

THE ENGINEERING AND MINING JOURNAL.

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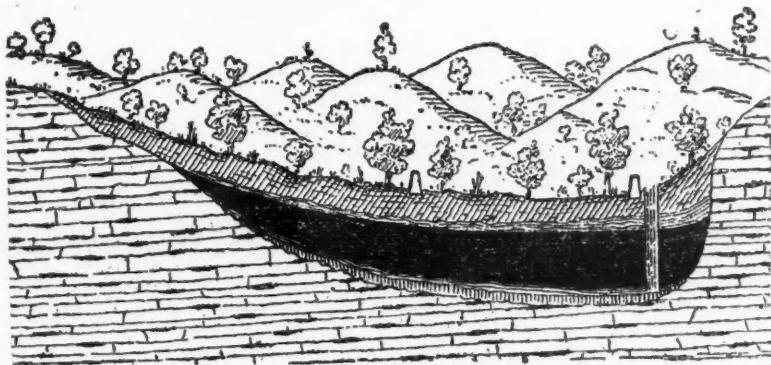
NEW YORK, SATURDAY, MAY 16, 1874.

PRICE 10 CENTS PER COPY.

Local Coal Deposits in Missouri.

II.

Upson's bank is another of these deposits occupying a small basin in the Encrinital limestone. The coal crops out in the bed of the creek, where it is 11 ft. thick, the upper 2½ ft. being cannel coal. A shaft was sunk passing through 14½ feet of coal which lay 7 ft. below the surface. The cover consisted of 5 ft. of soil and gravel, and 2 feet of black slate. Two openings were then made horizontally; one, near the shaft, where the coal was followed for 30 feet into the hill; the other was 60 feet distant, and there no cannel was found, and the coal was soft and only 3 feet thick, increasing to double this thickness in 20 feet. Other pits were sunk, in one of which, 35 feet from the first shaft, limestone was reached without finding coal. The limestone crops out around this deposit, the interval between the outcrops being 250 feet in one direction and very much less in the other. The cannel coal gave, by analysis, 1.15 water, 41.25 volatile matter, 49.60 carbon, and 8 ash, the color of the latter being a very pale brown. Quite a number of similar deposits are mentioned in the immediate vicinity of



UPSON'S BANK
LONGITUDINAL SECTION

this, and there is no doubt that, for household purposes and use in a small way, this township has a fuel supply which may be of considerable local advantage, though of no general importance.

The Treatment of Gold and Silver by Wet Crushing and Pan Amalgamation Without Roasting.*

By J. M. ADAMS, E. M., of Silver City, Idaho.

It is my purpose to give some of the results obtained by an experience of nearly seven years in working ores by the method frequently called the Washoe Process, and in several mills of which I have had charge, but principally in the Owyhee Mill at Silver City, Idaho, which had twenty 650 lb. stamps, and sixteen pans. I shall discuss here merely the mechanical details for working ores generally, subdividing the subject as follows:—

1. Preparation of the ore for the stamps; 2. The crushing in the battery; 3. The settling of sand or pulp in vats or tanks; 4. The treatment in the pans; 5. The results obtained in settlers, agitators and concentrators; 6. The straining of quicksilver, cleaning of amalgam and retorting; 7. The saving of slimes and their subsequent treatment; 8. The loss of quicksilver.

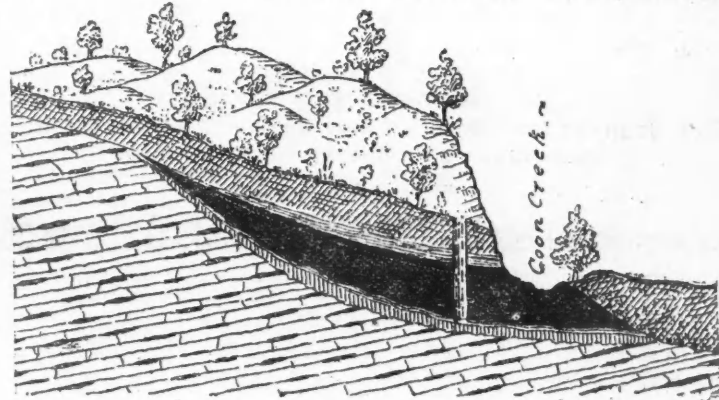
For descriptions of the various kinds of ore breakers, stamps, tanks, pans, settlers, etc., I must refer to the various works on these subjects, prominent among which are the reports of the U. S. Com'r of Mining Statistics, and the volume on "Mining Industry," the third volume of the U. S. Geological Survey on the Line of the Fortieth Parallel through the gold and silver bearing regions of the great West, undertaken under the able guidance of Clarence King, assisted by Mr. Jas. Hague and others. In this discussion it will be assumed that the general arrangement of the quartz mill is understood; and the question will be treated how to secure, from such a mill, the greatest economy in working, combined with the

* A paper read before the American Institute of Mining Engineers, New York, February, 1874.

largest results. This place seems fittest for a single preliminary suggestion—namely, that there should be double flows throughout the mill, so that nothing can sift through and be lost.

I.—PREPARATION OF ORE FOR THE STAMPS.

