents who go around at harvest-time watching their doubtful customers, and to have the first share in the distribution of the too-often sold crop. I remember a characteristic instance in a neighbor of mine, who, in coming home from a distant village, where he had been on business, happened to ride by the corn-field of one of his customers who had sold him most of his crop, and who was, besides, known to be a slippery rogue that sold his corn as often as he could find a purchaser. The corn was nearly all husked and on a large pile in the field. There was little time for deliberation; a few hours' delay might be dangerous, because other purchasers of the corn might put in their appearance and carry it off. So, sending the servant who accompanied him to town, some three or four miles distant, for the necessary number of bags and teams to haul home the grain, he remained and deliberately mounted the corn heap, and with drawn six-shooter stood guard over it for some hours until his carts came. Nor was it an unnecessary precaution, as the carts and servants of another purchaser meanwhile presented themselves, but as these latter came unprepared either to fight or besiege my neighbor, he succeeded in holding possession until his own forces arrived, when he triumphantly marched off with the spoils of his victory.

The Constitution of Mexico allows of interstate duties, and a more serious as well as annoying drawback to domestic trade cannot

well be imagined. Fancy a car-load of grain, raised in California and shipped to New York, to be obliged to stop on the frontier of every State through which the railroad passes, to be inspected and pay certain duties; yet such is the law in Mexico. And in the matter of grain there exist regulations within the same State equally oppressive and vexatious. Every precinct or township levies what is called an *extraction duty* of 6¼ cents on each fanega of corn or wheat taken out of that precinct, and the same grain again pays an *introduction* duty to the precinct into which it is sent. A more effectual drawback upon the industry of a people can hardly be conceived. It leads to smuggling, seizures and confiscations, and in the end the farmer is the principal sufferer.

The soil is well adapted to nearly all the productions of the temperate zone, and particularly to fruits. Vegetables do well, with the exception of Irish potatoes, which it has been found impossible to grow in the neighborhood of El Paso. Several hundred miles to the north, around Santa Fe, they do well, and also among the mountains two hundred miles to the southwest. Believing they could be grown if the proper care and method were adopted, I tried the experiment myself. I planted them in different kinds of soils, with and without manure, covered them with earth, straw and sand, but got no tubers. Major B. W. Brice, since Paymaster General of the United States, one year raised a fine lot in a garden attached to his quarters at Fort Bliss, but he never again succeeded in doing so, although he tried to do so again and again on the same spot and by the same method.

Corn being almost exclusively used as food for horses, no oats are grown in the vicinity of El Paso. What might be done with oats may be seen from the following: About 1869 the papers were filled with accounts of the great productiveness and weight of Norway oats, and an American neighbor of mine sent to the States for some, with the intention of trying what could be done with it. The first year it grew tall and thrifty, making large, well-filled heads. The next year (1871) a patch of about one-quarter of an acre was planted with the seed raised the previous year. Lest what I shall state may be discredited in consequence of defective memory or the length of time that has elapsed since then, I will quote several paragraphs from my diary of that date: "In going over to Fort Bliss this morning I pulled a dozen heads of oats out of Mr. Florez's patch. At Bliss I measured them; they ran from 19 to 24 inches each! I never saw anything to equal them; and the stalks *were taller*, many of them, than I." That was on June 27th; on July 15th, the following additional memorandum occurs: "Cut two stalks of oats out of Mr. Florez's patch measuring six feet four inches each." I do not know that any but the usual plan of planting was adopted, but this shows what the soil will do. With careful farming, such as the farmers of Lancaster county bestow upon their crops, I have no doubt that the present production would be increased one hundred per cent. This, however, will never be accomplished while the present race tills the soil. So wedded are they to the husbandry of their fathers that they will not forgo it until a race of men with newer ideas and more modern methods steps in to revolutionize their old time customs.

Such are some of the peculiarities that obtain among this race of primitive farmers. The facts we have related are but a fair sample of the whole, and will convey to the reader a truthful picture of agricultural life on our own borders, such as few can have imagined. A bountiful Providence has cast their lives in a place where the necessaries of life can be obtained in defiance of their antiquated ideas and thriftlessness. Their wants are few and simple, and these their indifferent system of farming secures to them. Knowing little and caring less about what they might accomplish, their lives glide away more happily perhaps—certainly more contentedly—than our own, who live surrounded by all the comforts and appliances of the most advanced civilization.

For The Lancaster Farmer.

ORNAMENTAL HORTICULTURE.

Having got through the "burning, fiery furnace" of summer, we may now turn our attention to the improvements of ornamental gardening. As the arboral embellishments are to be stable standards, their selection and arrangement are important. The services of a skillful gardener will be a saving of present expenses and future disappointments. *Bloomsdale Park*, of the Landreths, is a graceful model of an ornamental park. It is thirty acres in extent, and was planned by David Landreth, a *master gardener*. He selected all the plants and directed their arrangement, and all other work. The species of trees and shrubs are numerous, and now, with thirty years growth, they are large and handsome, and the following specimens are worthy of special notice: *Tilus baccata*, *Aurea* and *Retinospora aurea*, are richly gilded with golden foliage. *Biota aurea* and *Thuja aurea*, are also slightly gilded with golden yellow. A *Picea cephalonica* tree is the largest and handsomest in the nation. The following species are hardly equaled in the country: *Pinus cembra*, *Picea noblis* and *grandis; Cedrus libani*, *Cryptomeria japonica*, *Libocesedrus, decurrens* and *Chiliensis*, *Cupressus*, *Lawsoniana;* and the handsomest *Sequoia gigantia* that we have seen in culture. Two *English yews*, fifteen feet high, and as much in the diameter of their spread branches and class, massy shrubs. They were imported from England in 1810 by the original Mr. Landreth, who founded the great seed firm of "Landreth & Sons," and now they are great favorites of the grandsons.

The above are all evergreens. The following are deciduous: A *dark purple Beech* tree, is fifty feet high, and fifty feet in the diameter spread of its branch, and is a mass of branches and foliage from the ground to its top; another tree is the *common Beech*, in the lower eighteen feet, and above that the *purple Beech* is grafted; the tree is forty feet high, and thirty-five feet in the diameter of its branches; a dense mass from base to summit. *A Salisburia adiantifolia* tree, fifty feet high, very straight, finely branched; and all the branches of each tier are of the same length, which is uncommon in the species. The *Larches*, *Lindens*, white *Birches*, *Deciduous Cypress*, *Kentucky Coffee tree*, &c., are admirable specimens of their several species. The matchless splendor of the numerous varieties of the *Belgian Azaleas* and *Rhododendrons*, have been noticed elsewhere, and by many writers.

David Landreth, esq., who planned and directed the making of the whole out of a bare field, is still an active business man, and highly enjoys the fruits of his labors. Bloomsdale Park is near to Bristol, Bucks county, Pa.

(The Landreths are not nurserymen, and do not deal in the sale of trees, or otherwise we would not have noticed Bloomsdale Park.)—Walter Elder, *Landscape Gardener*, *Philadelphia*, *September*, 1875.

For The Lancaster Farmer.

EARTHING UP CELERY.

Celery is botanically named *Apium graveolens*; Loudon claims it a native of Great Britain. There it grows spontaneously and abundantly in salt marshes along the sea coast which are often deeply inundated by the sea waters during high tides; hence, it is a marine and half aquatic plant.

In our culture, far inland, it makes but little growth during the months of July and August, but after the middle of September, in the northern half of the nation, its growth is rapid. In earthing it up the soil between the rows should be deeply stirred and finely broken in the forenoons of dry days, and put about the plants in the afternoons; it will be well warmed by the sunshine, and will excite a lively growth in the plants. Each plant should be clasped by one hand while the soil is put up about it, so that none will get about the hearts of the plants, as in wet weather they might rot. The soil is put up as high as the leaves, and as the crops increase in growth more soil is put up about them, say once a fortnight, and always in dry weather. The last earthing up, late in November, the plants are all covered, except the top leaves. In that form the crops keep sound all winter, providing the ridges are covered with cornstalks, or straw, or long, strawy manure. Some cover with tree leaves, and with brushwood upon them, to keep them from being blown off. From November to April celery is in use, and brings a good price. Truckmen cultivate in long rows with horses.—An Old Husbandman, *Philadelphia*, *September*, 1875.

KINDLY GREETINGS.

The Lancaster Farmer: This new help to the agriculturist, and by the way an almost indispensable one at this early day in its journalistic career, appears for August improved to a marked degree, bearing on its pages unmistakable evidence of patient care in selection and deep thought in its original articles. It is a *practical* publication, and all its aims are to that end. Its original articles by the editor, Prof. S. S. Rathvon, are above the common run of original articles, having stamped on their every line the peculiar characteristic of that worthy man, viz: elaborateness, plainness and sound logical reasoning, and hence cannot fail of their purpose, which is not only to entertain, but to instruct and lead to good practical results. Besides, The Farmer contains this month an article on "Primitive Farming," by F. R. Diffenderfer, who, on this occasion, has yielded to the persuasion of his friends by permitting his name to appear. Mr. Diffenderfer, we have no hesitation in saying, has written more for newspapers and periodicals than any man of his years in this city, yet from an innate modesty would never before allow his name to appear in print. We are happy to greet him before the light of the literary world, and certainly rejoice at the thought that at least he will receive that credit for his brain-productions to which he has been for many years so eminently entitled. With such an editor, and with one such contributor, The Lancaster Farmer must continue to grow in public favor. —*Lancaster Weekly Review.*

The Lancaster Farmer for August is an excellent number, and its varied contents cannot fail to be of great interest and immense value to every one who will give it a fair perusal. As The Farmer is a home organ, every tiller of the soil in this county should be a regular reader, as we know that if such would be the case, a great deal of advancement would be made in various directions in agriculture in our midst. Yet while The Farmer specially commends itself to the favor of our county, it is conducted in such a manner as to make it of great value to the farmer, fruit grower, gardener and household everywhere, and should receive an extensive circulation throughout every portion of the Union.—*Clarion.*

The Lancaster Farmer: If our subscribers wish to see a copy of this very excellent periodical they can do so by calling at the *Century* office. It is a valuable agricultural monthly, published at Lancaster by Pearsol & Geist, under the editorial charge of Prof. S. S. Rathvon, at the exceedingly low rate of $1.25 per annum. The August number contains the usual variety of interesting and valuable articles, the ones on the Drop Worm, and the Codling Moth, being noticeably so. We will notice more at length hereafter.—*Gettysburg (Pa.) Century.*

We certainly ought to feel grateful—and we think we do—for the favorable notices of our journal, and our efforts to make it acceptable to the reading public, not only from the local press, but also from the agricultural press of our widely extended country; and if we at any time indulge in a passing regret, it is that the number who have this appreciation of our labors in the county of Lancaster is yet so limited. It is true, that the subscription list of The Farmer is gradually recruiting from the ranks of the solid men of our grand old county, but still it is not nearly what it ought to be.

But, whatever may be accorded to us personally, we do not claim the sole merit of the present excellence of The Farmer. Much is due to its contributors, its correspondents, and its enterprising and liberal publishers; and in its mechanical get-up it reflects credit upon the "chief" of the job department.

The *centennial* year is just approaching, when we hope to be able still further to improve The Farmer, and to present many new attractions; and we fail to see—on its intrinsic merits so generally conceded—why the journal should not be able to double its subscription list next year. We suggest that our subscription price is so low, that the way to secure a copy of The Farmer is merely to entertain the will to do so.

STATE AND COUNTY FAIRS FOR 1875.

State, Provincial, etc.

Alabama	Selma	Oct. 26–Nov'r	1
American Promological	Chicago	September	8–10
California	Sacramento	September	15–25
Cincinnati Industrial	Cincinnati	Sept. 8–Octob'r	9
Colorado	Denver	September	21–25
Connecticut	Hartford	October	5– 8
Georgia	Macon	October	18–23
Germantown Hortic'l	Germantown	September	7– 9
Illinois	Ottawa	September	13–18
Indiana	Indianapolis	Sept. 9–Oct'r	2
Iowa	Keokuk	Sept. 27–Oct'r	1
Kansas City Exhibition	Kansas City, Mo.	September	13–18
Louisville Industrial	Louisville, Ky	Sept. 1–Oct'r	16
Maine	Portland	September	21–24
Maine Promological	Wiscasset	September	21–24
Manuf. & Mech. Ex.	St. John, N. B.	September	7
Maryland	Baltimore	September	14–17
Massachusetts Hortic'l	Boston	September	21–24
Mechanics	San Francisco	Aug. 17–Sept.	17
Michigan	East Saginaw	September	13–17
Minnesota	St. Paul	September	14–17
Montana	Helena	Sept. 27–Oct'r	2
National Exposition	Rome, Ga	October	4– 9
Nebraska	Omaha	September	21–24
Nevada	———	October	4– 9
New England	Manchester, N. H.	September	7–10
New Jersey	Waverley	September	20–24
New York	Elmira	Sept. 27–Oct'r	1
Ohio	Columbus	October	6–10
Oregon	Salem	October	11–16
Pennsylvania	Lancaster	Sept. 27–Oct'r	1
Rhode Island	Providence	October	5– 7
St. Louis Association	St. Louis, Mo.	October	4– 9
Virginia	Richmond	October	26–30
Washington Territory	—— ——	October	18–23
West Virginia	Clarksburg	September	7– 9
Wisconsin	Milwaukee	September	6–10
Nat'l Poultry Assoc'n	Chicago, Ill.	Jan.	20–28, 1876

County Fairs in Pennsylvania.

Adams	Gettysburg	September	28–30
Beaver	Beaver	Sept. 28–Oct.	1
Berks	Kutztown	October	5– 8
Berks	Reading	September	14–17
Bucks	Doylestown	October	5– 8
Chartier's Valley	Cannonsburg	September	28–30
Chester	Ambler Park	September	21–24
Chester	Oxford	September	22–24
Chester	West Chester	September	8–11
Crawford	Titusville	October	4– 7
Dauphin	Millersburg	September	7–10
Dauphin	Gratz	September	14–17
East Penn	Norristown	September	14–17
Fayette	Brownsville	Sept. 30–Oct'r	1
Greene	Carmichael's	September	16–18
Greene	Waynesburg	Sept. 30–Oct'r	1
Lawrence	Harlansburg	September	21–23
Lebanon	Avon	September	21–24
Lehigh	Allentown	Sept. 29–Oct'r	2
Mercer	Stoneboro	September	8–10
Montgomery	Ambler Station	Sept.	21–24
Northampton	Easton	October	5– 8
Northern Pennsylvania	Erie	October	5– 8
Northumberland	Sunbury	Sept. 28–Oct'r	1
Schuylkill	Orwigsburg	Sept. 28–Oct'r	1
Snyder	Middling	October	5– 8
Washington	Washington	Sept. 30–Oct'r	1
Westmoreland	Greensburg	Sept. 29–Oct'r	2
York	York	October	5– 8

LETTERS, QUERIES AND ANSWERS.

Shade Trees for Stock and Profit.

Nearly every farm or field might have plenty of shade trees with very little expense if the owners would only make up their minds that it shall be done. But our aim should be to raise or plant such trees as would grow into profit the quickest. Locust along roadsides, lanes or fences, and in gulleys or hollows, and in corners of fields, or any waste places that can't easily be farmed, might be made to pay well for their keeping, and also afford excellent shade for stock in summer. A few walnut and poplar, and other useful trees, might be planted along the streams. Willows will soon form a very tough bark that the floods will not injure, &c. Trees along roads or lanes will not injure the fields very much. They draw half their nourishment from the road, and in a few years will be worth much more than their cost and trouble. But some men don't see any profit in it. Tom Careless says, "Too much trouble, and costs too much to start 'em." I tell him that it will pay better for the trouble and expense than many other things which are often done on a farm. Tom says: "Yes; but there is Charley Halflone, he tried it: a few years ago he bought a whole load of locust trees and stuck 'em along the road, and they didn't do any good; they nearly all died or blowed over, and the borers got at the others." I said I didn't wonder they did no good, for I saw they were only stuck in the edge of the bank outside of the fence, and the dirt wore away and they fell over, one after another, before they got a good hold with their roots. You see it was only half done. Now, Tom, just take a look at John Donewell's lane; you see there along each side a splendid row of locust about fifteen years old, and I don't think there is one tree missing. He planted them inside of the fence, and had it done well. Tom says now he sees it does help to set off a farm, and thinks he will try it too next spring. Now, to show Tom that it does pay, I want him to take a look at Mr. James Postwood's farm; there you will see along the road a great many locust trees, from 20 to 30 years' growth, fit to cut for posts, and along his lane and other fences a great many other trees in fine, thriving condition. Only a few years back he cut a few clusters of locust trees, and they made over $300 worth of posts. Now the sprouts from those stumps grow with wonderfully strong growth, and in a few more years they will be ready for posts. I tell you that Mr. Postwood's farm turns off a great many more posts than is needed on his farm, and brings as good crops as could be expected on any farm. If trees are planted on the south side of roads or streams, their shade will not do as much harm to the farm land as they would on the opposite side. A brother in Illinois says in a letter to me that locust would not do any good there, for it has been tried, and the borers are too bad on them. I still write to him that I would try it, at any rate. I think if he would sow the seed by the acre on his prairie farm, that in a few years, when they get well rooted, they would get ahead of the borers. I notice here in Lancaster county, at some places, the borers are bad, and yet in the same field, or the next one to it, the trees do very well, and are not much affected with them. I could show some very nice locust trees now that were some years ago eaten off by the worms. It is a very good plan for each farmer to start his own locust nursery, and then the trees can be transplanted fresh from the nursery at the proper time. A great deal of money has been spent and work done for trees that were not lifted carefully, and had been out of ground too long before they were planted again. I have seen wagon loads of trees perish just because they were not properly transplanted. If you want to put money on interest in a safe bank, then plant trees for profit.—JOHN B. ERB, *Lime Valley*.

Letter from North Carolina.

The wheat and oat crops are gathered and threshed. I spoke to quite a number of farmers from this and other counties around, and while many say the crop of wheat turned out well, it would still have been better had it not been for the cold spell and frost in April last. I believed then that all wheat was injured more or less, and those farmers with whom I have spoken lately agree with me now, that this caused the wheat crop to be 12½ per cent. less than it would have been had it not then been injured.

The oat crop turned out remarkably well, as far as I have seen, and could learn by inquiry.

The corn crop, if nothing now injures it, will be the best that has been made here since the year 1860.

We have had rather too much rain for cotton, still all reports to me are that it promises a good yield. Tobacco also looks well.

Joseph Horroh sowed 1¼ bushels Fultz wheat last fall on ¾ of an acre lot, which yielded 36½ bushels of clean, fine wheat. Hon. Burton Craige sowed 33¾ bushels of wheat last fall on 3¾ of an acre of ground which yielded 69½ bushels of good clean wheat, and the land not good, which shows what it would produce if it was as well fed and cultivated as Lancaster county farmers manage and cultivate lands. I believe here is a good opening for those who are seeking new homes, cheap land, mild and genial climate, and healthy country, should any wish to settle here, but fearful of life or property being unsafe. I will say to all such, you will be as safe here as anywhere, your own country not excepted. Notwithstanding I have heard some of your Lancaster-countians express great distaste for North Carolina, for whom I have the greatest respect, and kindest feelings, I believe they are biased and prejudiced against this country. And I further believe if your people would come here and examine this country, and learn its soil, climate, and the character of the people thoroughly, and the advantages North Carolina possesses, some at least would move here in preference to going west. I speak unbiasedly, and the only and true motive I have, is to hold this section of country up in its true light, and if I can, by so doing, benefit others, I shall feel myself amply compensated for my work.

Much rain fell here for a fortnight past, too much for cotton and also for corn in low lands, but a fine season for upland corn. Potatoes, turnips and tobacco are said to be looking fine.

Farmers here are turning land, and making preparations to sow wheat. W. H. Crawford, said to be the largest farmer in this (Rowan) county, has 1,000 acres in cultivation, and is running thirty plows.

Preparations are being made for the agricultural and mechanical fair to be held here in October next, of which we may speak again.

This place has shipped in one season 2,000 barrels of dried blackberries, 2,000 barrels of dried apples and peaches, 3,000 bales of cotton, 10,000 bales of forage, such as hay, fodder and shucks, 50,000 bushels of corn, 30,000 bushels of meal, 30,000 bushels of oats—no small shipments, considering so many other places near by ship the same articles. This season berries and apples will be short, and no dried peaches to ship.—M. R., *Salisbury, N. C., Aug.* 30, 1875.

Some Experiments with Ground Bones.

In the spring of 1874, in a field prepared for planting corn, upon which there had previously been applied ground bones at the rate of 500 pounds to the acre, we carefully measured with a surveyor's chain several equal portions of ground, and applied enough bone meal, in addition to what it had already received, to make the whole amount on the different measured portions be at the rate of 1,000, 2,000 and 4,000 pounds respectively. The corn was all cut and husked together, so that no comparison of results was made on that crop. The corn was perceptibly larger, however, where the extra quantity of bone was applied.

This year, when the oats which succeeded the corn was ripe, that on each piece of measured ground was harvested separately; also another and adjoining portion of the same size as the others from the rest of the field, and which had received 500 pounds of bone per acre. From this we ascertained that the yields of the different pieces, (commencing with the one that had received 500 pounds per acre) was at the rate per acre of 37 bushels of oats and 1,020 pounds of straw, 38½ bushels of oats and 1,040 pounds of straw, 41¾ bushels of oats and 1,080 pounds of straw, and 55½ bushels of oats and 1,920 pounds of straw. It would have added much to the value of the experiment if a piece had been tried without any bone meal, but the thought of trying it did not occur until after the field had been sown all over.

From this experiment it will be seen that the increase in the production of grain and straw is greater in proportion to the increase in the quantity of bone dust applied, and not less, as has been supposed by many farmers. It does not, however, show *sufficient* increase to pay for the extra quantity of bones; but when we remember how slow bones decompose, it will be safe to conclude that succeeding crops will be benefited more than this one, and that a similar increase in the wheat and crop of grass which follows, together with the benefit the corn received, will be more than sufficient to pay for the bones.—W. P. B., *Liberty Square, Lancaster Co., Pa.*

Answers to Querists.

Mr. A. S. K., Manheim township.—The beetles that excavate your peaches, burying their whole bodies in them, are *Cetonia inda*, of Linnæus, and are the type of a large family belonging to the *section* LAMELLICORINA, or "leaf-horned beetles," because their *antenna*, or horns, are terminated by a laminated club, like the leaves of a book. These beetles are bred from a white "grub" which is usually found in the ground, or in old wood in a much decayed condition. It is only the mature insect that attacks fruit. We have never known them to be very abundant in Lancaster county. We have frequently found a few of these infesting roses, ripe pears and ripe sweet apples, and judging from their general taste we are not at all surprised that they should attack your luscious peaches. Indeed, nearly the whole family to which they belong manifest a partiality for sweet, thoroughly ripe and luscious fruit. Of course, when two or three of these beetles get into a ripe peach, it soon begins to decay thereafter. The *larva* of Lamellicorn beetles have been very plentiful the present season, destroying rose bushes, grape vines, pear trees, &c., by devouring their roots. I know of no remedy except hand picking. Their *larva* usually mature in rotten wood or in the ground.

The Ant Pest.

Answer to "Housekeeper."—My wife was pestered with both the little red and large black ants in her cupboards and shelves, and the little pests found out my honey cups stored away in a corner cupboard. I bought ten cents worth of insect powder at Spreeher's Agricultural Store in Lancaster, and applied it in the evening when I got home, and the next morning not a live ant could be seen. I applied it with a feather to the corners and edges of the shelves very thin, and it acted like a charm. It is now about four weeks since I did so, and we have seen none since.—JOHN B. ERB, *Lime Valley*.

Editor Lancaster Farmer: I notice in the last number of THE FARMER that LEOLINE inquires how to keep the ants from her strawberry plants. I suggest that if she will mulch her beds with spent tan bark, (which, by the way, is not a bad mulch) she will have no further trouble with them. We grow strawberries on a large scale in field culture, and use this mulch altogether. If one is very particular about an extra clean mulch, a little clean rye straw or fresh mown grass may be put around the plants just before the fruit begins to ripen.—TOBIAS MARTIN, *Mercersburg, Pa., Aug.* 30, 1875.

AUNT PRUDENCE says in the *American Grocer* that she has always been successful in dispersing black and red ants with Lynn's magnetic powder, provided it is fresh. She dusts it over the shelves and in the cracks.

To Correspondents.

We must insist upon our correspondents observing the printer's rule to write upon *only one side of the sheet*, and to use pen and ink instead of lead pencils, whenever practicable. Always write names of persons and places, and all arbitrary terms, as plainly as possible.

OUR PARIS LETTER.

Correspondence of THE LANCASTER FARMER.

PARIS, August 7, 1875.

CATTLE-BREEDING IN MAYENNE.

The Department of the Mayenne is in many respects curious as one of the chief cattle breeding districts of France. As a general rule, the Durham race there predominates, and compels the disappearance of local breeds in the course of four crossings. The only difference between the reputed pure and the general class of Durhams lies in this—that one is inscribed in the Herd Book and the other is not. Prof. Sanson, like several of his colleagues of the Grignon Agricultural College, brings his pupils every season to some point of France where his lessons on the theory and practice of cattle breeding can, on special points, be illustrated. He was thus able to point out in Mayenne that, independent of the general question of feeding, a too exquisite attention to the most perfect qualities of a sire results, in the course of years, in the production of animals of reduced size and weight. Some stock-masters have found out the error of this erroneous desire for points of absolute excellence, and seek bulls not coming up to that refined standard. Yet, with such prudence, the race of shorthorns in Mayenne is less by one-fourth in point of volume than what it ought to be. This diminution is the consequence of the lamentable plan of not giving stock sufficient nourishment throughout the winter, irrespective as to whether the yield of fodder be short or profuse. Those admirable meat-producing machines, the Durhams, are positively compelled to draw throughout the winter on the materials they have accumulated in their economy during the summer; so that in spring, when the animals are turned out for sale in Normandy, to be there fattened, they are in a more inferior condition than when tied up the previous autumn. Instead of being prepared for the butcher they are studiously maintained thin. What a loss, too, for the soil, this constant selling off of the stock, of the valuable phosphates of the bones and flesh, and no compensating return made to the land, except in the form of lime; but the latter without the phosphoric acid is of course as if phosphate of lime did not at all exist to build up the animal's bones. The district imports no oil-cake, nor even employs for feeding the vast quantities of bran to be obtained from the numerous flour mills in the locality. Some cattle breeders mix on the meadow even wheaten straw with lucern, sainfoin and artificial grasses, forming the mass into ricks, thus allowing it to ferment instead of winnow. The mixture is excellent, and better for animals over one year of age, as far as puberty, rather than the leguminous fodder alone.

The Durhams are animals akin to large machines, producing in proportion to the primary matters supplied for transformation. Moderate but not excessive work has not proved, in the Mayenne at least, injurious to the rearing, etc., of Durham oxen, as all, in working, increase in size and weight—when, of course, proportionately fed. This economic condition is at variance with the experience of other countries which reserve animals for the rent apart from those for the work.

TO KEEP MILK FROM CURDLING.

Prof. Kolbe has demonstrated that, by the addition of four per cent. of salicilic acid to fresh cows' milk marking 65 degrees of heat, the milk will be preserved 36 hours longer from curdling than milk not treated by the acid. This quantity of acid is sufficient when the milk has to be transported to a distance; but pending periods of great heat, it would be well, as in the ordinary practice with extensive dairymen in France, to reduce the temperature of the milk to 53 degrees before employing the acid. The difficulty lies in applying the acid, which requires to be dissolved in cold water to the extent of ten per cent. of the milk—a dilution purchasers would not tolerate. It dissolves more readily in warm water; in this state, however, it would coagulate the milk. The acid as generally sold is in the form of a powder, difficult to moisten and apt to run together, forming little lumps, despite the stirring of the milk. The best state in which to apply the acid is in the form of crystals, taking care that these are not too large.

BRAN FOR MILK COWS.

Bran is often richer in protein than flour, but the butter is more digestible; hence why bran is steeped or cooked twelve or twenty-four hours before being used. To augment the digestibility of bran, Stoeckard added to one part of bran eight parts of cold water, and the one-thirty-third part of chlorhydric acid, cooking the mixture for ten minutes, with steam, if possible, pouring off the liquid into a separate vessel. To the remaining paste four parts of water is added and a spoonfull of calcined soda; then the drained-off liquor is poured back, and a little chalk dusted over the mixture. This plan gave good results, but in practice was found difficult. Bran is given to milch cows with profit, by mixing one part of malt siftings with one hundred of bran, either in a drink or with the chopped food. For young cattle the bran is mixed with the oil-cake.

PRESERVATION OF FODDER.

The season continues to be very trying for the preservation of fodder, owing to the excessive humidity existing, which at the same time affects its nutritive value. The general practice at present in France is to dry the forage plants only partially, and to then pile in small heaps till fermentation commences to set in; afterwards to seize the first few bright hours that present themselves to open the heaps, when the humidity rapidly escapes. In putting into rick, fagots are preferred for ventilators; for after cuttings of lucern, clover, meadows, etc., their texture being young and juicy, and humidity prevalent, they are made up into very small heaps, mixed with straw, and fagots employed as ventilators. The preservation of green food in trenches will be extensively practiced this year in France; giant maize and mustard are the forage plants now most relied upon for fermented food in spring.

REPAIRING DAMAGE IN THE FLOODED DISTRICTS.

The occupiers of the flooded lands in the region of Toulouse are bravely repairing their misfortunes. The damage has been great, but not what was at first expected, and in no case is it irreparable. The vines have been well washed, however; the wheat crop itself in many places can be saved. The hay harvest having been completed before the calamity, those ricks overturned and partly coated with mud have been duly opened, and when dried the hay is passed through a threshing machine, which removed nine-tenths of the mud. The hay was then re-stacked, one pound of salt being added to each cwt. of hay. Much attention was paid to breaking up the crust of mud as soon as the land was sufficiently dried, and to scarify often to destroy the numerous strange weeds that appeared. Where there was a coating of sand, such was ploughed deeply down. Fields of lucern were restored by a vigorous use of a harrow with iron teeth. The plants sown belong to the quickly growing fodder order.

SHEEP IN THE LOWER ALPS.

The mountainous districts of the Lower Alps are largely employed for the summer pasturage of sheep of the warm plains. The sheep ascend the mountains in May, at the rate of ten miles per day, in flocks of 2,000, preceded by the rams and guarded by dogs from wild animals. The shepherds are accompanied by their wives and families, and delight in the mountain life, till the rains of September set in, when they return. The price paid for the season's pasturage, per sheep, is *fr.*1¼. There is a local race of sheep very much in request, habituated to live at 6,500 feet above the level of the sea, and producing four lambs during the year. In the valleys much waste land has been planted with truffle oaks, and highly prized truffles are now raised in large quantities. In the Vasges mountains there is a remarkable race of sheep called the "Black Swiss," kept by the inhabitants apparently for the wool, which they spin and weave into coarse cloth, requiring no dye.

IMPROVED BEE-HIVES.

At the recent agricultural show at Caen, M. Mauget exhibited a bee-hive, only costing one franc, which protects the bees from the extremes of heat and cold, and allows the honey to be removed without fumigation. It can be transported also to distant localities where the bees can find suitable pasture flowers. M. Mauget has 300 well-stocked hives. He has also invented another hive, where vapor generated by the bees easily escapes, and thus prevents the glass from being obscured, and so allowing the observer to enjoy an uninterrupted view.

INDIGESTION IN HORSES AND CATTLE.

M. Pety, veterinary surgeon, draws attention to the liability of horses and cattle suffering from indigestion, from the consumption of forage in a humid or musty state. It is from over-feeding this complaint is ordinarily produced, or to the too rapid transition from dry to unlimited green food. Another very common cause is the putting of animals to work immediately after their feed. The giving of chaff and the refuse of the threshing machine is also another fruitful source; as well as excessively cold water; and above all, allowing the animals to drink the water of marshes. A little salt or a handful of meal is excellent in the drinks. Old animals ought never to be given too much food at once, and it should be mixed with a little straw. When the horse shows symptoms of indigestion—restlessness, suddenly refusing food, resting on one leg and then on another, the head drooping and seeking the left flank, its excrements either hard or liquid, etc.—an excitant, as three ounces of kitchen salt, or a glass of gin in a bottle of water, will afford relief, or an infusion of camomile or sage. In case pain exists, two spoonfuls of laudanum will prove excellent. Of course, soap injections, friction, and fumigation are not to be overlooked. Bleeding, in case of grave indigestion, becomes mortal.

REAPING AND MOWING MACHINES.

France has made rapid progress in the employment of mowing and reaping machines, and never more marked than the present season, when the weather has been so untoward and manual labor so scarce. As at the contest at Mettray and elsewhere, there is a uniformity in excellence, almost of perfection, in the machines turned out of some well-known firms; so that where different verdicts are passed, the deciding points are to be found, not in superiority of mechanism, but in the ability of the driver, the efficacy of the yoking, or the accident of the soil.

CONTINUED RAVAGES OF THE VINE BUG.

The continued and extending ravages of the vine bug develop much discussion, which is not a bad thing in itself, but no perfect remedy against the phylloxera exists, save autumnal and winter flooding of the vines, as practiced by M. Faucon. The alkaline sulpho-carbonates have not realized the great expectations formed about them. The only party truly sage is that which continues to still try every suggested remedy, and avoiding absolute conclusions, till justified by full success. The importation of American vine-stocks has yet to prove their efficacy, as well as the various powders reputed to destroy the insect, while resting inocuous towards the vine

SALT A PRESERVATIVE OF LUCERN, ETC.

Dr. Schneider recommends the salting of lucern, sanfoin, etc., in its green state, immediately even after being cut, and asserts, after twenty-five years' experience, that it will keep thus without spoiling for eleven days, when some fine days may be expected. The mass dries by transpiration; the salt absorbs the moisture first, and then impregnates the forage with the brine, which acts, as usual, as a preservative.

TO RID WHEAT OF MUST AND RUST.

To rid seed wheat of smut and rust, it is the usual practice to steep it in preparations of lime, salt, etc. The Agricultural Society of Allier recommends instead the dissolution of nine pounds Peruvian guano in 22 gallons of water, allowing the grain to steep for twenty-four hours, skimming off the bad seeds, and rolling the remainder in dry guano, previously treated with sulphuric acid, according to the Ohlendorf process.

OUR LOCAL ORGANIZATIONS.

Proceedings of the Lancaster County Agricultural and Horticultural Society.

The September meeting of the Lancaster County Agricultural and Horticultural Society was held in the Orphans' Court Room on Monday, the 6th inst., at 1½ o'clock—President Johnson Miller in the Chair. The meeting was unusually well attended. Present, Messrs. Henry M. Engle, John Miller, Peter S. Reist, Thomas Woods, Ephraim Hoover, Alexander Harris, Hon. Geo. H. Ettla, Hon. P. J. Roebuck, Henry B. Reist, John Hoover, Martin D. Kendig, Calvin Cooper, Daniel Smeych, Isaac Bushong, Milton B. Eshleman, W. W. Davis, Johnson Miller, H. H. Tshudy, Henry Erb, Martin Miller, William McComsey, S. S. Rathvon, Levi S. Reist, Jonas Buckwalter, J. Stauffer, David G. Swartz, Elias Brackbill, John B. Erb, Dr. P. W. Hiestand, John M. Grider, Jacob Garber, Simon P. Eby, John M. Stehman, and the reporters.

Dr. P. J. Roebuck was nominated and elected an honorary member.

The following gentlemen were elected active members: E. K. Hershey, Cresswell; Adam Rauck, Bird-in-Hand; and H. H. Tshudy, Warwick.

Crop reports were now called for, but there was little new information given, most of the members stating that there had been no change since last reports. M. D. Kendig, of Manor, said that the only thing he had to report was that the tobacco plants were unusually free from worms.

"Would it be advisable for Lancaster county farmers to engage more extensively in dairy farming?" was the question for discussion, and Mr. H. M. Engle remarked that the farmers of this county cannot compete with those of the west, in general farming, because of the "cutting prices" in this section—dividing the land into very small farms. The question is, whether at the present high rate of land in this county, farming can be made to pay by the ordinary process—whether it is not *necessary*, in many cases, to resort to dairying, or something that will yield an income additional to that coming from the usual products. He favored the idea of dairying more extensively, and thought there was much good pasture land in this county, and referred, by way of encouragement, to the success achieved in this direction in Chester county. The best land for this purpose he believed to be old pasture land. The better the pasture the better the butter; and the better the butter the better the price. He referred to the high price which Chester county butter brings in the Philadelphia market. In the speaker's mind there was no question that a large portion of the land in this county could be made to pay better by dairying than by any other industry.

Peter S. Reist thought the comparison drawn by Mr. Engle between Lancaster county, Chester county and Western land, was a great point. Why does land command so much higher price in this county than in Chester county? $200 per acre here—$50 there. Because of its high state of cultivation—its productiveness; and this would not be the case were the lands laid in pasture. It is the power to produce large crops of wheat, corn, &c., that commands for land a high price in the market.

Mr. Engle thought his friend Reist had overdrawn the value of Lancaster county a little. The proper

way to get at it would be to take the average, and he was well aware that land could be bought here for $50 per acre, as well as in Chester county. He cited the case of a farmer in this county who raises nothing but the best live stock, and makes the farm support it. He produces not less than three hundred pounds of butter weekly, which, to sell at an average of 40 cents per pound the year round, will bring in at least $500 per month—a pretty fair income, it must be confessed—whatever the expenses may be.

President Miller agreed with Mr. Engle in his views about dairying, and thought it especially commended itself to those farmers living along railroads, or adjacent to them.

Mr. Peter S. Reist was not opposed to dairying, but he wanted to fairly review the practicability and advisability of it in this county.

[Mr. Brackbill here introduced Mr. Reinhold, a member of the State Agricultural Society committee, who was present for conference with the committee of this Society on the coming State Fair.]

The dairy question was now, on motion, postponed until the next meeting, and the question—"How best to prepare land for the sowing of wheat," was taken up.

Mr. Engle thought if land had not already been prepared for seeding, this season, it was now too late to prepare it properly for seeding-time. He believed in plowing early, so that the ground might settle and become mellow—settle not too solid, but so as to become mellow on top. If you defer plowing too long, it is apt to become "cloddy."

President Miller also believed in early plowing, although many of his neighbors were opposed to it. Some of them are plowing now, and their land is rough and not easily handled.

Peter S. Reist favored early plowing—particularly on large tracts, and gave in detail his whole system of sowing, which tallied pretty much with that of H. M. Engle.

Mr. Brackbill felt some delicacy in giving his opinion among so many older and more experienced farmers, but as the discussion seemed to lag a little he felt like keeping it up. He believed the matter of late and early plowing depended a good deal on the condition of the soil and the character of the season. One thing he felt confident of, and that was that the land at present is not nearly so well prepared as it was fifty years ago. He then gave his experience at length, dropping many practical hints of value to the farmer.

Mr. Ephraim Hoover was a firm believer in early plowing, for the reason that the soil retains its moisture much better. In older times they plowed early, and then plowed again. Now, instead of second plowing, we have the use of the cultivator—which probably answers the purpose as well. Experience had taught him that early plowing produces the best results—provided it is followed by careful cultivation afterwards, keeping down the weeds, etc.

Mr. Jacob Stauffer gave a scientific reason for early plowing, fully sustaining all that had been said in its favor by the practical farmers who spoke before him.

The members were so unanimous in their methods and practices in the preparation of the soil for the sowing of wheat, that the further discussion of the subject was abandoned.

Mr. Jacob Stauffer now presented a novel and very entertaining paper on the subject of "Artificial Incubation," illustrating the same with drawings. [Not having time to procure the engravings necessary to illustrate this article, it is necessarily deferred until our next issue.]

The Committee on the State Fair, consisting of fifty members, (quite a number of whom were present) received their premium lists, (in pamphlet form) posters and other documents, from the State Committee, necessary to a faithful and intelligent working up of the material in their respective districts.

The members of the committee who were present seemed sanguine of a goodly display from this county, and each expressed his determination to work up his district to the best of his ability.

The President spoke cheeringly of the subject; and just here a messenger from Court arrived ordering the room to be cleared in order to accommodate Court No. 2 of Common Pleas. The Society then adjourned to an arbitration room, up-stairs.

On motion of Mr. McComsey, the Lancaster County Committee of Arrangements for the State Fair will hold a meeting in this city, for the purpose of thoroughly organizing for effective work, on Monday afternoon next (September 13) at 1 o'clock, in the Court House. Mr. McComsey hoped the county would prove itself worthy of the high honor conferred upon it, in its selection for the State Fair, and he made a stirring appeal to the farmers to do their best to make the fair a success. He desired to call the attention of members and agriculturists generally to the importance of a creditable representation of the products of Lancaster county at the ensuing State Fair. Whilst he believed the honor conferred in the selection of the place for holding the fair—owing to the position and resources of Lancaster county—was deserved, we should, nevertheless, prove ourselves worthy of the high distinction. Amongst all the highly favored places throughout this broad land, he knew of none more highly favored by the great and good Giver than our own grand old county. Here our fig-tree never fails to blossom, nor our vines to yield their fruit, and our fields to produce abundant meat, while the lowing cattle on a thousand hills fill our folds. We should, therefore, not only show ourselves worthy of the distinction conferred upon us in the selection of Lancaster as the place of holding the fair, but also that we are worthy recipients of this great beneficence of a kind and overruling Providence. Owing to our resources and facilities, the people of Pennsylvania will expect much of Lancaster county. See to it, then, that they are not disappointed. Bring samples of the products of your vines, your orchards and gardens, of your fields and your flocks, and of your manufactories and workshops, as well as the handiwork of your wives and daughters. You will thus secure distinction for yourselves, reflect credit upon our county, and prove yourselves worthy of the honor conferred in the selection of the place. He deemed it unnecessary to appeal to our local papers. They have heretofore never failed to contribute their full share to promote and protect home enterprise and local interests, and he felt assured they will again in this instance.

Mr. Engle read a communication from Daniel Shelley, of Cumberland county, (an interested party in the State Fair) giving words of encouragement, and showing that people abroad expect great things from this county.

The following fruits were exhibited:

Benjamin H. Longenecker, of Lancaster township—two of the largest and finest peaches we have ever seen—desiring a name for them.

Apples for a name, by Dr. P. W. Hiestand, of Millersville—very rich in flavor and perfect in form.

John B. Erb, Beaver Valley Nurseries—Jeffry apples and Telegraph grapes.

Jacob M. Mayer, Manheim township—Crab apples from a tree said to be seventy-five years old; also, several varieties of choice grapes.

Levi S. Reist, of Warwick—a Russet apple of last year's growth, and two apples for a name.

Mr. Daniel Smeych, city, presented Telegraph, Rogers' Nos. 19 and 3, and Salem, No. 53, of grapes, and also Bartlett and other pears, elegant peaches, etc.—none better to be found anywhere, as was attested by the appreciation of them shown by the members.

Adjourned to meet on Monday, the 4th of October.

Pic-nic of the Patrons of Husbandry.

The great pic-nic of the Grangers of Chester, Delaware, Lancaster and Cecil counties came off at Oxford on Saturday, the 4th inst.; and the weather being propitious, the attendance was large, and everything passed off pleasantly and to the satisfaction of all concerned. At 11 o'clock the Octoraro band, headed by chief marshal James Patterson, Little Britain, Lancaster county, and aid, N. Bunting, Colerain, same county, and followed by a large number of people, proceeded to the Fair Ground. In front of the track-stand upon the Fair Grounds a large speakers' stand was erected and most tastefully ornamented with the emblems of the order—the choicest treasures of Flora, Ceres and Pomona. The beautiful arrangement of these emblems was the handiwork of a committee of ladies from Brandywine Grange, and was highly illustrative of their taste and skill in these rural accomplishments. A large amount of bunting was displayed, while around the front and top were festoons of evergreens; around the upright posts were tied large stalks of growing corn, sheaves of wheat and oats, wreaths of flowers and bunches of all fruits. On the stand were handsome vases of flowers and baskets of the most luscious fruits of the season. On the front were appropriate mottoes, worked in letters of green, and enriched with flowers. In the centre was the handsome banner of Brandywine Grange, No. 60. Between the speaker's stand and the society's grand stand, seats were erected to accommodate some 500 persons; and as the society's stand will seat about 1,000 comfortably, all of which were crowded, with several hundred standing around, we place the attendance at 2,000—fully one-half of these being ladies.

Among the officers were the following Vice-Presidents from Lancaster county: Jesse Brosius, Octoraro, 3; J. H. Breckbill, Strasburg, 62; J. G. McSparran, Fulton, 66; B. S. Patterson, Oak Hill, 80; W. N. Bunting, Union, 87; C. B. Moore, Sadsbury, 161; Colon Cameron, Donegal, 224; J. H. Hershey, Silver Spring, 441.

Bird Instinct: A correspondent of a Hartford (Pa.) paper says: "We had the curiosity when in Norway to see for ourselves what the chickens would do at night in those long days of almost perpetual sun. So, on the road from Stockholm into Norway we took pains to inform ourselves in these interesting matters. We found that, wholly disregarding the sun, the hens all went to roost in Norway just about 7 o'clock P. M., all through June, though the sun was four or five hours high, and the world was 'as light as a cork.' They returned to the active duties of life before three the next morning."

THE FARM AND DAIRY.

How Philadelphia Butter is Made.

The delicious flavor of Philadelphia butter is known to travelers from all parts of the world. Outside of its places of manufacture it sometimes commands as high as a dollar a pound. Mr. Isaac A. Calver, who markets his butter at those high prices at Philadelphia, attributes his success to three points. 1. The food of his cows. 2. Temperature. 3. Neatness and dainty refinement at every step, from the moment the milk flows from the udder till the dollar in currency is paid for the pound of butter. He says: "I have found that I make the best butter when I feed on white clover and early mown meadow hay. I cut fine, moisten, and mix in both corn meal and wheaten shorts. Next to meal, I regard shorts, and prefer to mix them together. I feed often, and not much at a time. I do not use roots, unless it be carrots. My pastures and meadows are quite free from weeds. I cannot make this grade of butter from *foul pasture* or low grade hay.

"Temperature I regard as a matter of prime importance in making butter that commands a high price. Summer and winter I do not permit my milk room to vary much from 58°. In summer I secure the requisite coolness by spring water of the temperature of 55° Fah., flowing over a stone or gravel floor in the milk house. This can be accomplished without water in a shaded cellar ten feet deep. As good butter can be made without water as with, but the milk and cream must be kept at all times a little below 60°.

"We skim very clean, stir the cream pot whenever a skimming is poured in, and churn but once a week, summer and winter. Just before the butter gathers, we throw into the churn a bucket of ice-cold water. This hardens the butter in small particles, and makes a finer grain. In the hot months this practice is unvarying.

"In working we get out all the buttermilk, but do not apply the hand. A better way is to absorb the drops with a linen cloth wrung from cold water. The first working takes out all the milk; at the second we handle delicately with fingers as cool as may be. The salt is less than an ounce to a pound, but not generally much less. The balls each weigh one pound, and receive a uniform stamp. On packing for market, each ball is wrapped in a linen cloth, with the name and stall of the marketman written upon it. Our tubs are made of cedar plank, 1½ to 2 inches thick, and lined with tin. On the inner face are projections, on which the shelves rest. The balls are not bruised or pressed at all, and pass into the hands of the customers as firm, as perfect in outline, and as spotless as when they left the spring house.

"We find uniformity to be a prime virtue in the buttermaker. We produce the same article, whether the cows stand knee-deep in white clover blooms or sun themselves on the lee side of the barn in February.

"There is a small ice chamber at the end of the oblong butter tub, which we use in summer, so that in dog-days the heat within the tub does not get higher than 60° Fahrenheit. I need not add that we observe a scrupulous, a religious neatness in every act and in every utensil of the dairy. Milk which, upon leaving the udder, passes through an atmosphere loaded with stable fumes, will never make butter for which we can get a dollar per pound. No milk sours upon the floor of the milk room; none is permitted to decompose in the crevices of the milk pans; the churn is scoured and scalded till no smell can be detected but the smell of white cedar.

"Our customers take the napkin with the prints, wash, iron, and return them when they come to the stand on market days. These are generally Wednesdays and Saturdays. With these prices we have no difficulty in making a cow pay for herself twice a year; if she cost $60, we sell $120 worth of butter from her in twelve months."

It may be remarked that the sour milk is employed by the Philadelphia buttermakers as food for swine. It is estimated that such milk will make 100 pounds of pork per cow. The cows in the district where the Philadelphia butter is made are well sprinkled with the Jersey or Alderney blood, and about a pound per day from each cow is considered a fair average for the best dairies.

Oleo-Margarine Cheese and Butter.

We are pleased to see that so respectable and influential an authority as the *American Agriculturist* maintains the ground assumed some time since by *The Lancaster Express* against the Oleo-Margarine swindle. The subject, since we called the attention of our readers to it, has been very thoroughly discussed in the columns of the *American Grocer*, and we are decidedly of the opinion that the "professors" who rushed to the defense of Oleo-Margarine have come out badly worsted. The *Agriculturist* says:

"It is about two years since the preparation of tallow, known as Oleo-Margarine, was brought to the public notice, and offered for sale as butter. Then the *American Agriculturist* took strong grounds against it as a fraud upon the consumers of butter, and a dangerous thing for dairymen to touch, and advised

dairymen, produce dealers and consumers to avoid it. Since then this stuff has been largely used to mingle with skim-milk, for the manufacture of cheese, and some dairymen have unfortunately been led into the most surprising advocacy of this adulteration by officers of the Dairymen's Association and a university professor, to enter into the manufacture of this fraudulent article. As pointed out two years ago, and often since, the public refuse to eat this trash; the markets are consequently overstocked with it, and prices for genuine cheese are borne down by the pressure of the unsalable adulterated article. The wholesale produce dealers are now very bitter against the 'Oleo-Margarine,' and many manufacturers doubtless feel equally bitter against those who induced them to make the unsalable cheese. The verdict of the public, however, will be, 'served them right;' for those who undertake to adulterate food, and those who encourge the attempts to do it, are both deserving of censure, which the public will not be slow to inflict upon the delinquents. In self-defense those factorymen who make genuine butter or 'full cream' cheese, should take means to prevent this unfair and injurious competition, by procuring the passage of a law to prevent the sale of adulterated cheese or butter, except it be conspicuously branded, and represented openly as what it really is, a mixture of milk with beef tallow, cotton-seed oil, horse fat, or whatever other ingredient may be used in the adulteration."

Take Care of the Tools.

The tools employed upon the farm are costly, and should receive the same care which is bestowed upon other valuable property. There is manifested by many farmers a kind of chronic neglect in respect to the care of the implements of husbandry. Complicated machines like those used for mowing, raking, threshing, etc., with their iron wheels, levers and cams, are allowed to rust and decay, so that in a couple of seasons they are worthless. This neglect is inexcusable, unpardonable. Some farmers become torpid, frozen up, in winter, and appear to have no active blood in their veins. They will not take up a rake or a neglected hoe in winter, and put it under cover. We have seen ladders, forks, harrows, shovels, etc., peeping out from under the snow in winter, in time of thaw, and have asked why they were not cared for. Sometimes the reply has been, "We will attend to it to-morrow;" but that to-morrow never came. There must be a society organized for "protecting farming tools," and the officers must have full power to forcibly seize and put away all neglected implements, no matter upon whose premises they are found.

Keep the Farm and Home Tidy.

If you get a moment to spare, spruce up; put the gate on its hinges; put a little paint on the picket fence you built last year; trim up the door-yard; make it cozy and inviting. Do not say you can find no time to attend to these things. The fact is, you have no right to be slovenly. It can do you no good, but, on the contrary, it will mar your peace, wound your self-respect, and impair your credit. Then, by all means, spruce up a little at odd times, and even times, too, for that matter. It will make you feel vastly better, and maybe a trifle prouder of your pretty homestead. Your wife and children will be made happier for it; your neighbors will be enriched, beautified and blessed by it; and your farm will be worth more money in the market, and of greater value to you at home, if you spruce up a little now and then.

How Easily Butter is Spoiled.

"A Farmer's Wife" writes: "Of all the products of the farm, butter is most liable to be tainted by noxious odors floating in the atmosphere. Our people laid some veal in the cellar, from which a little blood flowed out, and was neglected until it had commenced smelling offensively. The result was, that a jar of butter which I was then packing smelled and tasted like spoiled beef." Another writes that "there was a pond of filthy, stagnant water a few hundred feet from their house, from which an offensive effluvium would be borne on the breeze directly to the milk room, when the wind was in a certain direction; the result of which was that the cream and butter would taste like the disagreeable odor coming from that pond. As soon as the pond was drained, we had no more damaged butter."

The Value of our Crops for 1874.

The total value of all agricultural products in the United States for the year 1874 was $2,447,538,659. The products derived, directly and indirectly, from the grass crop, is estimated at $1,292,000,000, itemized as follows: Hay, 27,000,000 tons, at $20 per ton, $500,000,000; live stock, $1,525,000,000; animals slaughtered for food, $309,000,000; butter, $514,000,000; milk, $25,000,000; wool, $25,000,000; cheese, $5,000,000. The estimated total derived from grass is probably too large, for the reason that the hay crop, the value of which is given as one of the items, must have been used to some extent in swelling the other values. Still it is doubtless safe to say, allowing more than half the value of the hay to go to this account, that in round numbers the value of the productions depending upon the grass yield for 1874 was $1,000,000,000.

THE GARDEN AND ORCHARD.

Work to be Done in October.

VEGETABLE GARDEN.

Place *Lettuce Plants* which are to be headed for winter in hot-bed frames, and cover them at night.

Set *Cabbages* for early spring in cold frames, but do not cover them until cold weather.

Shelter *Cauliflowers* which show their blossoms from rain and frost by leaves broken down over their heads.

Cabbages need their last attention from the hoe.

Earth up *Celery*, but not when wet or damp with dew.

Cut *Parsley* well back—to force a new growth—and transplant enough for winter use into frames.

As frosty nights approach, cover *Tomatoes*—enough for daily use—with cloth or straw. If the frost comes sharp enough to kill the vines, gather all of sufficient size and lay them in a warm, sunny place, covering at night. They may be kept thus for weeks after the vines are gone.

Melons require the same treatment as tomatoes. *Watermelons* may be kept till Christmas.

Dig *Root crops*, throw in heaps, and cover with a few inches of earth to keep out slight frosts. When the crop is removed, dig the ground over and leave it rough and unraked, that the frosts may mellow it, as well as kill the eggs of insects and the seeds of weeds.

Make *Mushroom* beds in cellar of barn or house.

Rhubarb and *Asparagus* beds are benefited by covering four to six inches deep with rough manure or other litter.

FRUIT GARDEN.

Transplant *Currants* and *Gooseberries*, and prune the old wood. Rust and milldew, so common on the fruit of the latter, is often avoided by removing old wood, and letting light and air into the middle of the bush. Cuttings succeed much better when planted in the fall. All but one bud should be buried, and the soil pressed firmly against the lower ends.

If *Raspberries* were not pruned last month, see to them now. Last year's wood is now worthless, either for growth or fruit.

Prune *Thimbleberries* and *Blackberries*, and plant new vines.

FLOWER GARDEN.

Spring-flowering bulbs, such as *Hyacinths*, *Tulips*, *Crocus*, *Iris*, *Narcissus*, *Jonquils*, *Scilla*, *Snow-drops*, and all varieties of *Hardy Lilies* may be planted this month.

Peonies may be set out—September is the better time.

The seed of hardy annuals, such as *Larkspur*, *Gilia*, *Eschscholtzia*, *Candytuft*, *Alyssum* and *Mignonette*, are to be planted now if you wish early summer flowers.

Gladioli, *Tigridia* and *Amaryllis Formossissima* should be taken up on any fine day before frost. Dry them in the sun, and store for the winter in a place free from frost and damp.

As soon as frost touches the tops of *Dahlias*, *Caladiums*, *Cannas* or *Erythrinas*, take them up, dry in the sun, and put in a dry cellar.

If *Tuberoses* are in bloom, pot the best of them and bring into the house to finish flowering. The bulbs should be dried in the sun like Gladioli, but need keeping in a warmer place.

This is the best period in autumn for planting *Evergreens* and *Hardy shrubs*. During this or next month, according to the season, protect all plants that are in the ground, if not completely hardy. This should be put off as late as possible. The coverings may be of straw, Russia mats, canvas, boxes or barrels. The two last must be perforated for ventilation, or the plants will become musty and decay.

Tender roses—of the *China Tea* and *Bourbon* class—should be lifted from the open ground and potted for blooming in the late winter or early spring.

Zonale Pelargoniums, *Lemon Verbenas* and similar plants, desirable to be saved, should be taken up as early as possible, potted and moderately pruned back.

Grading, *making new borders*, *lawns* and walks may be done in the fine weather of this month.

CONSERVATORY AND HOUSE PLANTS.

Hyacinths, *Tulips*, *Crocus*, *Narcissus*, etc., intended for early winter-blooming must be potted.

Amaryllis and *Cape Bulbs* that are are now starting to grow should be re-potted.

Bring in all *House Plants* before the frost injures them; set in a room without a fire, and give abundance of air every mild day.

Callas may now be divided and re-potted.

Put in cuttings of *Fuchsias*, *Heliotropes*, *Verbenas* and *Carnations*.

Daphnes, *Camellias*, *Chinese Primroses*, and any other greenhouse plants that require larger pots, should be shifted, but only if the old pots are full of roots.

Over-potting—putting plants into pots too large for them—is a common error of novices in floriculture, and is very injurious to the plants. Plants that are kept in the house should have plenty of light and air, and their leaves kept clean and free from dust by frequently syringing, watering overhead or sponging.

Winter Protection of Roses.

A plant well wintered is worth so much more than one taken in and newly planted in the spring that it is very desirable to protect roses without removal, when possible. This can be easily done in most locations by either of the methods given below. A rose may be winter-killed quite to the ground, but if cut off early in the spring down to the live wood, it will fisually push up new shoots, and bloom as well as ever.

In winter protection, there are three rules that should not be forgotten. First, *Do not give too much protection!* This is worse than not enough. Second, *Defer covering for winter as late as possible;* woderate freezing is not injurious. Third, *Uncover at the proper time in the spring.* Just when this is, must depend on the locality, the weather and the season. It should, of course, not be done until the frost has entirely left the ground and the growing season is at hand. If the plants have had but slight protection, such as evergreen boughs or straw, a few days earlier or later will not make much difference; but if covered with earth they are in a condition to be more easily injured by sudden changes in the temperature, or dry winds, and should not be uncovered until there is a prospect of reasonably settled weather. Even then it is well to cut off at least one half the last season's growth, to guard against too rapid evaportion.

To cover with straw or evergreen boughs, (if the roses are set singly) drive a stake firmly by the side of the plant, and tie it nicely to the stake; then take straw or boughs of a suitable size, stand them neatly and closely around, and bind firmly together. If a number of the plants are together in a bed, give a covering of straw or leaves, that will be four to six inches thick when settled; then put boughs thickly and neatly over the whole. Boughs will answer very well alone, or leaves alone, if means are taken to keep them from flowering off. To protect with earth, bend the plant down to the ground and cover with fine soil, six inches or a foot deep; or cover the whole bed six inches deep with earth. Covering with earth is only recommended for regions of severe and protracted cold, where nothing else will save the plants.

Another plan—and a very good one—is to take an old box or barrel, knock out the top and bottom, turn it over the plant and fill loosely with leaves, or clean straw, or small boughs. When the covering is moved in the spring and the plants pruned, the beds should be nicely dug over and dressed. The Dingee & Conard Company, who are perhaps the largest rose growers in the country, is our authority for these remarks.

Hyacinths in Winter.

Why is it that, as a general thing, persons are so unsuccessful in blooming bulbs in the winter? In nine cases out of ten the bulbs certainly do not give the satisfaction they should. We think the mistake is that they are forced into growth too suddenly.

A lady buys, say, half a dozen choice bulbs. She does not care particularly to have a succession of bloom. If they flower moderately well, she will be perfectly satisfied. They are planted according to directions, and set away in the dark for six weeks. At the end of that time you may find them in the sun at the sitting-room window. In a day or two the points of green leaves seen near the surface will open with a little compact bunch of color in the centre—and there it will stay till it withers. Perhaps out of the six bulbs three will throw up spikes of bloom. These will probably prove of the white or lavender varieties, which seem to be of freer habit than others.

Last winter we succeeded in growing as fine blooms of hyacinths as we have ever seen, and with very little trouble. Late in December, after our fall stock of bulbs was disposed of, we found a dozen or more hyacinths of various colors which had been overlooked. To keep them from spoiling they were hastily planted in four or five large pots, and these set away in an out-building, where they would be free from frost and have very little light. There they were left for three months, and nothing done except to water them occasionally. Expecting little or nothing from them, they were not noticed till leaf and flower stalk were both perfectly developed. The light had not been sufficient to color the flowers, and these were all of a dirty pale green. The pots were now brought to the sitting-room and placed in the full sunshine, and in a few hours each spike had assumed its natural tint. The effect was very beautiful. Not a bulb had failed—red, purple, yellow, blush and white were all large and perfect.—*American Garden.*

Root-Pits for Winter Vegetables.

Choose a warm protected corner in a well-drained field. One of the first requisites of a pit is perfect drainage. Water would make it foul and disagreeable, and cause the roots to decay. Therefore do not attempt making a pit unless you are perfectly sure that water will never enter it. Make a furrow about three feet deep by running your ditch plow several times in the same line, north and south. Lay the roots in the furrow in a neatly built triangular stack. Throw back the earth over the roots to the depth of a foot or more, rounding the top so as to throw off water; and cover the whole with straw. At intervals

of four feet set a small bundle of straw, on its butts, on the turnips; so that the straw will reach into the air through the earth and serve for ventilation, to prevent the roots heating and growing. Open the southern end, in a bright, warmish day, when you wish a supply.

All tubers, such as beets, carrots, horse-radish, parsnips and turnips, may be easily and cheaply kept in this way. Potatoes do best in a cellar. If the root crops are large, and intended for market, the pit should be dug from three to four feet deep and about six feet wide. The roots are then packed in sections of two feet wide across the pit. Between the sections a space of six inches is left, and this is filled with soil level to the top. The advantage of this arrangement is that four or five barrels of roots can be taken without disturbing the next section, which is protected by the six inches of soil.

Sowing Flower Seeds in Autumn.

Concerning this subject, J. Vick, florist, Rochester, N. Y., says: There are some seeds that will do much better if sown in the autumn than with spring sowing. They require a moist, cool soil for germination. If sown in the spring, the warm dry weather sets in before they have acquired much strength, and they suffer in consequence. The *Nemophilas* and *Clarkias* are examples. They grow naturally in cool, shady vales, or in mountain regions, and, if sown in autumn, the plant will start early in the spring, so that in May, or early in June, they will be in perfection and charming. If sown in the spring they are apt to perish or suffer with the drought and heat before they reach perfection. There are several hardy annuals that do well when sown in the spring, but will bear autumn sowing, and reward us with early spring flowers in consequence of this treatment. We have now a bed of phlox drummondii that wintered safely. The seed was sown late in the autumn, and the bed covered with manure after sowing, which was allowed to remain until quite late in the spring. Sweet alyssum and white candytuft will give an abundance of white for early cutting, if sown in the autumn. In a sandy soil the portulaca may be sown in the autumn with good success. Seeds of biennials and perennials, if sown early enough to produce strong little plants before frost, will flower the next summer.

Pansies and Chinese pinks, though they bloom the first summer if the seed be sown in the spring, will make much stronger plants and flower more freely and earlier if young plants are grown in the autumn. The pansy sometimes suffers in the winter, but if the young plants are put in a frame and covered with a few loose boards, or a little matting, being always sure to give air, they will pass the winter in safety.

How to Gather Cider Apples.

Get twenty-four yards of the best drilling, as it is the cheapest in the long run. Cut into eight equal pieces; these will each be nine feet long. Cut each piece obliquely from end to end, starting four inches from one corner and coming out the same distance from the opposite corner at the other end. You will now have sixteen pieces, each thirty-two inches wide at one and four inches wide at the other end. Put the wide ends together, sew the strips together, hem the edges around the small hole in the centre, bind the outer edge well, and fasten small stout cords at each of the sixteen corners. It is now ready for use. With these small cords tie it to the lower branches of an apple tree, wherever it is convenient. The tension you give in tying will determine the sag in the centre so that you can accommodate it to the height of the lower branches from the ground. Drive the wagon under it, and shake all the branches immediately over the canvas. As the apples roll into the wagon a boy can easily pick out stems and leaves. When one side of the tree is finished, the canvass is moved to another. In this way the apples are all in the wagon when the shaking is done, except a few that drop outside of the canvas. If preferred, the apples can be delivered in a basket, and then emptied into the wagon. Such a device saves half the labor of gathering apples, and if well made of good material will last for years.—*Ohio Farmer.*

Making Lawns in Autumn.

It is an excellent practice to prepare the ground thoroughly and sow the seed in September, a few days prior to the autumnal equinox. Then the seed will germinate readily, and the grass will get a strong foothold in the seed bed. If lawns are prepared and seed sown in this month, by the first of June the following spring the grass will need mowing, and by the middle of June the lawn will be perfect. If the lawn is prepared in the spring, the work should be done very early, for it is of the utmost importance to give grass seed the benefit of autumn and spring rains. Many persons neglect to make lawns until late in the spring, and then resort to sodding, while, if they would have sown seed in the autumn, or even early in the spring, they would have secured a better lawn almost or quite as early and at less than quarter the expense. As a lawn will last a lifetime, if properly made, let the work be done thoroughly. The ground must be well pulverized to a good depth, and care must be had in leveling, so that the surface will be entirely even and remain so. Sometimes, when the surface is raised by using heavy material in one place and light in another, in a year or two it is much disfigured by unequal settling. When the surface of lawns is uneven, let the depression be filled with mellow soil of any sort or with sandy loam. If done now, the grass will come up through it.

Early Peaches from Mr. Engle.

Mr. Mahan, in the *Gardener's Monthly*, acknowledges the receipt, on the 17th of July, from Henry M. Engle, of Marietta, "Engle's Downing Peach," which, he says, "for a peach ripened in the open air in Pennsylvania, we believe to be as early as any—to say the least, and we doubt very much whether if tried fairly, side by side—not by the usual plan for 'allowing for latitude,' and then 'calculating difference,' by which so many things are reckoned up to be 'twenty days earlier' than something else—this would not beat the Beatrice, Amsden, or any of the candidates for the early prize. Like all early peaches, this one of Mr. Engle's is not large—it is about equal to a large black walnut in this respect—and, again, like all these extra early peaches, the eating qualities are not the very best of which a peach is capable. It is, however, superior to any of the early ones in being remarkably juicy, and this in the early and hot season of the year will be an advantage; on the other hand it is a cling stone, and will not cut up well. On the whole, we regard it as a valuable addition." A few days after the Downing, he received from Mr. Engle another excellent early peach—the *Wilder*, and says, "We do not know whether the Hale is 'playing possum' or what is the matter with it—but there seems to be no doubt that there are several good kinds considerably ahead of it this year."

Floral Novelties.

The *Horticulturist* gives an account of two novelties among flowers which it is almost tempted to treat as fables until their veracity is established by personal verification. The following is the description of them: "One is a *black lily* in Santa Clara, California, with three large blossoms, each nine inches long, and perfectly black outside of the green petals. The other is to be seen at Constantinople, and is described by an eye witness as belonging to the narcissus genus of bulbs. The flower represents a perfect hummingbird. The breast, of a perfect emerald green, is a complete copy of this bird, and the throat, head, beak and eyes are a perfect imitation. The hinder part of the body and the two outstretched wings are of a bright rose color—one might almost say flesh-colored. These wondrous bulbs should have been sent to the Vienna Exhibition. They will be in abundance by the time of our Centennial celebration in 1876. And yet they can hardly be greater curiosities than the strange and mysterious '*Sancta Spiritu*' flower from South America, with its life-like representation of doves."

THE POULTRY YARD.

Poultry and Eggs for the Centennial.

A visit to the Centennial buildings and grounds a few days since, while it delighted us vastly with the fine appearance of the structures and the very beautiful and appropriate nature of the location, also impressed us with the vastness of the concourse that will, without doubt, assemble there during the exhibition.

In a conversation with one of the gentlemen connected with the Centennial Commission, we were informed that the estimated number of visitors will not be less than nine millions. Of course, this number of people will not be present in any one day, but upon this number they base their calculations for the continuance of the exhibition, and during this period the temporary increase of population of the city will not average less than one hundred thousand daily, who must be fed and otherwise cared for from sources beyond the usual place of supply. Thousands who live in the near-by towns will be here for one or more meals each day, breakfasting and lodging at home, thus contributing to the demand for edibles. Now it occurs to us that, in this condition of affairs, there exists an opportunity for some of our many experienced fanciers, possessed of the necessary energy, with a few hundred dollars ready money, to secure a very handsome sum in connection with our favorite pursuit. The demand for poultry and eggs during the spring and summer of 1876 will be enormous and continual, as they enter largely into both the necessities and luxuries of life; and while the increased supplies demanded by the exigencies of the occasion, of almost every description, have been discussed and provided for, the supply of chickens and eggs will remain mainly dependent upon the ordinary channels, and we opine that they will be found entirely inadequate. To rent, near the city, a few acres of suitable land, and erect the necessary buildings thereon to properly house a few hundred fowls, would not run largely into money, even were the houses, or a portion of them, so arranged as to permit the bringing out of broods as early as January, (by heating the premises in some economical way) and we have no doubt of the great profit that would result therefrom. While standard fowls need not be purchased for this purpose, yet it would be wisdom to select the variety best adapted to attain the end sought, viz., eggs and fowls that early acquire size for table use, not forgetting that the chief demand for both will be during the months of June, July, August and September. During the last three of these months eggs are rarely plenty, and bring good prices at ordinary times; and we may reasonably anticipate they will command better when the consumption is so materially increased.

And although we fail as yet to hear what progress has been made by our Centennial Committee, still so good is the opportunity for a grand exhibition of poultry, that we feel assured that our fanciers will yet rally their forces and come forward with some of the really fine stock that we know is in the country, and thus afford a chance for a large additional profit in the sale of pure bred fowls; and this is another reason for adhering to purity of breed in an undertaking of the nature suggested. The money is in it, gentlemen, and we await the coming man whose energy and experience shall guide the dollars into his own possession—his by right of foresight and decision—enjoyably his, being won in the practice of the fancy we all enjoy. Now is the accepted time, and while these very days ought to bear their proportionate burden of preparation, yet there is time enough to secure the stock needed for the hatch of '75, time enough to erect the buildings and get everything *en train* for winter, and room enough, too, for all who dare to win.—*Fanciers' Journal.*

Breeding Poultry for Profit.

[Concluded from the August FARMER.]

Variety is so essential to the highest welfare of fowls, that it must be constantly studied by the successful breeder. It is to be regarded in feeding grain, meat and vegetables; and besides these, a constant supply of bone meal and broken oyster shells is necessary, with pure water, of course.

We are often asked in regard to the best breed for certain purposes. For eggs, we should say Leghorns, Brown or White; also, Hamburgs and Spanish, in warm climates. For all purposes, Plymouth Rocks Asiatics, Dominiques and Games. For eggs and meat, Houdans, Brahmas, Creves and Dorkings, in the order named. For meat and eggs, in confined quarters-Asiatics.

There is profit in eggs, but not at ten to fifteen cents a dozen. When eggs come down to that it is time to put them down (in a pickle,) and hold for better prices. The best time to market eggs is from November to February or March. The best time to market old fowls is in October, or in the spring; the greatest scarcity is in May and June. Where fowls are bred for market, early chicks, or broilers, pay the best. They must be hatched in the spring—the earlier the better—and, if well fed, are marketable at six to eight weeks old. At this age they sell for $1.50 a pair, in the principal eastern cities, till about July, when the supply is larger. With a light scald they are easily plucked, and by packing in ice can be shipped hundreds of miles in warm weather. There is no reason why this is not a profitable branch for the enterprising breeder who wishes to try poultry on a large scale, where a good market is not too remote.

To bring hundreds and even thousands of chicks to the required age, plain, cheap structures could be used; extensive grounds, with large range, are not necessary. A little ingenuity would devise arrangements, etc. For the best thrift of the growing broods, we would advise the class of buildings heretofore mentioned for cheapness and utility; for the comfort of early broods, they can be cheaply warmed by the "Non-Freezing Fountain," without danger of fire. If the buildings are movable, fresh runs are easily secured, and health more certain. The best incubators, to our notion, are Cochins and Brahmas; these can be had to set almost any time when wanted, and being large, are warm as settters and mothers. For "broilers," a vigorous, rapid-growing chick is best, for which a pure Leghorn and Brahma or Cochin cross would be good. Of the pure breeds, Plymouth Rocks would "fill the bill," per-haps the best of any.

Where breeding for profit, or on a large scale, is connected with gardening, or a farm, the manure would be found highly valuable, and could be utilized as quite an item toward defraying expenses.

Finally, to any one contemplating breeding on any scale, for profit, we would say, "Count the cost," and "go slow" at first.—*The Poultry Nation.*

Chicks in the Garden.

We love to see them there, or about the lawn, or around the door; ever busy, ranging hither and thither, dotting the greensward with their bright-colored, soft-feathered round bodies; seizing the grasshoppers, chasing the winged moths and butterflies, swallowing the currant worms, hunting the beetle-bugs, and doing no harm during the first two or three months of their existence, to anything useful

or ornamental in vegetation. So says the *Fanciers' Journal*, and we find the following in an exchange on this subject:

"The advisability of keeping fowls to run in a garden is a question that has puzzled me much, and is still undecided in a 'ruralist's' household. A dozen times has the domestic council decided that every 'fowl's' head should come off and as many times has the decree been revoked, and as I write this a brave old Brahma struts the door crowing defiance in my ears.

"During the winter we think fresh eggs and an occasional fricassee are not to be despised, and broi'ers in July and August are always acceptable; but when we see the seeds of our vegetables being scratched up, or the small fruits disappearing, and the ripening tomatoes hacked into by the voracious feathered bipeds, there comes a temporary change in our ideas of their usefulness. At such times one has need of a large amount of 'natural philosophy,' else desperate measures might be resorted to in saving one good thing by destroying another.

"At this moment two broods of young chickens, accompanied by their maternal parents, are running about the lawn and garden, every hour or two coming up to the kitchen door for a few crumbs in the way of relish with the many insects they have been devouring. It is these frequent visits and the confidence with which they ask for what is wanted, as well as their beauty and cunning ways, that blasts all of our resolves to have no more fowls on the place. There is something about a chicken for the first month or two of its life which is peculiarly attractive, and the pleasure derived from seeing them running about repays for all the damage they may do afterwards.

"I am always ready to dispose of the hens until the spring broods of chickens begin to appear; then my heart fails me, and I begin to count how much good they may do in killing noxious insects, and I even keep an eye on their movements as they scratch off the heads of the young asparagus beetles, or tear up a hill of melons or cucumbers in searching for cut-worms. There are no currant worms on my plantation, although these insects are abundant in my neighbors' gardens, and have been for several years; in fact, I have a bountiful supply of all the various fruits and vegetables thriving in this climate, although two or three dozen fowls roam at large and eat what they please in my garden. There go those little round balls of the softest down as fast as their little legs can carry them for a few more crumbs, and I'll wager something that they will not be disappointed. Well, chickens are chickens every time, no matter whether Brahmas or Bantams; besides this, we have 'chicken-hearted' people who like to have such pets about, even if the profits cannot always be found in dollars and cents."

Those who Breed Bantams as a Specialty

Have found that the smaller the size of this tiny and beautiful class of poultry, the more desirable they have become, in late years, as well as the more salable—other qualities being equal.

The Black Bantam, or the Gold or Silver-laced Sebrights, and the varieties of modern Game Bantams, are all bred now-a-days for pets; and their diminutiveness—other qualifications of fine plumage, form and carriage being retained—is quite a desideratum.

It may not be new to some fanciers, but we make the suggestion (after known successful trials,) that the early fall of the year is the best time to hatch this class of birds. They are generally a tender chick to rear, but with average good care these little birds will mature well after hatching in August or September. The cooler weather *retards their growth*, and they are thus kept below attaining the stout proportions of their race, that are hatched at an earlier period in the season.

Bantam fanciers who aim to breed the *smallest* specimens of their respective varieties, who hatch their chickens about this time, or up to a month later in the year, will find their birds next spring, on the average, one-fifth less in weight, and, with proper attention, quite as healthy, as well-formed, and as perfect in general development and feathering, as their earlier-hatched brothers and sisters of the same species. The fact is worth understanding by those who covet the lesser-*sized* Bantam fowls.

To Beginners.

To those who intend to go into the poultry raising business we would say a few words. The autumn is a first-class time to begin. Do not strike out too largely at first; commence with only one or two breeds; we would not advise more than one. Buy good stock of the particular stock you intend to try, from some well-known breeder who will sell you what he represents, and almost directly you will begin to get returns for your investment, for the pullets will lay through the winter, when eggs realize their best value; then early in spring (this depends, however, on the sort you have) look after getting from your neighbors a few old hens, to use for setting purposes. After having mated your birds carefully, which should be done quite early, save all eggs, and then commence breeding operations. Keep an account of all receipts and expenditures, and give the readers of the *Gazette* your first year's experience. We have only just said a few words now to those who intend to go in for poultry raising. Our future numbers will contain each month the necessary instructions, which will enable all amateurs to steer their course safely, and to make the result of their venture profitable to themselves and encouraging to others.—*Phila. Fanciers' Gazette.*

Poultry Raising in Cities.

There are numerous persons residing in cities who desire to keep poultry, but think they cannot do so in confined quarters. No doubt a great many sigh for the advantages the country offers; still it is not impossible to raise poultry successfully in cities, even in confined quarters. Some of the yards attached to city residences are beautifully adapted for poultry raising, but even in the smaller yards it is practicable. The chief things to remember are, first, no overcrowding; secondly, keep only those breeds that can stand confinement; thirdly, secure to them the advantages of the country in the way of fresh, green food, such as lettuce, cabbages, squashes, etc. Cochins, Brahmas and Spanish are as good as any, and will stand confinement very well. Many of the renowned birds in the show room have been reared and matured in cities.

Fight Vermin.

A very important duty of the poultry breeder is to see that his chickens are free from vermin. Sprinkle sulphur continually over the chickens, roosts and houses, the latter two occasionally washed with kerosene. If you find the slightest symptoms of the presence of vermin, get rid of them immediately. Sometimes careless breeders will lose whole settings of eggs, simply by not occasionally sprinkling the hen and nests with sulphur, or other good insect powder, that the poor hens, unable to stand the dreadful pests, have forsaken their nests. A careful breeder will never allow the subject of lice among his poultry to trouble him, but will see that he "has none of it."

NOW IS THE TIME to commence poultry operations; there are probabilities of a great demand the coming year for eggs and chickens. We predict a good result for those who begin in earnest.

BEES AND BEE CULTURE.

How Bees Know their Homes.

Bees are not attracted to their homes by instinct, as by a magnet, but are governed by their senses in making the locality. In early spring a large percentage of the bees that fly out are young ones that have never been out; and the older ones that have been confined to their hive one-half or sometimes all winter, seem to have to some extent forgotten their situation; consequently, when they fly out in the spring they do not leave the hive in a straight line, but only go a few inches, then turn their heads towards the hive and oscillate back and forth in front of it; then moving further back, still hovering in front of the hive, with their heads towards the entrance, occasionally advancing towards it, as if to note more particularly the place of entrance and its immediate surroundings, they then increase the distance, taking a survey of buildings, trees, fences, or any other noticeable objects near by, after which they start in a direct line from the hive.

On returning, they come directly to the hive and enter; the surrounding objects and the color of the hive seem to be noted by the bees. After the bees have become familiar with their course in the spring, should the hive be moved ten or twenty feet, the bees in flying out will not note the place; but if they are in a clear, open space, they will generally find the hive.

But should other objects intervene, or hives be setting close by, a large number would miss their way and be lost, even if the hive should be moved only three or four feet from the old stand. They would either wander about until they would die or attempt to enter other hives, and very many of them be killed. If I wish to move them a few rods after the bees have formed their course, I do so gradually, not exceeding the breadth of the hive each day, until I get them away from other hives; then move them three or four feet each day, and continuing in this way until I get them in a permanent place. Before moving, if a hive is closed and shock raped, or smoke blown into the entrance, it alarms and surprises them, and they are much more apt to note the change when they come out. In moving half a mile or more the result is different; they note the new locality, and all return to it.

Queen bees are even more sharp in locating the hive than the workers or males; yet they make use of the same means in marking their locality. On more than one occasion we have accidentally allowed valuable queens, which we had received from a distance and had not yet introduced, to take wing and fly away; but they always returned within five minutes from the very spot from which they took their flight. In order to secure this result it is necessary that all the surroundings should remain unmoved until the queen bee's return; even the aparian occupy some position, with hat on or off, as when the queen took her flight. —*Seth Hoagland, in Practical Farmer.*

September Management of Bees.

Bee-keepers in our latitude do not calculate on their bees securing much honey or pollen during this month. But we have had large quantities of surplus honey gathered this month from late buckwheat, golden rod and other wild flowers, which bloom in low, wild lands during the forepart of this month; and when "Jack Frost" does not show himself, both honey and pollen have been gathered largely up to the first of October. The honey harvest as a general thing terminates this month.

As soon as the honey season is over, plundering and robbing commences. Great care must be taken to guard against it by closing the entrance of the hives of all weak or small swarms; and it often does not come amiss to contract the entrance of the strong also, for we have seen some strong swarms robbed. Bees are like mankind in this respect; some will defend their stores fiercely, while others will make no resistance. If a colony retains its drones long after those of other stocks are destroyed, it will almost invariably be found queenless, and should be supplied with brood from which to rear a queen. Look often to your colonies, and if any weak ones are found feed them up, and they can be made as strong as any by spring; but will be worth comparatively nothing if left to themselves.—*Practical Farmer.*

Bee-Keeping for Farmers.

Some have adopted bee-keeping as the business of life; and these have mostly attained a flattering success. Others engage in it as a pastime and amusement chiefly.

Agriculture has made great advances of late years. The intelligent bee-keeper no longer consigns his favorites to a hollow log, or rude box, nor what is even worse, to any of those absurd contrivances which have proved the ruin of thousands of happy colonies of bees, and provoked the disgust of their unfortunate owners. But providing himself with some form of movable comb hive, well constructed, and having a sufficiently capacious brood chamber (or main apartment) and suitable arrangement for surplus honey, he enters upon the pursuit with fair prospect of success. Those who have once learned how to keep bees, will not soon abandon the pursuit.—*Western Agriculturist.*

Honey Product of California.

The Los Angeles (California) *Express* says: "It is stated that the honey product of San Diego county this year will be fully six hundred tons. One million two hundred thousand pounds of honey is prodigious for an industry only about three years old. Los Angeles county, also, is making tremendous advances in honey culture, and in a few years the two counties will supply the world. The honey of Southern California is without a rival in quality and flavor in market. It is only during the last twenty years the bees have been known in California, and to-day the business of the apiarist promises to be one of the most important in the southern portion of our State.

"From the same county San Francisco has received since December last over 5,000,000 oranges and 6,000,000 lemons, while the industry is rapidly extending to the other parts of the State."

Handling Bees.

If you wish to handle bees without injury, go about it carefully, without jarring them in any way; do not let the putrid breath from your lungs go among them. By the use of a little smoke at the start, it is wonderful to see what control the apiarian will have over them when properly managed. Bees when gorged with honey are very peaceable. When often handled they become accustomed to the practice, and when done gently will scarcely notice the action. If roughly handled, without due respect to them, you will be obliged to notice the difference with pain and regret, and beat a hasty retreat. By a careful study of their habits and instinct, the practical apiarian can handle his bees with no more fear of harm than the farmer has from the heels of his favorite horse or the milkmaid from her favorite cow.

Movable Comb Frames.

With the movable comb frames all hives of colonies can be kept strong, both with honey and brood. An equalization should be made, both in the spring and fall. When made in the spring, it places the bees nearly on a footing with each other, which is a decided benefit; yet the difference in the prolificy of the queens and condition of the combs, etc., has so much to do with their prosperity that it is impossible to keep them near equality without frequent changes during the summer. Equalizing them in the fall prepares them to enter the long, hard, cold winters alike.

DOMESTIC ECONOMY.

Hints on Making Pickles.

Care should be taken to procure unadulterated vinegar. It is very unsatisfactory to make pickles unless you are sure your vinegar is perfectly pure. It is better to go some distance from home to procure reliable vinegar than to use that which is not warranted free from foreign acid. The quantity of salt water used in scalding the vegetables will indicate the quantity of vinegar required. About a pound and a half of salt to a gallon of water is the usual allowance for this operation. All vegetables, except onions, make better pickles, if young and tender. I know a lady who pickled a peck of yellow butter beans, full-grown, and bought at the grocery at a fancy price. They were highly and expensively spiced, but when brought to the table were so tough and stringy that it was found impossible to eat them. Beans are not fit to pickle after the seed has commenced to absorb the juices of the pod. The smaller and greener bean-pods are, the nicer the pickle. When the conditions are right, they make as delicious a pickle as can be made.

Very early and green melons make a fine pickle. If they will not snap off, rind and all, without effort, they are unfit for use.

Most housekeepers differ in their making pickles; but if good vinegar is used, the spices the same, and the vegetables tender, the results will be nearly the same. It is only a question of time. What I mean is this: In the long run it does not matter so much what the salting process has been, whether they have been in salt three days, twenty-four hours, or only a few minutes. Very excellent pickles can be made without putting the vegetable in salt at all, but it will take a longer time for the vinegar to penetrate it. The object of putting vegetables designed for present vinegar-pickling in salt and water, is to extract or reduce the natural juices of the fruit in order to make room for the vinegar to enter readily. A very little alum dissolved in the vinegar restores the crispness lost through the action of the salt. All young, tender and green vegetables are adapted to acid pickling, to which sugar would be inappropriate; but ripe vegetables, which have lost their snap, such as yellow cucumbers, are better when the acid used receives a due proportion of sugar. Pickled fruits are better when the sugar predominates over the acid of the vinegar. Cloves, cinnamon and cassia-buds are, in my opinion, only adapted to those pickles in which sugar is used. Mace, mustard-seed, capsicums or red peppers, green peppers, garlic, black peppercorns, ginger-root, and bay-leaves are best adapted to a purely acid pickle.

India Pickle.—After peeling and slicing a root of horseradish, chop it fine; also, a half dozen medium-sized onions, three or four green peppers, removing the seeds, and a cabbage. Pour over the whole, after mixing, a weak brine, and allow it to stand over night. Spice some vinegar with allspice and mace, adding cloves and cinnamon, if you like. Heat the vinegar and spice to boiling, with a small quantity of alum, and turn it over the pickle. It will be fit to eat in three weeks.

Young Beans.—Gather them when quite small and tender. Pour over them a brine made in the proportion of an ounce of salt to a quart of water. It should be scalded. Let them stand over night. Drain off the brine, and pour over hot spiced vinegar, with a trifle of alum.

Nasturtiums.—Let them stand in salt and water a few days, when they should be well drained, and scalding hot vinegar poured over them. No spice. Put into a narrow-mouthed bottle and cork well.

Peppers, Green.—Take out the seeds. Soak them for a few days in salt and water. Then pour over them hot vinegar. They are good when opened carefully on the side, stuffed with cabbage, and then put into vinegar.

Mangoes are made of young and tender melons gathered late in the season. Cut out a small slice, remove the seedy portion. Stuff with small cucumber, radish-pods, nasturtiums, young cauliflower, or anything you like, using mustard seed as a spice; about a teaspoonful put inside of each melon; replace the piece and tie it on. The melons and stuffing ingredients should be soaked in brine for two days before fixing them for the vinegar. Pour the vinegar over them scalding hot, with a piece of alum as large as a hickory nut to a gallon.

Peaches, scalded in salt and water, thoroughly wiped, and hot spiced vinegar poured over them, make a good pickle.