The more uniform in size the ore is prepared for the stamps, the more easily can it be fed into the mortars. The ore should be so fine that a single blow of the stamp will be sufficient to shatter thoroughly each piece of ore. If a large piece is fed into the mortar, it may not be broken up thoroughly until after several blows or drops of the stamp. Besides, a large piece raises the stamp, and reduces by so much the fall, thereby taking away part of the effect, and consequently diminishing the production. In preparing ore for the stamps, in my first experience, at the Owyhee Mill, I used merely rock-hammers. The stamps were dropping 60 times a minute, and were given 8½ inch average drop, running without resetting till the average drop was 10 inches. Breaking by hand on average hard ore we could not work over 28 tons a day. Then by breaking very small by hand we increased our production to 30 tons a day. But afterwards, by



UPSON'S BANK
CROSS SECTION

erecting a Blake's crusher, the production of the same stamps was raised to 33 tons a day; by breaking the ore very fine, we increased it to 37 tons a day on the same ore; and finally, by accelerating the rate of running the battery to 93 and 95 drops a minute, and keeping the same height of drop, but using a coarser screen, we were able to increase our production to 45 and 48 tons of ore crushed in 24 hours. But in breaking the ore very fine we found that the lowest end of the die or fixed breaking surface in the crusher wore away much faster than the middle or the upper part. True, we could turn the die and so get wear from the upper part; but the middle part was wasted and lost to us except as old iron. We overcame this by adding to the pattern of the die a projection on the lowest end, thus increasing the thickness at this place, and in this way we were able to get full wear of the whole die. The most economical method of preparatory crushing would be to have two breakers, one set above the other. The mill having, as every mill should have, if practicable, plenty of natural fall—in other words, being built on the side of a steep hill—the first breaker should be placed above, and set so as to crush to a diameter of two inches. Of course a long, flat and thin piece might go through, but at least one dimension will not be over two inches in diameter. All the fine, as well as the coarse ore, should pass through this breaker. When the ore is dry, let a very small jet of water flow into the mouth of the breaker to prevent the dust from flying. This dust involves a loss, and also injures the machinery. From the first crusher let the ore pass by chutes into the second. This should be set so that the breaking surfaces almost meet at the lower end. From here chutes should lead to each battery of ten stamps or two mortars. If the ore contains much clay, it may be necessary to separate the fine ore and clay, and deliver it to the battery floor without going through the rock breakers, which the clay tends to choke up. The consumption of iron per ton of ore prepared in this way for the stamps will be about 0.3 of a pound.

2.—THE CRUSHING IN THE BATTERY.

Here might come a discussion as to the relative advantages of self-feeding and

feeding by hand. Eventually, I believe that automatic feeding will be universally adopted, especially for ore broken to a uniformly small size. Even under present circumstances, the automatic feed is more economical than to have a man feeding, who is careless, lazy or inexperienced. For a good battery-feeder give me a small, intelligent, active and wiry man—a tall or stout man cannot stand the jar of the battery constantly and do good work. A tough man can endure feeding twenty stamps for twelve hours. If ten stamps or less are to be supplied with ore, self-feeding is more economical than feeding by hand, as performed by ordinary workmen; but if the mill is pressed with work, and the pans are of sufficient capacity to crowd the battery, the self-feeding apparatus is not so good as a man, faithful and skillful. Even if he must be paid \$5 a day, he will more than earn his wages by the increased production of the whole mill. Low feeding is the best; let iron almost wear on iron. The skillful workman will feed low and uniformly, and not by sight, but by the sound of each stamp, and specially to each stamp. Under this system a stem may break occasionally; but it does not take long to put in another. The broken stems can be repaired by cutting off above the break and welding on a piece of a bar of rolled iron, which is subsequently turned off in a lathe. Even if three stems out of twenty are broken every month, the cost of repairing, etc., amounts to little, compared with the increased production obtained by low feeding.

The stem almost invariably breaks in one place, namely, where it comes out of the stamp-socket or boss. We avoided this evil partially by boring out the socket and increasing the size of the stem where it enters the socket. The broken surface of the wrought iron stem shows the iron to be thoroughly crystallized; its fibrous condition having been destroyed by the constant jar. A bar of round iron should be always on hand, with which to repair broken stems.

As regards the weight and speed of the battery, my experience favors light stamps and the utmost speed. The Owyhee Mill battery, 650 lb. stamps, with 8½ in. drop (running to 10 in. before setting) was run at a speed of 93 drops a minute, the cams having been cut off, so as to have short cams. Such a speed gives no time for the stem to settle in the sand; and as long as bolts are kept tight, nuts secure, and guides snug, no serious breakage need be apprehended. On ordinary ores the consumption of iron per ton, including the old iron thrown away, is about two pounds.

(TO BE CONTINUED.)

The Magnetic Iron Ores of New Jersey—Their Geographical Distribution and Geological Occurrence.*

BY PROF. J. C. SMOCK.

CONTINUED FROM PAGE 294.

Magnetite, as a mineral, is very common in the crystalline rocks of the Highlands, occurring more frequently than any other mineral, excepting the ordinary constituents of the gneissic rocks, viz: quartz, feldspar, mica and hornblende. And so widely is it distributed that it is impossible to find many strata in succession where it is entirely wanting. It appears as one of the constituent minerals of these beds, either wholly or in part replacing their more common components, or it is added to these, and in each case occurs in thin layers or laminae alternating with them, or it is irregularly distributed through the rock mass. The unstratified granitic and syenitic rocks, as well as the bedded gneisses, also often contain magnetite. In these, however, it occurs in larger and more irregular crystalline masses or bunches, and does not appear to be so properly a constituent of the whole, but rather as foreign to it. The same mode of replacement is sometimes seen in these as in the stratified rocks. In both these classes it enters into the composition in all proportions, increasing in amount until the whole is sufficiently rich to be considered as an ore of iron. Between rock entirely free from magnetite and the richest ore there is an endless gradation, making it impossible to fix any other line of demarcation between them other than that of the minimum percentage for the profitable extraction of the iron. Three modes of occurrence have been assigned to this mineral, two of which were in the rock, as one of its constituents either in irregular bunches or in a granular form, and the third in seams or strata, when it was called ore. But these distinctions are not fixed, and therefore it is better to consider it as one of the more common minerals of these gneissic and granitic rocks, and in places forming the whole mass, or else so much of it as to be workable, and then to be called an ore. Rock containing from 20 to 40 per cent. of metallic iron, the most of which is in the form of magnetite, has been found in many places, and some of these have been explored to a considerable extent in searching for richer ores. The granitic and syenitic rocks containing magnetite are generally found to cut the beds of gneiss, and are, geologically, huge ore-bearing dikes. The most common mineral aggregation is feldspar, quartz, magnetite and hornblende, or mica, although in some cases both the latter enter into the composition. Such rock is worked at a few points, but these operations are not yet worthy of the designation of mines. And in fact the great irregularity and the varying percentage of iron in it does not make it a desirable ore. Gneiss containing magnetite in quantity sufficient to render it workable, has been opened and mined at several localities. Perhaps it should be called lean ore. One of the most extensive outcrops of such ore is near the Pequest mine, in what is known as the Henry tunnel, about two miles north of Oxford Furnace. Here there is a breadth of twelve feet or more, in which the beds are highly impregnated with magnetite, while those on each

* A paper read at the New York meeting of the American Institute of Mining Engineers, February 26, 1874.

side are free from it. Extensive drifting and sinking have exposed several hundred feet of these beds on the line of strike, and shown an increase in the percentage of iron going from the surface to the lowest levels. Near Hackettstown, in Warren County, there are several localities of such ore-bearing rock, but nearly all of them are failures as mines. The Scrub Oak mine, near Dover, the Combs mine, near Walnut Grove, the Swedes and Beach Glenn mines, also in Morris County, have large portions of their veins so mixed with rock that they may be classed with the above localities of ore-bearing gneiss. And all the lean ores of the State may be considered as gradations in the series from rock to what is conventionally termed ore.

While it is impossible to separate these lean ores from the rock upon any decisive or marked distinctions or differences, the richer ores are to be considered as a distinct mode of occurrence, as these differ from the lean ores and rock in their simplicity of composition, being made up of fewer elements, and these predominating to the exclusion of all others.

Assuming this as another mode in which the magnetite occurs, the geological features of these seams or strata may claim our attention.

They are often called veins, because of their highly inclined or almost vertical position, and hence resemblance to true veins. Their irregular form has helped to strengthen this opinion of them. But as they show well marked planes of stratification and also lamination, both parallel to the beds of gneiss which enclose them on the sides, and have strike, dip and pitch, and are folded, bent, contorted and broken, just as stratified rock, they must be called beds, and be classed among the sedimentary rocks. The irregularities in their extent, thickness, and the presence of included masses of rock, known as horses, are phenomena common to the gneiss and them, and therefore these cannot serve as an argument for calling them veins. Lenticular masses of micaceous-hornblende gneiss, lying in felspathic and quartzose beds, or the converse, are quite common, nor do the strata of these rocks run on unchanged in character. But they thin out or grow thicker, or change in mineral composition just as these veins are seen to pinch out or swell into thick shoots, or be replaced more or less gradually by rock. The similarity in these respects between these ore masses and the surrounding stratified rocks proves them to be beds and of contemporaneous origin. Imbedded in the gneissic strata of this Highland belt or region, these iron ore beds or veins (so-called) have the same general strike or dip in common with them. The prevailing direction of the first is towards the northeast, varying, however, within the quadrant from north to east. In most cases it is between the north and northeast. From these there are several exceptions, as at Oxford Furnace, where the veins run north 25 deg. west; the Connel mine, a few miles west of Morristown, where it is also northwest and southeast. While these lines of strike have a general straight bearing, they exhibit short irregularities and deflections, often varying from side to side, or zig-zagged by faults or offsets. The rocks of this formation, as observed in hundreds of places, show the same prevailing straight lines as are seen in the longer openings for ore. Bends or foldings are very rare. One of the most remarkable of these is on Mine Hill, Franklin, Sussex County, although this occurs in a zinc vein or bed, and not in iron ore. Here there is a quite sudden bend, so that the vein returns almost to its original course—which is the usual northeast and southwest one. In the iron mines of the State, the Waterloo or Brookfield mine, about five miles north of Hackettstown, in Warren County, shows a curving strike—turning from northeast and southwest to north and south. Further opening may find as complete a bend here as is to be seen on Mine Hill. But the best example of such folding is at Durham, Pa., where the iron-ore vein, as followed in the mining operations, coincides in its course very nearly with the contour line of the Mine Hill, running around in a semi-circle on the western side of this elevation.

The dip of these ore-beds being at right angles to the line of strike has, of course, the same degree of uniformity in direction, and that is towards the southeast; or more generally towards the east southeast. In some localities the strata are in a vertical position or inclined towards the northwest, and the dip is in that direction. But this has been observed in a few mines only, and in some of these, deeper working has found the vein below assuming the prevailing southeast dip, indicating the existence of a fold, of which the vein opened is a segment, or a bending over near the surface caused by some powerful force acting subsequently to the elevating and folding agents. The Beach Glenn and Davenport's mines, in Morris County, offer illustrations of northwest dips. The rock outcrops show a number of such directions, but they are comparatively few in number, when the thousand or more observed southeast dips are considered. In the Connel mine (mentioned above) the dip is towards the southwest. At Durham it is radiating towards a central, axial line of what is considered as a fold, and in, towards the center of the hill. In the Hard mine, as also at the Zinc mine, Franklin, the two legs of the synclinals show dips at different angles towards the southeast. One of those, at Hurdtown, being almost vertical—while the other is quite steep. In the large openings of the Ford and Scofield mines there is no dip, the beds standing vertical.

The term pitch is used to designate the descent or inclination of the ore-bed or shoots of ore towards the northeast—or in the line of strike. If we should conceive of the line of strike as broken and depressed so as to descend towards the northeast, we should get a good example of this pitch of shoots. This inclination has been observed in the rock as well as in the ore. It is so commonly observed in mining these magnetic ores as to be expected everywhere, and miners speak of the ore pitching or shooting, and their working has constant reference to such a structure in both ore and the enclosing rocks. In nearly all cases the pitch is

towards the northeast. It is beautifully exhibited in the Cannon mine, at Ringwood, where it amounts to 45° inclination from a horizontal line. The long slope of the Hurd mine, in Morris County, and the thick swells alternating with intervening *pinches*, or barren ground, at Mount Hope, show this same structural phenomenon.