Purple, or Red Cabbage.—Take off all the tough outside leaves, slice them thinly and evenly, put them in layers, and sprinkle salt freely over each layer, and let them remain twenty-four hours. Drain the cabbage well. Boil up some vinegar and add alum, and spice to your taste, and pour hot over it. Repeat this process for three or four days.

Gherkins.—Scald in salt and water. Drain and pour hot spiced vinegar over them.

Cucumbers.—There are many different methods for putting up this fine pickle; almost all are good. From two to four inches long, and as thick as the finger, is the best size. The quicker grown the better. One way is to give them a good scald-up in brine, wipe, and pour over spiced hot vinegar. Another is to soak them in hot salt and water twenty-four hours, and then pickle them. You may put them in salt and water as you pick them, and finish them when they are all collected from the vines. Scalding several times will make them green and brittle. Peppers and onions improve the flavor. Horseradish and green grapes are excellent, added to cucumbers, and, in fact, improve pickles generally.

Artichokes, Jerusalem.—Soak in salt and water for a few days, or until the skin can be removed. Rub off the skin, and pour boiling spiced vinegar over them. Let them stand in the vinegar four or five days, scald up again, and repeat this until the artichokes are thoroughly pickled.

Onions.—The best time to pickle onions is in October. Small button onions are the best. Cut off the end smoothly with a sharp knife. Pour a strong, hot lye over them. Let them stand until the skin is loose. Pour off the lye, and wash them in clear water before putting in the hands. The skin may now be readily removed. When skinned, pour over them a good brine, and let them stand a week, or until they are transparent. Drain and pour boiling vinegar over them. They need very little, if any spice. If not convenient to use lye, the roots and tops may be cut off smoothly, and the salt and water put over them before the skin is taken off. In that case they will not affect the eyes in the usual unpleasant manner.

Cauliflowers should be parboiled, cut into small pieces, and allowed to stand in a brine a few days. They may then be drained, and spiced vinegar poured over. They may be colored with beet-root, vinegar, or, if added to the red cabbage, they will turn of the same color as the cabbage.

Peach Mangoes.—Cut off a slice from the stalk-end large enough to allow the stone to be removed. They may then be filled with a few esculents, a little horseradish, or ebillies, adding spice. Replace the piece, and pour over scalding-hot vinegar.—*American Agriculturist.*

Getting Up a Relish.

Aunt Prudence, in the *American Grocer*, says there is one branch of cookery which is rather apt to be overlooked, and that is the preparation and supply of some one nice, semi-hearty dish for tea—some *relish*, as it is very rightly called, some dish which may be either hot or cold, but which must be either salt or sour, and which will give tone to the bread and butter and cake which are ordinary staples of the tea table. Salads come as near satisfying all tastes as it is possible to do, and are by no means as unwholesome as is generally supposed. Sweet oil, which is the only ingredient which can be called *rich*, is rather wholesome than otherwise, and a properly made salad should not disagree with any one. Cream is a very good substitute for oil in the preparation of a salad dressing, and fresh, sweet butter is even better—neither of which disagree with dyspetics, and both of which are easily procured in country places where good sweet oil is scarce and dear. There is always something left in the cupboard which will do for a salad, if it is only a dish of cold potatoes. If there is a slice or two of cold meat, or a bit of cold fish, or a plate of cold string beans, cold beets, a few leaves of lettuce, a dish of cold greens; in short, the list is so long of things which make a good salad, that it is difficult to go amiss among the usual household supplies.

We will suppose that you have only cold potatoes. In that case chop them finely and heap them in the centre of a platter. Take an even teaspoonful of ground mustard and a saltspoon of salt, and mix them to a paste with vinegar. It is best to use a fork for this, and to mix in a soup plate. Now add a yelk of one egg, being careful not to allow the white of the egg to follow; that you can reserve for your coffee the next time you brown it. Stir the yelk throughly through the mustard, and begin to add sweet oil in small portions, not more than a teaspoonful at once, but add constantly as you mix. If the dressing becomes too hard or looks stringy, add a spoonful of vinegar from time to time, but not often. It should become a light, creamy mass, and it will if it is properly stirred; and you go on adding oil and vinegar until you have the necessary quantity, when you taste to see if it is sufficiently salt or sour, and if not, add either salt or vinegar as you wish. Pour this mixture over the potatoes, smoothing it with a knife blade.

Now, if you wish to impress your family with the idea that this is something very fine, you had better make a border of crisp lettuce leaves around the salad by pushing the stems of the leaves underneath, and if you can find a stray radish in the garden, cut it in thin slices and lay them in figures over the surface. The half of on onion, minced very fine and mixed with the potatoes, is to the masculine palate a great addition to the above dish. A herring split into fibres and added will also meet with general favor. And, in short, dear housewives, this plain potato salad is the canvas, the groundwork for embroidery, the field upon which you may exercise your fancy and your genius.

If you have a slice of cold corned beef or ham, or cold lamb or mutton, chop them and add to the potatoes. If you have a cucumber, slice that and put it in the dish. If you have cold beans, use them alone with bread crumbs; and, in short, make your salad of what you please, but make it well, and when your masculines enjoy it, point out to them that it is only *one* of the *Grocer's* benefits to them.

We shall treat of this subject of tea dishes in several of our future numbers, and if any of our readers have any new or favorite dishes of this class, we hope they will give us and the community the benefit of their knowledge.

The Borgias of our Kitchens.

Oh, woman! heaven's last, best gift to the kitchen, must you and your daughters still continue to marshal families the saleratus way to dyspepsia? Can you never learn that the gridiron and the clear, glowing beds of coals, whereon St. Lawrence himself would have deemed it a luxury to be broiled, better benefit the lordly steak unmacerated with the brutal pestle, uncontaminated with factory lard, and will sooner woo it to turn to pale pink, delicate amber and tender brown (with a sensitive elevation at the corners, forming a central chalice for the reception and preservation of its own juices) than the frying pan, accursed of God and abhorred of men? Know you not that by thinly slicing potatoes—not left over from yesterday's noon-day dinner—into cold water, wiping the same dry in a towel, dusting them with pepper and salt, frying them in boiling lard, and as soon as they put on the rich golden brown hue of a Cuban belle, removing and draining them, you can compass that which, at Saratoga, has brought fame and fortune to the artistic restaurateur? Is it not in you to pour boiling water on your coffee, and set the pot over a shovelful of embers in the hearth-box, where it will just simmer and not boil? Can your finer female sense not apprehend the difference between fanning a smokeless fire with a generous slice of bread till the surface of the latter turns delicately golden, then brushing the same with fresh butter, and burning bread on the top of a dirty stove, then swabbling it in melted, rancid oleo-margarine? Alas! if experience can be relied on, we fear not. Priscilla is joined to her saleratus and frying-pan; let her alone.—*New York World.*

Canning Peaches.

People's tastes differ so widely in respect to the quality of fruit, especially after it is canned, that to state positively which are the best varieties would be pleasing a few and disappointing many others. Among white-fleshed peaches, however, one of the most attractive and highest flavored is undoubtedly Stump-the-World, and it seems to combine all the requisites for canning as well. Ward's Late is, next in our judgment; and for a cling-stone to preserve whole nothing can surpass the old Late Heath. Among yellow-fleshed varieties, (and by the way these are far richer than the others) the Crawford's Late is decidedly the best we have tested, possessing size, quality, appearance, and the lateness of the season to recommend it. Crawford's Early may come next, but it is not equal to its namesake. A good recipe for canning is as follows: Use quart cans; place the peaches in boiling water, sufficient to fill a jar at one time, and let them come to a boil; have a sirup ready, boiling hot, made of two pounds of sugar to a half pint of water; take the peaches out with a skimmer, draining them as dry as possible; when cooked slightly put them into the jars, fill the interstices with sirup, and fasten at once. There is entirely too much work generally bestowed upon the operation. The simpler it is to be effective, the better for the fruit when canned.—*N. Y. Trib.*

Cooking Rice: Becky, writing to the Germantown *Telegraph*, says: "You asked me the other day something about cooking rice so as to preserve the grains separately and at the same time to be perfectly done. I have no difficulty in doing this, and rice ought to be cooked in no other way. I wash the rice thoroughly in cold water, then put into boiling water, and allow it to boil from fifteen to twenty minutes. To ascertain when properly done, a grain rubbed between thumb and finger should disappear. Put the rice in a colander to drain, followed by a cup of cold water. After draining, return the rice to the sauce-pan, keep covered near the fire, and you will find it whole and ready for the table.

"I make a very palatable rice-dumpling after the following receipt: Pick and wash in cold water as much rice as may be needed, and boil it gently in water that must be boiling when the rice is put in, until the water is absorbed. There should be two quarts of water to a pound of rice. Keep the pot covered, but do not stir it. When done, take off and spread the rice on an inverted sieve, loosening the grains lightly with a fork so that all the moisture may evaporate. Pare and core as many solid, juicy apples—a dozen for a pound of rice—as you may desire; fill the cavity with marmalade or jam; then cover each apple over with rice, tie up in a cloth and put into a pot of cold water. After the water boils, let boil for from an hour to an hour and a quarter."

Churning Butter.

In this age of improvement no farmer who will consult his own interests will churn his butter by hand. About ten or twelve years ago I bought me a dog-power and a good churn dog, paying $10 for the dog and $16 for the machine, making $26 for both. The first season I churned a little over 3,000 pounds of butter, and my dog more than paid for himself and the dog-power. It is far cheaper for every farmer to do his churning by some other means than by hand. If the old way of churning is practiced, one generally has to milk first; by that time his breakfast is ready, and by the time he gets ready to churn the atmosphere is warm, and the butter comes soft, and will "run up hill on a shingle." My first business in the morning is to set Rover churning, and by the time we get the cows milked our butter has come in good condition, and is ready to take out. Let any farmer try one year with the dog-power, and if he goes back to the old plan I would like to know it.—P. R. Montague, *Chautauqua county, N. Y.*

Household Recipes.

Moths in Carpets: Moths will work in carpets in rooms that are kept warm in the winter as well as in the summer. A sure method of removing the pests is to pour strong alum water on the floor to the distance of half a yard around the edges before laying the carpets. Then once or twice during the season sprinkle dry salt over the carpet before sweeping. Insects do not like salt, and sufficient adheres to the carpet to prevent their alighting upon it.

Improved Sandwiches: Boil a few pounds of ham, and chop it very fine while it is yet warm—fat and lean together—rub dry mustard in proportions to suit your taste through the mass; add as much sweet butter as would go to the spreading your sandwiches, and when it is thoroughly mixed, split light biscuits in halves, and spread the ham between. These can be eaten without trouble, and will be found excellent.

Spanish Pickles: One peck green tomatoes, 1 dozen onions; slice, sprinkle with salt, and let stand over night, and strain off the juice. Allow 1 lb. sugar, ¼ lb. whole white mustard seed, 1 oz. ground black pepper, 1 oz. ginger, 1 oz. cloves, 1 oz. cinnamon; mix dry; put a layer of tomatoes and onions in a kettle, and sprinkle with spice; then tomatoes, and so on until all are used; cover with vinegar, and let boil slowly two hours, after which pack in small jars and set in the cellar. This is, of all pickles, the very best—fine as an accompaniment of a dinner, or to be eaten simply with bread and butter, and we advise every housekeeper to try it.

Delicious Rolls: Half a teacup of butter, mixed well with one pound of flour, half teacup of yeast, a little salt, and enough milk to make a good dough. Let it set in a warm place for about two hours to rise. Then make into rolls and bake in an oven.

To Remove Mildew: Soak the part of the cloth that is mildewed in two parts of chloride of lime to four parts of water for four hours, or until the mildew has entirely disappeared, then thoroughly rinse it in clean water.

Brighton Biscuit: One cup of butter, two of sugar, two eggs, half a cup of milk, one teaspoon of soda, and sufficient flour to roll out thick. Sift granulated sugar over the top before baking, to give them a sparkle.

Glossed Shirt Bosoms: Take two ounces of fine white gum arabic powder, put it in a pitcher and pour on a pint or more of water, and then, having covered it, let it stand all night. In the morning pour it carefully from the dregs into a clean bottle, cork, and keep it for use. A teaspoonful of gum water stirred in a pint of starch, made in the usual way, will give to lawns, white or printed, a look of newness, when nothing else can restore them, after they have been washed.

A convenient method of preparing outdoor labels for plants, capable of resisting weather, consists in first cutting them out of smooth card or pasteboard and writing upon them in ordinary ink whatever may be desired. When this is dry they are immersed in linseed oil, or what is better still, linseed-oil varnish, until they are completely permeated by the liquid; after which they are hung in the open air upon threads to dry; they become like iron, and resist wet for a long time, and are more durable than slips of metal.

Coffee-Making: *Scribner's Monthly* gives the following: To each person allow a good tablespoonful of coffee, and one or two extra "for the pot." Pour boiling water upon this, and boil for eight or ten minutes; then have a beaten egg in a bowl of cold water; add this, and let it boil thoroughly for a moment. Remove from the stove; add, if needed, more water, and leave for a moment to settle, before serving.

Fruit may be preserved with honey by putting the fruit first in the can, then pour honey over it, and seal air tight; when the honey is poured from the fruit it will have the flavor and appearance of jelly, making a delicious dessert.

LIVE STOCK MISCELLANY.

Rheumatism in Horses.

Inflammation of the muscles and tendons in the horse is much more common than is generally supposed, and many obscure forms of lameness may be considered to belong to this disease. Very often a horse, after a cold or wet day's work, comes out of the stable "as stiff as a poker," and scarcely able to walk, upon which his master fancies he will be laid up with severe lameness for some months; but on entering the stable next morning he is surprised to find his horse is quite right again and fit for work. The great peculiarity of these attacks of rheumatic lameness is their liability to shift and change, the horse on one day being lame in his near fore leg, and perhaps on the next refusing to put his off hind foot on the ground. But sometimes this disease is persistent in one limb, though varying in degree; and here the horse always trots lame on one leg; at other times both fore limbs may be effected, either in the shoulder or in the feet, but the difficulty is to find out the seat. If before, it is usually in the shoulder or arm, and if behind, in the muscles of the hip. Shoulder lameness, when presented, is often rheumatic, but in some cases it is the result of a strain; in either case, however, requiring the same treatment.

Lameness from rheumatism may almost always be known by the horse lifting his leg, whether hind or or fore, with difficulty; whereas in the disease of the foot or the lower part of the leg, he lifts it readily enough, but puts it down with great caution, and flinches when it is on the ground. The toe is also dragged on the ground in rheumatism, which causes actual loss of action or power; whereas this dragging is never seen in the fore foot from any other cause. In the rheumatic hip the same kind of defective action is seen, and the hind leg is not brought forward with sufficient power or freedom.

In every case the treatment consists in rubbing in a stimulating liniment, such as the following: Camphor, one ounce; oil of turpentine and spirit of wine, of each, three ounces; mix, and apply a portion night and morning; it should be rubbed in well with the hand. The horse's general health should be attended to, and his stomach set right by stomachic balls, if necessary; or a fever ball and the following, given every other night, will sometimes give relief: Nitrate of potash, one ounce; camphor, one and a half drachms; calomel and opium, of each, one scruple; linseed meal and water, enough to form a ball.—*Prairie Farmer.*

Jersey Cattle.

If the value of Jersey stock is to rest on color, deterioration will surely follow of those useful qualities that are far more noticeable in the good old-fashioned parti-colored cow, than that which will be found among the generality of fine, high-bred, whole-colored fawns, grays, or foxy, so-called Jerseys. I have owned hundreds of acclimated Jersey stock, and have never, as a rule, found the whole-colored such large producers as many parti-colored ones; in fact, by far the most butter-producing cow I have ever possessed, was not only parti-colored, but the most ugly and ungainly beast of the lot; yet her stock have never failed to show their large butter-making qualities. The true type of a Jersey cow is, in fact, an animal that will not make meat. I do not say that this is not improved upon, by acclimatization and a slight introduction of a hardier breed, of which what are termed Chichester Jerseys are the best description; neither do I say that Jersey breeders in the island itself have not in some instances a breed that shows a disposition to make some flesh, and very probably may then be following up the requirements of fashion, yet I maintain that a pure Jersey should throw the bulk of her feeding properties into butter, and with little to flesh. The parti-colored good cow may have but a white spot, especially under the belly, but throughout the body the rich, yellow skin, under any colored hair, will be found, black, white, or fawn. I have seen the commencement of a whole-colored herd, the property of a noble duke, to obtain which I have seen wealthy and large producing cows sold off to prevent an animal remaining with the slightest stain of other than one color. I have heard from good authority that usefulness has been sacrificed for fashion in this instance, which, if followed up, as it rapidly is, I have no doubt that the future rich Jersey will be beef, not butter, as it was.—*London Agricultural Gazette.*

Importation of Valuable Horses.

M. W. Dunham, of Oaklawn Farm, Wayne, Ill., writes us that he has returned from Europe, where he has been spending part of the summer, in selecting horses to replenish his stud preparatory to the fall and spring demand. He selected and imported thirty-three stallions and mares, the largest importation ever made to this country. They are of the choicest blood of France, selected from the best stud stables of the old district of *Perche*, notable as the birthplace of the famous Percheron race, with which we have attained such grand results in producing valuable horses by crossing upon our common mares.

LITERARY NOTICES.

Our table is fairly groaning under the weight of such standard journals as the *Gardener's Monthly, Germantown Telegraph, New York Semi-Weekly Tribune, Country Gentleman, American Agriculturist, National Stock Journal, Rural New Yorker, Farmers' Union, Massachusetts Ploughman, Pen and Plow, Farmer's Friend, Colman's Rural World, New England Homes, Sanitarian, Laws of Life, Progressive Farmer, Japanese Mail, London Agricultural Gazette, Home, Farm and Orchard, Saturday Evening Post, Peterson's Magazine, Prairie Farmer, American Grocer, American Cabinet-Maker, Fanciers' Journal, American Farmer, Maryland Farmer, Bee Keeper's Magazine, Ladies' Floral Cabinet, Rural Southern, Southern Cultivator, The Fancier's Gazette, Poultry Organ of Central New York, The Poultry Nation, American Garden*, besides many other shining lights, and we often regret that we are so limited in space as to be unable to transfer more of their excellent matter to our columns, for we feel that an epitome of their contents would go far towards illuminating the world on all subjects relating to the material condition of the human race, worth knowing anything about. The agricultural press of America is an honor to the nation, and ought to be amply sustained.

Premiums, Rules and Regulations of the Berks County Agricultural and Horticultural Society, for its exhibition at Reading, on Tuesday, Wednesday, Thursday and Friday, September the 14th, 15th, 16th and 17th. This is a handsome octavo pamphlet of 40 pages, and the most elaborate and liberal in its details of any list of a similar character that has ever come under our observation; and, although by the time our September number gets into the hands of our subscribers, the fair will be in "full blast," we cannot but admire the thorough going enterprise of our northern neighbor, and making a record of it. A striking and advanced feature, is its recognition of Pisciculture, and its offering a liberal premium for the "best display of fish." *Cyrus T. Fox, esq.*, is Secretary of the Society—"the right man in the right place"—and we observe that on one of the standing committees for 1875 are ten ladies; and we especially note this as an example for Lancaster county. And to show that this is not merely an empty compliment, over seventy premiums, from $1 to $5, are offered for the best pickles, preserves, jellies, canned fruits, &c.

The Maryland Farmer: A monthly magazine, devoted to agriculture, horticulture and rural economy. Published by Ezra Whitman, 145 Pratt street, Baltimore, Md., at $1.50 a year, in advance. This is a royal octavo of 58 pages in covers. It is hardly necessary for *us* to say anything commendatory of this excellent journal. Having almost attained its twelfth year, its character may be considered established. The August number on our table contains over fifty practical articles on Agriculture, Horticulture, Live Stock, the Dairy, Apiary, Ladies' Department and Miscellany, all productions of unusual ability, and the paper and typographical execution are *ne plus ultra*.

We are in receipt of a copy of the regular semi-annual extra edition of the American Grocer, a 32 page trade journal, published weekly at 141 Chambers street, New York, for $4.00 a year. The American Grocer has won a deservedly high place among commercial papers by the fullness and accuracy of its market reports and prices current, embracing all kinds of merchandise and country produce, as well as for its bold and successful advocacy of trade reforms in the interest of honesty and fair dealing among merchants. It is proving an invaluable assistant to dealers throughout the country in giving them information concerning qualities and prices of goods.

Farmers' Stock Journal: Devoted to the development of Agricultural Resources of the Great West, and advocating the breeding and improvement of the stock, whether in hands of breeder or farmers. Published monthly by Alex. Charles, Cedar Rapibs, Iowa. This is similar in size and quality to the preceeding, but covers a different ground. The quality of its paper, and its illustrations, are above the usual average. $1.00 a year in advance.

The Canada Farmer, a royal 4-to. of twenty pages, published by the Globe Printing Company, at Toronto, Canada. This is an illustrated journal of rare value, and at the low price of $1.00 a year. No district of country anywhere possesses a more able representative of its various agricultural and economical interests. "May its shadow never grow less."

The Western Farmer, same size and price as the two foregoing, edited and published by W. M. Kennedy, Dixon, Illinois. The avowed representative of "progress with prudence, practice with science," a cabalistic combination that must ultimately succeed.

The Health Reformer: A monthly journal for the household, devoted to physical, mental and moral culture; with the motto, "Nature's laws, God's laws, obey and live." A royal octavo magazine of 36 pages. Published by the Health-Reform Institute, Battle Creek, Michigan. Terms, $1.00 a year, in advance.

THE PROGRESS OF INVENTION.

Official List of Patents,

RELATING TO THE FARM, THE DAIRY, APIARY, &C.,

For the month ending September 4th, 1875.*

Rotary Harrow; W. G. Read, Colusa, Cal.
Reelprocating Churns; D. Rowland, Pittsburg, Pa.
Feed Cutters; A. C. Stewart, Walton, N. Y.
Green Corn Cutters; T. Witmer, Buffalo, N. Y.
Horse Hay Forks; T. M. Edwards, East Hampton, N. Y.
Harvesters; J. P. Manny, Rockford, Ill.
Harvesters; J. P. Manny, Rockford, Ill.
Mowing Machines; J. P. Manny, Rockford, Ill.
Revolving Horse Rakes; J. H. Randolph, Bayow Goula, La.
Sulky Harrows; D. F. Shaw, Hamilton, Mo.
Cultivators; W. Weaver, Greenwich, N. Y.
Cultivators; G. Wilkinson, Quincey, Ohio.
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Harrows; J. S. Beazell, Chillicothe, Mo.
Gang Plows; E. A. Beers, De Kalb Centre, Ill.
Horse Hay Rakes; C. M. Lufkin, Barre, Mass.
Plows; J. J. Middleditch, New York City.
Corn Shellers; C. D. Read, Ayer, Mass.
Farm Fences; A. Rosh, Tyler, Texas.
Spiral Hay Forks; A. Shellenberger, Versailles, O.
Harrows; L. Study, Plum Hollow, Iowa.
Rotary Churns; J. L. Borden, Hamilton, Ohio.
Feed Cutters; L. Evens, Fayetteville, N. Y.
Stalk Cutters; C. H. Gaylord, Oscola, Arkansas.
Grain Forks; F. Gerfen, Locust Grove, Pa.
Steam Plows; T. C. Stark, Valleys, Cal.
Reciprocating Churn Dashers; H. A. Stearns, Lincoln, Rhode Island.
Wagon Racks; J. Bolt, Warsaw, Ill.
Cider Mills; J. Bowen, Lancaster, Ohio.
Cotton, Corn and Pea Planters; D. W. Bristol, Pleasant Hill, Miss.
Apparatus for Destroying the Cutting Ant; F. A. Fenner, Mission Valley, Texas.
Devices for Destroying Bugs on Plants; R. N. Clark, Nisbet, Pa.
Cultivators; J. C. Jenkins, Lebanon, Tenn.
Plows; H. Krag, Washington, Mo.
Cultivators; E. Nauman, Uniontown, Ohio.
Handles for Harrows; S. D. Reigel, Adelphi, Ohio.
Straw Cutters; A. Schellinger, Mishawaka, Ind.
Butter Packages; C. B. Sheldon, New York City.
Fences; H. Bean, Pawling, Pa.
Corn Plows; A. Binder, Lehigh Tannery, Pa.
Grain Separators; A. B. Farquhar, York, Pa.
Harrows and Sowers; R. H. Hudgens, Lawrens C. H., S. C.
Stump Pullers; W. O. Johnson, Alma, Mich.
Fruit Driers; J. Johnson, New York.
Apparatus for Fish Culture; J. Roth, Duncannon, Pa.
Grain Decorticators; W. Seeh. Beckenheim, Prussia.
Wheel Cultivators; G. W. Schenck, Geneoa Lake, Wisconsin.
Fruit Gatherers; M. Smith, Cayutaville, N. Y.
Reciprocating Churn Dashers; I. J. Whitlatch, Lexington, Ind.
Grain Separators; A. W. Gray, Middletown, Vt.
Weeding Implements; C. Crofut, Weston, Conn.
Cheese Presses; G. C. Dolpt, West Andover, Ohio.
Milk Cans; S. F. Hawley, Cuba, N. Y.
Harrows; I. W. Hutchin, Clinton, Ill.
Grain Separators; A. W. Kendwick, Brooklyn, N. Y.
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Straw Cutters; W. R. Cowman, Danville, Ky.
Plows; I. M. Brous, Philadelphia, Pa.
Grain Meters; W. Colwell, Chillicothe, Ill.
Harvesters; A. Gordon, Syracuse, N. Y.
Machines for Compressing Grain Shocks; S. C. Minear, Chillicothe, Ohio.
Machine for Sharpening Mowing Machines; G. V. Phelps, Newark, Ohio.
Animal Clippers; T. L. Phipps, Birmingham, Eng.
Corn Harvesters; C. D. Reed, Polo, Ill.
Cultivators; A. Schroader, Walla Walla, Wash. Ter.
Baleing Hay; J. M. Seymour, Newark, N. J.
Egg Testers; W. W. Wilson, Parkville, Mo.
Portable Fences; I. L. Davidson, Worth co., Mo.
Horse Hay Forks; J. P. Freist, Chillicothe, Mo.
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Feed Racks; M. Ralph, Ursa, Ill.
Plows; W. S. Wadsworth, Miami co., Kan.
Grain Drills; W. Aldrich, Dayton, Ohio.
Churns; J. Butler, Berlin, Wis.
Corn Shellers; H. C. Creekmore, Salado, Texas.
Harrows; L. Francisco, Oakland, Wis.
Garden Trellises; I. Goodspeed, Greenville, Conn.
Corn Shellers; W. H. Hall, Tiffin, Ohio.
Sheep Shears; P. Harlowe, Hyde Park, Mass.
Grain Drill Teeth; G. L. Ives, Galesburg, Mich.
Animal Traps; E. Oliver, New York City.
Apparatus for Tempering Butter; I. C. Roriek.
Grain Separators; W. E. Torley, Milwaukee, Wis.
Automatic Gates; F. L. Firris, Alden, Ill.
Scrapers; J. McGill, Cecilton, Md.
Churns; W. Redheffer, St. Louis, Mo.

*Prepared expressly for THE LANCASTER FARMER by Louis Bagger & Co., Solicitors of Patents, Washington, D. C., from whom complete copies of the Patents and Drawings may be obtained.

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Prof. S. S. RATHVON, Editor. LANCASTER, OCTOBER 15, 1875. PEARSOL & GEIST, Publishers.

CONTENTS OF THIS NUMBER.

OUR FENCE CORNERS

A QUEER FISH: A California paper states that Mr. Thomas Mason, an express driver in San Francisco, says that while fishing off Powder House Point, recently, he caught a very strange fish, the name and nature of which were unknown to him. He was out in a boat with his son, a lad of thirteen years, and, after fishing several hours, felt a powerful tug on his line. He drew up quickly, and found a strange looking object attached to his hook. It was almost round, about the size of a frying pan, and covered with spines, giving it the appearance of a hedgehog when enraged. Its mouth was like a frog's, its eyes large and of a yellowish color, while a tail a foot long and barbed at the extremity added to the repulsiveness of its appearance. Mr. Mason, however, found that it was not only outwardly disagreeable, but, chancing to touch its tail as he drew it into the boat, received a shock that made him let go of the line in double-quick time. The fish accordingly went overboard, and was lost.

AN INTERESTING DISCOVERY.—Some workmen, while engaged in laying water pipes in Cividale, Italy, recently encountered a large flat stone. On raising this, a bed of mason work was revealed, in which was placed a stone sarcophagus covered with a marble lid. Within the receptacle were the remains of a human skeleton, some portions of which were yet perfect. Beside the body lay a sword, lance, helmet, spears, a gold clasp and ring, a piece of very beautiful gold tissue, and a flask of water, which was still remarkably clean. The removal of clay from the bottom of the grave brought out the letters CISVL—from which archæologists have decided that the remains are those of Gisulf, Duke of the Lombard Marches of Friuli, who fell in battle in 611, while repelling an invasion of the Avars.

A FELONIOUS GOAT. She testified before the magistrate that "dot pilly goats shoost was a-a-vell, I vas vashing by some clodings of a pig tub, und dem gotes coom up pehind und—vell, shoge, I don't ken tell you dot vas. I feel someding pehind my pack, und shump over der tub und sthand me on my head up mit dot tub's pottom up, und der clodings sphilt shoost like me, und dem gotes vink at me mit von eyes und vag his tails of mine face, and valk out py his pehind legs like a man, und I can't sit me down cood any more already." The goat was fined one (s)cent, which he left behind.

A MAN residing in Mill street, going home at a late hour in the night saw that the occupants of a house standing flush with the street had left a window up, and he decided to warn them and prevent a burglary. Putting his head into the window he called out? "Hello! good peop——!" That was all he said. A whole pailful of water struck him in the face, and as he staggered back a woman shrieked out: "Didn't I tell you what you'd get if you wasn't home by 9 o'clock?"

CHARLES DICKENS said that "the first revelation of the dry-rot in men is a tendency to lurk and lounge; to be at street corners without any intelligible reason; to be going anywhere when met; to be about many places rather than any; to do nothing tangible, but to have an intention of performing a number of tangible duties to morrow or the day after."

A LITTLE BOY who was nearly starved by a stingy uncle, (his guardian), with whom he lived, meeting a lank greyhound one day in the street, was asked by his guardian what made the dog so thin. After reflecting, the little fellow replied, "I suppose he lives with his uncle."

THE other day an Irishman with a very heavy trunk got into an omnibus, and sat himself down and held the box on his knees. The conductor wanted to take it from him. "But," says Paddy, "sure the poor creatures of horses have enough to do to drag along without that, and I'll carry it myself."

WHEN they came to examine the hull of the Great Eastern they found fifty-two thousand square feet of iron plate incrusted with mussels, in some places to a thickness of six inches. The total weight of these incumbrances was estimated at three hundred tons, enough to load two brigs or thirty freight cars.

HE who has never changed any of his opinions, never corrected any of his mistakes; and he who was never wise enough to find out any mistakes in himself, will not be charitable enough to excuse what he reckons mistakes in others.

MOUNT HOLYOKE SEMINARY has supplied one hundred and fifteen wives for foreign missionaries, the last two graduating classes furnished eighteen. They usually go abroad first as teachers, and are speedily married by the missionaries.

AN Englishman was recently arrested for "stealing gas," by attaching a rubber tube to a pipe in the cellar of an unoccupied house next door to his own. He had drawn off six hundred thousand feet in five years.

A CHINESE woman at Portland, Oregon, has just taken the veil. It belonged to some one else, so that she will be secluded for the space of four years.

OUR FENCE CORNERS

Brief fun der Sue Vinelaund.

Meister Drucker: Wyley ich hab k'ard das du an en baurra tselting drucha wit—an monatliche tselting—wan du meer privatege gebst, don will ich als ebmol aw en venich schreiva. Weils yetz so fiel discussedt wert, ep de weibsleid vota setta, so mus ich yets saga das ich differ mit de Sue Anthony, und de Anna Dickenson. Ich glaub es dade tsu fiel unstanda maucha an de leetion. Aber dock set mere des recht hava, unser baurrei tsu managa.

Weil es noch zimlich frea im sphadeyoar ish, so will ich aufanga tsu froga ep dons' winder holtz all da hame ish, und fine gamacht, und in der holtzhofe getrauga? Sin don de epple behm all protect tun de meiss und do hossa? Ish der grund uf gaheifed um debehm, und de neshta mit speckschwart geschmear't? Sin de riss all tsu um de sthelle, das des g'fee net so exposed ish? Sin de hinkle fun de epple behm gawaint im warma Sthelle tsu ga, und vara se aw gude gafeedered? Es ish nix es besser patzallt. Hen de sei aw warma sthelle und hen se ken riss im troke? Greage se au alle paar dag druckema stroh? Des ish der only wake fur Chester county sei tsu macha. Wie ich in der shule ganga bin, hut der shulemeister g'saght, "besser holver so fiel recht gadune, das tswa mohl so fiel yousht halver gadune."

So will ich nimmy meh advice geva at present,

SUE VINELAUND.

Hinna Nouse, October, 1875.

The foregoing graphic communication we exhumed from an accumulation of past years, and assign it a place in our "fence corner," on this occasion, although from the significance of its interrogatories, in an economic and humane sense, under other circumstances, it might have been entitled to a more conspicuous place in our journal.

The dialect in which it is written, is an attempt at "Pennsylvania Dutch," and the writer has succeeded about as well as others have, for we have never yet seen any composition in that peculiar language, that we thought an entire success. On the subject of "Woman's Rights," *Susan* seems to be "on the fence," and this itself might seem a justification for placing it in the *fence corner*, for there is the place any person on a fence would be most likely to "come down." We, however, do not *invite* this peculiar kind of literature to our columns, and only insert this on account of its brevity, its *antipathy*, and the practical quality of its off-hand suggestions—merits rarely found combined.

How to find a girl out—Call when she isn't in.

A NEW definition of an old maid is—a woman who has been made for a long time.

AN Iowa bride made every girl of her acquaintance attend her wedding by keeping the name of the bridegroom a secret until the last moment.

WHEN you hear a good story from the lips of a stupid man, and see a silk umbrella in the hands of a man who does not pay for a newspaper, you may know that both have been borrowed.

As the ladies walked on the beach with their long hair down, because otherwise "it takes so long to dry," it was the *enfan terribli* who said triumphantly, "Mamma leaves all hers at the hotel."

"IN the order of the Daughters of Rebecca," says Hon. Schuyler Colfax, "are 60,000 American women, and yet no one outside knows anything about the society. Who says a woman can't keep a secret?"

THE elevators in the new Palace Hotel, San Francisco, have their uppermost landing on the roof, where a fine place is prepared for the guests to promenade and enjoy the extensive view of the city, suburbs and harbor.

MISS ADA LUCA, of Carthage, O., won a cook stove at the Cincinnati fair as "the best and most expeditious cook." In thirty minutes she cooked well, potatoes, chicken, porter-house steak, tomatoes and corn, and made coffee, tea, pie and biscuit, and set the table in the neatest style.

THE worst case of selfishness that a Kentucky newspaper has ever been permitted to present to the public, emanated from a youth who complained because his mother put a bigger mustard plaster on his younger brother than she did on him, after they had partaken too freely of melons and hard apples.

A FARMER'S wife in a Yorkshire, England, town was recently assaulted by her husband in a field where there was a cow that the woman had greatly petted. On seeing the man beating his wife, tearing her clothes, and otherwise maltreating her, the cow came charging upon the field, and attacked the man with such ferocity that he was glad to retreat. The cow then took up a defensive position by the woman's side, and stood perfectly still while the woman struggled to her feet and supported herself by leaning against its flank, until she had sufficiently recovered to take refuge from her husband in flight.

The Lancaster Farmer

Prof. S. S. RATHVON, Editor. LANCASTER, PA., OCTOBER, 1875. Vol. VII. No. 10.

THE ARMY WORM.

Leucania unipuncta.

On page 134, September number of THE FARMER, in an extract from the *Garret County* (Md.) *Gazette*, headed "Destructive Worms," we suggested that said worms were probably the "Army Worm," adding the scientific name, to let the intelligent reader know exactly what we meant by "Army Worm," because it often occurs, that when almost any worm injurious to vegetation becomes numerous, the uninformed, or undiscriminating, are very apt to designate them "army worms," just as if numbers alone were necessary to determine the species of an obnoxious subject of the insect world; although it is very probable that the true army worm had been so called, from the fact that it generally appears in large and destructive armies. It is not probable that vegetation will suffer anything from army worms the present season, but having the illustrations on hand, we have thought it meet to enlighten our readers as to what the army worm really is, as a subject for future reference.

The army worm has appeared in Pennsylvania at different periods, and in different places, but we have not heard of its being here—at least not in Lancaster county—during the present year. *Fig.* 1 represents the mature *larva* of this insect, and it will be seen that it very closely resembles the common "cut-worm," and to which it is allied. In the absence of a specimen of the *larva* from which to describe it, we will appropriate a brief description by Prof. Riley, and we think this, with the illustration before them, will enable our readers to recognize this worm when they happen to see one. If they cannot, then the fault must be theirs and not ours.

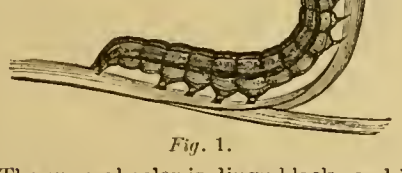

Fig. 1.

"The general color is dingy black, and it is striped longitudinally, as follows: On the back a broad dusky stripe; then a narrow black line; then a narrow white line; then a yellowish stripe; then a narrow sub-obsolete white line; then a dusky stripe; then a narrow white line; then a yellowish stripe; then a sub-obsolete white line; belly obscure green." This, of course, has reference to the one side, or one-half of the worm. It will be seen that it is composed of a head and twelve segments, or sections. To the first three are attached three pairs of feet called the "pectoral feet," or legs; then there are two segments without any feet; then there are four, each containing a pair of prehensile feet, or "pro-legs;" with these it holds fast while it stretches the fore part of the body out in search of food; then there are two more segments without any feet, and the terminal or anal one has a pair of feet very similar to the other eight.

The *pupa*, or *chrysalis*, is a glossy chestnut or mahogany brown, and resembles the *pupæ* of cut-worms generally, but not so dark in color as some of them. The apex, or end of the abdomen, is armed with two converging points, or spines; two fine hooks on each side of them. These *pupæ* are naked in the earth, in a sort of cavity, but no cocoon around them, and it is by means of these spines and hooks that they work themselves towards the surface of the earth, when the moth is ready to come forth.

When mature, the *larva* is about an inch and a-half in length, and the head is somewhat broader than the succeeding segments, of a pale grayish yellow color, speckled with brownish. The *pupa* is about three-quarters or an inch in length, and about the same in circumference at the thickest part. *Fig.* 2 is the *imago*, or perfect moth, the body of which is robust and three-quarters of an inch in length; the expansion of some specimens being two inches from tip to tip of the wings. The general color of the moth is a fawn, or reddish brown, and it has a whitish spot near the centre of the front wings, from whence comes the specific name *unipuncta*; there are dusky oblique lines on the wings.

Fig. 2.

This insect belongs to the old family *Noctuidæ*, or "night-flyers," and originaly belonged to the typical genus of that family.

The army worm and moth seem to be widely diffused, as varieties of them, or species nearly allied to them, have been found in England, in Brazil, in Java, in India and in Australia, and no doubt it occurs wherever grass grows.

Entomologists are by no means in perfect agreement as to whether it is single or double brooded; that is, whether it produces one or two broods within the year. Very able authorities, however, maintain that it is single brooded. It appears to have been very destructive the present season in Maryland, and that it appeared about the end of August, if that is really the insect to which the paragraph in the September number of THE FARMER alludes. Prof. Riley states that in southern Missouri it appears in the larva state about the middle of April, and in the northern part about the middle of May, while in Massachusetts it appears in the middle of June, and in Maine in the middle of July. In the State of Pennsylvania we might look for it from the middle of May to the first of June.

The develomental progress of the army worm seems to be from "egg to egg" during the Spring, Summer and Autumn; that is, the eggs are generally deposited sometime during the autumn, on perennial grasses, at or near the base of the plant, where they remain all winter, and are hatched out in the spring, from the beginning of May to the beginning or middle of July, according to latitude or temperature, except those that winter in the pupa state, of which there are often many. Indeed it is very probable that they are hatched out at different periods, and the larva appearing at these different periods in the same locality, seemingly evinces that there is more than one brood in a season, but this may only be an appearance. Be that as it may, however, after the larva has matured it goes into the ground to be transformed to the *pupa*, and this accounts for the sudden disappearence, to the great astonishment of the farmer sometimes, who is altogether unable to account for this disappearance, and imagines that it has at least left the premises for "a little season." But when it appears again it will not be in the form of a worm but in the form of a moth. When they have finished one field or enclosure, they travel in immense numbers to another, and from this circumstance they have received their common name "army worm," as previously suggested. They differ very materially in size and color in the different localities where they have occurred, from the eastern to the western States; so much so indeed, both in the *larva*, the *pupa* and the *imago*, as to seem like different species, but no doubt they are all the same. This habit of traveling from one field to another, has led some of the farmers who have been troubled with them to head them off by plowing deep furrows across their track, the straight side of the furrow being toward the field uninfested. The worm then finds it difficult or impossible to ascend the straight side, and is thus arrested in its progress. Here they often gather in tens of thousands and are destroyed. Some strew dry straw or leaves in these furrows and set them on fire, and thus destroy the worms.

It is suggested that the earlier of the worms or the moth breeding from them, deposit their eggs on the grass higher up the stock, and that thus they are cut off and carried to the stack or the barn, and from thence get into the dung heap, from whence they are carried to the fields.

They seem to thrive best in moist seasons, or on moist lands, if the moisture is not too great. Too much heat and too much moisture are not favorable to their health or increase.

Army worms do not occur in destructive numbers, more than one or two seasons in succession. If they sometimes appear for three consecutive seasons, it is quite as often that their appearance is limited to a single season. This is owing to the fact that there are a number of parasites that prey upon them, and these parasites greatly diminish their numbers the second season, and entirely exterminate them the third.

At least two of these parasites are "Tachina-flies"—namely, the "Red-tailed Tachina" (*Exorista leucania*, Kirk,) and the "Yellow-tailed Tachina" (*Exorista flavicauda*, Riley,) both pretty large species, being a third of an inch or more in length, and having the general appearance of the common grey and black flesh flies. And then there are two or three pretty large *Ichneumon flies* conspicuously among which is the *army worm ophion* (*Ophion purgatus*, Say). We have on several occasions bred both this insect (or an allied species) and a species of *Trogus* out of various *Lepidopterous* larva, especially the "Fennel worms," (*Papilio*) besides two small *Ichneumons*, namely: the *Mesochorus vitreus* and the *Pezomachus miniurus* of Walsh, and the army worm Ichneumon" (*Ichneumon leucania*, of Dr. Fitch,) and also some others, making seven or eight in number, or even more.

It has not only been stated—with what truth we are unable to say—that the army worm has been known to pass through wheat fields and destroying all the chess or cheat growing in them and leaving the wheat intact, but that they have absolutely saved the crop in fields infected with rust, by eating off all the infected blades and leaving the ears of wheat free of injury, and that disgusting as they are, they have saved the farmers in a single neighborhood thousands of dollars. If this can be substantiated, it will only be another illustration of how completely disguised a blessing may be, or that, under certain circumstances, a blessing may grow out of what we have deemed a curse. But, of course, it would not be wise in farmers to depend much upon such contingencies, lest they might unconsciously "reckon without their host," and find themselves overwhelmed in the end. From what has been said, it will be seen that the army worm deposits its eggs on the grass during the summer and autumn, and that the eggs remain there all winter; if therefore, such grass is burned off, when it is dry, the eggs will be destroyed, and a brood of worms from them will be *prevented* the following season, and prevention is always better than cure.

THE STATE FAIR.

The State Agricultural Exhibition for 1875, held at Lancaster city a fortnight ago, is now one of the things of the past agricultural history of the Commonwealth of Pennsylvania, and under all the circumstances is an appropriate precursor to that great event of the near future which is destined to distinguish the closing days of the first and the opening days of the second century of the national life of the American Union, and we hope may be chronicled as the beginning of a new and more progressive era in the agricultural history of our State and county.

The late exhibition perhaps came nearer a success, in all respects, than any heretofore held under the auspices of the State Society, and illustrates the wisdom of its officers in selecting the city of Lancaster as the proper centre for the ultimation of the agricultural resources of the commonwealth. It affords us a special gratification in being able to record the co-operation of our local society, our farmers, fruit growers and florists, as well as our entire people, in endeavoring to bring about that success. We felt convinced from the very beginning that they could do so, but we had some apprehensions as to whether they would. Of course, no matter where a State Fair is held, it is not expected that every county will be represented, or that those remotely located will contribute to the fruit, vegetable or floral departments as freely as those in the immediate vicinity—indeed, such a thing would hardly be practicable if it were necessary. Many products in these departments of Husbandry are too perishable in their natures to bear the "wear and tear" incidental to a protracted transportation; and this is also the case in many articles of domestic production; hence much depends upon the public spirit and the enterprise of the people in the immediate vicinity of the exhibition, and on the late occasion Lancaster city and county came up nobly to the work of making the event creditable to their ancient reputation and to their social and geographical position. As is nearly always the case on such occasions, many of those who witnessed the exhibition have indulged in the usual regrets that they had not themselves been active participants. This only illustrates the power of example, and that many people are influenced in what they do more by what others do than by any original or fixed principles latent within themselves.

Whether ever the working machinery of our public agricultural and mechanical exhibitions will become more perfect in their details than they are at the present time, will depend greatly upon whether ever their responsible heads will possess the ability, the persevering energy, and the determination of character necessary to make them so. To accomplish this requires something more than merely good intentions. "A fig" to good intentions if we do not possess the necessary knowledge and two figs to both good intentions and knowledge, if we do not possess the necessary *will* to carry our good intentions and our knowledge into practical effect. Indeed, so ineffective may only good intentions be, that somebody has long ago made the harsh utterance that the way to perdition is paved with good intentions. This sentiment seems to ignore the too prevalent popular idea that good intentions alone will exonorate a man from the many delinquencies which grow out of, and are the legitimate results of, the lack of an energetic exercise of the will-principle, or an ignorance of what ought to be done, and how it ought to be done, in order to carry any great enterprise into practical effect, and especially in the proper arrangement and execution of its minor details.

It is true that the duties often involved in such enterprises may be so various, so vast and so complicated, that no single head can have the capacity to comprehend or grasp them all; but this is not absolutely necessary to a successful issue of the final result. It only requires the executive ability of the chief to form a proper conception of what is intended to be done, and then a judicious delegation of power to subordinates, under methods that have been thoroughly digested through previous reflection, aided by past experiences. It is also true that these enterprises belong so unqualifiedly to the "peace establishment" of the country, and are so completely under the control of the social relations of the participants in them, that the rigid rules which obtain in the purely military or civil powers of the government cannot be generally applied to them; but they are nevertheless legitimate, and being such, they could be conducted with a greater adherence to fundamental rule than generally obtains in them, even under the relaxations usually made in accommodation to the conveniences of the public. "A place for everything, and everything in its place," is always in order, under any circumstances.

Without intending to be captious or critical, we are led to these cogitations from the fact that, somehow, in the late exhibition, many things got out of their places, and into improper ones. For instance, we found some cigars referred to Division 5—"collections and displays"—and others to Division 12—"miscellaneous entries." Now it is questionable whether manufactured tobacco or cigars should have been referred to either of these divisions. Tobacco is an anecknowledged staple production of the country, and if not cultivated, at least manufactured, in almost every State of the Union, whether its production be regarded as a good or an evil. A large and respectable class of our citizens, almost everywhere, earn a livelihood in either its cultivation, its manufacture, or in its commerce, and it therefore occupies no equivocal ground. The artizans who engage in its manufacture consider themselves as belonging to the mechanical classes, and those who cultivate it consider themselves farmers or agriculturists. Leaf tobacco should therefore be classed with agricultural productions, and cigars, snuff, chewing and smoking tobacco with manufactures or mechanical productions. It is too pronounced to be classed "miscellaneous." Bread and meat slicing machines, hoisting machines, gas machines, ironing machines, and even refrigerators or cooling machines, should be placed in a division including machinery, and in a class including complex or compound domestic utensils, to distinguish them from simple utensils, as a knife and fork, which should be placed in a different class. The former certainly belong to the category of washing machines, wringing machines, mincing machines, etc. A miscellaneous division should only include collections of coin and medals, collections of minerals, shells, animals, antiquities, relics, and all *unique* articles that cannot properly be placed in any other division.

We are aware that in classifying and preparing a list of premiums, a good deal of complicated thought and labor is involved, from the fact that it is not previously known exactly what will be offered for competition and exhibition. But it is not in that fact in which the chief blunders are involved, but in a lack of judgment in assigning the articles to their proper divisions or classes when they are entered. We consider that the officers who have charge of this function ought to have more practical jud ment than any others.

The details of classification should be more distinctly defined and limited than they usually are; and there should be *divisions*, *classes*, *sections*, and also, *groups*, where the sections are large; each section having its separate committee of examination, and the State Society should only appoint the chairmen of these committees, delegating to each the power to appoint his colleagues, and said committees in no case should consist of more than three members. Not only men of ability and integrity, but also men of leisure, should be appointed on such committees, if possible, and those who have any reason to believe they will be unable to attend on the second morning of the fair should at once decline the appointment. All the articles or objects belonging to a division, class, section, or group, ought, respectively, to occupy separate and contiguous places, and not be scattered over the whole fair ground; and if each article was designated in the numerical order that they are entered on the books of the several committees, the labors of said committees would be greatly lessened and simplified. The premiums, medals, diplomas, etc., should be so defined and limited, as to leave as little as possible to the discretion, and hence to the personal responsibility of the committees, but instead thereof to the society.

It is questionable whether a State fair, or any other public exhibition that is to be continued for several days, should be advertised to begin on the first working day of the week, or Monday. To open on Monday would involve the necessity of having everything in readiness on the previous Saturday, or the desecration of the Sabbath for that preliminary purpose. Four days, with everything amply arranged and in order, are quite long enough if the proper announcement is made to that effect, for any State or county fair; and if it must be five, it would be better to include Saturday than Monday. It is true, this might occupy the Sabbath in effecting the removal of the articles and objects, but it would be very little more for those at a distance to remain until the following Monday, and those living near could effect the removal of their property on Saturday evening. Under any circumstances, remote exhibitors would be apt to occupy Sunday before they reached home, even if the fair closed on Friday evening, and at the worst, there is perhaps less liarm in ending a journey, or finishing a work on Sunday, than commencing them on that day. It requires a whole day to arrange some collections, even after all the articles are on the ground, and there would be less interruption if the opening took place on Tuesday.

We have indulged in these strictures, not because they are specially applicable to the late fair, but because we find that in thirty years experience but little progress has been made in perfecting the details of such public exhibitions, and that things are progressing pretty much in the old and unsatisfactory manner. The late exhibition of the State Society was a mammoth affair, and as ably conducted as perhaps it could be under all the circumstances. It would be folly to expect entire satisfaction with all its results. The masses of the people are, consciously or unconsciously, under the dominion of self, and of course, would naturally be dissatisfied with things that were not subordinated to the gratification of individual selfhood. The number of entries for competition or special notice run up to thousands, and it would be a great marvel if all these should be entirely satisfied. On Thursday, which was the "great day" of the exhibition, the number of visitors was fully twenty-five thousand, a result as gratifying to the friends of the society under whose auspices the fair was held, as it was to the responsible managers of it. The state of the weather, except the last day, was all that could have been desired, and in every respect, we reiterate, the twenty-third exhibition of our State Agricultural Society was a success.

The number of awards in favor of exhibitors at the late fair was very large; so large, indeed, that, not wishing to encroach upon the space allowed to our usual variety, we find it necessary to add four pages to this issue in order to make room for the list. A goodly number fell to the lot of citizens of Lancaster county. Of *first* money premiums there were two hundred and fifteen, amounting to eleven hundred and forty-six dollars, namely: Fifty-two of $1.00; sixty-two of $2.00; thirty of $3,00; two of $4.00; twenty-six of $5.00; two of $6.00; twenty-two of $10.00; five of $15.00; five of $20.00; five of $25.00; one of $30.00; two of $40.00; and one of $100.00. Of *second* money premiums there were fifty-four, amounting to two hundred and eighty-nine dollars, namely: Twenty of $1.00; eight of $2.00; six of $3.00; eight of $5.00; six of $10.00; three of $15.00;

two of $20.00, and one of $50.00. In addition to these there were two special premiums, amounting to seventeen dollars, making the aggregate amount paid out to citizens of Lancaster city and county, $1,452.00. Lancaster city and county also received forty-nine diplomas and two special diplomas. Citizens of Lancaster city and county were also awarded three silver medals, twenty-one bronze medals, sixteen honorable mentions, and thirty-five favorable notices. And yet with all these, it is possible some have been omitted that ought to have received premiums, medals, or diplomas, and others may have received them who were, perhaps, not fairly entitled to them. The examining committees, and the supervising officers, of course, always try to do their best; but in such large gatherings there is always some confusion; moreover, these functionaries are generally scattered over the whole State, —mostly strangers to each other—more or less pressed for time; difficulties in the way of bringing them together in proper time, and their duties often not well defined, throwing them more or less upon a discretionary course, involving responsibilities that are anything but pleasant in assuming; and therefore it must needs be that their awards will not always be satisfactory to all exhibitors. In our view, medals and diplomas are the highest awards, for these are specific, personal and perpetual, and should only be awarded to those who are the actual inventors, or manufacturers, or the breeders, or cultivators of the things they exhibit. Purchased or borrowed works of merit, however honorable or complimentary may be the notice of them to the individual who has the means to become the possessors of them, except in very special cases, cannot be entitled to a personal medal or diploma. Although their money premiums may be as liberal as their enterprise deserves, yet they cannot be entitled to a token so individualized as a medal or a diploma. But there is also something for exhibitors to do in order to facilitate the working machinery of a fair, and render its results successful and satisfactory. Those who intend to place their articles on exhibition, and become competitors for honors and premiums, should have them entered at the Secretary's office a week or ten days before the exhibition is opened to the public, in order that a proper classification of them may be made before they reach the fair ground, and a proper place be assigned them when they are received there. When a day is once fixed and properly advertised, to which the reception of articles is limited, except in very special cases, the time ought not to be extended, for it is through this extension, and the coming in of "eleventh hour" exhibitors, that much of the confusion, hurry, and imperfectly executed functions occur.

When the committees commence their examinations—which ought to be on the morning of the first day—exhibitors should be present, in order to explain the merits of their articles, and thus assist the committees in making an intelligent examination and rendering a just award.

OUR CULTIVATED VEGETABLES.

No. 1.—The Beet.

The beet is mentioned both by the Arabic and ancient Greek authors as one of their dietetic plants. The latter held this root in great esteem, for it was their custom to offer it on silver to Apollo, in his temple of Delphos. It was only the leaves of this plant that were eaten by the ancients. The Greeks distinguished two kinds, according to their color, the white and black beet; the last, according to Fee, would answer to one of the purple kinds. It was Theophrastus' opinion that the white is more juicy than the black, and it produces less seed. It was generally known as the Sicilian Beet, where it grew in great abundance, and in those days formed a considerable portion of the diet of the inhabitants of that island. *Beta* stands at the head of one of Martial's epigrams. He describes it as food only fit for the artizan, as it required pepper and wine to make it palatable to a refined taste.

"Insipid beet may bid a tradesman dine,
But asks of thee abundant spice and wine."

Pliny gives an accurate description of this vegetable. He says, "Our people distinguish two varieties, the spring and autumn kinds, so called from the period of sowing; but some consider the best time to be when the pomegranate is in flower. The young plants, when they had thrown out five leaves, used to be transplanted, and they thrive all the better if, like the lettuce, the roots are well covered with manure, in a moist soil." This author informs us that this vegetable was mostly eaten with lentils, beans, and mustard, to relieve its insipidity. Beet is a vegetable with a two-fold characteristic, partaking of the nature of the cabbage in its leaves, and resembling a bulb in the root. It was a custom with the Romans to put a light weight upon the plants the moment they began to assume the proper color, in order that they might "cabbage," and the larger the heads the more highly they were esteemed. Those grown in the territory of Cereëir sometimes produced heads two feet in breadth. Pliny states that there was also a medicinal difference between the two varieties, the white being remarkable for its purgative qualities, and the black being astringent. "When wine in the vat," says the same author, "has been deteriorated by assuming a flavor of cabbage, it may be restored to its original taste, by plunging beet leaves into it." Beet is said to have been first cultivated in England in 1548, at the period when many of our culinary vegetables were introduced or improved. Our old friend Gerard observes, "that Red-Beet boiled, eaten with vinegar and pepper, is a most delicate and excellent salad, but what might be made of the red and beautiful root, I refer unto the curious and cunning cook, who no doubt when he has had the view thereof, and is assured that it is both good and wholesome, will make therefrom many divers dishes, both fair and good." This Red-Beet was cultivated by Tradescant at Lambeth, in 1656. The white variety appears to have been introduced from Portugal, and Evelyn, in his "Aretaria, or, a Discourse on Sallets," published in 1699, states that the costar or midrib of the leaves of this variety, when boiled, melts and eats like marrow. In 1747, the celebrated Prussian chemist Margraff, discovered the existence of a certain portion of sugar in beet-root. This discovery was communicated to the Scientific Society of Berlin, but no attempt was made to carry the principle of investigation into practice. Forty years after this, Arhard, another Prussian chemist, resumed the experiments of Margraff's commencing, and he was so enraptured by the prospect which his labors opened to him, that he announced the beet-root as one of the most bountiful gifts which the Divine munificence has awarded to man upon the earth, affirming that not only sugar could be produced from it, but also tobacco, molasses, coffee, rum, arrow-root, vinegar, and beer. The institute of Paris, however, did not sympathize with Arhard, for in 1800 a committee of that body having gone through a series of careful experiments, reported the results were so unsatisfactory that it would be unwise to establish any manufacture of sugar from beets. In 1800, Bonaparte, endeavoring to destroy the colonial prosperity of Great Britain, passed a decree prohibiting the purchase of West Indian produce in France, and sugar being an article of the first necessity to the French, this law caused much dissatisfaction to the public, and Napoleon had to consider how the wants of the people could be supplied without foreign commerce. M. Deyeux, a member of the committee appointed to consider this question, turned his attention to the beet-root. His experiments were more satisfactory than those of the committee of 1800, probably because the necessity of producing sugar at home was more pressing. An imperial manufactory of sugar was forthwith established at Rambouiet, imperial schools were instituted for instructing pupils in the process, etc., and by 1812 the manufacture of beet-root sugar was considered prosperously set on foot.

The root from which the sugar is extracted is the white variety, (*beta vulgaris camp estris alba.*) There are now several large manufactories of this article, both in France, Belgium, and other parts of the Continent, and its production is increasing in Australia and Tasmania. Dr. Ure states that he has obtained 5 per cent. of good sugar from white beet grown in Mitcham, in Surrey, and during the last few years, the experiment of cultivating beet, for the purpose of manufacturing sugar and alcohol therefrom, has been successfully carried out in some parts of England, and it is probable that it will become a profitable and important business. The refined sugar from the beet-root looks extremely well, but is not so sweet as the less refined article from the sugar cane. One ton of beet-root is reckoned to produce 55 pounds of refined sugar. As long since as 1837, there was a manufactory for refining beet-root sugar established at Chelsea; and at the present time in France there are more than four hundred manufactories for making this article; and such is the perfection, that it can gain a very little higher state. There are three or four journals published in that country entirely devoted to this subject. A white variety of beet is now extensively cultivated as food for domestic animals, under the name of mangolds, formerly known by the German name *mangel werzel.* The first seeds of this plant were sent to England from Metz by Thomas B. Parkins to Sir Richard Jebb, in 1786, who presented some of them to the Society of Arts, and by them distributed to several parties; but the first cultivators of this root, on a large scale for agricultural purposes, were Sir W. Jerningham and Sir Mordaunt Martin, of Burnham, in the county of Norfolk, about 1790. A Mr. Newby introduced its cultivation into Cambridgeshire in 1812. He published an interesting pamphlet upon the subject. Dr. Lettson also wrote a small work on the introduction of this root into this country in 1787.

When the Regent's Park was forming, a part which had been trenched was sown very thick with mangold seed, and such was the produce that it was sold by auction to cow-keepers in the neighborhood at the rate of £80 per acre.

This plant is now very largely cultivated by agriculturists, and may be considered the most important crop next to the turnip. Of late years there have been several varieties of mangold introduced, fitted for field cultivation. Year after year are exhibited some enormous roots of this plant at the various agricultural shows. At the Agricultural Hall at Islington, Christmas, 1874, might be seen some single roots of Messrs. Sutton's "Mammoth" mangold, growing upon poor dry soil in Suffolk, weighing 40 pounds and upwards. Perhaps one of the largest crops of this plant on record is that which was grown on the sewage farm of the Earl of Warwick, near Warwick. This crop reached the extraordinary weight of *eighty-two tons* per acre. (*Vide Chamber's Agr. Jour. Nov.* 30., 1874.)

There appears to be three species of beet, from which have sprung the several varieties now in cultivation. Matthiolus, in his "Commentarii," published in 1565, has given some beautiful wood engravings, considering the early period they were produced, of three kinds of beet, which he calls *Alba*, *Nigra* and *Rubra*. Gaspard Bauhin, whose "Pinax" was published in 1623, enumerates nine species, six of which he calls *minors*, and three *majors*. Linnæus reduced these nine, in "Species Plantarum," to two, viz., *Beta maritima* and *B. vulgaris;* but in the fourteenth edition of his "Systema Vegetabilum" the *Beta alba* of Bauhin is admitted as a species under the name of *B. cicla*. Thaer's opinion is that the field beet, or mangold, is a

hybrid between the red garden and the white sugar beet.

Beta maritima, or seed beet, is an herb, growing wild upon our shores, as at Dover and other places. It is also found in abundance on the west coast of Ireland. The leaves are used as an early substitute for spinach, and are considered an excellent dish, and perfectly wholesome. It is called by the people living on the coast Coliff spinach. According to Benthem, the white and red beet of our gardeners and the mangel-wurzel of our agriculturists are the cultivated varieties of this species. But opinions differ, as in most things, and other botanists consider that our cultivated root is a native of the south of Europe. The white garden beet (*Beta cicla*) is extensively cultivated in Switzerland and Germany; the stout midribs and foot stalks, called "chards," are boiled and eaten like asparagus. The root of the garden beet is exceedingly wholesome and nutritious; and Dr. Lyon Playfair has recommended that a good bread may be made by rasping down this root with an equal quantity of flour. Good domestic ale has been made from it. (*Vide* Hogg's "Veg. King.") The roots dried and ground are sometimes used as "a supplement to coffee." They have also been candied for sweetmeats. The juice of the red-beet is sometimes employed as an economical rouge by the young lassies in the Highlands when they wish to look blooming. The use of this root for salad and for garnishing dishes is well known. There are also several varieties now introduced for the purpose of decorative planting in flower gardens. One kind from Chili is especially adapted for shrubberies, the foliage presenting a great variety of color. This plant, it is said by some authors, takes its name *Beta* from the shape of its seed vessels resembling the second letter of the Greek alphabet. Withering says that the English name Beet is derived from the Celtic word *bett*, signifying red. The origin of the name mangel-wurzel—"root of scarcity"—by which it was known when first introduced, arose from a mistake of a Frenchman, Abbe de Commerell, who wrote a treatise on this plant, and called it *mangel*—German for scarcity—instead of *mangold*, red-beet. The French called it Racine de Disette, but afterwards Racine d' Abondance, and from its property of growing with a large portion of its root above ground; it is also known by the name of Betta Rave, Sur terre, etc.—Hampden G. Glasspole, in *Science Gossip*, *London*, 1875.

This popular root was no doubt introduced into America by the first settlers of the country, and has become an article of universal culture and use. It is the *Beta vulgaris* that is mainly cultivated in this country, but this has multiplied into many varieties, among which are the Early Bassano, Dark-red Egyptian, Early-turnip blood, Early yellow turnip, Dewing's early turnip, Long smooth blood, Swiss Chard, White sugar, Lane's improved imperial sugar, Long red mangel-wurzel, Yellow globe mangel-wurzel, Norbiten giant mangel-wurzel, and others. The white sugar beets and the mangel-wurzels attain, in some instances, an enormous size, are cultivated as food for cattle, and are excellent for that purpose. It is not likely that the beet will ever be cultivated for the purpose of manufacturing sugar out of it in a country that yields sugar-cane and sorghum so abundantly as ours. There was a "squinting" in that direction during the war of the Rebellion, not only in regard to sugar, but also in regard to cotton, but it all "blew over" on the return of peace. "Flax-cotton" and "Beet-Sugar" were to be northern compensations for the "cotton-fields" and "cane-brakes" of the South, if the war had continued and ended in a divided country. If these productions do not supervene under more favorable political circumstances, then it furnishes an additional argument in favor of the union of the whole country under one government. According to the most practical American authority, beets require a deep rich soil, and for a general crop should be planted in drills in the middle of May. These drills should be from two to three feet apart, and when the plants are well up they should be "thinned out" to eight inches apart.

OLD AND NEW.

A Method to Improve Seed Corn: "I have been in the habit for a number of years of selecting the best ear of the two which grew on a single stalk of corn, and have found it annually to improve to a very considerable increase. After performing the experiment for three years, and establishing the fact in my own mind, I communicated it to my neighbor. He laughed at me for it. I invited him to a thorough experiment. We took each of our fields, adjoining, and of equal quality of soil, planted and tilled at the same time, and as nearly alike as we could. The result was, that his, from ordinary seed, produced about forty bushels: and mine, from selected seed, propuced nearly sixty bushels to the acre."—*Mirror*, *July* 9, 1807.

"Seed Corn: Very soon corn will be sufficiently advanced to raise ears for seed, and we would earnestly recommend the practice of picking the ears before cutting the corn, that the very best specimens may be selected from the plants bearing two or more ears. Careful selection after this manner will result in a few years to something worth recording."—*Weekly Review*, *Sept.* 9, 1875.

The first of the foregoing extracts, as will be seen, we have selected from the columns of a copy of the *Mirror*, a weekly newspaper published at Russellville, Logan county, Kentucky, in its issue of July 9th, 1807, two months more than sixty-eight years ago. The second one is from the columns of the *Weekly Review*, in its issue of September 9, 1875, published at Lancaster, Pa.

We have placed them in contrast mainly to show how exceedingly slow we are progressing in certain directions, for it was only last winter that the President of the Lancaster County Agricultural and Horticultural Society, in a paper on his method of selecting seed corn, submitted substantially the same views as our first paragraph contains, and very probably there may have been farmers in Lancaster county, even at this late day, who only "laughed at them." The very fact that that officer had previously been requested to give his views on the subject, evinces that this method of selection was not generally known or practiced—indeed, our second paragraph of the present year, seems to imply that this method has not yet been generally adopted, and hence the practice is "earnestly recommended," and its results confidently promised. And to illustrate that such promises are not mere vagaries, even though made by one not professionally an agriculturist, we have only to look at the results of corn culture in Lancaster county, as it manifested itself in visible form, at the late exhibition of the Pennsylvania State Agricultural Society, held in the city of Lancaster, a few days ago. An intelligent farmer—a subscriber to The Lancaster Farmer—informed us that his corn yielded last year eighty bushels to the acre, and it was so much better the present season, that he had no doubt at all in his mind the yield would be ninety-five or even a hundred bushels to the acre. Such results are, of course, in some measure due to a favorable condition of the weather during the developing season, but through careful selection and thorough and careful after-culture, the maximum is increasing in quantity and quality. The beautiful and thoroughbred horses, cattle, sheep, pigs and poultry, at the late exhibition, exhibited the same results, and not less so, the fruit, vegetable and floral display. A practical fruiter and florist informed us that he had produced about twenty improved varieties of the Geranium—the flowers on some being two inches in diameter—through selection, crossing and culture.

The truthfulness of this method has been verified a thousand times throughout the whole earthly lifetime of a Washington (in the nineteenth century too) not only in regard to seed corn, but also in reference to other seeds and tubers, to fruit and to live stock; and yet, old as the method seems to be, there are, no doubt, thousands who still know nothing about it, or who knowing it, have no faith at all in it. This either evinces that there are yet many people who do not read, or who do not heed what they read.

We have looked over many a field of corn in the planting of which we felt convinced this method of selection had not obtained; indeed, during the five years of our experience on a farm, in our boyhood, we have no recollection that any reference was ever had to special selection in preparing seed corn.

The general indifference which sometimes prevails on this subject, especially in some places, is aptly illustrated by the following anecdote:

A gentleman riding past a poor cornfield and seeing the proprietor sitting on the fence, he accosted him with, "Well Joe, your corn looks very small." "Yes," laughingly replied Joe, "I planted the small kind." "But," continued the gentleman, "it looks yellow." "Yes," responded Joe, "I planted the yellow kind." "You don't seem to understand," persevered Joe's interlocutor, "I mean you won't have more than half a crop." Joe, with perfect discomposure, "wound up" with "I don't expect more than half a crop, I've planted it on the shares. Hawkins gets the other half." This obtuseness of Joe, of course, may have been only assumed to ward off prying importunity, but it would be safe to infer that he patronized no agricultural paper—was no "book-farmer"—and would probably have discredited his own methods of farming, if he had ever seen them in a book.

It is very probable that this method of natural selection, in reference to seed corn, has had to struggle up through the past sixty-eight years without gaining universality, mainly because it had unfortunately gotten into a newspaper or book, so great is the antipathy some people have to book-farming. It is true, many things in reference to farming, as well as on other subjects, get into newspapers and books, that are altogether worthless, but this requires discrimination to discover, and it is questionable whether any class can become a discriminating people without being a reading people. Intelligently exercised, this is as natural as cause and effect.

The prejudice against book-farming—the adhesion to things that are old, only because they are old, and the rejection of things that are new, because they are new—manifests itself sometimes in an exceedingly ludicrous, if not in an absolutely stupid manner. Here is Mr. and Mrs. Grimshaw, who have not only the reputation but also the character of raising the best crops of corn and potatoes and making the best butter and cheese, that are produced anywhere in the community in which they live. They are not selfish, but freely communicate to their neighbors all the details of their modes of culture and making, who experience corresponding results. These modes are verbally communicated, and are implicitly believed in. But, some editor obtains them and inserts them in his paper, or some author gives them a prominent place in his book. Now, because they have gotten into print, seems to be a sufficient reason to entirely discredit them, by those who are averse to book-farming. Book-farming is intended to include that which has been the result of practical experience. It is true, men and women may differ in their experiences. There are unforseen climatic and chemical causes which often affect results, even where all the premises are in harmony with what has been regarded as a successful method, but this may be only an incidental failure, and not at all prejudicial to the method itself; or to our misapplication of it. We have no prejudices against old things regardless of other considerations—indeed, there are many old things which we fairly revere; but not because they are old, but because they are good. Neither do we entertain any special respect for things that are professedly new, for that cause alone, for well we know that there are many such things that

have no merit whatever, except that they are new; and even many of the new things which are daily being brought forth, are but the re-development of things that are old. In one sense it is true, that "there is nothing new under the sun." The recent discovery of a thing is no creation of that thing; it is only the development of a thing that had an existence "long, long ago," if not from the very "beginning." Principles are eternal, and their ultimation is gradually developed through the slow process of human progress. Although we feel convinced that the human family on the whole is progressing, yet it never will become truly regenerated, until it becomes imbued with the moral and philosophical principles that obtained during the "most ancient" period of its existence on this earth—until it regards the essential substance of things, instead of fleeting shadows. These principles apply as equally to Agriculture as they do to any other department of human industry and economy. Of course, we do not expect, nor desire, the human family to go back to the days of its infancy, as to the appliences necessary to its sustenance, its comfort, and its convenience, in its present numerical and intellectual condition. But when human character is restored to its state of primitive purity, all outward appliances will be in correspondence with its internal condition, and that will be all that is necessary to its physical comfort and convenience, and hence its entire happiness. The human family in its primitive integrity was very probably purely frugivorous, and only as it increased numerically were the various agricultural specialties born and nurtured into efficient being. Horticulture must therefore have been coeval with the human race itself, and had it been confined to its primitive limit, nothing else would have been necessary; but it was under the mandate to "multiply and replenish," and in obedience to this behest, agricultural progress was developed. Under the perverted auspices of the freedom in which it was first created it became sensual, and hence gradually grew carniverous, and through this, its present omniverous character was finally developed, originating its "flocks upon a thousand hills."

All these conditions necessitated *natural selection*, but not in the sense set forth by the Darwinian theory. Although natural selection undoubtedly develops improved varieties in any direction in which it is applied, yet it will never transform an apple or a pear to a peach or a plum; nor corn to wheat; nor a horse to an ox, whatever their protoplastic origin may have been; simply because the distinctions between these forms are *generic*, and beyond the pale of mere variety. The bountiful Creator is a Being of *order*, and everything is ultimated in material form, under an efflux and influx which determines its physical character, before it is manifested in visible being. But a judiciously applied system of natural selection will most undoubtedly produce an improved variety or even a new variety of a specific thing, whether it be an animal or a vegetable. This has been so repeatedly demonstrated that it seems almost superfluous to urge it at this late day. The farmer can have this demonstrated any day in a variety of ways. It is through this means that all the improved varieties of stock, grains, and fruit are produced, and those who are ignorant of it are among the inexcusably conservative, or constitutionally "fossilized" in human society.

THE PRESENT AND THE FUTURE.

"Rumaging the hold" of our "Editorial Drawer" on a recent occasion, we found the following under date of February 8, 1869:

"Mr. R.: Here you will find a piece of hickory wood which I at one time split apart, the same being a stick of cord wood. You will find therein a plug, as marked. On the lower end of the stick, I found a rag, or paper, in which were the finger or toe-nails of some person. The outer bark had grown over them.

"Old Jacob A. tried often the same for the cure of rupture for man, child and horses, and also for other diseases, viz.: On the first Friday of the *new moon*, after midnight, he often came to me to borrow an augur and mallet. The augur being without a screw point, he used a gouge to start it. He always bored the hole into the tree on the side of sunrise, or east. The plug used was a limb of the tree the size of the augur, and while engaged in this work he would not speak to any one. It is said if the tree does not die, there will be no cure performed; but this tree lived on and did not die.

"This may be a matter for discussion before the *Athenæum*, and perhaps interesting to one and all. Yours respectfully, S. J."

We *hasten* to put the above in print, as an apology for having left it remain for nearly seven years among the rubbish of our drawer, without having given it a respectful hearing and placing it on record. We cannot recall the "piece of hickory wood." It probably arrived during our temporary absence, and our attention was never called to it, nor have we any recollection of having read the communication before to-day. Under any circumstances, it seems evident to us that "Old Jacob" could not have been a reader of THE FARMER, or perhaps of anything else, or he probably would not have had such faith in "heels, horns and toe-nails."

This recalls a remark made to us during the Fair-week, by an intelligent farmer and fruit grower of Franklin county, who made us a friendly call. During his visit to Lancaster, his native county, he sauntered through our Wednesday morning market, and he imagined he could pick out every vendor in it who was not a habitual reader of an agricultural paper by the quality of the produce he offered for sale. This is *farmer* vs. *farmer*, and not our comparison, and yet there may be something in it. Another intelligent subscriber from the east end of the county, called upon us for a duplicate copy of our September number, as his had been loaned or lost, and he could not afford to be without it. He stated that he subscribed to several agricultural papers, and amongst the rest, for the *American Agriculturist;* but none of them elicited his interest as the *Farmer* does. "He reads it through and through, from beginning to end," and then lays it carefully away to have it bound when the volume is completed. He complimented us on its original matter, and its selections. "Nothing in it but what is interesting and useful," and he only wondered it was not taken and read by every farmer in the county of Lancaster. We have faith in the future. We may not live to see it, but *The Farmer* will eventually be as amply sustained as its friends think it deserves. The present generation will gradually be numbered with the past, and new and progressive generations will follow. These will not go backward; indeed they cannot, for they are under the influence of "the inexorable logic of events," and this will push them forward. Brains will ultimately take the place of "toe-nails," and the "fogyism" of the present period will be numbered with the things that were. It is true, that there may be a recklessly going forward, but this is far better than standing still, or going backward. Everything that God has made in the past and present, or will make in the future, is stamped with the irresistible and indelible impress of progression, and there can be no healthy development without it. To stop for a single moment, would shatter the universe to its very centre and resolve the world into chaos again. We are not so good, so pure, so virtuous, so efficient and so skillful that we can afford to stop. Our destiny cannot be wrought out in ignorance, in weakness, and in supineness. There will be, there must be, more reading among the masses than is done now, although the country is flooded with literature. The people may read much that is trashy, useless, or even hurtful, but without reading they will never be able to exercise the necessary discrimination to determine what to read, or how to read. Let the anti-readers pass off the stage; others will take their place, and the world will still go onward. Some, no doubt, wish it were otherwise, but this cannot and will not be.

CURIOUS FACTS.

Fishes swallow their food whole. They have no dental machinery furnished for them.

[Sharks have a very formidable "dental machinery," although perhaps not for the purpose of mastication so much as for capturing and securing their prey; but what can be the use of the incisors, and the molar-like dental pavements on the upper and lower jaws of the "Sheeps-head?" And perhaps the same may be said in reference to the "Oyster-cracker," the very name of which implies that they reduce their food before swallowing it, if it is not for some sort of grinding their food.—ED.]

Frogs, toads and serpents never take any food but that which they are satisfied is alive.

[When we were a boy we caught frogs very readily by baiting our hook with a bit of red flannel. What they took it for we never could imagine, and perhaps they would have rejected it as suddenly as they took it had they not been hooked.—ED.]

Serpents are so tenacious of their life that they will live for six months without food.

Turtles dig holes in the sand by the seashore, and bury their eggs, leaving them to be hatched by the sun.

Lobsters are very pugnacious, and fight severe battles. If they lose a claw, another grows out.

Naturalists say that a single swallow will devour six thousand flies in a day.

[Bird haters, and especially wanton swallow destroyers, will please make a note of this, and govern themselves accordingly.—ED.]

The tarantula of Texas is nothing but an enormous spider.

A codfish produces more than a million eggs in one season.

A whale suckles its young, and therefore is not a fish. The mother's affection is remarkable.

Toads become torpid in winter, and hide themselves, taking no food for five or six months.

Serpents of all species shed their skins annually, like sea-crabs and lobsters.

Turtles and tortoises have their skeletons partly outside of, instead of within, the body.

It is believed that crocodiles live to be hundreds of years old. The ancient Egyptians embalmed them.

In South America there is a prolific honey-bee that has not been furnished with a sting.

[The late Dr. J. C. Reinhardt informed us that there were thirteen species of "stingless bees" in Brazil alone.—ED.]

In the darkest nights fishes pursue their usual movements, the same as by daylight.

Seals are as intelligent as dogs, and may be made to perform many tricks like them.

The head of the rattlesnake has been known to inflict a fatal wound after being separated from the body.

If the eye of a newt is put out, another perfect eye is soon supplied by rapid growth.

Fishes have no eyelids, and necessarily sleep with their eyes open.

Alligators fall into a lethargic sleep during the winter, like toads.

There are agricultural ants in Texas that actually plant grain, and reap before the harvest.

[DR. LINCECUM, of Texas, published a very interesting paper on these ants, in the "Proceedings of the Academy of Natural Sciences," some years ago; so that the facts in reference to them are no doubt pretty well established; nevertheless, the question may not yet be fully credited.—ED.]

THIS VOLUME of THE LANCASTER FARMER will, when bound, be worth many times its cost. But we propose to make the next and each succeeding volume still more valuable to the practical farmer and gardener

GENERAL UTILITY OF SHORTHORNS.

Their Origin--Pure Blood and Mixed Blood--Management and Treatment.

The accompanying engraving illustrates one of the celebrated shorthorn bulls which stood at the head of the great stock farm of Col. W. S. King, at Lyndale, near Minneapolis. "Old Sam" and the "Second Duke of Hillhurst," were illustrated in previous numbers of THE FARMER. "Scotsman" was an imported bull and stood at the head of the herd at Lyndale before "Old Sam" assumed that position of honor. He took many first prizes, and was regarded as a very fine animal.

The London *Agricultural Gazette* of the 25th ult., contains an elaborate paper on the General Utility of Shorthorns, read before the North-east Somerset Farmers' Club, by Mr. E. A. Fawcett, in which he thus treats of the origin of Shorthorns:

First of all, then, he would touch upon the origin of Shorthorns. Their origin would be some hundreds of years before the *Herd Book* was compiled, therefore they would observe at once with him the folly of arguing simply upon the foundation of the *Herd Book*. For instance, the Stanwick Park herd was said to have existed at least two hundred years before Messrs. Colling purchased the cow called Duchess, and Messrs. Colling's herds were sold some ten or twelve years before the *Herd Book* was established. He mentioned that, to show them that no breeder ought to be guided solely by the pedigrees of the *Herd Book*. Messrs. Colling, who were probably the first parties who bred the Shorthorns in and in, purchased from Messrs. Maynard and others, who had been breeders of Shorthorns long before the Messrs. Colling started. No pedigrees were then kept; the *Herd Book* only commenced in the year 1822 or about then, and therefore the early pedigrees, as found entered in the *Herd Book*, were, necessarily, to a very large extent, made up from hearsay, or, at best, from very questionable information. People referred to the *Herd Book* as though it related to the beginning of the breed of Shorthorns, although it was well known they had been known as the Teeswater or Dutch cattle, for hundreds of years before, but no exact account existed as to their origin or the process by which they were improved. No doubt the Galloways and the West Highlanders were those which improved the quality of the flesh and the hair, reduced their size, shortened their legs, and increased the valuable proportions as well as the flavor of the flesh. The Durham ox was calved about the year 1796, was got by Favourite (252), and was out of a black and white cow, bought in Durham market for £14, some twenty years before the *Herd Book* existed. Messrs. Maynard, Whitham, Charge, Harrison, Millbanks, and many others, were well-known bull breeders long before that period. Hubback, No. 319, was pointed out as the foundation of the Shorthorn breed, but no one knew how he was bred. Mr. William Fawcett had him, and used him long before the Collings had him, and he believed that his dam was a black Galloway cow, which went in the lanes. He was sold for £1 to a Mr. Nattrass when a calf (so it was said,) but there was great doubt as to this calf being the bull that was afterwards called Hubback. Messrs. Colling & Waistell gave £10 for him, and sold him to Charles Colling for £8, and Mr. Hubback bought him from Charles Colling, hence he got the name of Hubback. This bull died in 1791, some thirty years before the *Herd Book* was compiled, and therefore they might judge how difficult and uncertain it must have been, to arrive at anything like the correct pedigree of the animal. There was no positive proof whatever of his breeding. He passed through the hands of various persons who kept no record of the breeding of their animals, who seldom knew what cow they were from, or by what bull they were got—for bulls in those days went, as he was sorry to hear many did in that place, in the fields and often in the lanes. It was perfectly clear that Hubback did not originate the Shorthorns, which it was now generally stated he did. They must have existed before to produce him, and as to his exact breeding, no one knew what was the breeding of his dam or sire; it was mere supposition or imagination. Then, again, Favourite (252), calved 1794, died in 1809. (They would observe, again, that was about ten years before the *Herd Book* was established.) He was not from stock of Messrs. Colling's breeding, but descended from a cow bred by Messrs. Maynard. He was by Bolingbroke, No. 86, and bred by Phoenix, by Foljambe from Mr. Maynard's Favourite, sold to Messrs. Colling for something like £30, and Bolingbroke's stock was said by many old breeders to have resembled the Hereford cattle very strongly indeed. They had red bodies and white faces, white legs and white backs; and many of the old breeders believe that the Herefords were used as a cross in some of the early Shorthorn cattle. Some of them went so far as to say they remembered some bulls of that breed going with the cows in Stanwick Park. It was well known that Messrs. Colling crossed with the Red Galloways (viz.: Scotch cows without horns,) and Mr. Richard Booth also used them for a cross; and the Longhorns, if not the Herefords and Devons, were also used. Some of the early Shorthorn cows were hornless, and some had cock-horns, indeed, some of Messrs. Booth's had cock-horns to this day. Milk, hair, size, and beef were the properties at which the early breeders aimed, and were what they desired and considered necessary. Now-a-days, pedigree appeared to give the value almost entirely. Were gentlemen who gave these enormous sums for particular pedigrees justified in so doing?

Mr. Fawcett then discussed the questions of "Pure Booth," "Pure Bates," "Gwynnes," and other "fashionable lots," in connection with the herd book, one of his many striking illustrations being the following:

The Duke of Devonshire had a sale on September 9th, 1874, and a great many extraordinary prices were given by the nobility, and some middle class farmers who were beginning to follow the example of those gentlemen who gave such prices. He was not there to advise those present to do so, for a particular pedigree only—nothing of the kind; but he was there to tell them the truth, and nothing but the truth. At the Duke of Devonshire's sale there was one family called the Rose of Raby, supposed to contain the best animals the Duke of Devonshire had then. He would tell them the descent of these animals, and then they should hear what prices they realized the other day. The Rose of Raby was bred by Mr. H. E. Surtees, of Dane End, near Ware, Hertfordshire, and he was there a short time before Mr. Surtees' sale of April 30, 1862. There was a little calf there that was very poorly. It was very quiet, and so ill that they thought there was nothing in the world for it but dying. He said to the bailiff, "If you can get another man and manage to hold the calf up, we will see if it is strong enough to suck the cow. If it can manage to suck the cow, it may possibly live." He fetched another man or two; they got the poor creature to suck, and after sucking a few minutes it got a little strength. He advised them to let it suck a cow often in the day. They did so; the calf got better, and was sold at the sale to a gentleman named Betts (who had a good deal of money, but who was not a farmer) for 86 gs., because it was a pure Bates. That calf passed from Mr. Betts into the hands of the Duke of Devonshire, and it was called the Rose of Raby. The whole of that family in the hands of the Duke of Devonshire were bred from that identical miserable looking calf. Now, he would tell them the prices they realized in September, 1874, and these were considered the best animals sold in that sale. Lot ten sold for 250 gs.; lot sixteen, 305 gs. Another was sold for 150 gs., and lot twenty-five was sold for 230 gs. They would, therefore, observe that from a poor little miserable calf, for which none of the gentlemen present would have given 5s., had they seen it as he saw it, had descended some of the best animals in the possession of the Duke of Devonshire, and which had realized such prices.

SHORTHORN BULL SCOTSMAN.

"Mixed Blood."

He had endeavored to show what these pure Bates and pure Booth animals were, and he would now take the mixed blood. What was Lord Exeter's bull Telemachus (27,603,) that had been winning at the Royal and other places for many years? He was neither a pure Booth nor a pure Bates, but he was of mixed blood. He did not trouble them with the pedigree, but if any of them would refer to it, they would find that he was of mixed blood. Nevertheless, he had taken a great many prizes, and was considered to be one of the best bulls out; Mr. Outhwaite's Lord Godolphin, who won at the Royal last year, was also mixed. He was by Royal Windsor, of mixed blood; by Baron Killerby, of mixed blood; by Welcome Guest, of mixed blood; and by Vanguard, of mixed blood. There was no question that these were all of mixed blood. Vanguard would perhaps be claimed as pure Booth. They saw, therefore, he was not a Wild Eyes, not a Duchess, not an Oxford, not from any of those families that were fashionable. He was not from any of those families for which such enormous sums were realized. But he was good enough to win the Royal. So, again, with Vivandiere, Mr. Guthwaite's cow, which had won more prizes perhaps than any cow then living. The first bull in her pedigree, Brigade Major, was said to be Booth. The next was a Bates bull, and then she went back to a bull that was neither Booth nor Bates, so that she was of mixed blood, and from no fashionable family, and yet she could win, and had won more prizes than any cow living. She was not a Duchess, not a pure Bates, not a pure Booth, not an Oxford, nor a Wild Eyes, nor belonging to any one of those families for which such enormous prices were obtained. He would now come to the recent sale at Birmingham. Colonel Loyd-Lindsay won one of the first prizes with his bull Augustus, brother to Roderick and Autumnus, which bulls won the first prizes in 1874, and Augustus took the first prize this year. Now let them see if he was from one of the fashionable lot. The first bull in his pedigree was Rob Roy (29,806,) which was of mixed blood. Then they had Chanter (19,423,) Wisetonian (17,244,) and Magician the 2nd (10,486.) The last was a bull which he bought at Mr. Lax's sale. He sold him to Mr. Wm. Harrison, of Kirkbank, and at that time Mr. Harrison had very few cows left. He knew them perfectly well, and when he looked over the Birmingham catalogue, a few years ago, he saw the pedigree of Autumnus was incorrect. He let the matter pass, and this year he looked again. He had now Mr. Wm. Harrison's catalogue of the cows that were sold by Mr. Wetherell on April 4th, 1857. Mr. Harrison gave the pedigree in his catalogue differently. He (Mr. Fawcett) brought this circumstance before their notice, to show them what an unsound and unprofitable business it must be to give 600 or 700 gs., or, as was sometimes the case, 2000 gs., for animals whose pedigree was doubtful, if not incorrect. But even supposing the pedigree to be right in the case he had just mentioned, the animal was of mixed blood. He was neither a Duchess nor an Oxford, nor a pure Booth nor pure Bates; but he was good enough to go and win at Birmingham. He would undertake, at any time, to show that the whole of the Booth and Bates animals were just as much mixed, and had identically the same blood in them, as those animals had which some persons appeared to despise, and hold at such a cheap rate.