These *shoots* of ore, however named, are best described as "irregular, lenticular masses of ore imbedded in the gneiss, their longest diameters coinciding with the strike and dip of the rock," which in nearly all cases is towards the northeast, and their dip conforming to that of the same surrounding rocky *case*, and generally at a high angle towards the southeast. They vary greatly in their dimensions, sometimes thinning out or *pinching*, when followed on the line of the strike, or on that of the dip, to a thin sheet or seam of ore and occasionally ending wedgelike in rock. Sometimes they split up into several small veins or *fingers* which are dovetailed, as it were, in with the rock, and so gradually pinch out. Quite often there is a sort of flattened kernel or core of rock enclosed in the shoots of ore, but generally these *horses*, or what are called such, are interpenetrating masses of rock from the outside *country rock*. Extensive mining operations and explorations have shown some of these shoots to be connected with others, forming a series of these lenticular masses, or if not actually united by ore, associated and arranged on closely parallel plains, if not in the same axial plane. Following the plane of the dip downwards, the *pinches* between the shoots are nearly everywhere continuous sheets of ore, and these are not often greater in breadth than the shoots. That is, the distance from shoot to shoot measured across the pinch is not often greater than the breadth of the former. But quite frequently these shoots are entirely separate from one another, rock intervening in the same plane, or they are in different planes or geological horizons. Nearly all of our New Jersey mines work on more than one shoot, since the extraction of the ore from near the surface is easier and more economical than following a single shoot downwards. Their length is unknown. In the Hurd mine the slope is nearly 900 feet long descending on the *bottom rock* and there are no signs of exhaustion. In the Weldon mine (near the Hurd mine,) there are two shoots side by side, but not exactly parallel, nearing each other as they pitch down—and now separated by about 12 feet of gneiss rock. These may come together and prove to be leaders from one large shoot.

In most of our iron mines the ore is bounded by well-defined walls or strata of rock from which the ore comes off *clean* in mining, but very frequently there are no such plain boundaries or sudden transitions from magnetite to gneiss, but a very gentle gradation of ore into rock, and in these cases the mining goes only so far as the richness of the beds in iron makes it profitable to remove them. Following the *shoots* downwards the same gradual replacement has been observed until the whole was too lean to work, or altogether free from ore; but this feature is not so common as that of the gradation or replacement towards the sides of the shoots or the walls. Occasionally the shoot is said to run out, that is, there is a sudden change from ore to rock; some of these, however, may be faults rather than shoots changed in mineral composition.

The thinning out of the shoots towards the edges, or at right angles to the line of pitch—or towards what may be called the *lines of pinch*, which run parallel to the lines of *swell* or axes of these shoots, has originated the terms *cap rock* and *bottom rock*. The former makes the arched or double-pitched roof of the mine, while the latter constitutes the trough-like floor or bottom. These peculiar features are very finely exhibited in the Hurd mine, Hurdtown, Morris County, where the extraction of the ore, following the conformation of the shoot, has left the *cap-rock* overhead and the *bottom rock* below, on which the long slope runs down to the bottom of the mine.

In the Cannon mine, at Ringwood, the same capping rock appears in the heading or N. E. side of the large opening, and the track runs down on the bottom rock towards the northeast. Here the pitch is nearly twice as great as in the Hurd mine and the shoot as worked is much broader, being nearly of the same size both ways. And here there may be said to be *four* walls that surround the ore. Sometimes miners speak of these top and bottom rocks as walls. But generally there is a narrow vein or sheet of ore left both at the top and in the bottom; and these may gradually run out entirely, or they may connect with other shoots of ore lying in the same plane of dip as that of the shoot worked. And this is true in nearly every case—the exceptions being considered as not yet fully demonstrated as such, since the mining operations generally cease when the vein pinches up so as to become unprofitable for the removal of its ore.

The extent of these *shoots* of ore is exceedingly varying, and our mines are not yet deep enough to show their maximum length. The width and thickness, or the lateral dimensions, are soon ascertained, the former scarcely ever exceeding one hundred feet—from *cap* to *bottom rock*, or from *pinch* to *pinch*; and the latter varying from an inch to eighty feet; but more often less than thirty feet—they may average five to twenty feet. These figures always include some rock, or *horses*. The oldest and deepest of our mines, as the Blue mine, at Ringwood, the Mount Hope, Swedes, Dickerson and Hurd mines, are all steadily going down, increasing the length of their slopes, and they are apparently as inexhaustible as ever, and promise to continue so, at least as far as our present appliances for hoisting ore and water can allow of the economical extraction of ore from them. Such are some of the more general and essential features that characterize the iron ore beds of the State.

Lying imbedded in, and being contemporaneous in origin with, the gneissoid rocks of this Azoic formation, these ore beds or *veins* have been subject to the same disturbing forces which have elevated, folded, wrinkled and broken all the

strata belonging to it, and which have given to it its present structure. These forces, so manifold and acting through so long a period of time, and probably at wide intervals, have so destroyed any degree of uniformity which once may have existed, that it is often difficult, and sometimes impossible, to recognize amidst this chaos any order of structure whatever. The beds of ore and rock have been squeezed into close folds, so that they now stand on edge, and through these agencies have come the strike and dip. Other forces acting on lines traversing the veins at all angles, have variously dislocated and further disturbed the strata, giving rise to frequent faults or offsets, and what are called *cross-slides*—phenomena seen in both the veins and in the rock strata of this formation. In some instances the veins have been displaced 100 feet, while in others the ore-mass has been broken apart, but not pushed aside, so as to interrupt its course. The planes of these dislocations traversing the veins in all directions, the dip and strike are sometimes both altered. These faults are common, and can be seen in nearly all of the mines; sometimes so frequent as to cut the vein into short segments, giving it a zig-zag course. The most remarkable faults or offsets are seen in the Mount Hope mines, where five veins are all displaced over a hundred feet; in the Hurd mine, where the displacement has been in a vertical plane and the original long and continuous shoot appears as two distinct masses, the upper of which has been worked out. Other examples are in the Byram and the Mount Pleasant mines, near Dover. Generally a thin seam of ore, mixed with rock and fragmentary, connects the vein on corresponding sides of the fault, and this serves often as a guide to find the vein beyond the break or offset. Miners have several so-called rules about offsets, but these are not universal, and there is no general law in the direction of the throw or displacement. Occasionally one fault is crossed by another—increasing the irregularity in the course of the vein.