Management.

As an old breeder, who knew the ups and downs, as well as the anxieties and dangers, to which, as breeders, they were all liable, he was going to speak to them as practical men, and to tell them his view as to how Shorthorns ought to be bred, and of what use they were. In his opinion, the most important point in selecting a cow was to take care she had plenty of good thick-set hair on her; let her be well covered and have a good jacket on her, so that if they were obliged to keep her out at night, she would have something on her to keep her warm. The next point was to look after milk. He looked upon milk as the first great element in life; if they had no milk they had no constitution, and, without milk, how were they going to get their cheese and butter? Therefore he considered it most important that very great attention should be paid to the milking properties of a cow, and that she should give a fair and reasonable quantity. The next point was her appearance, and in this respect the fashion was to run almost mad. People wanted to see a cow almost like a barrel; they must not see her ribs or her shoulders. She must be straight on this side, on that side, and on all sides. That was what he called madness, though perhaps it might look pretty. But, as practical men, they all knew that when the cow came to the calving there was nothing like good wide loins and hips. With small, narrow loins and hips, the calf was in danger, and so was the mother, and it was sacrificing a great deal for a neat style only. His experience was, that with good wide loins and hips there was very little trouble or danger in taking away the calf; and he had often noticed that with narrow ones there was often very great difficulty. The next point was the width of the chest, not the depth of it, but a good round chest, which gave plenty of room for the heart and lungs, and plenty of room between the fore-legs. The next piece of advice he would give them was not to purchase any show animals. The greatest number of prizes were now taken by animals fed on sugar. The effect of sugar was certainly to stop breeding; and if they came to turn these animals out to grass, they would melt away like snow in the summer's sun. Then, again, they must have clean water and clean food, if they wanted to do any good with Shorthorns; dirty water would produce inflammation of the stomach.

He used a great quantity of bran and linseed, and he hardly ever lost a cow from milk-fever. If they had any difficulty in raising a calf, let it suck; he had never lost a calf whilst sucking. They might be troubled occasionally with a calf scouring, and he would tell them how to cure it. Give it a little castor-oil and ginger, and a small teaspoonful of laudanum, and about a tablespoonful of treacle; put it in a basin with a little hot water, and give it when new-milk warm; let the calf suck afterwards, and he would warrant it would cure him.

Three Grand Points.

His three points were kindness, quietness, and cleanliness, and he hoped the younger men would remember it, for it might be useful to them when he was at rest. Let them study the dispositions of all their animals, treat them kindly and quietly, keep them clean, and then they could do almost anything they liked with them. He had not attempted to say that Shorthorns were better than Herefords, or any other breeds, for he believed they might adapt any other breeds to their purpose as well as Shorthorns, if they only studied the animals. Shorthorns had been produced, there was no doubt whatever, by simply crossing all the other breeds, and in a way and manner that no man living knew. By introducing a little new blood with judicious care, they might have herds of almost any sort they thought desirable. Before leaving the room he wished to express his deep gratitude for the very kind reception they had given him. What he had said was the truth, and he sincerely wished to help them. He knew well what they had to contend with, and for years past nobody had been made a butt of in a more disgraceful form than the farmers had. He should like to know where they could find a better or more honest class of men than the English farmers.

CORRESPONDENCE and COGITATIONS.

A subscriber who had loaned his June number of THE FARMER to a person who forgot to return it, after requesting a duplicate copy, for which he inclosed a satisfactory consideration, "winds up" with the following:

"I am much pleased with the explanation of the 'sexual system of plants.' You deserve much credit for your trouble in setting forth the *facts*.

"I am trying hard to get you new subscribers for THE FARMER; our people admit its merits—that it is very useful to the farming public in many respects, but they like to read the *New York Weekly* the best."—P., *Sept.* 21, 1875.

We confess that we cannot do otherwise than commend the literary tastes of those who prefer a New York *weekly*, to our journal, which only appears *monthly*; because, as a general thing, said weeklies are conducted with rare ability. But, we would most respectfully beg leave to suggest, that this may be no better reason for withholding support from a home journal—by those who are able to bestow it—and lavishing it upon a foreign one, than it would be to withhold support from a constituent of our own community, and bestowing it entirely upon one far beyond our local limits; especially in a case where the *merits* of such a home journal is admitted, and it is deemed sufficiently interesting to *borrow*.

Scarcely a week passes (last week came six) that we do not receive commendatory notices from our cotemporaries, or their friends, far beyond the geographical limits of our own State, and their wonder that we are not better patronized at home, where a local recognition and support ought to originate and be freely accorded. We do not think that we are illegitimately selfish, "since self-preservation is the first law of nature," but we must insist that the local press of the country is entitled to greater consideration, both morally and materially, than it has ever yet received, and that it forms a constituent in the composition of foreign journals that is more manifest to their conductors than it can be to their readers. Wipe out the existence of the local press and the local record of a country, and you destroy whatever interest there may have been in the larger publications of foreign localities. Look at the old files of papers published fifty, sixty or a hundred years ago, and see how meagre are their columns in items of local interest. Many of them are principally made up of matter that has very little reference to local affairs. It is the local press that is the chief instrument in the development of local resources, and local communities could not possibly do more towards the advancement of local progress, than in lending a hearty support to their local journals, whether social, scientific, literary, mechanical, or agricultural.

There are no better reasons for supporting foreign journals to the total exclusion of local journals, than there are for supporting foreign merchants, mechanics, artizans and workshops to the total exclusion of those that are located in the community around us, and it must become apparent, on only a little reflection, that to withdraw our entire support from our local community and bestowing it entirely on a foreign one, that that community must ultimately become impoverished—mere "hewers of wood and drawers of water" to foreign monopolies, if it could sustain itself at all. The term foreign is not used here to designate a country outside of the jurisdiction of our Federal Union, but may mean a different country, a different State, a different county, or a different town or city from that in which we reside. Is it rational, is it politic, is it charitable to ignore our fellow-citizen, our fellow-taxpayer, our fellow-associate, or our fellow-sympathizer in our local district for no other reason than because his establishment is not so large and imposing as that of a foreign one? We by no means dispute the inalienable right of any freeman to exercise his own wish and will in the distribution of his patronage, in any case. Nor are we in favor of that morbid partiality which can see nothing worthy of its consideration beyond the borders of its own immediate fireside, because there may be situations and circumstances under which a community may be more benefited by a judicious expansion than by suicidal contraction.

But we respectfully submit that our local journals, our local enterprises, our local interests and our local prosperity ought to be ob-

jects of our first consideration; and that we should procure from abroad only that which we cannot obtain at home: and, furthermore, that when from any cause we may be compelled to limit or contract our patronage, our discriminations ought to be in favor of home industries and enterprises; in plainer terms, when we feel that we cannot subscribe to but a single journal, that single one ought to be our home or local journal, especially when we have reason to believe it needs our patronage and support. This may appear like sheer selfishness, and in one sense we confess it is; but it is that form of selfishness which is necessary to the material and moral prosperity of every community, and the prosperity of each particular community is necessarily the prosperity of the county, the State, or the nation, in its aggregated capacity. Finally, whom might we reasonably expect to stand up with us, shoulder to shoulder, in resisting the invasion of a foreign foe, but our local yeomanry? Whom would we naturally expect to co-operate with us in our local enterprises? Of whom might we expect sympathy in the hour of adversity? Who would most likely occupy seats beside us in the temple of our God? and who would be most likely to minister to us in our afflictions and follow us to the grave, but our local citizens?

THE FUTURE OF THE PEACH-TRADE.

Much as our peach-growers have accomplished, much remains to be done. It is not many years ago that "peach brandy" took much of the crop that could not be marketed otherwise, but the internal revenue laws have thrown brandy-making into the hands of a few large monopolists who have learned to dispense pretty much with peaches. Dried peaches opened a small avenue for profit in the surplus, but the great progress in the art of fruit-canning keeps dried-peaches rather in the background. They are still extensively prepared and used in this way, but they are by no means as popular, we regret to say, as they once were, and the quantity used for this purpose is not at all proportionate to the great increase in peach-culture. The canning of peaches has been the chief line in peach progress. Already the home consumption is enormous, and during the past few years our canned peaches have become a recognized "institution" in England. Still it is not enough as outlets for our crop. There are no more grown than can be consumed, but our methods of distribution are faulty; and it is here that shrewd business calculation must be brought to bear.

At the present writing we have peaches in Philadelphia, New York and Baltimore, at ridiculously low prices; and yet but a comparatively few miles west they are among the most expensive of luxuries. They bring almost as much by the dozen in some western cities as the grower gets here by the bushel. But there is no way to help the peach-starved places. Peculiar arrangements have to be made for transportation, and these arrangements cannot be made at a few hours' notice. That is, so far it has not been the case, but this is just where invention is needed. There seems to be no insurmountable obstacle. We have succeeded in accomplishing so many supposed impossible things that there is no reason why we may not conquer here. In almost all branches we can find out where there is a scarcity and supply the want at once. When we can do this in the peach line, we have the perfection in the peach business; its absolute control.

Step by step we are reaching this, and just now we are all watching the experiment being made by our enterprising line of Philadelphia steamers. It is to put fresh peaches direct on to the English market. Those who have the matter in charge have no doubt of its success, but a few more weeks will absolutely determine. If it does succeed it will be the beginning of a new era in peach-culture, and one that will be warmly welcomed by our whole people, to whom a general diffusion of first-class fruit at low prices has become a sort of national pride, as distinguishing us particularly from almost all other peoples of the earth.—*Germantown Telegraph.*

The successful transportation of peaches to Europe will no doubt be ultimately developed, but the experiment the present season, according to report, has been equivalent to a failure.* The price of peaches in this market the present season, abundant as the fruit was, was by no means too low to realize a profit on. The very lowest at which inferior fruit was sold was forty cents per basket—and this not frequent—whilst the better qualities ranged from sixty cents to one dollar—mediums averaged fifty cents. Peaches must rot on the ground where they are grown before they will be sold below these prices, unless there is an abatement in the railroad freight on them. The transportation of peaches is only a spasmodic occasion, and if railroad companies ever cultivate a desire to make an exception in favor of them, they will confer a blessing upon the poorer classes of society, for abundant as peaches were the present season, so great is the lack in employment, that many of the poor could not afford to consume them.

Canned peaches are also too expensive for the consumption of the poor; therefore rather than let them rot, it seems to us it might pay to dry them by some of the improved modes recently invented. But dried peaches with the skins on are not desirable, and sometimes very disagreeable; whilst judiciously skinned they have a better taste and flavor than much of the canned fruit. Of the following modes we prefer the first.

Drying Peaches: Never *pare* peaches to dry. Let them get mellow enough to be in good eating condition, put them into *boiling* water for a second or two, just long enough and no longer, and the skin will come off like a charm. The gain is at least six-fold—saving of time in removing the skin, great saving of the peach; the part saved is the best portion; less time required to stone the peaches, less time to dry them, and last but not least, better when dried. A whole bushel may be done in a boiler at once, and the water then turned off. Thus, the other morning, a friend had over two bushels skinned, stoned (halved) and on the boards long before a quarter of them could even have been peeled.

Another way of drying-peaches has been practiced by Thomas Belangee, Egg-Harbor, N. J. He has a small house with a stove in it, and drawers in the sides of the house, lathed at their bottoms. Each drawer will hold nearly a half-bushel of peaches, that should be ripe and not peeled, but cut in two, and laid on the laths with the skin downward, so as to save the juice. The drawer having been shoved in, they are soon dried by the hot air of the stove, and laid up. Peaches thus dried eat like raisins. —R. Hecker, *Phila. Aug.* 2, 1875.

The above is also from the columns of the *Telegraph* of the same date. Neither drying nor canning peaches is likely to become profitable, except by those who raise them on their own premises. Nor is there any other mode of preserving them so cheap and easy of transportation and handling as drying them; nor is there a less deteriorating or perishable mode. About fifteen thousand baskets of peaches have found their way, the present season, into the markets of Lancaster city from the State of Delaware, and probably three thousand baskets from the county; but it would be safe to say that not any of these were dried or canned, except by private parties and for private use. We have seen and tested specimens that were dried by a new and rapid process, that were infinitely superior to the best dried figs, and which retained their original flavor and color in a remarkable degree. If peaches were skinned before they are dried they would always find a market, even in competition with canned peaches, on account of the price alone. Therefore, by all means dry them rather than let them rot, for if skillfully done there is no danger of their spoiling in keeping them on hand, if only ordinary care is taken. The love of the flavor of peaches is almost universal, whether they are dried or otherwise, and when the quality is good, they are as healthful as they are agreeable.

*According to the following, this is not true in all cases: London, Oct. 5.—The experiment of bringing peaches by the steamer Canada from New York in a box on deck arranged on the allegretti refrigerating plan was a success, the fruit being delivered here in good condition and eagerly purchased.

What is "Pot au Feu," and how is it pronounced? "Why the d—l don't you *write* in English?" to which we might reply, "Why don't you *read* in French?" Although *we* are not responsible for the term (being a selected article) nevertheless we will condescend to say, perhaps, what we ought to have said in our comments, that "Pot au feu" is pronounced *Pot-o-fugh*, and literally means *broth-meat: broth and meat boiled; or broth and boiled meat*, all of which is inferred in the article itself, without an explanation being necessary. Pot, standing alone, is pronounced *po*, and means a pot; a kettle; two pints. Au is pronounced *o*, and means, to the; in the; with the. Feu is pronounced *fugh*, and means fire; heat; vivacity. The most literal version of the term would, perhaps, be rendered Pot on the fire; or, Pot at the fire; and relates to a pot or kettle that is constantly kept on the fire, for the purpose stated on page 133, September number of The Farmer. Whenever we speak of the domestic customs of a nation, tribe or community, it seems allowable to make use of the terms by which such customs are designated among the people where such customs obtain, although we confess it would also seem necessary to give the plain English of any foreign terms we may find necessary to use.

BERRIES AND BRAINS.

The following from the *Germantown Telegraph* of the 1st ult., in reference to the "tendencies" of the American Pomological Society, of which the veteran Col. Marshal P. Wilder is the distinguished presiding officer, contains so much that is rationally truthful, and withal comes so near our own sentiments on the subject, that we do not hesitate to transfer it to the columns of The Farmer. Indeed, we think the thing would "fit" in other places than the association in reference to which it was written. Displays of fruits, vegetables and flowers are unquestionably a great attraction, and also eminently useful, on occasions mainly gotten up for display, but under the most favorable circumstances they ought to be rather regarded and made use of as *means* auxiliary to the illustration of *ends*, than as ends themselves. The individual who can practically illustrate how two blades of grass may be made to grow, where only one could have possibly grown before, does infinitely more towards satisfying the material wants of humanity than the most showy exhibition based on mere display. Displays of fruits and flowers alone, at least, only exhibit what *has* been done, and not necessarily what *can* be done, and *how* to do it:

The talents for organization and leadership are so pre-eminent in Mr. Wilder that whatever he undertakes is sure to be a success. The successful president, however, cannot always direct the tendencies of large bodies, except to a very limited extent. He has rather to anticipate its wants, and lead it to the fulfillment of its wishes, than to accomplish his own. We think there is danger of this great society degenerating into a mere fruit-show. It is quite certain that this is not Col. Wilder's intention or desire. But he cannot help, nor can any one now help, the consummation of this error with the whole popular machinery against him. There must be a wholesome public feeling, or the evil is sure. The tendency this way is greater than we have ever noticed it before. The most urgent appeals are being made to the various States to "bring their fruits:" and on this occasion a valuable medal is to be awarded to the State or individual that shows in this respect to the best advantage. In all such interests, new lands with newly-settled populations, and orchards of just such an age as to be in their best bearing vigor, are sure to come off victorious. Insects have not found them out, and the orchards are not close enough together for blights and moulds to be contagious. Practical fruit-culture is very little advanced by these exhibitions of maiden fruits. They are beautiful. They captivate the youthful heart. They draw the multitude to look at them. But "beauty is but skin-deep." It does not wear. And by the time those who look at them now come into close relations with them, come to have orchards of their own, they generally find that their early beauties are blotched and wrinkled, and that the least handsome fruits are often the best after all.

That some fruits are useful accessories to a meeting of a society like this, is certain. But the fruits required are such as will aid in correcting the names of varieties, or in some way illustrating some peculiar phases of fruit-culture. What possible use can be served by the exhibition of bushels of Baldwins, Greenings, Maiden's Blushes, or the scores of kinds with which every tyro in fruit-culture is familiar with, and can be bought at every apple-stand in the country? In a State or county fair, where it becomes a legitimate object of a society's existence to encourage the production of fine fruit between neighbors, this can be understood; but in a case like this there is no point. The fruit-grower of Maine or Canada cannot be expected to compete with Missouri, Kansas or California.

We take it that the Pomological Society will find it more to its interest to bring together brains than berries, and to encourage fruit-culture by the development of principles than the exhibition of pears. It is

all very well for some one in some favored nook to gather and send to the exhibition a plate of beautiful butter or White Doyenne pears, but it would be a matter of much more public interest to know exactly why other people do not get them, and some certain and sure process by which they can. It is a pleasure of a certain kind to look on friend Pome's large Bartlett pears, "so fair and so white, without spreckle or speck;" but the man who can tell us without guesswork in clear facts which every one can understand, the cause and the cure of pear plight, is to be a thousand times more welcomed than a whole State-full of men bringing fruits to the fair. Of course we can understand that a little concession to the mere sight-seeing public is necessary in all undertakings of this kind. Our only objection is that this side issue should come to be a leading feature. The whole country is interested in the work of the National Society; those who see the fruits exhibited are but a bucketful in the great public ocean that expects a benefit from its labors in other ways.

LETTERS, QUERIES AND ANSWERS.

A SUBSCRIBER.—Your grapes were adjudged to be "Rogers' Seedling, No. 17," with a shadow of doubt.

L. H. F.—Your peaches are "Van Buren's Golden Dwarf."

B. F. H.—The singular animal which you captured on a rose-bush near Bainbridge is the "Spectre-insect," or "Walking-twig"—*Spectrum femoratum*—and belongs to the ambulatorial section of the order ORTHOPTERA, which includes grasshoppers, crickets, cockroaches, etc.

S. K.—The bird you shot in the Landisville marsh is a young "Night-heron"—*Nyctiardea gardenii*—of which there are two living specimens in the possession of the proprietor of the saloon in the basement of the "Inquirer Building." This bird has nested and bred in Lancaster county from a very remote period, and some very peculiar superstitious traditions in regard to it have been entertained these many years. It is also called the "Qua-bird," from its peculiar note, *qua, qua*.

P. T. R.—The insect you brought us is the "Wheel-Bug"—*Reduvius novenarius*—and belongs to a family of predaceous and semi-raptorial HEMIPTERA, or half-wings. It is a true *bug*, and is a friend to the human family, in that it feeds entirely upon other insects, noxious and innoxious.

MINERAL RESOURCES OF SOUTHERN LANCASTER COUNTY.*

Beginning with the extreme south-eastern portion of the county, and with the oldest rock formation, is found chromate of iron, associated with the various magnesian minerals. It is mostly embedded in serpentine, which underlies a territory in the county of about thirty square miles, known as "the Barrens," which at sufficient depth yields both minerals quite abundantly. During the war quite an extensive trade was carried on with the magnesite, as well as the chromate, but since epsom salts and calcined magnesia have become so low in price it has been discontinued.

North of and above the serpentine lies a bed of stratified gneiss, occupying a belt across the county about four miles wide, upon which rests a soil excellent for agricultural purposes. Along the northern side of this and immediately adjoining a seam of trap which separates the gneiss from the slate, is a stratum several hundred feet thick, which in appearance much resembles sandstone, being separated by parallel divisions into layers varying from three inches to two feet in thickness. It is extremely hard and compact, and is a most excellent building material. On account of each piece having two parallel faces it forms very close and solid masonry. For the same reason it requires but little dressing, and is readily worked in the quarry. When it can be conveniently reached by railroad it will undoubtedly be extensively used. A number of the bridge walls and culverts on the Columbia and Port Deposit R. R., are built of it.

The ridge of slate on the boundary between Fulton and Drumore townships is 1200 or 1500 feet thick where it is exposed on the river. It extends in a north-easterly direction through the county, and gradually disappears from the surface; the most easterly point at which it crops out being about five miles from the river. A short distance under the surface, however, it extends almost the entire breadth of the county, being found in wells at several different places. The only quarry which has been successfully worked is on the river bank. Some slate has been taken from a quarry near Fairfield, but of inferior quality. That formerly taken from the Peach Bottom quarry was considered inferior to the York county slate, but since that quarry has been worked by its present owners, the Peach Bottom Slate Company, with steam power, pumps and other facilities, for working deep into the rock, it is found quite equal to that on the other side of the river. This company is now doing a large business, not only in manufacturing roofing slate, but mantels, steps, watering troughs and various articles for ornament and utility.

The slate gradually passes through talcose slate to another form of stratified gneiss, containing more magnesia and allumnia than the former. This gradually shows a larger proportion of oxid of iron until the valley extending from McCall's Ferry to Pennington-ville, is reached, where iron ore is found in abundance. A mine of superior iron ore in this valley, near Muddy creek, was worked during the Revolutionary War, but was afterwards abandoned until the late war, since which time large quantities of ore have been taken from it. It is now owned and operated in part by the District Attorney, J. W. Johnson, of Lancaster.

A few years ago a large piece of magnetic iron ore was found in this valley, about two and a-half miles from the river, on Thomas Robinson's farm, a part of which is in the Museum of the Linnæan Society. It is strongly magnetic, and will pick up nails very readily. Since that time other pieces have been found in the same neighborhood, giving evidence of its being there in considerable quantity. The mines in the eastern part of the valley have been worked for many years, and have yielded the ore in abundance, and promise to continue to do so.

In the eastern part of this valley the oldest limestone formation in the county is found. This has long supplied the lower townships with lime, and done much toward bringing their soil to its present state of cultivation.

North of this is the copper mine, and the Martic ridges, the former the most elevated ridge in the county, south of the red sandstone hills, is of almost pure hornblend and seems to have been heaved up through the rocks of a later formation which surround it. It is in this rock that the largest body of nickle ore in this country is found, being mostly in the form of a sulphide. Copper is also associated with it in greater or less quantities, hence the name of the ridge. What seems to be a continuation of the same ridge, through Providence and Martic townships, is of a very different rock, being nearly the same as that in the territory south of "the valley."

North of this ridge and separated from it by a stratum of sandstone, is a series of detached mound-like hills, formed principally of quartz with more or less limestone. These hills extend from the Susquehanna in Conestoga township, through the northern part of Martic, Providence and Eden townships, and the southern parts of Pequea, West Lampeter and Strasburg townships. Throughout their whole extent the quartz composing them contains more or less of the ores of silver, lead, tin and zinc. Mines have been opened in several places, but for some reason have never been worked to much extent. The most extensive one is in Pequea township, near Pequea creek. This is the one referred to in the June number of THE LANCASTER FARMER, where mention is made of a tradition, that the mine was worked previous to the Revolutionary War, and that its entrance was concealed at the time of the excitement resulting from the invasion of the British, and its whereabouts had never since been discovered. From information obtained in the neighborhood, I have reason to believe that the part of the account relating to the concealing of the entrance is correct; but that it has been worked more or less at different times ever since. Several years ago the property on which it is situated was purchased by a company of Philadelphia capitalists, who sunk several new shafts and opened new galleries. After a few years the work was abandoned, although the quantity of galena found was larger than ever before. The reason for discontinuing the work was probably on account of the small per centage of ore for the quantity of rock to be moved. The silver is all found in combination with sulphide of lead, the proportion being variously stated at from 5 to 10 per cent. On the opposite side of the creek another mine has been opened, and another on the farm of Martin Hoover, in Providence township, but after working a short time they were abandoned. North of the last named hill extends the great limestone basin which separates the northern and the southern parts of the county, the geology of which has already been minutely described.

*Read before the August meeting of the Linnæan Society by W. T. BOLTON.

For THE LANCASTER FARMER.

BLOOMING DUTCH BULBS.

By the time this gets through the press, it will be time to plant hardy, blooming bulbs, as Snowdrops, Crocus, Hyacinths, Crown Imperials, Tulips, Narcissus Lilies, &c. Some are the earliest harbingers of spring; others the queens of beauty of the summer garden; all are beautiful of bloom, and many are highly fragrant. As a whole, they form a grand combination for decorating and perfuming the garden. It appears that before the advancement of botanical science, they were all called *Lilies*, and they are frequently alluded to in the Old and New Testaments as the emblems of love and beauty. Solomon, the great king of Jerusalem, grew them largely in his royal gardens. For centuries back, the commercial florists of Holland, Belgium, and northern Germany, have surpassed all others in their culture, and in the production of new superior varieties by hybridization and special culture, so now they supply the whole world with them. Hence, they are called "Dutch Bulbs." *Haarlem* is still the great mart for their sale. All countries make annual importations from there. Our own ornamental gardening has risen to such eminence, our seedsmen and nurserymen make large importations every year. We have seen those of Philadelphia for this year, lately arrived. They are all sound, large and fine bulbs, with many superior new varieties among them. The demand for them has always been as great as the supply. Seedsmen transport them all over the nation to private families and dealers in country places. They are sent by dozens, or hundreds, and balesful as required, so all may get them who want them. They are all of simple culture; rich soil well-pulverized, and in sunny exposures, will grow them to advantage. The sooner they are planted now, the larger roots they will make before hard frosts stop their growths, and by that they will bloom stronger and earlier in their times. Snowdrops comes first, next Crocus, then Hyacinth and Crown Imperial, then Narcissus and Tulip. Lilies bloom at different times, and keep up a show of blossom for many months. The bulbs are planted of a depth according to their sizes; Snowdrops an inch under ground, and Lilies four inches under ground. Hyacinths and Van Thol Tulips are much grown in pots and bell glasses in glass houses and in windows of dwelling houses, and bloom very early, just after frosts seal up the ground. The bulb beds should get a slight covering of straw manure, to lie all winter, and taken off in spring after the frost is out of the ground. Everybody should grow a few bulbs, as they appear to shorten the winter and make spring look earlier. And they are something to admire and love.—WALTER ELDER, *Landscape Gardener, Philadelphia.*

OUR PARIS LETTER.

Farming on the Continent of Europe.

Correspondence of THE LANCASTER FARMER.

PARIS, September 4, 1875.

THE YIELD OF THE HARVEST.

Although harvesting operations are nearly terminated in all France, yet the exact result cannot be stated with accuracy till threshing operations be completed. General opinion believes the yield will be a mean average of about 28 million quarters for whet; in exceptional years double this quantity is produced. Some twenty-four million quarters are required for home consumption, and four millions for sowings. Thus no wheat can be exported of this season's crop, but such can take place from reserved stocks, which are large. Natural and artificial meadows have furnished some excellent aftermaths; beet looks better, and the vines promise an exceptional vintage, in quantity, at all events. Potatoes leave something to be desired; and while the condition of cattle is generally good, there are districts where the foot and mouth disease has reappeared.

DEPREDATIONS OF THE VINE-BUG.

The importance of the vine-bug or phylloxera question to France may be estimated by the fact that the insect, which covers the roots like a bark, has already destroyed nearly half a million acres of vineyard, and threatens with ruin two millions of acres more. Since three years a Government Commission has been occupied at Montpellier, experimenting with all suggested remedies on an affected vineyard several acres in extent. It may be safely said, the Commission, composed of practical and scientific men, has discovered no cure. It has, however, demonstrated the happy action of manures in prolonging the life of the vine, without, however, preserving it. The submersion of the vines, for thirty days at least in autumn or winter, with running water, and the subsequent application of fertilizers, known as the Faucon plan, is the sole efficacious remedy up to the present demonstrated, and so highly is it appreciated, that a project is on foot to construct a canal, to be fed from the Rhone, so as to enable several million acres of vineyards to be temporarily inundated. A special commissioner has left for the United States to study a variety of American vine-stocks, known in Pennsylvania as the "corn grape," and reported capable of resisting the phylloxera.

REAPERS, MOWERS AND THRESHERS.

Several agricultural societies adopted the excellent practice this year of issuing instructions for the use of mowing and reaping machines, and trials of both have been extensively made. Since May, last, 2,000 of these machines have been sold in France, and mostly of foreign make. A reaping machine is not easy to construct; its parts are numerous and diverse, demanding an extremely precise, if not delicate, adjustment. French manufacturers are not able yet to compete with English and American fabricants. The total reapers turned out by the former do not exceed 300. As France at present exports locomotives to England, there is no reason why she may not one day do the same for mowers and reapers. It is calculated that the 2,000 machines purchased within the last three months represent the equivalent of 30,000 laborers. This supplemental labor is incalculable where farm servants are rare, and where the military are too occupied with their own duties to give much practical help during harvest-time. It is becoming the custom in France to present the farmer who offers his wheat to be cut by a competition of reaping machines with the prize reaper, the latter being purchased for that purpose by the local farming society. Not less noteworthy is the progress made in the adoption of threshing machines. For large farms steam machines of course are employed, but in the case of small holdings the little Swiss machine is preferred. It is portable, and so passes from neighbor to neighbor. If worked by a horse, ten bushels of grain per hour may be threshed; if turned by two men, one-half that quantity.

ADULTERATION OF COMMERCIAL MANURES.

The Minister of Agriculture, alarmed at the extensive adulteration of commercial manures, and which is progressing rather than diminishing, recommends each Department to establish a laboratory for testing the sincerity of the seller, and he urges every agricultural society to obtain samples of manures offered for sale in their neighborhood, sending same to be analyzed, and in case of fraud, placing the matter in the hands of the public prosecutor. France has sufficient laboratories already in connection with her agricultural schools and "stations;" the obstacle to conquer is the apathy of the farmer, who in too many cases is already the debtor of the seedsman and manure dealer. The easiest and best guarantee is to order commercial manures at the fountain head. The newest substance for falsifying guano is a compound of gypsum and phosphate of lime, colored to imitate real Peruvian. M. Corenwinder, of Lille, draws attention to the *bancoul* nut, belonging to the *euphorbiacæ* family; when deprived of its thick shell, it yields 62 per cent. of oil, suitable for burning or industry; the cake is as rich as 22 per cent. in nitrogenous matters, and the phosphates are also in large quantities, hence the cake would make a capital manure. The nut is peculiar to Cochin China, Tahiti and New Caledonia.

HAY FARMING AND BALING.

A fresh impulse has been given to hay farming by the employment of machines for compressing the fodder. A cubic yard of hay, ordinarily bundled, weighs about 1 cwt.; by pressure, and well corded and wired, five and six times that quantity can be forced into the same space. It is thus that Cherbourg sends hay to Paris, and the same facilities prevent a region from suffering from any penury of fodder. The presses are of various sizes, the portable ones being hired out. Reports of late have been very unfavorable to the giant maize of Nicaragua, so much esteemed for green feeding. On examination it has been found that the seed had not been imported from South America, but raised in the vicinity of Marseilles; the seed germinated very unequally and sickly, and was found to be black in the centre, and suffering from a dry rot. Apart from any question of degeneracy, the climate of France cannot ripen this maize, and hence why farmers are falling back on the variety known as "horse-tooth." M. Goffart, who has become the authority on the preservation of green maize and rye in trenches for winter and spring feeding, asserts the plan has never failed, where the instructions have been minutely followed. The amount of moisture contained in the plant is no obstacle to its preservation, as maize contains 90 per cent. of water when put in the trench, and revealed on analysis the same per centage, four months later, when taken out to be consumed. M. Goffart thinks that the reason why so many complain of green rye not conserving well is owing to its being relatively dry, containing but 70 per cent. of water, and hence, one reason, perhaps, why a watering with salt in solution proves so beneficial. The colder the state in which green stuff is put into the trenches the better; thus, after filling some pits in December, M. Goffart found that such as had a layer of ice on the surface before being covered in, maintained the desired low temperature to the last.

SHEEP AND WOOL.

The Central Agricultural Society has resolved that, as yet, there is not sufficient practical evidence, that in the case of Merinos, precocity is compatible with relative amelioration in the staple of the wool. Professor Sanson combats this doctrine, by producing specimens of wool, of an excellent character, belonging to Merinos, that had their full permanent teeth at the age of twenty months—the grand proof of precocity. In other instances, Merino rams had their dentition perfect at twenty-six months, thirty being the general period for such.

INCREASING THE BREED OF HORSES.

Belgium is very much occupied with the means to increase the breed of horses, to supply the deficiency caused by foreign purchases. The favorite plan is to award annual prizes to the best stallions, aged from four to nine years, and which shall have covered thirty mares at least, in the locality. France, in addition, gives prizes for the best brood mares, but which must not be exported. Belgium being very rich, can afford to pay good prices, there the rent per acre of land is fr90, and for its purchase fr4,000. The land is fertile, excepting the heath district of Campine, and fifteen quarts of milk is the expected yield of a Dutch cow. When the quality, as well as the quantity diminishes, the animal is at once fattened for the butcher. Some of the small farmers employ dogs, in a separate outhouse, to turn the churn crank. It is by means of beet pulp that Belgian farmers are able to fatten so much stock. Manual labor is not dear, farm servants receive fr20 per month, with board and lodging, and day laborers three sous per hour.

NEW PROCESS OF PLANTING POTATOES.

The Telliez process of planting potatoes, horticultural rather than agricultural, consists in being able to have new potatoes in January and February, equal to those ordinarily produced in May and June. Having selected a light friable soil, at least twelve inches in depth, make a hole ten inches deep, place a little manure therein, then the potato, afterwards some manure, and then fill in the soil. The holes ought to be twenty-four inches assunder. The seed potatoes should be preserved in charcoal dust till first of August—the moment for planting—and to be steeped for one hour beforehand in a solution of half a pound of salt and one quart of water; about the middle of September mould, and at the same period in October weed and earth up, irrespective of the faded stems; then cover with a little straw; the tubercles will increase underground, independent of all exterior vegetation, and may be gathered in the early part of January, although they will not be fully ripe till the close of February.

MISCELLANEOUS ITEMS.

M. Dupouchel recommends an effective means for destroying dodder. Mow the spot affected as close as possible to the soil, afterwards raking it clean; then strew a quarter of a pound of sulphuret of calcium per square yard; the dodder will be burnt, but the clover and lucern will in no way suffer.

To destroy the terrible bugworms which attack the young hop stems, M. Breithaupt pours some carbolic acid on a heated shovel; the fumes cause the worms to fall dead in masses.

Canadian poplar seems to be proscribed for roadside planting; instead, ordinary poplar is recommended for humid soils; elms for strong clays, and oak for land unsuitable for any other tree; the distance between each tree to be thirty-three feet.

It is alleged that one of the obstacles to the rearing of horses in France, is the absence of oats. In the southern parts of the country, barley is the favorite grain for horses, as is practiced at present in Spain, Algeria, Arabia, &c. The Romans fed their cavalry horses only on barley. A new variety of oats, called *Salines*, has been introduced in the neighborhood of Lille, which yields over eighty bushels per acre, where formerly but half that quantity was produced; hence, the cultivation of this grain crop is now rapidly spreading; oats sell at fr11 to fr14 per cwt.

OUR LOCAL ORGANIZATIONS.

Proceedings of the Lancaster County Agricultural and Horticultural Society.

The stated monthly meeting of the Lancaster County Agricultural and Horticultural Society was held in this city on Monday, Oct. 4th: Present, Messrs. Johnson Miller, President; Peter S. Reist, Calvin Cooper, Simon P. Eby, John Crossman, Wm. J. Kafroth, Henry M. Edgle, M. B. Eshleman, Elias Brackbill, S. S. Rathvon, Mr. Buckwalter, Martin Brubaker, Ephraim Hoover, John M. Stehman, Reuben Weaver, John Gross, and Alexander Harris, Secretary.

W. J. Kafroth, of West Earl, and Henry Webb, were elected members of the Society.

The President read a report on the condition of the crops in Warwick township. He said the State Fair is now among the things of the past, and our minds are again directed to our work at home. In looking over our farms, we find that the wheat crop sown only a few weeks ago is coming up finely, and the fields look as if very well set and in good growing condition. The seeding has varied from the first of September to the first of October, and there is some to sow yet. The corn crop is the largest and heaviest we have had for years, and at this time is nearly all cut. Potatoes, both white and sweet, have turned out large crops, and in spite of the bugs Lancaster county has a very fine crop of potatoes. These being plenty and cheap, will be a relief to the poor during the approaching winter, which, from present indications, will be marked with a scarcity of labor for a large class of our population. Agriculturally, this has been a year of plenty, and people have no reason to complain. An all-wise Providence has provided for all who feel like earning an honest living by labor, and those who do not will receive the just reward of their indolence, in not working while work could be had. While we have fine weather farmers should not lose a day in putting things to rights about the farm and farm buildings, especially to procure the proper protection of their stock from the inclement weather of winter.

Mr. Kafroth agreed in the main with the President. The farmers in his township had fair crops of wheat and fruits.

Peter S. Reist made an encouraging report. The farmers are now busily engaged in feeding, and for some time they have been selecting more choice stock. They are sowing more corn ground in wheat this fall than has been done for years. Apples are rather scarce. Potatoes, notwithstanding the bugs, have yielded a good crop.

Johnson Miller agreed with Mr. Reist in the matter of sowing wheat on corn stubble.

John Grossman was in favor of cutting off the corn, then plowing the ground, and afterwards harrowing it.

John Brackbill differed somewhat in his plan.

Reference having been made to a particular drill, Mr. Engle said he had not tried it, but he had seen it. He and Mr. Carter had carefully examined the drill at the fair, and they had formed the same opinion of it. The drill which he (the speaker) used, had the shovels eleven inches apart. He thought the drills, as now generally used, would not give general satisfaction. He believed we would yet be compelled to adopt the method pursued in England—to cultivate our wheat like corn.

Mr. Kafroth presented apples, grown by Mr. Ensminger, of Manheim, and he desired the members to examine and pronounce upon them.

Johnson Miller thought something should be done to secure a meeting room.

On motion, a committee of four was appointed to see the County Commissioners with reference to a room for the future meetings of the Society. The following gentlemen constitute the committee: S. P. Eby, esq., Ephraim Hoover, D. G. Swartz, esq., and Wm. McComsey—the committee to report through the papers for next meeting.

Mr. Engle spoke of the success of the State Fair. One of the leading managers stated to him that the fair was the most complete success which the State Society had ever known. He thought we should soon go to work to arrange for the next fair, which he believed would be held in our midst next year. Many who did not participate this year now regretted it,

and they promise that they will not neglect it in future. He thought we should do something toward having a larger representation in the State Society. The qualifications prescribed by the Constitution are an annual payment of two dollars, and twenty dollars to become a member.

A general discussion on the subject of the late fair now ensued, and several members believed that, in view of the efforts that had been made by the local society, its members had scarcely received such courteous recognition from the managers as they had deserved. A few free tickets were at least due the County society in consideration of what they had done for the State association.

H. M. Engle spoke of planting trees in the fall, and said the small fibrous roots will strike out, but to enable the trees to do so, they should be planted early. They should also be planted early in the spring. The oftener a tree is transplanted the better it will do. Rivers, the great nurseryman of England, transplants his young trees every year.

Levi S. Reist remarked that trees grown from seed throw a tap root which runs down to a great depth, and it is a good plan to cut off the tap root, as the tree will then throw out side roots.

Jacob Stauffer was appointed essayist for the next meeting.

The following questions were proposed for discussion at the next meeting.

By John Grossman: What is the best time to plow ground for corn or oats?

By Ephraim Hoover: What herds of cattle are the most profitable to be raised by Lancaster county farmers?

By Reuben Weaver: What grape is the most profitable for cultivation?

Aaron H. Summy was elected a member.

Reuben Weaver Exhibited some very fine Martha grapes.

S. S. Rathvon exhibited the following fruits: Rogers' seedling grapes, No. 17, from Conestoga township; Van Buren golden dwarf peaches, by Lewis H. Fisher; pomegranates, grown by Mrs. Kramph, in the open air, at the "Home Cottage," Lancaster; figs, second crop, grown of the same, under the same circumstances; apples for a name, by Levi S. Reist, for a friend.

After testing the fruits the Society adjourned.

THREE MODEL STOCK FARMS.

The Coleman Estate—A Farm of 22,000 Acres.

A writer in the Reading *Times* gives an interesting account of the immense landed estate of the Colemans, which is the largest landed estate in the commonwealth, and devoted almost entirely to farming purposes. It is situated at Cornwall, Lebanon county, and Speedwell, Lancaster county, and contains twenty-two thousand acres. It is owned by the heirs of Robert W. and William Coleman. The residence of the proprietors is at Cornwall, six miles south of Lebanon, and is reached over the Cornwall turnpike, probably the finest road in the State, on which not a stone or rut can be seen. This farm is not divided into distant tracts, but is one contiguous body, and comprises about 15,000 acres of woodland, 105½ acres of iron ore, known as the Cornwall ore hills, while the remainder is in the highest state of cultivation. Some idea of its extent may be formed from the fact that it would occupy the better part of three days to drive round it. There are about fifty miles of road traversing the estate, and in daily use. One of these roads has a continuous length of over ten miles. There are engaged in the direction and control of this estate one manager-in-chief, with six assistants under him, while the tenantry compose a body of about one thousand men, women and children. Hundreds of the best draught horses and roadsters, and the choicest strains of cattle and sheep, can here be seen, while stock raising is a specialty.

For the purpose of maintaining a supply of first-class horses, the old Speedwell Forge property, in Lancaster county, distant seven miles from Cornwall, has been converted into a stock farm. The forge, which, in days long gone by, furnished the iron market of that era with a regular supply, is now a mass of mouldering ruins, the walls overgrown with moss and ivy, and the water-power become a means of irrigation to the land. The stock farm is under the supervision of Mr. Geo. Yontz, an experienced farmer, and in matters pertaining to the qualities of good horses and cattle a recognized authority. The chief attraction at Speedwell is its magnificent stud, at the head of which stands "Middletown," a half-brother to the famous Dexter. This stallion is 15½ hands high, a blood bay, has two white hind feet, and as he sweeps around the track bears himself with all the dignity and pride of royalty, is a perfect trotter, with a coat like satin, pure gaited, with an easy, beautiful movement, and so gentle that a woman can drive him.

He has sired the largest percentage of trotters in harness of any known stallion, and before his transfer to the Speedwell farm, his owner was offered $25,000 for him. He can make his mile in 2:30. "Middletown" is known throughout the United States, and noted for his performances in the stud. He is 13 years old, and has forty descendants, whose records range from that made by "Orangeblossom," in 2:16½, to that of "Melody," in 2:40. To show that his get is equally valuable and desirable, we would just mention that a daughter of his, "Katie Wink," sold with mate for $20,000 in gold to a purchaser in California. There are at present four mares at Speedwell, sent in from Indiana, who were accompanied by their owner, for the purpose of ensuring their safe arrival, so anxious was he for their welfare. In addition to "Middletown," there is "Speedwell Boy," also a Rysdyck Hambletonian. He is smaller than "Middletown," has two white hind feet and one white front foot, is seven years old, also a blood bay, and can make his mile in 2:50.

Of cattle none but the short horns are kept here. The choicest strains of cattle and sheep, though raised here, are sent to Cornwall. Among the former class at this place are the celebrated herd of Holstein cattle. There are but two herds in the United States. These animals are remarkable for their beauty, which consists in their deep black color about the head, neck, rump and legs, while round the centre of their bodies runs a broad, snow-white belt. Some have broader belts than others, occasioned by the action of our climate. The effect of this strong contrast of color is beautiful in the extreme, especially when the animals are browsing on some field of rich, green grass. Next to these in good looks are the Alderney cattle. These are generally of a delicate fawn color, lithe in limb and body, and at a distance bear a strong resemblance to the deer. It is the handsome Alderneys that yield the rich yellow milk and the golden butter, and of them it may with truth be said, "they are worth their weight in gold." The lovers of good mutton can here have their eyes regaled by the sight of the elegant "Southdown," and if he is a guest at Cornwall he will have his palate tickled with a taste of this same excellent meat. Nor is this all that this big farm can boast.

There is an orchard here that supplies the owners with all the fruit they want, and that last year gave every man who worked by the month on the place a bushel of apples and a barrel of cider. Pears, peaches, plums and quinces are cultivated, while the gardens of the owners, the manager and his assistants, contain the best grape vines, strawberry, raspberry and melon patches, and vegetables of all kinds in profusion.

There are thousands of bushels of wheat, rye, oats and corn raised on this estate. Much is sold, but the greater part is housed and used. Wheat and corn is sent to their mill to be supplied to employees and employer. Every employee on this estate gets a bushel of flour from the Cornwall grist mill for $1.50 per bushel, no matter what the market price may be, and the corn is sold at a similar proportionate rate.

Besides this farm the estate owns 1,425 acres in York county, known as the Castle Finn property, and in cockney phrase, a "shooting box" on Lake Saranac, in northern New York, up among the Adirondacks. Here, in past years, one of its former owners passed many a pleasant hour hunting deer and fishing for trout in company with his personal friends. Another large farm called Colebrook, which belonged to the ancestor of the present proprietors, and has by the death of the previous owners become separated in ownership, once formed part of this huge estate. There are charcoal furnaces here but they have not been in blast for many years, the farm being exclusively used for agricultural purposes.

A Lancaster County Stock farm.

In the September number of *The Maryland Farmer*, D. J. Evans, jr., one of the special contributors to that excellent agricultural monthly, gives the following description of the breeding establishment of our friend, Charles B. Moore, near Christiana:

"Last June we had the opportunity to make another trip amongst the breeders, and, as in former visits, we gleaned many items of interest and value. This time we visited the breeding establishment of Mr. Charles B. Moore, near Christiana, Lancaster county, Pennsylvania, having heard so much of his fine stock and the advanced methods of feeding and management, which he so strongly advocates and untiringly practices. Although a comparatively young man in years, he proves, by his enterprise and success in breeding high-class thoroughbred stock, and by adopting the most approved methods in all departments, that an old head is sometimes found on young shoulders. In his discussions, he is firm in his convictions without being dogmatic, and is ever ready and willing to show his stock and make all desired explanations or give information. His geniality, too, cannot fail to make him many friends. Although our visit was a hurried one, we took the time to run over his things, rather more hurriedly, though, than we cared to do, but promised ourselves more leisure at some near future time, when we hope to give the results of experiments which Mr. Moore has instituted, as they cannot help but be both interesting and very valuable.

"We did not arrive at Mr. Moore's until about noon. After rest and refreshments we sallied out to take a peep at the stock and fixtures. We first headed for his milk house, which is a model of cleanliness. We first stepped into the churning and wash room, and where a neat little upright engine is placed. The water is pumped with this, the churning done, water heated, and a number of necessary things done. As we neglected to find out what make it was, we cannot say positively, but think it is a Baxter engine. It is scarcely any more trouble than an ordinary stove, it being a self-feeder. In the milk room were three forty-cow Jewett milk pans, with the hot and cold water pipes. Mr. Moore likes the Jewett pan, as it is less work, takes up less room, and is, consequently, less expensive. Some dairymen object to it on account of experiencing a difficulty to maintain a uniform temperature of the milk, as wide a margin as from ten to fifteen degrees being noticeable between the top and bottom of the pans. Another objection urged is that the depth of the milk cannot be well regulated or equalized, as a dairy of forty cows, most of them being old in milking, will not supply as much milk as forty cows in the flush of their yield. However, be that as it may, the quality of his butter is most excellent. He sets his milk about five inches in depth.

"After leaving the milk house, which is a neat affair, built of stone and well cemented, built against the side of a good hill, or rather *in* a good hill, to secure more uniformity of temperature, we went to the stables to see the cattle, our curiosity being raised to see the Jersey bull "Commodore Roxbury," H. R., 1586, as we had heard Mr. T. M. Harvey, of West Grove, Pa., than whom there is no better judge of good dairy stock, speak so highly of him. Unlike many Jersey bulls we have seen, he was comparatively quiet and docile, his owner leading him about easily by his ring. He has one of the richest, mellowest hides that I would wish to see, and has a very fine milk mirror or escutcheon. Owing to being stabled continually his feet have grown rather more than is consistent with beauty, but this is so easily remedied that it does not amount to a defect. This bull took eleven first prizes in Ohio, Pennsylvania, Maryland and Virginia, at the fall fairs last year, as did quite a lot more of his stock. We saw the cow "Fawn," H. R., 850. She is a representative animal, and was a heavy prize taker at last fall's fairs. We saw several more fine Jerseys and Guernseys, also some neat half-bloods, whose excellent dairy qualities made them valuable to their owner. Here we saw the "Gifford Swinging Stanchion," in full blast, with a dairy herd of over thirty cows. They seemed contented, and did not seem to mind this rather unnatural mode of *haltering*. It *seemed* cruel to us, but not a single one of the animals evinced any uneasiness or showed signs of pain. Mr. Moore likes them.

"The water was under cover, and the whole herd could be watered, winter and summer, without going out of the large circular (inside) barn in which they were. The animals are not pastured, but Mr. Moore resorts to the soiling process, feeding five times each day. The grass is cut and carted into a large floor; from here it is taken on a truck made for the purpose and from it distributed to the herd, a track running around the barn to facilitate this.

"In the stables saw dust, leaves, etc., are used as absorbents, and the manure is all kept under cover of the barn, in the large circular enclosure back of the cows; the cows when in their stalls standing with their heads outward. In feeding cut food, a Sinclair masticator is used for cutting, driven by a large stationary engine, which also does all the steaming, grinding, threshing, sawing, etc., done on the place. He told us that he used to pay as much for tolls to the miller as now pays for his coal, and he now saves time, besides doing many other things with it.

"In soiling, he alternates, using clover and then rye, as he considers it preferable and better to do so than confining to one kind of food. On his farm he makes seventy bushels of corn to the acre, and, although his farm contains one hundred acres, he carries over thirty head of cattle on it, and a large herd of Berkshire and Yorkshire pigs. Formerly from ten to fifteen head of cattle was the complement, but a liberal application of *brains*, aided by proper tillage and a different management, has effected the very desirable change. He raises from two acres and a-half to three acres of roots yearly—beets, mangel-wurtzel, etc., for his stock, to be used as a winter food in connection with meal and other food. We next visited his piggery, which is one of the largest, if not the very largest, affair of its kind in the State. Here we saw a lot of very fine Berkshires, and some equally as fine Yorkshires, many of them being imported. He has six imported Berkshire sows. "Lady Yorkshire" is a splendid dish-faced Yorkshire, and a heavy prize winner wherever exhibited. She took prizes in Pennsylvania, Virginia, Maryland, Ohio, and other States. The imported sow (Berkshire) "Swanwick's Pride," took the first premium in England and ten first premiums here. Mr. Moore is a strong advocate of steaming food for stock, and not only *advocates* it but he *practices* it. As it may be of benefit to our readers, we are about getting a condensed report from him on "Steaming Food for Stock," and will, when received, lay it before the readers of this paper for their perusal and consideration.

"Mr. Moore also breeds the Dark Brahmas and Partridge Cochins, and shows with *all* his stock that what is worth doing at all is worth doing well."

The Victoria Colony in Kansas.

THE GRANT ESTATE—STOCK-RAISING—PROFITS OF FARMING ON THE PRAIRIES.

Three years ago Victoria (Ellis county) was unknown, but with the advent of the Kansas Pacific Railway a new order of things has taken the place of the old savage life which had existed for centuries. All along the line of the road towns and villages, with here and there a comparatively large city, have grown up, making central points from which civilization is extending for many miles into the interior. Settlers are becoming more numerous, and are taking advantage of the provisions of the Homestead law, which gives them a sufficient number of acres on which to build a home, and to secure a comfortable existence. Law and order prevail, and property is as safe and well protected as in the more densely populated States of the East. The plains of middle Kansas are preeminently adapted by nature to the nourishment and protection of cattle, sheep, and other live stock. They have been aptly termed the stock-grazing ground of the nation. Millions of cattle, sheep and horses can be fed, watered and cared for on these plains, summer and winter, at the lowest possible cost. Nature has bountifully provided nutritious grasses for sheep and cattle, which, with the exception of a very few days in the depth of winter, is accessible the year round. This new ground, opened up for the enrichment of the nation and the development of its resources, is also remarkably fertile in the production of grain. Rye, wheat, barley, millet, corn and alfalfa clover yield immense crops to the acre, and besides furnishing winter feed for the horses, cattle and sheep, return a large money income to the farmer.

George Grant, of London, England, soon after the Kansas Pacific Railroad began to run its through trains, was induced to visit this part of the United States, with a view of investment, and after spending several weeks in traveling over Kansas, saw so many evidences of the natural advantages of these plains, that he decided to invest a large sum of money in founding a colony which should test, practically and intelligently, the special adaptation of these prairies to stock-raising, and bring into the market a part of the country hitherto regarded as barren and unfruitful. Mr. Grant subsequently entered into a contract with the Kansas Pacific Railway for the purchase of the largest tract of land owned by any one person in the United States, and exceeding in area any dukedom in Europe. This immense estate he divided into sections or stock farms one mile square, which are well watered and suitable for raising stock and grain. Many of the sections, from the peculiar formation of the land, contain natural corrals or shelters for sheep and cattle, and need only a short line of fence to afford a perfect winter protection for the stock. The colony is also advantageously situated, a portion of the estate lying contiguous to and surrounding Fort Hayes, one of the principal permanent military stations of the West. Denver, with its wealth and comforts of civilized life, is within an easy journey westward by rail; when one leaves Victoria in the early morning is reached at supper-time without fatigue or discomfort. Equally distant from Victoria, eastward, is Kansas City, and a night's ride beyond terminates at St. Louis. New York is only 62 hours from Victoria, and the traveler may breakfast at the Langham Hotel, London, in less than 14 days after leaving Mr. Grant's hospitable mansion.

The Victoria estate differs from other settlements in this country in several important particulars. Mr. Grant has sub-divided his estate into large farms, and sells only to settlers of assured character and position, who will devote themselves to raising improved breeds of sheep, cattle and horses, and cultivate the land according to the progressive farming ideas of the present day. The unsurpassed advantages of the climate, soil, grass, water and shelter of this district are peculiarly favorable to the growth and improvement of live stock; and Mr. Grant believes that a breed of sheep, cattle and horses will be developed on these plains fully equal to the best breeds of Europe. Foot-rot and kindred diseases are unknown here, owing to the high elevation and dryness of climate. Mr. Grant began his new enterprise by importing English long-wooled rams, selected from the first flocks of England, chiefly Oxford Downs, Cotswolds, Lincolns, Leicesters and Shropshires. He then purchased Colorado graded ewes for breeding, and the experiment of crossing the merinos with the long-wools resulted most favorably. Besides the general improvement in form, size and weight, they clipped from seven to ten pounds of wool, being nearly double that of the native stock. The English rams cost from $150 to $250 each, but this outlay has been amply repaid in the marked improvement shown in the merinos crossed with this best imported blood. The sheep are divided into flocks of about 1,000 each, under the charge of separate shepherds, and remain out in the open prairie more than three-fourths of the year. Mr. Grant has built extensive covered corrals of the Kansas stone found here in great quantities, for winter shelter, and in stormy weather feeds crushed corn. The cost is comparatively small, and out of a flock of 7,000 ewes there was a loss of only 1 per cent. during the winter. This Mr. Grant attributes to the perfect shelter and corn feed. Experiments made by the head shepherd with certain flocks, by feeding hay instead of corn, produced a greater death-rate, and corn was substituted with most beneficial results. Mr. Grant sums up his experience on this point in the opinion that proper shelter with a feed of crushed corn will carry a flock of sheep safely through the winter with no appreciable loss. Mr. Grant has increased his flock this season to 10,000 ewes, and is arranging to have on his estate 100,000 of improved breeds within five years. An estimate has been made of the probable results of sheep-farming at Victoria, basing the figures on past experience, and it shows that beginning with a flock of 1,000 breeding ewes and 20 rams, the annual increase and profits in ten years, at the lowest estimate, will amount at least to $200,000. As to cattle, Mr. Grant uses only first-class imported short horns of the Booth and Bates strain, some of which are the finest animals ever seen in this country. He has also four bulls, known in Europe as the pure Angus Poll, but almost unknown here, and which in the London market bring a higher price as beef than any other cattle. In the ultimate success of this breed in crossing native stock Mr. Grant has the fullest confidence. These noble-looking animals, full, round, and deep-chested, with short legs, are exceedingly robust in appearance, and may be described as "all beef." At their present age, three years, they weigh on an average 2,200 pounds each. The 200 young calves sired by them are fine specimens of the improved breed and closely resemble their sires. In all, Mr. Grant has 500 native cows of the best class and approved colors, from which, and his frequent purchases, he will possess in a few years one of the finest herds in the United States. These cattle are under the charge of herders, and are quartered for the summer on what is known as the Smoky Hill Ranche, which is supplied with running water from the Smoky Hill river, and sheltered by cottonwood and elm trees. This ranche is about 15 miles from Victoria Depot. The winter ranches are on the Victoria river, and the sheep and cattle occupy a frontage of clear running water extending fully 10 miles in length. In horses, Mr. Grant has about 30 very fine brood mares, most of them of high pedigree, by sires such as Bonnie Scotland, and other thoroughbreds. These have been served by his imported stallion Flodden, sired by the celebrated English stallion Thormanby, the winner of the English Derby in 1860. The pedigree of Flodden dates back to the reign of Charles II. He is a gold bay, with black points, 16½ hands high, and shows his lineage in every movement. The crops of Middle Kansas this season are unusually fine and have escaped the ravages of the grasshopper. A few hours before we reached Victoria, we saw on the line of the railroad a field of wheat two miles long and one mile wide, containing about 1,300 acres, nearly ready to cut, and valued at $27,000 over and above the expense of planting and harvesting. Mr. Grant has on his farm 225 acres of rye, expected to yield from 40 to 50 bushels per acre, and 125 acres of millet, which will cut fully three tons to the acre. He has besides equally good crops of wheat, alfalfa and corn. The crops on the adjoining farms of Messrs. Gunther, nephews of ex-Mayor Gunther of New York, the Hon. Walter Maxwell, Walter Shields, and other settlers on the Victoria estate, also give promise of an abundant harvest. Altogether, the Victoria Colony is in a prosperous condition and its success assured. The class of settlers and the continued improvement in the breeds of sheep, cattle and horses must ultimately largely benefit this unrivaled grazing country, and add materially to its wealth and prosperity.—*Correspondence N. Y. Tribune.*

THE GARDEN AND ORCHARD.

Work to be done in November.

VEGETABLE GARDEN.

Lettuce and *Cabbages* in frames should be frequently aired to make them hardy.

Thin out *Winter Spinach*, *Corn Salad* and *young Onions*, and in very cold localities cover lightly with litter.

Put *Celery* in trenches a foot wide, and as deep as the plants are tall. Pack closely and cover with litter when there is danger of hard freezing.

Cabbages keep best by inverting the heads, setting close together and covering with several inches of earth.

Finish harvesting the *root crops*. If there is not room in the root-cellar put them in a pit.

Late *Turnips*, *Parsnips*, *Oysier Plants* and *Horse Radish* should be last cared for, as freezing and thawing injure them little. Those not needed before spring may be left in the ground with slight protection.

Use every spare moment in digging the ground and manuring whenever it is needed.

FRUIT GARDEN.

Planting may continue if the season remains favorable.

As soon as the leaves fall, prune grape vines; lay down tender varieties and cover them with earth.

Bend down the tender sorts of *Raspberries* and cover the canes with earth.

Strawberry beds should be covered with straw, leaves, or other material when the ground freezes.

FLOWER GARDEN.

Bulbs which have not been planted may be put in as long as the ground can be worked. The bulb beds should be well covered with litter, and thus held in place by boards laid over it.

Storing tender bulbs and protecting plants should be pushed forward rapidly. Put all into winter quarters.

Zonale Geraniums, not needed for the conservatory, may be put into the cellar—in boxes or hung up.

Cover *herbaceous perennials* with littery manure; cover *teader shrubs* with straw; collect leaves for compost; clear up rubbish; and put vases and moveable trellises under cover.

See that all newly planted trees are well staked and protected from the winter wind. Give the roots a good mulching of leaves or litter—it is a great benefit to them.

CONSERVATORY AND HOUSE PLANTS.

Dutch bulbs should be put in glasses or pots.

Be sure and keep potted bulbs in a dark cool place until well rooted.

Do not keep plants too warm—sun heat is generally sufficient at this season of the year.

Top dress the pots by removing the surface soil and replacing with new and fresh.

Camellias should be kept free from dust, and moist.

Autumn-flowering *Oxalis* is now in bloom, and must be kept in the sun in order to bloom freely.

Work to be done in December.

VEGETABLE GARDEN.

Cold frames must be closely looked after.

Cauliflower is less hardy than cabbage or lettuce, and the sash over it will need to be covered with straw mats on cold nights.

Accumulate manure. A great deal is thrown away that should be put in the compost heap. Collect all litter, leaves and rubbish, not needed to protect plants, and add this to your manure pile.

FLOWER GARDEN.

All plants in cold pits and cellars should be kept in a state of rest—with only water enough to keep them from drying up. Neglected November work must be done forthwith.

CONSERVATORY AND HOUSE PLANTS.

A trying season for house plants is approaching. Do not at any time air them—except for a few minutes while the thermometer is below thirty-five degrees in the shade. During very severe frosts plants should, at night, be withdrawn from the window to the centre of the room. Never give water until the soil is inclining to become dry—except to Hyacinths and other bulbs in a growing state. Destroy insects as soon as they appear. Clean the foliage with sponge and sprinkle frequently to remove all dust. The water used must not be warmer than eighty degrees; and sixty degrees is preferable. Turn the plants frequently to prevent their growing to one side.

The great difficulty with house plants is a dry atmosphere. Water should be kept upon the stove or in the furnace. An open fire in the room requires no water.

Bulbs that were potted in October, and are well rooted, may be placed where they will have heat and light.

Women as Horticulturists.

An intelligent lady correspondent of the Chicago *Farmer* argues for Horticulture as a suitable employment for women. She says, if a boy shows any particular preference in any particular direction, he is generally allowed to become master of it. Then why not the same with a girl? Whatever she shows aptitude for let her become perfect in it, whether it be teaching, book-keeping, telegraphing, reporting, etc. There may be no apparent use for such, and if in the years to come no necessity arrives for a practical use of such knowledge, no harm has been done.

I know we who are toiling and saving, laying up for such treasures, striving to shield them from all care or knowledge of such; we cannot think that misfortune could ever tarry at their door; we cannot bear to open their eyes to the other side of life, but justice ought to be done. We would not send our boys out into the world without some little fitting for it, and they are naturally more able to battle for themselves. So let us prepare our girls, for how often do we feel the bitterness of not knowing what to do. The most thoughtless of persons who have lived to be eighteen years of age, have seen the changes that have and do take place; the uncertainty of riches and the comforts and ease their possession can give. One may be born surrounded with wealth; a father may die, and with him depart the living. They may leave our protection for their own homes, that seem so bright with life's sunshine; even then changes may come. There is sickness and death and other sad ways to bring want into previous happy homes, and then we may be powerless to save. Then there will

arise to her two resources—keeping borders or slowly stiching her life away. The first is a hard, wôrrying life; striving to please many and rarely succeeding. The last, to most, is slow death.

A woman is naturally gifted with a love of the beautiful. Then why is it they do not turn their attention to floriculture? To me there seems no work more beautiful, more refining or elevating; it brings forth all that is good and pure in one's character, it fills one's life with beauty, and prepares one to die, for can one that sows a seed and watches its growth fail to have in view immortal life?

The work of Floriculture is particularly adapted to woman. There is so much that her gentle, nimble fingers can more carefully do than a man's stronger touch, such as budding, taking cuttings, and potting of same, transplanting of seedling, packing of small plants for shipment, etc. In the arrangement of flowers, in all their varied designs of floral decorations, their idea of harmony of color is naturally better than that of man; their fingers more supple and in every way seem just fitted for such work. If this calling was only more generally open to women, how many would leave other more toilsome pursuits to lead a life of health, beauty, and moral improvement.

The more intelligence is brought into any work, the more advancement is made. One can rise to distinction as well in this as any other. Intellect will tell, and if guided with a great love for the undertaking, success will follow. Those who may have read "My Ten Rod Farm, or How I Became a Florist," may see what a woman can do. How she may keep the gaunt wolf poverty from the door and a tired house-bound woman may possess a new lease of life. Wheat florist will give them an open door?

Public Poisoning.

Every farmer cannot conveniently have a root cellar under his barn, or anywhere but under his house, but he can keep his cellar from stinking with decaying vegetables if he will take a little pains to clean out every spring, and open the winbows, so as to give a circulation of air through it from spring until fall. Rotten vegetables and stagnant air in the cellar, coming up through the floor into the living rooms and sleeping rooms, has produced many a case of typhoid fever and other diseases that have baffled all efforts of physicians to cure. It is as fatal as was the miasma of the Chickahominy swamp. I have been into houses where everything was nice, and even splendid, in furnishing and appearance, and the inmates were continually breathing in an air as foul as a privy vault, from the odors arising from the cellar through the floors. Yes, and I have seen such houses where the odor from the privy itself was as perceptible in the living room as if it had opened out of it, and the family ate and slept as if in the midst of spicy gales. And they thought sick headaches, fevers, summer complaints, and other diseases that afflicted them, were simply "mysterious dispensations," instead of being the penalty of breathing poison. Sink drains and their accompanying cesspools are another prolific cause of disease. The old-fashioned open drain, running along near the back door, across the path perhaps, and making an unsightly and offensive (to eye and nose) track, is perhaps the least deadly of the whole, if neglected, for there is an escape for its odors in the out-of-door air; but the more genteel covered drain, through which the foul air is continually being driven back into the house, can only be kept wholesome by having a very sharp fall, and by frequent cleaning and the use of absorbents and disinfectants; and it is too often allowed to be in such close proximity to the well as to be allowed to leach through into it and poison the water. Look out for that. With air and water both poisoned, you will stand a poor chance for a long life or a healthy one. A solution of copperas, unslaked lime, chloride of lime or carbolic acid are either of them good to destroy all such odors, and the poisonous germs that arise from such places, and they are any of them cheap enough, so that we can afford to use them freely, but the two last named smell almost as disagreeably, if not as unwholesomely, as any place where you would use them. Pure, dry earth is very nearly as good as anything else, and will, by absorbing all the valuable parts that would otherwise escape in the air, soon become a good fertilizer for your land. There is only one objection to it—it does not cost anything.—*Boston Journal.*

Tree Planting.

The importance of planting fruit trees our people thoroughly understand, but a great necessity is arising for the planting and cultivation of forest trees, which is probably not so well understood. Fifty years ago, nobody supposed that the supply of timber in this country could ever be exhausted, and the great object was to get rid of it in the easiest and cheapest way, that the land might be brought under cultivation; but since then the consumption of timber has been so great, and its uses so astonishingly multiplied, notwithstanding its use as fuel has greatly diminished, that if the stock is not re-supplied by cultivation, there will be a timber famine before the lapse of another fifty years. Our own county affords some illustration of this truth. Less than fifty years ago, we were encircled with a belt of timber, and it was difficult to travel in any direction in the county a mile without striking a woods; but it is not so now. Our stately forest trees have fallen beneath the sturdy blows of the woodman's axe, and our supply of timber is now principally obtained from the mountains on either side of us. As this is true of other localities throughout the country with a few exceptions, the question of planting and cultivating trees for timber is beginning to engage the attention of some of the best minds in the country, and is, as we are told, freely resorted to in the West.

Useful Information.

One thousand shingles laid 4 inches to the weather will cover one hundred square feet of surface, and 5 pounds of shingle nails will nail them on.

One-fifth more siding and flooring is needed than the number of square feet of surface to be covered, because of the lap in the siding and matching of the floor.

One thousand laths will cover 79 yards of surface, and eleven pounds of lath nails will nail them on.

Eight bushels of good lime, sixteen bushels of sand, and one bushel of hair, will make enough good mortar to plaster one hundred square yards.

A cord of stone, three bushels of lime, and a cubic yard of sand will lay one hundred cubic feet of wall.

Five courses of brick will lay one foot in height on a chimney; six bricks in a course will make a flue four inches wide and twelve inches long; and eight bricks in a course will make a flue eight inches wide and sixteen inches long.—*Prairie Farmer.*

The Broom Corn Market.

A prominent firm of dealers in broom corn in New York, in a recent circular, gives some facts concerning broom corn which would indicate good prices for the crop. The demand continues moderate. For the past three months there has been no stock in the hands of manufacturers; they have pursued the plan of buying small quantities to supply immediate wants. The steady jobbing demand still continues (although it is difficult to place any large lots), and the stock is being gradually reduced. By actual count we place the entire stock in this market in hands of receivers, dealers, speculators and manufacturers, at 916 bales. These figures will not vary ten bales either way. One year ago to-day the stock was 2,300 bales, or nearly three times greater, and this proportion we consider a fair estimate of the entire crop of the country.

Keeping Winter Apples.

With other modes of saving apples all winter and far into the spring, we have more than once suggested that generally adopted in New England, New York and Northwestern States, which is to pick them carefully from the trees, sort them out and put them in dry flour flasks, pressing them down closely, and heading them up. They should be allowed to stand under a shed until cold weather sets in and then be removed to a dry cellar or some place where they will not freeze. Care must be taken that none but perfect fruit is barreled. We saw one of the best farmers of Montgomery county putting up his apples in this manner, and he told us that they frequently kept until early hay-making.

Propagating Evergreens.

The cones of all evergreens are gathered when ripe, and allowed to dry; after which the seeds should be beaten out and cleaned. Mix the seeds with at least ten times their bulk of sand in boxes, having so thorough drainage that water will pass freely therefrom. Water thoroughly and place them where they may freeze and thaw slightly. In the spring sow thickly in beds lightly shaded from the sun: keep free from weeds, and when one or two years old pick out into rows one foot apart by four inches in the rows. When large enough, transplant into nursery rows, until large enough to finally transplant to the places where they are to stand.—*Western Rural.*

Earthing Potatoes.

By drawing up the earth over the potato in sloping ridges, the plant is deprived of its due supply of moisture by rains, for when they fall the water is cast into the ditches. Further, in regard to the idea that, by thus earthing up, the number of tubers is increased, the effect is quite the reverse; for experience proves that a potato, placed an inch only under the surface of the earth, will produce more tubers than one planted at the depth of a foot.

POULTRY YARD.

The Fowls, or a Heifer.

Here is a brief narrative of fact which comes to me from undoubted authority, but which is so natural (in these days of young chicken-lovers) that I publish it with the greater satisfaction, and simply omit the real names of the parties concerned out of courtesy to those interested in the pleasant affair.

A city merchant went into the suburbs to reside, a dozen miles from Albany, last year. When he got settled there, he had not a very large place, and so could keep but little live-stock.

The children—two lads of fourteen and sixteen—had their dog and lop-eared rabbits; the daughter, her finch and canary; the lady, her aquarium; and the father had his horse. There was a small outbuilding upon the premises, and it was suggested that this should be occupied with a flock of fancy chickens or an Alderney heifer; and it was put to a family vote, which should be purchased.

The gentleman argued that the cow would be the most profitable. She would cost $120. He knew where he could get one, then just after calving, that would give them eight quarts of milk a day. "This would be so nice," agreed the economically disposed wife.

But the children wanted the fancy chickens. Carrie could tend them; the boys would fix the house up nicely for their accommodation; they would lay lots of eggs (which were as desirable as milk), and would not cost half so much to feed; they could raise chickens by the score—and all to better profit in dollars and cents than with the cow. They voted, and a majority of one, in favor of the chickens, decided the matter.

The $120 were invested in thirteen prime Light Brahma fowls, a year old—a cock and twelve hens. They were put into their clean, bright quarters in March, and the oldest lad kept an account of the results from breeding them ten months, up to January, 1875. This was what eventuated—debit and credit.

Dr.

To Food purchased, eight months, . . .	$20 80
Bone-meal and scraps, ...	2 12
Sulphur, kerosene, and turnips, . . .	1 60
Laths, nails, and slats—for coops, . .	2 45
Original cost of thirteen fowls, . . .	120 00
	$146 97

Cr.

By 136 dozen eggs used, @ 30 cents, . . .	$40 80
40 chickens eaten, @ 60 cents, . . .	24 00
12 chicks—4 cocks, 8 pullets—sold for breeders, @ $4, ...	48 00
21 best fowls kept over, worth $3 each, .	63 00
	$175 80

The cow would have cost $2 a week to keep; her first cost would have been $120. Her milk would not have been worth over thirty dollars more than her cost to keep; and so it was esteemed a better way to buy their milk, and have the Brahmas instead of the cow.

Pecuniarily, this turned out much the more profitable; and *this* year, from the "twenty-one best fowls kept over," the boys have as handsome a flock of sixty-five chicks as can be found in the State of New York, in addition to all their older laying fowls—some of which, no doubt, will be seen and noted at the next season's shows.

Thus the question at the head of this article is answered. The boys did not receive "fancy prices" for their choice chickens; nor did they reckon those on hand, at $3 each, above their value. But they thus paid all costs and expenses, and had a value of about $30 left after all, the first year. Not bad for young beginners!—*Fanciers' Journal.*

Bronze Turkeys.

Last spring I procured thirteen eggs, put them under two hens (not hen-turkeys,) and only six eggs hatched. Seven eggs had never been impregnated. Those turkeys are now about half grown. They are all gobblers but one. The prospect now is that they will make large and heavy roasters by Christmas. I will never attempt to rear any turkeys besides the bronze breed. The real bronze turkeys are almost identical with the American wild turkey in plumage—a dark gray bronze. When full grown they are twice the weight of a common, or the largest of common turkeys. The improved New England bronze turkey never weighs less than forty-five pounds the pair—that is, the lowest weight allowable when bred in-and-in. Some have been known to weigh eighty pounds the pair, extra fat. They are like the "Rouen" duck—size is the main criterion they are judged by. Of course, they must be next thing to black, every feather showing a bright, shiny bronze. They are the least difficult to raise, as they are hardy, prolific, large, fine, and the meat is sweet. A beginner can raise a dozen where one is raised of the white sorts. Some have an idea that they are some strange-looking turkey. There is no difference be-

tween them and many common turkeys, only great size. They are marked similar to the original stock, only some darker; in fact, the wild stock has been extensively used in bringing about this noted bird. They are to common stock what Rouen ducks and Toulouse geese are to their respective common ancestors.—*Agricola, N. Y. Herald.*

How Much Hens Will Eat.

It is difficult to determine by general rule how much corn or its equivalent should be fed to fowls; but the following record of an experiment made in January, 1869, has a bearing on the subject: A flock of forty-five grown chickens—a few of them full Brahmas, the others half-bloods—were allowed all the corn daily, they could eat. They fed from a hopper so arranged that corn was within their reach all the time, care being taken that none of it should be carried off by rats, mice or other intruders. In eighteen days the flock eat 144 pounds of shelled corn, or an average of eight pounds per day for the 45 chickens. At this rate one chicken would eat 1-78 of a pound per day, and one hundred would therefore eat 17.8 pounds per day. During the eighteen days this flock eat, besides the corn, nearly one peck of onions and turnips mixed, about two pounds of meat scraps and one head of cabbage. They were well supplied with water, lime mortar, ashes and sand. The result of this experiment was that the hens became too fat, and toward the close of the term of eighteen days they laid fewer eggs than at the commencement, although as the season advanced the production of eggs should have increased. It is evident that no invariable rule can be laid down. In the case here mentioned it is clear that a less quantity of food would have kept the flock in better condition, even during a winter month and in latitude 39.40 north.

How to Tell a Goose from a Gander.

In sorting out a flock of geese for home breeding, or to make sales, it is often difficult to distinguish the males from the females. A correspondent of the *Farmers' Home Journal*, Ky., thus delineates the difference:

"The goose has always a feminine appearance and the gander the opposite. Her head is smaller and her beak shorter; knot on forehead smaller and not so pointed; her neck shorter and more delicate; the black streak on back of neck not so high; colored ring around head not so bright; her neck comes out of her body more abruptly (this is occasioned by her having a larger breast than the gander,) giving a square appearance to the body. The voice of the gander is keener and louder; coloring about head more brilliant; eyes keener and always on the lookout. With such marks plain to view, any practical gooseman can readily distinguish one from the other."

BEES AND BEE CULTURE.

Italian Bees.

This variety of the honey-bee is found south of the snow-covered Alps in northern Italy, and is of a striped golden color. They were accidentally discovered during the war of Napoleon III, by Captain Balderstein, who carried the first colony across the Alps in 1843. In 1853 they were introduced by Dzierzon into Germany, and into the United States in 1860. There have been several importations.

We were slow to believe all the good things said of them by German apiarians, until convinced of their superiority by the universal testimony of prominent American bee keepers, coupled with our own experience. From the mass of testimony in favor of the Italians, we condensed the following points of superiority over the common bee:

1st. The queens are more prolific than the common kind, consequently the colonies have more brood, swarm earlier and more frequently. 2d. They are less sensitive to cold, working more hours in a day and in cooler weather, hence, collecting a greater amount of stores. 3d. Their strength being greater and their wings larger, they are more active, fly more swiftly, and are less liable to be robbed, but easily master weak colonies of common bees and appropriate their stores. 4th. When bred in combs of their own building, they are longer and their honey sacs larger. 5th. Their proboscis being longer they are able to work upon flowers that the black bees cannot operate on. 6th. Their beauty of color and graceful form render them an object of interest to every person of taste. Hence they attract many visitors, who admire their golden color, so beautifully shown by the sun rays, as they pass swiftly to and from the hive.—*H. A. King, in Practical Farmer.*

Bee Culture for Ladies.

Lizzie E. Cotton, writing to the *Scientific American*, confidently recommends bee culture as well adopted to the sphere of woman, both in city and country, and says: "I speak from experience, having been engaged in this pursuit for over twelve years. In my first attempt at bee culture, I used the old fashioned box hive. These hives were readily constructed with little or no reference to giving a profit in surplus honey obtained from them. The losses in such hives, from various causes, especially in winter, were very great, and profits were small at the best; ten to twelve dollars profit from the sale of surplus honey from such hives in one season was considered an extraordinary yield. I have for several years used a hive of my own invention. It is constructed with special reference to securing a good yield of surplus honey, in the most convenient marketable form. My hive is so arranged and constructed that I am able to prevent or contrive the natural swarming of bees, and, when desired, to turn their surplus honey in the parent stock instead of swarming out, as they often do (to their great damage) under ordinary management. It is surprising to note how much more honey will be stored by a stock that does not swarm (yet has the same increase of bees) than by one that casts one or more swarms. I often obtain from two hundred to three hundred pounds honey in small glass boxes from a hive in a season.

There is, in my opinion, no pursuit which offers greater inducements to women as bee culture. There are very many whose occupation confines them indoors nearly the whole time, excluding them from the air and sunshine, to the great injury of their health; while, at the same time, after this great sacrifice, they barely succeed in obtaining a livelihood. To such, bee culture offers special inducements, such as health and a greater recompense for labor performed. I hope that ere long bee culture will receive from my sex the attention it deserves. I am acquainted with many who have lately commenced in the business who are meeting with great success.

LIVE STOCK MISCELLANY.

The Horse Epidemic.

As the horse disease is making its appearance throughout the country, the following from a distinguished veterinary surgeon to the New York *Sportsman* will be well worth a careful reading:

"The appearance of the influenza among our equine friends is now the subject of a great deal of anxiety and speculation as to its results among owners of horses.

"As it is an affection with which we have to deal more or less every fall, and sometimes in the spring of the year, and there being many popular errors regarding the cause and effect of the disase, I thought it might be interesting to give your readers some facts regarding it which have probably to a great extent been overlooked.

"What is influenza? It is a poisoned condition of the blood, the poison existing in the atmosphere, and being inhaled in the inspired air. Influenza occurs in several forms. Sometimes the part most affected is the mucous membrane of the windpipe, as in the epizootic three years ago; sometimes the mucous membrane of the throat and nostrils are the point of attack, as in the present epidemic. Occasionally the entire air passages are affected. A severe type was seen in the epidemic of cerebro-spinal-meningitis four years ago. But in whichever form it exists, the cause is essentially the same, the only difference being, probably, in the species of plant or spores inhaled.

"When it is known that over 2,000 species of fungi were observed by Fries, an eminent Swedish naturalist, in a very small space, and that some of these species, according to the same authority, are no larger than the 1-10,000 of an inch in diameter, or about one-third as large as the blood corpuscles, it is not to be wondered at that a quantity large enough to poison the system may be absorbed. Wet seasons are also known to be favorable to the growth of all vegetable matter, and especially fungi, and it is found that epidemic attacks of influenza are more common in wet seasons and climates than in dry atmospheres. For instance, they have it to a much greater extent, and more severe, in England, where there exists a very much more humid atmosphere than in our own climate.

"But why does it not attack all horses alike? The answer to this question probably lies in the fact that each animal has its own idiosyncracy, and in some systems the soil would be more fit for the existence and propagation of those organic living vegetables than in others.

"The effect of these poisonous fungi, when taken into the system, according to Mitchel, is to produce a narcotic effect, and is not a predominant symptom in influenza. The sleepy, dull appearance is due to this cause; then there is more or less general fever, etc. The symptoms need not be fully described, as they are too well known already.

"What is the best mode of treatment when looked at from this standpoint? As there is a great tendency to congestion and stoppage of the circulation in the small blood vessels, and a consequent coagulation of the blood, partly from the diminished nerve force produced by the effect of the poison on the brain, and partly from a febrile state of the whole system, we can only give such agents as are known to have a solvent effect on the blood, and also try to excite the nervous system to a healthy degree. Ammonia is such an agent, and it is well known that sal-ammoniac is one of the best agents we possess for the treatment of this disease; it also acts slightly on the kidneys, thereby eliminating a portion of the poisonous matter from the system. This agent, when given in half-ounce doses, three times a day, dissolved in a gallon of water, in which form the patient will drink it, acts almost as a specific in this disease. If there is much cough, apply mustard to the throat, feed the animal on bran mashes for a day or two, apply clothing to the surface of the body, and give them plenty of fresh air; and in a few days your horses will be working again, with no bad effect from the disease.

"Yours, J. M. Heard, V. S."

A New Cause of Trichinæ in Pork.

Some new cases of deaths, due to the eating of pork infested with *trichinæ*, recently quoted in Western journals, should be the means of directing public attention anew to the horrible disease of swine called *trichinosis*, and to the fact that, when once the parasite attacks a human being, the result is prolonged suffering and, in a multiplicity of inslances, death. The worm existing in the pork, literally bores its way out of the stomach and into the muscles. It has lately been found that swine may become infested with trichinæ through eating carron, or even decayed vegetable substances. This is a point worth consideration by farmers who incline to the belief that dead chickens, putrid swill, or any other filth about the place, is legitimate food for the pig. The animal is not dainty in his tastes, and will lunch off his dead relatives with infinite gusto; but it is the poorest economy to permit him to assume the *role* of scavenger. No milk dealer will allow his cows to eat garlic if he can help it, though the brutes are crazily fond of the odoriferous weed; and there is certainly more reason for the farmer to see that his porkers have no access to unclean food. In the one case, if precaution be neglected, the taste of the milk is affected; in the other, the entire flesh is rendered poisonous and dangerous food.

Poland-China Pigs,

This breed is very popular in the West. It was illustrated in the June number of The Farmer (page 87.) The *Western Rural* says: "Poland-China pigs vary in price from ten to one hundred dollars each, according to size, merit and the reputation of the breeders. For $25 very good representatives of the breed can be bought. These pigs vary in color considerably. They are spotted, black and white, sometimes showing a sandy color. Those with little white are now generally preferred. We have seen a few without any white and those all white are occasionally found. These are exceptional cases, however. There are also considerable variations in size and form, as they are bred by different breeders. A weight of 1,000 pounds is sometimes reached; while those bred by others will not weigh over 400 pounds at maturity. It is claimed for these pigs that they process in unusual degree, an aptitude to fatten at almost any age. They are frequently fattened when from 7 to 10 months old; while others keep them until they are 18 to 20 months old. At the latter age there ought to be no difficulty in having them average 400 pounds. It is doubtful whether any breed of what are properly called large hogs is superior to the Poland-China."

Training Heifers to be Milked.

Concerning this subject Dr. Orcut writes: Our position in regard to suckling calves upon young heifers—their first one or two calves, say—is that this natural action encourages the mothers in giving milk. The idea may seem novel to some, and there is a difference in heifers. Some are more "foolish" and sentimental concerning their offspring than others. In breaking in a heifer to milk, I am apt to mix in with her calf a good deal, endeavoring to associate myself in the minds of both as a familiar object, so that my little stripping passes as a matter of course among the new and bewildering circumstances, as in times of general excitement shrewd managers are very likely to be found stripping the public purse. Barring the opinions that may obtain with the selfish and short-sighted against the policy of developing the lacteal secretions in this natural manner—by allowing a heifer to "fuss around with a young calf"—the plan must look quite reasonable. It is certainly a time-honored practice among careful farmers, and a good deal of observation and some experience will warrant me in asserting that early indulgence in the cares of maternity is no detriment to the future productiveness of the grown up cow. Shrewd cow buyers—milkmen and others—go a-picking among the stock that has been bred and fed in the plainest normal farm fashion, preferring to add the extras themselves. After three or four years of age, when the milking habit is formed, calves may be "deaconed" with less feeling on the part of the mother. She is used to the hand of man, and becomes by habit reconciled to her lot. Your old cow is not a romantic or sentimental animal. I made a visit lately to our eldest cow, Clover, sold last spring. She wouldn't even look at me, or scarcely stop gathering grass long enough to smell of my hand when I lifted her head by the horn. This may not be precisely like refusing to look at her calf, but if you knew the intimacy formerly existing between us, you'd allow it was somewhat like. But this animal never showed much affection for her calves at any time.

A WOMAN'S ANSWER TO A MAN'S QUESTION.

Do you know you have asked for the costliest thing
Ever made by the hand above—
A woman's heart and a woman's life,
And a woman's wonderful love?

Do you know you have asked for this priceless thing,
As a child might ask for a toy,
Demanding what others have died to win,
With the reckless dash of a boy?

You have written my lesson of duty out—
Man-like, have you questioned me—
Now stand at the bar of my woman's soul,
Until I shall question thee.

You require your mutton shall always be hot,
Your socks and your shirt be whole;
I require your heart to be true as God's stars,
And pure as his heaven your soul.

You require a cook for your mutton and beef,
I require a far greater thing;
A seamstress you're wanting for socks and for shirt,
I look for a man and a king.

A king for the beautiful realm called home,
And a man that the maker, God,
Shall look upon as he did on the first
And say "It is very good."

I am fair and young, but the rose will fade
From my soft young cheek one day—
Will you love me then, 'mid the falling leaves,
As you did 'mid the bloom of May?

Is your heart an ocean, so strong and deep
I may launch my all on its tide?
A loving woman finds heaven or hell,
On the day she is made a bride.