From these numerous faultings, discovered in mining operations, we learn something of the extent to which these strata have been disturbed since their original deposition, and probably all subsequent to their elevation and compression into folds. More thorough surveys of the surface and more extended mining may yet enable the geologist and miner to trace out these lines of fracture, and learn how much they, together with the general effects of elevation and folding of the whole formation, have contributed towards the grouping of the iron ore as we find it, and this knowledge may direct both our mining and our searches for ore. The facts already obtained point to a system, and the successful pursuit of the ore in its crooked and broken course in some of the largest mines is the best evidence of the accuracy of the laws of structure as now understood. They also show most forcibly, and illustrate most beautifully, the intimate and necessary relations of mining and the principles of geology, and show that the two ought never to be dissociated.

The discussion of the paper will be printed next week. }

Large Make of Steel Rails at Troy.

The Bessemer steel works at Troy, N.Y., having distinguished themselves by returning, first, the largest daily product and, next, the largest weekly product of steel from a four-ton plant, of any works in this country, have now taken the same leading position in rail rolling. Between 5:55 A.M. of April 13th and 1:44 P.M. of April 18th, 195 heats were made, yielding 971 850-2240 tons of ingots, thus accomplishing this before unattained result in 127 5-6 hours. This work was performed by two sets of hands, and no extra ones were employed. Each day's product was as follows: Monday, 37 heats; Tuesday, 33; Wednesday, 38; Thursday, 36; Friday, 40; Saturday, 11. Total, 195. The following is a record for the week ending April 25th: 3663 steel rails, all first quality, 60 lb. pattern—standard length, 30 feet—(3 8-10 per cent. shorter bars); weight, 1012-11-2-19.

Average rolling time, day turn, 8 h. 17 m.

do. do. night do., 8 h. 39 m.

Nine furnaces, 6 heats each on each turn. Rail train, 21 inches diameter, making 80 revolutions per minute.

Zinc Establishments in the United States.

LEHIGH ZINC COMPANY.—Ores: Calamine, blende, from Fredensville. Produce: Oxide and spelter.

NEW JERSEY ZINC COMPANY.—Ores: Franklinite, from Newark Mine, Sussex County, New Jersey. (Mine Hill, Stirling.) Produce: Oxide, spelter, franklinite.

PASSAIC ZINC COMPANY, Bergen Point, New Jersey.—Ores: Stirling; experimenting with new gas furnace. Produce: Oxide.

MERCER ZINC COMPANY, Trenton, N.J.—Ores from Sussex County, New Jersey. Produce: Oxide.

BARTLET ZINC COMPANY, Constable Point, N.Y.—Ores from Mine Hill, N.J.

KEYSTONE ZINC COMPANY, Birmingham, Pa.—Ores from Sinking Valley and Mine Hill. Produce: Oxide.

MATTHESON & HEGELER.—Works at La Salle, Ill. Ores purchased from Mineral Point. Produce: Spelter. Rolling Mill.

At Carondelet, Mo., where coal from Illinois, ores from Missouri and Arkansas are used, G. F. HESSELMAYER has built 1 block of 4 furnaces and 74 retorts.

At St. Louis oxide of zinc (1000 lb. per day) is made by the Barytes Works.

TENNESSEE ZINC COMPANY, Mossey Creek, Tenn.—Oxide of zinc. Ore: Calamine from same place. Fuel said to be charcoal.

AMERICAN ZINC COMPANY, Elizabeth, N.J.—Spelter. (This company was reported to melt up old zinc into slabs of spelter, but at the office in New York they claim to make "spelter from the ore in a new kind of retort, and by a new process.")

MINERAL POINT ZINC COMPANY (Joseph Grundy and Thomas Kinsman, of Mineral Point, Wis., and Robert Lanyon, of La Salle, Ill.) Ores from Wisconsin. Spelter furnaces at La Salle. Product about 5,000 lb. daily.

A Pittsburg company is said to be erecting works for spelter making at Peru, Ill.

THE ENGINEERING AND MINING JOURNAL.

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ROSSITER W. RAYMOND, Ph. D.,
JOHN A. CHURCH, E. M., } Editors.
RICHARD P. ROTHWELL, C. E., M. E.,
Editor of the Coal and Iron Department.

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We publish in the *Bulletin* of the American Institute of Mining Engineers, the proposed time-table of the trip to St. Louis. It will be seen that the schedule time for arriving in that city is 1:45 P.M., on Wednesday, May 20. It is the urgent wish of the Council that Eastern members of the Institute should be present at that meeting in as great force as possible. According to the theory on which professional societies are established, it is precisely the Eastern members who ought to be most certain of putting in an appearance there, where conditions of trade and practice different from their own are found. Whether we regard the social or the professional side of these gatherings, St. Louis will be found an excellent point for the members to meet. The charming hospitality of Southern life on the one hand, and the characteristic metallurgy and mining of the West, both invite those who enjoy the privileges of the Institute to be present. It is hoped that a strong representation of mining men from the extreme West will be present, so that Eastern men will be able to open with them those professional and personal relations which are so profitable to all parties. As to the proper work of the Sessions, the past history of the Institute is enough to show that there will be no lack of important and interesting papers. Still we wish to say to the members, that those who cannot be present should at least send some results of their experience or thoughts to represent them. As editors of a technical publication, we are in a position to know the vast importance of the papers read at the Institute meetings. They gradually spread over the whole earth, being translated into numerous languages, and it is not to be doubted that they have their effect upon the thought, and, therefore, upon the practice of the profession in all lands. For this reason we mean to suffer no meeting of the Institute to pass without urging upon the members the importance of this part of their duties.