I require all things that are grand and true,
All things that a man should be;
If you give this all, I would stake my life
To be all you demand of me.

If you cannot be this—a laundress and cook
You can hire, with little to pay;
But a woman's heart and a woman's life,
Are not to be won that way.

DOMESTIC ECONOMY.

How to Keep Sweet Potatoes,

The question as to size of bins is not so particular, as I have kept them equally as well from a barrel to sixteen hundred baskets in one bulk. It is necessary that the cellars should be well ventilated, especially from four to six weeks after storing, while undergoing their sweats, avoiding too much direct draft. Some varieties are much hardier than others. The Short Nansemond variety is as hardy as any. It is very desirable to keep the cellars at one temperature. I generally separate my bins with common inch boards. One foot of air space between the potatoes and ceiling is sufficient for the circulation of air. I would recommend that the thermometer never go above 70° nor below 50°; between 60° and 70° is the proper heat. I built a preserving house, with cellar below and room above, with bins on each side of the entrance to hold from two hundred to four hundred baskets, and left space next to the wall to enable one to go around; the space to continue up through the floor and around the upper room, so that the heat and air might circulate from the room below to the one above. The room above should be brick-payed and plastered. This building had a wind-break on the north side, of eight feet wide and length of the house. In cold weather the potato-bins should be tight all round, rest on ground and floor with straw under and next to the wall, with straw around them. For a few weeks after housing let the windows be left open, with wire screens in them, to protect against rats and mice. It is very important that the potatoes to be housed should be selected from as high ground as possible, and gathered immediately from the hoe or plow. I once put sixteen hundred baskets in an ice-house in one bulk, and as they were put in I set a stove on a board on top of the potatoes, and in that way dried off the sweat as it rose, and took them out at early winter with very few decayed ones.—*New Jersey Cor. N. Y. Tribune.*

Concrete for Walks, Etc.

John Turner, in the London *Agricultural Gazette*, gives his experience in making and using asphalt as follows: "I have done a great deal successfully in walks and some kinds of floors, such as the floor of a pig house, but have never attempted it for heavy traffic. It is neither difficult nor expensive. Of course, a great deal depends upon the cost of material; the labor is trifling. I have used screenings of gravel (I don't like it clean, but mixed with sand); I have used sand alone (when I could not get anything better,) blacksmiths' ashes, and ashes from my engine. The last I did was for our churchyard walks; for those I got the screenings of Leicestershire granite, which made a splendid path, but of course more expensive—the granite cost $2.50 per ton. It is quite an unnecessary expense and trouble to boil the tar. Get your material dry, mix it with tar, turn it over twice, and let it lie a couple of days, then turn it again, and mix a little lime with it, about a tenth, let it lie another day, and then on a fine sunny day lay it on, rake it even, and roll well as soon as it will roll, in an hour or two's time; if the roll does not work well (it ought to if the stuff is not mixed with too much tar,) scatter a little sand over it. Every summer I brush my walks over with cold tar, and give a good sprinkling of sand, and they are as good now as when first put down, fifteen years since. Any laborer can do it, only take care, before laying it down, it is of proper consistence. When ready, it ought not to show the least tar, but should be a dull dead black, and, when moved with a shovel, ought to be lively, exactly like a mass of mites in a cheese. The stuff will keep a a long time in a heap if covered up or otherwise kept dry."

Simple Dyspepsia Remedies.

Dyspepsia arises from a great variety of causes, and different persons are relieved by different remedies, according to the nature of the disease and condition of the stomach. We know of a lady who has derived great benefit from drinking a tumbler of sweet milk—the richer and fresher the better—whenever a burning sensation is experienced in the stomach. An elderly gentleman of our acquaintance, who was afflicted for many years with great distress after eating, has effected a cure by mixing a tablespoonful of wheat bran in half a tumbler of water, and drinking it half an hour after his meals. It is necessary to stir quickly and drink immediately, or the bran will adhere to the glass and become pasty. Coffee and tobacco are probably the worst substances persons troubled with dyspepsia are in the habit of using, and should be avoided. Regular eating of nourishing, plain food, and the use of some simple remedies like the above, will effect in most cases quicker cures than medicine.

A Test for Eggs.

Among the minor troubles of city life is the difficulty of procuring a regular supply of fresh eggs. When we cannot remove our woes, the next best thing is to try to understand them. So we devote this paragraph to what will interest all out of hearing of the cheerful sounds of the barn-yard. An egg is generally called fresh when it has only been laid one or two days in summer, and two to six days in winter. The shell being porous, the water in the interior evaporates, and leaves a cavity of greater or less extent. The yolk of the egg sinks, too, as may be easily seen by holding it toward a candle or the sun; and when shaken, a slight shock is felt if the egg is not fresh. To determine the precise age of eggs, dissolve about four ounces of common salt in a quart of pure water, and then immerse the egg. If it is one day old, it will descend to the bottom of the vessel; but if three days, it will float in the liquid. If more than five days old, it will come to the surface and project above in proportion to its increased age.

Household Receipes.

Preparations Made from Corn or Indian Meal: Now is the season for the enjoyment at family meals of the many palatable and wholesome preparations which can be made of corn or Indian meal. The bountiful crop of corn with which we have been favored this season, and the comparative shortness of the wheat crop, invest the culinary manipulations of corn meal with more than ordinary interest and importance. To those of moderate means the abundant corn crop will be found a great blessing during the ensuing winter. The following recipes are from the latest and best authority—Mrs. Paul's "Cookery from Experience:"

Corn-batter Cakes: One pint of corn meal, a small teaspoon of soda, the same of salt. Pour boiling water over the Indian meal, beating all the time until like mush; let it stand until cool, add the beaten yolks of four eggs, a handful of flour, with two teaspoonfuls of cream of tartar in it, stir in milk until like buckwheat cakes, then add the soda in a spoonful of hot water, whites of eggs last; bake on a griddle.

Corn Muffins No. 1: One coffee cup of sweet milk, one of butter milk or sour cream, one heaping tablespoonful of lard, one coffee cup of boiled rice, one of corn meal, and two eggs beaten separately; beat the butter-milk, rice, lard and yolks together; then add the whites beaten to a stiff froth, the flour and the sweet milk, with half a teaspoonful of soda dissolved in it, last of all. Bake in muffin rings.

Corn Muffins No. 2: One quart of milk, two eggs, two tablespoonfuls of sugar, one cup of flour, a little salt, a tablespoonful of melted butter, two tablespoonfuls of cream of tartar dry in the flour, and a teaspoonful of soda dissolved in a little of the milk; mix all together, and add corn meal enough to make a batter; stir in the soda last of all. Bake in muffin rings, set on a hot griddle, turning them; or you may set the muffin rings in a dripping pan and bake them in a hot oven.

Corn Puffs: Scald five tablespoonfuls of corn meal; While hot add a piece of butter the size of an egg; when cool, two eggs beaten light, separately, eight tablespoonfuls of wheat flour, two cups of milk, and a little salt; bake half an hour in a hot oven in round tins the size of muffins.

Corn Bread No. 1: One quart of butter milk, a teacupful of flour, four eggs, a tablespoonful of butter, and a teaspoonful of soda, dissolved in a tablespoonful of hot water, and Indian meal to the consistence of sponge cake. Stir the buttermilk gradually into the flour, beating well; melt the butter and stir it in, and a teaspoonful of salt, beat the eggs and stir them in, then stir in the corn meal, and last the soda. Bake in square tins.

No. 2: One pint of Indian meal, half as much wheat flour, a tablespoonful of butter, a teaspoonful of sugar, half a teaspoonful of soda, one of cream of tartar, a pint of milk, two eggs beaten light; stir all well together as above; bake in square tins half an hour.

No. 3: One quart of buttermilk, four heaping tablespoonsful of wheat flour, four eggs, a tablespoonful of butter, Indian meal sufficient to make it the consistence of sponge cake, one teaspoonful of soda; stir the buttermilk gradually into the flour, beating it well, add a teaspoonful of salt, then the eggs beaten light, melt the butter and stir in; then beat in the Indian meal, and last the soda dissolved in a tablespoonful of warm water; beat up and bake in shallow pans.

No. 4: One pint of sour milk, one pint of corn meal, three eggs, two tablespoonsful of sugar, one of melted butter; and a teaspoonful of saleratus or soda. Stir the milk gradually into the Indian meal, add the eggs beaten very light, then the sugar, stir in the melted buttter, then the soda dissolved a tablespoonful of hot water, pour in shallow pans, and bake about fifteen minutes.

Mississippi Corn Bread: One pint of boiled rice mashed fine, one pint of corn meal (sifted,) a tablespoonful of butter or lard; mix with sour milk, add last a teaspoonful of soda dissolved in a tablespoonful of warm water; bake in a pan like pound cake, in a hot oven.

Corn Dodgers: One quart of corn meal, a tablespoonful of lard, two egg, a teaspoonful of salt; scald the meal with the lard in it with boiling water, cool with a little milk, add the eggs (beaten light,) beat very hard for ten minutes, make them thin enough with cold milk to drop off the spoon and retain their shape in boiling lard; serve hot; have the lard boiling hot when you drop them in.

Mush Cakes: Mould cold boiled mush into balls, with a little flour, to prevent it sticking to your hands, flatten them half an inch thick, and bake a nice brown on a hot griddle; turn them over when one side is brown. Split and butter them, and send to the table hot.

Pone: One pint of milk, a pint and a half of Indian meal, three eggs beaten light, a piece of lard the size of an egg, and a teacup of yeast; mix all together and set in a warm place to rise. When light, pour it in a buttered pan and bake nearly or quite an hour in a moderate oven.

Slap Jacks: One quart of Indian meal, scalded with boiling water until the consistence of mush; when cool, add a teacup of flour, a teaspoonful of salt, a teacup of yeast, and milk to the consistence of buckwheat cakes. Bake on a griddle.

Vienna Yeast: Vienna bread and Vienna beer are said to be the best in the world. Both owe their superiority to the yeast used, which is prepared in the following manner: Indian corn, barley, and rye (all sprouting) are powdered and mixed, and then macerated in water at a temperature of from 149° to 167° Fah. Saccharification takes place in a few hours, when the liquor is racked off and allowed to clear, and fermentation is set up by the help of a minute quantity of any ordinary yeast. Carbonic acid is disengaged during the process with so much rapidity that the globules of yeast are thrown up by the gas, and remain floating on the surface, where they form a thick scum. The latter is carefully removed, and constitutes the best and purest yeast, which, when drained and compressed in a hydraulic press, can be kept from eight to fifteen days, according to the season

Cockroaches: The roots of black helleborne, strewn at night in the places infested by roaches and beetles, are an effectual remedy. The vermin will be found in the morning dead or dying. Black helleborne grows in marshy grounds. It is sometimes called "Christmas Rose," on account of its flowers expanding in the middle of winter. Fresh burned plaster of paris, mixed with wheat flour and a little sugar, distributed on shallow plates and boards at night is also said to be an effectual remedy, as after three or four nights' renewing no roaches will be seen.

Cream Cake: A piece of butter the size of an egg, one cup of sugar, one egg, one cup of cold water,

three cups flour and three teaspoons of baking powder, rubbed well into the flour. Flavor with lemon. To make the cream for this pie, take the yolk of one egg, half a cup of sugar, two teaspoons corn starch. Set the dish in a kettle of boiling water until it becomes a little thick, and then spread it between the layers of the cake. Use the white of the egg to frost the top.

CIDER MAY BE PURIFIED by isinglass, about one ounce of the latter to the gallon. Dissolve in warm water, stir gently into the cider, let it settle, and draw off the liquor. Cider may also be preserved sweet for years, by putting it up in airtight cans, after the manner of preserving fruit. The liquor should be first settled and racked off from the dregs, but fermentation should not be allowed to commence before canning.

TO CLEAN STRAW MATTING AND OIL-CLOTH: Wash the matting twice during the summer with salt and water, say about a pint of salt dissolved in about a pailful of warm, soft water, drying the matting quickly with a soft cloth. The salt will prevent it from turning yellow. After oil-cloths are scrubbed and dried, they should be rubbed all over with a cloth dipped in milk. You've no idea how brightly the colors come out.

ROCK CREAM: Wash a teacupful of the best rice, and boil slowly until quite soft, in new milk; add white sugar to taste, and then pile it on a dish. Lay on, in different places, lumps of jelly or thick preserved fruit. Beat the whites of five eggs to a stiff froth, with a little sugar and flavoring. When well beaten add a tablespoonful of rich cream, and drop it over the rice, imitating the form of a rock of snow.

RICE BLANC MANGE: One pint of new milk, two eggs well beaten, four tablespoonfuls of ground rice, flavor with lemon or rosewater, sweeten to taste; let it boil in a porcelain kettle, and when cooled a little, turn into a mold or dish, and when wanted turn it out, mix a little cream, sugar and flavoring, and pour around it; ornament it with bits of red currant jelly.

TO CLEAN WALLS AND CEILINGS of the soot or black arising from coal oil lamps, smoke, etc., sweep off as clean as possible with a broom, and wash down with a strong soda lye, which is to be removed afterward with water, to which has been added a little hydrochloric acid. When dry, the plastering can be whitewashed, kalsomined, or papered.

Useful Hints.

The best way to mark fruit trees is to procure strips of sheet zinc, eight inches long and a half an inch wide, and write the name with a pencil. Bend the strip around a limb once or twice. Labels of this sort will be legible for ten years.

The best way to preserve a knowledge of the varieties of trees in an orchard, is to make a pencil map in a fruit book, showing a draft of the place. If a tree dies or is removed, rub out the name in the map, and insert that of the new tree in its place.

When a sewing machine is gummed up so it runs stiff and hard, a little kerosene oil will clean it out in a few moments.

A wash composed of a teaspoonful of powdered borax to a pint of rain water is excellent for removing dandruff from the hair.

Scratches in horses may be cured by using a wash twice a day of a teaspoonful of powdered blue vitriol dissolved in half a pint of water. Keep the feet clean.

The best scouring powder in the world for keeping tinware bright, is the fine, white, soft ashes from hard or soft coal. The polish produced is remarkably bright and permanent.

A screen or blower of wire gauze, from 36 to 40 wires to the inch, placed in front of range or stove fires, will prevent, it is said, smoke coming into the room when the chimney fails to draw well.

A cement, impermeable by air and steam, and especially well adapted to use for steam or gas pipes, is made of powdered graphite 6 parts, slaked lime 3 parts, sulphate of lime 8 parts, and boiled oil 7 parts, well kneaded.

Some weeds can be killed and prevented from growing in garden paths by watering the ground with a weak solution of carbolic acid, 1 part pure crystalized acid to 2,000 parts water. Sprinkle from a watering pot.

Brown bronze dip, for coating hat hooks and similar small hardware articles, is made of iron scales, 1 pound; arsenic, 1 oz.; muriatic acid, 1 lb.; zinc, solid, 10 ozs. The zinc should be kept in only when the bath is used. The castings must be perfectly free from sand and grease.

A good test for gold or silver is a piece of lunar caustic, fixed with a pointed stick of wood. Slightly wet the metal to be tested, and rub it gently with the caustic. If gold or silver the mark will be faint; but if an inferior metal, it will be quite black.

To prevent condensation in a steam pipe laid under ground, place it inside another larger pipe, filling the intervening spaces with pulverized charcoal. The outside pipe should be water-tight.

Improvement in Out-Door Closets.

Prof. Beal, of the Michigan Agricultural College, gives some excellent practical hints on the construction of closets, which are worthy the attention of farmers and others out of the reach of sewerage. Country closets as now constructed are often a nuisance and a source of disease. Prof. B. says: Several closets at the Agricultural College are built on ground slightly sloping, with the back side toward the foot of the slope. No pits or holes are dug. Along the back side are doors turned down horizontally and hung on hinges by the upper edge. The doors usually hang down to the ground, and may be easily raised to remove night soil when necessary. A small room in the same building is filled, in dry time, with dry muck, loam, or dust from the road. Clay is better than sand. Every day, or every other day, or twice a day, a small quantity is shoveled into each closet. Copperas-water, lime, plaster, or other deodorizers, are also used in addition to dry earth. Every few weeks, or even once or twice a year for a small family, the night soil is carted away to the compost heap.

If cared for as above there is almost no unpleasant odor; nor is it more disagreeable to cart away than so much manure from the barnyard. The advantages of some such mode are: The closets may be cheaply made and kept nearly free from unpleasant odor; they may consequently be placed much nearer the house, or even connected with it; there is no pestilential filth filtering into adjacent wells, or otherwise causing "mysterious epidemics" in the family; the compost heap is increased in value. Something like this, or better than this, must some day become the universal custom in all the best private houses, schools, railway depots and hotels.

Slops from the kitchen can be run upon a heap of dirt which may be occasionally shoveled over and changed after it has absorbed a good deal of filth. It is then well worth removing to use as a fertilizer. It is better than running underground into a pit where the odors generally find some way of escape, often into the kitchen, on account of some defect or stoppage of the pipes.

The use of dry earth is vastly better than to wash the filth into a sewer, thence into a river to contaminate the air and water. A little mouse, a dead frog, or squirrel, or a few dead worms, will spoil the water of a well so everyone will smell it and refuse to drink it. The same subjects are completely deodorized by a small shovelful of dry earth.

A Farmer's Library.

In a town in Western New York, as long ago as 1805, a "Farmer's Library" was organized, the first instalment of books, according to the *American Rural Home*, from which we get our facts, being carried from Canandaigua on the back of one of the originators. The membership fee was $1.50, with an annual fee of fifty cents. The library grew to number 1,500 volumes. Agricultural works, history, poetry, fiction, etc., were collected, and well read. Of late years, however, the library is being neglected.

In a more western State, many years ago, a library was established in a somewhat similar way, except that a considerable number of volumes were given by a gentlemen interested in the enterprise. The library grew to have a few hundred volumes, and generally well selected. For a time it was well used, but the interest gradually decreased, although the use of the books was allowed any one at a merely nominal cost, until two boys were the only ones who made use of the library. One of these two boys was the writer of this, and his boyish head often wondered why it was that half a score of farmers' sons would sit by the hour in the country store in which the library was kept, engaged in idle talk, rather than in reading the books which had given him so much pleasure. At last the books were divided among the half-dozen or so of members who had kept up their fees, and so ended an effort which ought to have succeeded well. —*Western Rural.*

LITERARY AND BUSINESS NOTICES.

THE NURSERYMAN'S DIRECTORY: This publication which was announced through the columns of THE FARMER some months ago, has reached us since our last issue. It is a reference book of the nurserymen, florists, seedsmen, tree dealers, etc., for the United States, alphabetically arranged by States and post-offices. This enterprise was projected and carried through by D. W. Scott & Co., Galena, Illinois. It is a neat octavo volume of 212 pages. There has never been a complete directory of this important interest printed, and while Messrs. Scott & Co. have made a very creditable beginning, there is much to be done yet before the work is complete and reliable, especially in the orthography of proper names. We base this judgment upon the character of the reports from Lancaster county and such other parts of this State as we are familiar with. We find names credited to Lancaster which are so marred by bad reporting or bad typography that the owners would scarcely recognize them. For example, Geo. W. Schroyer is put down Geo. W. Schulemeyer. Now, inasmuch as Geo. W. is and old printer and a good one—having for many years been foreman in this office—this extraordinary Teutonic enlongation of his surname must be very provoking—especially as George don't drink beer. It looks as if whoever reported the list had been trying to get two family names, Schroyer and Myers, together, and didn't know just how to fix it. Perhaps Pennsylvania theology could do it better than Galena typography. Then A. D. Rohrer is put down Bohrer; Solomon Sprecher is put in the seed business instead of Wm. D. Sprecher; John B. Erb is located in *Luni* Valley instead of Lime Valley—though we know John don't grow his fruits and berries by lunar influences; he is too progressive for such moonshine. Cyrus N. Herr, Strasburg, is put down *Hess*; Casper Hiller, Conestoga, is changed to *Caper Heller*, though the firm name is right under the head of Lancaster; Manheim is printed Manheine; Pearsol, in the firm name of the publishers of THE FARMER, is spelled three different ways and the compositor didn't happen to hit the right way in either, although he had the printed copy before him. But with all these defects the Nurserymen's Directory will supply a want long felt by this important interest, and all omissions can be supplied and corrections made in the next edition. The publishers announce that they will issue an Appendix in February containing all changes, corrections, &c. If our Lancaster county nurserymen, florists, etc., will send their names, post-office address and business to the publishers of THE FARMER, we will see that a complete and correct list is furnished for this appendix. Every man interested in this important industry should feel a pride in having such a work complete and reliable. We know the difficulties attending the first efforts to compile a directory, even of a local character, and when it is considered that this covers the entire nation, Messrs. Scott & Co. have made a very creditable initial step.

THE SEMI-TROPICAL: A monthly journal bearing this suggestive title comes to us from Jacksonville, Florida, which is a publication of which the land of orange groves and perpetual summer may well be proud. It is an octavo of 66 pages, the paper and typography of which is fully equal to the best publications of its class to be found in any of the States. Its editorial articles and contributions are first-class, and the general tone which pervades it is thoroughly national and patriotic. An article on the Centennial is so sensible and so catholic in a political sense that we regret we have not room for it in this issue. Referring to the late war and its cause, the writer says: "Out of this anguish of hearts and destruction of wrong has sprung the glorious light of a new birth—a new revelation, and a greater than Washington has arisen, in that as he freed us of others, Abraham Lincoln has freed us of ourselves, and wiped out the only stain upon our national escutcheon, in eradicating the evil of slavery which was foisted upon us by our fathers of New England—so history will write it because she will love to do so—and through all future time, while free men live, will the name of Abraham Lincoln be cherished in sacred reverence." We bespeak for the *Semi-Tropical* many northern friends and patrons. Charles W. Blew, publisher, Jacksonville, Florida. Terms, $3 a year.

THE MUSICAL CASKET: Among the many cheering evidences of construction in the south are the numerous excellent publications which are springing up, devoted to the social, literary, and agricultural interests of the people. The latest which has reached us is a neat monthly of eight pages, bearing the above title, published at Singer's Glen, Virginia, by the Glen Publishing Company. It is a model of typography and literary and musical taste. The editor says it will be his constant endeavor to furnish to the readers of his little monthly good, wholesome, entertaining literature of that class which leaves no sting behind; that casts no stain upon the character; that encourages worth, honesty, integrity; that is evangelical in its character, promoting godliness, sobriety, virtue; that will foster a love for the good and beautiful in literature and song; that will make the reader better for its perusal. It is the organ of character notes in music, and an advocate of congregational singing. We wish it success. Subscription, 40 cents a year.

THE SOUTHERN CULTIVATOR: And here comes Georgia's most practical and substantial contribution to the agricultural literature of the day, in its venerable Monthly Magazine for the Plantation, the Garden and the Family Circle. It is an octavo of 44 pages, filled with ably written and carefully selected articles concerning the whole range of the practical wants of the farm and the garden and the household. *The Cultivator* is an established institution of the sunny South, being in its thirty-second year. W. L. Jones, publisher, Athens, Ga. $2 a year.

MOORE'S RURAL NEW YORKER is one of the oldest, most widely quoted and most valuable of the many excellent agricultural journals which come under our notice. It is running its twenty-second volume, and is conducted by its founder, D. D. T. Moore, assisted by an able corps of editors in the various departments, among which we recognize our old friend, Andrew S. Fuller. It is published at Rochester at $2.65 a year.

THE NATIONAL GRANGER is the title of a large eight-page weekly, published at Louisville, Ky., the

tenth number of which has reached us. It is well edited, and an exponent of the principles of the Patrons of husbandry. W. J. Davie, editor. Terms, $1,50 a year, or $1.35 to grangers or clubs.

THE WHEEL HARROW AND GRAIN SOWER advertised in another column attracted much attention at the late State Fair. It is conceded by those who have tested it in the Eastern States to be the most complete and useful agricultural implement brought out within the last ten years, taking rank with the mower and reaper and threshing machine. It sows all kinds of grain broadcast, being adjustable to from four quarts to four bushels per acre. It also sows all kinds of fertilizers. As a broadcast sower it meets all objections to drilling. The harrow and coverer, which is shown without the sower in the engraving, is unquestionably the best harrow and pulverizer in the market. It operates upon an entirely new principle, adapts itself to all inequalities of soil, while the tooth-blades are so constructed that they will not catch on stones or rocks. We have no doubt this implement will become as popular in Pennsylvania as it is in the Eastern States.

HULLESS OATS AND BREAD: At the close of the late State Fair, Mr. N. S. Fisher, of Leesport, Berks county, Pa., left upon our table a sample loaf of bread baked from flour of the hulless oats which Mr. Fisher is introducing. The bread was very palatable and we know oat meal is always nourishing and wholesome. This variety originated by hybridizing the California wild oat with the old fashioned English oat. It is claimed that it will yield as many measured bushels as any other variety, with one-half the amount of seed, while it weighs 56 pounds to the bushel, being as heavy as wheat, and two weeks earlier than common oats. Mr. Fisher sells the seed at 50 cents a pound, or 32 pounds for $12.

THE CABINET MAKER: One of the most remarkable publications on our table is a weekly bearing the above title, published in Boston, and devoted to the interests of the furniture, upholstery goods, carpet, undertaking and cognate branches of trade. It is the pioneer in the above interests, having been established in May, 1870, and its progress has been uninterrupted since its inception. A perusal of its capacious and well-filled columns impresses one with the magnitude of the great industry to which it is devoted. It should be in the hands of every cabinet maker and furniture dealer. Published by J. Henry Symonds, Boston.

AN APOLOGY. We are obliged to apologize for this issue of THE FARMER appearing a week later than the advertised time. By one of those contingencies which will occasionally occur in a printing office, a portion of the type used in printing THE FARMER was "locked up" in another job, the proof of which was miscarried in the mail, and consequently delayed. We will take special pains to avoid any such delay in the future.

THE WESTERN RURAL, published at Chicago by H. N. F. Lewis, ranks among the best of the larger agricultural literary weeklies on our exchange list. It is one of the established institutions of the great West, which supports several excellent farm journals, two of them in Chicago—*The Rural* and *The Prairie Farmer*. Coleman's *Rural World* is another of the same style and class. Specimen copies of any of our agricultural exchanges can be seen at this office by those desiring to examine them.

THE LANCASTER FARMER will be greatly improved for the coming year. We are bound to make it the best local agricultural journal in the country. To those who subscribe now for next year we will send the November and December numbers gratis—fourteen months for $1 to subscribers residing in Lancaster county, or $1.25 when sent out of the county—including postage prepaid by us.

THE PATRONS' GAZETTE is the title of a sixteen page quarto, published in New York, and devoted to the interests of the Patrons of Industry, gives special attention to monthly market reports and the purchase of grangers' supplies. Published by Galbraith & Co., No. 11 Frankfort street, N. Y., at one dollar a year.

THE SANITARIAN for October maintains the high character of this useful sanitary monthly. It contains a second instalment of Dr. Kilner's able paper on "Ventilation for Health," and a great variety of other useful papers, eminently worthy a large circulation. McDivitt, Campbell & Co., 79 Nassau street, N. Y. $3 a year.

THE PRINTERS' CIRCULAR, a demi-4 to. of 30 pages. A beautiful illustrated journal devoted to "typography, literature, arts and sciences." E. S. Menamin, editor and publisher, 519 Minor street, Philadelphia. $1.00 a year. An able representative of "the art preservative of all arts."

FOURTH ANNUAL REPORT of the Board of Directors of the Texas and Pacific Railway Company to the stockholders, August 10, 1875. An 8vo. pamphlet of 46 pp., which those desiring information on a "mooted subject" would do well to consult.

KINSEY'S FRUIT FARM, Dayton, Ohio. A 12 mo. catalogue, with beautiful illustrations of the strawberry—"Monarch of the West"—natural size, and in colors. Worth looking into.

THE PROGRESS OF INVENTION.

Official List of Patents,

RELATING TO THE FARM, THE DAIRY, APIARY, &C.,

For the month ending October 7th, 1875.*

Insect Destroying Compounds; G. W. Davis, Boston, Mass.
Hillside Plow Clevises; F. C. Merrick, South Paris, Maine.
Corn Markers; W. H. Rider, Plum Hollow, Iowa.
Cheese Vats; C. W. F. Street, Lanark, Ill.
Cultivator Teeth; J. Flynn, Moneches, Wis.
Grain Drills; J. 1. Lynam, Louisville, Ky.
Harrows and Cultivators Combined; W. McCray, Black Oak, Mo.
Automatic Grates; W. W. McKay, Ossian, Iowa.
Farm Fences; A. Miller, Guntersville, Alabama.
Pittman Boxes; C. H. Salzmon, Quincy, Ill.
Wool Driers; J. M. Dick, Buffalo, N. Y.
Butter Workers; P. M. Bree, West Chester, Pa.
AnimalPokes; S. N. Gustin, Mexico, N. Y.
Cotton Stalk Pullers; H. Lee, Mahalasville, Ind.
Apparatus for Preserving Eggs; F. D. Stone, Cleveland, Ohio.
Potato Diggers; W. E. Babcock, Pembroke, N. Y.
Dropcers for Harvesters; J. Bahruth, Liberty Prairie, Ill.
Pruning Implements; W. Carr, West Hayden, Ohio.
Apparatus for Liquid Manures; E. H. Cummings, Chicago, Ill.
Sulky Plows; R. R. Fenner, Urbana, Ill.
Stock Cars; W. W. Kerr, Chicago, Ill.
Fence Posts; A. Y. McDonald, Dubuque, Iowa.
Seed Planters; F. O. Wenell, Plainfield, Ill.
Cultivator Frames; W. M. Coston, Quitman, Mo.
Weeding Hoes; A. S. Dunham, Verona, N. Y.
Bee Hives; S. Hixon, West Newton, Pa.
Bee Hives; Peter Honnell, Marietta, Miss.
Hand Planters; D. W. Hughes, St. Louis, Mo.
Churn Cops; W. Mance, Jefferson township, Mich.
Fertilizing Distributors, Planters and Cultivators; B. Scofield, Cartersville, Ga.
Corn Markers; Wm. F. Senlin, Marshall, Mo.
Machines for Gathering Grass Seed; J. R. Symes, Hamilton, Ohio.
Corn Planters; S. Wright, Troy, Ohio.
Potato Diggers; D. Bottsford, Warsaw, N. Y.
Grain Cleaners; T. Buhlmann, Chom-Zug, Switzreland.
Corn Shellers; J. S. Foster, Auburn, N. Y.
Straw Cutters; W. H. Hall, Tiffin, Ohio.
Harvesters, A. J. Cook, Wichita, Kansas.
Horse Hayrakes; B. J. Downing, Dayton, Ohio.
Side Hill Plows; R. 1. Knapp, Half Moon Bay, Cal.
Wheat Steamers; D. Sims, Leavenworth, Kansas.
Hog Traps; W. Deatherage, Galesburg, Ill.
Harrows; J. B. Green, Elliott, Cal.
Cultivators; M. McNitt, Mound Station, Ill.
Cotton Planters; J. B. Onon, Pecon Point, Ark.
Sulky Plows; E. W. Russell, Ashley, Mo.
Butter Workers; P. Shaw, Scituate, Mass.
Butter Molds; " "
Rollers and Harrows; A. P. Allen, Denmark, Iowa.
Churn Dashers; J. D. Bright, Terrell, Texas.
Corn Droppers; J. W. Fawkes, Maroa, Ill.
Feed Cookers; B. Fisher, El Paso, Ill.
Harvesters; J. S. Fowler, Davenport, Iowa.
Fence Posts; G. W. Hatch, Harkmon, Ohio.
Horse Hayrakes; J. Hollingsworth, Chicago, Ill.
Fruit Driers; D. S. Lowman, Leitersburg, Md.
Cattle Stalls; I. R. Marsh, Brasher Falls, N. Y.
Corn Planters; E. E. Matthews, Muncie, Ind.
Check Rowers; L. J. Adell, Fayetteburg, Ill.
Gates; C. C. Redmond, San Jose, Cal.
Grain Separators; L. C. Royer, Rogertown, Ind.
Corn Shelling Implements; J. M. Wilson, Nashua, N. H.
Composition for Preserving Eggs; J. K. Boone, Booneville, Mo.
Meat Cutters; D. I. Debroat, Newburg, N. Y.
Wheel Harrows; J. S. Snively, Greencastle, Pa.
Dumping Wagons; T. Weaver, Harrisburg, Pa.
Insect Destroying Apparatus; W. F. Woolsey, Breckinridge, Mo.
Pulverizing Machines; J. Caldwell, Philadelphia, Pa.
Plows; 1. Freeman, Corpus Christi, Texas.
Washing Machines. G. W. Grubb, East Covington, Pa.
Churns; G. W. McClure, St. Louis, Mo.
Horse Shoes; M. L. Roberts, Mansfield, Ohio.
Flower Pots; C. J. Sonas, Brooklyn, N. Y.
Grain Driers; J. Souter, Buffalo, N. Y.
Ditching Machines; F. Taylor, Indianapolis, Ind. Reissue.
Harvesters; J. Gore, Brattleboro, Vt.
Apparatus for Steaming Grain; John C. Hunt, Chicago, Ill.
Combined Harrows and Cultivators; John W. Dilez, Macomb, Ill.
Wheel Plows; Jas. Flow, Pilot Point, Texas.
Churns; E. Groat, Napa, Cal.
Harrows; I. N. Harbaugh, Brighton, Iowa.

*Prepared expressly for THE LANCASTER FARMER by Louis Bagger & Co., Solicitors of Patents, Washington, D. C., from whom complete copies of the Patents and Drawings may be obtained.

THE STATE FAIR.

Complete List of Premiums Awarded to Exhibitors.

In another department of THE FARMER, the editor gives his views at length in regard to the late Annual Fair of the Pennsylvania State Agricultural Society and the principles upon which such exhibitions should be managed. Below we print the full list of the awards of premiums, diplomas, etc., for which we could not find room in the sixteen pages set apart to our usual editorial and miscellaneous matter.

As the Office Editor is responsible for this, we know the readers of THE FARMER will pardon us for mentioning what the proverbial modesty of our Chief doubtless prevented him from doing in his department, viz: That Prof. Rathvon was awarded the premium of thirty-five dollars offered by the State Society for the best essay on the Colorado Potato-Beetle. This is a compliment well deserved and appropriately bestowed. No entomologist in this county better understands the subject than Prof. Rathvon. Long before anybody in this section apprehended any danger from the Potato Bug, he sounded the alarm, demonstrated that the pest would surely cross the mountains and travel east, and told our farmers how to prepare to save their crops from its devastations. It was mainly to the practical information diffused by him through the columns of THE FARMER and the local press, that the farmers owe their success in raising such good crops of potatoes in defiance of the ravages of the bugs.

This excellent essay for which the premium was awarded, will be published in the annual report of the State Agricultural Society, illustrated with the correct engravings of the Beetles which appeared in former issues of THE FARMER.

List of Premiums.

DIVISION I—CATTLE.

Part 1. Thoroughbred Herds.

Thomas L McKeen, Easton, thoroughbred Short-horn cattle, 1st premium, $50.

J B Longenecker, Union Deposit, Devon cattle, 1st premium, $50.

James Young, Middletown, Jersey cattle, 1st premium, $50.

R W Coleman's heirs, Cornwall, Holstein, 1st premium, $50.

C—Grade Cattle.

S Rutter, Emigsville, Short horn cow "Beauty," over 3 years old, 1st premium, $10.

C B Moore, Christiana, Jersey cow "Grace," over 3 years, 1st premium, $10.

G Zeigler, Lancaster, 2 Durham heifer calves, 3 months old, 1st premium, $5.

Levi G Getz, Lancaster, Devon cow, 1st premium, $10.

William L Peiper, Lancaster, Jersey heifer "Maud," 12 months, 1st premium, $10.

D—Working Oxen.

R W Coleman's heirs, Cornwall, Yoke of oxen; 1st premium, $10.

E—Fat Cattle.

Edward Smyser, fat heifer, $10.

Part 2—Large Cattle—Short Horns, Devons, Herefords, Holsteins.

Thos P McKeen, Easton—Short-horns—bull, "Prince Nicholas," over 3 years, 1st premium, $40; heifer, "Duchess of Lehigh," 1 year old; 2d premium, $15; calf, "Duchess of Lehigh 4th," 1 year old, 1st premium, $10; calf, "Lehieton," 1st premium, $15.

A M Rauck, Bird-in-Hand, Short horn cow, "Snowdrop," 6 years old, 1st premium, $25.

Edw Hicks, Goshenville—Short-horns—bull, "Montezuma," 2 years old, 1st premium, $25; cow, "Fancy," 6 years old, 2d premium, $15; heifer, "Lenora," 2 years old, 1st premium, $20.

J B Longenecker, Union Deposit, Devons, bull, "Champion," 2 years old, 2d premium, $15; bull, "Prince John," over 1 year, 1st premium, $15; heifer, "Devon Beauty," under 1 year, 2d premium, $5.

R W Coleman's heirs, Cornwall, Holsteins, cow, "Cornie," 2d premium, $15; heifer, "Maggie," 1¼ years old, 2d premium, $10.

Celebrook estate, John Benson, agent, Devons, "Red Cloud," 4½ years old, 2d premium, $20.

Levi G Getz, Lancaster, Devons, bull, "Red Dick," over 1 year old, 1st premium, $10.

Part 3. Small Cattle—Alderney, Jersey, Ayrshire, Brittany, Channel Islands.

Dr W F Atlee, Philadelphia, Jersey bull, "Julian," over 3 years old, 2d premium, $20.

C B Moore, Christiana, Jersey bull, "Richard," over 2 years, 1st premium, $25; heifer, "Glen Dale Belle," over 2 years old, 1st premium, $25.

James Young, Middletown, Jerseys—bull, "Billy," imported, over 3 years, 1st premium, $40;

cow, "Azalia," 7 years, 1st premium, $25: "Blue Belle," 2 years, 2d premium, $15; heifer, "Dutchess," 1 year, 1st premium, $15.

F A Brock, Lancaster, Alderney heifer-calf, under 1 year, 2d premium, $5.

T S Cooper, Coopersburg, Ayrshire imported bull-calf, "Sweepstake," 1st premium, $5.

W L Peiper, Lancaster, Jersey cows, imported, "Beauty," 6 years old, 2d premium, $15; bulls, "Pythias," 18 months, 1st premium, $20; "Jerry," 15 months, 2d premium, $10; Jersey heifer, "Blanche," 12 months old, 2d premium, $10; "Lucy," 6 months, 2d premium, $10.

DIVISION II—HORSES

Part 1. *A—Imported Horses.*

Thos L McKeen, Easton, Imported stallion, "Grand Turk," 1st premium, $100.

Part 1. *B—Thorough-Bred Horses.*

Thomas R Davis, West Chester, enters Major Cryer's stallion "Julius," 13 years old, 1st premium, $100.

J B Barker, jr., Thorndale, stallion "Andes" 7 years old, 2d premium, $50.

I I Parker, West Chester, The Jenifer Arabian stallion, 9 years old, special premium of $50.

Part 1. *C—Fine Bred Horse—Single.*

W S Kennedy, Caine, stallion, "Membrino Yarick," 3 years old, second premium, $20; mare, "Carrie Mack," 3 years old, 1st premium, $15.

McKeen & Hullick, Easton, stallion, "Ivanhoe," 3 years old, 1st premium, $40; mare, "Gold Elser," 3 years old, 2d premium, $10; gelding "Billy Button," 3 years old, 1st premium, $15.

A C Kepler, Lancaster, brood mare, 4 years old and sucking colt by Vosburg, 1st premium, $10.

S Baxter Black, Compassville, bay mare, "Ryadyk Maid," 9 years old, with filly foal at her foot. 1st premium, $20.

I B Black, jr., stallion, "Inkerman," 5 years old, 2d premium, $50.

C Musselman, Marietta, stallion, between 1 and 2 years old, 1st premium, $10.

A D Geiger, Lancaster, "Enterprise,' 2 years old, 2d premium, $10.

J B Baker, jr., Thorndale, bay mare with foal at her foot, 1st premium, $30

R W Coleman's heirs, G Youtz, (agent) stallion, "Middletown," 14 years old, 1st premium, $100; mare "Flora Patchen," 14 years old with foal, 2d premium, $10.

J R Royer, Lancaster, fine bred horse colt, 2 years old, 1st premium, $15.

S Baxter Black, Caine, Hambletonian colt, 1st premium, $40.

Part 1. *D—Fine and Draught Horses Matched.*

C G Groff, New Providence, pair of bay mares between 3 and 4 years old, 1st premium, $30.

H R Trout, Lancaster, one pair of sorrel horses, 5 years old, 1st premium, $40.

McKeen & Hullick, Easton, pair of bay draught or farm horses, 1st premium, $15; young stallion, "Oxford," 1st premium, $40.

Part 2. *B—Saddle and single road horses.*

A C Kepler, Lancaster, grey gelding, "George Ironsides," 1st premium, $15.

J B Baker, jr., Thorndale, family horse, 2d premium, $10.

John N Eaby, Neffsville, saddle horses, 2d premium, $5.

M McGonigle, Lancaster, chestnut gelding, "Midsummer," 1st premium, $15.

T McKeon, Easton, "Snow Ball," 2d premium, $5.

James Groff, York, sorrel horse, 1st premium, $15.

Part 2 *C—Pacing Horses and Ponies.*

Master John Dickey, Lancaster, children's pony, 2d premium, $5.

Part 3. *A—Heavy Draught Horses and Mares.*

M H Wenger, Lancaster, Percheron stallion, "Norman Bill," 1st premium, $20.

Isaac Yost, West Earl, stallion 5 years old, 2d premium, $15.

John Kendig, Willow Street, Percheron mare, "Lucy," over 3 years old, with foal at her foot, 2d premium, $10.

I G Pfantz, Lititz, Lincolnshire stallion, 10 years old, 2d premium, $5.

Moses Youngst, Lebanon, imported mare, 6 years, with foal, 1st premium, $25.

J J Parker, West Chester, Imported Percheron stallion, 1st premium, $30.

A K Groff, Paradise, Percheron stallion, "Hercules," special premium, $15.

Part 3. *B—Quick Draught.*

Kirk Brown, Pleasant Grove, stallion, "Dandy," over 6 years old, 2d premium, $10.

A R Magraw, Colora, Cecil co., Md., stallion, "Prince," 1st premium, $20.

I I Parker, West Chester, stallion "Philippi," 1st premium, $15.

I G Pfantz, Lititz. Hambletonian stallion, 7 years old, 1st premium, $25.

Jesse McCunkle, Lancaster, half Percheron mare, 4 years old, 1st premium $10.

E Keener, White Oak, twin Hambletonian, filly colts, over one year old—matched, 1st premium, $5.

John S Mann, Manor, mare 3 years old, 1st premium, $10.

Jas McPherson, Safe Harbor, heavy draught horse, 1st premium, $10.

Part 3. *C—Jacks and Mules.*

M H Wenger, Lancaster, pair of mules, 4 and 6 years old, 1st premium, $20.

P H McTague, Lancaster, "Jennett," 5 years old, 1st premium, $10.

Colebrook estate, J Benson, agent, pair of mules, 17 hands high, 7 years old, 2d premium, $10.

DIVISION III—SHEEP, SWINE AND POULTRY.

Part 1—*A. Home Bred Sheep. Imported and Otherwise.*

J B Baker, jr.. Thorndale—Southdown buck, over 2 years old, 1st premium, $15.

Thos Wood, Doe Run, Chester county—Southdown buck, over 1 year, 1st premium, $10; 5 Southdown ewes, 1st premium, $15.

Townsend Walter, West Chester—Long wool buck, 5 years, 1st premium, $15; 2 long wool bucks, 2 years old, 1st premium, $10; 5 ewes, 1st premium, $15; 5 ewe lambs, 1st premium, $15; 5 ewe lambs, 1st premium, $10.

B—Flocks of Fine Bred.

Thomas Wood, Doe Run, Chester co., Southdown ram, with 5 lambs of his get, first premium, $25.

T Walter, West Chester, buck with 5 lambs of his get, second premium, $15.

B—Fleeces.

T Walter, West Chester, long wool fleece, 1st premium, $10.

D—Swine—All Breeds to Compete Separately.

W H Cole, Clinton, Huntington county, imported small breed Yorkshire boar, "Forrest Boy," 1st premium, $15; small breed Yorkshire sow, "Lottie 3d," 1st premium, $5; small breed Yorkshire breeding sow, 1 year old, "Lady Hambrook," 1st premium, $10; small breed Yorkshire boar, under 10 months, "Duke 5th," 1st premium, $5.

A M Rank, Bird-in-Hand, Poland boar, 5 months old, 1st premium, $5; 2 Poland China sows, 5 months old, 1st premium, $5.

D H Bransory, Coatesville, Berkshire boar, 1 year old, 2d premium, $5.

C B Moore, Christiana, imported Berkshire boar, "Sir Russell Stanwick," 1st premium, $15; Berkshire sow, "Stanwick Pride," 1st premium, $10; 5 Berkshire pigs, 6 months old, 1st premium, $5; Yorkshire boar, "Grand Duke," between 1 and 2 years old, 1st premium, $10.

Thomas Wood, Doe Run, Chester county, Chester White breeding sow, 2 years old, 1st premium, $10.

C B Moore, Christiana, 5 Yorkshire pigs, under 6 months old, 1st premium, $5.

Cloud & Son, Kennett Square, 5 Chester White pigs, 1st premium, $5; Chester White boar, under 6 or 10 months old, 1st premium, $5.

J B Longenecker, Union Deposit, Berkshire boar, imported, 1st premium, $10.

Charles E Downing, Lancaster, pair of China hogs, 14 months old, 1st premium, $10.

T S Cooper, Coopersburg, imported Berkshire sow, "Cleopatra," 18 months old, 1st premium, $10; Berkshire boar, "Sambo," 2 years old, 1st premium, $10.

Ashbridge & Bro., West Chester, Chester Whitee, boar over 2 years old, 1st premium, $10; hoar over 1 year old, 1st premium, $10; 12 boars 7 months, 2d premium, $3; sow under 7 months, 1st premium, $5; for his herd, 1st premium, $30

E—Poultry.

Charles Lippold, Lancaster, display of pigeons, 5 varieties—pair of White Owls, pair of Black Turbets, pair of Fan Tails, pair of White Trumpeters, pair of Yellow Ruffles, 1st premium $3; pair black-breasted red games, pair game bantums, cage of fancy birds, guinea pigs, special mention.

Hayden H Tshudy, trio of silver-spangled Hamburgs, 6 months old, 1st premium, $2; trio of Plymouth Rock, 6 months old, special mention.

W A Schoenberger, Lancaster, trio of partridge Cochins, 1st premium, $2; 6 trios Golden Hamburgs, 1st premium, $2; trio of Silver Hamburgs, 6 Silver Polands, 1st premium, $2; 6 Golden Polands, 1st premium, $2; trio of Sultans, special mention; trio of White Leghorns, 1st premium, $2; trio of Dominiques, 1st premium, $2; trio of Hodans, 1st premium, $2.

Thos Woods, Doe Run, Chester county, trio of Buff Cochins, 1st premium, $2; pair of Aylesburg ducks, 1st premium, $2; pair of Bremen geeae, $2.

H M Buch, Landisville, white Brahmas, 1st premium, $2.

John C. Smith, Lititz, pair of Muscovy ducks, pair of White Swan Geese, special mention.

H Haldie Wentz, Lancaster, trio Chinese bantams, 8 months old, special mention.

Robert Dysart, Lancaster, trio black Spanish chickens, 1st premium, $2.

J D Dougherty, Harrisburg, pair of Rouen ducks, 1st premium, $2.

John Snyder, Lancaster, pair of Bally games, special mention.

Henry E. Johnson, Wheatland, pair of white Guinea fowls, 1st premium, $2; pair bronze turkeys, 1st premium, $2; white ducks of a peculiar breed, special mention.

Howard Ashbridge, Wellstown, pair of white bantams, 1st premium, $2.

D H Branson, Coatesville, pair of white turkeys, 1st premium, $2.

DIVISION IV-AGRICULTURAL IMPLEMENTS

A. Reaping and Mowing Machines.

The committee report that not having the articles in this class under practical test, they cannot say which is the best.

Part 1. *B—Threshing Machines and Horse Powers.*

Keller & Wiesler, Brunnerville, horse power and universal jack attachment; young chief thresher and separator, diploma to each.

J N Groff, Liberty Square, Kendrick's fanning mill and grain and seed separator, favorable mention.

L H Davis, patent Pittman's connecting for machinery, special notice.

Geyser manufacturing company, sweep power, diploma.

Part 1. *C—Cider Mills, Churns and Articles of Similar Character.*

Wm Dippa, Coatesville, French bar feed and meal mill, diploma.

Pearson Embree, West Chester, Pearson Embree butter worker, small premium or diploma

Clement & Dunbar, Philadelphia, collection of churns, diploma.

W McWilliams, Brandywine Manor, butter worker and moulder, complimentary notice.

The committee of this division report the entries in this class are more numerous and their quality better than at any previous exhibition of the society.

Part 1. *D—Cultivators, Grain Drills and Sowers.*

W D Sprecher, Lancaster, McSherry broad cast seeder; Hunt's corn planter, favorable mention.

Part 1. *E—Wagons, Carts, Drays and Carriages.*

W D Sprecher, Lancaster, one-horse Studabaker farm wagon, 1st premium, $5; two-horse Studabaker farm wagon, first premium, bronze medal.

McKeown, Miley & Co, Lancaster, two seated carriage, bronze medal.

George W Eberly, Lancaster, 3 sets buggy wheels, diploma.

P S McTague, Lancaster, cart for general use, 1st premium, $5.

Landis Coach Works, Mount Joy, hearse, diploma; sporting wagon, 1st premium, $5.

M M Grove & Co, Harrisburg, buggy with Kline's patented conical compensating axles; set Kline's conical compensating axles, bronze medal; Kline's patent compensation wrist pin for handreating and other machines, diploma.

Jacob A Lippe, Lancaster, collection of felloes, diploma.

F Seidle, Mechanicsburg, set of Watson's patent wheels finished, diploma.

Samuel B Cox, Lancaster, market wagon, 1st premium, $5, or diploma.

Edgerly & Co., Lancaster, no top trotting buggy, diploma; pony phaeton and pleasure wagon, favorable mention; surry top buggy, 1st premium, $5; one spar top buggy, diploma.

P McNiff, Harrisburg, trotting buggy, bronze medal.

Part 1. *F—Miscellaneous Farm Tools.*

Nash & Bro., New York, Coates' lock-lever bay rake, favorable mention.

W D Sprecher, Lancaster, bag wagon with holder attached, favorable mention.

Pennock Manufacturing Company, Kennet Square, double harpoon horse rake, favorable mention.

Brady Edge Tool Works, Lancaster, set drill and blasting tools, 1st premium, $5.

Lancaster Bolt Company, Lancaster, lot of carriage and tire bolts, favorable mention.

M G Collins, patent pinch bar for moving cars, diploma.

Chas H Pederick, Media, set of hand-made horse shoes, 1st premium, $2.

Abram Spencer, Grampian Hills, locomotive ditcher, diploma.

Part 2. *B—Plows, Plowing Machines and Harrows.*

W D Sprecher, Lancaster, No. 9 Dayton champion sod plow, bow and horn coulters, diploma. (The committee awarded to W D Sprecher for his very fine display of steel plows a special diploma.)

P P Mast & Co., Springfield, Ohio, Buckeye plow sulkey, diploma.

D Root, Son & Co., Mount Joy, No. 40 three three-horse plows, diploma; No. 5, two-horse plow, cast iron, diploma; two double shovel plows, diploma.

Wallace & Son, Sheridan, one plow, diploma.

The committee say this was a display of unusual excellence.

Part 2. *C—Leather and its Manufacture.*

Amos Hollinger, Lancaster, four sides harness leather, diploma.

John Dohner, Elizabethtown, 6 tanned calf skins, diploma and favorable mention.

Amos Miley, Lancaster, double set of fine gilt-mounted harness, 1st premium, $5; 2 sets of

single fine rubber and gilt-mounted buggy harness, 1st premium, $5; 5 riding saddles, 1st premium, $5; 1 farm saddle, 1st premium, $3; 12 wagon whips, 1st premium $3; 12 carriage whips, 1st premium, $3; 3 hitching straps, 1st premium, $2; 1 sole leather trunk, 1st premium, $3; 12 cans Frank Miller's oil blacking, 1st premium, $2.

J Grezinger, Lancaster, 2 sides water proof belting leather, diploma and special mention.

Jerre Bauman, Lancaster, 3 sides oak tanned sole leather, diploma and special mention.

H F Esbenshade, Reading, 12 calf skins tanned by De Long Bros., and finished by H F Esbenshade.

The committee report that the goods of this class were without exception of very superior quality and finish, and evince a high degree of mechanical skill in their manufacture.

DIVISION V—COLLECTIONS AND DISPLAYS.

4—Paintings and Works of Art.

B Frank Saylor, Lancaster, display of photographs, exceedingly fine—bronze medal.

J H Rudy, Lancaster, specimen of penmanship, 2d premium, $1.

Thomas Cummings, Lancaster, case of photographic pictures, diploma.

Miss Minnie Allen, Harrisburg (aged fourteen years), crayon sketches, "Bertha," "Foster Mother, "Fruit Piece." These drawings were very fine, and a diploma was awarded to the young lady.

Miss E M McPheran, Millersville, oil paintings, 2d premium, $1.

Mrs. Turner, Lancaster, oil painting, 2d premium, $1.

Miss M E Hendel, Lancaster, oil painting, 2d premium, $1.

Miss E Rosenmiller, Lancaster, oil painting, 2d premium, $1.

Miss Mary Zahm, Lancaster, two crayon drawings, diploma.

B F Fordney, Lancaster, oil painting, "Landgrave Castle," diploma.

C B Herr, Willow Street, portrait in oil, 1st premium, $3.

A Shindler, Lancaster, display of oil paintings, diploma.

F J Amweg, Lancaster, three architectural drawings, diploma.

Miss Alice M Amweg, Lancaster, fancy picture, diploma.

Jno C Miller, Lancaster, display of penmanship. 1st premium, $2.

J A Keller, Lancaster, 2 lead drawings, diploma.

A A Martin, Lancaster, 3 oil paintings, 1st premium, $3.

Miss Alice Malone, Lancaster, Grecian painting, diploma.

H Z Rhoads & Bro., Lancaster, oil paintings: "Madonna Della Sedia," or "Madonna of the Chair," "Lindale Chamouni," "St. John before King Herod," "Murillas," "Madonna Charity," "Faith," after Raphael. These paintings are very fine. The Messrs. Rhoads received a silver medal.

Miss Lillie Musser, Lancaster, table painted on glass, 2d premium, $1.

C—Mercantile Displays.

John P. Weise, keeper Lancaster county prison, rag carpet, jute carpet, boots and shoes, baskets, bags and bagging, bronze medal, and diploma for last two.

Middletown Furniture Company, furniture, bronze medal.

Lewis & Souder, Lancaster, boots and shoes, diploma or $5.

J. V. Campbell, Lancaster, segars, diploma.

A. Wright, Rochester, N. Y., perfumery, bronze medal.

Myers & Rathvon, Lancaster, woolen goods and clothing, diploma for elegant display—goods first-class.

F. Ganse, Lancaster, cedarware, good.

Brady Edge Tool Works, Lancaster, edge tools, bronze medal.

Joseph Sampson, Lancaster, brushes, diploma.

Sachse & Son, Philadelphia, fine made dress shirts, bronze medal.

Stirk's China Hall, Lancaster, queensware, china, glass, etc, diploma.

H. S. Shirk, Lancaster, homemade carpet, diploma.

Foose & Stirk; Lancaster, display of copperware and tinware of their own manufacture, diploma or $5.

Mrs. W. H. Pool, Lancaster, ladies hair work, diploma.

Shultz & Bro., Lancaster, case of hats, favorable mention.

Kendig, Bricker & Lauman, Middletown, sash, doors, etc., displayed good work.

Mrs. S. A. Bear, Lancaster, ladies hats and bonnets, favorable mention.

Cole & Co., York, walnut furniture, diploma.

Mrs. M. A. Houghton, Lancaster, millinery and fancy goods, diploma or $5.

C. Boettner, Lancaster, bread, rusk, rolls, buns, etc., diploma.

E. J. Erisman, Lancaster, gent's furnishing goods, favorable mention.

H. S. Shirk, Lancaster, home-made coverlets and counterpanes, diploma.

Marietta Hollow-ware Co., Marietta, hollow-ware, diploma.

John P. Schaum, Lancaster, copperware, favorable mention.

H. C. Demuth, Lancaster, meerschaum goods and cigars, favorable mention.

Amer & Hesslet, Lancaster, hats, caps and furs, diploma.

Hermann Miller, Lancaster, soap, favorable mention.

Edwards & Bishop, Lancaster, stationery and blank books in case, diploma.

Johnson & Co., Harrisburg, printing presses, stencil and stamp goods, bronze medal.

D—Silverware.

A. Rhoads, Lancaster, jewelry and silverware, bronze medal.

H. Z. Rhoads & Bro, Lancaster, watches, jewelry, silverware, French clocks, bronzed, and music boxes, bronze medal.

DIVISION VI—MINERALS, GLASS, &c.

A—Minerals, Acids, Ores, Iron, &c.

Flinn & Breneman, Lancaster, display of copperware, diploma.

Cobaugh & Bro., Middletown, Pa., paints, bronze medal.

D. Grabill, Lancaster, Red Hematite ore, first premium, $3.

John P. Schaum, Lancaster, copper tubing, bronze medal.

B—Steam Engines and Castings.

Mellington & Barton, Safe Harbor, hydraulic engine for forcing water, diploma.

D. Z. Lantz, Gap, Lancaster county, wind mill, rigged and operated, bronze medal.

Aaron Miller, Bingtown, Schuylkill county, patent rotary foot power for moulding machine, bronze medal.

Harberger, M'Culley & Co., Lancaster, S. M. King's patent shingle dressing machine, bronze medal.

Frick & Co, Waynesboro, portable engine, bronze medal.

John Best, general display of engines, etc, silver medal; portable engine with improvements, silver medal.

M M Grove, Harrisburg, reaming tool, diploma.

C—Glass, Cutlery, Lamps, etc.

Flinn & Breneman, Lancaster, slate mantels, diploma; specimen of plumbing work, set up for use, to include range, sink, washstand, &c., bronze medal; low down grate, diploma.

W M McClure, Columbia, collection of plain slate ware, 6 marbleized slate mantels, bronze medal.

H & T Humphreville, Mountville, Pa., steam boiler and washing machine, first premium, $1.

Denny washing machine, 1st premium, $1.

D—Stoves and Tinware.

Kepler & Slaymaker, Lancaster, Pa., cooking stove for wood, "Utility," bronze medal.

Flinn & Breneman, Lancaster, Empire cooking stove for coal, bronze medal; furnace for warming houses, bronze medal.

H G Lipp & Co, Lancaster, "Coronet" self-feeding parlor cook, double heater, bronze medal.

Diller & Groff, Lancaster, 3 Triumph ranges, Nos 6, 7 and 8; 2 Harvest Home ranges, Nos 7 and 8; parlor oven heating stove, bronze. medal.

Foose & Stirk, Lancaster, No 8 Sterling range (complete), bronze medal.

DIVISION VII—FLOUR, SEEDS, GRAINS, &c.

A—Agricultural Collections.

Six Cumberland county farmers, 6 bushels white wheat, 1 bushel each, 1st premium $10; 6 bushels red wheat, 1 bushel each, 1st premium, $10; 6 bushels oats, 1 bushel each, 1st premium, $6; collection of potatoes, 6 varieties, 1 peck each, 1st premium, $8; 12 varieties of apples, 1st premium, $10; 12 varieties of pears, 1st premium, $10; 12 varieties of native grapes, 1st premium, $10.

Brandywine Farmers' Club, 6 varieties, of yellow corn, 6 varieties of white flint corn, 1st premium, $10.

B—Flour, Meal and Starch.

C Musselman, Marietta, barrel flour, 1st premium, $5.

F S Barnhart, Reading, barrel of rye flour, 1st premium, $3; 50 pounds of buckwheat flour, 1st premium, $2; 100 pounds new corn meal, 1st premium, $3.

C—Grain and Seeds.

B M Greider, Harrisburg, Canada barley malt, 1st premium, $2.

C H Hoffman, Landisville, 1 pound of tobacco seed, 1st premium, $2.

B L Wood, Doe Run, bushel timothy seed, 1st premium, $2.

Thomas Wood, Doe Run, bushel yellow corn, 1st premium, $2; bushel of white flint corn, 1st premium, $2.

F S Bernhart, Reading, 2 bushels "Eureka" white wheat, first premium, $3.

John B Erb, Lime Valley, ½ bushel sweet potatoes, 1st premium, $2.

B J Rutherford, bushel of rye wheat, 1st premium, $3.

J H Musser, Marietta, display of wheat over three varieties, 1st premium, $5.

John Grossman, Lititz, cucumber seed, premium, $2.

John S Mann, Manor, bushel of red wheat, "old blue stem," first premium, $3.

John B Holloway, Amity township, Berks co., 2 bushels of Schoner oats, 1st premium, $2.

Philip Hess, Harrisburg, ½ peck of sweet potatoes, 1st premium, $2; ½ peck of turnip seed, 1st premium, $2; collection of seeds, 1st premium, $5.

George Yontz, Brickerville, prolific potatoes, 1st premium, $2.

D—Butter, Cheese and Honey.

John B Erb, Lime Valley, 10 pounds of honey, 1st premium, $5.

D H Lintner, Lancaster, bee hive, 1st premium, $2.

Mrs Bushong, 10 pounds of butter, 2d premium, $3.

E B Kendig, Lancaster, 10 pounds of honey, 2d premium, $3.

S S Spencer, Lancaster, 10 pounds butter, 1st premium, $5.

G Dawson Coleman's cheese factory, Lancaster county, 3 cheese, less than 1 year, 1st premium, $10.

DIVISION VIII—FRUITS AND VEGETABLES.

A—Fruits.

Chas E Long, Lancaster, basket of pears, 6 varieties, 1st premium, $6.

Cumberland County Horticultural Society, Pa.; collection of apples, 187 plates, 1st premium, $10, 10 fall varieties of apples, 1st premium, $5; 6 varieties of fall or summer pears, 1st premium, $4; 3 varieties of fall or summer pears, 1st premium, $3; 5 varieties of winter pears, first premium, $4.

Levi S Reist, Oregon, 5 varieties of apples, 1st premium, $5; 3 varieties of fall or winter pears, 5 varieties each, 1st premium, $3.

Levi Scarlett, Christiana, 6 varieties of peaches, 2d premium, $3.

Mrs M S Clarkson, Lancaster, 3 varieties of peaches, 2d premium, $2.

Henry M Engle & Son, Marietta, 6 plates of peaches, 1st premium, $4.

Daniel Smeych, Lancaster, collection of pears, 2d premium $5; 11 varieties of peaches, 1st premium, $10; for best and largest collection, ½ peck of plums, 1st premium, $3.

Calvin Cooper, Bird-in-Hand, basket of apples, 1st premium, $6; collection of apples, 2d premium, $5.

Benedict, Weidle & Co., Lancaster, 3 summer or fall varieties pears, 1st premium, $3; arranged basket of not less than 6 varieties—best and largest collection—1st premium, $10.

J Frederick Sener, Lancaster, 3 plates of peaches, 1st premium, $3, two varieties of extraordinary merit.

John Ehler, Lancaster, 5 winter or fall varieties of pears, 1st premium, $4

William Miller, Lancaster, plate of gages, 1st premium, $2.

S. S. Spencer, Lancaster, basket of quinces, special premium, $2.

Experimental farm, Chester co., plate Bartlett pears, favorable mention.

B—Vegetables.

D H Branson, Coatesville, 12 ears yellow corn, 1st premium, $1; 12 ears white corn, 1st premium, $1, and favorable mention.

John B Erb, Lime Valley, 12 peppers, 1st premium, $1.

John A Keller, Lancaster, largest collection of vegetables, 1st premium, $10.

Jacob M Mayer, Lancaster, 3 marble head squashes, 1st premium, $1; 12 rose colored china winter radishes, 1st premium, $1.

Daniel Smeych, Lancaster, 3 mammouth pumpkins, 1st premium, $1; 3 sweet pumpkins, 1st premium, $1; 3 squashes, 1st premium, $1.

A S Keller, Lancaster, ½ bushel red beets, 1st premium, $1.

Samuel Flickinger, Harrisburg, 6 heads of flat Dutch cabbage, 1st premium, $1; 12 table turnips, 1st premium, $1

Philip Hess, Harrisburg, 12 cucumbers, 1st premium, $1; 6 heads lettuce, 1st premium, $1; 12 hollow crowned parsnips, 1st premium, $1; 3 green citrons, 1st premium, $1; watermelons, 1st premium, $1; tomatoes, 1st premium, $1.

C—Grapes, Cider, Cordials, etc.

Cumberland County Horticultural Society, ½ peck Concord grapes, 1st premium, $2; ½ peck Catawba, 1st premium, $2; ½ peck Ives, 1st premium, $2; collection of grapes of 15 varieties, 3 bunches each, 1st premium, $10.

Jacob M Mayer, Lancaster, ½ peck Isabella, 1st premium, $2; ½ peck Clinton on vine, 1st premium, $2.

Joseph Schmitt, Harrisburg, 4 bunches Rogers grapes, No. 19, 1st premium, $1; 4 Rogers, No. 34, 1st premium, $1; collection of grapes, foreign and domestic, 1st premium, $3.

John B Erb, Lime Valley, 1 quart raspberry wine, 1st premium, $1; 1 pint raspberries, 1st premium, $1; blackberry wine, 1st premium, $1.

Mrs H K Stoner, Lancaster, 1 bottle of white currant wine, vintage of 1869, 1st premium, $2; 1 Isabella of 1869, 1st premium, $3; 1 blackberry of 1862, 1st premium, $2; 1 elderberry of 1865, 1st premium, $1; 3 bunches black Hamburg grapes grown in a green house, 1st premium, $3.

Mrs Q G Gensemer, Lancaster, cherry wine, 1st premium, $2.

Henry M Engle & Sons, Marietta, six plates grapes, 1st premium, $5.

Dan'l Smeych, Lancaster, 4 bunches each of Concord, Graveling, Diana, Allen's Hybrid, Israella, Sensaqua, Catawba, Walter, Delaware, Rogers Hybrid, No. 3, 1st premiums, $1 each; Black Hamburgs, 1st premium, $3; ½ peck Martha, 1st premium, $1; 15 varieties of not less than 3 bunches each, 1st premium, $5.

S H Purple, Columbia, 2 gallons cider vinegar, 1st premium, $1

Benedict, Weidle & Co, Lancaster, 4 bunches each of Isabella and Rebecca grapes, 1st premium, $1 each.

D H Branson, Coatesville, two bottles each of Catawba and Concord, 1st premium of $3 each.

S M Hentzler, 1 quart each of claret and native grape wine, 1st premiums, $3; 1 quart of strawberry wine, 1st premium, $2.

D—Flowers and Designs—Specimens of Plants and Flowers.

George W Schroyer, Lancaster, 12 varieties of flowers, one each, 1st premium $4; bedding and out-door decoration for the garden, 1st premium $5; collections of pinks, pansys, fuchias, geraniums and roses, 1st premiums $2 each; one pair flat round bouquets, 1st premium $3; one basket with flowers, 1st premium $2.

A D Rohrer, Lancaster, fancy basket with flowers, 1st premium $2; basket with flowers, 2d premium $2.

G O Heisel, Lancaster, flat round hand bouquets, 2d premium, $2; bridal bouquet, 1st premium, $3; pair of round hand bouquets, 1st premium, $3; collections of aloes and cactus, 1st premiums $2 each; achimines, 1st premium, $2; two designs in flowers, 1st premium, $2; collection variegated leaf-plants, 2d premium $3; new specimen of plant not before shown, 1st premium, $3; 6 varieties of flowers, one each, 1st premium, $3.

Wm P Brinton, Christiana, collection of evergreens, 2d premium, $5.

S Kennedy, Gap, petunias, 1st premium, $2.

C F Bachler, Lancaster, rustic furniture for garden, 1st premium, $3.

P H Purple, Columbia, 12 varieties of flowers, one each, 2d premium, $3; new flower, not before shown, 1st premium, $2; collection of variegated leaf plants, 1st premium, $5; nursery collection, 1st premium, $10; collections of heliotropes, verbenas, verbena seedlings, cut roses, 1st premium, $2 each; display of evergreens, 1st premium, $10.

L U Stine, Harrisburg, bedding and out-door decoration for garden, 2d premium, $3; collections of tuberosee and dahlias, 1st premium, $2 each.

L Bachler, Lancaster, 6 varieties of flowers, 1 each, 2d premium. $2; collections of Dianthus family, everlasting cut flowers, 1st premium, $2 each; pair round hand bouquets, 2d premium, $2; collection of bouquets in pyramidal form, 1st premium, $5.

Miss Margie Musser, Lancaster, phantom bouquet and vase of grasses, 1st premiums, $3 each.

DIVISION IX—CLOTHS, EMBROIDERY AND FANCY WORK.

A—Linens, Cloths and Carpets.

Mrs M A Rudy, Lancaster, table-cloths, sheets and bag 165 years old, 1st premium, $5; one apron 85 years old, 1st premium, $1.

Mrs Ann Buch, Lancaster, linen table-cloth, 100 years old, 1st premium, $1.

Levi S Reiet, Oregon, ten yards linen diaper, 1st premium, $9.

Philip Schum, Lancaster, one white cotton counterpane, 1st premium, $5.

Miss Fannie Eby, Harrisburg, parlor hearth rug, 1st premium, $5.

John S Mann, Manor, fifteen yards home-made rag carpet, 1st premium, $5.

B—Quilting, Embroidery, Sewing, etc.

E C Thomas, Christiana, sample of indelible ink marking, 1st premium, $1.

Mrs W Michael, Lancaster, child's white embroidered sacque, 1st premium, $1.

Mrs. Jane Hess, Lancaster, silk quilt, 61 years old, 1st premium. $3.

Mrs Joseph Colby, Lancaster, tufted ottoman cover, 1st premium, $1.

Miss Sallie Reist, Oregon, tufted reception chair, 1st premium, $1.

Miss Howell, Lancaster, two pair embroidered pillow shams, 2d premium, $2.

Miss M A Stauffer, Lancaster county, star quilt and silk quilt, 1st premium, $1.

Mrs S G Gensemer, Lancaster, silk sofa cushion, 2d premium, $1.

Mercy M Hains, Pleasant Grove, three embroidered collars, 2d premium, $2.

Miss Whitehill, Lancaster, embroidered yoke and sleeves, 1st premium, $2.

Mrs M A Rock, Lancaster, two silk quilts, 2d premium, $1.

M H Wentz, Lancaster, one embroidered opera cloak, 1st premium, $2.

Mrs S Lutz, Lancaster, one quilt, 1st premium, $2.

Mrs S S Gibbs, Lancaster, one piece of camilla work in cloth, 1st premium, $1.

Mrs A E Eby, Lancaster, one delane quilt, 2d premium, $1.

Mrs N Kendig, Lancaster, velvet quilt containing 4,800 patches, 2d premium, $1.

Miss Lillie R. Altick, Lancaster, sofa cushion, 2d premium, $1.

Mrs C Gast, Lancaster, two embroidered bed gown yokes and embroidered ruffling, 2d premium, $1.

Mrs. Theresa Loeb, Lancaster, infant's hat, 1st premium, $2.

Miss Emma Gemperling, Lancaster, tufted chair cover, 1st premium, $1.

Mrs. Jacob Blaue, Lancaster, counterpane, 1st premium, $1.

S. Whitehill, Lancaster, one knit bureau cover, 1st premium, $1.

Mrs C F Rengier, sr, Lancaster, needle book, 1st premium, $1.

Mrs Dr Huber, Lancaster, lace handkerchief and two embroidered handkerchiefs, 1st premium, $3.

Mrs R A Bear, Lancaster, pair of embroidered slippers, 1st premium, $1.

Mrs Susy Cooper, Lancaster, one embroidered pin cushion, 1st premium, $2.

Mrs T J Davie, Lancaster, pair pillow shams, 1st premium, $3.

Miss Maggie Musser, Lancaster, child's embroidered handkerchief, 2d premium, $1; and three embroidered skirts, 1st premium, $2.

Miss Mary R Slaymaker, Lancaster, sofa cushion, 2d premium, $1.

Part C—Knitted Hair Work, Hair Shell, Moss, etc.

Fannie E Young, Parkesburg, carriage afghan, 1st premium, $2.

Sue Erisman, Sporting Hill, hair wreath, 1st premium, $2.

Mary Reiley, Philadelphia, worsted work picture masquerade ball, 1st premium, $2.

Sue Erisman, Sporting Hill, 2 tidies made of home made linen, 1st premium, $1.

N Dysart, Lancaster, wax bouquet, 1st premium, $2.

M E Martin, Lancaster, 6 knitted tidies, knitted stockings, 1st premium, $1.

S G Gensemer, Lancaster, bead basket, 1st premium, $1.

Annie M Deaner, Lancaster, crochet zephyr shawl, 1st premium, $2.

Annie Weber, Lancaster, wax flowers, 1st premium, $2.

A M Dongherty, Lancaster, wreath of hair work, 2d premium, $1.

Mrs S R Miller, Lancaster, worsted tidy 1st premium, $1.

Ellen Sheets, Lancaster, one pair of children's socks made from wool of poodle dog fifty years ago in Ireland, 1st premium, $1.

Mrs J H Baer, Lancaster one afghan, 2d premium, $1.

Mrs Thos B Cochran, Lancaster, wax crose, 2d premium. $1.

Emma E Gemperling, Lancaster, child's afghan, 1st premium $1.

Misie Brenner, Lancaster, zephyr chair cover, 1st premium, $1.

Louisa C Millinger, Lancaster, seed wreath, 1st premium, $2.

M E Keller, Lancaster, bead cushions, worsted cushion, 1st premium, $1.

Mrs David Bair, sr, Lancaeter, one slipper case, 1st premium, $1

Mary Bachler, Lancaster, wax bouquet, 2d premium, $1.

Mrs A D Caufman, basket wax fruit, 2d premium, $1.

Lillie Kurtz, Lancaster, imported tidy, 2d premium, $1.

Emma Mawger, Philadelphia, ornamental hair work, for pictures, 1st premium, $2.

Emma Musser, Lancaster, two vases wax flowers, 1st premium, $2.

Mrs Haines, Lancaster, hair receiver, 1st premium, $1.

M K A Heinitsh, Lancaster, moth work in silk, 1st premium, $1.

Mrs E Saylor, Lancaster, wreath feather flowers, 1st premium, $1.

DIVISION X—DOMESTIC COOKERY.

Miss Annie F Clark, Lancaster, two loaves of bread, 1st premium, $2.

Miss Jennie E Downey, Lancaster, Lafayette cake, 1st premium, $1.

Mrs George Logue, Lancaster, two bottles of catsup, 1st premium, $1.

Mrs Dr A M Miller, Bird-in-Hand, bran bread, 1st premium, $1.

J R Royer, Lancaster, display of cakes, bronze medal; display of candies and confections, diploma.

Henry M Engle & Son, Marietta, six jars of canned fruits, diploma.

Mrs P McConomy, Lancaster, one jar of pears, one of assorted pickles, one of spiced peaches, favorable mention; cinnamon cake, 1st premium, $1.

Mrs H J Rhoads, Lancaster, two bottles assorted pickles, 1st premium, $1; one jar strawberry preserves, one jar peach preserves, one jar quince preserves, one of cherry preserves, one of spiced peaches, favorable notice.

Harry Zahm, Lancaster, sponge cake, 1st premium, $1.

Daniel Smeych, Lancaster, 2 jars air tight cherries, Ohio beauty; 2 of Rhinehart; 2 of seedling; 2 jars of "Clapp's Favorite" pears; 2 cans preserved peaches, favorable notice.

Mrs M Bushong, Lancaster, 2 loaves of wheat bread, very favorable notice.

Mrs A E Eby, Lancaster, jar of spiced peaches, of canned peaches, 1 of canned tomatoes, 1 of spiced pears, favorable notice.

Mrs Elizabeth Wolf, Lancaster, 2 jars canned peaches, 12 years old, remarkably preserved.

Mrs A Groff, Lancaster, 2 loaves of wheat bread, second premium, $1.

Mrs J H Pearsol, Lancaster, 2 tumblers of quince jelly, first premium, $1.

Mrs C A High, Lancaster, 2 cans air-tight Bartlett pears, 2 cans air-tight ox heart cherries, 1st premiums, $1 each.

Mrs Duchman, Lancaster, 2 jars canned cherries, 1st premium, $1.

Miss Annie Geltmacher, Lancaster, 2 tumblers crab apple jelly, 1st premium, $1.

Mrs S Krant, Lancaster, honey cakes and walnut cakes, 1st premiums, $1 each.

Miss M Wiant, Lancaster, silver cake, 1st premium, $1.

Mrs David M Bear, Lancaeter, two jars of pickled onions, two of catsup, two of Chilian sauce, two of pickled cucumbers, two of pickled cherries, second premium, $3, for display.

Mrs R W Miller, 2 jars peaches, 1st premium, $1.

Cumberland County Horticultural Society, collection (18 jars) canned fruit, 1st premium, $5

DIVISION XI—MUSICAL INSTRUMENTS AND SEWING MACHINES.

The committee on this department report as follows:

Your committee made careful examination of all the sewing machines on exhibition, including the Howe, Wheeler & Wilson, Remington, Weed, Grover & Baker, Domestic, American, and McLean & Benner, and have no hesitation in reporting that all do their work equally well and satisfactorily; and we cheerfully recommend them all to public patronage.

We were particularly pleased with the recent improvements made to the Weed machine. Samples of leather, one-half inch in thickness, were exhibited, sown entirely through by the Domestic. McLean & Benner is a new machine, the first time on exhibition. Beautiful samples of workmanship were shown by all the machines.

Your committee have also examined the only piano organs on exhibition, by A DeN. Stuckenholz, and cordially recommend them to the public for its patronage.

DIVISION XII—MISCELLANEOUS ENTRIES.

The committee reports of the following articles, awarded premiums at former exhibitions of this society, they make favorable mention: J Rohrer, Lancaster, iceberg refrigerator; Frantz & Popes, knitting machine; J Steel, Philadelphia, gas apparatus for private families.

George McMullen, Lancaster, ironing table, diploma.

Anthony Iske, Lancaster, potato bug destroyer, honorable mention; kitchen slicing uteneil, bronze medal.

C Liller, Lancaster, case hair work, diploma.

D S Sweeton, Strasburg, croquet set, honorable mention.

J Good, Lancaster, kitchen and ironing table, ironing board, honorable mention.

Martin Rudy, Lancaster, case of Indian relics, honorable mention.

Johnson Miller, Litiz, collection of agricultural implements, made with pocket knife, by a boy twelve years old, honorable mention.

J G Goodman, Lancaster, 300 cigars, honorable mention.

J Stauffer, Lancaster, volume of plants, pen and water; volume of insects, color drawn; volume of fishes and reptiles, from life; diploma.

W A Middleton, Harrisburg, wire farm fence, diploma; chemical writing fluid, diploma.

S M Hyde, tomato trellis; honorable mention.

Wm J Harkesheimer, Philadelphia, house and veranda swings, honorable mention.

Wm H Pool, Lancaster, Gordon's food for horses and cattle, honorable mention.

Harrisburg Cellar Hoist Elevator and Manufacturing Company, cellar hoist elevator, bronze medal.

C F Eby, Lancaster, pair of fancy parlor stools, honorable mention.

Lebanon Building and Paving Co, paving blocks of annealed slag, diploma.

M G Collins, Lancaster, empress perfumer, diploma.

Elsenhower, Fink & Co., Reading, five refrigerators, silver medal.

Conestoga Cork Works, Lancaster, case of corks, diploma.

Snyder Bros, Lancaster, 1,000 cigars, diploma.

Baer's Sons, Lancaster, two school desks, diploma.

Premiums that have not yet been paid, will be paid on application by mail to John B. Rutherford, Treasurer, Harrisburg.

$1 a Year { To subscribers in the county. SINGLE COPIES 10 CENTS. $1.25.

Prof. S. S. RATHVON, Editor. LANCASTER, NOVEMBER 15, 1875. PEARSOL & GEIST, Publishers.

THE FARMERS HOME ORGAN.

The Lancaster Farmer;

A MONTHLY NEWSPAPER,

DEVOTED TO AGRICULTURE, HORTICULTURE, DOMESTIC ECONOMY, AND MISCELLANY,

WITH PRACTICAL ILLUSTRATIONS.

Founded under the auspices of the Lancaster County Agricultural and Horticultural Society.

Edited by Prof. S. S. RATHVON.

With the January issue (1875) THE FARMER entered upon its seventh year, under a change of proprietors, the publication having been transferred to the undersigned, who propose to make it in all respects a first-class local organ of the important interests to which it is especially devoted.

With this view THE FARMER has been enlarged and its form changed to the Imperial Magazine style, each number containing twenty-four pages Imp. 8vo., measuring 9½ by 13 inches, at least seventeen of which will be exclusively devoted to reading matter, the advertisements and "standing matter" being limited to the remaining pages. This increase of size and change of form, together with the use of a more compact type, enables us to give twice as much reading matter as was contained in the old form.

If this effort to give the agricultural community of Lancaster county a publication worthy of their honorable calling is liberally seconded, we propose to add other improvements from time to time, including illustrations of important topics of general interest, and papers from special contributors on the more important local industries and resources of the county—a wide field, which has been very little cultivated by our local press.

The contributions of our able editor, Prof. RATHVON, on subjects connected with the science of farming, and particularly that specialty of which he is so thoroughly a master—entomological science—some knowledge of which has become a necessity to the successful farmer, are alone worth much more than the price of this publication.

THE FARMER will be published on the 15th of every month, printed on good paper with clear type, in convenient form for reading and binding, and mailed to subscribers on the following

TERMS,

To subscribers residing within the county—

One copy, one year,	$1.00
Six copies, one year,	5.00
Ten Copies, one year,	7.50

To subscribers outside of Lancaster county, including postage pre-paid by the publishers:

One copy, one year,	$1.25
Five copies, one year,	5.00

All subscriptions will commence with the January number unless otherwise ordered.

All communications intended for publication should be addressed to the Editor, and, to secure insertion, should be in his hands by the first of the month of publication.

All business letters, containing subscriptions and advertisements, should be addressed to the publishers,

PEARSOL & GEIST,
Express Buildings, 22, South Queen Street,
LANCASTER, PA.

RATES OF ADVERTISING.—Ten Cents a line for each insertion. Twelve lines to the inch.

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SIX ILLUSTRATIONS.

OUR FENCE CORNERS

ALWAYS have a book within your reach which you may catch up at your odd minutes. Resolve to edge in a little reading every day, if it is but a single sentence. If you can give fifteen minutes every day, it will be felt at the end of the year. Regulate your thoughts when not at study. A man is thinking even while at work. Let him think well.

WOMAN.

O woman! lovely woman! Nature made thee
To temper man; we had been brutes without you.
Angels are painted fair, to look like you:
There's in you all that we believe in heaven—
Amazing brightness, purity and truth,
Eternal joy and everlasting love.—*Thomas Otway.*

"WHAT makes you look so glum, Tom?" "Oh! I had to endure a sad trial to my feelings." "What on earth was it?" "Why, I had to tie a pretty girl's bonnet with her mother looking on."

"I am a home missionary," once observed a christian mother. "Six pair of little eyes are daily watching my looks as well as listening to my words; and I wish my children never to see in me that which they may not imitate."

AN old writer says: "Read not books alone, but men, amongst them chiefly thyself. If thou findest anything questionable there, use the commentary of a severe friend rather than the gloss of a sweet-lip flatterer; there is more profit in a distasteful truth than deceitful sweetness.

TO A FRIEND.

'Tis many years since last we met;
We may not meet again;
But this fond heart will never cease
To love thee all the same.
No change of any kind will tend
To make me love thee less;
My fondest prayer for thee will be—
Pure, perfect happiness.

WHEN are stockings like dead men? When they are men-ded; or perhaps when their soles are departed; or, again, when they are all in holes; or when they are in toe-toe; or when they are past heeling; or when they are no longer on their last legs.

"I would marry you, Jacob," said a lady to an importunate lover, "were it not for three reasons." "Oh! tell me," he said, imploringly, "what they are, that I may remove them!" "The first is," said she, "I don't love you; the second is, I don't want to love you; the third is, I couldn't love you if I wanted to."

A MAN in Boston, in his hurry to assist a fainting lady, got a bottle of mucilage instead of camphor, and bathed her face with it. She was a good deal stuck up with his attention.

GATHER ye roses while ye may,
Old time is still a flying;
And the same flower that smiles to-day,
To-morrow may be dying.

NO DIFFERENCE TO HIM.—A man saw a boy about eleven years of age seated on the sidewalk bareheaded, in the full blaze of the scorching sun.

"Bub, you ought not to sit there!" said the man.

"Why?"

"Because you'll get all tanned up."

"Makes no difference to me whether I sit in the sun or the shade," sadly answered the boy, "Mother tans me up three or four times a day any how."—*Exchange.*

THE most original spelling we have ever seen is the following. It beats phonetics: 80 you be—a tub. 80 oh! pea—a top. Be 80—bat. See 80—cat. Pea 80—pat. Are 80—rat. See oh! double you—cow. See you bee—cub. See a bee—cab. Bee you double tea—butt. See a double ell—call.

IT was a printer who perpetrated this double barreled, breech-loading, pun-conundrum: "Why is an old man's farm in Texas like the focus of a sun-glass?" "Because its the place where the sons raise meat."

A GENTLEMAN of rather diminutive size, according to the ordinary law of compensation in such cases, married a regular maypole of a partner, who overtopped him by about two feet. As he led her up to the altar, the minister lost his presence of mind and called out, "Who bringeth this child to be baptized?"

DECISION and promptitude, even though sometimes a man may err for want of due deliberation, will in the long run more often conduce to success than a slow judgment that comes too late.

"MARIAR," remarked one of the horny-handed sons of toil to his wife, "'Pears to me it takes a sight o' calico ter make you a dress, these hard times. Can't yer economize with one o' them ar pull backs the city gals wear?" It was then that Mariar fired the bread-board at him and remarked that she wasn't "going to stop the circulation of blood in her legs for no bald-headed old penny-pincher."

"WHAT's de occasion of dat big smoke over dar?" inquired one colored man of another at the market yesterday. "Fire, sah," was the answer. "And what's de occasion of de fire?" "Combustshun." "And what's combustshun?" "My friend," replied the other, crossing his legs, "dar's heaps of things in dis world dat no nigger ever knowed or ever will know, an' we'll change de subject to gooseberries."

The Lancaster Farmer

Prof. S. S. RATHVON, Editor. LANCASTER, PA., NOVEMBER, 1875. Vol. VII. No. 11.

THE MUSHROOM.

(Agaricus Campestris.)

Whether the common species of American edible mushroom is identical with the common edible species of Europe, or whether it is specifically different, is not essentially germain to the present discussion of this most excellent fungoid esculent. There are few in our towns, villages and rural districts who have not been familiar with the name and delicious qualities of the mushroom from their earliest youthful observations up to the present time, whether among the old, the middle aged, or the young; and it is rather a matter of surprise that in the present progressive period, when utility and economy are marching abreast in the exploration of nature's domain, seeking and developing new comforts, conveniences and luxuries for the use and behoof of the human family, that Yankee genius, perseverance and enterprise have not achieved something in that direction. The field and function in our domestic economy that involves the artificial propagation and culture of the mushroom is still lying fallow. Not even the manufacture of spurious bricks of mushroom spawn has yet been attempted, and the country is still waiting to be cheated in this respect.

In case any of our readers should feel a desire to know something more about the mushroom and its cultivation as a contribution to our present market products, we insert the following from a cotemporary journal on the subject, so that even if they do not feel inclined to engage in its cultivation, they may at least know what has been done, and is still being done, by other nations and peoples:

"Mushroom growing, as it is carried on in some parts of France, is one of the most extraordinary examples of culture in the known world. In the vicinity of Paris are extensive stone-quarries, long since abandoned, from which the stone has been extracted, leaving extensive caves, as in coal mines, sixty and seventy feet under ground, and extending great distances, in some instances fairly under the city itself. In these caves the temperature is very equal, and the atmosphere moist: and here mushroom-growing has been brought to its fullest development. The floor of the cave is carefully swept, and the beds are then made of the dust of the stonecutting yards above, mixed with stable manure. The beds are about twenty-two inches in height, and the same in width, ranged in parallel rows, between which there is just room enough to walk. The temperature of the bed is carefully noted, during the fermentation of the manure, and the spawn of the mushroom is not sown until it is below seventy degrees Fahr.: since, if it is above this, the layers of spawn are liable to be burnt. The spawn, when sown, is covered with manure, which is removed as soon as vegetation begins, and is replaced by earth. The details of making the beds, watering them, picking the crop, and renewing the spawn, vary in different localities, but the general system is everywhere the same. The mushroom caves of Montrouge, just outside of the fortifications of Paris, on the southern side, are reached by descending well-like pits, by means of a ladder, which is simply a single pole with sticks run through to serve as steps. From the bottom of the pit little passages radiate. They are sometimes narrow and very low, but every inch of available room is made use of, and as many beds are crowded together as possible. Everything is kept scrupulously neat, and no litter is left strewn on the floor, as one would naturally expect. Another type of mushroom cave is found at Frepillon Mery-sur-Oise, where are the quarries for the building stone and plaster so largely used in Paris. The excavations here are not in small, narrow passages, as in those previously described, but form large vaulted apartments. The beds are arranged in rows, in such a manner as to make the most of the space, and here, as elsewhere, the practice of planting a certain number of beds every day in the year is observed, so that the supply is unfailing. An idea of the mushroom business may be formed when it is known that one proprietor has twenty-one miles of beds, another sixteen, another seven, and so on through a long list. Among the numerous localities in which the culture of the mushroom is carried on, besides the two mentioned, the principal are Moulin de la Roche, Sous Bicetre, near Saint Germain, and at Bagneux. These caves, like mines, are under government supervision, and vary in depth from twenty to one hundred and fifty or sixty feet. Coal mines are not adapted to the growing of mushrooms, and the smallest particle of iron in the beds of manure, is avoided by the spawn; a circle around it remaining inert. It is said to be the same with coal."

According to RIND, the *Agaricus campestris*, or common mushroom, is the only species cultivated in Europe as an article of food, and as it is the only species that is likely to be cultivated in America until more is known about the qualities of all our native species, and as even the common species, above named, is liable to be mistaken or confounded with the poisonous varieties, we will add a description of the genuine kind, as a guide to the novice:

"The stem of the edible mushroom is short, solid, and white, marked a little below the cup with a permanent ring, the remains of the curtain that covers the gills in their early stage."

Immediately after the mushroom is above the ground, the cup is almost an oblong sphere, but after the veil is broken and it progresses towards maturity, it will be found like the illustrations accompanying this paper, the rear figure not quite as far advanced as the front one.

The cup at first is white, regular convex, and a little turned in at the edges. As it advances in growth and age, the surface becomes brownish, scaly, and flattened. The flesh is white, firm, and solid; the gills are loose, reaching to the stems on all sides, but not touching it. When young, these are of a pinky red, but change to a livid color about the same time that the cup alters its form, and the upper surface also changes its color. The latter circumstances distinguish it in this stage from the dark gilded "toad-stool," with which it might be otherwise confounded.

The genuine mushroom is the *Champignon* of the French, and the *Pratiole* of the Italians. It was well known and highly esteemed by the ancients. The common species vary much in size, from two to eight inches in diameter. In some parts of the northern counties of England a mushroom was gathered that measured thirty-four inches in circumference, and weighed over a pound; another measured thirty-two inches in circumference, ten inches around the stem, and weighed one pound eight ounces. Although of so common and abundant growth in some situations and seasons, yet to obtain a regular supply, mushrooms are now generally cultivated artificially in Europe, as heretofore described in this paper, but the wild kinds from old pastures are always considered more delicate in flavor than those obtained by culture. The chief places where mushrooms naturally grow are moderately dry, rich, old pasture grounds, and from such places they are sometimes largely gathered during summer and autumn.

Mushroom culture, perhaps, requires more patient, persevering and skilful labor than the cultivation of ordinary vegetables; but when once all the conditions and relations necessary are known, and some experience therein has been attained, it will doubtless be simple enough. A writer in *The Garden*, an English horticultural journal, says, "the best mushroom spawn I ever used was some that had been kept above a warm, dry place for two years or more. It became hard as a board, and had to be broken with a hammer when wanted for spawning the beds. I have seen the mushrooms up in four weeks from the date of spawning, and have gathered plants in six weeks, about the period it is generally supposed that spawn requires to run. Many mushroom growers make a mistake in spawning their beds at too low a temperature, say 75°. This temperature *may* do, but 85° is perfectly safe, and will cause the spawn to run sooner, and will give quicker returns."

Mushroom spawn is a white fibrous substance, running like broken threads through any substance fit to nourish it, and this scattered on properly prepared beds produces a plentiful crop. In no case is it necessary to sow the visible seeds of these fungi. They seem to exist almost everywhere, and all that seems necessary is a proper locality for their development. Horse-droppings and garden mould, with marble dust, seem to be the principal ingredients necessary. The "droppings" generate sufficient heat for the purpose, without any artificial appliance. This is amply demonstrated at the Hicksville chicken hatchery, where the necessary temperature is constantly kept up by horse-droppings. There are many exhausted quarries in Lancaster county, which, if properly closed in, would make good mushroom beds. Of course, those who would desire to go into the culture of these *fungi* would no doubt prefer to get their "spawn bricks" from experienced and reliable sources, but should they desire to use spawn of their own make, they may make it by taking any amount of fresh horse-droppings, and adding thereto one-third of cow's droppings, the same quantity of mould, with some short litter, and mash the whole into a thin compost, which is spread on the open floor of a shed and allowed to remain until it is dry enough to form into flat bricks. In English lists are about sixty species of edible *fungi*, including "truffles," "morells," "puff-balls," "pipe-stems," &c., &c., to which we shall refer on some future occasion.

OUR CULTIVATED VEGETABLES.

No. 2.—The Bean.

The place of honor among the pea-flowering plants must be awarded to the bean; for, if we are to believe Isidorus, this was the first culinary vegetable made use of by man. The monuments of Egypt show that the bean was cultivated in that country at an early date, and the Egyptians, Greeks and Romans, all held very curious and superstitious notions respecting this vegetable. Some authors say, because its pod resembles the ark of Noah in form, and in gratitude for the preservation of that patriarch, the bean was forbidden to be

eaten. It was formerly consecrated to the dead, and the Egyptian priests held it a crime to look at beans, judging the very sight unclean. The Flamines, or the priests of Jupiter, were forbidden to touch a bean, even to pronounce its name, for the fatal plant contains a little black spot, which is no other than a noxious character—a type of death. Hippocrates, from this superstitious fear, is said to have trembled for his patients when beans were in blossom.

Pythagoras expressly forbade his disciples to eat beans, professing to believe that at the creation man was formed of them. The Romans, at one time, believed that the souls of such as were departed resided in this plant, and Lucien introduces a philosopher in hell, saying that to eat beans and to eat our father's head were equal crimes. Ovid informs us that this vegetable was used in the funeral banquets of the Parentalia, or sacrifices offered to the manes or the spirits of deceased relations. Clemens Alexandrinus attributes the abstinence from beans to the opinion that they occasioned sterility, which is confirmed by Theophrastus, who extends the effects even to plants. Cicero suggests another reason for this abstinence, viz., that beans are great enemies to tranquility of mind, for which reason Amphiaraus is said to have abstained from them, even before Pythagoras, that he might enjoy a clearer divination of his dreams. However, in spite of such ridiculous prejudices, this vegetable had numerous and enlightened defenders both amongst the Greeks and the Romans. It is stated that one of the festivals to Apollo—the Pyanepsia—owed its origin and pomp to the bean. It was then, as Soyer remarks, that this vegetable obtained pre-eminence over all that were boiled in the saucepan. The Romans presented beans as an oblation in their solemn sacrifices called *Fabaria*, a festival held in honor of Carna, wife of Janus. Pliny informs us that they offered cakes made of bean-meal unto certain gods and goddesses in these ancient rites and ceremonies. Lempriere states that bacon was added to the beans in the offerings to Carna, not so much to gratify the palate of the goddess as to represent the simplicity of their ancestors. If this was the case our dish of beans and bacon is certainly of very ancient origin. Pliny further informs us that when green it was served on tables renowned for delicacies, and when fully ripe it frequently replaced both wheat and other corn.

In ancient times beans were used instead of balls or pebbles in voting by ballot. A white bean signified absolution, and a black one condemnation. From this practice, perhaps, was derived the plan of black-balling obnoxious persons; and from this cause it has been suggested that Pythagoras, in recommending his disciples to abstain from beans, meant to advise them to have nothing to do with politics. The Roman husbandmen had a religious custom connected with this pulse. When they sowed corn of any kind they took care to bring home some beans, which were offered up to a god to insure good luck, from which circumstance these beans were called Refrinæ. In sales by public auction, too, it was thought lucky to include a bean in the lot for sale. Pliny tells that bean-meal is known as "lomentum," and, as is the case with the meal of all leguminous plants, it adds considerably, when mixed with flour, to the weight of the bread. This lomentum was a celebrated cosmetic with Roman ladies, as it was thought to possess the virtue of smoothing the skin and taking away wrinkles. Columella notices beans in his time as food for peasants only:

"And herbs they mix with beans for vulgar fare."

Pliny states that in the vicinity of Macedonia and Thessaly the custom was to plough them into the ground as manure just as they began to bloom, and that the land was exceedingly enriched by the process. This author says that the bean is the first leguminous plant that is sown, being done before the setting of the Vergiliæ, in order that it may pass the winter in the ground. He also states that beans grew spontaneously in moist places, particularly in certain islands lying within the Northern Ocean, from whence they have derived the name of Fabariæ. They grew wild also throughout Mauritania, (Now Morocco,) but these Pliny characterizes as so hard and tough that they could not be boiled tender. One of the most noble and powerful families of Rome derived the name of Fabii from some of their ancestors having cultivated the bean.

Although many allusions are made in Scripture to wheat and barley, we do not read of the bean being cultivated, and it is only twice mentioned. The earliest notice is of those brought with other provisions by the three loyal Israelites to King David when he fled from his rebellious son, Absalom, to Mahanaim.* The prophet Ezekiel was commanded to make use of this pulse as one of the ingredients of the bread he was to eat for three hundred and ninety days.† According to Rabbinical authority, it is stated that the much esteemed Egyptian bean was cultivated in Palestine, and the same source of information declares that the eating of this vegetable was interdicted to the high-priest on the day of the atonement, from its decided tendency to bring on sleep. The Moors, it is believed, when they conquered Spain, introduced the bean into that country, and from there or Portugal, the seed, some authors suppose, soon afterwards was imported into the British Islands. Gerard states that the garden bean is the same in all respects as the field bean, the one having been improved only by the fertility of the soil. Since that period, like all other vegetables, it has ramified into many varieties. Those cultivated for agriculture are known as *Faba vulgaris arvensis*, or, as Loudon calls them, *Faba vulgaris equina*, because they were grown chiefly for the use of horses. There is a strong and well-marked difference between these and those cultivated for the garden, but both are botanically included under one species. Of the field bean there are at least twelve varieties, and of the garden, about twenty. The earliest garden bean is a small seeded kind, called the Maragan, which was introduced into England from a place of that name on the coast of Morocco. The large variety called the "Windsor bean" is said to have been first cultivated in that neighborhood by some Dutch gardeners who came over at the Revolution.

There is a field near Eton still called the Dutchman's Garden. This species of pulse is extremely prolific when planted in a suitable soil. Phillips tells us of a single Heligoland horse-bean, planted in the garden of Beaulieu poor-house in the year 1821, that produced 126 pods, which contained 399 good beans fit for seed; and had the plant not been blown down by the wind in the midst of its bloom, there is reason to suppose it would have produced nearly double that quantity. Beans were used medicinally by the ancients; when bruised with garlic, they were said to cure a cough that was thought past a remedy. Ever since the middle ages the bean has played a very important part in the famous Twelfth-night cake almost over all Europe. In "Brand's Popular Antiquities," we read that the choosing a person as king or queen by a bean found in a piece of a divided cake, was formerly a common Christmas gambol in both the English universities. Thomas Randolph, in a curious letter to Dudley Lord Leicester, dated Edinburg, January 15th, 1563, mentions Lady Flemyng being "Queen of the Bene on Twelfth-day." Fuller, in his "Worthies," mentions that Leicestershire in his time was famous for beans, and under the proverb, Bean Belly Leicestershire, he writes, "those in the neighboring counties used to say, merrily, 'shake a Leicestershire yeoman by the collar and you shall hear the beans rattle in his belly.' But those yeomen only smile at what is said to rattle in their bellies, whilst they know good silver ringeth in their pockets." The poet Southey mentions that in days gone by, the Mayors of Leicester used to be chosen by a sow. The candidates sat in a semi-circle, each with his hat full of beans in his lap, and he was elected Mayor from whose hat the sow eats first. (See common-place book.)

Beans are cultivated over many countries, as far to the eastward as China and Japan; they are very generally used as an esculent in many parts of Africa, particularly in Barbary, where it is usually full podded at the end of February, and continues in bearing during the whole spring. When stewed with oil and garlic, beans form, according to Shaw, the principal food of persons of all classes in that country. It would appear from "Dickson's Husbandry of the Ancients," that *Faba* was derived from *Haba*, a town of Etruria, where the bean was cultivated, and it is the same as the small bean of our fields.—H. G. Glasspoole. in *Science Gossip*, London, 1875.

When the bean was introduced into America is perhaps not precisely on record, but, if not previously, it was no doubt brought over in the Mayflower, and was diffused from Plymouth Rock. The Puritans, having been first driven to Holland, before their migration to America, very probably brought seed-beans from that country. Speculation upon that question just now, however, is of very little account. We know it is here, and that as an esculent it is universally regarded as a good "snap." Its eastern origin may be inferred from its having been a popular "Yankee institution" from a very early period in our domestic history.

Two prominent varieties, or rather *species*, are cultivated, and these are now multiplied into numerous sub-varieties or species. The dwarf, bush, or snap-short varieties, included under *Phaseolus vulgaris*, are mainly the following: 1, Early Brown; 2, China Red Eye; 3, Early Yellow; 4, Newington Wonder; 5, Powtawatamie; 6, Red Speckled Valentine; 7, Brown Speckled Valentine; 8, White Cranberry; 9, Royal Dwarf; 10, Red French; 11, Dwarf Wax, and 12, White Wax, and are considered worthy of special cultivation.

The pole-beans, or running varieties, included under *Phaseolus lunensis* and *multiflorus*, are the following, in part: 13, Long Lima; 14, Carolina; 15. Scarlet Runner; 16. Cranberry; 17, White Dutch; 18, Wren's Egg; 19, Giant Wax; 20, Tall German Wax, and 21, Southern Prolific. There are also numerous synonyms and sub-varieties—among the former, Early Mohawk, Early China, Red Marrow, Refugee, White Kidney and Horticultural Dwarf; and among the latter, Butter Bean, Horticultural Pole and Small Lima, Saba or Sewee.

The English horse bean varieties, included under *Faba vulgaris equina*, are 22, Long Pod, and 23, Broad Windsor. For all practical purposes, however, the foregoing may be reduced to one-half.

The cultivation of the bean is so common, and so generally understood, that it would be superfluous if it were not presumptuous in us to offer any suggestions upon such a subject. In order to secure an uninterrupted supply, it is simply necessary to make repeated plantings. An experienced authority, and one that is widely known, recommends that "little at a time and often, should be the rule." As an esculent, the bean is wholesome and nutritious, and well meriting the high favor in which it is held throughout the civilized world. In proportion to its weight, it yields more nutriment and better supplies the place of animal food than any of the vegetables ordinarily cultivated; and many of our readers may be able to recall the case of the poor woman and her three children, who were amply sustained by the ova-product of three hens, which she bartered for the white field bean, at a time when eggs were high in price and beans were low. There is no other vegetable that is easier kept for winter use. They are subject, however, to the attack of a destructive insect, when stored away, namely, the "Bean-weevil"—*Bruchus fabæ*—which has only been developed in Lancaster county within the last five years, and of which we shall speak specially on a future occasion.

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* 2 Samuel 17-28. † Ezek. 4-9.

DARK BRAHMAS.

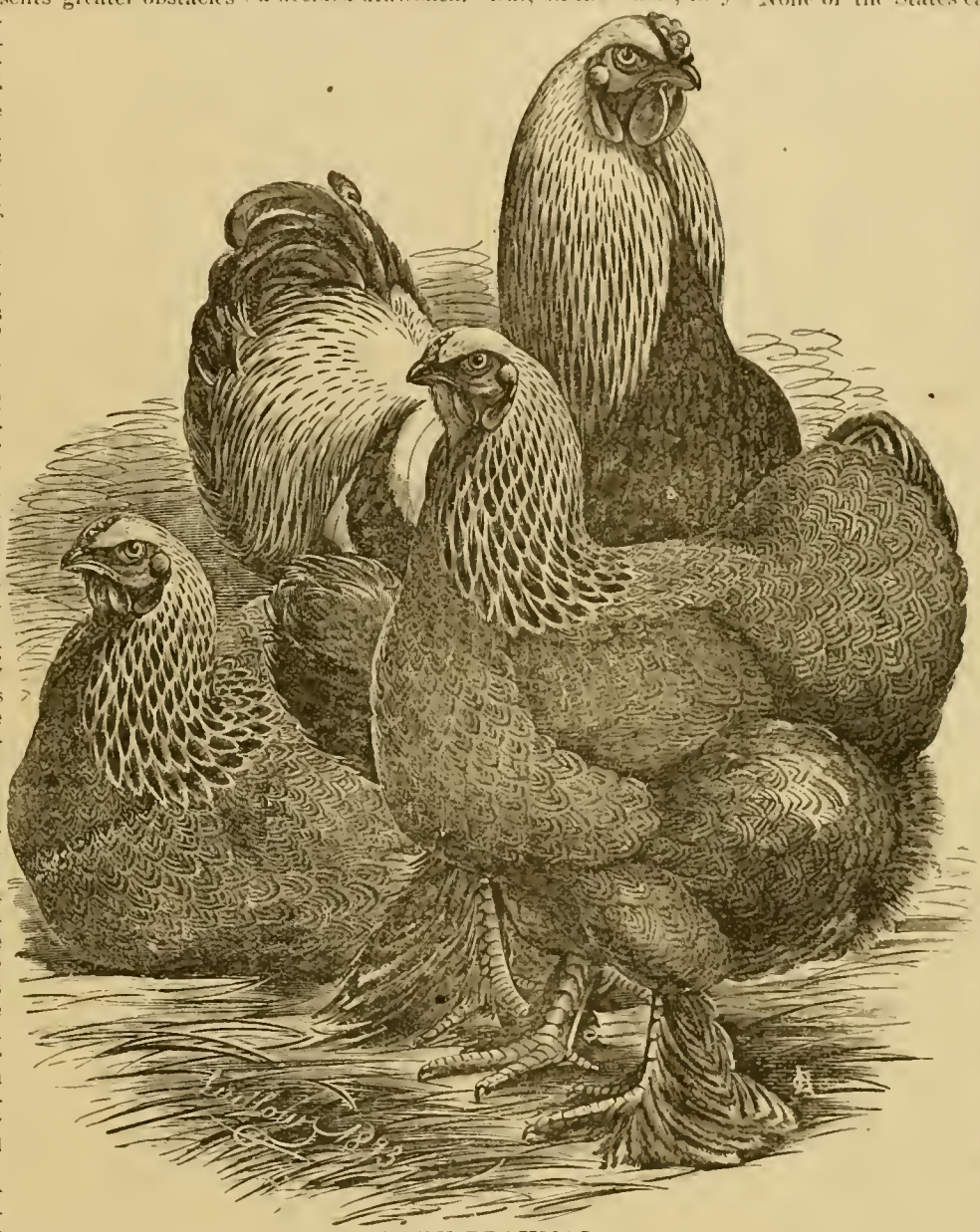
BY W. ATLEE BURPEE.

These popular fowls deservedly occupy the first place among the members of that widely-distributed group—the Asiatics. Over no breeds of fowls has there been such a furore excited as the Asiatics, including dark and light Brahmas, partridge, buff, white and black Cochins. At their first introduction enormous prices were realized for specimens approaching only mediocrity. But now reliable breeding stock can be procured at fair prices; and yet for birds of extraordinary merit prices are realized that to the uninitiated would seem fabulous, exorbitant, outrageous, &c. But it is not so, and especially with dark Brahmas. No breed of fowls presents greater obstacles in the way of establishing a strain and producing birds approaching the maximum "one hundred points" of the American standard, and when such wonders are produced they are worth all they will bring. It is estimated that out of each one hundred dark Brahmas raised, only about five will be what are termed "High Class Exhibition Birds." Great care and skill, united with a sharp and ready eye to perceive all blemishes or excellencies of form, feather or markings, are necessary in the mating for breeding this highly interesting fowl. Very much damage (how much can scarcely be realized) has been done to the poultry interest by ignorant breeders advertising "Extra fine Steel-gray Dark Brahmas," "eggs for hatching for sale from my fine hens of so-and-so's noted strains, mated with a grand cock not akin," of some other strain. Now this breeder probably believes all he says—that the eggs from such fowls will produce choice progeny, and beginners are apt to be lured by the high-sounding words and the names of the strains of repute from which his fowls were raised. But although the specimens themselves are good, they may be of strains bred entirely for different purposes, and which being thus suddenly mated together will produce birds possessing all the faults of both strains. So it will be seen that it is often very essential to inquire the parentage of your stock, and see that the strains are not foreign to each other. The cock should have a solid black breast, but one with a spotted breast will often breed good pullets. The cockerels from such a mating will, however, be nearly worthless. The pullets should be of that much-esteemed steel-gray plumage, with very distinct pencilling. In mating breeding birds it should be borne in mind that the progeny as a rule resemble the male parent more in color, markings and fancy points in general, and the female in size and form. Thus very good cockerels can be bred out of a correct cock mated to hens which may be of poor pencilling but of comely shape and form. In selecting fowls to breed for size (and certainly this *is* an object, although not to the neglect of symmetry,) a heavy build, with large bones and frame-work should be sought, rather than fat and muscle. The over-fattened fowls of the show-pen are often nearly worthless as breeders. But if the fowls are selected as just recommended, the progeny will make very large ones if well fed and cared for.

In economizing merits some fanciers would place the dark Brahmas ahead of the light, thinking also that they are of a hardier constitution; but such is not the case. They are not equally profitable and good as winter layers. Dark Brahmas are of large size, easily confined and very hardy. Of a quiet disposition, they are, nevertheless, good foragers if allowed the range of a suitable grass-plot. The propensity to sit is in this, as in all Asiatic breeds, a decided drawback. But, on the whole, they are a very profitable variety and most assuredly are exceedingly interesting. They present many changes of form and feathers before arriving at maturity, which can not fail to rivet the attention and attract the admiration of all. Sometimes the most ungainly will mature into the finest and most symmetrical fowls. Over all things in breeding, look to symmetry and elegance in preference to mere size. Do not cultivate "long-legged racers." They are not only continual eye-sores, but also consume a vast deal of food that is wasted in the production of shanks and which are scarcely edible.

Dark Brahmas present a peculiarity worthy of notice in their pugilistic propensities. They are the bravest and most fearless of their class. Indeed, to such an extent does this sometimes manifest itself that they have been known to come off victors in contests with games. Such propensities add exceedingly to their noble and self-confident carriage and dignified bearing, which cannot fail to excite admiration.

We have the pleasure of illustrating this article with one of the finest cuts ever engraved, which will, we trust, make clear what our words may have failed to express. The engraving was taken from life by the fancier artist, J. W. Ludlow, and represents fowls imported by Mr. S. H. Seamans.



DARK BRAHMAS.

CROPS OF THE UNITED STATES.*

Wheat.

The wheat crop of the present year is a short one, and the deficiency is augmented by a marked general deterioration in quality. None of the States east of the Mississippi, except Wisconsin, appears to have equalled the crop of last year. The Pacific coast crop is also short. The average for the entire country, reported in October, is about 80 per cent. of last year's production. If this indicates the total depreciation, it amounts to 62,000,000 of bushels, and gives a crop of 246,000,000 of bushels. In quality the entire crop of the country averages 84, or 14 per cent. below a sound condition. This is equivalent to a further reduction of the crops, though it means poorer bread rather than less of it. Shipments of wheat were made from Maryland to Ohio, in order to make a mixture that would produce a passable flour. In the entire State, Pennsylvania has made about two-thirds of her last year's crop; all of the Southern States, however, have increased their production over last year, some of them 75 per cent.

Corn.

The condition of the corn crop, as reported to the 1st of October, is exceptionally high. Its average status in several of the States is considerably above the standard of good condition; that is, in thrift and productiveness. But after that date the crop suffered some depreciation from severe frosts, therefore, there will be a large quantity of unmerchantable corn, soft and loose on the ear; and also a considerable proportion of unsound fodder. In addition to frosts, corn has been injured some by insects and drought. A return, however, of the quantities harvested cannot be made until the end of November, when the comparative result will be better understood.

Rye.

The product reported this year falls about 4 per cent. short of last year, which was barely an average crop. The production of rye is not extensive in any of the States. Pennsylvania stands third among the rye-producing States, and her product the present year is from 93 to 98 in 100, or average standard. In Wisconsin it reaches 129, whilst in Kansas it is less than 60.

Oats.

Returns make the entire product five per

*Condensed from the October Report of the Department of Agriculture.

cent. greater than last year. Early drought pinched the crop in some of the States, and the ravages of the army worm diminished it in others. The average product of Pennsylvania is from 98 to 110, whilst in Michigan it is 121, and in Mecosta county, of that State, ten acres yielded 84 bushels per acre. The lowest product was in Delaware, which reached only 63 on an average. In some parts of Michigan oats made a weight of from 35 to 50 pounds per bushel, but in many of the States the weight was below the average.

Barley.

The product of barley returned is 87 per cent. of last year's crop, and about an equal reduction in quality is indicated. The product in Pennsylvania is two per cent. in excess of the crop of last year, but in Florida it is 25 greater. Nebraska, owing to the presence of the grasshoppers, made only an average of 53 to 82. The Southern States which grow barley produced a very superior quality and nearly an average quantity.

Buckwheat.

The condition of the entire crop is not far from an average. New York, Pennsylvania, New Jersey, Virginia and Ohio produce about four-fifths of the entire crop of the country. Among these Virginia stands 106, and Pennsylvania 103, whilst New York is the lowest, being 94. Early and late frosts damaged the condition of the crop extensively in the Northwest, especially in Wisconsin, and slightly in other places.

Potatoes.

The crop, as a whole, promises to be extraordinary, both in yield and quality, the beetle to the contrary notwithstanding, which, of course, effected a reduction in some localities. The status of Pennsylvania in the production of this *tuber* is 108, whilst Illinois is 124, the highest figure in the country; and where the potato-beetle has been subordinated to *Paris green* for ten years or more. In a few of the States the potatoes suffered from *rot*, but up to the first of October not very extensively in any of them. In Arkansas a second crop of potatoes was raised from seed of the first crop.

Sweet Potatoes.

In the States that produce these tubers the crop will be an average one. The highest condition, 113, was in Arkansas, and the lowest reported was in Georgia, being 82. Pennsylvania was 98. The crop never recovered from the pinching droughts in some of the Southern States early in the season.

Tobacco.

The condition of the tobacco crop, on the whole, is two per cent. above average. The New England crop is unusually fine, being from 10 to 14 per cent. above average. Pennsylvania is 10 per cent. above average. Daviess county, Kentucky, claims 8,000,000 lbs. as the quantity of her product. Michigan is 50 per cent. below the average, which is the lowest reported. The Pacific States all report a full average. Some counties in Virginia complain of loss from "frenching" and "firing," and in North Carolina, although the crop is large, there is a deficiency of "oil." North of the Ohio the tobacco suffered severely in some localities from frost, but in Pennsylvania, and especially in Lancaster county, there was little or nothing of this drawback.

THE BLUE-BIRD.

(Sialia Sialis,) Linn-Baird.

Of all the feathered tribes there is, perhaps, no subject among them more familiar—in localities where it abounds—than the blue-bird; and yet this common name alone would not, in every instance, define the bird we mean; because, there is a small blue-finch, sometimes called the "Indigo-bird," to which the term *Blue-bird* is very frequently applied by those who never go to any trouble to learn the distinctions between *genera* and *species*.

The Blue-bird belongs to the order INCESSORS, or Perchers, and to the family TURDIDÆ, or Thrushes, and is, specifically, nearly allied to the robin (*Turdus migratorius*). It is one of the earliest birds that visit us in the spring, often coming as early as the middle of February or the beginning of March, and it is also one of the last to leave us in autumn. It seems, however, to be always hanging on the "ragged edges" of winter, for we have seen it abundantly in Kentucky during fine warm days in January; but it would suddenly disappear when the weather would change to cold again. There is no bird that adapts itself more freely and more thoroughly to the domestic conditions of the country, or has a greater affinity for human society. It will readily appropriate any box or other device constructed by man for its domicile, in which it lays its eggs and rears its broods of young.

The geographical field occupied by our Blue-bird is that which lies between the Atlantic coast and the Rocky mountains. West of the Rocky mountains its place is supplied by the "Western Blue-bird," (*Sialia mexicana*,) and confined to those mountains is the "Rocky Mountain Blue-bird," (*Sialia arctica*).

Our Blue-bird is from six and three-quarters to seven inches long, and the wings are about four inches. The color above is an azure blue; the neck and breast are reddish brown, and the abdomen is white. In the female the blue is much lighter than in the male, and she is tinged with brown on the head and back. In

the absence of a box, a cote, or a gourd, the blue-bird usually makes its nest in hollow trees, a fence post, or other similar place, but does not usually build on branches or in a thicket, and the female lays from four to six eggs, of a pale blue color. Generally two, but very often three broods of young are brought forth in a season, in the same nest; and while the female is sitting on the second brood of eggs, the male is occupied in teaching the first brood to fly and provide for themselves.

Our illustration represents the young Blue-birds at the period when they are committed to the charge of the male, who continues to feed them, and by all the means in his power encourages them in making attempts to fly.

The most important characteristic—in an agricultural view—in the history of this little friend of the human family, is the great number of insects it requires in one season to raise its two or three broods. The adult bird itself feeds largely on insects, but whatever else it may feed on, it rears its several families of young *entirely on these noxious little animals.* A single pair of these birds will raise twelve young ones, on an average, in a season, and each of these will devour one hundred insects in a day. They are, therefore, not only a direct benefit to vegetation, but also an indirect one, because many of the insects they destroy early in the season possess the powers of multiplying themselves by thousands or tens of thousands before the end of the season. We once noticed a parent Blue-bird return to its nest fifteen times within half an hour, and every time it bore a small animal of some kind in its beak. We are therefore clearly of the opinion that the benefits of insectiverous birds are more likely to be under than overestimated.

EVERY FARMER who reads this journal can do good service for the cause of progressive agriculture by making some effort to increase our subscription list. All will agree with us that THE FARMER is worth double the price we ask for it. What is needed is to make its merits more generally known.

OUR NATIONAL CENTENNIAL.

The visitor to the Centennial grounds in Fairmount Park cannot fail to be impressed with the magnitude of this great national enterprise. The gentlemen who have the preparations in charge deserve great credit for the energy they have displayed in getting the various buildings so far advanced as to leave no longer any doubt that they will be completed in ample time for the grand opening.

Another gratifying fact is the assurance that it will be in all respects a great success as an international exhibition. Russia and Italy, two important European nations, it was feared for some time, would not take part in the exposition. All doubt on this point is now removed. The great northern power has appointed her commissioners, and the land of the vine and the beautiful skies will send us some of the finest works of art ever presented to the admiration of man. All the foreign nations will be represented in their material resources, and many of them propose to do honor to the great occasion by sending members of their royal households to become our guests.

We give herewith an illustration of Machinery Hall. This, in size and importance, is a companion to the main exhibition building, and in interest to a majority of visitors will, no doubt, be the centre of attraction. On no other occasion has the opportunity been presented for those interested in mechanics to see in one group such a large and varied representation of the products of inventive genius and mechanical skill as will be brought within the vast area of this beautifull hall.

If there were nothing else to see this would alone compensate for the trouble and expense of a visit. Yet, this will be but a small part of the attraction. In the main exhibition building the products of the industry of all nations will be grouped in interesting and contrasted detail. Agricultural Hall will be a vast storehouse of the results of the intelligent labor of those whom Webster justly pronounced the "founders of civilization." In Horticultural Hall, filled with the floral trophies of all climes, the visitor will revel in what it will require no great stretch of the imagination to fancy a second Eden. In the Art Gallery, itself one of the finest, most substantial and beautiful buildings on the Continent, the connoissuer in art can study the productions of the great masters of the ages. Then in the Women's Department, for which a beautiful and capacious building is being specially erected by Lancaster county mechanics, there will be a magnificent display of the handiwork of the mothers, wives and daughters of America and of the world, which cannot fail to be one of the leading attractions of the Exposition.

We have not the space to note the many other buildings projected and in course of erection by special industries and used as the headquarters of the various nationalities. We must reserve these for another occasion. In the meantime none of our readers visiting Philadelphia should fail to spend a day in the Park. They will agree with us that it was a day well spent.

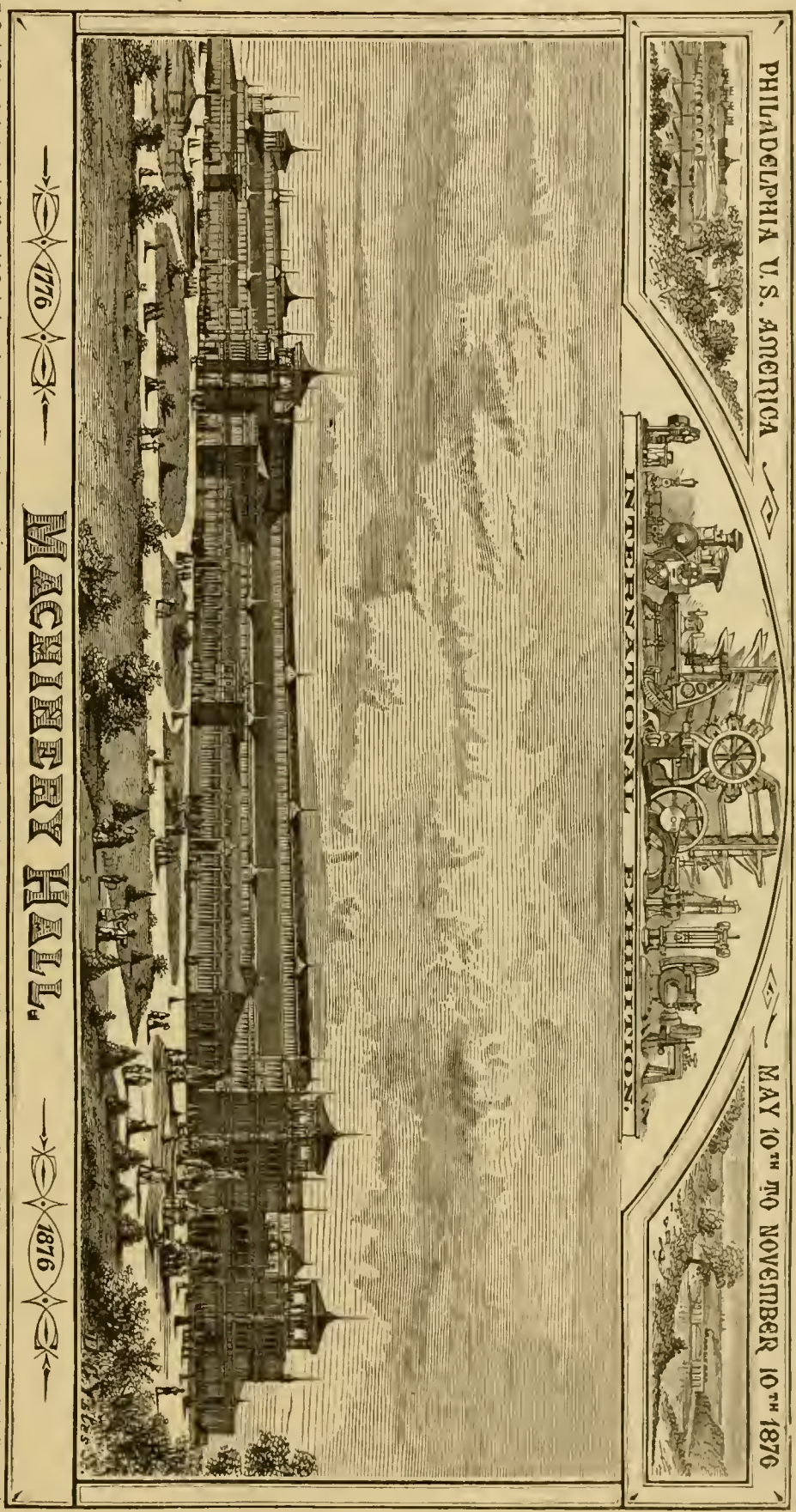
The Centennial and Agriculture.

Literature and labor, to be successfully developed, are inseparably connected—indeed the one cannot be visibly manifested without energy and exertion, any more than can the other. The agriculturist who despises literature now, will be wiped out of existence, with all his sympathizing posterity, long before the return of another centennial anniversary. If it be true that "agriculture is the foundation of civilization"—and we verily believe it is—then there can be no true and progressive civilization without its literary accompaniment. The republic of letters is not only democratic, but it is also domestic in its tendencies, and fosters and protects all the different shades of literature, whether moral, social, scientific or commercial. Very few domestic interests now in the world, of any magnitude, are without their literary technology and representative exponents, and perhaps none in a more marked degree than agriculture and its corelatives;

and these interests, instead of bowing themselves prone to the dust, if they *will*, may now stand erect as "a man among men." Therefore, as a powerful effort is now being made to bring out the agricultural results of the country in a grand display before the vision of the assembled country and the world, would it be amiss, in connection with such an exhibition, to have a collection of materialized specimens of its literature? A handsomely bound copy of the present volume of every agricultural journal of every country represented in the great Centennial Exhibition, together with loose numbers of the pending volume, as far as it has advanced, would be a distinguishing feature, and add greatly to the interest thus represented. No matter how humble the publication may be, or how limited its circulation, the very fact that it exists at all, evinces that it has its friends and is read, and has established a *status* that cannot be ignored; moreover, there is no journal so insignificant that it does not occupy a place in the world of literature which no other could. If the agriculturists of the country can exhibit a creditable array of literature representing their interests and supported by their contributions, they will do as much in support of the dignity of their craft as any step they could possibly take. We commend the enterprise to the consideration of those who have authority to recommend it. In these views we are influenced purely by principle, and not by personal considerations.

The Centennial Ornamental Park.

The Centennial buildings and grounds are now very attractive. The construction of the edifices is near to completion, and they are of very elegant designs; but it is only since the laying out and ornamentation of the grounds has progressed and been brought to picturesque beauty that the handsome structures show to advantage. The plans of the buildings and designs of the grounds reflect great credit upon the skill and ingenuity of H. J. Swartzman, esq., the chief architect and engineer. Mr. John Stevenson, the landscape gardener-in-chief, has shown himself highly qualified for his post in the admirable manner in which he has worked out the ground-plans. These grounds make a large ornamental park, which is already partly laid out in drives and foot-walks, leading from each building to all the others. They have cut the grounds into many different figures and sizes, which will be handsomely embellished with ornamental trees and shrubbery of choice species. The roads will all be made hard and dry by suitable materials. There are three water ponds, already made, which will greatly ornament the park. Each pond has a small island in the middle, and the largest will also have a fountain of ornament. There are two substantial and ornamental bridges now in process of construction across a ravine, which intersects the grounds, and the bottom of which is the course of the water stream. The ravine is well clothed with large, old trees; and the bridges, uniting the roads on both sides, will be highly picturesque. The landscape garden work is most beautifully executed. The grounds west of Belmont avenue are mostly finished, except near the buildings. On the east side of the avenue there are depressed and elevated gardens, to be decorated, next summer, with such ornaments of floral wares as are best suited for them. The grounds immediately around the edifices cannot be wholly improved until the mechanics and their materials can be kept inside of the walls. Then they will be made especially beautiful, and the buildings will look the more ornamental. The scene will be charmingly delightful. There will be the chaste flower gardens immediately around the Exotic Conservatory and the Memorial Hall. These are to remain permanent buildings. The flower gardens around them are to be laid out and decorated by Mr. Charles H. Miller, the popular landscape gardener and nurseryman, of Mount Airy, Philadelphia, who is appointed chief of the conservatory. Thousands of citizens visit Centennial park daily, and tens of thousands on Sundays; besides delegations of hundreds from other parts occasionally. The Exposition will be a grand success and an immortal honor to the nation. All hail!—WALTER ELDER, *Landscape Gardener, Philad'a, Oct. 30th*, 1875.



Live Stock at the Centennial.

A happy solution has been reached of the troublesome problem how to provide adequately for that department of the International Exhibition which comprises horses, mules, horned cattle, sheep, swine, etc. It was manifest that these could not be accommodated in the vicinity of the Agricultural Building of the Exhibition, or within the Park enclosure, since, in the first place, the only available drainage of any such tract must be into the Schuylkill at a point above the Water Works of the city and of the Exhibition; and next, the area of disposable ground in that locality is wholly unequal to the magnitude of the live-stock exhibition to be provided for.

In this emergency the Board of Finance have been fortunate in leasing from the Pennsylvania Railroad Company the stock-yards, above twenty-two acres in extent, which are now used as drove-yards by that company, but from which they intend to remove in December next, and which are situated upon the south side of its main line of tracks, between Belmont avenue and Forty-first street, within a few hundred feet of the principal entrance to the Exhibition Grounds. This ground is passed by street railways on both of the bounding streets, as well as by the Pennsylvania Railroad, which will erect a depot upon it for passenger accommodation, and has already sidings and platforms within the enclosure for the unloading of animals, so that these can be brought by rail from any point without trans-shipment.

The existing shedding will be cleared away, and the whole surface handsomely renovated and supplied with stalls of a convenience and neatness unusual at live-stock exhibitions. Many of the important preliminaries are already provided, since, in addition to the essential railroad facilities already mentioned, water is now distributed throughout the entire tract by service pipes twenty-five feet apart; thorough drainage can be secured through the adjacent city sewers; much of the surface is paved; large numbers of neighboring sheds and barns provide sufficiently for storage of hay, grain, etc.; and hotels hard by, formerly used by the drovers, will accommodate exhibitors and their agents. When it is added that the area of the land is such as to admit the construction of a half-mile track for the exercise of the animals and their examination by the judges, it will be seen that the managers of the Exhibition have provided the means of giving its due prominence to this very important department of the Agricultural Exhibition.

Special series of live-stock exhibitions have been provided for as follows: Horses, from September 1 to September 15; neat cattle, from September 20 to October 5; sheep, swine, dogs, from October 10 to October 25; poultry, from October 25 to November 10.

Persons who intend making entries for this exhibition should do so without delay, in order that the managers may be able to estimate the number of stalls and extent of other preparations that will be needed. In the large Agricultural Exhibition Building, though it covers ten acres, so many applications for space have been made by exhibitors of agricultural products and machinery as to necessitate an enlargement of the original plan. The display of live stock is likely to be no less popular; and those wishing to participate in it, even though their applications may require future amendment, should lose no time in communicating with Mr. Burnett Landreth, Chief of the Bureau of Agriculture, International Exhibition.

OLEOMARGARINE CHEESE.

What Shall be Done to Save Our Cheese Industry from Ruin?

The only salvation for the cheese industry of this country is to abandon the manufacture of every quality except full cream cheese, which is the only kind entitled to the designation cheese. So-called cheese is made of every gradation of quality, from the poorest skimmed milk article to the richest full cream cheese, and sells in the market to-day from say 2c. to 13½c. a pound. If the milk is entirely skimmed the poorest product is the result. This quality, so far this season, is proving an exceedingly unprofitable manufacture, as it costs to make and sell it at least 3c. a pound, and therefore, at present prices, nets a loss of 1c. a pound. The next quality above contains say 5 per cent. of cream, and being made of good texture and properly colored, brings a relatively higher price; and so on for all the gradations of quality, until when the cheese is made with a mixture of morning milk skimmed and evening milk unskimmed, in equal quantities, an article may be produced by proper care and surface polishing with butter that will pass very well with those who are not experts for a full cream cheese, and sell very close up in price to it. Then comes in the oleomargarine cheese, in which, as we stated last week, the cream is all taken off and the oil called oleomargarine, from the fresh fat of the caul of an ox, is substituted in equal weight for the cream. This produces an article which, in many respects, so closely resembles the full cream cheese as to be readily sold for it. A skimmed milk cheese may be easily told by its lack of flavor, its insipidity to the taste, and the absence of any oil when rubbed between the finger and thumb. These characteristics become less noticeable as the quality is improved. In the case of oleomargarine cheese, while the flavor and taste may be very closely assimilated to the full cream product, it shows the presence of the beef fat or cotton seed oil very readily. Such oils do not seem to be very brave in this situation, for with the least pressure they run. They exhibit the same quality also, but in a higher degree, in oleomargarine butter.

Last year skimmed milk cheese sold very well up to the best grades. This year they can hardly be sold at all, and, if sold, at no profit to the maker, who would have done a great deal better by feeding his skimmed milk to his pigs and calves. This article may then be considered as having almost killed itself. It is wanted neither at home nor abroad, and no receiver in this city cares to be bothered with it. One reason of this is that the article is too poor to deceive anybody, which does not hold good, however, for the better grades of partially skimmed milk and oleomargarine cheese. Another reason, and one which, to a considerable extent, will apply to all inferior grades, and which will help towards a correction of the difficulty, is that the lower the price of the best quality cheese the less profit there is in making substitutes, and the opening prices for full cream cheese this season are indicative of a lower range of value for this product.

There is, however, another feature in this case. It is well understood in commercial as well as in dairy circles that the word factory applies to full cream cheese made in factories established for that purpose, and that the word creamery applies to the different grades of skimmed milk cheese made by butter manufacturers. This distinction is not observed by many of the manufacturers of the skimmed milk cheese, who put the word factory on their boxes, unquestionably for the purpose of misleading somebody as to the quality of the product. The manufacturers of the oleomargarine cheese also use the word factory and with the same intention.

As it is our intention to follow this subject to some conclusion, we have thought it advisable to set forth these elementary facts about the cheese industry as it stands at present, in order that all interested in it may understand the true position of the question. If it were a question entirely confined to ourselves in this country it might, from our generally demoralized condition on the subject of food products, be less dangerous to the cheese industry to deal in these inferior goods; but it is not so. Of the 1,905,978 cheese received here during the year ending May 31 last, 1,701,328 were exported, leaving 204,650 for our home consumption, about 9 per cent. of the the total receipts. We presume other seaboard markets would show similar results, so that to us here, commercially speaking, it is our export trade in cheese that overshadows every other consideration. How is that affected by these practices? That is the paramount question. Every person here interested in the export trade, and nearly every receiver is, tells us that the presence of these adulterated cheese in the English market is already being felt here, and that it is absolutely certain, if their manufacture or shipment is persisted in, to react disastrously upon our cheese trade, and ultimately to drive us out of a market that has cost us so many years and so much labor to establish, and which is so sensitive to the adulteration of its food products as to require the most thoughtful attention of its most celebrated manufacturers of such products to avoid the very difficulties into which we seem to be willing to rush blindfolded, without any regard to consequences. Can the dairymen and the merchants who handle their products afford to do this? Must the entire cheese interest of this country be sacrificed out of consideration for a few misguided manufacturers and two or three receivers of this oleomargarine cheese? There is but one answer. Those who are thus engaged must quit it. We know the sentiment of the cheese receivers and exporters of this city. In due time they will take such action as will place themselves unmistakably against this article. It would be well for them to say that they regard its manufacture and sale, under any circumstances, as fraught with the utmost danger to the great cheese industry of the country, and that they will not recognize or handle the product in any shape.—*American Grocer, N. Y.*

The manufacture of oleomargarine cheese has provoked a very animated, if not acrimonious, discussion among dairymen. Three or four years ago Mr. Henry O. Freeman was making butter and skim-milk cheese, in Chenango county, N. Y. He made several experiments with different materials, to supply the specific elements that had been removed from the milk in the form of cream. At first an inferior kind of butter was employed for this purpose, but the result was unsatisfactory, as the cheese was oily and soft, instead of hard and tough. The discovery of oleomargarine suggested to the mind of Mr. Freeman another substance for enriching the depleted elements of the skim-milk. This aroused a strong feeling among the regular cheese dealers, who denounced the new cheese as a filthy and noxious compound. The agricultural chemists, however, after careful analysis, have shown that the oil-cells exist, and that the oils combined in the oleomargarine are identical with those in butter, minus certain subtle odor-giving elements in the latter, which chemical analysis has not yet been able to detect. In the manufacture of cream cheese, however, these fine cream oils, which give butter its peculiar flavor are mostly dissipated, and hence cheese can be made of oleomargarine, of a composition so nearly identical with that of cream cheese that no appreciable difference can be detected by analysis. An American correspondent of the English *Agricultural Gazette* has subjected both kinds of cheese to the test of the microscope, and found that the oil in the oleomargarine was present in irregular cavities, whilst in the cream cheese the tiny round oil globules were held closely together in the curd.

About a dozen factories have already been established in this country for the manufacture of oleomargarine cheese, and equipped in the best style. The men engaged in the business have a considerable capital, and evince a respectable share of energy and business tact. The manufacture of this cheese is advocated on the ground that it utilizes a vast amount of otherwise waste material in the skim-milk. It does not propose to enter into competition with the fine grades of cream cheese. This class of products has an element of profit in itself which would render an attempt to invade its field entirely hopeless. But those inferior brands known to the trade as "half-skims" or "hard-skims" will probably be driven out of the market entirely by this process. There is no danger of any attempt to palm off oleomargarine cheese as cream cheese, as the means of detection are too numerous and too easily applied. Oleomargarine cheese has a function of its own—the supply of cheap food material, which does not attempt to grade with good brands of cream cheese. The severe denunciations which met the article upon its first introduction have measurably subsided. Organs of the cream cheese interest demand that a careful distinction be made between the two kinds in every market, a necessity which will be less felt in proportion as the cream cheese factories scrupulously adhere to the standards which have given them their specific reputation. [The foregoing we condense from pp. 459 and 460, Oct. No. Monthly Report of the Agricultural Department at Washington.]

If people desire an inferior or low-priced cheese (and many can afford no other) it does seem like an arbitrary exercise of influence and power to attempt to prejudice the public against the manufacture or sale of such an article, provided it is sold under its own legitimate brand. Skim-milk cheese, under the names of "Dutch cheese," "cottage cheese" (*schmearkase*) "scalded cheese," &c., has been manufactured and sold in this country from a date long anterior to that of cream or "English cheese;" but this always carried its kind and quality on its very face. Some people prefer to purchase $2.00 shoes to $7.00 shoes; 40 cent. peaches to $1.00 peaches; Union cloth (satinet) to genuine broadcloth, and as independent freemen no one thinks of interfering with their choice, albeit these articles may be palmed off as superior kinds.

We were informed, from a reliable source, that the faculty of Cornell University, N. Y., analyzed this cheese, and made a daily use of it, and found it as healthful and palatable as the cream cheese, and much cheaper. We, however, do not profess to be its advocate or champion, but merely give both sides of the question, and let it stand upon its own merits. The main thing in which the public is interested is the fact that oleomargarine is liable to be sold for cream cheese; but even in this respect "let me not know I am robbed and I am not robbed at all," is of as much significance as the thousand other daily applications of the maxim. In good truth we do not think the public troubles itself much about the question. All the noise has been made by the parties who are pecuniarily interested in the matter, and if it can be compromised in some way satisfactory to both, the public will quietly submit to being "fleeced," just as it is in a hundred other ways and things, and to which it is as likely to become "used to it" as eels are to being skinned. We imagine we have been eating oleomargarine, or its equivalent, these many years in the form of cheese, and probably it may be our fortune to do so a little while longer, although we confess we would not like to see our eagle's wings clipped in the foreign cheese trade.

FERNS AND PALMS.

On a merely superficial view, or in specifically undefined illustrations, there seems to be little difference between *ferns* and *palms*—at least in those vegetable productions of tropical climates—the "tree-fern" of the South American islands reaching a height of forty feet, and some of the "palms" of the same localities being mere shrubs; and yet the palms belong to the *Phanogamous*, or flowering grand division of the vegetable kingdom, and the ferns to the *Cryptogamous* or flowerless division. The PALMS, of which some attain a height of fifty or sixty feet, are chiefly with unbranched trunks, growing by the terminal bud; with large plaited, or sheathing leaves, collected in one terminal cluster; and have perfect or polygamous flowers on a branching spike, or *spadix*, bursting from a broad, shielding leaf, enclosing said flowers, located near the trunk, and under the shelter of the general foliage. There are some seventy or more *genera*, and about five hundred *species* belonging to the order PALMACEÆ, most of them of noble aspect and interesting attributes. They are chiefly tropical, a few, however, as the palmettoes of South Carolina, Florida, &c., advancing into the warmer parts of the temperate zone.

The properties and uses of the palms are of the highest importance and variety. From the drupes of several African varieties, and from the cocoanut, oil is obtained. Other species secrete wax from their leaves. Starch is obtained abundantly from the Sago Palm (*Sagus rumphii.*) and many other species. Even sugar and alcoholic liquors are made from the juice of the unopened spathe of the Sugar Palm, (*Saguerus saccharifer, Mauritia vinifer*, &c.) The bud of the Cabbage Palm (*Areca oleracea*) is *boiled and eaten as a vegetable. Among the *fruits* are enumerated the date, from the Date Palm (*Phœnix dactylifera,*) and the cocoanut, from the Cocoa Palm, (*Attalea funifera,*) &c. Besides, the broad leaves and the stems are used for various purposes, such as thatching, utensils, implements, &c.

Ferns are herbaceous perennial plants, sometimes becoming arborescent in tropical regions, and then rising in the manner of palms. Their fronds or leaves are sometimes simple, sometimes more or less deeply cut, pinnatified or decompound. These fronds present a common character, that of being rolled up like a crosier at the extremity about the period when they begin to develop. The organs of fructification are commonly situated on the lower surface of the leaves, along the nervures, or at their extremity. The sporules are naked, or contained in a kind of small capsule. These capsules are aggregated into little masses, which are in the form of round, kidney-shaped scales, sometimes surrounded by an elastic ring, which open either at their circumference, or by a longitudinal slit, or by bursting irregularly. According to Humboldt, of all the forms of tropical vegetation the ferns are among those which most attract the attention and awaken the admiration of the traveler. They abound on the banks of streams, amongst the dropping springs that ooze from the crevices of rocks; and some species of exquisite beauty are found lining the sides and the roof of the caverns which contain the sources of natural fountains. Indeed, within the tropics they seem to delight in insular situations, few, comparatively, being found in the interior of large continents, owing perhaps to the want of a due proportion of moisture.

There are 200 *genera* and about 2,000 species belonging to the order FILICES, or Ferns. They constitute a large and interesting order of flowerless plants, distinguished for their elegant plume-like foliage. In our latitude they are usually from a few inches to a few feet high, but some of the tropical species, as the CYNTHEÆ of both Indies, are from fifteen to twenty feet in height, vieing with the palms themselves in size and beauty.

The medicinal properties of ferns are generally mucilaginous and mildly astringent, hence considered pectoral. *Osmunda regalis* has been successfully administered for the rickets.

There are large numbers of local species of these plants in Lancaster, and they are coming much in use for ornamental lawn or garden culture, such as central groups, hanging baskets, borders, &c. The central figure in our

TROPICAL FERNS AND PALMS.

incidental illustration is a palm, as indicated by the flowers around the base of the leaves, and other characteristics, and exhibits a beautiful "summer scene for a winter day."

* The trunks of the cabbage and other palms are frequently infested by the *larra* of the "Palm-weevil." (*Rhyncophorus palmatum,*) a large, fat, white grub, which attains to three or four inches in length, and as much in circumference, which is gathered and cooked, it is said, as a seasoning to the cabbage-palm.

TTE FACTS OF NATURAL HISTORY.

No. 5.—The Currant Worm.

The extensive damages done by this worm are so generally known among all cultivators of small fruits that I suppose most of your readers will hail with a hearty welcome any new light that promises assistance in its utter extermination. It has certainly been very aggravating for the fruit-grower to be compelled, from year to year, to witness the mischief done by this pest. It is not a pleasant sight to see patches of currant bushes loaded with fruit, but every leaf eaten off. Some growers have become so disgusted with this increasing mischief that they have dug up their bushes and made one fire for them and these hateful vermin together. Dusting these pests with white hellebore does not prevent their increase. They "come to time" the following year. And the discovery to which I now ask attention is the fact that at the very time while you have been fighting these worms on the leaves they have been working in three or four forms in the ground, in the air, and in the wood of the currant bush, thus preparing a year before for another onslaught upon you the next spring. I have discovered that the currant worm makes no less than eight transformations, and am sure that it has been for want of this knowledge that it has, up to this time, been impossible even to check its increase materially, and nothing whatever has been done effectually for its utter annihilation by destroying its rhythm. What a labor is here presented for science—what a subject for the consideration of farmers and fruit-growers! I am neither a farmer nor a gardener, but merely a recent fruit-grower on a small scale. And albeit now well entered upon my eighth decade, I did not, till a recent period, even know that any such pest as the currant worm existed, nor that the curculio, the squash bug, the canker worm, the potato beetle, and the hopper of the West were each in full blast, each in its season, and neither of which ever fails to "come to time" and put in an appearance at the hour when the fruits of the poor man's toils are ready for their jaws.

Many other pests have only four transformations; and it has been by patient, persistent investigation that I have traced the currant worm through eight, and now I describe the place where, by unity of systematic effort in any given locality, it may be utterly exterminated. Early in May, and until late in June, it will be noticed that more or less of the new growths of the currant bush have been suddenly cut off. This cut is flat, taking off about four inches from the top, which thus falls to the ground. Now, this is the spot where a successful blow may be struck against this enemy. The egg from which the borer comes is deposited in the end of that cut-off stem, still a part of the bush. The first week in July I clipped from these tops an inch or two, and in each piece I cut off I found a borer, some of them within a line of the top, and so very small that they could only be discovered by the microscope. In November last I had found these cut-off stems, of that season, dead downward about eight inches, and in each one a borer largely grown. Some of these dead stems I left till April this year, when, on examining them, I discovered the borer transformed to a fly, somewhat light-colored, and the same fly that I have so often detected in attaching its eggs so mathematically upon the under side of the leaves; and, as most fruit-growers know, it is from these eggs that we have the worms that devour the currant leaves.

And now to the question I have in vain so often asked through the press, as to "what becomes of this feeding currant worm when its mission has been fulfilled." I have found the true answer. I placed a few leaves with these worms upon them in a glass jar now on the table before me. The next morning, only a few hours after, I found a number of new worms on the leaves, unlike those I put into the jar. They were light-colored, with a tinge of yellow at each end. And I have since witnessed the entire process of molting, both in my jar and also on the leaves in the garden. And this molting explains what is meant by those remains which appear upon the leaves after the feeding worms have gone. And it explains also where the white grub has come from which the fruit-growers have noticed, now and then, in a quiescent state with the feeding worms on the leaves. I had always observed that these white grubs were never seen on any leaf but upon which I saw the skins, from which I have since found that they had molted. The green worm, fully matured, fastens its tail to the leaf, or stem, and raises its head, which slowly opens, when the head of this white grub appears, protruding from the body of the old one, and gradually works, by pushing the old skin back with its legs, and when free it remains stupid for a time. It never feeds, but soon falls to the ground and enters the pupa state. In the jar I saw these molted worms descend to its bottom. They curled up and were soon encased in a black cell attached to the glass and the leaves, where they still remain. I also took some thirty leaves, with a white worm on each one, and carefully allowed the worms to drop into a two-quart glass jar half filled with earth, and I saw each one of those worms immediately enter the earth out of sight. From this arrangement I am hoping to have a good opportunity for inspecting that insidious fly that comes out of the ground in the spring, and for the purpose of cutting off the new stems to which I have referred. This fly has never been described in any work on entomology that I have seen. Nor have I yet found the fruit-grower or the writer who has witnessed the process by which this damage is done. Nor am I aware that the rhythm of this currant worm has ever been described, which is here given:

There are two forms of fly, one of which cuts off the stem and leaves its egg, or eggs, in the top. The

other attaches its eggs under the leaves. Hence there are two forms of eggs. From one the borer comes, and from the other that nasty worm that strips the currant and the gooseberry bushes of their leaves. There are three forms of the worm: one is a borer; the second eats the leaves, and from this one another is molted, and this entering the pupa state makes eight transformations, which complete its rhythm.

And now it becomes manifest as to the method for its utter extermination. All these cut off stems or canes can be counted, and so easily they may be cut off again; and if this be done in time the currant worm is annihilated. And this summer and fall, with a sharp knife, take off a piece of these cut ends below where the borer may have penetrated. By the middle of July it is down two inches or more, and by November it will have killed ten inches of the stem; and late in the fall I have found more than one borer in a stem, and I have suspicion that, in some cases, this borer penetrates down into the root far enough to come up and out of another cane than that one where it began. It is best to attend to these cut off tops immediately on discovering them. The cut you make should be with an upward slope from the axil of a leaf below. In this way you may facilitate the continued growth of the upward stem, and the slant of your cut will enable you, from time to time, when inspecting your bushes, to distinguish those you have attended to from any others mutilated by the fly. I have demonstrated the benefits of this method in my own garden; and the present year, but for the gardens of my neighbors, my battle with this enemy would have been but a small affair. And I am sure, that if all who grow currants in any one locality were to unite in following up this process for a year or two, the hated currant worms, heretofore so numerous, would soon become few and far between. Henceforth I abandon all hope from the hellebore and go for certain and utter extermination.— L. R. S., *Quincy, Mass.*

The foregoing we clip from the New York *Semi-Weekly Tribune* of August 27, 1875. It is rarely that we find such a complete *salmagundi* of truth and error as is here dished up by this astute octogenarian, in giving the "rythm" of *the* "currant worm." We think that extended observation and investigation will lead him to different conclusions in reference to the unity of his subject and its "eight transformations." If he does not discover that he has sadly mixed up the history and transformations of several species of currant worms—and of which there are perhaps a dozen—then economic entomology may go begging for another eighty years before the "rythm" of *the* currant worm is developed, and its "certain extermination" effected. There are many authorities in Massachusetts, both living and dead—Harris, Peck, Packard, Mann, etc.—of whom had he taken counsel he might have very much facilitated his investigations, and have come to an intelligent and rational conclusion.

It would be next to impossible to say to what particular species of worm the various phases of the above observations allude; but we may be allowed to infer that he has reference to *Hadena arctica*, one of the cut-worm moths, the *larva* of which has long been known to devour the leaves of both the gooseberry and the currant. This worm is usually concealed under the soil during the day, and climbs up and cuts off and devours the leaves during the night. Digging up the soil and hand-picking, or dilute carbolic acid, are the remedies usually applied.

He may also have observed one phase of Dr. Fitch's American "currant moth," the *Abraxas ribearia*, which belongs to the family of Geometricians or "measuring worms." This is a pale yellowish worm, with many small black dots upon it, and the moth is a nankeen yellow, with faint darkish bands across the wings. This insect yields to white hellebore or hand-picking. Both these moths undergo their transformations in the soil, under the bushes, and may be dug up, sieved out and destroyed.

There are two species of HYMENOPTERA, the American and the foreign (introduced) currant and gooseberry "saw-flies," which feed upon their leaves. These are of a greenish or pale yellowish color, and are known among entomologists as the "false caterpillars." There are two broods of these in a season. The first brood undergoes its transformation on the ground, among the leaves and rubbish, and the second brood goes into the ground, where the pupa remains all winter, and the "fly" makes its appearance in the spring. The American species is the *Pristiphora grosularia* of Walsh, and the foreign species is the *Nematus ventricosus* of Klug. These insects in their larva states readily yield to applications of good hellebore or Paris green. Possibly our aged "amateur" may have had these in some of their phases under observation.

The four insects we have named are all leaf-eaters, and leaf-eaters only, never depredating upon the currant or gooseberry in any other way. But there are other enemies to these bushes, the habits of which are entirely different. *Aegeria tipuliformis*, a beautiful little moth, the larva of which is a "stalk miner," is one of these; and we feel very certain, from the tenor of his observations, that he was "after" this insect, in part. This insect is allied to *Aegeria exitosa*, which mines about the base of peach trees, and is so injurious to them. The aforenamed currant borer is also a foreigner, but when introduced we cannot say at present, nor is it of any account just now. But we have a native species, *Aegeria rubatum* of Harris, which very nearly resembles it, but is not so numerous nor so destructive as the foreign species. It is very singular that nearly all the foreign noxious insects introduced into this country multiply more rapidly, and are more destructive, than our native species.

The worst American currant borer we have, however, is a beetle, the *Psenocerus supernotatus* of Say. This also penetrates the canes downwards, and no doubt the remedy recommended by L. R. S. may be of great benefit in the forestalling or destruction of this pest. This insect belongs to a long-horned family (LONGICORNIA). The larva of this little beetle is a footless grub, whereas that of the *Aegeria* is a regular caterpiliar, having the usual number of well defined feet. Several of the true "bugs" also prey upon the foliage of the currant; prominent among them is the "four-lined leaf bug"—*Capsus quadrinotatus* of Say—but this individual being a suctorial insect feeds only on the sap or juices of the plants, and probably did not come under the observation of L. R. S., or perhaps it would have been amalgamated with the general mass, and afforded a few more transformations in its "*rythm.*" But he evidently had a squint of *Syrphus*, perhaps *S. philadelphicus*, a beautiful black and yellow two-winged fly, the *larva* of which feeds on *Aphids*, and which consequently is classed among our insect friends.

As we intend, in subsequent numbers of THE FARMER, to give full histories of these insects, with accurate illustrations, we can only thus briefly allude to them in these strictures; and there are a number of other enemies of the currant and the gooseberry that might properly have been added, but are not necessary now.

We see that L. R. S. has had his paper published also in the *Boston Journal of Chemistry*. Perhaps after all it is more of a chemical question (based on mysterious affinities) than an entomological one. Economic entomology needs more patient, persevering and accurate explorers, in order to disentangle and simplify its details; but we question the utility of such efforts as the one we have been reviewing, because they grossly pervert *the facts of Natural History*, and involve the subject in deeper doubt among the uninformed. We accord to L. R. S. a noble end or aim, but we think he misapprehends the means of attaining it.

To show into what a labyrinth of doubt and mystery reading such papers precipitates the horticultural student, we append an extract from the *Semi-Weekly Tribune* of Sept. 17th. This writer is a little nearer, but still wide of the mark; and we are tempted to exclaim, "O LeRoy Sunderland, LeRoy Sunderland, O!"

THE CURRANT WORM.—In a late issue of *The Tribune* is a long communication on the currant worm, showing much research, and claiming the discovery of a sovereign and perpetual remedy. From the small experience I have had I think the chances are that "L. R. S.," by a little attention, will be able to make still further discoveries, and thus perhaps effectually extirpate the dreaded enemy. It would be a happy thing, if it is true, that all their eggs are laid in the branches of the bush, and that by cutting and burning they could thus be destroyed; but I am inclined to think there is some mistake about this. Now, it is true that there is a borer of some kind that bores down into the branches of the common kind of currants, and undoubtedly it is the same that destroys the leaves subsequently. Every branch thus bored into will wither and die. I am inclined to the opinion that there is more than one kind, and that their habits and modes of propagation are dissimilar. I have ascertained that this mechanical borer is not armed and equipped with a boring apparatus so effective as to enable him to penetrate the canes of the Versailles currant. They continue to grow larger and taller every year, and bear bountifully, and never a borer makes his appearance. But the black long fly appears regularly in the spring, depositing its eggs on the leaves. White hellebore is the sovereign remedy for the insects, and two applications, when the dew is on, winds up their career.—*R. L. Dorr, Livingston county, N. Y.*.

"This fly has never been described in any work on entomology that I have seen." "Nor am I aware that the rythm of this currant worm has ever been described." Perhaps not; but it can hardly be supposed that a man in his "eighth decade," who professes to have only recently turned his attention to the subject, could have been much of an entomological or horticultural reader, or could have had very extensive access to such works. To be able to say that we have never seen anything in print on any subject, under such circumstances, may not be saying much after all. That will depend much upon the extent and character of our reading; but in any event does not prove that there is nothing extant upon the subject. We question, however, whether this writer would ever find a confirmation of his assumptions if he had the entomological literature of the whole civilized world before him. Moreover, the term *rythm* seems too indefinite and obsolete to be applied to such a subject, and we confess ourself altogether ignorant of its value in this relation. Between the lids of Webster's Quarto unabridged, with its 1,765 pages, the word does not occur, and hence is not defined. If ever the word had a definite meaning it is probably too obsolete to be entitled to a place in a dictionary now. If it expresses some phase of thought too ethereal or evanescent to be defined, it is questionable whether it can be of any use in illustrating a subject of such a material character as entomology. We do not desire to be hypercritical, but in discussing *the facts of Natural History* we claim the privilege of instituting a comparison between fact and fiction; and if we appear to be giving too much prominence to the paper we have quoted we can only reply that a production which has been dignified by a place in the columns of the New York *Tribune* and the Boston *Journal of Chemistry*, cannot be beneath the notice of an honorable cotemporary who feels an interest in all that relates to the economies of the world of nature, as the basis of higher aspirations.

CHINCH-BUG, OR MORMON LOUSE.

(*Rhyparochromus devastator.*)

This insect, which when full grown, is only about one-twelfth of an inch in length, yet becomes so numerous sometimes as to seriously injure, if not totally destroy, the crops of wheat and corn. It was very destructive last season in some of the Western States, and while we do not propose to give its history in this issue of our journal, we may state, as a preliminary, that Dr. Sheimer, of Illinois, estimated the damage done to the wheat crop of that State, in 1864, at over $73,000,000. Each female deposits about 500 eggs, and some idea may be formed of their numbers and increase, in favorable seasons (dry weather), when we state that in Ogle county, Ill., as many as 30 to 40 bushels a day of these little insects were taken out of holes dug in the ground to entrap them, and that this process was continued until only four or five bushels a day could be shoveled out. These insects being "sap-suckers," and not leaf-eaters, would not be likely to yield to *Paris green* or any other poison externally applied, simply because their aliment is contained between the integuments, and not on the surface of the leaves.

HEN'S-TEETH—BONE-DUST.

To the Editor of THE LANCASTER FARMER.

While the above question is agitating the minds of thinking men over the whole country, I beg leave to add my mite to the great fund of knowledge on the subject; and although it is still an open question as to whether the first hen was produced from an egg, or the first egg was produced by a hen, we do know that they have kept up an unbroken chain of alternates down to the present time, and are likely to continue to do so until "time shall be no longer."

We learn many things about them through our daily intercourse with them, and by our humane care of them from the first down to the last "pen feather." There are, doubtless, others who know more about the science of cookery than I do, who may be able to convert those long-spurred and shell-bark legged subjects into *fac similes* of that much coveted dish known among epicures as "spring chickens;" neither do I presume to be a professor in the art of "counting chickens before they are hatched;" nevertheless, I may be able to testify to that which I know and have seen.

The first point I wish to ventilate in this article, is in relation to the most proper food for hens, having in view the greatest production of eggs. I have, for several years, had charge of Mr. Milton B. Eshleman's Bone-Dust Manufactory, near Leaman Place, in this county, and have the privilege of keeping fowls in and about the buildings, and I have long since discovered that I get eggs when other people get none; and that my hens average a greater production of eggs than any I can hear of, and that they keep in good laying order almost constantly. They are very fond of the small particles of ground bone, and I find it is not merely an acquired taste, for any strange fowls I procure take as naturally to it as a cat does to milk. The philosophical theory of it seems to be that the rough edges of the particles of bone perform the same function in the gizzard of the fowl that is usually performed by sand and gravel, and while these bone fragments assist in the digestion of other food, they become rounded off, and finally dissolve themselves, thus furnishing just so much more nutriment in proportion to bulk, and dispensing with the weight of gravel, which passes through the animal unchanged, and is therefore a dead weight to the fowls all the time.

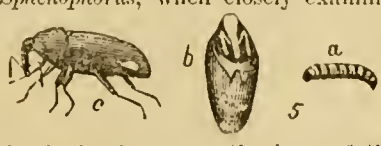
The second point will become manifest, I think, on looking a little farther. The bone is composed mainly of three substances, namely, oil, lime, and phosphorus, all of which the hen requires to facilitate her physical development, and increase her laying capacities. Practically, it may be said that the oil feeds and furnishes her flesh, the phosphorus builds up her bones, whilst the lime produces shell material for her eggs. Very few persons think of their hens during the hard freezing winter weather: how impossible it is for them to obtain lime and sand. They will give them more or less corn, and wonder why their hens don't lay eggs under such circumstances. And you will find that this almost invariably occurs when eggs happen to be very high in price. Again, chickens are the most tender of all domestic animals, and often suffer very much from the effects of cold; and we cannot keep them in warm apartments because they require so much ventilation, and thus they become thoroughly chilled, and while in that condition they cannot thrive, and will not lay. Therefore, the extra heat produced by phosphorus in their systems, is of great benefit to them; at all events such seems to be the case according to my experience.—JAMES HATHAWAY, *Evergreen Mills, Oct.* 30, 1875.

We commend the above to the consideration of the cultivators of hens and their product, as coming from a practical and respectable authority in our midst, suggesting that there must be a cause for the effects he has recorded, whether he has hit upon the real cause or not. According to accredited authorities on the question of aliments, they may be classed into proteids, fats, amyloids, and minerals. The *proteids* are generally known as albuminous substances, and include gluten of grain and seed, the whites of eggs, the muscle of flesh, and the casein of cheese, &c. The *fats* include all oil, whether animal or vegetable, as butter, fat meats, nuts, &c., and are called hydrocarbons. The *amyloids* include starch, sugar, gums, &c.; they are also hydro-carbons, but the hydrogen and oxygen are in the form of water. The *minerals* are certain salts of alkalies, phosphorus, lime, &c., but none of these alone will perfectly nourish the body—all must be present. There is only one substance in nature which perfectly illustrates a combination of all these substances, and that is milk, the first and only substance which mammals can partake of immediately after they are born. The chief function of the proteids is to construct and repair the tissues of the body; the fats are generators of heat; the amyloids produce fat; and the minerals produce bones and teeth. It will thus be seen that our correspondent not only speaks from experience, but also from authority, for these laws are as applicable to hens as to mammals.

CORN-STALK WEEVIL.

(*Sphenophorus Zea.*)

Hardly a season passes that we do not receive, during the month of June, from some locality in Lancaster county or elsewhere, more or less black snout beetles, that have been detected boring into the young corn, at or near the base of the stalk. Sometimes these are sent to us as rare curiosities, but quite as often they are accompanied by complaints that they are destructive to the young corn. Our illustrations do not accurately represent a *Sphenophorus*, when closely examined. The



antennæ insert and of issuing from near the apex, should be from near the base of the snout. The lines on the wing covers should be punctured, and the *thorax* should exhibit polished irregular ridges. Our artist reports his specimens taken out of a moist piece of rotten wood, very early in spring. *Fig. a.* represents the *larva* about the natural size. *Fig. b.* is the *pupa*, and *Fig. c.* the *imago*, or perfect beetle, both of which are greatly magnified.

We did not see the specimens from which these drawings were made, and we merely give them in illustration of the theory that many of the beetles belonging to this family (CURCULIONIDÆ), which are injurious to vegetation, pass their larval and pupal periods in saturated rotten wood; and in corroboration of this we are able to state that we have often found various species of them so circumstanced. These facts may suggest that the removal of the cause would diminish the number of the noxious pests. The genus *Sphenophorus* is a very large one, and in structure is nearly allied to the wheat and rice weevils (*Sitopholis*), but differ very materially from them in their habits. The "Corn Sphenophorus" is about three-tenths or a quarter of an inch in length, not including the snout, and it is generally found of a dull black above, and a polished black beneath. Like many other species belonging to its family, however, very recent specimens, or those obtained immediately after they have emerged from the pupa state, are covered with a grayish or yellowish dust, which is easily wiped off by friction.

We are often asked, "What shall I do about it?" To which we can only add to the suggestions already made, "hand-pick them." As soon as we can learn more about their larval history, and are able to identify it with the *imago*, we will publish it with accurate illustrations.

THE NEWLY MARRIED.

The first thing a young married couple generally do, is to endeavor to furnish their rooms or house just as richly as their means will possibly admit of. Indeed, as a rule, they go beyond their means in this respect, the wife's standard not being what they can get along with and be comfortable, but to have her apartments furnished so that her neighbor, Mrs. Smith or Mrs. Jones, cannot have the pleasure of being superior to her. Now this is all wrong. The first object of a married couple should not be to own furniture, but a house and lot. In that there is profit; in the furniture there is none. We care not how economically or wisely furniture may be purchased, nor what care may be bestowed in preserving it from abuse, it will never bring the price paid for it, whether the resale of it is made the day after its purchase or five years thereafter; but a house and lot, wisely selected, is always worth its cost, and, as a rule, a considerable advance on that cost, the rule being, the longer the time since purchase the greater the advance. Free rent and independence are the result of house ownership, while neither is attained by the ownership of the finest furniture. Married people beginning life should prefer a house and lot of their own, with the house even half and very plainly furnished, to a hired house or rooms with the very best of furniture. Let this fact be remembered, too, if a house and lot is not acquired by a couple in moderate circumstances during the first three years of their marriage, their chances of securing one after that is constantly lessening.

There is so much in the above, which we clip from the columns of the *Matrimonial Bazar*, that approximates so nearly to a very important domestic truth, that we have no hesitancy in transferring it to the columns of THE FARMER; a truth, too, which it would be well to consider and act upon, in almost any walk of life, and especially among the middle classes, or those who "love their neighbor and live by labor." There are, no doubt, thousands of married people who have made the discovery that they committed a grave error in this respect, and although many may have retrieved it afterwards, many more have never been able to come up with the loss they have sustained in the early periods of their married career. In nine cases out of ten, if a property has thus been obtained at any reasonable price, and at any reasonable place, it will increase in value the longer it is kept, if any ordinary care is bestowed upon it to keep it in repair. If the person purchasing property under such circumstances is never able to pay for it, it may still be a great advantage to him in more ways than one. In the first place, it gives him a credit—a standing in society—a position of responsibility that he, perhaps, would not otherwise possess. In the second place, the interest on the money invested is fixed by law, and therefore he has perfect control over the amount of his own rent, which is not the case when he occupies a house belonging to another person. In the third place, so long as he pays his interest promptly, his obligation is easily renewable or transferable; and fourthly, when he is compelled to sell, he is likely to realize more than he paid for the property. In nine cases out of ten, also, when an obligation is foreclosed, and the property is disposed of under the sheriff's hammer, it is because the owner has been delinquent in the payment of his interest and his taxes. Of course, we would not advise a young man to encumber himself with a property who could not save enough from his occupation to pay his interest and taxes, in addition to his family expenses; for such a course would only end in domestic disaster.

As a single illustration, we will mention one among the many cases of which we are cognizant. A young man purchased a house and lot for one thousand dollars, gave a judgment bond for eight hundred, and a promissory note for two hundred dollars. This latter obligation he paid off in "dribs," running over a period of seven or more years, but he never paid anything on the judgment except the annual interest, and the obligation was from time to time amicably renewed. For many years his rent was only the interest on eight hundred dollars, ($48.00) while, in time, all the houses around him, of the same size, advanced in rentals from sixty to one hundred and fifty dollars. After possession for twenty years he sold his property, and realized two thousand five hundred dollars from it. One year after he became its possessor, the house would have brought twelve hundred dollars at a forced sale, and at no time during the last ten years of his ownership would it have brought less than two thousand dollars. That is the way such things work, if the first investment and the terms have been judicious, and the interest and taxes are promptly paid. There are many men of medium means who prefer to invest their money in real estate at six per cent. interest rather than in stocks and bonds, where a higher interest is only prospective. A judgment bond or a mortgage that is amply secured, in no respect differs from a government bond in its intrinsic quality, provided the interest thereon is promptly paid when due.

There is no community more contented, more thrifty, more independent, and more permanently fixed than that in which every man owns the property he and his family occupies.

We have penned this, because there is a tendency almost everywhere among young married people towards display in their house-

keeping arrangements, and the "wear and tear" of one removal is always greater than five years judicious use of their furniture; and to avoid this abuse, the only rational remedy is in the ownership of the tenement that contains it.

JOTS AND TITTLES.

FEED RYE TO THE COWS a few weeks before calving; they will calve much easier. A pint every few days.

A PINT OF STRONG VINEGAR, with a handful of soot, given as a drench to horses, will cure obstinate cases of colic. It is always conveniently at hand.

TURPENTINE AND LARD compose one of the best and most simple liniments for cuts and bruises about horses.

HORSE POWDER: Boneset, catnip and tansy, dried in the shade and pulverized. A tablespoonful three times a day. An excellent horse powder, particularly for a cough.

WHEN YOU SEE A MAN along the road hunting a lynch-pin, or trying to fix up a breakdown, don't "pass him by on the other side." Render him all the assistance you can. He will not forget it: you may get into a similar fix.

QUERIES.—Do plants in a bed-room purify the air in it?

Why is cloverseed of different colors?—B., *Dauphin county, November* 2, 1875.

To the first query we may reply that the presence of plants in a bed-room do not necessarily either purify the atmosphere in it, or vitiate it; there are other contingencies which have a modifying or determining effect upon its condition. Plants absorb carbon and emit oxygen: man and animals absorb oxygen and emit carbon; so that one class feeds the other with what itself rejects. We may see this principle illustrated in a properly stocked aquarium, in which as long as the normal proportions are continued, it will be healthful to both plants and fishes. But the decomposition of vegetable matter in the tank, together with the fetid animal matter exhaled from the fishes, may be such as to destroy the equilibrium and render the tank unhealthy. A case analogous to this may exist in a bed-room isolated as an aquarium is—that is, cut off from the great reservoir of air outside of it, as the tank is cut off from the great reservoir of water. The atmosphere in its normal and most healthful condition, contains only from four to six parts of carbonic acid gas in ten thousand parts of oxygen and other substances composing it, and to be healthful it requires just this proportion of carbon. The disturbance of this condition, through the decomposition and decay of plants, together with the fetid animal exhalations, in bed-rooms destitute of ventilation, would render them unhealthy. We often experience a sickening and depressed sensation on going into a close green house, which is caused by the decomposition of the plants, too much oxygen, too little carbon, or other disturbances of the normal condition of the atmosphere in them. On the whole, we do not consider plants of any sanitary advantage to sleeping apartments. Stenches, effluvias, and even fragrant odors, are diffused atoms, and these atoms sometimes produce diseases. "Hay fever" and "hay catarrh," for instance, are attributed to causes of this kind. Pure perfumes in normal quantities are agreeable, and doubtless also healthful, but in excess, especially when long-continued, they are nauseating, if not absolutely sickening. As a general rule, and under circumstances where there is no disturbance of the equilibrium of nature, or out in the open air, plants preserve the purity of the atmosphere, absorbing the excess of carbonic acid generated by the respiration of animals, and giving out, by the decomposition of water, a quantity of oxygen to make up for that consumed by the animal kingdom. This is, however, only a general statement of a great law, which is liable to violence from counteracting or conflicting causes.

To the second query we reply that the difference in the color in cloverseed is probably the same as that we often see in green or ripe shelled peas, and many other seeds, and may be owing to the different stages of development when the clover or the pea-vines are cut from the base of the plants—some are mature, some premature, and some immature. We have seen peas taken from the same vine, some of which were white, some pale yellow, and some pale green, all equally dry and hard; and when subsequently planted all germinated and grew. Over-ripe seeds may become externally sun-bleached, although the germ may remain intact; and this is as likely to be the case in cloverseed as in any other. These answers are, however, given only as suggestive, and not as absolute or arbitrary conclusions.

THE LANCASTER FARMER for October apologizes for being a little late this month, but it needs no other apology; for notwithstanding it started well, each number is a decided improvement on the preceding one. Farmers of this and adjoining counties, by all means take THE FARMER. Price to subscribers in the county $1; out of it $1.25 a year. Single copy 10 cents.—*Mt. Joy Herald.*

It is not necessary to give any special reason now for our lateness of issue last month, further than to say it was unavoidable, but not likely to occur again. Within one week after the time when the October number of THE FARMER should have been issued, we received special letters of anxious inquiry from over half a dozen of our most intelligent subscribers, some of whom are also valued contributors. This is surely complimentary to our journal, evincing that THE FARMER could not die or be suspended without creating a sensation of regret. Our ambition is to make THE FARMER a *vade mecum* of perpetual reference to the yeomanry of the country, and especially of our county—one that they may feel they cannot dispense with, and one whose monthly visits shall be looked for as anxiously as the periodical return of their nearest and most valued friend. There are some things in this world the value of which we only learn to fully appreciate after they cease to exist, and should THE FARMER die, we happen to know that many would contemplate such an event with feelings of regret.

OUR PARIS LETTER.

Farming on the Continent of Europe.

Correspondence of THE LANCASTER FARMER.

PARIS, November 1, 1875.

COMMERCIAL MANURES—ROTATION OF CROPS.

Agriculture cannot but benefit by the increasing demand for commercial manures. Superphosphate of lime, sulphate of ammonia, and nitrate of soda, are at the present moment in high request, and to efficaciously combat fraudulent agencies, the chief manufacturers have determined to directly supply purchasers themselves. The saving in commission fees will cover the expenses of transport. The employment of industrial manures, however, is accomplishing a revolution in a direction that many do not approve. To produce farm yard manure, live stock are necessary; to support the latter, grass lands and an organized culture are required, involving a staff of laborers, implements and machinery, and above all, an intelligent superintendence. It is no secret, that many landed proprietors in France have well nigh ruined themselves by the rearing of stock and the production of root crops, and now adopt, since some ten years, a plan of cultivation, which dispenses with farm yard manure, cattle servants, &c. It consists in the adoption of a rotation, comprising first year, wheat; second year, oats; each manured with superphosphate of lime and sulphate of ammonia, at the rate of six cwt. of the former, and seventy pounds of the latter per acre, for the wheat, and about half these quantities for the succeeding oat crop. The third year the land is devoted to buckwheat, clover or mustard, ploughed down green; fourth year wheat unmanured. The average total expenses over the four years amounted to something better than one-half the produce for the three years, and yielded a net profit of fr.150 per acre. If this system spreads, the conditions of agricultural work, and the situation of the rural classes, will be sensibly modified.

THE AGE AT WHICH LIVE STOCK MATURE.

An interesting discussion is going on, respecting the period when live stock ought to be considered as having reached the adult state. This period, it is asserted, commences when the animal has achieved its dentition; that is to say, when the milk incisors in the lower jaw have been replaced by permanent teeth. But at what age, with the horse and ox, for example, do all the teeth become replaced? Before races of animals were improved, development was slower, and dentition consequently took a longer time for completion. But since those three alimentary races—cattle, sheep and swine—have been ameliorated, the result has been to hasten the arrival of the adult state, considered as precocity. At agricultural shows, prizes are awarded to cattle twenty-five months old; to sheep, ten or fifteen; and to pigs, twelve months of age. It is alleged that the meat at these ages naturally possess all the maturity equal to that of animals arrived at double the age; but also dentition is advanced, and even the perfect knitting of the bones. On the other hand, it is maintained this precocity cannot take place in the case of horses, where vitality is concentrated in locomotion, energy, and the power of endurance.

TESTING THE RICHNESS OF POTATOES.