SPEAKING of Institute papers we would say that their value is not a merely professional and perfunctory one. Whether good Americans go to Paris when they die or not, it is certain that the bad and good alike mean to go there and elsewhere in Europe before they die. It is one of the rewards of writing a good paper for the Institute that the author immediately becomes known to a great number of professional brethren abroad. He will find himself warmly greeted in many a situation where those whose names are not found appended to papers in the volume of Transactions will be coldly looked upon. It is said that every American who makes a journey in Europe, either gets into a law-suit or falls into the hands of the police before he gets back. Members of the mining profession, hailing from a foreign country, and unexpectedly turning up in out-of-the-way places in Europe, are especially liable to these incidents, as more than one friend of ours could testify. In such junctures what more convincing proof could there be of entire respectability than the production of the last volume of Trans-

actions, where the supposed culprit's name would appear ranked with all the other distinguished men of the profession? General SHEERMAN is said to have made the Georgia campaign with the *Herald* war maps in his pocket, and we advise mining men who contemplate a trip to Europe, to secure a place in the Transactions, and keep the volume with them, as the American citizen's best protector.

SINCE completing the publication of Mr. HEINRICH's paper on Deep Boring with the Diamond Drill, we have received from him a private note, alluding to the statement recently made that a bore-hole in Canada, effected by means of this machine, was 1040 feet deep, and informing us that one of the Midlothian bore-holes is 1142 feet deep, and 4 ft. 8 in. in hard granite at the bottom. Mr. H. sees no reason why greater depths should not be attained, when desired, by the same means. So far as the principle of the Diamond drill is concerned, it operates as well, though not as rapidly, at the depth referred to as at the surface. Mr. HEINRICH advanced with great regularity, in the lowest section of the work, at the rate of 12 to 15 inches per hour in hard rock. We understand that the stratigraphical results of this exploration have been highly instructive; and we trust to be able at some future time to lay them before our readers.

Dr. BOLTON's suggestion that the chemists should make this year a centennial of chemistry is meeting with a good deal of favor. Of course it is quite possible to say that chemistry did not begin in 1774, but as the Doctor expressly met that objection in making his suggestion, we do not see that it has great force. The question is whether the year is really objectionable as being the centennial of a period barren of progress in chemistry, which it certainly is not; and also whether the chemists of the country are willing to meet. As to the latter point, a good many of them would be glad of the opportunity, and have so expressed themselves to Dr. BOLTON. Among them Professors HASFORD, JOY, and CHANDLER, S. DANA HAYES and many others. As the meeting must be held during the summer, it is suggested that the proper place for it is on the sea shore, that being the region to which most persons, and especially those living in the interior, gravitate during the summer, or, at all events, are willing to gravitate. Some watering-place on the Long Island Sound might be a good spot, and it has been suggested that the meeting of the American Society for the Advancement of Science at Hartford, in August, would be an excellent time and place for holding the meeting. A lady professor of chemistry points out that Northumberland, Pa., would be appropriate, since it contains the grave of PRIESTLEY. The idea is good, but probably the comparative advantage of other places will outweigh it. The chemical section of the New York Lyceum of Natural History had a meeting on Monday evening at which the whole subject of the centennial was discussed with a good deal of interest. Resolutions were adopted and a committee appointed to arrange the meeting.

A Self-Dependent Iron Trade.

THE *Bulletin* of the Iron and Steel Association lately had an article discussing the condition of the iron trades in April. It contained a good many interesting data, and is worth reading for that reason. Unhappily its deductions from the facts are less profitable. It points out that the iron trade in this country is in a very depressed state, and that in England "there is a panic to-day almost as severe as our own," then shows what the British ironmasters are doing in the emergency, and closes by recommending a line of conduct which, in its judgment, is the proper one for this country. The difference between these two methods is so striking that we have thought it worth while to present them in juxtaposition.

ENGLISH REMEDY.

"The decreased demand for their iron products abroad, and the danger of losing the control of even their own markets, has led to a determination and united effort by British ironmasters, in which they have the co-operation of the colliery owners, to reduce the cost of their products, with the hope of thereby reviving business, and all indications point to the success of the movement. In fact it is already successful."

THE BULLETIN'S PLAN.

"What will save the iron trade of the United States from complete and total stagnation? What will save its half-million of dependent working men and their families from want and starvation? These are questions which must be answered and answered soon. They cannot be pushed aside nor will half-way measures satisfy those who ask them. We will indicate the nature of the only reply which will meet the emergency—which will do justice to a great industry, and confer honor upon the whole nation. Our finances should be so adapted to the wants of the people, that a healthy development of the material wealth and growth of the country will be stimulated, and the odious reduction of ten per cent. in the duties on foreign imports should be at once repealed."

The difference between these two lines of conduct seems to us to be suggestive of the true cause of the power which English ironmasters so constantly display over the world's markets. They depend on themselves. The truism that the only way to avoid loss in business is to make at a less cost than the selling price, is to them a substantial fact, and their theories of "finance" seem to correspond very closely to it. That this is not the case with all other communities of tradesmen, does not need proof in a country where the Secretary of a leading trade organization deliberately ignores the English basis, and instead of recommending a readjustment of expenses, looks about to find some way of forcing customers to pay more. According to the tables given in this article, the English have sent us this year about \$4,000,000 worth of iron and steel. We demonstrate in another place the character of this importation, and show that it really has no signifi-

once whatever, being mostly the undelivered portions of large orders given long before the panic.

For our own part, we believe the effect of such counsel as that given by the *Bulletin* to be very bad. Our contemporary declares that "the iron trade of this country is, to-day, not the master of its own home market." We can only answer that a trade which is dependent on its government never is its own master, and we do not believe it can compete in the long run with a trade that looks its difficulties square in the face, and literally abitrates upon its own destinies.