Prof. Wallny, of Munich, has made a series of analyses of potatoes to test their richness in feeula, and has found that the latter increases with the size and weight of the tubers, the difference being as much as two per cent. between large and average sized potatoes. For purposes of distillation, he therefore recommends large, and for feeding, small tubers, the latter containing more nitrogen. For the same reason he suggests that, for seed, cuttings should be preferred of the large potatoes, as germination requires matter non-azotized.

BUCKWHEAT AND WINTER RYE AS FODDER.

Buckwheat, when given as fodder, has been observed to produce vertigo, alike in cattle, sheep and pigs; in the case of the latter, furious delirium ensues, with difficulty to keep on the legs, and ultimately finishing by a long sleep. Inflammation of the head, red and staring eyes, are the characteristics when sheep are attacked. It is only from eating the flowers that the malady is produced. Bees are even said to fall off the flowers in a state of stupor after alighting sometime thereon. An agriculturist states that he allows his sheep to crop the winter rye in spring, and finds the plant grows more rapidly afterwards; the sheep return to the rye at intervals of three days. By this process, also, he has been enabled to induce the sheep to eat damaged hay, first shaking out and airing the latter, and watering it with a solution containing twenty per cent. of salt.

THE PRESERVATION OF GREEN MAIZE, &C., IN TRENCHES,

to be consumed in winter and early spring, is at present a demonstrated success, and a great boon in the case of dry climates. Now, while this arrangement tides stock over until April, a dry spring ensuing can deprive cattle of green fodder from the close of May to the middle of July. M. Lecouteux has applied the trench system to spring green rye and red clover, cutting the former in two-inch lengths and mixing two parts of rye with one part of clover. The mass kept well from May till July, and was highly relished by the cattle. The best time to cut the rye is just when the ear is shooting; as, if more matured, the absence of moisture prevents its being well preserved; the best coating for the mass, before being covered with earth, is heather, as it acts as a ventilator and condensor for the generated gas. M. Bobierre draws attention to the important

DISINFECTING PROPERTIES OF THE REFUSE OF HEMP FACTORIES,

which completely absorbs the most noxious gases. Strange, chopped hay and straw possess also deodorizing powers, and which may explain why hay strewn on the floor of a room which has been freshly painted removes the disagreeable smell. All these substances derive their efficacy from their porosity. At Angers, gardeners employ this refuse hemp for bedding purposes. M. Faucon, the author of autumnal submersion of vineyards for six weeks or two months, as

A PERFECT CURE FOR THE PHYLLOXERA,

and the only one up to the present found to be successful, has this season been rewarded by a yield of wine double that produced in ordinary years; his vines are exempt from the bug, while those of his neighbors, where the inundation scheme is not employed, are nearly destroyed.

TREATMENT OF THE FOOT AND MOUTH DISEASE.

Cocotte, the French name for the foot and mouth disease, is making terrible progress; the malady is more inconvenient and annoying than fatal. Although only known since 1840, Gasparin described a disease, perfectly analogous, which attacked sheep in 1817, and the remedies then employed were exactly those now patronized. As in the cure of every epizootic malady, those animals badly fed or cold, are the earliest to be affected. In this country, and, indeed, on the continent generally, the plan of having the cattle sheds low, in order to enable barn to exist overhead, is highly objectionable, and favors the spread of distemper. When an animal is attacked with *cocotte*, it is at once separated, covered with some sacking, and deprived of food for two days. The two principal points to be kept in view are, to calm external irritation, by means of nitre and tannin solutions, and to fight the fever, by purging the blood of the poison introduced therein. Towards the afternoon of the second day, the animal is administered, by means of a horn or a bottle, a linseed or meal drink, and next day some slices of beet, and the leaves of that plant. In the case of milch cows, the udder should be fomented

every second hour with the tannic acid lotion, bathing the teats to draw off the milk, and thus prevent inflammation. The milk for eight days afterwards ought to be thrown away, as if given to pigs it would prove contagious.

A NEW VETERINARY DEVICE.

The veterinary surgeon of one of the chief railway companies of Paris, has invented for the use of its dray and buss horses, a cheap and simple machine for self-irrigating the feet in case of any inflammatory ailment. A box containing four cocks is placed on the animal's back by means of a skeleton sort of saddle; an india rubber tube communicates between this box, and a vessel placed above the manger containing a solution; from each cock in the box resting on the back of the animal, is a tube descending to each fetlock, terminating in a kind of gaiter, inside of which is a perforated plate, so as to allow the solution, or simple cold water, to fall in a continuous fine spray over the sprain, &c.

A REMEDY FOR DODDER.

Continued evidence is adduced of the destruction of dodder by sulphuret of calcium, a salt which costs fr.5 per ewt. When the weed is perceived, the clover or lucern is at once cut as closely to the ground as possible, and after removal the soil is dusted with the salt, at the rate of one-quarter to one-half pound per square yard; a strong dew is necessary to make it act, which it immediately does, by burning up the dodder roots and stimulating the crowns of the clover and lucern.

AN EXCELLENT MEANS TO PRESERVE HARNESS,

and, indeed, all kinds of leather trappings, from the injurious effects of the ammouia of stables is, to add a little glycerine to the grease ordinarily employed.

TO FATTEN FOWLS WITHIN TEN OR FOURTEEN DAYS,

they ought to be placed in a wooden cage two feet above the soil, the bottom of the cage to be strewn with wood ashes daily; the food should consist of rice, boiled in skimmed milk, adding a spoonful of carbonate of soda; the poultry ought to receive, also, pure water twice a day, and, like the food, in earthen vessels. The chief object is to maintain great cleanliness, and to avoid the presence of any acid. The flesh of fowls thus fatted is highly praised.

TO DESTROY SMUT, RUST, ERGOT, &C.,

in cereals intended for sowing, the seeds are placed in several steeps, and when the floating grains are removed, the rest are rolled in lime. Instead, therefore, of a steep composed of a salt of copper, diluted sulpuric acid, urine, or dissolved guano, M. Roge proposes for his steep a solution of a salt of lead; a greater number of seeds have germinated when thus treated as compared with other means, and subsequent vegetation has been more rapid.

OUR LOCAL ORGANIZATIONS.

Proceedings of the Lancaster County Agricultural and Horticultural Society.

THE NOVEMBER MEETING.

The regular stated monthly meeting of the Society was held in the rooms of the Board of Trade on Monday afternoon, the first of November, at two o'clock.

The following members were present: Johnson Miller, President; Alexander Harris, Secretary; Henry M. Engle, Ephraim Hoover, Jacob Bollinger, John B. Erb, Abraham Summy, Aaron H. Summy, William McComsey, Milton B. Eshleman, Casper Hiller, Edwin Reinhold, Simon P. Eby, Peter Volenstein, John Grossman, Jonas Buckwalter, Martin D. Kendig, E. K. Hershey, S. S. Rathvon, John Gingrich, Peter S. Reist, and the reporters.

Mr. John S. Gingrich, of East Hempfield, was proposed and elected a member of the society.

After the meeting was organized, the President called for

REPORTS ON THE CROPS.

Henry M. Engle said that the corn crop in his neighborhood was over an average. The grain has started up very finely this fall. He never saw it do better. Fruit, potatoes and other crops have heretofore been reported. The young clover is not well set this season.

Mr. Jacob Bollinger said that the crop of wheat in his district does not look very well. It is inferior to that of some other years. The corn is not quite as solid as he has met with in other years. He planted his corn from the 15th to the 25th of May, and averaged eighty-seven bushels to the acre. He did not believe in providential dispensations as regards the growing of crops. It is the ground and fertilizers that produce crops. In his neighborhood the apple crop was very poor.

Mr. Engle believed that there was greater shrinkage in the corn crop this year than in former years.

Ephraim Hoover was at his old farm a few days ago; there the wheat crop is looking very fine. The corn crop was quite good this year. He also discovered that there was a considerable shrinkage in the corn crop. The fruit crop was just an average. His orchard slopes to the north, and bears alternately—one-third one year and full crop the next. He believed in adding fertilizers to the orchard.

John B. Erb's crops look well. In his neighborhood a great deal of grain has been put in ground that was intended for grass. More wheat has been sown this year than usual.

M. B. Eshleman said that the greater part of his neighbor's wheat was sown about the middle of September, but he did not sow his until the beginning of October. His crop is now as large as that sown earlier.

REPORT ON PLACE OF MEETING.

The committee on procuring a room for holding their meetings, reported progress. On motion, it was ordered that the committee be continued, and unless the members are notified, the next meeting will be held at the same place.

CORN AND FRUIT PRESENTED.

Jacob Bollinger presented the society with four ears of corn of his growing.

Casper Hiller presented to the society three varieties of pears—D'Angou, Laurence and Dick's.

The following question, proposed for discussion at the last meeting, was then offered: What is

THE BEST TIME TO PLOW GROUND FOR CORN OR OATS.

Mr. Jacob Grossman, who proposed the question, said that he was in favor of fall plowing. If the soil is heavy it should be plowed in the fall, and if it is light it should be plowed in the spring.

Johnson Miller said that he found fall plowing much the best for corn, and equally as good for oats. During the last year he commmenced to plow a twenty-acre field in the fall and finished all but about three acres, which he plowed in the spring. It was limestone land, and was planted in corn. The greatest difference was noted. Three times as much matured on that which was plowed in fall as in spring. In other seasons he found no difference. He favored fall plowing.

H. M. Engle believed that no rule could be laid down for fall or spring plowing. His experience told him so. There is a difference in soil. In some it would be better to plow in fall, in others it would be better to plow in spring. Can't say which season would be the best. Much depends on the kind of soil to be plowed. A heavy stiff clay soil is best plowed in spring. Plowing depends upon so many contingencies that it cannot be determined which is the best time to do it in.

Ephraim Hoover gives a preference to spring plowing. He believed the matter of spring and fall plowing depended altogether on locality. Plowing should be done as early in spring as possible. Manure should be placed on the ground as early as possible so as to give it a chance to soak in. Leave only as much manure in the barn yard as is necessary. There is great advantage in thus applying the manure. This is the way he prepares his land for corn. As regards oats, it makes little difference whether the plowing be done in the spring or fall.

Jacob Bollinger believes there are as many different opinions about spring and fall plowing as there are individuals. His plan is to have the manure on the oats stubble and then plow it down. This has always been his practice. He has been very successful in growing corn. As regards wheat, he has not been very successful. He averaged seventy-five bushels of corn to the acre. Fall plowing, in his opinion, is the best.

On a question being asked Mr. Bollinger in regard to the cut worm, he said that it was the worst in spring plowing.

H. M. Engle thought the members should confine themselves to the question. The question for discussion was about plowing, and not manuring. For corn cultivation he believed in top dressing.

Mr. McComsey thought some latitude should be allowed in the discussion of questions, as it brings out very many interesting facts that can be made use of.

J. B. Erb said that his experience in plowing was to turn the furrow up on its edge. Corn planted in this kind of ground will become much better than if the furrow was turned clear over. This will hold out, whether it be spring or fall plowing.

H. M. Engle said that he found the surface soil to be always the most profitable. He agreed with Mr. Erb, and showed that the strength of the soil was more in the surface soil than in the sub soil. If the surface soil could all be kept on the top, so much the better. It is the best for tender plants.

Ephraim Hoover believed this was so, as you turned the best soil to the best advantage. There was one objection, however, and that was it was very difficult to plow. If plowed by a poor plower, a great many weeds would spring up and create a great deal of trouble. As far as putting the soil to the best advantage for planting corn is concerned, he believed in surface soil.

M. D. Kendig never plows in the fall for oats. He always plows in the spring, as he has faith in that kind of plowing. For corn he plows partly in the fall and partly in the spring. His land is limestone, and he always plows it as early in the spring as is convenient. Fall plowing was more destructive to the cut worms. He had full confidence in spring plowing, and was decidedly in favor of it.

H. M. Engle regarded the farmer that was troubled with weeds as being far behind the age. If we understood farming aright, we would not be troubled with weeds. If you once get your farm clear of weeds you will never be bothered with them again. The best way to destroy them is to cut them down with a reaper, rake them together and burn them.

Mr. Hoover believed in the old maxim that "an ounce of prevention was worth a pound of cure," and that the closer you come up with the furrows in plowing the better. This thing of not allowing any weeds to grow, is all very well, but on a large farm it is impossible to keep them down. The best way to destroy weeds in finishing up corn was to plow them down and not shovel harrow them.

Mr. McComsey belived the only way to settle this question was to

INSTITUTE A SERIES OF EXPERIMENTS,

to go through a period of years and applied to different soils. This, he thought, would be the only way to settle a question of this character. If he were a practical farmer he would test questions of this kind. He thought there was a great advantage in fall plowing. If he was a farmer he would plow for corn and oats between the current work of fall and freezing up time.

Mr. McComsey then said, if no other members wished to speak on this question, he would like to say

A WORD ON THE DAIRY QUESTION,

which was discused at the last meeting. Some two or three weeks ago he visited the birthplace of Robert Fulton, which is in the extreme southern portion of this county. He had long held a desire to visit the birthplace of this celebrated man, whose genius and skill contributed so much to the welfare of his fellowman and the whole world. In passing through that part of the country, he was struck by the modes of farming and living. It was forty years since he was there last, and he noticed great changes in the method of farming. The plans, principles and successes were entirely different. He would instance that of dairying, and speak of a Mr. Russell, who owns a fine large farm of some three hundred acres. It is among the best, if not the best land in that portion of the county. He has nearly abandoned the raising of wheat and general farming, and has turned his attention to dairying. His largest crop was corn. He visited his fields and it gave him great pleasure in looking at the stock, almost as much as at those entered at the late exhibition. There were forty odd head of dairy cows. They were not of the fancy or imported stock, but seemed to be a cross of the best breeds. Mr. Russell is doing a thriving business, and sells every pound of his butter for cash. He buys butter for eating. The milk he feeds to his hogs, calves and sheep, all of which bring to him the highest cash prices. He is free to admit that he is making money. Dairying is less exhaustive to the soil, and he is bringing up his land to a high state of cultivation. It is now worth six thousand dollars more than when he commenced dairying a few years ago. He is only one out of several who are engaged in this business in this section of the county. In concluding, Mr. McComsey urged that this branch of business be encouraged.

H. M. Engle was also a strong advocate of dairying. He believes there are strong inducements to certain farmers in this county to go into this branch of business. Great wealth alone is made from this branch of business in Chester county. Of course, the land is better adapted for dairying, but he believed that there were a great many places in this county that were equally as good. All we have to do is to test it. At present there is a great demand for choice and fancy butter. A grand opening is now offered to the farmers of Lancaster county to go into this business. Let them drop tobacco and take up dairying.

On being asked, Mr. McComsey said that

THE CORN CROP IN THE LOWER END OF THE COUNTY

was very good, some farmers averaging eighty-seven bushels to the acre. At one time the southern end of this county was believed to be the poorest in the county, but now it can raise crops that are equal and can be compared with any in the county.

The question proposed at the last meeting by Ephraim Hoover, "What herds of cattle are the most profitable to be raised by Lancaster county farmers?" was, on motion, postponed until next meeting for discussion.

THE PLOWING QUESTION RESUMED.

Johnson Miller said plowing in fall has many advantages over spring. The ground stands the dry weather better, and it is easier cultivated. Weeds are not so troublesome.

John B. Erb stated that one-third more corn can be raised by fall plowing than by spring plowing, on account of the land taking up a great deal of water from the snows and rains of winter.

Johnson Miller suggested that it would be well to take a vote hereafter on all questions which are suggested and discussed.

H. M. Engle believed that each subject should be left to the members themselves to decide.

Ephraim Hoover: After the members have heard the discussions, let them go home, compare their locality with that of others, and

GO INTO EXPERIMENTING.

This would be a great deal better than rushing in and following the advice of a Society vote, which, in the end, perhaps, would be wrong.

Wm. McComsey said if a vote would be taken on a

subject it would not be binding. A good farmer is a close observer at his farm, and he brings here the results of his experiments and experience. Above all things, let us carry out the object of our society, and that is a free interchange of views and experiences, thus not only benefiting one, but all.

John B. Erb moved that some suitable design be purchased and hung out, to inform the public of our place of meeting. So ordered.

The Secretary was ordered to pay to the Board of Trade $2.50 for rent of room.

After testing the fruit and dividing the seed corn, society adjourned.

Information Wanted.

Some days ago we received, by mail, a tin box—or rather the lids of two boxes, differing slightly in size, the largest being nearly four inches in diameter. The whole surface of the smaller lid was impressed, in "bold relief," with the following: "*Thomas J. Bigger, Packer, Choice Leaf Lard, Kansas City, Mo.,*" in short, it has the appearance of an ordinary large sized blacking box. The paper enveloping this box was perfectly saturated with a sticky, saccharine substance, something like syrup or molasses, that had a slightly pungent, fonnic odor, so that somewhere in its transit it was reenveloped and redirected, probably by some post-office official. In removing these envelopes, they were torn into small pieces, so that if they contained any written explanation it was totally destroyed. On separating these lids, which were soldered at two places, the internal cavity contained nothing but a mass, apparently of debris, about the size of a "horse-bean," which, on being placed in water, and dissolving the adhesive substance, revealed a number of reddish brown ants, with small black eyes, and large baggy abdomens; at first collapsed, but afterwards becoming inflated, when placed in alcohol, increasing the volume of the mass at least tenfold. These ants are entirely new to us, and we are anxious to know from whence they came, and something definite about their history. If their abdomens contained all the matter that flowed out of the box, they must be capable of extraordinary distention. Of course, the ants were all dead when we received them. If the person who was so kind as to send them will write us something about them, and give us their locality, &c., he will confer a special favor. Or, if he would be kind enough to send us others, inclosed in a box out of which the saccharine matter could not leak, he would still further subserve the ends of science.

THE GARDEN AND ORCHARD.

Packing Apples for Winter.

Under the term packing we include the whole operation of storing and keeping after picking, until finally disposed of. We recommend as the best article to pack in, a well-made, clean, new barrel, holding two and one-half bushels, and perfectly seasoned and dry when the fruit is put in it. Take out the head, fill it a little more than level-full, and then cover with short boards, so as to exclude sunshine and rain, and, with two or three sticks of stove-wood or some means of keeping the bottom of the barrel off the ground, leave it for a week or two to sweat and dry out; when the head must be pressed down to its place and the hoops driven on tight and nailed at both ends. If the barrel is not level-full when headed up, it must be made so, as this is most essential to prevent after handling of the barrel bruising the apples. Failure in this one thing of pressing the contents of the barrel, so that there shall be no loose apples, and no working in any manner of the whole or any part of them, will involve serious danger of loss of all the labor previously bestowed; and yet we find that right here is the great neglect. Right picking and right packages are all useless if afterward the fruit is bruised in consequence of loose packing.

We greatly prefer to put the fruit immediately into the barrel in the orchard and head up the barrel before it is moved, to the method so often recommended, of picking and carrying to some out-house or chamber to cure before packing; as it saves much labor, involves less risk of bruising, and requires less time. When the barrels are headed up they may be laid on the side on sticks and left in the orchard, if the weather is fair, or removed to some out-house, barn, or any place where they will be dry and cool. It is a good way to lay down some poles and rails near the cellar where they are to be kept during the winter, and lay the barrels on them and cover them temporarily with boards. The point to be aimed at is to keep them as cool and dry as possible and out of the cellar till winter or very freezing weather; as it is a well-established fact that an apple will bear more cold and freezing without affecting its quality than any other fruit or vegetable, especially if kept in the dark and all air excluded.

Another reason for choosing tight packages is that light and air, in conjunction with warmth, rapidly change the structure or internal condition of the fruit and induce decay. The same agencies which operated in maturing and perfecting it will, after it is matured, ripen and afterward destroy. It is essential to success in keeping fruit in any manner, or by any method to keep this act in view and to be governed by it. The writer has known apples packed as above directed and put in a dark cellar to be frozen solid clear through, and remain so for weeks; and on being opened in May show no signs of injury in looks or taste.

There is no question but that it will always pay to pack apples as herein directed, even if they are to be sold immediately; and there were never so many apples on the market but there would be remunerative prices paid for such by any parties knowing how they were picked and packed.

A very simple and effective implement for pressing down the head of the barrel, as required in this process, can be made by taking two rods of one-fourth inch iron, a little longer than the barrel, and make a hook at one end by simply bending over about one-half inch and hooking the other ends into a ring about three inches in diameter, made of three-eighths inch iron, and a lever made of some stout timber about three feet long and two or three inches thick. Place one end in the ring, previously hooking the other ends of the rods on the lower chimes of the barrel, and, having a block about eight inches in diameter to lay on the head of the barrel, put the lever on this block and press the head to its place and hold it while the hoops are driven.

In commencing to fill the barrel with the apples, some advise placing the layer all with the stem end down, which gives a fine appearance when opened, and helps to sell it. Of course, there is no harm in doing so, provided you do not select larger and better specimens for that layer, as looks are to be regarded as desirable just as long as they do not deceive.

We advise in all cases of putting apples in a cellar to keep for spring and summer use to have one especially devoted to that use; or to partition off a room in it which can be kept cold, even below the freezing point, and at the same time be dry. We repeat that there is more danger from warmth than cold, from light than darkness, from handling than from lying still. Lastly, mark each barrel distinctly with the variety and grade on the end, which should be opened. —E. H. Benton, *Wisconsin Horticultural Society.*

What is Good Grape-Culture?

A friend joyfully told us a few days ago of his anticipations in the grape way. He had bought a little place in the vicinity, and had made up his mind to have things right. His maxim was that what was worth doing at all was worth doing well, and he meant to do it. He had done it. He had dug out the dirt three feet deep into the clay, and had filled it in with light rich compost, through which the roots might push their way in ease and comfort, and live on the fat of the land. He had spent considerable money in doing the job well. He intended to get only the best vines, and felt sure such an expenditure would result in magnificent grapes and plenty of them. He had done his work well.

It is strange that such a course as this should ever have been recommended by horticultural writers, but it is a fact that they have. Grapes are now so easily and cheaply grown—fruit often five cents a pound—that we had well nigh forgotten that this was the standard advice of the books years ago. But our friend produced it in black and white from the pages which he had chosen as an authority, and then we knew how it was in the olden time.

Now, our readers at least would know that instead of such a proceeding as this being an evidence of doing it well for the grape, it is simply an act of folly, not only towards one's pocket but as an act of liberality to the vine itself. The grape root needs to be warm and dry, but this deep well in the clay encouraging the collection of water from all around it has just the contrary effect. The roots are damp and cool and not warm and dry.

Indeed it is only of late years, when people have given up all this expensive foolery, that grape-culture has become a tolerable success. Under the old plan we had failure after failure, that we came to believe only those varieties which were little removed from the wild fox or the frost grapes could be grown. But now we have the finer kinds getting quite common. As soon as we gave up this deep trenching nonsense grape-culture—real grape-culture—took a fresh start, and this real culture consists in little more than planting a vine in good earth, as we would any ordinary tree, and see that it does not suffer for want of food. This is good grape-culture in a nutshell.—*Germantown Telegraph.*

Length of Root Growth in Plants and Trees.

Prof. W. J. Beal, of the Michigan Agricultural College, furnishes *The Country Gentleman* with the following interesting facts, mostly the results of his own examinations, in relation to the length of roots in plants and trees: "The soil has much to do with the length and number of roots. In light, poor soil, I find roots of June grass four feet below the surface. People are apt to underestimate the length, amount, and importance of the roots of the finer grasses, wheat, oats, etc. Same roots of clover and Indian corn are large enough to be seen by every one on slight examination. A young wheat plant, when pulled up, shows only a small part of its roots. They go down often four to six feet. It needs very careful examination to show that clover and Indian corn have any more weight of roots than June grass. They probably do not contain more. The roots of a two-year old peach tree in light soil were found seven feet four inches long. In a dry, light soil, this season, we pulled up one parsnip three feet long, and another three and a half feet long, small roots even still longer. The noted buffalo grass on the dry Western prairies is described as having very short roots; but, Mr. Felker, one of our college students, found that they went down seven feet. The roots grow best where the best food is to be found. They grow in greater or less quantity in every direction. If one finds good food, it flourishes and sends out numerous branches. Many of the smaller roots of trees die every autumn when the leaves die, and others grow in spring. Near a cherry tree in my yard was a rustic basket, without a bottom, filled with rich soil. On removing the basket and earth, cherry roots were found in large numbers near the top of the soil. They had grown full of small branches where the soil was good. Roots in soil will grow up just as well as down, and do this."

Good Celery.

There is no doubt that some varieties of celery are more disposed to be soft and pithy than others. The dwarf stocky kind known as the "Boston Market," is generally good. Still the season evidently has something to do with it, as well as peculiarities of culture; and hence it is not always safe to blame the seedsman for poor seeds or a poor kind, when the quality is not up to expectation. From several quarters where celery is a great crop in gardening, we hear that this season it is very rare to find poor celery. The rains in the early fall come at a time to give the plants a good start, while the comparative dry time since, with a rather cool temperature, seems to make up about the best conditions for this vegetable.

There are few things so enjoyable to most people as celery, and good celery is worth a study to those who enjoy it. These little hints, as afforded by nature, cannot always be copied; but then they sometimes can, and at any rate when we know the best conditions, we can often adapt them to our service.—*Germantown Telegraph.*

BEES AND BEE CULTURE.

Commencing Bee-Keeping.

The greatest success in the business must depend much upon the character of the hive you use, and the facilities it affords for the securing of surplus. If you use the box hive of 2,000 cubic inches capacity, with two or four boxes upon its top for surplus, of the aggregate capacity of twenty to twenty-four pounds, then twenty-four pounds per colony is all you can reasonably expect. If you use a hive of about the same room for breeding and winter, and surplus box room for a hundred pounds of honey, you may expect one hundred pounds. If you use a hive with box room for two hundred pounds of surplus, you may expect a surplus of from one hundred to two hundred pounds, if the surplus boxes are in intimate connection with the breeding apartment, and communication between them is free and unobstructed. The principal advantage of this plan is, we secure a full working force the first season.

Purchase eight good colonies of bees, and place them in the apiary where you desire your new hives permanently to stand. When the first swarm issues place it in the new hive. Remove the old hive a few feet from its stand, setting it bottom upward. Place the new hive upon the stand where the old one has stood. With smoke and rapping drive the bees all out of the old hive. They will enter the new hive upon the old stand with the new swarm. Cut out all the comb in the old hive, placing that having brood larvæ or eggs near the entrance to the hive. They will gather over the comb and hatch out all the brood, securing the full force of all the workers in the new hive.

Each of the eight colonies treated in this manner will give the full working force of each colony in the new hive, and give half or more of the honey they gather in the surplus boxes, probably securing an average of eighty or a hundred pounds, or more, rendering the first season as profitable as after seasons. Fifty pounds to each colony would pay double the cost of the colonies the first year. The surplus boxes must not be placed upon the hive until the queen has commenced breeding in the central apartment. This gives full surplus, and will cover all the expense of the new hives and cost of bees the first season, if the field and season are good.—*Jasper Hasen, in Country Gentleman.*

Handling Bees.

To many farmers bee culture is unpleasant because they do not know how to handle their bees. How many are there who have bees but never look at them for fear of getting stung? And how many among the farmers of America do not keep bees because they are afraid of them? We have often met

with persons who, upon hearing of our large apiaries, would say: "Oh, I would like to see your bees, but I am afraid they would sting me." Yet, whenever we have had the good luck of inducing any of these timid persons to pay a visit to our bees, we have always succeeded in changing their opinion on this important part of bee culture, and they invariably left with the impression that taming bees was not such a hard matter after all.

Some persons think that bees know their keeper, and allow themselves to be handled by him or her with more facility than by strangers. This is a mistake. The life of a bee is so short and there are so many bees in a hive that unless they be handled almost every day most of the bees do not see their owner at all. If a hive be placed in a much frequented place, however, the bees will be much tamer than if they be in an out-of-the-way corner.

But a hive of bees can be tamed and handled at any time if the thing is properly done. When bees are scared by blowing smoke at the entrance to the hive, they fill themselves with honey, and in this state they will not sting nor get angry, unless pressed or injured.

The best time to open a hive is the warmest part of the day, when most of the old bees are out in the fields. Timid persons can use a veil to cover their faces. It is even a good precaution, in a large apiary, to wear a veil all the time. The hands should be naked, for gloves are unhandy, and they will hardly ever get stung if the bees are carefully and quietly handled.—*Western Agriculturist.*

New Beginners should commence on a prudent scale; that is, begin with a few swarms, and increase the numbers as their knowledge progresses. It is very risky business to invest capital largely in any business of which they have a limited knowledge, and more so with apiculture than most other industrious pursuits. Many persons, after reading and otherwise obtaining knowledge of the large profits of practical apiarians, are induced to embark in bee-keeping on a large scale, with but little or no experience, and the result is a failure, which tends to bring discredit upon the business. Knowledge in apiculture is largely in demand, and is a much safer foundation than capital.

THE FARM AND DAIRY.

The Dairy Interests at the Centennial.

The American Dairyman's Association are active in their efforts to secure a full representation of American dairy products, and they are ably seconded by the Philadelphia Produce Exchange, the only organized body in Philadelphia directly interested in dairy products. At a recent meeting they adopted a series of resolutions, and appointed a committee to carry them into effect, of which Mr. J. H. Reall is Chairman. In addressing the meeting, Mr. Reall presented some facts and considerations which illustrated the vast importance of the dairy interests of the United States. Referring to the active preparations the dairymen of the country are making to participate in the Centennial Exhibition, he said the dairymen of Ohio are showing great enterprise in connection with the matter, in one section arranging for the manufacture of a cheese to weigh 29,000 pounds, at a cost of over $18,000, and we may expect fully as great efforts from the dairymen of New York State and the Northwest. The world has come to recognize the greatness of the dairy industry. It is estimated that we produce 1,000,000,000,000 pounds of butter, and 200,000,000 pounds of cheese annually in this country, and yet leading thinkers upon the subject consider the trade as yet in its infancy. Though the American people fully appreciate the excellency of butter as an article of food, they have little conception of the superiority of cheese as an excellent and cheap article of diet. The English people eat 4½ pounds per capita to our 1½ pounds, and they are probably the best informed upon the relative values of food of any nation in the world. Too much stress cannot be laid upon the importance of this article. If our people knew the value of cheese, the demand would far exceed the present production, great as it is, and it is most desirable, as well for the interests of the consuming public, as for the dairymen of the country, that efforts be made to induce a freer use of this article. This can best be accomplished by a display of the product. But to induce a large consumption of any article, excellency must be studied, and hence the dairyman must be encouraged *to raise the standard of his production.* Indeed, the future of dairy interest, both as regards cheese and butter, depends upon the quality produced, and there is certainly no better means of stimulating our dairymen to excellence, than by such a display of their products as the Centennial will afford. The dairymen themselves will derive vast benefit from a proper display of their goods upon the occasion of our hundredth year of existence as a Government, and we must encourage them all we can.

The most important feature of this matter is, that two-thirds of all the cheese we make, and a considerable amount of the butter being exported, great advantages will result to the commerce in these articles if a proper representation is made. Merchants and consumers from abroad interested in cheese and butter will attend the Centennial, and we are directly interested in securing a proper exhibit of our advantages in producing and shipping. The export trade in cheese from New York is simply enormous. In one week over 100,000 boxes were sent from that city to Great Britain, worth, at least, $500,000.

Philadelphia has now every advantage for exporting goods. The American Steamship Company has given vast facilities, and when the managers see the necessity of providing more ships, or arranging to accommodate all shippers who wish to forward goods, they will do so. "We are," said Mr. Reall, "already better situated, geographically, than New York for obtaining goods, being nearer the producing points by one hundred miles, and having the best managed railroad in the world (the Pennsylvania railroad), connecting us with every point. Our organization has already done much to advance the true interests of the produce trade, but it has a larger and greater work before it. She has proven herself thus far capable of filling the position for which she was designed, and as the years go on, more and more important will be her functions. The work in hand is one that will require much labor and skill, but though our numbers are not large, we have many indefatigable workers, while all may be relied upon to do their part. The dairymen of the country look to us for encouragement in this matter, and we owe a duty to them, to our city, and to the dairymen and dealers of our good sister Great Britain and the Continent, which should make us anxious to provide all possible accommodations for all."

Practical Hints.

Floating on the great sea of the agricultural newspaper are often many little hints, which if gathered together, would make an extremely useful volume. Here before us one gives an account of how he gets rid of large rocks, which, as "boulders," lie around his farm (but this probably originated with us, as we recommended it both for boulders, stumps, &c., fully twenty-five years ago); he digs a hole below the reach of the plow, alongside, and with a lever tumbles them in and buries them. Where stone is abundant, this is much better than blowing them to pieces with powder and carting them away. Stumps may be got rid of in the same way; but here is one who burns them out. He has a large tin funnel made so as to fit over the largest of the stumps, and has an opening at the bottom like the opening to a furnace. In this opening he builds a small fire, and the draught through the furnace keeps the fire burning until the whole stump is burned away. We should suppose by this plan the stump would not burn below the line of the draught, and that it would still leave all beneath the surface of the ground, and thus would the plow be as much impeded as if the stump was still there. Yet there seems the rudiments of a cheap and easy way of getting rid of stumps, and it is worth noting.

Then we have another who had a long pale fence which it was necessary to remove. The posts had to be dug out; but to save this a couple of oxen were attached to a lever, which drew them out easily. The lever in this case was simply a chain, and the prop a short thick log of wood, inclined at an angle towards the post to be lifted, and away from the oxen. The chain or rope, when attached to the bottom of the post, pulls it out easily, when the oxen draw the short block upright. There is a useful hint in this, although as a general thing a man with a good lumber log-lever will easily draw out any ordinary post.

Another person has had trouble with the drawing out of staples from barn-doors, and screws from hinges. He drove pegs into the holes, and put the irons in again; but they would soon come out, wooden pegs and all. Then he used leather, which was better than wooden pegs, but in time the latter got used to the pressure, and let the staples out. Then he filled the holes tightly with cork, and put in the screws and irons, and they have remained in perfect condition to this day.

In connection with this matter of staples is another hint from one who wanted a ring set into a piece of stone. He ran lead into the hole about the ring, but in time it got loose and worked out. Then he was told to melt brimstone and run it in the place of the lead, which he did, and it has been sound and solid ever since. There is nothing new in this; stone-cutters generally use sulphur for cementing pieces together; but still the hint will be valuable to those for whom the contributor intended it.

And here is one more before us, which completes a very good chapter of little hints, from one day's reading. It is in relation to garden-dibbles. The contributor has to use one often, and he had the upper part of the handle of an old spade, as so many do, for that purpose. He had it pointed with iron, which was an improvement; but it still required some force to press it into the ground, and it was by no means easy work. At length he had the point of the dibble made flat, like a wedge, and then pointed it with iron as before, and found after that that dibbling was comparatively easy work to what it had been before. He has "no blisters on his hands now," for which he may well be thankful.

It is such little things as these which make up the value of an agricultural paper quite as much as scientific discussions and learned opinions; and we take pleasure in gathering up these fragments, lest they be lost.—*Germantown Telegraph.*

A Vast Estate in Kansas.

MR. GEORGE GRANT'S FARM OF 576,000 ACRES—THOUSANDS OF SHEEP AND COWS.

Among the prominent visitors at the fair is Mr. George Grant, of Victoria Colony, Kansas, the owner of the largest farm in the world, with the exception, perhaps, of that of the Duke of Sutherland, whose broad acres consist largely of hill and heather. Mr. Grant's domain covers 576,000 acres in the heart of Kansas, about 200 miles west of Kansas City to Fort Hays, the centre of the tract. His effort is to establish a model farm, for which great credit is due him, as well as for his successful efforts in introducing imported stock, and showing the results in crossing imported with native stock, and also the best methods of sheltering and feeding cattle in winter. Mr. Grant is going back to Europe in about five weeks to arrange for the bringing out of more people and a large portion of high-bred stock, which he will exhibit at the Centennial, with the intention ultimately of shipping it to Victoria. Mr. Grant states that one herd of eighty-one short-horns of the Booth strain sold five weeks ago at the sale of the late Mr. Torr's property in England at an average price from young to old of $3,000. They were of the same family that he has at Victoria, and many of the animals were bought for America.

Mr. Grant's colony has largely swelled this season by immigrants, and another English company has just bought 40,000 acres adjoining the Victoria colony. One of the New York Gunthers has started with 5,000 acres, and Mr. Dickinson, of St. Louis, has bought two square miles, and is out there now making arrangements for putting up a house. Mr. Grant says he is more than satisfied with the produce of his crops this season.

The rains have been abundant, but last year the grasshoppers swept everything. One field of eighty acres of Hungarian grass on his farm has produced 770 tons of fodder and 5,115 bushels of seed, giving a profit of more than 500 per cent. on the cost of putting in the seed. He put in 300 acres of alfalfa, a kind of fodder much used in California. The land will grow three crops of this grass in a year, at the rate of six tons to the acre, but it affects a deep, dry soil. Mr. Grant has increased his flock of sheep to 16,000, and has 1,000 cows. In less than five years he expects to increase his sheep to 100,000. His wool alone this season brought $11,700 in Boston, at 33 cents per pound. Sheep farming is evidently destined to be a profitable business in Kansas.—*St. Louis Republican.*

Gigantic Farming in Pennsylvania.

James Young, of Middletown, Dauphin county, Pa., does farming on a gigantic scale. His sales of wheat this fall and winter will aggregate $6,000; hay, $4,000. The yield of corn on his place this season exceeds 10,000 bushels. Last winter he fattened for market 212 head of cattle. He believes in steaming food for his cattle, and for that purpose has erected in one of his capacious barns a boiler 6½ feet high, with a diameter of two and one-sixth feet. It is a twelve-horse power, and carries sixty pounds of steam. He finds that he can use much of his produce, by steaming it, that would go untouched in a raw or unprepared state. He uses up all his corn stalks by steaming. Prior to the use of steam, it took all the hay he could produce to feed his cattle. Now he feeds more cattle than ever, and has large quantities of hay to sell. Last year he sold two hundred tons. Mr. Young is about putting in a ten-horse power engine to run his threshers, fodder-cutters, etc., and believes it will be a great saving.

The butter Mr. Y. manufactures is of so superior a quality it never reaches the general market, and commands a higher price than the best grades quoted. His cows are principally Alderneys, and he has forty of this breed as nearly alike as twin sisters—each one, in addition to the other peculiarities of the breed, having black hoofs, a black tongue, and a long, handsome, black-tipped tail.

An Item for Farmers and Grain Dealers.

Col. John Wallower, of Harrisburg, who deals extensively in grain, seeds, &c., conceived the idea lately, of erecting two immense kilns to dry new corn in order to prepare it for market. Before carrying out the intention, however, he thought he would first experiment in the matter of drying corn. For this purpose the Colonel procured from a farmer near the city thirty-nine pounds of corn, all fine, large ears. He placed the corn in an open range at 11 o'clock a. m. one day, and removed it at 6 o'clock p. m. on the next, the corn meanwhile having thoroughly dried. Upon weighing the same amount of corn after it was shelled, the product was twenty-two pounds—a loss of over forty-three per cent. According to the same ratio it would require 99 6-22 pounds of ears to make fifty-six pounds of shelled corn. The corn referred to was in good condition, and had been cribbed fully a week. By this experiment it will be seen that if the farmer disposes of his corn in the fall the profit will be considerably greater than if he holds it over till spring and submits to the shrinkage.

ALL THE WORLD.

All the world is full of babies.
Sobbing, sighing everywhere;
Looking out, with eyes of terror,
Beating at the empty air.
Do they see the strife before them,
That they sob and tremble so?
Oh, the helpless, frightened babies,
Still they come, and still they go.

All the world is full of children,
Laughing over little joys,
Sighing over little troubles,
Fingers bruised, and broken toys:
Wishing to be older, larger,
Weeping at some fancied woe:
Oh, the happy, hapless children,
Still they come, and still they go.

All the world is full of lovers,
Walking slowly, whispering sweet;
Dreaming dreams and building castles,
That must crumble at their feet;
Breaking vows, and burning letters,
Smiling lest the world shall know:
Oh, the foolish, trusting lovers,
Still they come, and still they go.

All the world is full of people,
Hurrying, rushing, pushing by,
Bearing burdens, carrying crosses,
Passing onward with a sigh;
Some there are, with smiling faces,
But with heavy hearts below,
Oh, the sad-eyed, burdened people,
How they come, and how they go.

All the earth is full of corpses,
Dust and bones laid there to rest;
This, the end that babes and children,
Lovers, people, find at best.
All their tears and all their crosses,
All their sorrows, wearing so,
Oh, the silent, happy corpses,
Sleeping soundly, lying low. *Anon.*

Yet this world is full of blessing,
Hope is blooming on the earth;
From the seed we sow in sorrow,
Joy shall spring in the new birth—
In that morn of general gladness
When the Son of Life shall come
To dispel the clouds of sadness
Ling'ring round the lonely tomb.

Why should not the world be joyous,
With its babies, children, lovers,
People, sorrows, crosses, corpses,
When Love's soft-eyed angel hovers
Over every human creature,
Luring him from earth to heaven?
Ah, the answer, Truth has written—
"Man's proud heart to sin is given."

J. M. W. G.

DOMESTIC ECONOMY.

How to Cure Bacon, Ham, and Pork.

As the wintry months approach, the hog gains greatly in the estimation of his friends, and many persons who would not taste of his flesh in the summer months are pleased to see the various dishes composed of it upon their tables. But bacon holds its own at all seasons of the year, and ham is always appreciated when properly cured and cooked.

Opinions differ as to the derivation of the term "bacon." Some wise heads think it to be a corruption of the Scotch *baken* (dried); while others believe it to come from *beechen*, as the finest flitches are furnished by animals fed upon beech-nuts.

There are also various ways of curing bacon. The Yorkshire (England) method is to burn off the bristles, rather than to scald them, then brush the carcass and wash it in cold water, and let it hang where it will not freeze for twenty-four hours. One-quarter of a pound of saltpetre and twenty-five pounds of common salt are then rubbed thoroughly into the pieces of the animal, which should be placed in a large tub and covered up closely, in a cool place for a fortnight. Then turn over each piece and rub in a little more salt. Let it remain in the pickle another fortnight, and the bacon is ready to be smoked. The best way to smoke it is with corn on the cobs burned upon charcoal; keeping up a slow, dense smoke, and not a fire. Then put it in a cloth and wash it over with whitewash, to preserve it from mold or fly-blows, and place where there is no moisture, and it will keep for years.

The Westphalian hams and bacon are cured by the following receipt:

To six pounds of rock salt add three ounces of saltpetre, and two pounds of coffee C sugar. Put it into three gallons of water, and boil until dissolved, skimming it well while it boils; and when cold pour it over the meat, keeping every part of it under the brine.

Bacon can be pickled ready to smoke in about ten days; but hams should remain in for four or five weeks. This pickle can be used again and again, if it is boiled up, skimmed, and a small portion of its ingredients added each time.

Before putting the meat into the brine, it should be carefully washed and wiped clean from blood, as that spoils the pickle. Pickling tubs should be larger at the bottom than at the top, so that the pork can remain undisturbed in its layers until needed for use; and the bottom of the tub should be covered with coarse salt, and then a layer of meat placed upon it, and so on until the tub is filled.

A GOOD WAY TO PICKLE ONE HAM.

Take a deep stone-ware dish, just large enough to hold a ham, and mix together one pound of coarse brown sugar, one and a half pounds of fine salt, and one ounce each of saltpetre and salt-prunelle. Then rub every portion of the ham, and pile the remainder of it over the top, having placed the ham skin side downward in the dish. Let it stand for two or three days; then turn it over and rub in the mixture, and ladle over it with a spoon any brine that may be found at the bottom of the pan. Do this for a fortnight, and if the ham is needed for use, it can be smoked for two or three days, and then boiled. And it will prove a delicious dish, especially if roasted and served with a claret-wine sauce, made by basting it the last hour with a tumblerful of the wine. And, after pouring off the fat, thicken the gravy. If it is to be kept, let it remain in the pickle, rubbing it occasionally, for a month or more. A pint of molasses can be substituted for the sugar, and a pint of beer is also an improvement to its flavor.

THE FRENCH WAY OF SALTING PORK.

Bacon is almost the only meat ever tasted by hundreds of thousands of Frenchmen, and they have become connoisseurs in the method of preparing it. As soon as the pig is killed it is always singed, not scalded, the carcass being placed upon a bundle of straw and the fire set to it to windward. As one side is singed the pig is turned over, and if any bristles remain they are burnt off with wisps of blazing straw. Next it is brushed, and scraped with a knife, and washed clean with cold water.

After cutting it open, the "fry" is placed into water, to be cleansed from blood, and afterward it is speedily cooked. Some persons will leave the opened carcass to cool all night; while others kill by early dawn, and cut up in the evening, by candlelight, to save time. The pig is cut up into convenient pieces of from three to five pounds each, reserving the hams, feet, heads and tails for special treats; also a few roasting pieces and some sausage-meat. The feet are then boiled tender and broiled as tid-bits.

For a pig weighing two hundred pounds take thirty pounds of common salt, a quarter of a pound of saltpetre, two ounces of ground pepper, and four ounces of ground allspice and cloves mixed together. Stir these ingredients up well, and rub each piece of pork, whether it is to be salted or smoked; then sprinkle the mixture over the bottom of the tub, and put in a layer of meat, sprinkling it with the salt and spices; and do so until it is all packed, covering the upper layer thickly with the salt. Cover up closely, and it will keep perfectly and be more toothsome than pork pickled in the common way.—S. O. J., *Independent*.

Window Adornments.

At this season of the year the beautiful color of field and forest leads to a desire for home-adornment, and the finely tinted leaves are gathered and preserved, and do excellent service in making home attractive till the leaves and flowers come again. But while these relics of the past are doing good service in their humble way, making the dark corners glow with a faint glimmer of life, we may make the light by the windows do us equal if not better service, by feeding living plants and aiding them to bear for us sweet and lovely flowers. Vines may be trained up the window frames, pots may be made to stand in brackets, and hanging baskets let the flowing shoots hang down.

All this does not take much to do, but people often think otherwise, and this is why so few have nothing at all. Indeed the choice flowers of the conservatories are often among the worst for window culture; and the wild weed would be a much greater success and be more pleasing than the most valued exotics from a foreign land. Indeed a weed is not a weed only in relation to time and place. It is a flower and a valued flower when it comes where it does not grow naturally, and where it is desired to come. There is no growth in winter out-of-doors, and so the wild flower growing in the windows in winter is no more a weed than anything that grows. There are many green things in woods and meadows, ferns, mosses, vines, and so on, that would remain quite green only for severe frosts and cold winds. In windows this is accomplished. It must however be borne in mind that these naturally hardy plants do not like much heat, and hence they are adapted to cool rooms only and not to warm ones. With heat they are worthless. For such heated rooms the more tropical plants must be used.

It is not our purpose here to name varieties to grow, rather to suggest that anything that comes to hand will do, but to offer a practical word or two as to treatment that may be of service. Air, fresh from the outside, whenever it is not frosty, is of course an advantage, as the foul air from heaters, gas-burners, and other contrivances are more or less of an injury. The sunlight is, of course all know, a benefit at all times. Will this or that do well in the shade, is often a question. Some things, as ferns and mosses, will do, but even these like sun, if not too warm a sun.

As to watering, this is the great question with all window plant growers. We see it stated that a well-known horticulturist of this place, in a recent address to the Horticultural Society, gave it as his opinion that there was much more danger from too much than too little water to room-plants. This is our experience. If one is not quite sure from the appearance of the earth and of the plants, it is better rather to wait a little while, say for a day, than to risk it. It will be pretty sure to need the water then and be benefited by receiving it. In regard to plants in baskets, however, we should think the ideas of our horticultural friend might be reversed. These we think are generally inspired by too little than too much water. The danger is, therefore, from the other side. They often get but a drop or two from a cup, and a basin held under the basket to catch the drip; but besides this a hanging-basket should be dipped in a bucket of water about once a week.—*Germantown Telegraph*.

Hints About Meat.

Meat should be wiped with a dry, clean cloth, as soon as it comes from the butcher's; fly-blows, if found in it, cut out; and in loins the long pipe that runs by the bone should be taken out, as it soon taints; the kernels should also be removed from beef. Never receive bruised joints.

Meat will keep for a long time in cold weather, and, if frozen through, may be kept for months. Frozen meat must be thawed before it is cooked, by plunging it into cold water, or placing it before the fire before setting it down to roast. It will never be dressed through if this precaution is not taken, not even when twice cooked.

Pepper is a preventive of decay, in a degree; it is well, therefore, to pepper hung joints.

Powdered charcoal is still more remarkable in its effect. It will not only keep the meat over which it is sprinkled good, but will remove the taint from already decayed flesh.

A piece of charcoal boiled in the water with "high" meat or fowls, will render it or them quite sweet. A piece of charcoal or powdered charcoal should be kept in every larder. Hams, after being smoked, may be kept for any length of time packed in powdered charcoal.

The leg of mutton is the most profitable joint, containing most solid meat. The neck is an extravagant joint, half the weight consisting of bone and fat. The shoulder has also much waste in bone. The breast does well for kitchen dinner nicely stuffed, and is much cheaper than the other joints.

Sirloins and ribs of beef are very extravagant joints from the weight of bone. The roasting side of the round part of the buttock, and the part called the "top-side," are the most profitable for family eating. The mouse buttock is used for stewing; shin is used for soup or stewing.

The usual quantity of butchers' meat consumed in a family is, on an average, three-quarters of a pound per day for each person; but when the family consists of ladies and children, half a pound per day is about the quantity consumed, one with another, independent of hams, bacon, poultry, fish and game.

Election Cake.

I some time time ago came across the following receipt for making "Election Cake," and having tried it, I can recommend it to all my sister house-keepers: Four pounds of flour, two pounds of butter, and two of sugar. Stir the butter and sugar together thoroughly; then mix half of it with the flour, together with a tumblerful of good home-made yeast, and one quart of warm milk. Beat and pat it with both hands, until the ingredients are thoroughly mixed, then let it stand in a warm place until it is light, say five or six hours. Then add the remainder of the butter and sugar, two pounds of raisins, and a small quantity of pulverized mace. This may stand over night, and put in pans for baking early in the morning. It should rise in the pans, and then bake an hour in a slow oven. This cake requires no eggs, and is used by economical house-keepers in winter, when eggs are dear. The loaves, nicely frosted, will be preserved moist for a long time.—KITTY, *of Long Island*.

We have no doubt the above would make an excellent cake, and *large* one also; but whether housewives in ordinary circumstances, would consider eleven pounds of material, to say nothing about the "home-made yeast" and the mace, savored much of economy, especially if butter happened to be dear, is a question about which there might be different opinions. It is singular that nearly all the receipts of this kind that get into cook-books, or the newspapers and magazines, seem to ignore a large class of people of limited means, putting it entirely out of their power to make use of these pretty compounds, on account of the extravagant quantities given. It is true, half

the quantities, or even the quarter, may be used, but then why do they not adapt their quantities at once to the circumstances of small families of limited means, and let the rich, or large families, multiply quantities themselves.

Parlor Adornments.

Some one writes in the *Journal of Horticulture:* "Do you wish the ugly plain doors that shut off your tiny entry to be arched or curved like those in the drawing room of your richer neighbor? Buy a couple of brackets, such as lamps for the burning of kerosene are sometimes placed in, and screw them on the sides of the door. Put in each a pair of English ivy, the longer the better; then train the plants over the top against the sides—indeed, any way your fancy indicates. You need not buy the beautiful but costly pots the flower-dealer will advise. Common glazed ones will answer every purpose, for, by placing in each two or three sprays of Coliseum ivy, in a few months' time no vestige of the pot itself can be discerned through their thick screen. The English ivy groping over the walls of a building, instead of promoting dampness, as most persons would suppose, is said to be a remedy for it, and it is mentioned as a fact that in a certain room where damp had prevailed for a length of time, the affected parts inside had become dry when the ivy had grown up to cover up the opposite exterior side. The close overhanging pendant leaves prevent the rain or moisture from penetrating to the wall."

How to Boil Eggs.

There is an objection to the common way of boiling eggs which most people do not understand. The white, under the usual three minutes rapid cooking, becomes tough and indigestible, while the yolk remains soft. When properly cooked, eggs are done evenly through, like any other food. This result may be attained by putting the eggs into a dish with a cover, or a tin pail or farina kettle, and then pouring upon them *boiling* water, two quarts or more to a dozen eggs; then cover and set them away from the stove for fifteen minutes. The heat of the water cooks the eggs slowly and evenly and sufficiently, and to a jelly like consistency, *leaving the centre or yolk harder than the white,* while the egg tastes as much richer and nicer as a fresh egg is nicer than a stale egg; and no person will want to eat them boiled after having once tried this method.

Save the Soapsuds.

However deplorable washing day may be to the household (and the careful house mistress or tidy maid has it in her power to greatly modify its discomforts), to the garden it is a very bountiful day. Our hungry and thirsty grapevines and flowers are glad of every drop of wash water, and will repay every bit of fatigue it may cost us to give them this fertilizer. If the sun is shining hot when we go out to dispense our favor, it is best for us to dig a slight trench not far from the root of the plant, and pour the water into it, and cover again with the top soil. This makes the water go farther, and at the same time does not tempt the rootlets to the surface of the ground. No better liquid can be prepared than the soapsuds from the "woolen tubs," as they are sure to *nourish the roses.* If any of the liquid rests upon the *foliage* of the plants, wash it off by syringing smartly—plants always pay for this extra care.

How to Clean Carpets.

A tablespoonful of ammonia in one gallon of warm water will often restore the color of carpets, even if dissolved by acid or alkali. If a ceiling has been whitewashed with the carpet down, and a few drops should fall, this will remove it. Or, after the carpet is well beaten and brushed, scour with oxgall, which will not only extract grease, but freshen the colors. One pint of gall in three gallons of warm water, will do a large carpet. Table and floor cloths may be thus washed. The suds left from a wash when ammonia is used, even if almost cold, cleanses these new floor cloths well.

Moths in Carpets.

Moths will work in carpets in rooms that are kept warm in the winter, as well as in summer. A sure method of removing the pests is to pour strong alum water on the floor to a distance of half a yard around the edges before laying the carpets. Then once or twice during the season, sprinkle dry salt over the carpet before sweeping. Insects do not like salt, and sufficient adheres to the carpet to prevent their alighting upon it.

Good Kindlings.

Very good kindlings are made in Europe of corn cobs. They are first steeped in hot water containing two per cent. of saltpetre, and after being dried at a high temperature are saturated with fifty per cent. of resinous matter. These lighters are sold at from three to four dollars per thousand.

GENERAL MISCELLANY.

Dogs Good and Bad.

The officers of the New Hampshire Agricultural Fair having offered premiums for blooded dogs, they were roughly criticised by some of the papers, who argued that as "dogs kill sheep, therefore dogs should be destroyed instead of being encouraged or improved." Thereupon the *Miner and Farmer* took up the argument for Carlo, Fido and the other good dogs, declaring that the above argument had "engulphed the understanding" of the anti-dog people. There are, says the editor, in this State, thousands of mongrel curs which are worthless and worse than worthless. They kill sheep, yelp at passers-by, and devour food which should be put to some better purpose. They are an expensive nuisance from which we ought to be delivered. But, on the other hand, there are in the State some dogs which are of real value as protectors of life and property and promoters of rational pleasures. The race of "old dog Trays," which was faithful and kind, is by no means extinct.

As there is nothing meaner or more unprofitable than a bad dog, so there are few things which pay better and are less trouble and expense than a good dog. If a watch-dog, he is awake at all times of day and night, and always faithful and devoted to his master's interests. He never tires and never flinches. He is proof against bribery and threats. He never gets drunk, nor asks for a vacation. He demands no wages, and does not grumble about his board. He is the terror of thieves, the safety-guard against tramps, and the best fire-arm in use. If a farm-dog, he will watch sheep, drive cattle, keep the hens within bounds, and earn his price every year killing woodchucks and squirrels, and as a hunter he fills the first place in a sportsman's outfit.

But a good dog, like a good horse or a good man, is the result of good blood and good training, and it is because nearly all our dogs lack both pedigree and decent bringing up that so many of them are good-for-nothing, annoying, sheep-killing curs. It costs no more to raise a good dog than a poor one, and yet there is no animal which it is more difficult to purchase than a good dog. To the man who owns a first-class one, money seems to be no object. Be he ever so poor, he will sell his cow, his horse, and his pig, before he will part with his dog. A hundred good watch dogs could be sold in this city in a week, each one for more than some of our friends seem to think all the dogs in the State are worth, and there is always a large and increasing demand for good hunters, while of good shepherd and farm dogs there are twenty needed where one can be had.

Were it desirable, we cannot rid the country of dogs. Between the human and the canine races there is a strong "natural affinity." "Love me, love my dog," is a foundation-stone of society. Even the lousy curs which abound in the State now hold a place in the affections of the people, from which neither taxation, moral suasion nor law can dislodge them, and which they will continue to hold until other and better dogs come to take their places.

If, therefore, the managers of the Fair can, by showing us a few model dogs this year, encourage the production of others, and in making room for them drive out those which are good-for-nothing and vicious, they will, we believe, do a service not only to householders whose property needs protection, to sportsmen who delight in hunting, to children who want pets, but to farmers whose sheep are now at the mercy of base-born and badly brought up dogs; and all grumbling at the dog show is, to our mind, in the interest of "curs not fit to live."

Weight of Pigs for Market.

It was only a few years ago that swine feeders were vieing with each other for the greatest weight of carcass; but this is now all changed. Hogs that will weigh 500 pounds are sold at a less price per pound than those of 250 to 300 pounds. The market in England has long favored light weights. London is chiefly supplied with pigs of less than 200 pounds weight. And this tendency of the market to pigs well fattened, but of small weight, is just what the farmer should encourage, for it is exactly in the line of his interest. It costs more to make the second hundred pounds on a pig than the first, and still more to make the third hundred pounds than the second; and so every pound added becomes more expensive.

Several years have proved that well-fattened pigs of 250 pounds weight find the greatest favor in the market, and this fact should change the whole system of pig raising and fattening. Instead of keeping them till eighteen to twenty months old, they should never be kept beyond twelve months, except for breeding, and seldom beyond nine or ten months. The great effort should be to induce early maturity in our pigs, and thus shorten the period of feeding, and consequently lessen the cost per pound of producing pork. This is a matter of much greater importance than pork raisers generally realize. We think any well-conducted experiment would show that ten pigs carried over the winter in store condition, as is usual, and fattened at eighteen or twenty months, cost, per pound of live weight, twice as much as another ten of equal quality, full feed, and fattened at nine or ten months. There would not be so much difference in cost per pound if the pigs were full fed for the whole eighteen or twenty months; but even then the difference would be at least fifty per cent. in favor of early maturity. And this matter of early maturity is entirely within the control of the breeder. A cross of Berkshire, Essex, Suffolk, small Yorkshire, or other early maturing breeds, upon our best common sows, will produce the desired result. But this system has no period of storing animals; it must be one constant progress from the first to the last day in the life of the pig.—*Buffalo Live Stock Journal.*

Fine Stock a Safe Investment.

John Scott, in the *Swine and Poultry Journal* for September, impresses a lesson which we have always sought to teach, by an illustration which may make it clearer to many than it ever has been before, and especially as he vouches for the occurrence as an actual fact:

"My neighbor bought a trio of fine pigs, paying therefor the reasonable sum of $120. The male was valued at $60 and the females at $30 each. This was a wise apportionment of values, as the male would impress his value on all the produce. There are those who think, however, that $60 is too great a price for one pig. In this case he did not die or prove barren; but he begat his likeness not only on the females of his own blood, but largely on others to which he was bred. In the short space of two years my neighbor had sold, at prices much less than he paid, pure-bred pigs to the amount of $600; had on hand a stock of young things, worth $300; still had the original stock, and had paid for all his feed and labor by the use of his male on his and other stock. To say nothing of his enjoyment in the possession of the best, of the increased respect of his neighbors, of his own culture growing out of the thought he gave to his pursuit, he had a clear return of $1,000 on an investment of $120, and all in two short years. Allowing one-half for contingencies, and who has done as well as this with low-priced stock?

"If a boar will get one hundred pigs in a year and each of the pigs is worth $2 more than are those from a common sire, what is he really worth? If we use him but three years at this rate, he will earn us $600. Is it not plain that such an animal has a real value far beyond the terrible hundred dollars for which he sells? Is it safe, then, to wait for the price to come down before we buy? The expectation or fear that the prices will tumble is based on the assumption that the world will move backward. The idea is as vain as it is uncomplimentary."

Look to the Forests.

The Imperial Academy of Sciences at Vienna has taken up a question in which all nations may be said to be more or less interested, namely, the decrease of the quantity of water in springs, streams and rivers. A circular, accompanied by an able and instructive report, has been addressed to scientific societies in other countries, in the hope that they may be persuaded to undertake observations which in course of time may furnish data for practical use. The Academy calls attention to the fact that for some years past a diminution of the waters of the Danube and other great rivers had been noticed, and especially since the modern practice of cutting down forests without regard to consequences, has prevailed. The Austrian Engineers and Architects' Union have also taken the question in hand, and appointed a "hydrotechnic committee" to collect facts and prepare a report. The Danube, the Elbe and the Rhine were each assigned to two members, while other two were to examine into the metereology of the subject, and into the influence which glaciers and Alpine torrents may have on the general result. The committee regard the question as urgent; they recommend the immediate adoption of remedial measures, and they are unanimous in declaring that the prime cause of the injurious decrease of water is the decrease of forests.

Simple Interest Rules.

The following are simple and excellent rules for finding the interest on any principal for a given number of *days.* The answer in each case being in cents, separate the two right-hand figures of the answer to express the amount in dollars and cents:

Four per cent.—Multiply by number of days to run; separate right-hand-figure from product and divide by 9.

Five per cent.—Multiply by number of days, and divide by 72.

Six per cent.—Multiply by number of days, separate right-hand figure, and divide by 6.

Eight per cent.—Multiply by number of days, and divide by 45.

Nine per cent.—Multiply by number of days, separate the right-hand figure, and divide by 4.

Ten per cent.—Multiply by number of days, and divide by 36.

Twelve per cent.—Multiply by number of days, separate the right-hand figure, and divide by 3.

LITERARY AND BUSINESS NOTICES.

THE MATRIMONIAL BAZAR, "A Monthly Journal, devoted to the interests of Love, Courtship and Marriage," is a medium sized folio, published at Chicago, Ill., by H. H. Burtin & Co., at $1.00 a year. The publishers say, "We have here in America a large scattered population, representing a diversity of wants and circumstances, each buried in the obscurity of the individual threshold; and it is the purpose of the *Matrimonial Bazar* to bring these wants to light, and cause them to be universally recognized." * * "The stranger in one State can, through the medium of the *Bazar*, commune and interchange sentiment freely and without restraint, with the stranger in another State, thereby creating a bond of union between persons thousands of miles away." * * * "The *Matrimonial Bazar* is conducted on strictly honorable principles, fulfilling its professions, and thereby commending itself to the confidence of all those who may seek its aid"—and much more on the same subject, recognizing marriage as "the great event of life," the importance of which requires the exercise of care and judgment in the selection of a partner.

To show the nature of the demands upon the columns of this paper, we find in them one hundred and ninety-one advertisements, from one line to thirty lines, composed of offerings in marriage, asking for marriage, correspondence, fun or amusement. Based upon the professions and convictions it avows, if we cannot see anything in it to specially commend, so also do we see nothing to specially condemn. As the great majority of the world now looks upon the subject of marriage, and as a merely secular transaction, we suppose people would be as properly *mated* by this system of selection as by that which generally prevails outside of it. But in our view the marriage relation is something above and more sacred in its origin and purposes than a mere partnership or being mated. If the parties are not helps "meet" for each other—that is, such helps as they need in effecting their moral and spiritual regeneration from the sins and evils that beset the human family in its life journeys in this world, we fear the bringing of the sexes together from remote distances and obscure places, through the medium of a newspaper which so emphatically "means business" as this, will not elevate it much above the plane upon which it has been groveling these many years.

If the advertisements, other than those relating to personal cards, may be taken as a criterion, we should say that the literary and philosophical helps to a true marriage which they contain, are of a very fanciful, if not a doubtful character. "The Magic Wand"—"Songs of Love"—"Letter Writing Made Easy"—"Magician's Guide"—"Mysteries and Miseries"—"The Sports' own Songster"—"The Little Flirt"—"Tit-bits of Fun for Jolly Mortals"—"Tricks and Diversions with Cards"—"The Hand-book of Manners"—"How to Mix Drinks"—The Lover's own Library"—"Love-making Secrets"—"Bashfulness Cured"—"How to get Rich"—"The Veil Removed," and such like compose the list, with nearly a column to "Miss Maud B. E. Wallace," the Gipsy Clairvoyant, who professes to be the seventh daughter of the seventh son of the Great Hindoo Fortune Teller, PERI MAGI. As the family—after the traveling preacher had retired—thought they should know his sectarian *status* by the kind of hymn-book he carried in his saddle-bags—and on "rumaging" it found a bottle," declared him a "Hard-shell Baptist," so may we infer that the *Matrimonial Bazar* is merely a "commercial" affair—this, and nothing more.

THE FEED CUTTER, advertised in this number of THE FARMER, by Messrs. Diller & Groff, is an article which we can conscientiously commend to the critical examination of our readers, as a machine which has no superior in the market. We have carefully examined its mechanical points, and tested its power as a cutter, not of fodder, but of pine boards, and the ease with which it cuts them leaves no room to doubt its efficiency in cutting any kind of fodder for food. The manner of operating the upper feed roll in this machine is an important improvement, permitting the roll to rise three inches, and uniformly its whole length, a point not gained in any other feed cutter we have seen. Another excellent point is its adaptability to any desired length of cut, one-fourth, three-fourths, or one and a fourth inches, without the removal of any of the gear wheels and the substitution of others, as is generally done in varying the cut of other machines. The Silver & Deming Manufacturing Company are noted for the perfection of material and workmanship in their farm machinery, and they fully vindicated their reputation in the production of this Feed-Cutter. Messrs. Diller & Groff still push the "Champion" Reapers and Mowers, on the principal that when you once get a good thing it is best to stick to it until you are sure of something better. They still claim that the "Champion" has no successful competitor.

THE PENNSYLVANIA SONG COLLECTION, devoted to school and home enjoyment, by Jno. P. McCaskey, Principal of the Male High School of Lancaster city, Pa. This is a paper-bound volume of 112 pages, and uniform in size with *The Pennsylvania School Journal*. It contains 110 of the choicest songs and hymns in the song and hymn literature of this and other countries, with the printed music to each, arranged in from two to four parts. It is interspersed, from beginning to end, with interesting historical and literary annotations, chiefly relating to the history, the science, and the moral and social influence of music. We recognize in it a host of good things, both old and new, and the compiler and publisher exhibits rare good sense in retaining and reviving those good old "songs of fifty years ago," so welcome to those who are verging on their "three score years and ten"—begiuning with *Sweet Home* and ending with *Auld Lang Syne*. It also contains many things new and rare, executed in the highest style of modern musical science, thus adapting it to the wants and the tastes of the present day. It is a perfect home companion, and ought to be in every household and daily used there. Such a use would assuage many of the asperities and discontents that are incidental to human experience.

"THE ODD-FELLOW'S IMPROVED MANUAL; containing the History, Defense, Principles and Government of the Order; the Instructions of each Degree, and Duties of every Station and Office in Odd-Fellowship; with Directions and Forms for laying Cornerstones, dedicating Cemeteries, Halls, &c.; Marshaling Processions, &c. Also, Odes, with music, for various occasions, and the most needed business forms. Embellished with a portrait of Grand Secretary Jas. L. Ridgely, G. L. U. S., and numerous elegant engravings of the Emblems, &c. By REV. A. B. GROSH, P. G. and P. C. P. of the R. W. Grand Lodge and Grand Encampment of Pennsylvania."—CLARK & MAYNARD, 5 Barclay street, New York.

We thankfully acknowledge the receipt of a copy of this most excellent work; and we do not hesitate to say that any member of the Order who desires to become an Odd-Fellow *in spirit and in truth*, cannot possibly afford to be without a copy of this book, or its equivalent. It is a 12mo. beautifully bound, fairly impressed, and on superior paper, containing 403 pages. Furthermore, it contains an excellent portrait of the distinguished author, a fact which he and his publisher, perhaps, had too much modesty to mention.

THE AMERICAN JOURNAL OF MICROSCOPY AND POPULAR SCIENCE is the title of a new journal which, though specially devoted to the microscope and its revelations, also takes in a great many outside subjects of deep interest. It is very fully illustrated with new engravings, and the information which it contains is reliable, practical and interesting. It will be an efficient means of diffusing among the people at large a taste for natural science. It therefore opposes itself to the lower and more debasing classes of literature—dime novels and story papers—and tends to elevate and improve instead of to enervate and debase. Every one interested in botany, entomology, or natural history of any kind, would do well to get a specimen number, whether they own a microscope or not. The subscription is only fifty cents a year, and specimen copies will be sent free to any address by the Handicraft Publication Company, 37 Park Row, New York.

SUPERIOR CIDER: We are indebted to our friend and correspondent, Wm. I. Pyle, of West Chester, for sample bottles of very choice cider one year old, of his own curing. Good judges pronounced it the best they have ever tested. Mr. Pyle says his mode of curing is very simple, and the material he uses is "as wholesome as bread and butter." He claims that it will sharpen appetite, cure dyspepsia, and keep for ages. Mr. P. gets 75 cents per gallon for it in barrels of 40 gallons.

W. ATLEE BURPEE, the well-known Philadelphia breeder and importer of high-class fowls and pigeons, appears in this issue of THE FARMER as one of its regular and most valued contributors. He is thoroughly master of the details of the poultry yard and pigeon loft, and those of our readers who are interested in this specialty may look for much interesting, valuable, and always reliable information, in the contributions from his pen. He has disposed of his *Fanciers' Gazette* to the *Poultry Argus*.

THE INDIANAPOLIS MECHANICAL JOURNAL is an interesting mechanical journal, published at the capitol of Indiana, by J. H. Kerrich. It has reached its ninth number; and sent to subscribers for $1.00 a year, or 60 cents in clubs of ten. Each number contains sixteen pages somewhat larger than the FARMER. It is steadfastly devoted to the development of the industrial interests of the West and deserves a liberal support.

THE AMATEUR TRAPPER AND TRAP-MAKER'S GUIDE is a complete and carefully prepared treatise on the art of trapping, snaring and netting. It contains plain directions for constructing the most approved traps, snares, nets and dead-falls, the details being so plainly illustrated with engravings that any amateur cannot fail of success. Published by Dick & Fitzgerald, New York.

VICK'S FLORAL GUIDE, as many of our readers know, is a beautiful quarterly journal, adorned with elegant and useful illustrations. The first number for 1876 is just out. Price 25 cents a year. Address James Vick, Rochester, N. Y.

THE PROGRESS OF INVENTION.

Official List of Patents,

RELATING TO THE FARM, THE DAIRY, APIARY, &C.,
For the month ending November 12th, 1875.*

Churns; W. P. Mangum, Croppers Depot, Ky.
Apparatus for gathering and elevating hay; A. J. Park, Virginia, Mo.
Horse-powers; N. Potter, Troy, Pa.
Harrows; J. W. Price, Bryan, Ohio.
Automatic Gates; L. E. Thorson, Clinton, Wis.
Farm Fences; J. E. Winters, Fincastle, Ohio.
Grain Binders; C. E. Donnelan, Indianapolis, Ind.
Churns; E. Husher, Scott Dale, Pa.
Stock Cars; J. R. McPherson, Jersey City, N. J.
Corn Planters; E. Morgan, Dublin, Ind.
Stock Cars; A. N. Stevenson, Newark, N. J.
Cultivators; H. Winfield, Pantego, N. C.
Husking Pins; Geo. Armstrong, Elmira, Ill.
Devices for preventing horses from jumping; G. D. Chisholm, East Flamborough, Canada.
Grain-Driers; A. Nash, Logansport, Ind.
Milk Coolers; L. C. Palmer, Charlotte, Vt.
Hoeing Machines; H. N. Prout, Westfield, Mass.
Poultry Coops; J. Shephard, Bristol, Conn.
Grain Binders; J. H. Whitney, St. Louis, Mo.
Churns; J. C. Baker, Corry, Pa.
Combined Cultivators and Harrows; I. P. Pickering, Table Grove, Ill.
Churns; F. H. Boggs, Montgomery twp., Woodford county, Ill.
Garden Implements; J. Christy, Clyde, Ohio.
Plows; W. H. Daniels, Montpelier, Ohio.
Winker-straps for Bridle-blinds; E. Easton, Jacksonville, Ill.
Seed-Planters; A. M. Kaneuse, Sun Prairie, Wis.
Bee Hives; D. Latchaw, Barkeyville, Pa.
Harvesters; R. H. McCormick, Chicago, Ill.
Methods of testing milk; A. Menceci, Clifton, N. Y.
Bee Hives; J. P. Peeler, Booneville, Miss.
Cultivators; J. A. Thompson, Reddington, N. J.
Teeth for Threshing Machines; J. W. Waterman, Oregon, Wis.
Harrows; J. C. Williams, Olin, Iowa.
Reversible Plows; M. R. Hubbell, Walcott, Vt.
Harvesters; C. Denton, Peoria, Ill.
Mechanisms for Unloading Hay; W. H. Haynes, North Sudbury, Mass.
Earth Scrapers; D. Irwin, Byron Centre, Mich.
Draft Equalizers; J. Buckner, Salem, Nebraska.
Corn Planters; O. C. Gilmore, Janesville, Wis.
Churns; A. D. Gross, Tilton, Ky.
Corn Planters; A. Hodgson, Humboldt, Kansas.
Harvesters; A. Rea, Lancaster, Pa.
Butter-Workers; P. Rooney, Fairfield, Vt.
Hay-Tedders; E. M. Steckel, Kutztown, Pa.
Well Augers; W. E. Coman, Oak Park, Ill.
Pumps for Deep Wells; J. H. Duck, Elgin, Ill.
Rotary Churns; W. R. Lampton, Knightsville, Ind.
Farm Gates; N. H. Long, Muncie, Ind.
Harvester Rakes; M. Ray, Valley Grove, W. Va.
Churns; I. E. Smith, York, Pa.
Sulky Cultivators; J. Spaiu, North Lewisburg, Ohio.
Horse Rakes; H. C. Velie, Poughkeepsie, N. Y.
Barbed Fence Wires; F. Armstrong, Bridgeport, Ct.
Horse Hay Rakes; G. Barclay, Oshawa, Canada.
Horse Hay Rakes; G. Barclay, Oshawa, Canada.
Harvesters; A. Palmer, Rochester, N. Y.
Sulky Plows; F. S. Woodworth, Rockford, Ill.
Harvesters; J. E. Buxton, Owatonna, Minn.
Corn Huskers; W. A. Dick, Cleves, Ohio.
Corn Planters; A. Fox, Rock Falls, Ill.
Gang Plows; D. Kendig, Napa City, Cal.
Wheel Hay Rakes; C. LaDow, Ballston, N. Y.
Harvesters; C. Lidren, Lafayette, Ind.
Grain Separators; H. Mielke, Watertown, Wis.
Harvester Droppers; J. C. Ratliff, Richmond, Ind.
Potato Droppers; G. H. Zane, Shoemakertown, Pa.
Mowing Machines; D. Wolf, Avon, Pa.
Seed Drills; S. Brown, Lebanon, Mo.
Seed Planters; W. C. Champion, Stanton, Tenn.
Churns; W. P. Jones, Clio, Iowa.
Combined Planters and Cultivators; C. F. Keller, Healdsburg, Cal.
Harrows; L. H. McGinnis, Woodstock, Va.
Fruit Driers; J. P. Nessle, Newark, N. J.
Husking Gloves; H. L. Hall, Chicago, Ill.
Nests for Fowls; S. S. Jackson, Bloomfield, N. J.
Coulters; G. C. Lyon, Clarinda, Iowa.
Harvester Gearings; John F. Seiberling, Akron, O.
Mowing Machines; Walter A. Wood, Hoosick Falls, N. Y.
Harvester Rakes; J. Barnes, Rockford, Ill.
Ditching Machine; M. E. Burtless, Seneca Falls, N.Y.
Churns; E. A. Fisby, Norwalk, Ohio.
Hay Rakers and Loaders; Jno G. Krouse, Onslaugh, Iowa.
Farm Fences; J. P. Monnett, Bucyrus, Ohio.
Corn Planters; T. L. Rittenhouse, Washington, D.C.
Grain Binders; F. P. Rooback, Springfield, Mo.
Harvester Reels; J. F. Seiberling, Akron, Ohio.
Weed Turners; J. B. Thornton, Fostoria, Ohio.
Seed Droppers; J. T. Wright, Columbus, Tenn.

*Prepared expressly for THE LANCASTER FARMER by Louis Bagger & Co., Solicitors of Patents, Washington, D. C., from whom complete copies of the Patents and Drawings may be obtained.

OUR FENCE CORNERS

Something for Everybody.

CHARITY: Charity is the perfect virtue, which alone is equivalent to all the others.

WIT: Of all wit's uses, the main one
Is to live well with who has none.

OBSCURITY: Half the perplexities of men are traceable to obscurity of thought, hiding and breeding, under obscurity of language.

FRIENDSHIP: A day for toil, an hour for sport,
But for a friend is life too short.

NOBILITY: The highest title commending a man to his fellows is attainment to the greatest goodness. To be noble is to be good, to be good is to be noble.

SPEECH: The music that can deepest reach
And cure an ill, is cordial speech;
Mask thy wisdom with delight,
Toy with the bow, yet hit the white.

TRUE GLORY consists in doing what deserves to be done; in writing what deserves to be read; and in so living as to make the world happier and better for our living in it.

DIFFERENT LOTS: Man hath a fleece about him which enables him to bear the buffetings of the storm; but woman, when young and lovely, and poor, is a shorn lamb for which the wind has not been tempered.

LOVE-WISH: Thou gazest on the stars,
Ah, would I were the skies.
That I might gaze on thee
With all my thousand eyes!

FREEDOM is not a condition of enjoyment, but it is a condition of labor, and for this purpose it should be won, and for this preserved; it does not free us from duties, much rather it imposes duties upon us.

MODERATION: It is not apostasy to stop at a good attained because associates, that had helped to attain it, advance towards the risks in which the good may be lost.

PARENTS.—Coleridge says: "The image of my father, my reverend, kind, and learned father, is a religion to me." Jean Paul Richter expressed a pity for the man to whom his own mother had not rendered all mothers sacred.

TRUE CITIZENS.—Good subjects promote the public good at all times, and it is only in evil times that patriots are wanted—such times as are usually brought on by rash, or profligate and wicked men, who assume the name.

SIMPLETONS.—There are of madmen, as there are of tame, all humored not alike. Some apish and fantastic; and although 'twould grieve a soul to see God's image so blemished and defaced, yet do they act such antic and such petty lunacies, that spite of sorrow, they will make you smile.

LOVE.—There is no argument of more antiquity and elegance than is the matter of love; for it seems to be as old as the world, and to bear date from the first time that man and woman was; therefore in this, as in the finest metal, the freshest wits have in all ages shown their best workmanship.

TO-DAY.—Enjoy the present, whatever it may be, and be not solicitous for the future; for if you take your foot from the present standing and thrust it forward to to-morrow's event, you are in a restless condition; it is like refusing to quench your present thirst by fearing you want to drink the next day. If to-morrow you should want, your sorrow will come time enough, though you do not hasten it; let your trouble tarry till its own day day comes. Enjoy the blessings of this day, if God sends them, and the evils of it bear patiently and sweetly; for this day is ours. We are dead to yesterday, and not yet born to to-morrow.

A FRIEND complained to his neighbor one day of the heavy amount of his bill for meat. "I am determined to have no more butcher's meat in my house this year at any rate." "Not this year," said his neighbor; "why, the year is but just begun." "True," returned the other, "but I mean to pay ready money for it in future, and then it will be my meat, and not the butcher's."

WIDOWS' weeds are not green, neither are widows, as a general thing.

TAILOR measuring fat customer—"Would you hold the end, sir, while I go round?"

IT is difficult to tell how much a fish will weigh by looking at the scales.

AMONG the many drawbacks in this world is the new fashion of pinning skirts.

"I SAY," said a fellow to a fop with conspicuous bow legs, "don't you have to have your pantaloons cut with a scroll saw?"

AN indolent man once declaring that he could not find bread for his family, an industrious neighbor replied: "Nor I. I have to work for it."

$1 a Year { To subscribers in the county. SINGLE COPIES 10 CENTS. To subscribers out of the county. $1.25.

THE LANCASTER FARMER

DEVOTED TO AGRICULTURE, HORTICULTURE, DOMESTIC ECONOMY AND MISCELLANY.

"THE FARMER IS THE FOUNDER OF CIVILIZATION."—WEBSTER

Prof. S. S. RATHVON, Editor. LANCASTER, DECEMBER 15, 1875. PEARSOL & GEIST, Publishers.

MEETING OF THE STATE GRANGE.

Before this number of THE FARMER reaches all of our readers, this august organization will have convened in Lancaster city, and we bespeak for it the cordial welcome of our citizens. Fifteen hundred representatives from subordinate Granges in Pennsylvania, as well as many from beyond our borders, are expected to meet in council on Tuesday the 14th inst., and continue in session during the week.

The rapid rise and progress of this order in our country is one of the most extraordinary features of the nineteenth century. Whatever ulterior ends it may have in view, it is certainly one of the greatest social powers in the land, and must "make its mark."

In our address to our readers at the commencement of the present volume of THE FARMER, we made use of the following language: "Whilst we are by no means the friend or advocate of selfish, sinister, and one-sided combinations, having for their single object the pecuniary interest of a single class or clan, yet we would recommend a freer and more social union among those who are so eminently the pillars of the nation as American farmers are," and the movements and main objects of the Grangers appear to be in harmony with that sentiment. Any organization that has for its object the elevation and fraternization of any class of the human family, must be regarded as a legitimate instrument in working out the destinies of the human race.

The morbid sentiment of *secrecy* must ultimately succumb to the light of a higher state of intelligence among men, when things will be judged without prejudice, and for what they intrinsically are. "When we look abroad into the world, we cannot fail to see that a different order of things is rapidly developing in the present from that which gave its specific character to the past. The wheels of time are moving forward and never can be turned backward." The world has many specialties, and if we but make the necessary concessions, and have a proper regard to the rights of our neighbors, there need be no jostling, and ample room will be found for all. With these sentiments we tender the welcome of THE FARMER to the *farmers* of our common country.

CENTENNIAL APPOINTMENT.

Hon. FRED. WATTS, Commissioner of Agriculture at Washington, has appointed JOHNSON MILLER, President of the Lancaster County Agricultural and Horticultural Society, to collect and arrange specimens of grains, or cereals, for exhibition in the Museum of the Agricultural Department of the Centennial Exhibition. He desires us to request those who have seeds of new varieties of cereals, or anything in that line they may wish to exhibit, to communicate with him, or have their articles (in quantities of about one quart each,) at the next meeting of the Agricultural and Horticultural Society, in Lancaster, on Monday, the 3d of January.

CONTENTS OF THIS NUMBER.

FOUR ILLUSTRATIONS.

OUR FENCE CORNERS

PRAYER AND POTATOES.*

An old lady sat in her old arm chair,
With wrinkled visage and disheveled hair,
And hunger-worn features;
For days and for weeks her only fare,
As she sat there in her old arm chair,
Had been POTATOES.

But now they were gone; of bad or good
Not one was left for the old lady's food
Of those potatoes;
And she sighed and said, "What shall I do?
Where shall I send, and to whom shall I go
For more POTATOES?"

And she thought of the deacon over the way,
The deacon so ready to worship and pray,
Whose cellar was full of potatoes,
And she said: "I will send for the deacon to come
He'll not mind much to give me some
Of such a store of POTATOES."

But the deacon's religion didn't lie that way,
He was more accustomed to preach and to pray
Than to give of his hoarded potatoes;
So, not hearing, of course, what the old lady said,
He rose to pray, with uncovered head,
But she only thought of POTATOES.

He prayed for patience, and wisdom and grace,
But when he prayed "Lord give her peace,"
She audibly said, "Give potatoes."
And at the end of each prayer which he said,
He heard, or thought he heard in its stead
The same request for POTATOES.

The deacon was troubled—he knew not for what;
'Twas very embarrassing to have her so act
About "carnal potatoes."
So, ending his prayer, he started for home,
But, as the door closed behind him, he heard a deep groan,
"O, give to the hungry, POTATOES!"

And that groan followed him all the way home,
In the midst of the night it haunted his room—
"O, give to the hungry, potatoes!"
He could bear it no longer; arose and dressed,
From his well-filled cellar taking in haste
A bag of his best POTATOES.

Again he went to the widow's hut;
Her sleepless eyes she had not shut;
But there sat in that old arm chair,
With the same wan features, the same sad air
And entering in he poured on the floor
A bushel or more of his goodly store
Of choice POTATOES.

The widow's heart leaped up for joy,
Her face was haggard and wan no more,
"Now," said the deacon, "shall we pray?"
"Yes," said the widow, "Now you may,"
And he kneeled down on the sanded floor,
Where he had poured his goodly store,
And such a prayer the deacon prayed
As never before his lips essayed;
No longer embarrassed, but free and full,
He poured out the voice of a liberal soul,
And the widow shouted aloud "Amen!"
But said no more of POTATOES.

And would you, who hear this simple tale,
Pray for the poor, and praying, prevail?
Then preface your prayers with alms and good deeds;
Search out the poor, their wants and their needs,
Pray for peace, and grace, and spiritual food,
For wisdom and guidance, for all these are good;
But don't forget the POTATOES.

A TOUGH STORY: Two old ploughman down east were once telling their exploits in breaking up new ground. "Up in Dixmount," said one, "twenty-seven years ago this spring, I was ploughing in stump ground with a team of nine pair of cattle for Sol. Cunuingham; we were going along not making very smooth work among rocks and stumps. Well, one day the point of the plough struck against a sunk stump four feet through, split it square across the heart, and I was following the plough through, when the thought passed through my mind that the pesky stump might snap together and pinch my toes, so I just grippled the plough handles firm, swung my feet up out o' the way, and the stump sprung back and catched the slack of my pantaloons. That brought everything up standing. Well, I tightened my hold, and Sim Swithin, he and Sol was drivin', they spoke to the cattle, and we snaked that stump right out by the roots, and it had awful long ones." "It must have been strainin' on your suspenders," said the other. "My wife made them," was the reply.

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*Of this suggestive poem—a fragment of a charity sermon, preached in Dorchester, Mass., twelve or thirteen years ago—John G. Whittier wrote: "It is more valuable than some epics. I am not sure but is more to the Master's purpose than any learned theological poem which has been published since it was written."

The Lancaster Farmer

Prof. S. S. RATHVON, Editor. LANCASTER, PA., DECEMBER, 1875. Vol. VII. No. 12.

TO OUR PATRONS AND THE PEOPLE.

This number completes the Seventh volume of THE LANCASTER FARMER, and the next number will be issued under the advent of our *National Centennial*—our glorious "'76"—a numerical cabala that has become classic in the annals of our country. Through *seven* long years of fortunate and unfortunate vicissitudes, our beloved country struggled before she accomplished her Independence; and when at last she reached the goal she had so long and ardently striven for, she found herself weak, depleted, and materially exhausted; but she had secured, elaborated, and maintained the elements of that future greatness which we now see so amply developed at the closing period of her first century, when she has become a refuge for the oppressed among all nations, and the admiration of the civilized world. At the close of her war for national independence, she possessed a population of less than *three millions*, but to-day, if all were told, it would be found little less than *fifty millions*, with a status, in all that relates to physical, moral, and intellectual culture, that stamps her as a progressive nation—a *union* that every patriotic heart resolves "*must and shall be preserved.*"

Remotely analagous to the unprecedented progress of our country, may we be permitted, by a law of similitude, to include THE FARMER. After a struggle of seven long years, we have attained a status similar to that of the American colonies one hundred years ago, namely, "poor, but independent." Although our pecuniary income is still limited, we think we have developed elements of enterprise, honorable distinction and usefulness, that have met a voluntary recognition by the press and the intelligent portion of the people, both "far and near." How far the analogue with the progress of the nation may be extended, is left for time to develop; but for what we have attained, we desire to be grateful. It is true, we may have no excessive manifestations of success to record during the year now coming to a close, still we have abundant reason to be thankful for the many evidences of appreciation that have been vouchsafed by our patrons and our friends. To them THE FARMER has become an almost indispensable household friend, and our ambition is to make it such to every farmer and householder in the land; and we can attain that position if we receive a reasonable support from those most interested in our success.

Shall our progress from this time forward be in correspondence with that of the nation? That is a problem that cannot be solved, except by the assistance of the sovereign people, and especially the farming people. To them we commit the destinies of our EIGHTH VOLUME, and we are not yet able to believe that our appeal to that august tribunal will be in vain. All power, under our republican form of government, both theoretically and practically, is vested in the hands of the sovereign people, and it is they who politically, socially, and financially, make or unmake whom and what they will. It is the people who have been reared on American soil, or who have adopted that soil as their common country, and whose ancestry is from almost every clime, that have made our State and nation what they are to-day, and what they ever will be, we hope, in the unfathomable realms of the future. Without derogating anything from that Supreme Intelligence who rules the universe, and whose permissions and providences ramify and direct all that internally relates to the general and particular concerns of that universe; still, in external manifestation, and in all that relates to social, political and domestic polity, *Vox populi* is practically *vox Dei*, and as a legitimate expression of that voice—

"Here shall the *Press* the people's rights maintain,
Unawed by conquest and unbribed by gain."

We have no selfish ambition—no personal ends to subserve. We therefore freely commit the future prospects of THE FARMER to the verdict of the people; and its intellectual and material progress will be what they may choose to make it. We have had heretofore no special premiums to offer, no high-sounding advantages to vamp; nothing but the intrinsic value of our journal—a value that we feel assured will be ultimately appreciated by the people; but under any circumstances, we shall endeavor to be content with the determinations of the popular will. Our journalistic intercourse with the people for whose interest we have been catering for the past seven years, has been to us of a pleasant and satisfactory character. When they have rejoiced we have rejoiced with them; and when they had occasion to be sad, we have been in sympathy with them.

Although we have not been able to record the highest condition of prosperity, either for county, for State, or for country, yet on the whole, the agricultural results of the year just ending have been anything but discouraging, and with proper economy will afford a handsome margin of profit to a vast number of the honest tillers of the soil.

And now, dear people—you for whose pecuniary interest, for whose moral and intellectual elevation, we have been laboring through the now fast-fading year—we ask a moment's rational reflection upon the "situation," as we have endeavored to portray it. You have perhaps been driven hither and thither throughout the year, by business, by pleasure, or by dire necessities, and have not had much time to think. But an annual period is rapidly approaching, when not to think upon somebody or something, out of ourselves, may be a moral crime. Can it be that "He who bowed the heavens and came down" is entirely indifferent as to whether His creatures ever think upon that glorious advent or not? And *thinking* upon it, will it not suggest something that ought to be *done?* And in *doing*, is it too much to ask of you a material remembrancer for THE FARMER, either in discharging past obligations, or in incurring future ones? Lay aside, or curtail expenses to the amount of two cents a week, and subscribe for THE FARMER. Celebrate the hundredth anniversary of American Independence by subscribing for the best local record of that august epoch in the history of the country. With this valuable suggestion, dear patrons, we heartily tender you the "*compliments of the season.*"

PECULIARITIES OF SPIDERS.

(*Aradinidæ.*)

"Their homes, their habits, and their lives."

Every animal lives by depredation. Nature is ever devouring itself, but the prey is not always sought and merited by a patient industry deserving respect. No being, however, is so much the plaything of fate as the spider. Like every good workman, it has a twofold value; in its work and its person. An infinity of insects—the murderous *Carabus* or the *Libellula*, an elegant and splendid assassin—have only their bodies and their weapons, and spend their lives joyously in killing. Others possess secure and easily defended asylums, where they have cause to fear few dangers. The field-spider has neither the one nor the other advantage. It is in the position of the respectable operative, who, through his small and ill-guaranteed fortune, attracts or tempts cupidity or insolence. The lizard from below, the squirrel from above, hunt the feeble hunter. The inert frog darts at it the vicious tongue, which glues it and renders it immovable. It is the felicity of the swallow, in her graceful circle, to carry off, without injuring, the spider and his web; and all birds look upon it as a great dainty or an excellent medicine. The nightingale, faithful, like all great singers, to a certain hygiene, prescribes for herself, as an occasional purgative, a spider. Even if she be not swallowed up herself, if the instrument of her trade is destroyed, the consequences are the same. Should the web be undone, blow upon blow, a somewhat protracted fast renders it unable to secrete a fresh supply of thread, and it soon perishes of hunger. It is constantly confined to this vicious circle: To spin, it requires food. To feed, it must spin. Its thread, for the spider as for the Parcæ, is that of destiny. We once made the experiment of removing three times in succession a spider's web. Three times, in six hours, it replaced it, with admirable patience, and without abating one jot of hope. The experiment was a cruel one, and we now reproach ourselves for it. We meet with too many unfortunates whom accidents of this kind have thrown out of work, and who are thenceforth too exhausted to resume their labor. One sees them, like living skeletons, attempting fruitlessly a different trade, in which they succeed but poorly, and mournfully envying the long legs of the field-spiders, which gain their living by incessant traveling and vigilant hunting.

When people speak of the eager gluttony of the spider, they forget that it must either eat a double quantity or soon perish; eat to recruit its body, and eat to renew its thread. Three circumstances contribute to wear it out: the ardor of incessant work, its nervous susceptibility—which is carried to an extreme—and its twofold respiratory system. For it has not only the passive respiration of the insect which receives or submits to the air introduced through its stigmata; it has also a kind of active respiration, analogous to the play of the lungs in higher animals. It takes the air and masters it, and incessantly renews it. If you do but examine the movements, you feel that it is something more than an insect, the vital glow traverses its frame in a rapid circulation; the heart beats very differently from what it does in the fly or butterfly. But its superiority is its peril. The insect braves with impunity the strongest odors and mephitic miasmas. The spider cannot endure them. Instantly affected by them, it falls into convulsions, struggles, and expires. Chloroform, whose action the stag-beetle has endured for fourteen days without succumbing, immediately—at the first contact—has overpowered the spider.

I once found a large spider feeding on a gnat, and wished to experiment on him. I poured on it a single drop of chloroform. The effect was terrible. Nothing more pitiful could be seen in a case of human asphyxia. It tumbled over, raised itself, and then swooned; all its supports failed it, and its limbs appeared disjointed. One thing was very pathetic—that in this supreme moment the fecundity of its bosom became apparent; in its agony, its tubercles sent forth their little cloudy woof, so that you might have believed it to be working even in death. I felt oppressed, and in the hope that the fresh air would perhaps revive it, I placed it on my window sill; but it was no longer itself. I know not how the effect was produced, but it seemed to have melted away, and nothing remained of it but its skeleton. The vanished substance had left but its shadow, which the wind bore away to a neighboring lake.—*Jules Michelet.*

There is no rule to which there is not an exception, and, accordingly, we have found

in our experience an exception to the general rule that spiders generally succumb to "strong odors." There are species that hang in their festooned webs for days, and weeks, and months, in old "water closets," the stench in which is almost strong enough to "float an iron wedge," and seemingly with perfect impunity, too. True, they may be driven to such localities by dire necessity, as places most prolific in furnishing them their coveted fly-diet, but there they are, from spring until late in autumn, "as fat as fools." Any water closet, or privy, the cesspool of which furnishes the element in which common flies are developed, will be occupied by these spiders. Nevertheless, they never touch or appropriate anything that is dead, decayed, or filthy, and they are always neat, and clean, and dry in their "personal appearance." There seems to be an unnecessary prejudice existing against spiders by most of people. Spiders are most ravenous feeders, and destroy more noxious and annoying insects, for their size and weight, than any other class of animals in the world; and by a singular coincidence, wherever the kind of insects they prefer "most do congregate," there also the spiders will be. Some years ago, when the oat-fields were infested by the Oat-*Aphis*, in certain favorable localities, the spiders, in countless numbers, spun their webs between the fence rails, and caught millions of the winged individuals, and upon these delicate little morsels they fed and fattened. Except the Jumping, or Hunting-spiders, they do not go in quest of their prey, but they spread their nets and wait until it comes to them, and sometimes they have to wait in a state of semi-starvation for a long time.

Spiders, properly speaking, are not *insects*, nor are they classed with them, but form a distinct class of their own, between the INSECTS and the CRUSTACEANS (crabs, shrimps and lobsters.) Insects are *hexapods* (six-footed), spiders are *octopods* (eight-footed) and crustaceans are *decapods* (ten-footed); if there were no other differences, these would be sufficient to at once distinguish them.

The spider's web is one of the most remarkable fabrics produced in the whole animal world. It has hundreds of spinerets, and, therefore, what we look upon as a single thread or cord, is a compound cable, composed of hundreds of finer cords. These spinerets are located under and near the end of the abdomen; but in spinning insects, the thread, or cord, issues from the mouth. The bodies of *insects* are conspicuously composed of three divisions—the *head*, the *thorax*, and the *abdomen;* but in *spiders*, there are only two—the *cephalathorax* and the *abdomen*.

Nothing is more true than the opening remark in this paper, namely, that "every animal lives by depredation." Notwithstanding the spider preys upon other animals, he is preyed upon in turn. And notwithstanding he is fearless and relentless in enveloping and appropriating his victims, yet when he is approached by *his* natural enemies, he seems to become entirely helpless, and readily yields to his fate. He is captured by certain species of wasps, who bear him away and stock their cells with his body, nor has he the power to make his escape, although the aperture remains open until the cell is filled. When the cell is full, an egg is deposited therein, and when hatched, the spiders, one after another, become food for the young wasp. They are not killed, but only paralyzed, and doomed to a living tomb, until they are appropriated. Cruel as spiders seem, they are capable of the greatest affection or solicitude for their eggs or their young. Some female spiders carry these with them in a sort of silken sack, and if this sack is purloined, it is an easy matter to capture the mother spider, for often she becomes helpless (with grief?), and falls a voluntary victim to maternal affection, or something that appears as such.

OUR CULTIVATED VEGETABLES.

No. 3.—The Pea. (Pisum.)

The pea, like the bean, has been used for food for an unknown period, and it is an interesting fact that the bean and a small kind of pea, allied to the present variety, have been found in the lake habitations of Switzerland, which existed in the stone and bronze ages. We have no account that the Greeks and Romans numbered green peas among their numerous dishes, although we are told that in their mature state the common people made the grey pea their principal food. According to Martial, they were sold at the theatres and circuses at a low price to spectators, who regaled and even gorged themselves with fried peas; and it is related by some Roman writers that those who were candidates for any public employment used to distribute grey peas gratuitously to the people, in order to obtain their suffrages. From which it appears that votes were to be had at a much cheaper rate than in the present day.

Pliny informs us that the Greeks, in the month of November, sowed their peas, but the Romans did not plant theirs until spring, and then only in warm places lying well to the sun; for of all things, says this author, the pea cannot endure cold.

Historical evidence would make it appear that both the pea and the bean must not only have been introduced, but extensively cultivated in some parts of Scotland, as well as in England, at a very early period. It is on record that when the English forces were besieging a castle in Lothian, in the year 1299, their supply of provisions was exhausted, and their only resource was in the peas and beans of the surrounding fields. It was not until after the Norman Conquest, and the establishment of monastic communities, that we read of green peas being used. In Fosbrook's "British Monasticon," it is stated that at Barking Nunnery the annual store of provision consisted, *inter alia*, of green peas for Lent; green peas against midsummer; and in "Archæologia," vol. 13, in "Order and Government of a Nobleman's House," it is mentioned: "If any will have peas soon in the year following, such peas are to be sown in the waine of the moon at St. Andro's tide, before Christmas." It appears from a song called "London Lychpeny," written in the reign of Henry VI., that pea cods or pods were sold in the streets of London at that period.

"Then into London I dyde me hye,
Of all land it bearyeth the pryse;
Gode pescode one began to cry."

At Windsor there is a street called Peacod, mentioned by that name in old documents, Perhaps a more delicate variety was introduced about the reign of Henry VIII., for in the privy purse expenses of that king is the following entry: "Paid to a man in reward for bringing pescods to the King's grace, iiijs. viiid." Yet garden peas appear to have been rare in the early part of Elizabeth's reign; as Fuller observes they were seldom seen, except those which were brought from Holland, and "these," says he, "were dainties for ladies, they came so far and cost so dear;" but in the latter part of her reign gardening had made considerable progress; and, taking into consideration how little it had been previously studied, her days produced the most complete herbalist, who studied and wrote on all plants known at that period. Gerard's work is as excellent as it is voluminous, being free from those astrological absurdities that disgrace the herbals of Culpepper and others, who wrote about the time of the Commonwealth.

A mind like Gerard's would be above such ridiculous superstition, and would know that a knowledge of herbs would be sooner gained by looking down to examine plants, than by looking up to observe the stars or planets. This author informs us that one variety of pea is indigenous to this country. He says: "The wild pea do grow in pastures and arable fields belonging to the Bishops Hatfield, in Hertfordshire." He adds: "There be divers sorts of peason, differing very notably in many respects, some of the garden, and others of the field, and yet both counted tame; some with tough skins or membranes in the cods, and others have none at all; whose cods are to be eaten with the peas when they are young, as those of young kidney beans; others carrying their fruit in the tops of the branches, are esteemed as Scottish peason, which are not common. He also describes the wild and everlasting pea, which, perhaps, may be some variety of *Lathyrus*, or Vetchling.

Tusser has the following passage in his "Five Hundred Points of Good Husbandry." For the month of January, he says:

"Dig garden, stroy mallow, now may ye at ease,
And set (as a daintie) thy roncival pease."

Roncival was an old word for large and strong, derived from the gigantic bones of the old heroes pretended to be shown at Roncesvalles.

Hence the word became a common epithet for anything large or strong, as Roncival peas, the large sort now called marrow-fat. (See Timb's "Things not Generally Known.")

Green peas became a popular delicacy in England soon after the restoration of Charles II. and, strange enough, even for late ones, so early as 1769, as it is a matter of history, that on the 28th of October of that year, a guinea a pottle—not quite half a dish—was given at Covent Garden market; and as much as ten times that sum has been paid since in the same market, for a quart of green peas shelled.

There are many curious and superstitious customs with respect to peas and beans, related in "Brand's Popular Antiquities." I will just mention one or two. 1st, on Carling Sunday—the Sunday before Palm Sunday—at Newcastle-upon-Tyne, and many other places in the North of England, grey peas, after having been steeped a night in water, are fried with butter, given away, and eaten at a kind of entertainment. They are called carlings, probably as we call the presents at fairs, fairings. From what the custom arose is uncertain, but an old author states that it took its rise from the disciples plucking the ears of corn and rubbing them in their hands. The efficacy of pea-cods in love affairs is also one of the popular superstitions alluded to by Touchstone in "As You Like it," Act II., scene 4, and it is said still practiced in Suffolk and other parts of the country. The kitchen maid, when she shells green peas, never omits, if she finds one having *nine* peas, to lay it on the lintel of the kitchen door, and the first clown who enters it is infallibly to be her husband, or at least her sweetheart.

The pea goes through all the stages of its vegetation in a very brief period. More than one instance is on record of a crop being obtained from seed matured the same season. In Fleming's *British Farmers' Magazine*, November, 1826, it is stated that some Spanish dwarf peas were sown in February, and the crop was reaped the first week in July. Some of the pods were left to mature their seed, which, when sufficiently ripe, were again committed to the earth on the same piece of ground, and a second crop was reaped on the 27th of September.

The varieties and sub-varieties of the common pea are never-ending. These have obtained their names, some from imaginary qualities, some from the peculiar mode of culture, others from the persons who first produced them, and some from more fanciful distinctions. The native country of the pea, like most of our cultivated vegetables, is not known. Valmont Bomare says the garden pea was originally of France. Coles informs us, in his "History of Plants," that "the Fulham pease, which came first out of France, are so called because the grounds about Fulham, near London, do bring them forward soonest." The English name appears to be a corruption of the Latin *Pisum*. Tusser and Gerard both wrote it peason. Dr. Holland, in Charles I.'s reign, spells it pease, since abbreviated into pea.

The Sea-pea, *Pisum Maritimus*, now *Lathyrus Maritimus*, is a native of this country. It

grows on pebbly beaches, very rare and local. It differs from the other esculent peas in being perennial, the root striking deeply into the ground among stones and sand by the seashore. This pea is hard and indigestible, but it is said to have saved many persons from perishing by famine in the year 1555.

I will conclude this paper with an extract from an article on the "Historical Notes of Cultivated Plants," in the *Horticultural Society's Journal*, Vol. IX.: "The pea has been stated by several authors to be a native of Italy, and Prof. Targioni admits this to be the case with the field pea, (*Pisum arvense*); but most botanists insist on the garden pea (*Pisum sativum*,) being a distinct species of unknown origin." In this conclusion, we cannot join; all our cultivated *pisi* are surely referable to one species, which is most probably really indigenuous in the more eastern districts, where it is now found apparently wild.—*H. G. Glasspole, in Science Gossip, London*, 1875.

The pea (*Pisum sativum*) now extensively cultivated as a garden-esculent, was introduced into America at the time of its first settlement; probably first by the Spaniards, and subsequently by the Dutch and the English, and our botanists and gardeners are equally puzzled with those of Europe, as to where it originally came from. From that time to the present, many varieties, good, bad, and indifferent, have been added to our list, many of which might be eliminated with some advantage to the grower.

Without presuming to volunteer any instructions in the culture of a vegetable so long, so widely and so favorably known as the Garden pea, we deem it sufficient to say that the early dwarf varieties require rich ground, whilst other varieties will thrive best in a light loamy soil, and they should be sown in drills. Out of a very long list, we give the following sixteen varieties, which we do not hesitate to say might be curtailed by one-half, without any disadvantage to the grower, namely, 1. Landreth's Extra Early; 2. Early Frame; 3. Bishop's Dwarf Long Pod; 4. Dwarf Blue Imperial; 5. Royal Dwarf Marrowfat; 6. Large White Marrowfat; 7. Peruvian Black Eye Marrowfat; 8. Dwarf Sugar; 9. Tall Sugar; 10. Tom Thumb; 11. Champion of England; 12. Eugenie; 13. Advancer; 14. McLeans' Little Gem; 15. McLean's Prolific; and 16. Alpha.

Nos. 8 and 9 have edible pods, which may be cooked like "string beans." "The first planting (including the early, second early, and late *at the same* time, to secure an unbroken succession) should be made as soon as the ground will work; and for continuous supplies, sow at short intervals during the spring and early part of summer. The pea does not succeed under extreme heat." This successive planting is something that has not been heretofore practiced in Lancaster county as it should. The peas are generally all rushed on the market at nearly one time, and then we do not see them again for a whole year. "Sowings of Landreth's Extra Early, made at the close of summer, come in autumn, with the freshness of an early summer crop."

INFORMATION WANTED.

On page 172, first column, and line 11 of the above-named article, are we to read "*funny odor*" or "fonnie odor," and if the latter, what does it mean?

Two Irishmen once met, and said one to the other, "I thought it was you, and you thought it was me, and faith, it's nather of us." In like manner, neither of the above readings is the correct one; it is simply a typographical error. It should have been printed *formic odor*, the odor of *formic acid*, a sour liquid which ants eject when irritated, and which was formerly obtained by bruising the insects and distilling them, mixed with water, a peculiar volatile acid passing over. It is now, however, produced artificially. According to the analysis of Berzelius, *formic acid* is a compound of two atoms of carbon, three of oxygen, and one of hydrogen. By cracking an ant between the teeth, the peculiar taste and odor may be obtained.

NATURAL HISTORY FOR THE YOUNG.

The Sheep: The Young Called Lambs.

(Ovis aries.)

There are many kinds of sheep, but the domestic kinds are supposed to be all referable to the same species. This animal, in an economical computation, is certainly next in importance to the cow, if it does not stand before the cow; for all of the fine and comfortable winter fabrics used by the human family, are

manufactured out of its fleece, and it also furnishes a wholesome food. For some reason, America does not produce as fine wool as England or Spain. Texas, New Mexico and many other parts of our country, are, however, largely engaged in sheep raising, and pursue the Spanish plan. That is, they employ shepherds who tend the sheep, permitting them to roam out, from the folding place, over the grazing lands until noon, and then after permitting them to take an hour of mid-day rest, drive them back again, feeding on the way, and folding them again during the night. In Egypt and Syria they have a sheep with a very large tail, which sometimes weighs as much as 17 pounds, the fat of which is considered as delicate as butter. This tail is often fastened on a small platform with wheels, to prevent injury. The finest quality of wool is produced by the *Merino* variety of sheep.

Birds of Paradise and Their Allies.

(Paradisae major, regia viridis &c.)

From the present "contributions" imposed upon the ornamental feathered tribes by enlightened Christian nations, to say nothing about the civilized and uncivilized heathen, pagan, Jewish and Mohammedan nations, they must eventually absorb the supply, unless the fashion changes, and gives the birds an opportunity to recuperate. *Genuine* Birds of Paradise were worn as ornaments on ladies' headgear, to our knowledge, as much as forty years

ago at least, but not so extensively as subsequently, but *now*, in order to meet the demand, *spurious* birds are ingeniously manufactured. And not only these, but also Humming-birds and other allied, both genuine and spurious, species, are extensively used for that purpose; and therefore the trade in this kind of merchandise is becoming immense. The birds of Paradise are from New Guinea and other East Indian countries, where they occur in flocks of twenty-five or thirty, and from the fact that they were generally brought to market without feet, which are large, clumsy and disproportioned, a notion prevailed that they were footless, lived in the air, and fed solely on "the dews of heaven;" but this fancy is now entirely exploded.

Ths Cuckoo and the Hedge-Sparrow.

Cuculus Canorus et Accentor Modularis.

The real Cuckoo is a foreign bird, and is very peculiar in its history. Its most eccentric characteristic is its habit of laying its eggs in the nests of other birds, leaving them to be hatched, and the young provided for by said birds. They do not always choose the nest of the same kind of bird, but the hedge-sparrow of England is particularly subjected to their selfish intrusions; and the sparrows are sometimes very much distressed at the still more

selfish conduct of the young cuckoo; for, one after another, the poor little helpless sparrows are heartlessly tossed out of their own nest, and left to perish, whilst the young cuckoo monopolizes the food brought by the parent sparrows, and finally becomes the sole occupant of the nest. And the parent sparrows seem to stupidly permit this, even when it is done before their eyes; and continue to feed the young cuckoo until it is fully fledged, and flies away to practice the same selfish game upon some other victim. Our illustration represents the young cuckoo adroitly heaving the young sparrows "overboard," in the very face of, and against the expostulations of the parent bird.

THE WATER QUESTION.

We print in this issue a communication from L. R. S., instituting certain enquiries in regard to the decrease in water streams and wells. We will not attempt to answer all our contributor's queries, but shall commend them to some one who is more of a "water-king" than we profess to be. As a meteorological record his paper is interesting, notwithstanding we think he is discussing appearances more than realities. The question of forest influence upon the humidity of climate is one that has enlisted the observation, and also the solicitude, of many men of science, in many countries, and perhaps no definite conclusion has been arrived at yet on either side of it. The question itself is so recent that it must take a longer time, and a wider range, before any point can be satisfactorily established; under any circumstances, the experiments upon a small district—a field or two for instance—cannot be expected to produce a satisfactory result. It is very much like testing a single hill of potatoes, corn, or beans, and then drawing a general conclusion from such an isolated and limited test.

Of course, water locally *appears* to increase and decrease at certain times and seasons, but it must be remembered that water is not a simple substance, but is a fluid composed of elements that are easily decomposed and rendered invisible; still these elements are somewhere in space, and need only the recombining causes to bring them into view again. That water is entirely destroyed, or annihilated, is a presumption that would also involve its arbitrary re-creation, for according to our contributor's own showing, there are alternate periods of super-abundance and scarcity of it, and these alternations have been occurring, perhaps, for thousands of years, and may continue to do so as long as they are subjected to the same disturbing causes. As to water used in mixing lime, plaster of Paris, or mortar, it merely forms a new combination by which its evaporation is facilitated, and is by no means destroyed or annihilated. As a general statement, we may say that after "the waters under the firmament were divided from the waters above the firmament," we do not think there was a single drop more or less than there was before. Nor do we think there is or has been a drop more or less from that time to the present, in its elementary principles.

WOODPECKERS.

(*Picidæ.*)

"————Not a sound was heard
But the woodpecker tapping the hollow beech tree."

This family comprises birds characterized by straight, rigid, and sharp bills, which are specially adapted to cutting into bark or wood; and by long, acute tongues, armed towards their tips with barbs, and capable of great extension. They have stout feet, clothed before with broad plates, long wings, ten primaries, and twelve tail feathers, the exterior being small and concealed. Woodpeckers feed upon the larvæ of insects, which they secure by introducing their extensible tongue under the bark of trees, or into crevices, or into holes which they themselves have made, and then transfixing the larvæ with the barbed point; or the larvæ adhere to the viscid glue with which the tongue is covered. They are very common in both hemispheres, and about twenty-five species are found in North America."

These birds vary very much in size, from six to twenty-one inches long, and they also vary very much in the distribution of their colors, which are mainly black and white. Some are characterized by red heads, red crests, or other red markings, and in a few the white is replaced by golden yellow, as in the common Flicker (*Colaptes auratus*). They belong to the order Scansors, or climbers, and their feet are well adapted for that purpose. In the species provided with four toes, two of said toes stand forward, and two backward. In those having only three toes, two are forward and one backward. They excavate holes into the dead branches of trees, and make their nests therein, laying from four to six eggs, which are generally of a pure white. The influence exercised by the woodpecker family upon the agricultural and sylvicultural interests of the country can never be properly estimated. It is true that some of them will occasionally purloin fruit, especially "small fruit," but it is alleged in their defence, that when they appropriate a cherry or a berry, it is because they are infested by worms, and that the bird is more in quest of the animal than the vegetable food; and in support of that theory, we are able to say that we have known the flicker and the "red-headed woodpecker" (*Melanerpes erythrocephalus*) to visit both the domestic and the wild cherry trees, and carry off the fruit, late in the season, when nearly every berry must certainly have been infested by a worm, perhaps the *larvæ* of a *curculio*. In any event, the berry season is a short one, and therefore the great bulk of the food consumed by the woodpeckers is the larvæ of insects, and their peculiar instincts unerringly teach them when and where to find them. Every boy is conversant with the habits of the common "Sapsucker" (*Picus villosus*), and its industry and skill in dislodging worms from the trunks of old apple trees, albeit their early impressions may have been that they were engaged in sucking sap instead of dislodging worms and destroying them.

It will be noticed that all the birds belonging to this family have the tail feathers more or less sharp pointed; and it will also be noticed that in running up a tree or branch, the tail is partially spread and pressed down upon the surface over which they are passing, especially at the moment when they stop. There cannot, therefore, be a doubt that this form of the tail, and this use of it, is for some special purpose, and that purpose to facilitate their movements, and to give them purchasing power. It acts as a sort of rudder in its pedestrian locomotion, just as a greater expansion of it does, with birds in general, in steadying their flight, especially when they are about to alight.

Our illustration represents one of the crested species, of which we have several, one at least of which is found in Lancaster county, and commonly called "Cock of the Wood," or "Black Wood Cock," (*Hylotomus pileatus.*) This is an exceeding shy bird, and when followed by a hunter it goes in quick succession from one tree to another, generally alighting on the highest limbs, always taking good care to keep on "tother side" of the limb. We recall a "wild *goose* chase" we had after one of these birds about forty years ago, in which we were decoyed hither and thither by the wily creature until we had traversed about seven miles. Finally, when the evening shadows began to lengthen "we stole a march" on him, and blowed him nearly to atoms, to our great disappointment, for we intended him as a fine "specimen" for our "collection." A fine specimen of this bird is in the museum of the Linnæan Society, Lancaster, Pa. The shooting of this bird ought to be strictly interdicted by law, (except a very limited number for scientific purposes) as it feeds entirely on larvæ and remains here until very late in autumn, if not all winter, (we have seen it in Kentucky in January.) Indeed, the whole family of woodpeckers ought to be protected all the year round.

THE FACTS OF NATURAL HISTORY.

No. 6.—A Dog Story.

Dogs cannot laugh, except with their tails; and then their laugh is a laugh of joy. I doubt the existence of a doggish sense of humor. But scorn and contempt they undoubtedly do feel—they show it to other dogs, and I believe that they must feel it for some men. At least I should not like to run the risk of losing the respect of a dog of any character. I should certainly see it in the contemptuous whisk of his tail, and in the sidelong glances of his eye. The most supreme exhibition of contempt that I ever saw was from a dog of mine. He was a noble beast, large and beautiful. His sire was an English bloodhound, his dam a St. Bernard mastiff. He was fawn colored, brindled, and his ears were softer than the finest silk. He was so big that he could stand on all fours and take a roll with his mouth from the dining-table, and that he could spring up, put his paws on my shoulder, and look me in the face. And yet I had a little black and tan terrier that would bully dear old Thor—for so I named him—out of everything; everything, that is, but bones, meatless bones; for that is a subject upon which no dog of any delicate sense of what is due to himself will allow the least outside interference. But Thor loved Puck and would let the little rascal do almost what he liked, and when his teasing and impudence reached a point that was intolerable, the grand old fellow, instead of taking his tormentor by the back of the neck and quietly dropping him somewhere out of the way, would meekly come and put his great paw on my knee to beg me to go out and set matters straight. And yet for Puck he would fight anything; and many was the row into which he got by standing up for his quarrelsome little playfellow.

One day I took Thor with me on a new walk, in the course of which we passed the gate of a farmer who had two large pointer dogs, which were very cross and quarrelsome, both with man and beast; even so much so that they attacked men that came to the gate. As we approached the gate, there they lay together outside of it upon the close green sward that stretched into the road. At the sight of Thor they pricked up their ears, rose to their feet and began to growl. Thor, trotting on ahead of me, turned his head a moment, but kept on his trot. As we drew near they crouched together upon their bellies and began to move thus toward the middle of the road; and when we were opposite their gate, with one yelping bark, they made a simultaneous rush upon the stranger. Oh, Thor, Thor, did the spirit of Shakespeare enter into thee, that without even turning thy head again, thou heavedst up thy leg like Crab's dog, and served those dogs as he served the gentlewoman's farthingale, and then joggedst on as if nothing had happened, leaving them to sneak back to their lair, with their tails between their legs, less in fear than in astonishment, and thy delighted master to cleave the sky with laughter? Verily, I think there be some human curs, who like to spring yelping upon a man merely because he is a stranger, whom it would be well if some big human mastiff would treat somewhat after the same fashion. They deserve no more respectful consideration.—*Richard Grant White.*

It is not quite certain that "dogs cannot laugh except with their tails." No doubt many persons have noticed facial grimaces in dogs, that seemed to be equivalent to a smile or laugh, from whatever feeling or emotion they may have sprung, or for whatever purpose. It is more certain, however, that dogs do feel shame and guilt—so shamed and guilty indeed, that they could not look their masters and others in the face, and were glad to slink in some obscure corner away from view. They are also keenly susceptible to grudges, hates and revenge, and will remember offenses, and teasing annoyances, a long time. In short they are the most remarkable compounds of fidelity, sagacity, affection and lasciviousness, in addition to their other characteristics, known to the animal kingdom. In our youth we had two very peculiar experiences with dogs, which illustrate some of the characteristics adverted to in the foregoing.

On one occasion we approached a farm house, where we had persistently teased a young dog about six months previously. We, on this occasion, had no thought of the dog, nor did we see him, until after we *felt* him; for, assassin-like, as soon as he saw us, he made a *detour*, out-flanked us, and approached us in the rear, and gave us "such a bite." His master was astonished, for such an attack was not a habit of the animal, so far as had been observed. The dog must have known us, and remembered our former teasing, and thus revenged himself before we could avail ourself of the protection of his keeper.

It was a mean attack, however, and the dog himself seemed to be sensible of it, for he closed his eyes, crouched himself, and fairly whined with shame and guilt, under the reprimand of his owner. Another time we were passing a house in the same street, and about half a square from where we resided, in an incorporated borough, and found several boys teasing a large dog through crevices in a fence, too small for the dog to pass through, and the fence too high for him to leap over. Suddenly the dog ran off towards the lower end of the enclosure, and leaped over into an alley, and the boys scampered away as fast as their feet could carry them. We passed slowly on, for as we had no hand in the teasing, we thought that was an end of the matter. Suddenly we were seized by the arm and drawn into the door of a house with a shriek, and the door barely closed when the rampant dog, with fire in his eyes, thundered against it with the force of an ordinary man. Previous to that time we had passed that house every day and the dog made no attempt to molest us, although he was frequently sitting or lying on the door-steps, or some other place in close proximity to the house. From that time forth, however, that dog never ceased in his attempts to attack us, and even single us out, if there were fifty others on the street; and many are the escapes —"by the bare skin of the teeth"—which we have made from his ferocious jaws. He was a perfect *incubus* to us, and in our dreams we had many a "horrid fright" of him. With all the sagacity usually attributed to dogs, here was a clear case of mistaken identity. He knew our previous character, for he had seen us a hundred times, and had even permitted our caresses, and we had given him many a bone. Yet now he became a very devil incarnate, and all his pent up rage was vented on us. He was eventually shot for tresspass, and when we heard of it we were relieved from a great weight of anxiety and fear, and life had a different charm for us.

One more case, and we will have done with dogs for the present. A farmer had a ferocious dog, whose bad reputation was known all over the neighborhood. We were then about twenty years of age. In a cornfield, remote from the farmhouse, was a group of wild cherry trees which we visited for the purpose of shooting robins and other game birds, which resorted there in large numbers in those days. The farmer and his employees were in a contigu-

ous field spreading manure. Immediately after discharging our gun, and securing our game, we heard a violent rush among the cornstalks, and on turning round we saw the dog bearing down upon us, and we became transfixed with fear and fright, for our gun was uncharged. We stood firm, because we had not power to move, and the dog plowed up the ground in a sudden halt within ten feet of us, his eyes gleaming with fire. He sternly regarded us, and we despairingly regarded him for fully a minute, and then he dropped his head and tail and gruffly trotted away; immediately after which his owner came rushing down upon us, not less impetuous than the dog, his eyes dilated, his hair streaming, and his face almost as pale as a corpse. He was greatly relieved when he found us unhurt, for he heard the report of the gun, saw the dog start, and expected to find us, perhaps, in deadly conflict with the dog. We had read tales of dogs, and even lions, being subdued by merely looking them sternly in the face; but we did not think of them, nor were we practicing that remedy then. We were thoroughly frightened, and in that state of helpless despair, which we presume people must be in who expect the next moment to be attacked, and perhaps torn to pieces. But the dog evidently did not comprehend our situation, and therefore let us "severely alone."

We have known a few dogs that would not fraternize with any other subject of the animal kingdom, either below or above them; would not even permit the most well-meant caresses, and would snap at the very hand extended to feed them. But the great body of them are social, many of them faithful, and a few of them useful. But they are indiscriminate, and are as faithful to a cutthroat, a robber, or a murderer, as they possibly could be to a savant or a saint. Dogs are, however, in some respects, like men. Some are endowed with finer sensibilities or instincts than others, often seeming to invade the domain of reason. During the siege of Paris, when dogs, cats, rats, mice fell victims to the gastronomic demands of a starving people, the *fact* that they were "slayed and flayed" appeared to be recognized by the dogs, and the dog-slayer was avoided by them, and became as obnoxious as would a man afflicted with the leprosy or small pox to human beings. They seemed also to have the power of communicating their dangerous situation to their fellow dogs, and whenever they were compelled to pass the shambles of a butcher, they accelerated their speed with a contemptible scowl, or growlingly passed over to the other side of the street. It must have been a "dumb dog," that did not know every *dog-slayer* in Paris.

VEGETABLE IVORY.

The Panama *Star and Herald* gives some information concerning tagua or vegetable ivory, saying: "This curious fruit of a palm tree, indigenous to the Isthmus and to Colombia in general, never excited the commercial mind to the extent that rubber has. In 1866 it was not considered worth the expense of exporting. At Quito, in Ecuador, it was common to see images of the Virgin Mary and saints sculptured out of the ivory-like substance of the tagua by the people of that city. In Europe it has been gradually and increasingly used as a substitute for animal ivory. The price of the nuts about ten years ago, was only about $20 a ton; to-day $75 to $80 was paid at the ship's side, and, it has been stated that they bring now as much as $150 a ton abroad. This vegetable ivory is the fruit of a species of palm, and is only the hardened albumen of the seed. One hundred tons, at $75 per ton, was purchased in the harbor, the other day, for the United States and England. There are two kinds of palms that produce this sort of ivory. The tree itself looks much like that which yields palm oil on the coast of Africa, (*Elais guineensis, L.*) Unlike the cocoanut, the royal, and other palms, that elevate on a trunk their leaves some hundred feet in the air, the vegetable ivory palm has but a short stumpy stalk, and produces its flowers and nuts in a spathe or vavular envelope quite near to the ground. So far as Panama is concerned, the supply is brought in small schooners from the rivers of Darien, Choco and Tumaco, and in fact from all the rivers of the Atlantic and Pacific coasts of Colombia. It is something like the rubber-tree in its habits, and follows up the ravines in search of shady table-lands and damp nooks and corners. How long the present demand for this fruit of a palm that grows wild will last, it seems difficult to predict.

The prominent central figure in the illustration of "Palms and Ferns," on page 167 (November number of THE FARMER) is a clever representation of the *Tagua*, or "Vegetable Ivory Palm;" and the demand for it is likely to continue as long as the vegetable kingdom produces it. The nut is limited in size, and therefore no very large articles can be made of it, but for *buttons* or other small articles, there is, perhaps, nothing superior to it. They command prices from three to six times greater than "rubber," and from six to eight times greater than horn. They are made in all tints and colors from a pure white to a jet black, and retain their lustre and polished finish far better than any of the substances named in comparison with them, and also wear much longer.

IS THE BEE A NUISANCE.

The "busy bee," who came so suddenly into fashion a few years ago, is denounced as a sluggard, a robber, a sensualist, a greedy loafer—in fact a *roue* of the worst and most dangerous sort. When bee-keeping, as a polite occupation, first came in, all the drones of society, we are told, were to make their fortunes, and many a distressed maiden, whose allowance was so scanty that the two ends would never meet, saw herself possessed of the golden fleece or the philosopher's stone, and of that wealth of Golconda, which a correspondent in India has recently related as a traveler's playful fiction. By keeping bees rapid fortunes were to be made; the days of poverty and grumbling were to end, and every cottage garden was to become a source of perennial opulence. But a grave difficulty has arisen, and just as we were asked to believe that the apiarian proprietors were beginning to realize the truth of their prophecies. The bees, it is said, have suddenly changed their habits, and, instead of confining themselves to the flowers, have taken a fancy to the choicest fruits; to the shame of their origin and their backers, they have turned their wings from the broad meadows, and bitten the dainty cheeks of the prize nectarines and peaches. Hitherto they have been, or been esteemed at least, the most domestic, regular, untrespassing of living creatures. It is depressing to have these lovely dreams, these profitable anticipations disturbed; but we have been writing of the promise, and the fulfillment is something very different. A gentleman who had a capital garden and a splendid promise of fruit, has written to the papers to say that all his calculations of a superb crop of peaches and nectarines were rudely dashed to the ground by the invasion of his neighbor's bees. A warm controversy ensued and at last a man who has kept bees for upwards of forty years, and who has from twenty to thirty stocks at a time, wrote to say that until the last three or four years he has never known them to attack fruit; but that this year though he had only four stocks their destructiveness had been such that the love he once had for and the pleasure he once took in them have passed away. They attacked not over ripe or putrescent fruit, but fruit by no means ripe enough to gather, and they burrowed by hundreds into the finest peaches. No feeding at the hives, he added, which he did abundantly, would take them from the fruit. The bee, therefore, the respectable bee, that honest, thrifty citizen who was supposed to have the finest sense of discrimination between meum and teum and to keep his wings from picking and stealing, has been found in *flagrante delicto*, and is, after all, only a more intelligent and invincible wasp. It is a melancholy discovery, and seems to cut the ground of morals from under us. One writer suggests that the bees have caught the contagion of the times in which we live, and are aiming at little work, short hours and very high wages for doing nothing. But it is all very sad. The shining hour is now improved in most disastrous fashion, and the busy bee is a cormorant, an idler and a greedy *flaneur*. They have been taught bad tricks, and it is now gravely doubted if they will ever return to their pristine simplicity.—*Baltimore Gazette.*

In the presumptive history, habits, and uses of the bee, like in many other things, thorough observation no doubt will demonstrate that "truth lies between extremes." We one time lived next to a grocery store where sugars, treacle, sweetmeats, fruits, &c., were constantly exposed, and per consequence there were always present, during the day, a large number of bees, even in the most profuse blooming season of the year, and when the bulk windows (once a week) were cleaned out, hundreds of dead bees and flies were swept up. This seemed to illustrate to us that the bees had become demoralized, a condition which probably had its antitype in a prior demoralization of human society, through which men clandestinely sought out shorter, quicker, and less laborious roads to fortune, than the legitimate and normal ones. Be this as it may, we have heard a great many complaints against bees, during the last two or three years, as being inveterate depredators upon fruit, especially grapes and peaches. But we are not yet prepared to believe all that is said to their prejudice any more than we are prepared to believe all that is said in their favor. You attempt to make wine or cider, especially out of sweet grapes or apples, and the crushed fruit will be covered with bees. Is it surprising, then, that they should find out what is inside of a grape, a peach, or an apple, and that they should afterwards attempt to purloin it, even if the fruit is not broken? Hornets, yellow-jackets and wasps, are well known to have cut the skin of fruit and to appropriate the juices of the inner pulp. Some beetles (CETONIANS) do the same, but none of these depredations, we believe, amount to a calamity; we therefore feel disposed yet to indulge the bees a while longer.

SOMETHING TO SET US THINKING.

Ninety years hence not a single man or woman, now twenty years of age will be alive. Ninety years! Alas! how many lively actors at present on the stage of life will make their exit long ere ninety years shall have rolled away! And could we be sure of ninety years, what are they? "A tale that is told;" a dream; an empty sound, that passeth on the wings of the wind away and is forgotten. Years shorten as man advances in age. Like the degrees in longitude, man's life declines as he travels toward the frozen pole, until it dwindles to a point and vanishes forever. Is it possible that life is of so short duration? Will ninety years erase all the golden names over the doors in town and country, and substitute others in their stead? Will all the new blooming beauties fade and disappear, all the pride and passion, the love, hope and joy pass away in ninety years and be forgotten? "Ninety years," says death; "do you think I shall wait ninety years? Behold, to-day and to-morrow, and every day, are mine. When ninety years are past, this generation will have mingled with the dust and be remembered not!"

Nothing can compensate the sadness induced by reflections upon the above, save a well defined faith in the soul's immortality, and a rational preparation for the change which time must inevitably bring to every living being. This entirely disarms Death of all his terrors, and converts him into a friend instead of a foe to the human race. What are the vicissitudes of time, compared with the bright and hopeful realities of eternity. Under any circumstance, we are all merely waiting upon the shores of "Jordan," and he that first passes over to the "promised land" cannot be deemed less fortunate than those doomed to wait awhile longer, merely because *he* has "gone before." The "blooming beauties" of time will reappear in eternity with tenfold lustre, the "pride and passion" will have no abiding place there, but must find their "crossing" through the dark waters of the "fatal Styx."

QUERIES AND ANSWERS.

Mr. W., Brownstown, Lanc. co., Pa.—Your beautiful little duck is known among ornithologists as the *Bucephala albeola*, of LINN and BAIRD. Its common names are "spirit duck" and "butter ball." It is migratory in its habits, but is frequently found in Lancaster county in spring and autumn. It is not considered rare. It is in the museum of the Linnean Society, Lancaster, Pa., Spm. 101.

Mr. S., Junction, Lanc. co., Pa.—Your beautiful spider—if such a thing as *beauty* can attach to a spider—is the "garden spider"—*Epeira Pennsylvanica*. On the whole, there are, perhaps, no other animals of their size, that are more generally useful in the economy of nature, than the unjustly, or unnecessarily, despised spiders.

D. M., Bart, Pa.—We claim that THE LANCASTER FARMER as a *local* journal of the farm, the garden and the household, is without a peer; but it is perhaps more highly appreciated outside of this great agricultural county than it is at home. Our people, however, are waking up to their own interests, and THE FARMER for 1876 will win the race!

WHEN I MEAN TO MARRY.

When do I intend to marry? Well,
'Tis idle to dispute with fate;
But if you choose to hear me tell,
Pray listen while I fix the date.

When daughters haste with eager feet,
A mother's daily toil to share;
Can make the puddings which they eat,
And fix the stockings that they wear;

When maidens look upon a man,
As in himself what they would marry,
And not as army soldiers scan
A sutler or a commissary;

When gentle ladies, who have got
The offer of a lover's hand,
Consent to share his earthly lot,
And do not mean his lot of land;

When young mechanics are allowed
To find and wed the farmer girls;
Who don't expect to be endowed
With rubies, diamonds and pearls;

When wives, in short, shall freely give
Their hearts and hands to aid their spouses,
And live as they were wont to live,
Within their sires' one-story houses.

Then, madam—if I'm not too old—
Rejoiced to quit this lonely life—
I'll brush my beaver, cease to scold,
And look about me for a wife!

John G. Saxe.

We presume the author of the above lines knew exactly what he was writing about, and his readers, if they will, may perceive their significance. The first two lines of the fifth stanza revive an allusion made to the same subject, in our presence, on several past occasions.

"When young mechanics are allowed
To find and wed the farmer's girls."

We know nothing about the practical bearings of this question, and have not thought much on it. There are those, however, who allege that in some communities the practice interdicting the marriage of mechanics, or, indeed, any citizen of a town, or other occupation, with the daughters of farmers, is as arbitrary as the class "castes" among the Hindoos. If this ever has been so, which we doubt, as a general proposition, there must have been some reason for it, but neither in theory nor in practice, is this the case at the present day.

INDIAN SUMMER.

The question arises, "What is Indian Summer?" and probably not one person in twenty thousand knows. Almost every warm day in fall is spoken of as being it, and incorrectly, too. The Rev. John Lyon has expressed himself upon the subject as follows: "The leaves generally begin to fall in October, after the first frost, and continue to do so during the month. Then very generally, when all the leaves have fallen, there comes a cold rain and a bitter frost, fermentation and decomposition, which adds warmth to the earth, causing that warm, misty atmosphere which continues until nearly the end of November. And it is during this warm spell in November that tradition says, in this latitude, the Indians laid up their corn for the winter." This explanation may or may not be correct, yet it is deemed to be as good a one as has yet been advanced.

The above cause for Indian Summer is perhaps as correct as any that has yet been given in so few words; from which it will be perceived that Indian Summer is a phenomenon contingent upon a certain combination of meteorological circumstances, and that when this combination does not exist, a season may pass without the occurrence of the phenomenon at all. Up to this date (Dec. 10), we have had no well-defined Indian Summer this season yet.

A *smart* boy, living on the Susquehanna, was once asked his age. He replied that on next "ice-going time" he would be ten years old. When he was born, the ice was moving off the river. According to *his* computation of time and events, if the river should not happen to freeze, he would have no birthday anniversary. The failure of the necessary meteorological combination would deprive him of this, as it does us of an Indian Summer.

For The Lancaster Farmer.

INCUBATION.

This word comes from the Latin "Incubatio," *a brooding*, or what we call "hatching." Artificial incubation has been practised from a remote period by the Egyptians and Chinese; the former, indeed, have carried this process to such a high degree of perfection, as in many instances to have entirely superseded the use of the hen in hatching. It is effected either by means of an oven, stove or steam, the principles of which will be found detailed in Ure's *Dictionary of Arts*, &c. This process has received considerable attention from the French philosophers; but perhaps the best exemplication of its results witnessed in Europe is given by the *Eccalcobion*, or egg-hatching machine, exhibited both in London and the United States, prior to the invention of Mr. Boyle, of London, England, a figure of which is given in Munn & Co.'s Science Record for 1875, on page 376, and may be examined. In Rees' American Cyclopedia or Universal Dictionary, Vol. XIX., twenty-five large octavo pages are devoted to the subject of incubation, and which, old as the work is, contains a great amount of valuable information in *comparative anatomy*, gleaned from the writings of Aristotle, Hippocrates, Fabricius ab Aquapendente, Aldrovandus, Coiter, Vestling, Harvey, Langly, Schrader, Theodorus, Aldes, Stenon, Needham, Malpighi, Maitre Jan, Haller, Hunter, Monroe, and numerous other respectable physiologists, whom I have no inclination to quote or follow in their explanation of the membranes, vesicula umbilicalis, air-cells, external liquid or liquid white, yelk-bag, chalaze, amnios, auricular canal and daily changes up to the 20th or 480th hour, when the shell is broken, &c., and the diverse speculations, however interesting, are too extensive to follow. I will therefore confine my quotations to those records of a more recent date, and omit many interesting experiments and observations, which those who desire may find more at large in the works referred to.

Boyle's machine is so constructed that when once set to any degree of heat within the limits of 40° and 200° Fahrenheit, it will maintain the same for any length of time without variation. It is adapted to the control of hot-water pipes in hot houses, or any other place; to the opening and shutting of stove-dampers; and, in fact, to any use which requires a simple up and down motion in connection with the heat.

It is intended to act perfectly untouched for an indefinite time, and there will be no perceptible variation in the heat.

The heat of an incubator is 106°. The hen does not raise the thermometer by the heat of her body over 104°, when she sits upon her eggs. In those birds who do not sit constantly but trust to the heat of the sun, the temperature of the eggs is probably below 104°. Twenty-one days is the allotted period for incubation by the hen. In warmer climates it is said to be a day or two less. The period of incubation varies much in different species of birds. The swan 42 days; goose, 30; duck, 30; turkey, 30; peacock, 26 to 27; pheasant, 20 to 25; hen, 18 to 21; pigeon, 17 to 18. So I might enumerate that of other birds.

The egg will always be found, if broken under a thermometer, to be 104°, and the under side of the egg will be found considerably cooler than the upper: and experience shows that at 106° constant heat, (the heat of the hen) the eggs will die either before or on chipping the shell, while at 108°, constant heat they die at once. These data are given from many experiment.

It has been observed that nests made under the hedges, or in any wild situation, produce more and stronger chickens than those cared for in baskets or boxes. Under the former circumstances, the underside of the egg must be much colder than the upper side. And this agrees with the inventor's experience, who finds that in eggs kept in a steady temperature, equal on all sides, the chickens usually die on the 19th or 20th day, and if any struggle out they are very feeble. In the incubator it will be seen that this natural irregularity of heat is carefully imitated. Heating the egg from beneath—a plan often tried because of its great facility—is directly subversive of the natural conditions. The receptacle for the eggs in this incubator imitates all the conditions essential. The next point for consideration in imitating nature, is the daily cooling of the eggs for about twenty minutes, rather more than less, when the hen leaves to feed. This must by no means be omitted, and we do not think that eggs suffer from a great deal of cooling (so that they get the full proper heat between times); but they soon die under half measures, such as many hours at 100° or 90°.

If the eggs be never cooled, most of them will die between the fifteeth and twentieth day, and all farmers' wives are aware that a "hard sitter," that is, a hen that sits continuously, or is fed while sitting on her eggs, does not succeed as well in producing a certain or healthy brood, as do those who leave their nest when being fed or in search of food.

We must also imitate the action on the egg of damp ground, the air and moisture, by the perspiration of the hen, otherwise the hatching will proceed without absorbing the yolk-bag, or only partially, so that on moving about it will again extrude the bag and cause the chick to perish. But too much moisture tends to addle the eggs. A gentle, natural vapor is preferable to daily sponging of the eggs.

It is well known that when the hen returns to her nest she turns the eggs over every time, and being an instinct in the mother, it is found of use to imitate this changing in the position of the eggs.

The hen seems to sit lightly upon her eggs when the chick is ready to chip or break the egg, and allows the little prisoners to extricate themselves, as they are usually strong enough for that purpose, and when not, they will hardly be strong enough to survive when assisted to make their escape from the shell. In the incubator mentioned, a chamber is provided in which the egg is placed when chipped, or immediately before chipping, so that the little chick can come out free of any hindering obstruction.

To imitate the soft feathers of the hen, who covers the chickens for some weeks under her breast and wings, it is essential to the comfort of the artificial brood, to have artificial mothers, for which a kind of cistern is provided, under which the chicks are placed as soon as dry. They being also provided with cotton wool, or flannel, so arranged that the chickens can creep under or nestle in it, and with the warmth against their backs, they will be quiet and contented. The farmer's wife gets the young brood often, while others are hatching by the same hen, and between flannel or cotton in a basket under the stove nurses them for a day or two.

Thus, in all things, by observing the instincts of nature, the incubation can be successfully accomplished, and any number of chickens raised from the *leavened eggs* (having the tread) to supply the demands of the market.

M. Bonnemain was the first person who studied with due attention all the circumstances of artificial incubation, and mounted the process successfully upon the commercial scale. So far back as 1777 he communicated to the Academy of Sciences an interesting fact, which he had noticed, upon the mechanism employed by chicks to break their shells, and for some time prior to the French revolution he furnished the Parisian market with excellent poultry at a period of the year when the farmers had ceased to supply it. It was proved by him that "spring chickens" could be had all the year round. Why is it not followed up? His process was founded upon the principle of circulation of hot water by the intestine motion of its particles, in a returning series of connected pipes; a subject afterwards illustrated in the experimental researches of Count Rumford. This is now introduced in many places to warm the apartments in buildings. M. Bonnemain sixty years ago perfectly understood hot water circulation, as well as our stove doctors do at the present day.

The apparatus of M. Bonnemain consisted: 1. Of a boiler and pipes for the circulation of water; 2. Of a regulator calculated to maintain an equal temperature; 3. Of a stove apartment, heated constantly to the degree best fitted for incubation, which he called the *hatching* pitch. He also attached to one side a chicken room for cherishing the chickens during a few days after incubation. A vertical section, ground plan and elevation in part to illustrate the older and perhaps better plan as used by M. Bonnemain is given in and illustrated in Ure's Dictionary; subject, "Incubation Artificial," page 1042. My object is more specially to call attention to the subject and give a hint where a more extended description is given for the benefit of the enquirer.

We also learn that the Copts of Egypt pay a license to the government to carry on this business. They use a building with a number of ovens, called *mamal*, which contain 150,000 eggs as a charge. An official report for 1831, gives for Lower Egypt 105 of these establishments, using 19,000,000 eggs, of which 13,000,000 produce chickens. This saves the valuable time of 1,500,000 hens for three weeks of inactivity, and several succeeding weeks of care and scratching, enabling them to devote their undivided attention to the other duties of maternity, egg-laying and cackling.

The eggs as collected are placed on mats strewn with bran, and are brought nearer or further from the heat by changing them in the chamber for about six days. They are then tested by a strong sunlight, for signs of the formation of the chicken. They are then submitted for four days to the warmest position, and again five days in a closed chamber, after which they are spread separately over the surface of the mats, with frequent changes and turnings for six or seven days, carefully excluding outside air. The test for life is frequently made, by putting the egs to the eyelid, as it will be found of greater coldness when life is in the egg, than the temperature of the eyelid.

It may be interesting to know that hot mineral water or springs have been employed. A letter by M. D'Arcet contains the following statement:

"In June, 1825, I obtained chickens and pigeons at Vichy, by artificial incubation, effected through the means of the thermal waters of that place. In 1827, I went to the baths of Chaudes-Aignes, principally for the purpose of doing the same thing there. Finding the proprietor a zealous man, I succeeded in making a useful application of this source of heat to the production of poultry. The advantage of this process may be comprehended when it is known that the invalids who arrive at Vichy, for instance, in the month of May, find chickens only the size of quails; whereas, by this means they may be readily supplied six months old," etc.

He goes into further detail, but I did not promise an original essay or article—simply to give you hints upon the subject that may induce inquiry into a valuable fact, wholly, or too much overlooked, especially when we consider the native enterprise of many in supplying the market. Why not introduce the farming of poultry, as well as fruit? It strikes me it would pay. All that is wanted is the apparatus, knowledge and attention, to make it a success. We have intelligence and enterprise, and the necessary information can be had. And experience and close observation will soon enable the poulterer to master every difficulty; and should he still be inclined to make capons, and go into fattening and perfecting this branch of business, a full compensation would certainly follow for all his labor and expense, and, take my word for it, egg-hatching or chicken-farming will pay.—*J. Stauffer, Lancaster City, Pa.*

For THE LANCASTER FARMER.

DECREASE IN STREAMS AND WELLS

Is water found deeper beneath the surface of the earth now, in digging wells, than it formerly was, and if so, what are the causes? I am always anxious to find out causes and effects. One cause pretty generally assigned all over the civilized world, is the wholesale destruction of forest trees. Even if this is not the true cause, it suggests a good practical idea, because the replenishing of depleted forests will become an absolute necessity before another generation passes away, whether they have any influence on water streams or not.

It has been observed that the Danube and other foreign streams have been getting lower for some years; hence the United Kingdoms of Europe have appointed a commission, consisting of three distinguished men of science, to ascertain the cause and report thereon. I have often wondered whether the general body of water does not diminish in quantity, and I have always been answered that it does not—that it *cannot* decrease. My attention was lately called to the subject again. In making mortar for mason work, how many barrels or hogshead are absorbed in the process, and how many millions of hogsheads are used in generating steam for engines.

And now, in what form can it reappear? When the earth is very dry how much water is absorbed; admitting that the sun and the atmosphere will evaporate a great portion, and draw it back to the clouds again, is not the water in mortar and steam entirely annihilated? Is not the water diminishing on the surface of the earth? It is no longer a matter of doubt that water has receded from many places within the memory of man. In many of the lakes, in a great part of the State of New Jersey, and in the ground on which the city of Washington stands, there has been a great diminution of water—indeed the last named place was once nearly all under water. In some of the Western States, and on European mountains that are hundreds of feet above the level of the sea, are large bodies of oyster shells—enough to burn hundreds of bushels of lime. This illustrates at least that water has changed from one locality to another, if it has not decreased in quantity. Timber was also discovered several hundred feet under mountains in California, and the wreck of a ship was found sixty miles from Stanton, Cal., in a ravine, on dry land, in a well preserved condition. The formation of coal in our own State is another case in point. In Schuylkill county the coal formation shows wood, vegetable impressions, as fern leaves and many other fossil forms, which proves that we have had great changes on the earth's surface at different times, perhaps many thousands of years apart. But, again, what causes a decrease in our wells and water streams? Our meteorological observations were more irregular for the last five years than they had been previous to the period named. In August and September last, we had more rain than we often have in an entire summer. In local rains we had enough to swell some of the streams in Lancaster county almost beyond comparison. Probably more water ran down the *Octalico* and *Conestoga* in August and September than for years before. Three years ago on the 10th of August, we had a water-spout in our neighborhood, which carried trees and saw-logs from dry land two miles into the Conestoga. An old man (seventy-five years of age) said it washed and ruined more cultivated fields in 1870, 1871 and 1872 than it did in all his lifetime. The water was for several years poured superabundantly over the earth, and then again there was a great deficiency of rain in 1874 and '75. There were no rains of any consequence from July, 1874, to June, 1875, and no *settled* rain for some two years previous to this summer. The winter of 1874 and 1875 was very cold, the ground frozen for four months in succession. The water streams and wells were lower than they had been within the memory of the oldest settlers of the county. We had also the dryest weather that occurred for many years—but was the destruction of the forest timber the cause of the great drouth? There must have been some other cause, as yet unknown. Meteorological changes may come and go from one extreme to another. When once enough without rain to cause a—to us, invisible—reaction, it may gradually or suddenly turn to rain again to excess. We have had alternate rain and sunshine from August last up to the present time, and the earth has been well saturated ever since. The subterranean reservoirs are again replenished, the April springs are already starting. We may likely have an open winter, with plenty of rain. If so, and streams and wells will continue replenished, we shall have water as in times past.

I have a *run* passing through my farm. It started formerly in a forest, when it failed occasionally to run. It now has its starting point and continuance in cultivated fields, and becomes less dry than formerly. I know a spring that was discovered seventy-five years ago in quarrying stone. It runs out from limestone rocks. About one hundred and fifty feet from its source there was heavy timber land, west of it, on higher ground, the water flowing south. This spring is also more regular and stronger since it is surrounded by cultivated fields. The reason is, cultivated ground will absorb more water than timber lands, and the water will run off timber land more readily than off cultivated land. But I have asked the question; does water diminish or not? I believe that water in mortar is just so much less than it was before it entered into the mortar, and that water will decrease to a certain period, when it will again increase, through an agency or process as yet unknown. I only ask for information on this subject, from some person who may be thoroughly informed on it. The study of this subject may be of more benefit to mankind than the study of astronomy, for which thousands of dollars are annually expended. Why not, then, study the phenomena of rain and water flows, which are the foundation of all our agricultural success?—*L. S. R., Warwick twp., Dec. 2, 1875.*

For THE LANCASTER FARMER.

SKIRMISHES.

I trust you have not construed my not contributing to your journal, for a time, a disapproval of it, or dissatisfaction on my part, on account of any matter that has appeared in its columns. Far from it. The only excuse I have to offer is the lethargy which all of us are liable to sink into at times, and which in too many cases become chronic, thus depriving the public of many a hint that would be of value to some, and also of facts of no little importance, which, in consequence, may lie dormant for a time. I believe no one has a moral right to hide his talent by which his fellow-man may be benefited, for he may some day be called to account for it, an instance of which we find recorded in the good book.

Very few who write for public journals and papers can help but believe that there are others who know as much, or more, upon the subject than the writer himself; at the same time it is known that there are many who have not had the advantages of the writer, and who may be greatly benefited. Superiors often profit by hints or facts given by inferiors. Who can claim originality nowadays? Are we not all riding on waves caused by others? By continued agitation truth and error will eventually become separated, provided selfishness is left in the background. We have no more right to be selfish with our knowledge than with anything else we may possess. If the above premises are tenable, they may be applied to other departments of life; but I wish to apply them to the tiller of the soil.

There is, no doubt, a vast store of valuable knowledge lying dormant among the latter class, which, if made public, would make an aggregate of incalculable value. No branch of industry compares in magnitude with that of tilling the soil, and it is comparatively the least systematized. Why such is the case it is difficult to explain, unless it has from time

immemorable been looked upon as so simple and coarse that any one who is not competent for other callings in life will do for a farmer; and the farmer himself has to a great extent accepted the position of servility. There have, however, at all times been honorable exceptions and fortunately the number is rapidly increasing. We may therefore hope that in the near future the husbandman will attain a position where he can feel himself the peer of him of any other calling. If the Patrons of Husbandry will accomplish what they promise, and what they claim to have already achieved be correct, they deserve the hearty congratulations of every agriculturist, horticulturist and pomologist in the land, whether he belongs to the order or not.

The conflicting views advanced by different writers and speakers is no excuse for silence on our part. We often differ widely upon questions that long since should have been permanently settled, simply because we observe things under various circumstances, and from different standpoints. There is, however, one broad basis upon which we cannot differ. *i. e.*, the same causes under the same circumstances will always produce the same effects. At the same time widely different causes sometimes produce apparently the same results, and *vice versa*.

Our differences, therefore, is simply a want of thorough knowledge of the subject we undertake to handle. Warm controversies are often carried on where both sides are in error. The tilling of the soil is the most ancient of all employments, and yet how small a proportion of those engaged therein understand the first principles thereof. There is too much disposition to plod in the old beaten path, with so little inclination to progress and improve, and elevate our calling upon a higher plane. Organization and co-operation for a good purpose are the most effective means to obtain desired ends, and where legitimately conducted never fail to produce good results.

If every one engaged in tilling the soil would carry with him his note book and pencil, observe closely, note down all items that he can not fully comprehend, and bring them before some society organized for progress, and there compare notes, discuss unsettled questions, give and receive facts pertaining to his business, a fund of knowledge would soon accumulate that could not be computed by money values.

One reason why more progress has not been made in this branch of industry, is the dealing too much in opinions instead of facts; it is the latter only that can be applied to build up a science. Let no one be discouraged if he cannot report any great discovery; only do not overlook facts, however small they may be, for the common proverb, "Save the dimes and the dollars will be cared for," will hold equally good in this case.

A gentleman who gathered a large fund of knowledge in another branch, recently remarked, that he made observations twenty years ago, but neglected to make notes thereof, and that a standard work has more recently been published, containing the very identical facts which he had discovered years previous. And his is not an isolated case; it is simply one of many similar ones. Should not such instances stimulate every one not to be negligent, where he may as well be useful; neither should he afterwards grumble if he allows another to steal a march upon him, which is quite a common thing nowadays.

Another important duty let us not forget, *i. e.*, subscribe for THE LANCASTER FARMER and urge your neighbor to do likewise; also to write an article for it now and then. Nothing proves more thoroughly the progress and intelligence of a farming community than the unflinching patronage of their home organ; not that they shall not patronize others, but always home first, especially when it is as worthy as our LANCASTER FARMER.—*H. M. E., Marietta, Pa., December 4th*, 1875.

ALL OUR SUBSCRIBERS should renew their subscriptions before our next issue.

For THE LANCASTER FARMER.

WINTER CARE OF PIGEONS.

At this season, a few hints and general directions may be of service to the young fancier in caring for his pets. In our latitude, the winters are entirely too severe to allow much success in breeding, especially from high-class fancy pigeons. Common orders, house pigeons and hardy cross breeds, such as the Antwerp and dragons, may occasionally raise a few squabs. But these, while maturing, will miss the sunny spring days and warm weather. All their food will be consumed to keep a small spark of life within them, and they will often grow up weakly. Again, could strong and hearty young be raised, it would be at the cost of stamina in the parents. They may breed well enough in the winter, but then in the spring—the most successful time for raising stock—the hen will be worn out. So from the above it will be seen that it is unadvisable to attempt to breed during the winter. Let the birds rest, now, and then in the spring you may raise squabs—fine and large—to your heart's content. In order to prevent the pigeons breeding, they should, if possible, be separated—the cocks all in one loft and the hens in another. If this is not possible, then remove all heating material, and the birds will seldom show any inclination to breed. Care must be taken to avoid all draughts, and on cold nights the windows should be closed; on the coldest days only being opened while the sun shines in the area. Pigeons cannot bear the cold well, but can stand any amount of warmth—that is, natural heat. Artificial heat is unnecessary and weakens them. Do not, under any circumstances, heat the loft; but see that there are no cracks for the wind to enter.

As to cleanliness, so much care is not required. The loft need only be cleaned once or twice during the entire winter. The water need only be given fresh once a week. If it freezes in the fountain, it should be melted each morning by pouring in boiling hot water. The bath should be filled occasionally on warm days.

As to food, the supply must be constant and unstinted. Either let there be food always in the loft, or else feed as much as the birds will eat twice a day, at daylight and about four in the afternoon. Corn is the best food, as it is the most heating. It must constitute the staple article, and can be fed the whole winter, although an occasional feed of wheat, for a variety, is useful. A little hemp seed will act very well as a tonic, but must not be given too heavily. Stale bread, if it can be procured in sufficient quantity, has no superior as a nutritious and highly relished article of food.

In conclusion, let us urge upon young fanciers, especially, (and there are many older ones to whom the advice may not be useless,) that *common sense* be abundantly employed in the matter of ventilation, &c. Because we have said that an excess of cold is very injurious to the most delicate varieties, the reader is not to infer that the birds are to be confined all the time. On the contrary, we would insist upon the importance of allowing them access to the area or the open air, as the case may be whenever the weather will permit. Then, when the sun sets, if the windows are tightly closed, the birds will profit all the more by the greater comparative warmth at night.—*W. Atlee Burpee, Philadelphia, Dec*, 1, 1875.

For THE LANCASTER FARMER.

PRESERVATION OF FRUITS AND VEGETABLES DURING WINTER.

The culture and harvesting of our farm and garden crops in the northern half of the nation are mostly over, and now the safe preservation of our late products requires our careful consideration. After spending much labor, skill and care to produce them, it would be a sinful waste to let any portion of them be lost for want of careful protection and storage.

Cabbages, celery and leeks are generally dug up and laid in trenches closely, the cabbages covered with soil all but their heads, and the celery and leeks covered all but their upper leaves. After the soil about them gets hard frozen, a sprinkling of straw or corn-stalks is put over them. They keep well all winter, and are readily got when needed.

Esculent roots are generally stored in cellars and caves; the different species in different temperatures; that for beets, carrots and potatoes should be above the freezing point five or ten degrees, *especially potatoes*. Dry pulverized soil should be mixed among the roots of beets and carrots to retard evaporation from them. Turnips and fall radishes should be kept in a temperature five or ten degrees below the freezing point; indeed, the ruta baga is not injured if the temperature gets down to zero at times, in a close shed or outhouse, lined with straw; turnips and radishes will keep well, and being covered on top with straw, we have often preserved them in heaps, and covered thick with soil in the open fields, and in heaps, and built stacks of straw and corn-stalks above them. Where they are used daily, they have to be stored where they will readily be got at in all weathers.

Tree fruits are generally stored in dry rooms; a temperature slightly above the freezing point will do for them. Yet many varieties will do well in ten degrees below the freezing point. A cold temperature for a while is not so injurious to the long preservation of vegetables and fruit as are sudden transitions from heat to cold and from cold to heat.

A dry and pure atmosphere is essential for the long keeping of fruits and vegetables, and a certain degree of darkness is also necessary. When the doors and windows of cellars, caves and fruit rooms are opened to admit fresh air, and allow the escape of foul air, light also gets in; but then it is necessary, as it purifies the atmosphere. Ventilation should be attended to at all favorable opportunities. Opposite doors and windows carry off the foul air more quickly by their draughts. They should be opened on days of mild weather and shut up close on nights. The deeper cellars and caves are in the ground, the warmer they are. They need large ventilation, even in cold weather. A thermometer should be hung in the middle of every cellar, cave, and fruit room, then the temperature can always be ascertained, to direct the amount of ventilation needed.

Most of the readers will know all the above statements; but some may not know. Farmers send their children to school to learn what they themselves have learned, and hired illiterate helps go to night schools to learn what others know. THE FARMER is a *school* for the *farm* and *garden*. Every article will benefit some readers, by reminding them of what they know, and instructing those who do not know. Through it, we husbandmen can keep up a friendly conversation about our own professions, with each other, that will make us all better cultivators, grazers, breeders, and better dairymen, poultrymen and bee managers, all by our exchange of opinions and practices. By that, our *Cains* and *Abels* will be loving *brothers*, rejoicing in each other's successes.—*Walter Elder, Landscape Gardener, Philadelphia, Nov.* 22, 1875.

A COLORADO CATTLE RANGE.

A traveling correspondent of the Omaha *Herald* gives that paper an interesting account of the largest cattle range in that State. It belongs to Mr. J. W. Iliff, and is 156 miles long, and begins at Julesburg on the east, and extends to Greeley on the west. It includes bottom and upland ranges, and has several camps or ranches. The chief ranche is nearly south of Sidney, and about 40 miles from Julesburg. At this ranche there are houses and sheds, and some more than two sections of land fenced in. All the cattle bought by Mr. Iliff are turned over to him and branded at this place. Here are his private stock yards, corrals, chutes, and all the necessary conveniences for handling cattle. It is on the South Platte river, and of course has fine watering

facilities, while from the bottom land adjacent plenty of hay may be cut for the use of the horses employed in herding. He cuts no hay for his cattle. They live the entire year on the rich native grass on his range, and with the exception of a severe winter now and then, the percentage of loss is not very great. Mr. Iliff is a thorough cattle man, and from his long experience has a perfect knowledge of the business. He has bought and now owns some twenty thousand acres of his present range, and will undoubtedly purchase more land as soon as it comes into market. He now owns 26,000 head of cattle, and will have this number after his sales for the present year are completed. The number of calves branded this year on his ranche will be from 4,500 to 5,000 head, and his sales of three and four-year-old steers and fat cows the present fall will probably amount to about the same number. He said he expected to realize the sum of $33 per head on his sales this year. At this rate 4,500 head would bring him the snug little sum of $148,500. To take care of this immense herd he employs from twelve to thirty-five men—very few usually in the winter and the largest number during the "round ups" in the spring. At the present time, he has twenty-four men employed, and he is cutting out of his herd the four-year-old steers and fat cows which he intends to ship. While engaged at this work the same men are gathering the cows with unbranded calves, which they put put into corrals near by, and after the calves are branded they are turned loose with the herd again. His herd is rapidly being graded up by the introduction of thoroughbred Short-horn bulls. In addition to the cattle raised on his ranche, he deals largely in Texas and Indian cattle, and has now advertised for 20,000 head of Texas cattle to be delivered at his ranche in July of next year. Mr. Iliff estimates the increase of cattle from his home here—outside of purchases and sales—to be about 70 per cent. per year, and about equally divided as to gender. His shipping points are at Pine Bluffs and Julesburg on the Union Pacific, and at Deer's Trail on the Kansas Pacific.

Mr. Iliff's policy is to keep his expenses as low as possible, having the keeping and safety of his cattle constantly in view. Last year the expense of herding, etc., amounted to less than $15,000, and will amount to a still less sum this year. But the losses from theft and death some years are frightful. The winter of 1871–2 was very severe. There were deep snows over his range that remained on the ground a long time, and the storms were incessant. In the midst of these storms Mr. Iliff visited his ranche and found his cattle literally dying by thousands. On the islands in the South Platte river he found and drove off into the sand hills on the south side, after great exertion, some 2,700 head, and of this number less than half have since been recovered. Their bleaching bones now whiten the plains in the vicinity, where they were frozen and starved to death, and those that were recovered were found in two different States and four different territories in the Union. More than $24,000 were expended in trying to find them. Nor was this all. It was impossible to tell for a number of years how much the loss had been. His books showed nearly five thousand head unaccounted for. No trace of them beyond skeletons could be found, and at last this number was charged to profit and loss account, and the books balanced for a new start. This large number would probably have averaged at least $20 per head could they have been sold the fall previous, and at this rate they would have amounted to $100,000. His capital invested in the cattle business is estimated at $500,000, and yet from its very nature he is liable to lose half of it during the coming season. Like other business ventures, if a man goes into it, of course he takes the chances.

An Arizona girl shot her lover, and then nursed him tenderly till he died. His last words were, "I forgive you Mary; you did it with an ivory-handled pistol."

THE SNOWS OF LAST YEAR.

The following tables of the snows which fell last winter will be interesting as a matter of record, and for comparison with the snow fall of the present winter. The first record was kept by a citizen of New Oxford, Adams county, in this State, where thirty-two snows fell during the winter, as follows:

No.	Date.	Depth.	No.	Date.	Depth.
1.	Nov. 20	1 inch.	17.	Feb. 7	1¼ inches.
2.	" 21	squall.	18.	" 11	6 "
3.	" 22	"	19.	" 12	1 "
4.	Dec. 1	¼ inch.	20.	" 14	¼ "
5.	" 8	½ "	21.	" 19	1½ "
6.	" 10	¾ "	22.	" 20	3 "
7.	" 20	9 "	23.	" 27	squall.
8.	" 22	½ "	24.	Mar. 1	6 inches.
9.	Jan. 2	½ "	25.	" 3	2 "
10.	" 7	¼ "	26.	" 5	1 "
11.	" 13	1 "	27.	" 7	8 "
12.	" 18	1 "	28.	" 10	squall.
13.	" 24	2 "	29.	" 17	¼ inch.
14.	" 27	1½ "	30.	" 18	¼ "
15.	" 29	1 "	31.	" 21	¾ "
16.	" 31	6 "	32.	" 24	2 "

Aggregate depth, 57½ inches.

The following record, showing the snow-fall at Paradise, in this county, was kept by Milton B. Eshleman. It will be seen while the number of snows registered is considerably less, the amount exceeds in depth that which fell at New Oxford by 2½ inches:

No.	Date.	Depth.	No.	Date.	Depth.
1.	Nov. 29, '74	squall.	13.	Feb. 11	6 inches.
2.	Dec. 1	"	14.	" 19	2 "
3.	" 8	"	15.	" 20	4 "
4.	" 11	1½ inches.	16.	" 27	½ "
5.	" 20	5 "	17.	Mar. 1	5 "
6.	Jan. 1, '75	1 "	18.	" 3	hail all day.
7.	" 12	1 "	19.	" 5	3 inches.
8.	" 18	2 "	20.	" 7	10 "
9.	" 24	1 "	21.	" 24	4 "
10.	" 28	2 "	22.	Apr. 13	3 "
11.	" 29	2 "	23.	" 18	1 "
12.	" 31	4 "	24.	" 20	2 "

Aggregate depth, 60 inches.

The amount of snow which fell in Eastern Pennsylvania seems to have differed greatly. One account we saw gave the aggregate at 79 inches, while another record, kept at Carlisle, Pa., foots up 118 inches.

HOG CHOLERA—COAL FOR HOGS.

The losses from hog cholera seems to be appalling in many parts of the Western country, and may well excite serious apprehensions in districts not yet affected. Indeed, I know of no other subject which addresses itself so directly and so immediately to those who feel an interest in the welfare of those engaged in agriculture as this. I am not advised that its cause has been clearly ascertained, or a successful remedy prescribed. Is it contagious or epidemic? are questions, I believe, still open to controversy. Surely it is not beyond human investigation, and what more important task can the State Agricultural Society, the State Grange, or other associations of those who may be interested in the subject, take upon itself, than the employment of thoroughly competent persons to investigate the subject to its very bottom and see if there be no way of preventing its approach and no remedy for it when it has come. No doubt many intelligent farmers who have stock suffering from this disease are trying remedies, some of which, at least, we hope may prove successful. If they will favor you with an account of their efforts and their results, especially when successful, they will render an important service to the balance of your readers.

The hog seems to crave carbon in a concentrated form, and hence we may conclude it is necessary to his well-being. He will eat charcoal freely, which is tasteless, and is not nutritious. From the same natural prompting we see them eat wood when so decayed that they can do so.

For myself I have for many years been in the habit of feeding my hogs with an abundance of our common bituminous coal, preferring the poorest, or that which contains a large amount of sulphur and iron, and I think with the happiest results. Let a farmer who has never tried it, throw in a lump of coal as large as his fist, and he will be surprised to see the hog leave the corn and crunch the coal, as if it was the most luscious morsel. Sulphur has long been known as a valuable remedial agent for hogs, and iron is a well-known tonic, acting specifically upon the blood, thickening and strengthening it. Here, then the hog, by eating the coal, gets other important elements besides the carbon.

I have never known a hog well supplied with this coal, to be sick or off his feed a for single day, and although I cannot give figures showing actual results of careful experiments to prove it, I believe hogs thus supplied will eat more and assimilate their food better, will make appreciably more pork, with a given amount of corn, than those which are without it. At least, I am well satisfied with the way in which my hogs thrive—grow and fatten—under this treatment. Coal is cheap, and others if they have not may try it at little expense.—*Judge Caton, in Prairie Farmer.*

THE MAD ITCH—A NEW CATTLE DISEASE.

The Grand Rapids (Michigan) *Democrat*, of a recent date, says great excitement prevails among the farmers in the vicinity of Lawrence, Van Buren county, over a terrible disease that has broken out among the horned cattle, and threatens destruction to numbers. They seem to be in the utmost pain, are continually raking their heads against all sharp objects near them, and will search and tear till the skin and flesh is literally torn off, leaving the bone exposed. They keep this up until death ensues. It has taken the farmers wholly by surprise, as no disease has ever been known among the cattle in this vicinity before. It comes so suddenly and kills the animals so quickly that time is hardly given to treat the poor brutes. Animals apparently in perfect health will all at once commence this scratching and throwing upwards of their heads, as if catching their breath, and will die within 10 hours. Farmers are using the utmost caution to keep it from spreading, as they fear it is a contagious disease, by burning tar in yards and stables, and also daubing it on their noses. In a single day one farmer living in Lawrence lost two splendid cows, valued at seventy dollars each. Should the disease spread, it will cause a general depression among the farmers and grazers, as there are a great many who devote considerable time to the raising of cattle and dairying in this section of Van Buren county, and also many poor men who depend almost wholly on their cows for support during the winter. Some pretend to know the disease and call it the "mad itch," and declare that in other localities (out of Michigan) it has carried off numbers of cattle, all remedies failing to counteract it.

The following from the Greencastle (Pa.) *Echo*, indicates that this same disease is attacking cattle simultaneously in widely-separated districts, and it will be well for our farmers to take measures to guard against its spread: "A valuable cow belonging to Mr. David L. Martin, of Middleburg, was taken sick and acted in such a curious manner as to attract the attention of himself and neighbors. On examination, it was discovered that the one side of her lower jaw was bared of hair for about two inches, caused by the rapid friction from rubbing on the fence, and that her neck was very much swollen. The cow acted as if crazy, and continued rubbing her jaw on the fence for several hours, when she suddenly died. Mr. Martin at once proceeded to haul her carcass to the woods, and was followed by his watch dog, who frequently smelled of the dead body, and shortly after returning home the dog was taken with the disease, acted in the same manner as the cow, and died in a few hours. Mr. Martin became alarmed and called in a veterinary surgeon to examine the dead bodies, who pronounced the disease "mad itch," which is fatal to all animals that contract it. It is very rare in the United States, and these are the first cases that have ever occurred in this part of the country."

"Heavens! what a cow!" was the approving remark of a teetotal judge of Vermont, after swallowing a potent punch which had been offered him as a glass of milk.

OUR NATIONAL CENTENNIAL.

Details of the Arrangements for the Great International Exhibition of 1876.

The act of Congress which provided for "celebrating the one-hundredth anniversary of American Independence, by holding an International Exhibition of Arts, Manufactures and Products of the Soil and Mine," authorized the creation of the United States Centennial Commission, and entrusted to it the management of the exhibition. This body is composed of two commissioners from each State and Territory, nominated by the respective Governors, and commissioned by the President of the United States. The enterprise, therefore, is distinctly a national one, and not, as has sometimes been stated, the work of a private corporation.

The exhibition will be opened on May 10th, 1876, and remain open every day, except Sunday, until November 10th. There will be a fixed price of 50 cents for admission to all the buildings and grounds.

The Centennial grounds are situated on the western bank of the Schuylkill river, and within Fairmount Park, the largest public park in proximity to a great city in the world, and one of the most beautiful in the country. The Park contains 3160 acres, 450 of which have been enclosed for the Exhibition. Besides this tract, there will be large yards near by for the exhibition of stock, and a farm of 42 acres has already been suitably planted for the tests of plough, mowers, reapers, and other agricultural machinery.

The Exhibition buildings are approached by eight lines of street cars, which connect with all the other lines in the city, and by the Pennsylvania and Reading railroads, over the tracks of which trains will also run from the North Pennsylvania and Philadelphia, Wilmington and Baltimore railroads. Thus the exhibition is in immediate connection with the entire railroad system of the country, and any one within 90 miles of Philadelphia can visit it at no greater cost than that of carriage hire at the Paris or Vienna Exhibition.

The articles to be exhibited have been classified in several departments, which, for the most part, will be located in appropriate buildings, whose several areas are as follows :

DEPARTMENT.	BUILDINGS.	ACRES.
1. Mining and Metallurgy, 2. Manufactures, 3. Education and Science,	Main Building,	21.47
4. Art,	Art Gallery,	1.5
5. Machinery,	Mach'y Building,	14·
6. Agriculture,	Agricu'l Building	10.
7. Horticultural,	Hort'l Building,	1.5
Total.....		48.47

This provides nearly ten more acres for exhibiting space than there were at Vienna, the largest International Exhibition yet held. Yet the applications of exhibitors have been so numerous as to exhaust the space, and many important classes of objects must be provided for in special buildings.

An important special exhibition will be made by the United States Government, and is being prepared under the supervision of a board of officers representing the several Executive Departments of the Government. A fine building of 4½ acres is provided for the purpose, space in which will be occupied by the War, Treasury, Navy, Interior, Post-office, and Agricultural Departments, and the Smithsonian Institute.

The Women's Centennial Executive Committee have raised $30,000 for the erection of a pavilion in which to exhibit every kind of women's work. To this collection, women of all nations are expected to contribute.

The list of special buildings is constantly increasing, and present indications are that their total number will be from 200 to 250. Most of the important foreign nations—England, Germany, Austria, France, Sweden, Egypt, Japan and others—are putting upone or more structures each, for exhibiting purposes, or for the use of the commissioners, exhibitors and visitors. Offices and headquarters of this kind, usnallly of considerable architectural beauty, are provided by the States of Pennsylvania, Ohio, Indiana, Illinois, Michigan, New Jersey, New York, Connecticut, Massachusetts, New Hampshire, Missouri, Kansas, Virginia, West Virginia, Wisconsin, Iowa and Delaware; and it is likely that others will follow the example.

A number of trades and industrial associations, which require large amounts of space, will be provided for in special buildings. Among these are the photographers, the carriage builders, the glass makers, the cracker bakers, the boot and shoe manufacturers, besides quite a number of individual exhibitors. The great demands for space will probably render this course necessary to a considerable extent, especially for exhibitors who have been tardy in making their applications. In the main exhibition building, for example, 333,300 square feet of space has been applied for by the beginning of October by American exhibitors only; whereas, the aggregate space which it has been possible to reserve for the United States Department, is only 160,000 square feet, about one-third of which will be consumed by passage ways.

The Machinery Building, like the others, is already fully covered by applications. There are about 1,000 American exhibitors in this department, 150 English, and 150 from other European countries—which is about 250 more than entered the Vienna Machinery Exhibition. Extra provision is being made for annexes to accommodate the hydraulic machinery, the steam hammers, forges, hoisting engines, boilers, plumbers, carpenters, etc.

Power in the Machinery Hall will be chiefly supplied by a pair of monster Corliss engines. Each cylinder is 40 inchss in diameter, with a stroke of ten feet; the fly-wheel is 31 feet in diameter, and weighs 55 tons, the horse-power is 1,400, and the number of boilers is 20. This engine drives about a mile of shafting.

For the Art Exhibition, the most eminent American artists are understood to be at work, and it may be confidently stated that, especially in the department of landscape painting, the United States will present a finer display than the public has been led to expect. Quite aside from the contributions of American artists, applications from abroad call for more than four times the exhibiting space afforded by the great Memorial Hall. Provision for the surplus will be made in temporary fire-proof buildings, though all exhibitlng nations will be represented in the central Art Gallery.

The Secretary of the Navy has arranged that a United States war vessel shall call next spring, at convenient European ports, to collect and transport hither to the exhibition, the works of American artists resident in Europe. Among the ports thus far designated are: Southampton, for England; Havre, for France; Bremen, for Germany; and Leghorn, for Italy; if desirable, others may be added.

Mr. Bell, the eminent English sculptor, who designed the groups for the plinth for the great Albert Memorial in Hyde Park, London, is reproducing in terra cotta, at the celebrated wores in Lambeth, the one which symbolizes America. The figures in this group are colossal, covering a ground space of fifteen feet sqnare. It will probably be placed in the great central gallery, opposite the principal entrance.

The Art Exhibition will include, in addition to the works of cotemporary artists, representative poodnctions of the past century of American art—those, for instance, of Stuart, Copley, Trumbull, West, Alston, Sully, Neagle, Elliott, Kennett, Cole. These, as well as the works offered by living artists, will be passed upon by the Committee of Selection, who will visit for the purpose New York, Boston, Chicago, and other leading cities, in order to prevent the needless transportation to Philadelphia of works of art not to the standard of admission.

A large number of orders and fraternities have signified their intention to hold gatherings in Philadelphia during the period of the exhibition. Among those who may now be enumerated, are the Grand Lodge of Penna., Independent Order of Odd Fellows; Grand Encampment Independent Order of Odd Fellows; Grand Lodge U. S. Independent Order of Odd Fellows; Grand Commandery Knights Templar; Grand Army of the Republic; Presbyterian Synod; Caledonian Club; Portland Mechanic Blues; Welsh National Eistedfodd; Patriotic Sons of America; California Zouaves of San Francisco; an International Regatta; the Life Insurance Companies; National Board of Underwriters; State Agricultural Society; 2d Infantry, N. G., of California; Philadelphia Conference, Methodist Episcopal Church; Cincinnati Society; American Dental Convention; Catholic Total Abstinence Union of America; Independent Order of B'nai Berith; National Alumni Association; Salesmen's Association: 5th Maryland Regiment; American Pomological Society; Malster's Association of the United States; Army of the Cumberland; Humboldt Monument Association; Christopher Columbus Monument Association; Board of Trade Convention; International Typographical Congress; Rifle Association of the United States; Centennial Legion; Philadelphia County Medical Society; International Medical Congress; Old Volunteer Fire Department of Philadelphia.