We do not pretend to dictate to the iron trade just what it should do, but we are of opinion that reliance upon itself will produce better results than any amount of Washington whitewash applied to the gaps in its position. Just at present the ironmaster can hardly say that high wages are at the bottom of his difficulties, for wages are really low now, and, in any event, workmen in the long run take what they have to, though not always with a good grace. Of the remaining items which make up the cost of iron, there are two which may be adjustable. The cost of ore and coal in a great many leading establishments involves two separate expenses—one for material and one for transportation. Both of these are subject to treaty. If the absence of a market is due to the fact that mine owners demand so much profit as to prevent the production of metal at a fair cost, we think it undeniable that sooner or later they can be made to abate their pretensions. Or, if the railroad companies demand ruinous freights, the threatened entire suspension of ore traffic would certainly bring them to terms. If neither of these propositions is true, we are forced to the conclusion that there is some inherent defect in the United States considered as an iron-producing country, which must prevent them from competition on equal ground—and that we do not believe.

On the other hand, it may be that the consumers of iron carried their operations on so rapidly for a few years as to destroy their own business. If this is so, the tremendous demand for iron of late years was an artificial thing and cannot be sustained by any action, either of Congress or of the iron men. In adjusting itself to the excited demand, the iron trade may have built more furnaces than it needed to carry on its operations in ordinary times, and if this view of the case is true, we do not see that there is any remedy except to decrease the production and wait for the gradual growth of the demand, a growth which is as steady in times of depression as during an excited state of the trade. One of these remedies is disagreeable and the other is slow, but we do not see how real relief, in time of continued peace, can come from any other direction.

We have pointed out these alternative conclusions not for the purpose of deciding between them, but to bring out the fact which is prominent all through them, that in no case can Congress do any good. Congress cannot, by any kind of legislation, make a market, lower the price of ore and fuel or the rates of freight. Even if government were to resume the building of railroads, no more than the most temporary relief would be given, and that only to a limited extent. The true question now before the iron men not only includes the problem of how this present emergency is to be met, but how they are to meet all the fluctuations in their business; whether they will be an independent or a dependent body.

Mining Statistics of Prussia.

The extent of mining operations in Prussia is shown by the official returns for 1872 which have just appeared. For convenience we give the weights both in German centners and English tons of 1,000 kilograms (2,202 lb.):

	Centners.	Tons.
Bituminous coal.....	590,475,512	29,523,775
Brown coal.....	148,992,730	7,449,636
Total fuel.....	739,468,242	36,973,412
Iron ore.....	73,427,353	3,671,367
Zinc ore.....	8,236,313	411,815
Lead ore.....	1,803,374	90,168
Copper ore.....	5,566,948	278,347
Silver and gold ores.....	212	11
Quicksilver ore.....	30	1½
Cobalt ore.....	4,375	218
Nickel ore.....	257	12
Antimony ore.....	368	19
Arenic ore.....	12,988	649
Manganese ore.....	352,415	12,620
Pyrite.....	2,986,988	149,349
Other vitriol ores, etc.....	541,913	27,045
Total ores.....	92,933,534	4,696,676
Rock salt.....	1,596,784	79,839
Potash salt.....	3,950,500	197,525
Magnesia salt.....	500	25
Total salts.....	5,547,784	277,389
FROM SALINES.		
Salt.....	3,882,352	194,117
Chlorid Pottassa.....	1,303	65
Chlorid magnesia.....	435	26
Alkaline sulphates.....	3,185	159
Total.....	3,887,275	194,362
Grand total.....	841,836,835	42,091,841

The value of this product was 118,115,263 thalers, or \$85,042,989 in gold,

counting the thaler at 72 cents. There were 2,737 works in operation, and 228,352 men, together with 403,258 women and children, were employed. The remarkable fact about these returns is that they cover such small figures. The Prussian miners and smelters have, within a few years, begun to be formidable competitors of all other nations. They invite the miners of other countries to send them their ores for treatment, thus presuming to combat the supremacy which the British works have so long wielded. They even aim at selling iron goods in English markets, and though there does not appear to be any noteworthy result to these efforts, the attempt itself is evidence of power. There is a temerity in this that is surprising. Prussia, mining 37,000,000 tons of coal and 3,671,000 tons of iron ore, actually aspires to a rivalry with England where, in the same year, 123,000,000 tons of coal and 15,584,000 tons of iron ore were mined. A country that raises \$85,000,000 worth of minerals in a year, competing with one which raises \$285,000,000 worth (£58,913,541, according to Hunt's statistics), is a sight worth looking at. Perhaps the principal reason for this ability to compete with so powerful a rival, is the fact of cheaper labor in Germany; but, in addition to this, there is the operation of more than usual wisdom applied to the dealings of Government with miners and mining adventurers. The resources of a kingdom which, when compared with others, is found to be not notably rich in minerals, have been carefully fostered and steadily developed, as the following table of product and values in successive years shows:

	Tons Raised.	Value Gold.
1868.....	32,180,302	\$46,092,254
1869.....	33,849,776	49,707,498
1870.....	33,285,074	50,350,982
1871.....	36,969,363	63,146,167
1872.....	42,091,595	85,040,480

The success of mining in Germany is a triumph for the advocates of what we may term without insinuation of any kind, scholastic metallurgy. The progress of mining would of course be nothing at all but for improvement in the art of metallurgy; and here we find the Germans have, latterly, made great advances, and they have made them by the force of persistent study, and an intelligent organization of the mining department of the government. The amount of money yearly invested in experiments, scientific and practical, in Europe, is wonderful. Neither the English nor Americans have anything to boast of in this respect, in comparison with their rivals. The thorough-going system of instruction and, equally important, the system of apprenticeship by which young Engineers are made to do practical work, before they are entrusted with important responsibilities, and, finally, the wise method of instructing the mining officers, by occasional journeys to other regions, with instructions to report, are all factors in the admirable progress of the mining and metallurgical arts abroad. It is attention to thorough knowledge, rather than the possession of any remarkable mining regions, that gives to Germany its importance.