Bureau of Agriculture.—Rules and Information for Exhibitors.

Reception.—Objects for exhibition will be admitted to the Agricultural Building on and after the fifth of January, 1876.

Woods, grains, grasses, wool, flax, cotton, agricultural machinery, and all objects, *except* fruits and other perishable articles, and live stock, must be located previous to April 19th, 1876.

Fruits.—Fruits will be admitted in their season. Models in plaster or wax may be substituted for tropical fruits.

Vegetables.—Vegetables and all other perishable products will also be admitted in their season.

Dairy Products.—Dairy products will be admitted on Wednesday of each week during the period of the exhibition.

Machinery.—Shafting and steam power will be furnished to exhibitors desiring to display in motion such machines as cotton gins, sugar presses, plantation mills, threshers, fanning mills, etc.

Necessary power will be supplied gratuitously only for the purpose of exhibiting the machinery in operation.

Boilers Doing Work.—Manufacturers of farm and plantation boilers, who may wish to exhibit them doing work, should notify the Chief of the Bureau on making application for space.

There will be lines of shafting extending lengthwise of the building. These will have a speed of 120 and one of 240 revolutions per minute.

Exhibitors must supply, at their own cost, the pulleys that they may require upon the main shafts, as well as counter shafts, and all necessary appliances.

Pulleys for main shafts must be balanced, in halves, of not more than three feet diameter, and secured so as not to injure or weaken the shafting.

The mode of securing pulleys and counter-shafts must be subject to approval of Chief of Bureau.

Exhibitors will be required to assume supervision of all gear supplied by themselves, and furnish attendants to operate their machinery.

Exhibitors of agricultural machinery are requested to furnish the following information, and also a drawing to a scale of ¼ inch to the foot, of the plan and distribution of the objects, and if power is required, must state definitely the—

Actual horse-power required for each machine.

Cubic feet of steam used per hour at a pressure of seventy ponnds.

Diameter of steam, water, or gas pipes.

Diameter of discharge or drain pipes.

Diameter, width of faces, and number of revolutions of driving pulleys.

Fire and light can only be used by special permission of the Chief of Bureau.

Field Trials.—Manufacturers designing to compete in the field, will be at liberty to use the machine or machines placed by them on exhibition in the Agricultural Building, or may use a less costly one, provided it is identical in construction and working parts.

Exhibitor's Space.—The space granted to an exhibitor within the building is available floor space exclusive of the intermediate passages between the exhibits. It may be utilized in various ways, as follows:

By placing the products exhibited directly upon the floor.

By constructing a low platform upon which they may be placed.

By erecting counters on which they may be arranged.

By erecting ornemental columns, pyramids, cones, and partitions to obtain wall space.

By erecting show cases in which the exhibits may be tastefnlly displayed.

Show Cases.—There will be no charge for space, but all platforms, counters, ornamental partitions, show cases and appurtenances, must be erected at the expense of the exhibitor. No particular form or design is prescribed for the cases, counters, etc., but they must not exceed the following heights, without special permission from the Chief of Bureau :

Show Cases and Partitions.—Twelve feet above the floor.

Counters.—Two feet six inches above the floor, on the side next to the passage way.

Platforms.—One foot above the floor.

Drawings.—In order to insure the advantageous and satisfactory location of products exhibited, applicants for space desiring to erect show cases, counters, or partitions, must furnish to this Bureau a scale drawing, or tracing, showing clearly the elevation and ground plan of the same, and especially indicating the sides of the cases intended to be open for inspection.

Railings.—Machinery in motion must be enclosed with railings of a uniform height of two feet six inches. Exhibitors of other articles will have the privilege of placing railings of approved design around the space allotted to them. All such railings must not exceed the height of two feet six inches above the floor level, and may be attached to the case by projecting brackets, or be supported by posts from the floor. In every instance the floor space granted *includes* the area embraced by the railing. The line of the railing will be placed upon the line of the passage way, and no railing will be allowed to project beyond the case or counter into the passage way.

Pendants from the Roof.—Exhibitors desiring to display products pendent from the roof trusses, must in every case obtain special permission to that effect from the Chief of Bureau.

No exhibitor will be permitted to display products in such a manner as to obstruct the light or vistas through the avenues and aisles, or occasion inconvenience, injury, or disadvantageously affect the display of other exhibitors.

Signs.—Signs will not be allowed to project beyond the floor area of the space allotted, nor will signs made of canvass or paper be permitted. The size of all signs will be subject to approval.

Special Installation.—The nave, avenues, aisles, and public passage ways remain under the control of the United States Centennial Commission; and no trophies, decorations, portals, fountains, or other special exhibits will be permitted in them, except by special permission of the Director-General.

Location.—Each column within the building will be lettered and numbered; the numbers designating the lines of columns lengthwise, from south to north, and the letters, the lines crosswise, from west to east. Each exhibitor will have his location defined with reference to the nearest column, and the official direc-

tory of the building will give the positions according to this system.

CARDS.—Cards supplied by the Centennial Commission may be affixed to goods, stating the exhibitor's name, address and place of manufacture, class of objects, catalogue number, and price.

Exhibitors' business cards, circulars, and samples, may be placed within their space for distribution, but visitors shall not be solicited to receive them.

PERMIT FOR SPACE.—When the allotment for space is definitely made, each exhibitor will be notified and furnished with a permit for space.

ENTRY OF GOODS.—*All exhibits must be entered at the office of the Chief of the Bureau of Agriculture, and before unpacking or arranging the articles, the entry must be endorsed on the permit for space.*

DELIVERY OF GOODS.—All products arriving at the doors of the building by rail, wagon, or otherwise, will be received by the Bureau of Transportation, and delivered on the space granted. Each exhibitor will then be expected to unpack and arrange his goods without delay. Provision has been made for the removal and safe storage of empty boxes and cases immediately after unpacking.

LIVE STOCK.—The Live Stock Exhibition will be held during the months of September and October, 1876. Special rules and regulations will be issued on the subject.

The Chief of the Bureau of Agriculture has charge of the allotment of space to exhibitors.

The right to alter or amend these rules is reserved.

OUR PARIS LETTER.

Farming on the Continent of Europe.

Correspondence of THE LANCASTER FARMER.

PARIS, November 30, 1875.

THE SUBJECT OF SELECTION OF SEEDS.

and of wheat particularly, occupies much attention. As a principle, it is said, we ought not to sow wheat in the place where it has been produced. True, it is an excellent practice to renew seed wheat, but is it necessary to do so every year? Competent authorities who practice what they think, reply no. So long as the yield of grain shows no falling off, and the grain displays no signs of degeneracy, easy at all times to perceive, there does not appear to be any necessity for changing the seed. Some farmers adopt the practice of selecting every year, a quantity of the plumpest grains, sowing them apart in a kind of nursery, and thus keep up a constant supply of sound seed. Unfortunately these kind of sowings are generally too thick; the axiom being forgotten, that the richer the soil the thinner should be the sowing. A soil may be rich and well prepared, but these conditions will not produce good grain unless the seed be in itself "robust." The vigorous plant is that which has had during the stages of germination, the largest supply of matters stored in the seed for its food. It is not counted good farming to cultivate numerous varieties of wheat, save where the farm is very extensive, and it be desired to have the crop mature at some intervals, to allow of the better distribution of harvest work. For rude climates and poor soils the bearded variety of wheat with its fine straw, is generally chosen; the other kinds would simply fail. For milder climates and richer land, a variety of wheat more productive, with stronger straw and a harder grain, must be preferred. The crop will thus escape the chances of being laid and the ears from shedding the grain.

FARMING SOCIETIES IN FRANCE

are commencing to adopt some excellent measures; many have already purchased some of the newest types of agricultural machinery, in order to initiate farmers into their use, while impressing them with a sense of their importance. From machinery, the plan spread to test seeds, and it has now become the turn to experiment with manures. Samples of these are obtained, and tried under common conditions as to soil and crops. Thus each farming society has its experimental field. The results of a total series of trials, with divers fertilizers, may be thus summarized; commercial manures alone ought not to be relied upon to maintain the richness of a soil; they ought only to be considered as the complement of farm yard manure, taking care to alternate the phosphate with nitrogenous and potash preparations.

M. Goffart was the first in France to adopt the plan of preserved green soiling in covered trenches, as fermented

FOOD FOR LIVE STOCK DURING WINTER AND SPRING.

Every autumn he invites those who please to honor him with a visit, to come and witness his process of preserving maize. Three machines, driven by steam, cut the fodder into lengths of one inch; for every six shovels of the green stuff, a workman adds one of cut straw: the mixture is then thrown into the open trench; five tons per hour is the quantity thus manipulated, and fifty represent the produce of an acre. The maize is cut first on coming into flower. Of course, it can also be stored in an unchopped state. When the weather is wet at the time of putting into the trenches, a more liberal supply of salt is distributed over the mass, at the rate of seven pounds to the ton, strewing a little in the bottom of the trench, scattering it on the sides—never in the middle—and using it liberally on the whole surface of last layer. Too much salt would injure the health of the cattle, that ought never to receive more than two ounces of salt daily. Before covering with clay—never with sand—a layer of dry leaves or straw may be advantageously placed over the maize. Any fissures that may open, close them by a stamp of the foot, and in a few days the earth will have absorbed the fermenting gas. During frosty weather, the food for the morning should be extracted from the pit the previous evening, and *vice versa*; forty pounds is a sufficient average feed for a cow, with ten pounds of hay given at three intervals, the first on entering the shed in the morning.

HORSE BREEDING IN FRANCE

is commencing to exhibit signs of practical amelioration. One of the chief obstacles hitherto, has been indifference as to the food. This has been almost a rule respecting horses of a light breed, that were generally left to find out their living during their growth as best they could; precocity was no object, and at the end of four or five years they were certain to sell for something. The matter was different respecting heavy draught animals; in their case, generous feeding during growth was repaid by early development and handsome prices. At present, the fashion is generally to cross native races with English blood; but French breeders forget, or desire not to recall, that without liberal feeding, there can be no good race of animals. Now, liberal feeding means oats, and such is the food that is not forthcoming; instead, straw and hay, with occasionally roots, are given. What could a race, post, cab, or omnibus horse do in the shape of work, if, instead of rations of oats, their stomachs were stuffed with straw and hay?

There is a marked tendency for the

PRODUCTION OF IMPROVED BREEDS OF SHEEP.

Each agriculturist apparently desires to have a "species" of his own, but what he obtains is, of course, only a variety. The production of wool is no longer regarded as a paying speculation. France cannot compete with Australia, South America, &c., hence the aim is, the precocious production of meat and of wool at the same time. Now, precocity is not the privilege of any race; it is a mere question of feeding. M. Pilat is celebrated in the north of France for an excellent variety of sheep known as "Brebieres," formed by the dishley and a cross merino breed, which he maintains by careful selections and crossings. The lambs at their birth weigh from 9 to 12 pounds, and, like their mother, are objects of studied care in the matter of good feeding. When six weeks old the tails of the lambs are amputated; in March, castration takes place. The weaning is effected gradually and naturally, and it is in the happy selection of lambs to be retained as rams, that M. Pilat excels. With the males, the permanent teeth commence to show between the twelfth and thirteenth month. The animal is adult at 30 months. For fattening, he selects the animal having the chest broad and deep; eye lively; head small; forehead broad; hind quarter well developed; bones small; skin fine and supple. During the fattening, absolute tranquility, demi-obscurity, and regularity of feeding are observed. The lambs, which are in great request, are sold at the rate of sixteen sous per pound, live weight. It must be admitted that the period for paying fancy prices for rams of celebrated flocks is dying out. Agriculturists have discovered how to develop precocious breeds, and never to attempt such unless abundant and rich food be obtainable. To have a prize animal, and not the means of feeding in keeping, resembles much the possession of the white elephant. In

THE RECENT AGRICULTURAL SHOW AT LUXEMBOURG,

held in honor of the twenty-fifth anniversary of the governorship of the King of Holland's brother, a few facts prominently stood out. The local breed of horses, resembling those of Hainaut, well adapted for draught work, but lacking a little in energy, were much remarked. They sell, however, for fr.12 to 1500; twenty years ago one-third of that sum was considered to be a remunerative price. Pigs, as everywhere else on the continent, are confined to the large and small English races; local breeds are rapidly disappearing. A threshing machine to be worked by two men—very common in Germany, attracted much attention; but turning machinery is not the work now-a-days for mankind; we seek the motive power in steam, air, the wind, and horses. Small farmers in France associate to purchase a threshing machine, worked either by steam or horse power. There was a threshing machine, also, that implement makers, it is hoped, studied. Instead of the two beating rollers having, as usual, a circular base, one of them was a cylinder with an oval base.

THE QUALITY OF BEET IS POOR THIS SEASON,

as compared with 1874; the yield of rich juice is notably less. On the other hand, the quantity of roots is superior. Sugar manufacturers, of course, complain, but the preparation of sugar promises to undergo a complete revolution by the use of the hydraulics instead of the continuous press, for the extraction of the juice. M. Viollette has set the question at rest, respecting the effects of partly stripping, during growth, the leaves off the beet root for cattle feeding. That practice, he shows by analysis, not only destroys the saccharine richness of the root, as well as the yield per acre, but introduces into the organism of the beet other matters instead of sugar.

THE VINE BUG CONTINUES ITS RAVAGES,

without any apparent diminution. No powder has been found of the hundreds essayed, to act as a cure; the best only prolong the life of the vine, but do not save it. The Faucon process, that of flooding vineyards in autumn for six or eight weeks, is even called in question; but the failures, on examination, show that vines so treated were already next to dead, or the soil marshy; neither after the inundation did the vines receive a manuring, which they ought. It is useless flooding a vineyard, almost naturally in such a state: the soil requires to be dried after the phyloxera are drowned, for such they really are. Experiments are being conducted with various varieties of American stocks, taken in Delaware, California, &c., and reputed capable of resisting the bug; the results have yet to be recorded.

OUR LOCAL ORGANIZATIONS.

Proceedings of the Lancaster County Agricultural and Horticultural Society.

THE DECEMBER MEETING.

The regular monthly meeting of the Society was held in Grant Hall, on Monday afternoon, the 6th of December, at 1½ o'clock.

The following members were present: Johnson Miller, president; Alex. Harris, secretary; John B. Erb, Calvin Cooper, John Miller, Henry M. Engle, John Grossman, Ephraim Hoover, Milton B. Eshleman, Amos Buckwalter, Mr. Hershey, Jacob B. Garber, Martin S. Fry, Levi Pownall, Levi S. Reist, Frank George, Simon P. Eby, John Huber, S. S. Rathvon, John M. Stehman, John Brady, Henry Erb, Dr. P. W. Hiestand, Peter S. Reist, J. Stauffer, Walter Kieffer, and the reporters.

JOHNSON MILLER said there was not much to report in regard to

THE CROPS AT THIS SEASON OF THE YEAR.

The winter wheat in his neighborhood looks very well. It is more thickly set this fall than last, and is smaller. The farmers are now going into winter quarters, and should therefore protect their stock by well-closed stables—ventilation, of course, being considered.

MR. ERB said that in his neighborhood the crops were about the same as reported by Mr. Miller. As regards the wheat stubble grass, it is a little thin, but what there is of it is good. The bee hives are lighter this fall than heretofore, and if they are not looked after they will be a total failure. In some of his hives he found on examination only two pounds of honey; in others there was not enough of honey in the hives to feed the bees. The bees should certainly be looked after.

MR. MILLER urged the importance of

BETTER ATTENDANCE AT THE MEETINGS,

and thought it a question that should engage the attention of every member of the society. The membership is very large, but for all this, only fifteen or twenty of them are regular attendants, and out of this number, five or six do all the talking. This he did not object to, but he thought a larger attendance ought to be had, and that all should participate in the discussions. This would make the meetings more interesting, and more information in regard to our proceedings would be given to the public. He hoped that at the next meeting there would be a large turnout, as there would be an election for officers for the year 1876.

The committee appointed to procure

A SUITABLE ROOM FOR HOLDING THE MEETINGS,

reported that they had looked at several and had come to the conclusion that the one in which the meeting was now being held would be the best as well as the cheapest, the rent of which would be $2 a meeting; the other rooms that the committee looked at would cost $2.50 per meeting.

MR. COOPER thought the room was too large, and that a smaller one near the centre of the city might be secured.

MR. HARRIS agreed with Mr. Cooper, and referred the society to the rooms of the Athenæum, where the society formerly met. It could be got rent free, and the only cost would be for the fuel for fire, which would amount to about $3 for the winter.

On motion, it was ordered that the next meeting be held in the Athenæum rooms.

A bottle of wine from mixed grapes and some apples were presented by Mr. Erb.

LEVI S. REIST presented a pear and some choice apples.

JOHN BRADY presented some very fine apples.

The Secretary said he had received an essay, unaccompanied by the writer's name or address, which he thought merited some attention from the Society. It was read as follows:

Farming, or Science on the Farm.

Who, in all this "broad, green earth," has more

need for understanding facts connected with his business, trade, or profession than the farmer? The very life of his success (as a farmer) in producing luxuriant and successive yields, is in the scientific knowledge he possesses of what he is doing. It is taue that this knowledge may be partially handed down by practical acquirements, from father to son, for ages, with considerable success, as in England, France and Germany: but in the knowledge thus acquired, little progress is attained, and that at a very slow rate. America is, or ought to be, the agricultural country of the world; and, since so vast an area is constantly being opened up to us, both South and West, it will be our own fault if we do not become opulent through our agricultural wealth alone. But to arrive at the acme of perfection in this branch of industry, we must understand the business we undertake, or the productions of our handiwork will take but a second place in the markets of the nations.

A farmer is both a manufacturer and a merchant, in every sense of the word: but if he does not turn out a good article, his merchandise will remain on his hands, or be sold at such a price as will not pay him for the production and exportation. Why does he fail in this? Why, simply because he thinks that farming is not a science, when it is as much so as chemistry. How, then, shall we make every farmer a scientific man? Why,

WE MUST BE TAUGHT TO LOOK FOR FACTS,

and to analyze them understandingly, and then draw such unerring conclusions from them, as does the scientific man of any other profession, that he may profit by them in his *manufacture* of the soil, and in raising the produce therefrom.

Whilst the chief talent, intellect and energies of most of the nations of the old world are exercised in the invention and production of the implements and munitions of warfare, by which they may be enabled to defend themselves from the attacks of their neighbors, or obtain a conquest over them, it is the destiny of our nation to prove that "peace may reign, and the sword be turned into the plough-share and reaper—depending on the justice of our cause and the strong arms and stout hearts of our yeomen to repulse all invaders of our tranquillity."

Thus positioned, it is our duty to profit by these blessings and show ourselves grateful for them in turning to account the wisdom given to us by the Creator, and the bounteous proffers by nature to aid us in the good work. To obtain good gold, silver, steel or iron, the scientist and essayist employ their utmost ingenuity in searching for first causes, and

SEPARATING THE TRUE METAL FROM THE DROSS;

for by amalgamation they produce a superior metal to that made from the raw ore. Every plant, too, is a dumb chemist, analyzing the earth and taking from it what it needs for its nurture, color and growth. Will not our farmers, then, aid these little genii, each of which contains within it the germ of an Eldorado—brought to his own threshold? There is no reason why farming and stock-raising should not be made as much a scientific study as any other business, and it only needs that those who undertake this healthy, independent occupation, should be impressed with the necessity of such acquirements as will enable them to produce any desired landscape of luxuriant growth, as does the painter his copy—by a knowledge and selection of his varied colors and the perspective. To enable the farmer to do this, it is but necessary that he should know the chemical components of each plant or vegetable; to know on what it feeds most voraciously, and what it rejects, so

THAT HE MAY GIVE IT THE SUSTENANCE IT NEEDS,

and keep from it that which tends to injure its growth and make it sickly. Not to do this to our children would insure for us the name of simpleton—if not a worse one. To expect the earth to supply, without our aid, a continuous crop of one cereal, is as wise as it would be to set a second and third person down to the same dish, from which the first has eaten all the provisions, and expect them to retire full and satisfied. If you would not expect these customs to pay you, do not expect remuneration from the earth, from which you withhold the required nutriment. Seek then to know what your plant requires; give that with a bounteous hand, "put your hand to the plow and turn not back," and your reward will be a golden garner.

There is yet one thing more that I would allude to, which is the

BENEFICIAL EFFECTS FROM THE CHANGE OF SEED

in agricultural operations, and the interchange of connection in stock raising. Growing the same crop in one locality, from the same seed, year after year, and raising cattle, &c., from the same family, without intermixture, often tends to deterioration. So far as seed is concerned, it needs no further proof than the fact that Canadian seed, when sown in our Middle or Western States, uniformly turns out heavier and a greater per centage per acre from the change.

MR. ENGLE said it would be well to follow the advice contained in the essay, as it contained many facts and good hints. The society should deal more with facts, and drop the use of opinions. He believed with the writer that there should be as much science in farming as in any other branch of business. Those who belong to the society, do not seem to take hold of it in this light. The masses of agriculturists seem to ignore this point. They seem merely to be following the footsteps of our fathers and forefathers, and are doing nothing to advance our cause in the least.

MR. HOOVER said that the essay contained a suggestion which struck him very forcibly, and that was in regard to seed—such as wheat and corn. He believed that

A CHANGE OF SEEDS SHOULD BE MADE EVERY FEW YEARS.

Seeds that grow on limestone land should be changed every few years for those which grow on barren or gravel land, and *vice versa*. Such an exchange, in his experience, always proved satisfactory. By continuing to sow one kind of seed all the time, the crop through time will become inferior in quality. In regard to live stock it is the same. The Chester county stock is good, but run it awhile and it will become inferior. We should cross and recross our breeds. He believed in it, practiced it, and was benefited. He thought that agriculture should become a study, as the farmers know too little about their soils. Hardly fifty of the farmers of this county know how to treat their soils. They know very little about science. The farmer should not be satisfied by merely looking on and doing what others did. He should read more, and make his occupation a study. If the doctor and lawyer would not read and study, so as to be posted up, they would soon be out of the age entirely. This is the same with the farmer. He is the person who can't know too much as regards his business. He should be constantly booking himself up on subjects relating to himself and work, and one of the greatest helps in this case is

THE FARMER, THE ORGAN OF THE SOCIETY,

which is a source of great information. Every farmer should take it and make it a study.

MR. MILLER agreed with all the gentlemen had said. If farmers would read more, it would doubly repay them. The most intelligent and prosperous farmers in this county are those who make reading a study. He urged the reading of THE LANCASTER FARMER, as well as three or four other agricultural papers. Nothing gives the progressive farmer more pleasure than to read his paper in the evening after his hard day's work is done.

The following essay was then read by Mr. Henry M. Engle:

"Paying too Dear for the Whistle."

Almost every school boy understands the meaning of this common proverb, and it being already a centenarian, the father of the school boy should be able to profit by the lesson. It is how ever, not only amusing, but passingly strange that we are so susceptible of being often persuaded against our stronger and better convictions. Is it want of firmness? We can hardly believe that such is the case, as sufficient firmness is exhibited on some occasions by every one. Have not many of us a weakness of being influenced by something which we cannot describe? Is it magnetism, psychology, persuasive or flowery language, or what? But that there is a something we do know, as the sequel will show. From the early ages until the present there had always been exchangeable commodities, consequently some wished to sell, while others were as ready to purchase. Such transactions have always been considered proper, provided the exchanges were fairly and legitimately made, and the custom holds good until this day, and upon such custom we have no criticism to offer. There is, however, another

TOO PREVALENT CUSTOM,

which is of both seller and buyer trying to get the advantage of each other, and which is considered sharp by those who are in the habit of dealing in this way; but has it not an evil tendency? or, even more, it has an evil effect, as it creates distrust and loss of confidence between man and man, which must to a great extent destroy their mutual and social relations. Where the parties are well matched the pecuniary advantages or disadvantages are generally pretty evenly balanced; but the confidence between them for integrity is naturally weakened. Where the parties dealing are unequally matched, the pecuniary advantage invariably accrues to the sharper.

There are also many instances where men who are generally shrewd and successful in their regular business get outwitted the moment they step beyond their accustomed routine, and in many cases they do not deserve the sympathy of their neighbor. For instance, a wealthy farmer who has his farm or farms clear of encumbrance and may have money and stock besides, but does not keep himself posted on anything outside of his business,

DOES NOT EVEN PATRONIZE HIS HOME PAPER

—an agent or peddler offers him something for sale which he really needs; the price is fixed, but the seller will let him have it at 20 or 25 per cent. below his retail price. The buyer, not being posted, in consequence of not reading the news of the day, with advertisements and prices of almost everything he may want, makes the purchase, but learns afterward that his neighbor purchased the same kind for half the price, or even less. The consequence generally is an indiscriminate anathema on all agents and peddlers in the land, some of whom we admit deserve it, but at the same time a few dollars would have saved him both his money and his curses. Such I would again say deserve no sympathy.

There is also a class who have an ambition to be ahead of their neighbors, and buy indiscriminately for such purpose, but meet with the same fate as the former. A few instances will prove our position. There is scarcely a season but there are agents traveling through this and other counties, offering to sell something new and superior in the line of fruits. Last season parties from a distance sold Foster, and other peach trees, representing that they could not be had in this county, selling them readily at 50 cents each, and some even higher, while at the same time scarcely a nurseryman in this and neighboring counties, but would have readily supplied them

FRESH FROM HIS GROUNDS AT HALF THAT PRICE.

Samples of grapes are carried about and vines sold (we are told) at $1.50 each, while the same varieties will be furnished by any home nurseryman at 50 cents each. If planters would expend but a trifle toward getting the necessary information, they might avoid paying too dear for many things that don't whistle. But perhaps it would be all the better in the end to encourage such agents, as it might bring people sooner to think, than by urging them to subscribe for their home papers. We do not envy either the seller or the buyer in such cases. A word to the wise is sufficient, and we all claim to be such in our own way. Subscribe for the home journal.

MR. ERB said that the essay contained a great many good hints, but he was afraid it would never reach the majority of the people, for the simple reason that they do not get THE FARMER or any other paper. In his neighborhood they have been troubled very much with tree peddlers, who always

CHARGE ABOUT THREE PRICES FOR THEIR TREES.

Those who do buy from these agents generally lose all of the trees, which die before they bring forth fruit. He could not understand why they did not buy their trees from home nurserymen. Then they would get them fresh from the ground, and if they should happen to be planted a little carelessly, they would thrive and grow anyway. The best plan to do with these traveling agents is to shut down on them. They always hold out great inducements. They have jars of the finest fruit, which is purchased at our best markets, and which they show to parties who are not posted, saying that it is a sample of the fruit which is borne by the trees they are selling. This he regarded as a

GREAT IMPOSITION ON THE PUBLIC,

and thought that the matter should be published, so as to expose the great rascality.

MR. ESHLEMAN was very much pleased with the essay. He said that he was much annoyed by traveling agents, and he was surprised to see how many people would buy trees from them. To some of them it was of no use to talk, for as soon as they were humbugged they would turn around and buy again from the next agent that would come along.

MR. COOPER, in referring to the matter, said that it looked very much as if the nurserymen had an ax to grind. As regards the agents, he did not blame them. Let them sell all the trees they can. In the end it would help the nurserymen, instancing that when the Ohio men overrun our county a few years ago, selling thousands of dollars worth of trees, they mostly all died, and the home nurserymen had a good thing of it in filling up the old holes.

MR. ERB thought it was the duty of this society to remove this blindness, and not let the public be humbugged in this manner.

IF THEY WOULD TAKE THE LANCASTER FARMER,

said Mr. Cooper, and papers of its class, they could avoid being humbugged in this way. In another sense, he believed that if a person paid well to learn a thing it would be best in the end.

MR. ENGLE said that such was not always the case. When a person gets bit once it does not always cure. These agents are not always to blame. They show you boxes of grapes, etc., in glass boxes, representing the fruits of the tree they offer to sell you. They all look very nice, but you don't ask if they will thrive and grow in this climate. In some cases they grow, in others they do not. The agents also show fine plates of apples and pears, and they are all right in their place. The Baldwin for the North is an excellent apple, but it is not adapted to this climate. We should know what we plant, and whether it will thrive in our climate, before we make the purchase. We never ask these questions, and therefore the agents are not to blame.

MR. ERB thought they were to blame, for they generally answered a great many more questions than were asked.

THE FARMERS AGAINST THE EXPRESS MONOPOLY.

A petition sent by Mr. Vick, to the publishers of THE FARMER, with a request to have it signed, was presented to the Society and signed by the members present. This petition, which is being largely signed all over the county reads as follows:

"Your petitioners, citizens of the United States,

respectfully represent that the change in the postal law made at the late session of congress, whereby the rate of postage on third-class matter was doubled, was not desired nor called for by any class of citizens, except those engaged in express transportation, and that they verily believe such change has been made under the instigation and secret influence of express companies for their own profit, and contrary to the interests of the great body of the people.

"Your petitioners would further represent, that in a country like the United States, the postal agency of government furnishes the only means whereby the remote and sparsely settled districts can be furnished with small packages of seeds, cuttings, bulbs, roots, cions and other matter which may be declared mailable by law, and that the late change in the law concerning third rate matter is an unnecessary and uncalled for burthen upon our homestead settlers and other remote communities, with no commensurate advantage to the government; and we therefore ask that the late rates upon third-class postal matter be immediately restored; for which, as in duty bound, we will ever pray."

The question proposed at a former meeting by Ephraim Hoover,

"WHAT HERDS OF CATTLE ARE THE MOST PROFITABLE

to be raised by Lancaster county farmers?" was now open for discussion.

Mr. Hoover said as he proposed the question, it would be well if he would say a word or two. He had been in the habit of raising cattle for a number of years, and after experimenting for several years, he found more good qualities in the Durham than in any other. From the Alderney we get a larger percentage of rich cream and butter and milk than from any other. The Devons were also spoken of as being next in this respect. But Mr. Hoover thought when you take all into consideration, the Durhams would surpass all other cattle that have been bred. They mature at an early age, and stand first and above all others. From a recent report he learned that out of a herd of grazing Durham cattle one of the bullocks at the age of three years weighed 1547 pounds. Another bullock of the same breed, herd and age, weighed 1340 pounds. The same report gave an account of the Devons of the same age and raised in the same way, the best of which weighed 1200 pounds. The Alderneys were also referred to. Being of the same age and raised in the same manner, they weighed less than 1000 pounds. Thus said the speaker, it will be seen that

THERE IS A DIFFERENCE OF SOME 200 OR 300 POUNDS IN FAVOR OF THE DURHAMS.

Another advantage gained in the Durhams is that they lose less weight in shipping than any other kind. They can also be kept in better condition, and fatten with less feed than any other cattle. They are also noted for their milking qualities. There are two kinds of Durhams. The one is noted for its milking qualities, the other for the bulk of beef they accumulate. You cannot fatten a good Durham milker. By feeding her for that purpose you can reduce the flow of milk, but you cannot fatten the animal. He doubted very much if a good fresh milking Durham could be found that was fat. For all purposes he preferred by far the Durham stock.

Mr. Grossman did not think it was profitable to raise any kind of cattle in this part of the county, where all the farming land was nice and clean. In the lower end of the county, where the farmers have much wet land that cannot be plowed, it is more profitable. The grass there feeds better than ours. As regards the raising of cattle at any place, he

PREFERRED THE ALDERNEY AS THE MOST PROFITABLE.

The bull calves should be sold to the butcher as soon as they are old enough. The heifer calves he would keep, and after they were weaned he would give them slop with bran and shipstuff for awhile, and and then bran to lick daily. He would also keep them in good pasture. In the winter salt should never be forgotten. At this season of the year they should be fed on fine hay and one or two quarts of bran and cornmeal mixed together. If attended to in this manner they will thrive, and at the age of two years they will calve, and after that they will pay well for their feed in milk and butter. After the third or fourth calf they generally bring a good price. We can get beef cattle from the west cheaper than we can raise them.

IN REFERRING TO THE MATTER OF THE DAIRY.

discussed at the last two meetings, Mr. Grossman said that in his part of the county—Warwick and Manheim townships—it would not pay as well as raising grain. We are too far away from the city to sell the milk, and the making of butter would not pay as well as grain. In speaking of Mr. Russell's large dairy farm, referred to by Mr. McComsey at the last meeting, he said that he had never seen it, although he was within a few miles of it this fall. As large as it is, he did not believe it could be worked as well as our small farms. He had tried dairies several years ago. He had twenty cows, summer and winter. They did well for a few years, but he soon found that his land was being exhausted. He had sowed corn to feed green when the pasture was short. The clover kept short all summer. He could not raise good crops any more. If he put too much in grass he could not raise enough straw and fodder to make as much manure as he ought to have. It is best not to keep so much stock during the summer. If we do, cows are the most profitable. In winter keep as much as can be fed well. If he would have fifty or one hundred acres of land like that around Conewago, adjoining his, he would keep no other kind of cattle but cows, summer and winter, and they would pay well and improve the farm.

Mr. Engle said it was a question that depended altogether on the purpose for which we raised cattle. In his estimation the

DURHAMS ARE THE BEST CATTLE FOR ALL PURPOSES.

For dairy purposes the Jersey and Alderney cattle are the best. To those who go into stock raising the Durhams are the ones. For milk and butter qualities the Alderney and Jerseys are best. The butter man who gets from 50 cts. to $1 a pound for his "gilt edge" butter, generally has a mixture of Alderney and Jersey cattle. This kind of butter cannot be made without Jersey blood in the cattle. If he was a dairyman, he would have a cross between the Jersey and Durham. Any breed of cattle, if properly selected, will make good milkers, if the breeder understands his business; the same is true in regard to beef cattle. He believes in cross-breeding.

On the question being asked by Mr. Powell, he said that the Durham milker stands dry for a very short season. While dry she picks up flesh very rapidly. He had a cow that would give milk only half the time. When she was dry she would become very fat, and when she gave milk she was very poor. This is the case with many other cows. In some there is no difference to be noted in this respect.

Mr. Hoover agreed with what was said by Mr. Engle. About four years ago he was in a stable where nothing but thoroughbred Durhams were kept. Some were very fat, while others were very thin and skinny. The gentleman who owned the herd remarked that the skinny ones put all in the bucket, and the fat ones all on their backs. He referred to the former as being a true specimen as to a real good milking Durham.

MISCELLANEOUS BUSINESS.

At this point of the proceedings, the President asked to be excused, as he wished to take the train for his home in Warwick township. The request was granted, and Mr. Henry M. Engle was appointed in his place.

Mr. Stauffer was called upon in regard to an essay he was to prepare and read before the society. He replied, and said he had prepared the essay, and that it would appear in The Lancaster Farmer, where all would have a chance to read it. [See page 182 of this issue.]

Levi Reist spoke of the failure of some of his grafted fruit trees. The trees seem to dry up at the stump and then die away. He would like to know if the cold winters or hot summers had anything to do with it.

Mr. Erb said the same thing occurred to him. In his, the stump would turn black and then the tree would die. The disease first commenced by the bark around the stump breaking open. He thought it was on account of there being too much sap in the tree. In trimming the trees, we should not cut away so many young sprouts. Let them stand to take up some of the sap.

Mr. Engle said he lost a number of his apple trees by a blight similar to the pear blight. If not arrested in time the tree will die. Sometimes when the tree is affected it will linger for several years before it dies.

Mr. Erb also noticed this in his trees, but he thought it was caused by insects.

Mr. Stauffer gave a scientific explanation as to the cause. He attributed many of the diseases of fruit trees to improper grafting.

The following persons were proposed and elected members of the society: R. J. Erb, of Penn; Jefferson Grosh, of Manheim; Jonas B. Nolt, of Manheim; Martin Fry, of Ephrata; and Jacob M. Mayer, of Manheim.

Levi S. Reist asked a question as to the best time for grafting—early or late spring?

Mr. Erb thought grafting should be done before the bud is too full.

Mr. Cooper thought the sap should be well up before grafting. In his experience, grafting done in this way had been attended with the best results.

Dr. Hiestand and Jacob Stauffer agreed with Mr. Cooper in these views—the latter remarking that late grafting was generally accepted by the authorities as the best.

H. M. Engle inquired whether any one present has been successful in grafting peach trees, but met only one response—Mr. Erb remarking that he had seen one variety of peach successfully grafted on another.

The Society now resolved itself into social intercourse and testing of fruits—certainly one of the most pleasant parts of the programme. Some very fine varieties of apples and pears were tested, after which Society adjourned to meet on the first Monday in January, at the Athenæum Rooms, Centre Square.

DOMESTIC ECONOMY.

To Make Chicken Croquettes.

A lady asks us for a good receipt for making chicken croquettes, and to oblige her and perhaps many others we reprint the following from the one furnished us a year or two ago by a correspondent residing in Germantown, as the very best we know, the product being good enough for all the crowned heads of Europe. It is true that if not so complicated or good a croquette is desired, sweetbread, &c., could be omitted:

Boil a sweetbread for three minutes, put it into cold water and after an hour take out and drain. Boil a calf's brain for five minutes and set aside to cool. Boil also half a pint of cream, with the same measure of fresh bread crumbs, sifted clean of lumps and crust.

Cut off from the chickens all the brown meat and reserve for use either to fricasee, to stew with giblets, or when boiled and mixed with an equal bulk of roasted veal, to make into breakfast croquettes.

Boil the chickens till tender, in just enough water to cover them. When the broth is cold, skim off all the grease, pour off the clear portion and boil it down to half a pint. Remove the skin, fat and tendons and chop the white meat as finely as possible, with the sweetbread and brain, first adding a tablespoonful of chopped parsley, the grated rind and the juice of a large lemon, one heaping teaspoonful of salt, and a half teaspoonful each of powdered mustard, mace and *white* pepper.

Cut fine two shalotes or one small onion, fry with four ounces of butter, add a tablespoonful of flour and stir till smooth; transfer it quickly to a saucepan, add the chopped meat, stir briskly, and as soon as hot add the yelks of four fresh-laid eggs, remove from the fire, and when cool enough to handle bruise in a chopping-bowl to a paste. Then spread on a dish and put into the ice-box to harden and stiffen.

After two or three hours mix thoroughly and mould as follows: Sprinkle a moulding board with sifted cracker-dust, take a heaping tablespoonful of the meat paste and form the croquette in the shape either of a small sugar-loaf or a roll. When all are done, dip them one by one into well-beaten eggs, roll in finely-sifted bread-crumbs; after an hour dip and roll again and set in the ice-box till wanted. Lastly fry in enough hot lard to float them to a golden brown color, turning carefully while cooking to keep them shapely; serve on a napkin with sprays of parsley and watercress.

Very acceptable croquettes are made by using all the meat of the fowl; in that case a single chicken weighing six pounds will be required; but when the white meat only is used they are much more delicate.

This receipt will make about one and a-half dozen croquettes, which will cost, with chickens at 25 cents a pound, and deducting the value of the brown meat, about one dollar and a half per dozen.—*Germantown Telegraph.*

Buckwheat Cakes.

A lady writing to the *Country Gentleman* says her experience teaches that not many understand this inexpensive delicacy, for delicacy it is. The friend who taught her to make them, commenced her lesson with—

"Not any yeast-made pancakes for me. They are good enough, perhaps, but can't compare with a golden-hued buttermilk buckwheat pancake. See, I take a quart of buttermilk without a drop of water in it. Didn't I rinse down my churn? No, I scraped the butter down with a spoon, to keep it rich, you know. Now I put in a teaspoonful of soda and one of salt; then I dip five handfuls of flour, so big, and then stir till mixed, and no longer. If you keep stirring and adding now a little flour and then a little more milk, you will find your dough stringy and cakes tough. All kinds of pastry that are required to be tender and delicate, must be manipulated as little as possible. Don't think of setting the table dusing the operation of frying. Have that all done first, and merely get a good start before you ring the bell. You need not have a disagreeable smell of burnt fat accompanying the operation unless you wish to waste it. A large square of fat pork is best, I think, with the rind on; skim it lightly over the griddle, though, and when through, trim off the soiled-looking part, and it will do many times. I never turn a cake over twice, and I don't let it get cooked through before I turn it. Pop the cakes under cover quickly. Steaming them a minute is the cap of perfection, but see that the lid does not bear on them heavily."

Mrs. Paul, in her "Cooking from Experience," thus tells us how to do it: Take three pints of buckwheat meal, two heaping tablespoonsful of unbolted flour, or one of white flour and one of Indian meal, a teaspoonful of salt; stir these together, adding gradually water slightly warm to make a stiff batter, beat for fifteen minutes, then add half a cup of good yeast, a tablespoonful of molasses, and a little more water, beating well together; cover them, and set them to rise in a warm place over night, if for breakfast; in the morning, if you find them too thick, add a little more water with a saltspoonful of soda dissolved in it.

Horse-radish Culture.

You may say, perhaps, that horse-radish, like many common plants, will grow anywhere, and so it will. But to have it good it must be grown well. Some years ago, when I was in the west of England, I had charge of a very old and very productive garden, in which was a large bed of horse-radish, situated in a prominent position, and yet it contained no useful piece longer than from four to six inches. The first winter I was there, I had a bed made in the least frequented part of the garden. I trenched the spot selected for the bed about two feet deep, adding a good dressing of dung, and allowed the bed to settle down well before planting. I then trenched the old bed fully two feet deep, and carefully picked out every bit of the horseradish. There being plenty of crowns we saved the best of them, and cut away every bit of side root; some of these crowns had pretty firm bits attached to them of from two to six inches long. They were allowed to remain, and the strongest were selected for planting. After the crowns were gone, we used some of the best of the roots, the longest and straightest; these had no crowns; but horse-radish cares little about being beheaded, and when the genial influence of summer begins to act on it, it soon pushes forth a new head. When our freshly-made bed had become pretty well settled down, we took an iron bar and with it made deep holes in the bed about 15 inches deep, leaving about as much between the rows, and about one-half that distance from hole to hole. These holes were made to remain open, at least, for a time, and, in order that they might be a little wider at the top than at the bottom, the bar was made to play around about once or twice before it was withdrawn. This also firmed the sides. Into these holes we dropped the sets of horseradish; enough of loose earth is sure to sink down in the operation to keep the young rootlets all right; and the open hole assists vegetation. It was said the new man had destroyed all the good old bed in which one always found some radish; and, moreover, the new bed was planted so deeply that it was believed the plants and cuttings would never see daylight. Before, however, the roast beef graced the next Christmas dinner-table, there was in this new bed plenty of good and cleanly-grown horse-radish, more than a foot long and between two and three inches in girth. As to lifting horse-radish, this should never be done hap-hazard all over the bed, as by doing so one never knows where to pitch upon a good root when such is wanted. In taking the radish from our new bed, we began at the end where we had planted the strongest crowns. In autumn we had a couple of yards along the bed dug up from side to side; all sticks fit for use were carefully put aside into a convenient place among some mold in an open shed. This portion of the bed was leveled down into its former place and planted afresh, and thus we went along the bed, lifting according to the demand, and no more gnarled and twisted horseradish of two or three inches long was to be found.—*London Garden.*

Things Worth Knowing.

Keep tea in a close chest or cannister.

Keep coffee by itself, as its odor affects other articles.

Keep bread and cake in a tin box or stone jar.

Cranberries will keep all winter in a firkin of water in a cellar.

September and October butter is the best for winter use.

Oranges and lemons keep best wrapped in soft paper, and if possible laid in a drawer.

The United States standard gallon, measures 231 cubic inches.

A barrel contains 40 gallons, or 9,240 cubic inches.

A box 24x16 inches, 22 deep, contains one barrel.

A box 16x16½ inches, 8 deep, contains one bushel.

A box 8½x8½ inches, 8 deep, contains one peck.

A box 4x4 inches, 4½ deep, contains a half peck.

The standard bushel of the United States contains 2150.42 cubic inches. Any box or measure, the contents of which are equal to 2150 42 cubic inches, will hold a bushel of grain. In measuring fruit, coal and other substances, one-fifth must be added. In other words, a peck measure five times even full makes one bushel. The usual practice is to "heap" the measure. The "Winchester bushel," as our standard is called, is 18½ inches in diameter, inside, and 8 inches deep.

To find the contents of a cylindrical measure, multiply the square of the diameter by .785'98 and then by the depth. Example: 18½x18½=342.25; 342.25x 785,298=268.803; 268.803x8=2,150 42-100.

Welsh firkins are so-called from the fact of their being introduced by a Welsh settlement in the northern part of New York State. A Welsh firkin contains about one hundred pounds, and a half-firkin or tub, fifty pounds on an average. A common returnable contains from thirty to seventy pounds of butter, and a common firkin ninety to one hundred pounds.

No. 1 mackerel should be not less than thirteen inches in length, from the extremity of the head to the foot of the tail, fat, free from rust, taint or drainage.

No. 2 mackerel should be not less than eleven inches in length, fat, and free from rust, &c.

No. 3 mackerel should be not less than ten inches in length.

No. 3 large should not be less than thirteen inches in length, and in quality are those that remain after the selections of No. 1.

No. 4 mackerel comprise all not in the above, and should be free from taint or damage.

The above is the standard established by law in Massachusetts, and is generally accepted by the trade elsewhere.

Mackerel should be kept covered with brine and not exposed to the air, as it becomes rancid or "rusty" in a few days.

Mess mackerel—the finest fish with head and tail removed.

Extra number ones are selected fish.

Large number twos—fish over thirteen inches in length, and not good enough in quality for number ones.

Mackerel comes in barrels, half-barrels, quarter-barrels, and kits, containing, full weight, respectively, 200, 100, 50 and 20 pounds.

Scaled herrings should be fat fish, free from scales, and when smoked be of a bright golden color.

No. 1 herring are generally small and poor fish.

The best way to cook codfish, strip it of its skin and cut in pieces about the size of one's hand; place it in water and allow it to simmer on the stove until it becomes tender. It should never be allowed to boil. Boiling hardens and darkens the fish, and deprives it of much of its flavor.

Pork, full weight, should contain 200 pounds, but the standard has been reduced to 190 pounds; pickled beef hams in barrels 306 and 220 pounds, clear sides in bulk, in boxes 500 pounds, and in hhds. from 800 to 1000 pounds.

Salt—Ashton's, Marshall's, and other Liverpool brands—come in bags, 224 pounds; New York State in barrels and bags, 240 and 280 pounds; cases table salt contain 60 boxes, about to 2 pounds each. Salt also comes in small packets, put up in sacks, three sizes: 25, 10 pound packets; 40, 6 pounds; and 80, 3 pounds.

Oolong teas are very highly dried, of wiry, brittle leaf, and valued according to degree of strength and pungency, and freedom from dust.

Souchongs are the strongest black teas. The leaves are large, thin and often broken. The infusion is clear, golden and aromatic.

Congou teas have small, short, grayish black leaves.

Gunpowder is a heavy tea, of a dark green hue, and the leaves rolled in hard balls.

Imperials are in larger grains than gunpowders, and in color a silvery green.

Hysons have long, straight, fleshy, grayish green leaves, rolled lengthwise on themselves, with sweet aromatic flavor.

Twankays are known by the large, yellowish, badly rolled leaves and strong odor. The infusion is a deep yellow, and of clear, sharp taste.

Hints in Season.

Potatoes make first rate chicken feed. The poultry raisers out West use them largely in fattening their surplus stock for the fall and early winter market. They should, of course, be cooked and mixed with corn meal when fed for fattening purposes. If fed to young fowls or chicks designed for breeding, or to laying hens, it is well to substitute wheat bran, or shorts, or oat-meal, if it can be readily obtained for a portion of the corn meal. Use salt and pepper to taste as for table use; the fowls will relish such feed and thrive, or fatten on it nicely.

To Remove Mildew, soak the part of the cloth that is mildewed in two parts of chloride of lime to four parts of water for four hours, or until the mildew has entirely disappeared, then thoroughly rinse it in clean water.

Silverware may be kept bright and clean by coating the articles (warmed) with a solution of collodion diluted with alcohol.

Brass Ornaments should be first washed with a strong lye made of rock alum, in the proportion of one ounce of alum to a pint of water; when dry, rub with leather and fine tripoli. This will give to brass the brilliancy of gold.

To Clean Gold, powder some whiting, and make it into a moist paste with some sal-volatile. Cover over the gold ornaments and surface with a soft brush; let it dry, and then brush it off with a moderately hard brush.

It is Bad Policy to attempt to carry through the winter a larger stock of poultry than can be comfortably housed and otherwise well cared for.

Do not, as the weather becomes colder, neglect to furnish poultry with abundant supplies of good, pure water to drink. They will use nearly as much now as during the summer.

Assafœtida is an excellent remedy for horses, cattle, swine and poultry. Given both in the water and feed, it promotes health and prevents disease. This excellent preventive should be largely used where hog cholera is epidemic, and should be freely given to stock that is healthy, to keep them so.

Quick Mortar: Equal parts of sand and plaster paris moistened with water, make an excellent mortar to stop cracks and holes in walls or ceilings. It hardens rapidly, and must be handled quickly, or not too much made at a time.

In case of poisoning, vomit the patient instantly and freely with strong salt and water, giving abundantly, afterwards, of milk and white of eggs.

Rake up all the loose trash in the fields and burn it. You thus destroy the germs of millions of insect pests, and prevent them from preying on you next season.

Keep plenty of dry dust for poultry to wallow in, and they will never be troubled with vermin. Dust scattered along the back, from horns to tail, will remove lice from cattle.

Now is the time to take care of the tools and implements which have been used during the summer. Put them all in good order before storing away. Tools cost money and must be well cared for.

At this season of the year, no family should fail to subscribe for at least one agricultural paper, for the instruction and entertainment of the children, if for no other purpose. The information obtained in this way is nearly always worth many times the cost.

In fall and winter write for Nursery Catalogues, and acquire all the information necessary before purchasing trees, shrubbery and small fruits. Always buy of reputable dealers in preference to unknown traveling agents, whose representations are usually altogether unreliable.

Practical Brevities.

Every one, young or old, should keep the head cool, the body warm, and the feet dry.

Good management, economy and industry in youth, make old age comfortable.

Time is money. Treat yours as if you knew how to make it valuable.

When you wish to have anything certainly done, go. If not, send.

Memory is made stronger by exercising what you have already.

To preserve beauty, preserve your health and spirits.

Be ashamed of your pride, not proud of your shame.

Cruelty to women or children is the crime of a monster.

Hours of recreation are not lost hours, by any means.

To keep out of trouble, keep out of debt.

Hope and time are the best solace for grief and trouble.

Meutal gifts often hide bodily defects.

Do good if you expect to receive good.

Ask thy purse how much to spend.

Limit Your Wants.

From the nature of things, the income of most of the inhabitants of the earth must be limited, and, indeed, within very narrow bounds. The product of labor, throughout the world, if equally divided, would not make the share of each individual large. It is impossible that every one should be what is called rich. But it is by no means impossible to be independent. And what is the way to compass this "glorious privilege," as Burns designates it? The method is very simple. It consists in but one rule. Limit your wants. Make them few and inexpensive. To do this would interfere but little with your real enjoyment. It is mostly a matter of habit. You require more, or you are satisfied with less, just as you have accustomed yourself to the one or the other. Limit your wants, estimate your cost, and never exceed it, taking pains to keep inside of your income. Thus you will secure your lasting independence. Young men, think of this. A great deal of the happiness of your lives depends upon it. After earning your money, spend it as you choose, honestly; but be sure you make it first.

A Good Durable Whitewash.

In answer to a correspondent who asks for a whitewash that will stand exposure to the weather, we give the following, which we know to be good: Take half a bushel of freshly-burned lime, slake it with boiling water; cover it during the process to keep in the steam. Strain the liquid through a fine sieve and add to it seven pounds of salt previously well dissolved in warm water; three pounds of ground rice boiled to a thin paste and stirred in boiling hot: one-half pound of powdered Spanish whiting, one pound of clean glue, which has been previously dissolved by soaking it well and then hanging it over a slow fire in a small kettle within a large one filled with water. Add five gallons of hot water to the mixture, stir it well, and let it stand a few days covered from dirt. It must be put on quite hot. For this purpose it can be kept in a kettle on a portable furnace. About a pint of this mixture will cover a square yard.

A Timely Hint.

The Lebanon *Courier* says it is calculated that eggs, butter, &c., are going to bring very high prices next year, on account of the large consumption of them that will be produced by the Centennial. Far-

mers and others should prepare to profit by this promising demand. An extra number of hens should be kept, and extra attention should be given them through the winter. The cows should also be warmly housed and liberally fed.

In the matter of attending cows, we think a mistake is made by the neglect they often have to endure. One cow well fed and attended to, will make more butter than three that receive such neglect as we frequently see cows suffering under. A cow that has to pick most of her feed from the corn stalks thrown on the manure pile, and is left to shiver in the cold and wet, or before the rude blasts of winter, is not going to produce any butter worth speaking of. Let good stock be obtained, and careful treatment be given, and the result will be satisfactory.

Centennial National Cook Book.

The Women's Centennial Executive Committee intend issuing a national cook book. It is designed to make the book purely American and as far as possible, receipts common to all nations will be excluded. It is believed that a valuable book can thus be compiled. For the furtherance of this object they ask the aid of the women of America. No receipt will be too homely if characteristic of the country. Dishes peculiar to rich and poor are desired. If economical, and at the same time good, so much the better. Soups, fish, shell-fish, meats, game, cakes, pastries, puddings, sauces, and vegetables give unlimited resources. Of beverages they hope to obtain a choice collection. The executive committee are anxious to begin on this book at once, therefore contributions are requested without delay. Send them to Mrs. E. D. Gillespie, 903 Walnut street, Philadelphia, Pa.

How to Wash Woolen Clothing.

Prof. Artus, who has devoted himself to the discovery of the reason why woolen clothing when washed with soap and water, will insist upon shrinking and becoming thick, and acquiring that peculiar odor and feeling that so annoys house-keepers, says these evil effects are due to the decomposition of soap by the acids present in the perspiration and other waste of the skin which the clothing absorbs. The fat of the soap is then precipitated upon the wool. These effects may be prevented by steeping the articles in a warm solution of washing soda for several hours, then adding some warm water and a few drops of ammonia. The woolens are then to be washed out and rinsed in luke-warm water.

GENERAL MISCELLANY.

Imperfect Potato Tests.

Mr. J. L. Perkins, of Harrison county, Iowa—who thinks his locality has "the greatest soil in the world for potatoes, when the season is just right, as this has been in all respects"—sends a statement of the yield of several varieties from one pound of seed of each. The tubers were cut into single eyes, and planted three feet apart each way, in rich, loamy land, containing a large proportion of decayed vegetable matter. No manure was used either before or after planting.

Variety.	Yield, lbs.	Variety.	Yield, lbs.
Eureka	850	Early Eclipse	315
Snowflake	820	General Grant	312
Nonesuch	730	Peerless	305
Compton's Surprise	728	Early Rose	300
Early Ohio	525	Excelsior	281
Berlin Seedling	460	Carpenter's Seedling	280
Early Vermont	416	Strawberry	254
Late Rose	415	Prince Albert	240
Brownell's Seedling	413	Climax	218
Early Favorite	410	Buckeye	214
Morning Glory	364	White Peachblow	200
Brownell's Beauty	330	Jersey Peachblow	181
Ice Cream	320	Campbell's Late Rose	150

Interesting as such experiments are to determine the relative productiveness of a small quantity of seed, they are of little practical consequence to the potato grower. In such cases, were the number of hills of each kind stated, the value of the tests would be much enhanced. The Eureka, for instance which gave Mr. Perkins the largest yield, is a potato with too many eyes, and of it there were no doubt more hills planted than of Snowflake, Brownell's Beauty, and other kinds with but few eyes. The quantity of seed used in planting is really of little importance to the farmer, as a bushel or two more seed per acre does not come into consideration when thereby the crop is increased twenty or thirty bushels. What the farmer wants to know is, of what variety of potato—quality and price being nearly equal—he can raise the largest crop per acre, and on this the knowledge of how many potatoes can be grown from one pound of seed throws but little light.

The New York *Tribune* says Mr. Perkins considers the Snowflake as the best potato he has ever grown. With him it is a splendid cropper, very uniform in size, perfectly smooth, peels without waste, cooks through evenly, is very white and flowry, and, in short, has no defect whatever. Many correspondents, from different states, are forwarding similar reports as to the value of this new variety.

Protect Domestic Animals from Cold.

Outhouses, kept in sufficient number and in good repair, will as certainly pay as well-cultivated fields. Much sickness and death of live stock may be prevented by judicious feeding, shelter and hygienic care. What is so often ascribed to bad luck ought in truth to be ascribed to the slothful habits and ignorance of farmers. Nature commits the domestic animals to man as a part of his stock-in-trade; but the laws of animal life and health are not suspended, and the farmer whose procedure violates these laws must pay for his ignorance or carelessness in money or its equivalent. But domestic animals are subject to the same diseases as man—pneumonia, typhoid fever, inflammation of the bowels, &c. These diseases are produced by similar or the same causes as in man. No matter how bountiful in quantity or good in quality the food for stock may be, if they have not sufficient protection or shelter from the severe winter winds and cold rains, the loss, if not of life, will necessarily be very considerable. If a man will but observe the effects of cold rains on hogs, cattle and horses, he will certainly observe the necessity of shielding them from it. It is impossible that the normal processes of digestion and assimilation of food can proceed regularly when the animal is exposed to all the severities of the weather. No doubt this is one reason why domestic breeds so rapidly degenerate when put from under the care of man. It is no uncommon thing to see farmers' stock houses wretchedly out of repair—the winds whistling through them and the rains driving into them, making them damp, piercing cold. Then it is often the case that hogs have no shelter other than they can find themselves. The qualities of animals thus exposed must inevitably degenerate, so that loss is sustained, although it may escape the observation of the stupid farmer, who supposes that man alone needs protection from the weather. From this one cause many a farmer loses hundreds of dollars every year.

Mingling the Manure of Horses and Cattle.

The accumulations of the horse stables, and also of the stables of cows and other neat cattle, should always be mingled together in the yard or compost heap. Hence stables should open into yards over which the litter from the horses and cows should be regularly spread every day. By this means alone will a good result be obtained. The respective merits of boxes and foldyards for fattening cattle in a great measure depend upon the quality of dung they turn out. The box is economical in the matter of straw, and will be esteemed for this reason in suburban districts. It is also favorable for the manufacture of good manure, as being under cover, the liquor is wetted by the droppings of the animals only. The byre, says the *Agricultural Gazette*, is still more economical of straw, but is not favorable to the manufacture of good manure, owing to the animals being tied up. Litter from byres ought to be thrown out into courts and trodden down with young stock. Foldyards require much litter, as they are always more or less open, and are for this reason preferred in rural districts, where the value of straw is not yet felt. Excellent manure may be manufactured in small troughed folds, with a considerable proportion of shedding. Cattle will do well in any of these forms of accommodation, but if tied up in byres it will be humane, as well as profitable, to have them brushed and curry combed daily. It must be remembered that animals thus confined cannot lick or rub themselves, and that they are deprived of the cooling effects of air and rain. The skin under these circumstances becomes irritable, and especially where, as is often the case in byres, dirt adheres to the animal, brushing and cleansing the skin and attention to the state of the feet cannot be too strongly enforced.

Using Raw Material to the Utmost.

One of the greatest discoveries ever chronicled, is that of petroleum. Its importance is even yet but half comprehended. Nature's economy, in all of her productions, is in no instance more strikingly illustrated than the varied merchantable commodities that are wrought from crude oils that are so bountifully deposited in some sections of our country; and the great waste that attended its treatment would do for an excellent text for a telling sermon on the startling ignorance of man and its rapid disappearance under the incisive application of his intellect. Upon the first discovery of the oil in the Pennsylvania districts, of course immense quantities were lost while yet in a crude state, owing to the inadequate means and contrivances for preserving it; then in treating the product the residue in the stills of the refiner was regarded as fit only for fuel. This was, however, soon found to be an error, and the tar was taken from the oil refinery, submitted to another treatment, and paraffine oil is the result; again a residum was found, and this in its turn is now pressed and refined, and enters largely into the manufacture of candles; submitted to a still further treatment, the wax becomes a transparent and tasteless mass, in which condition it is converted into chewing gum. After undergoing all these various treatments, there still remains a hard crisp cinder, which still contains sufficient live matter to render it combustible and fully equal to the best coal in its heating qualities, and this, notwithstanding the fact that in its latter treatment the mass is submitted to a white heat, which we would naturally suppose would so thoroughly disintegrate the matter and render any residue unfit for any purpose, much less a fuel.

Bran and Cornmeal for Cows.

The *Practical Farmer* says it is well settled in the opinion of all our best dairymen that bran greatly promotes the milk secretions in cows, and it is fed almost universally. About equally mixed with cornmeal is the usual proportion. This mixture seems to promote both quantity and quality of milk. From several sources we hear that buckwheat bran is a great producer of milk, and it is being used considerably among our Chester county dairymen in about the same proportion as the other. Thomas Gawthrop, near West Grove, Chester county, also, by repeated trials with his own cows, has fully satisfied himself that they do as well with corn and cob meal and bran, as with pure corn and meal and bran.

The amount of nutriment in corn cob is so very small that the result will have to be explained on the supposition of the ground cob acting to promote digestion by distending the stomach. The presence of bulky material being necessary to distension and fill up the stomach of ruminating animals, before digestion can be accomplished, is frequently lost sight of. Hungarian grass is also found for milch cows to be rather superior to the ordinary run of hay. The last year or two Hungarian grass has loomed up wonderfully in the estimation of our dairy farmers, and a very large scope of land was sowed with it this season. It matures for cutting in about sixty days, and produces two to four tons per acre—the latter of course on good soil. Three pecks to the acre is the usual allowance of seed.

How to Feed Corn Stalks Properly.

The rearing and feeding of animals are receiving, as they should, from farmers and herdsmen in all parts of the country, greater attention every year; and especially is this true of dairymen, whose only hope of gain rests in their success in obtaining paying yields from their cows. Corn stalks enter largely into the fall feed of dairy cows, and how to feed them is the important question. The common practice is to feed them in the bundle, as but few farmers feel able or willing to use a cutting machine. This feeding in a bundle, without any preparation, I am fully satisfied, is very wasteful, as not only are the butts left, but frequently nearly the whole stalk. The best investment a farmer can make in this case is to buy a good fodder cutter. A correspondent says:

"I have learned by experience that a little brine sprinkled upon stalks once every day, just before feeding, is of material advantage in many respects. The weak brine will cause the cows to consume nearly all, even when fed whole; the flow of milk increases, the condition of the cows improve, and they show greater contentment. Especially is the last remark true on cold, windy and rainy days. I find it much better, as a general rule, when it can be done, to feed salt on the food, instead of feeding it alone. In no case should more that one day be permitted to pass without it. Cows should have access to plenty of water. The brine food will cause them to drink more, and thus increase the flow of milk. Let my brothers try it, and they will hereafter place a greater value upon corn stalks."

Nevada's Petrified Forest.

The Winnemucca (Nevada) *Journal*, describes a wonderful natural curiosity in the form of a petrified forest. Winnemucca is a post village of about 300 population, in Humbolt county, Nevada, on the Humbolt river and the Central Pacific railroad, 462 miles east of San Francisco. Mr. David Rideout, of that place, has been investigating this wonderful forest, and has secured a specimen for the Centennial Exposition. He says stumps transformed into solid rock, stand in an upright position with their roots imbedded in the soil, as when growing, measuring from fifteen to twenty-six feet in circumference; the ground in the vicinity is strewn with the trunks and limbs, which retain their natural shape and size. Mr. Rideout determined to secure a section of one of these trees for the Centennial exhibition, and with two other men spent twelve days in cutting it from the stump. This was accomplished by drilling all round the tree and separating it with wedges. The specimen is three feet high and eighteen feet in circumference, and its estimated weight is three tons. It stands on the stump from which it was severed, ready to be loaded on a wagon. Mr. Rideout does not feel able to incur the expense of bringing it by team to the railroad, though he had once made arrangements to do so. He is anxious to call the attention of the Centennial Commissioners to the matter, and see if they will not furnish the means to get it to the railroad. The country in which it is situated is an inviting field for geologists.

Capital and Labor.

The special committee charged by the British Association Committee on combinations of capital and labor, have submitted their report. They reprehend the practice of limiting apprentices, an unwise restriction, whose evil effects we are feeling even now in the United States, and have arrived at the conclusion that combinations have no power permanently to raise wages or to prevent them from falling when the conditions of trade require a fall, and, though it is admitted that they may be of benefit in accelerating the action of economic laws, they are finally dismissed as sources of dangerous irritation. Artificial restrictions of labor or capital, under any circumstances limiting production, are branded as wrong and injurious. The system of paying by piece work is endorsed as the best and fairest; a policy of conciliation the only rational policy, is urged in cases of disagreement, and the highest importance is attached to a thorough education of the workingmen in the sound principles of political economy. The conclusion finally reached is, that the conditions and price of success will be found in a proper sense of the necessity and utility of continuous labor, an earnest desire for excellence of workmanship, and a keen and lively interest in the promotion of the national prosperity. In other words, the interests of labor and capital are identical.

A Convenient Land Measure.

To aid farmers in arriving at accuracy in estimating the amount of land in different fields under cultivation, the following table is given:

5 yards wide by 968 long contain one acre.
10 yards wide by 484 long contain one acre.
20 yards wide by 242 long contain one acre.
40 yards wide by 121 long contain one acre.
80 yards wide by 60½ long contain one acre.
70 yards wide by 69½ long contain one acre.
60 feet wide by 726 long contain one acre.
110 feet wide by 396 long contains one acre.
120 feet wide by 363 long contain one acre.
220 feet wide by 198 long contain one acre.
240 feet wide by 181½ long contain one acre.
440 feet wide by 99 long contains one acre.

An Idea for Teamsters.

A great deal of labor and hard tugging may be saved if every wagon or truck is provided with 100 feet of stout rope and a single pulley. A snatch-block is the best, arranged with a strong hook, and the usual construction for slipping the tight of the rope under the strap to the sheave, instead of waiting to reeve the line through one end. If a wagon gets stuck in heavy mud or in the snow, the driver has only to fasten his block to the tongue, reeve the rope through it, and attach one end to a tree or post, and let his team pull on the other. Their work is of course just halved, or rather they bring twice as much power to bear in dragging the wagon clear. There are plenty of other applications of this simple device, which will readily suggest themselves. With a couple of skids for an inclined plane, heavy logs could be easily drawn on a sleigh by the unhitched team. Another case where it is likely to be useful is when loaded sleighs attempt to cross a wooden bridge. Although the horses draw the load very easily over the snow, they are often unable to start it over the generally denuded wooden flooring of the bridge, and hence would be materially aided by the tackle hitched on as we have described.—*Scientific American.*

Stick to It.

Learn a trade, or get into business and go at it with a determination that defies failures, and you will succeed. Don't leave it because hard blows are to be struck, or disagreeable work to be performed. Those who have worked their way up to wealth and usefulness do not belong to the shiftless and unstable class, and if you do not work while a young man, as an old man you will be nothing. Work with a will, and conquer your prejudices against labor, and manfully bear the heat and burden of the day. It may be hard the first week, but after that I assure you that it will become a pleasure, and you will feel enough better satisfied with yourself to pay for all the trials of the beginning. Let perseverance and industry be your motto, and with a steady application to business you need have no fear for the future. Don't be ashamed of your plain clothes, provided you have earned them. They are far more beautiful in the estimation of all honest men and women than the costly gewgaws sported by some people at the expense of the confiding tailor. The people who respect you only when well clad, will be the first to run from you in the hour of adversity.

Care and Use of Hen Manure.

A writer in the New England *Farmer* thus gives us his experience in the management and use of hen manure: I would say that in 1868, I took four bushels of dry hen manure, turned it on the barn floor, took a common flail and threshed it to powder; then took twenty-five bushels of muck, that had been dug eighteen months; spread it on the barn floor, and thoroughly mixed it with the manure. A single handful of this compost was put in the hill, and the corn dropped upon it. I had a splendid field of corn. I planted one row without the compost. That row could be distinguished all through the season, being about two weeks behind the rest of the field, and finally it never did catch up. I believe if farmers that keep from twenty to thirty hens would save all the droppings and compost it in the way above, or in some better way, instead of buying fertilizers, as many at the present day do, it would be very much more to their advantage.

Curious Cause of Death in Horses.

Two singular causes of the death of valuable horses have recently been brought to light through post mortem examinations. A man named Goodwin, of Stanley, England, lost a valuable mare, which appeared to suffer great agony. A post mortem examination showed the presence in the stomach of a stone weighing ten or twelve pounds, which was supposed to be an accumulation of stone dust introduced to the stomach with the food. The case of Lexington, the noted Kentucky race horse, is still more curious. A surgical examination showed that part of the skull under the left eye, where the ailment of the animal seemed to be, was filed with at least a quart of masticated food, which had been forced into the cavity through an opening in the upper jaw, caused by the loss of a tooth.

Skeletons of Noted Animals.

The *Prairie Farmer* states that A. J. Alexander has consented to deposit the skeleton of the renowned "Lexington" with the Smithsonian Institute at Washington, D. C., Professor Baird having written expressing his desire to have the skeleton, and promising to have it handsomely mounted and placed in a conspicuous position in the museum. The skeleton of "American Girl" is to grace the museum of Cornell University.

LITERARY AND BUSINESS NOTICES.

"Ocean Beach"—"*The New Seaside Summer Resort.*"—This is the title of a neat, clean, and handsome little folio of four pages, which has been placed upon our table. It is full of interesting literary and local matter, the larger portion of which specifically relates to the place of its paternity, and, according to which, it must be one of the most lovely seaside places on the whole Atlantic coast. It contains an outline railroad map of New Jersey, and parts of New York, Pennsylvania and Delaware, and also a town plot, laid off in avenues and streets, which run at right angles, with town lots located and numbered from 1 up to 2942. The special water privileges of the town are Shark River, the Atlantic Ocean, and Silver Lake in the heart of it. We notice by a list of proprietors that 21 belong to Trenton; 10 to Newrak; 8 to Ocean Beach; and 3 to Freehold, N. J.; 12 to Lancaster, and 19 to Philadelphia, Pa.; and 8 scattering. It also contains the Act of Incorporation creating the town, a directory, and proposals for a large number of contemplated improvements; besides a descriptive history of the town and its surroundings, including a synoptic statement of its numerous points of interest; enough to make a poor editor's "mouth water." Although we are likely never to own a foot of it, yet we still may say, *Long live Ocean Beach.*

Holding fast to its old name, which it has carried successfully through the long period of *thirty-four years*, the *American Agriculturist* swings out its banner for the "Centennial Year," with the vigor of the prime of life, and with well founded promises of still greater achievements in its appropriate sphere—that of a plain, practical, highly instructive and trustworthy family journal. Its name, adopted at the start for a special field of work, has become almost a misnomer, because it is now equally useful to city, village and country. The closing number of volume 34, now before us, like its usual issues, is full of good things, varied in contents, which are prepared with much labor, thought and care, and illustrated with over sixty well executed and well printed original sketches and engravings. This journal is a marvel of cheapness, beauty and utility, costing only $1.60 a year, postage included, for its more than 500 double pages of useful information, and 500 to 600, or more, of fine engravings. Every family should have it. Orange Judd Company, publishers, 245 Broadway, New York City.

"Report of the Commissioners of Agriculture of the operations of the Department for the year 1875," Washington, D. C.

This is a handsomely printed octavo pamphlet of 20 pages. From this we learn that there were issued from the department during the year 1875, 2,221,456 packages of seeds, in quarts, pints, half-pints and small papers, including vegetables, flowers, herbs, trees, wheat, oats, barley, rye, buckwheat, corn, peas, clover, grass, sugar-beet, mangel-wurtzel, rice, sorghum, tobacco, osage orange, opium-poppy, millet, broom-corn, rape, cotton, jute, hemp, flax and ramie. All this is well so far as it goes; but how many of the people give these seeds a fair trial, and then report to the Department?

Our Wasted Resources, by Dr. Hargreaves, is the most important contribution yet made to the literature of temperance in the light of political economy. While it deals mainly with statistical facts and figures, they are so carefully collated, and presented in such a readable manner, that we do not tire in their perusal. Several years were spent in their preparation. The aim of the author has been to present such facts and figures as are reliable, in order that every one could judge intelligently, as he does not desire to be deceived nor to deceive. The figures given are official, or, if not, reasons are given why they are presented. National Temperance Publication House, 58 Reade street, N. Y.

The New York Observer: This best of family newspapers is as fresh and interesting now in its fifty-third year, as ever before; and, indeed, we think it more so. Its letters alone are worth more than the subscription price of the paper. It repudiates all offers of premiums, pictures, &c., and sends to its patrons a splendid family newspaper, of the largest dimensions, containing all the desirable news, religious and secular, and an endless variety of reading for young and old, all of which is pure and good. Every family should have it. For specimen copies, address S. I. Prime & Co., New York.

THE PROGRESS OF INVENTION.

Official List of Patents,

Relating to the Farm, the Dairy, Apiary, &c.,

For the month ending December 10th, 1875.*

Harvesters; J. M. Chritton, Marengo, Iowa.
Seed Planters; J. W. Simpson, Dry Ridge, Ky.
Corn Stalk Cutters; S. Bean, Clinton Valley, Ohio.
Mowing Machines; D. H. Gage, Dover, N. H.
Corn Planters; B. King, Jonesburg, Mo.
Corn Markers; T. B. Kirkwood, Bentonville, Ind.
Milk Coolers; W. R. Scofield, Ellery, N. Y.
Seed Distributors; A. H. Simms, Nixburg, Ala.
Feed Cutters; R. J. Wylie, Marissa, Ill.
Grain Binders; J. Garrard, Cincinnati, Ohio.
Grain Binders; J. F. Gordon, Rochester, N. Y.
Harvesters; C. W. Levalley, St. Paul, Minn.
Grain Drills; E. Morgan, Dublin, Ind.
Corn Planters; A. M. Southard, Eldora, Iowa.
Plow Attachments; G. M. Todd, Waterloo, Iowa.
Harrow Teeth; H. M. Williams, Coldwater, Mich.
Horse Hay Rakes; W. Aldrich, Dayton, Ohio.
Grain Binders; S. S. Jackman, Janesville, Wis.
Checkrow Planters; Jos. Klar, Shelbyville, Ill.
Wire Fences; James M. McClellen, Philadelphia, Pa.
Barbed Wire Fences; Abram V. Wooley, Cornton, Ill.
Potato Droppers; Geo. H. Zane, Shoemakertown, Pa.
Corn Planters; John Boyer, Wagram, Ohio.
Hay Forks; Moses M. Cherry, New Plymouth, Ohio.
Corn Planters; Wilson Gardner, Piketon, Ohio.
Mowing Machines; A. G. Gray, St. John, Canada.
Potato Diggers; D. J. Rousb, Syracuse, Ohio.
Rotary Gang Plows; John K. Underwood, South Centre, Minn.
Fertilizer Distributers; Wm. H. Cook, Meriden, Mass.
Hay-Ricking Apparatus; John R. Hill, Bloomfield, O.
Feeding Mechanism for Grain Drills; A. J. Martin, Springfield, Ohio.
Egg Preserving Compounds; E. A. Snyder, Philad'a.
Lifting Device for Seeders and Cultivators; W. A. Van Bunt, Horicon, Wis.
Pilot Wheel Corn Planters; James Campbell, Harrison, Ohio.
Wheel Harrows; Thomas A. Cole, Trafalgar, Ind.
Mowing Machines; Jacob Ashcraft, Frazeysburg, O.
Anti-Sucking Bits for Calves, &c.; John H. Bailey, Toledo, Iowa.
Combined Cultivators and Harrows; George Croll, Tuscarawas, Ohio.
Colters; Freeman Culver, West Oneonto, N. Y.
Sheep Scratch Boxes; Ira B. Dillon, Visalia, Cal.
Knife Heads for Harvesters; Geo. W. Harrison, Lansing, Mich.
Plows; Wm. H. McCune, Pittsburg, Pa.
Corn Planters; John G. Mole, Sarpy Centre, Neb.
Seed Planters; Wm. Nevins, Titusville, Pa.
Horse Hay Rakes; William H. Ryer, Margaretville, N. Y.
Horse Hay Forks; Orvin Taber, Santa Clara, Cal.
Machines for Binding Grain; Argyle W. Tucker, Waxahachio, Texas.
Seed Planters and Drills; W. C. Walker, Glasgow, Ky.
Fence Wire Stretcher; Nath'l Burnham, Amboy, Ill.
Harrows; Wm. Frank, Mound Station, Ill.
Plows; Irvin Freeman,, Corpus Christi, Texas.
Tire Tighteners; Wm. O. Johnson, Alma, Mich.
Grain Distributers for Seed Drills; C. T. Johnson, jr., Oswego, N. Y.
Rotary Churns; Morgan Payne, Cardington, Ohio.
Horse Hay Rakes; D. P. Sharp, Ithaca, N. Y.
Check Rowers; John Thompson, Aledo, Ill.
Potato Diggers; O. F. Warren, Knowlesville, N. Y.
Harvesters; Wm. N. Whitely, Springfield, Ohio.

*Prepared expressly for The Lancaster Farmer by Louis Bagger & Co., Solicitors of Patents, Washington, D. C., from whom complete copies of the Patents and Drawings may be obtained.

WHEREAS THE ACT OF ASSEMBLY approved April 12th, 1875, P. L. 1875, page 40, entitled an act to repeal an act to permit the voters of this Commonwealth to vote every three years on the question of granting licenses to sell intoxicating liquors, and to restrain and regulate the sale of the same, &c,

Provides, That the Court of Quarter Sessions of the proper county shall fix by rule or standing order, a time at which application for license shall be heard, at which time all persons applying or making objections to applications for license may be heard by evidence, petition, remonstrance, &c. It is, therefore, now, December 9, 1875, ordered by said Court, that until otherwise directed by the Court, all applications for Tavern, Restaurant and Liquor Store license, shall be heard on SATURDAYS of the January and April terms of said Court each year, except contested cases, which shall be heard at such time as the Court on either of the above days shall fix for their hearing. And the Court for the present adopt the form of petition now in use, and order and direct that before any petition for **Tavern or Restaurant License is presented** to the Court, the **applicant**, and at least **four** of the persons signing his or her petition, shall be sworn or affirmed to the truth of the facts stated in such petition; and where the application is made by a firm, such oath or affirmation shall be made by a **member of the firm**, and at least four of the signers to their petition; and all remonstrances before presentation to the Court shall be sworn to by at least five of the signers thereto.

By the Court,
Attest— B. F. W. URBAN,
Deputy Clerk of Quarter Sessions.

And the Court order the above to be published, by one insertion, in all the papers of the city and county.

OUR FENCE CORNERS

Wedding Anniversaries.

A contributor to the Chicago *Evening Journal*, says: May I, as an old-time patron, ask a place in your paper for a few lines on wedding anniversaries? The marriage anniversary celebrations are given as follows:

First anniversary—Iron.
Fifth anniversary—Wooden.
Tenth anniversary—Tin.
Fifteenth anniversary—Crystal.
Twentieth anniversary—China.
Twenty-fifth anniversary—Silver.
Thirtieth anniversary—Cotton.
Thirty-fifth anniversary—Linen.
Fortieth anniversary—Woolen.
Forty-fifth anniversary—Silk.
Fiftieth anniversary—Gold.
Seventy-fifth anniversary—Diamond.

In this connection, says the *Journal*, our correspondent will not object to our giving the following "fresh list of wedding anniversaries," which we find in the New York *Commercial Advertiser:*

A fresh list of weddings is called for, so how are these for hymenial?

Sugar wedding—A marriage with an attendant suite.
Wooden Wedding—Marying a lumberman.
Tin wedding—One that "pans out" well.
Crystal wedding—Marrying one addicted to the glass.
Silver wedding—Marrying a gray-beard.
Golden wedding—When the groom is a minor and the bride a little vain.
Diamond wedding—When the "washings" are large.

And here are some others:

Sugar wedding—Marrying a "candid man."
Wooden wedding—Marrying a "perfect stick."
Tin wedding—One amid the pansies.
Crystal wedding—The Glasgow ceremony.
Silver wedding—An end of "spooning."
Golden wedding—One of the species we like.
Diamond wedding—Jem's marriage.

WISDOM.

"All flies are very wise.
No one ever knows,
As he sits in a doze,
How much a fly knows
That alights on his nose,
'Till he levels his blows,
When away the fly goes."

A RATIONAL QUERY.

Mrs. Meetington wants to know why it is that sea captains do not make a record of the weight of their anchors, once for all, instead of *weighing* them every time they leave Port.

A VALUABLE DISCOVERY.

Smithers has discovered a shoe belonging to the *foot* of the Allegheny mountain. He found it in Tom Thumb's waistcoat pocket.

Ode to Autumn.

The grasshopper creaks in the leary gloom, And the humble bee bumbleth the live-long day. But where have they gone with the bran new broom? And what has been done to the buzz saw's play?

Oh, its little he thinks of the cold mince pie, And its little he reeks of the raw ice cream, For the dying year with its tremulous sigh Shall waken the lingering loon from his dream.

O, list! for the cricket now far and near, Shrilfully singeth his roundelay; And the negligent noodle his noisy cheer, And where the doodlebug eats the hay.

Oh, the buzz saw so busily buzzes the stick, And bumbling the bumble bee bumbleth his tune; While the crickets crickingly down at the creek, And the noodle calls noisily out, "It is noon!"

The dog fennel sighs, "She is here! she is here!" And the smart-weed says dream'ly, "Give us a rest!" The hop vine speaks tenderly, "Give us a beer," And the jimson-weed hollers, "Oh, pull down your vest." —*Burlington Hawkeye.*

YOUNG folks grow most when in love. It increases their sighs wonderfully.

IT makes a great difference whether glasses are used over or under the nose.

ANYBODY can build a castle in the air, but it takes more than a genius to live in one.

A YANKEE editor, in his financial article, says: "Money is close, but not close enough to reach."

FIRST IRATE FRIEND: "I'd hate to be in your shoes." Second ditto: "You couldn't get in them."

THE fool seeketh to pick a fly from a mule's hind leg—the wise man letteth the job out to the lowest bidder.

IN New York, if a young man cheats at croquet, the young ladies caress the flange of his ear with a mallet.

$1 a Year { To subscribers in the county. SINGLE COPIES 10 CENTS. To subscribers out of the county. } $1.25.

Complete

Prof. S. S. RATHVON, Editor. LANCASTER, JANUARY 15, 1876. PEARSOL & GEIST, Publishers.

THE FARMERS HOME ORGAN.

The Lancaster Farmer;

A MONTHLY NEWSPAPER,

DEVOTED TO AGRICULTURE, HORTICULTURE, DOMESTIC ECONOMY AND MISCELLANY.

PRACTICAL ENTOMOLOGY

Made a prominent feature, with special reference to the wants of the Farmer, the Gardener and Fruit-Grower.

Founded under the auspices of the Lancaster County Agricultural and Horticultural Society.

Edited by Prof. S. S. RATHVON.

THE LANCASTER FARMER has now completed its seventh year—the last having been under the auspices of the undersigned as publishers. When we assumed the responsibility of the publication one year ago, it was with a determination to make such improvements during the year as would place the Farmers' Organ of this great agricultural county in the very front rank of publications of its class. That we have done so, our readers will bear cheerful testimony. But our work of improvement is only fairly begun. We propose to make the volume for the Centennial year still more interesting and valuable than its predecessor for 1875. In this, however, we need the co-operation of every friend of the enterprise. To make it a success, every one who now reads THE FARMER should send us at least one new subscriber before the January number is issued.

The contributions of our able editor, Prof. RATHVON, on subjects connected with the science of farming, and particularly that specialty of which he is so thoroughly a master—entomological science—some knowledge of which has become a necessity to the successful farmer, are alone worth much more than the price of this publication.

THE FARMER will be published on the 15th of every month, printed on good paper with clear type, in convenient form for reading and binding, and mailed to subscribers on the following

TERMS:

To subscribers residing within the county—

One copy, one year,	$1.00
Six copies, one year,	5.00
Ten Copies, one year,	7.50

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One copy, one year,	$1.25
Five copies, one year,	5.00

All subscriptions will commence with the January number unless otherwise ordered.

All communications intended for publication should be addressed to the Editor, and, to secure insertion, should be in his hands by the first of the month of publication.

All business letters, containing subscriptions and advertisements, should be addressed to the publishers,

PEARSOL & GEIST,
Express Buildings, 22 South Queen Street,
LANCASTER, PA.

CONTENTS OF THIS NUMBER.

OUR FENCE CORNERS

A youth from the country, stepping into a counting room, observed an ordinary roller rule on the bookkeeper's desk. He took it up and inquiring its use, was answered: "It is a rule for counting-houses." Too well bred as he construed politeness, to ask unnecessary questions, he turned it over and up and down repeatedly, and at last in a paroxysm of baffled curiosity, inquired: "How in the name of wonder do you count houses with this?"

"My native city has treated me badly," said a drunken vagabond, "but I love her still." "Probably," replied a gentleman, "her *still* is all that you do love."

"That house is closed," said an obliging neighbor to a man who was knocking to get in. "Don't you suppose I know it?" was the ungracious reply, "That's why I'm knocking."

A man who was not as sober as he should have been, put the saddle on his horse the wrong way. Others attempted to correct the error. He interfered indignantly, saying, "How do you know which way I am going."

A Tax Payer's Plea.

This return was once sent in to the London Commissioner on Income Taxes.

"I, A B., declare
I've no money to spare;
But 1 little house,
And 1 " maid,
And 2 " boys,
And 2 " trade,
And 2 " land,
And 2 " money 2 command,
Far 2 " is my little all
2 supply with comfort my little squall;
And 2 little to pay any taxes at all."

Some Conundrums.

What's "the best thing out?" An aching tooth.

How did Queen Elizabeth take her pills? In cider.

What holds all the snuff in the world? No one nose.

When is music like oysters? When there is a quart eat.

What animal comes down from the clouds? Rain, dear.

What relation is the door to the door-mat? A step farther.

What is it that a poor man has and a rich man wants? Nothing.

When is a cross baby like a big banker? When he is a Wroth-child.

How was Moses put in the ark of the bulrushes? He was pitched in.

Why is a lazy young dog like an inclined plane? Because it's a slow-pup.

What poet was always in debt? Cowper. Why? Because he "oh'd for a lodge."

When will there be only 25 letters in the alphabet? When U and I are made one.

Why do white sheep eat more than black sheep? Because there are more of them.

Why was the year 1776 the proper time for the American Colonies to declare their independence? Because the addition of the integers shows that they had then reached their majority—1-7-7-6—21.

The almost unmarked grave of Edgar Allen Poe, author of "The Raven," was opened in Baltimore a few days ago, to lay the foundation for the monument about to be erected by his admirers. At a depth of five feet the coffin was found, in good preservation after lying there nearly twenty-six years. The lid was removed and the skeleton was seen, almost in perfect condition, and lying with the long bony hands reposing one upon the other, as they had been arranged in death. The skull bore marks of greater decay, the teeth from the upper jaw having become dislodged, but those in the lower were all in place, and some little hair was still clinging near the forehead. Beyond what has been described nothing was to be seen. A correspondent has sent *The Times* a small piece of the coffin, almost crumbling in decay.

A smooth sea never made a skillful mariner. Neither do interrupted prosperity and success qualify man for usefulness or happiness. The storms of adversity, like the storms of the ocean, rouse the faculties and excite the invention, prudence, skill and fortitude in the voyager.

My first is in Oscar, but not in Charles.
My second is in Lilly, but not in Minnie.
My third is in Minnie, but not in Jane.
My fourth is in Eva, but not in Dellie.
My fifth is in Elly, but not in Sam.
My sixth is in rain, but not in pain.
My whole is my first name. O. L. R.