Our Iron Imports.

While the various questions which affect the iron trade were never more discussed than now; there probably never was a time when the wisecracks were less able to agree. This is especially true in the matter of our importations of foreign iron. English writers say that American orders are a thing of the past, there being none at all on the way and no new ones in the hands of the iron masters. On the other hand, some authorities on this side of the water take just this opportunity to point out that Great Britain, collectively, and the iron-workers individually, are preparing to deliver the last blow to the prosperity of the American iron trade. They take the ground that the English can always undersell us and that the lower prices go in this country the better for our vigilant rivals and the worse for us. They say that England is sending us iron, even in these desperate times; and on this fact they base a call for Congress to interfere, and prevent the further purchase abroad of goods that our home makers are longing to supply. It is evident that both of these views cannot be true. On our side, it is said that we are constantly importing, which the English flatly deny. Let us see which is right. The following table gives the exports of iron and steel to this country from Great Britain, in the first three months of this year, and also of last year, together with the value in pounds of this year's import.

	1873.	1874.	1874.
	Tons.	Tons.	£.
Pig iron.....	28,808	15,190	86,882
Bar angle, etc.....	12,709	1,232	20,594
Railroad.....	69,453	28,025	377,661
Hoops, sheets, etc.....	7,651	1,290	23,743
Manufactured.....	4,320	6,520	119,026
Old iron.....	14,500	1,432	
Steel unwrought.....	5,548	3,196	122,099
	145,989	56,885	752,005

This certainly looks like continued importation, but when we examine the real state of the case we shall find that the English writers have represented it correctly, and that our own advisers are wrong. Of the 15,000 tons of pig iron, represented in the above table, nearly the whole consists of lots bought last year for future delivery. The railroad material consists almost exclusively of steel

rails, bought early in last year, and mostly ordered for the Vanderbilt roads. Such at least is the report of gentlemen who are well acquainted with the importing trade, and who know where every parcel of metal goods that comes into the country goes.

All the inquiries which we have been able to make assure us, that the United States is not now importing any iron supplies. Whatever come to this country are mostly the remnants of old orders, and have no significance in the subject of our present relations to the mother country.

Trial of Rock Drills.

A TRIAL of three rock drills, the Rand, Ingersoll and Waring, was lately held at Mineville, N. Y., under the superintendence of Mr. GEO. H. REYNOLDS, who has published a report upon it. The Rand and Ingersoll machine ran two weeks, and the Waring one week. Power was supplied by air compressed in the well-known Rand and Waring air compressor, illustrated in this journal, February 11, 1873.

Table with 6 columns: Machine Name (Rand, Ingersoll, Waring), 1st. w'k., 2d. w'k., and rows for Number of holes drilled, Total number of feet drilled, Number of hours worked each week, etc.

The above represents the trial under ordinary conditions of steady work. There were also time trials, the results of which contain some interesting information. They are:

Table with 6 columns: Machine Name (Rand, Waring, Ingersoll), and rows for Air pressure, Depth of hole, Diameter at top, etc.

The figures we give are sufficient to inform our readers of the main features of interest. To those who know the character of the machine drills which are in the market, the practical equality of the work done will not be surprising.

The intention was to test the relative merits of the Rand, Ingersoll, Waring, Wood and Burleigh Drills in the same mine and as nearly under the same conditions as possible, in order to ascertain which was best adapted to the work of drilling in the mines of the Port Henry Iron Ore Co., and the mines of Messrs. WITHERBEE, SHERMAN & Co.

tried can do any drilling that can be done by hand, and that it is cheaper to drill by power than by hand labor, and that much more ore can be taken out of the same mine in a given time when power drills are used than when hand labor does the drilling. The power used was air compressed by one of Rand and Waring Compressors, and was kept at 60 lb. pressure in the engine room and delivered to the drills at a distance of about one thousand feet from the compressor, losing about six lb. pressure by friction in transmission.

- 1st. That any hole that can be drilled by hand can be reached and drilled by power.
2d. Saving over-hand labor in cost per foot drilled.
3d. More work can be done on the same ground in a given time.
4th. Less cost per ton of ore for explosives.
5th. " " " " " " steel.
6th. " " " " " " smith work in dressing drills.

1774.—Centennial of Chemistry.—1874.

RESOLUTIONS ADOPTED AT A MEETING OF THE CHEMICAL SECTION OF THE N. Y. LYCEUM OF NATURAL HISTORY MAY 11TH, 1874.

Whereas, The Discovery of Oxygen by JOSEPH PRIESTLEY on the First of August 1774 was a momentous and significant event in the history of Chemistry, being the immediate forerunner of LAVOISIER'S generalizations on which are based the principles of modern chemical science, and

Whereas, A public recognition of the one hundredth anniversary of this brilliant discovery is both proper and eminently desirable, and,

Whereas, A social reunion of American chemists for mutual exchange of ideas and observations would promote good fellowship in the brotherhood of chemists, therefore,

Resolved, That a committee of five be appointed by the chair, whose duty it shall be to correspond with the chemists of the country with a view to securing the observance of a centennial anniversary of chemistry during the year 1874.

The President, J. S. NEWBERY, L.L.D., subsequently appointed the following Committee:

- Dr. H. C. BOLTON.
Prof. C. F. CHANDLER.
Prof. HENRY WURTZ.
Prof. ALBERT H. LEEDS.
Prof. CHARLES A. SEELY.

COAL TRADE REVIEW.

Import Duty on Coal.

Anthracite free. Bituminous, per ton of 28 bushels, 80 lb. to the bushel, 75c. gold.
All slack, or culm, such as will pass through a half-inch screen, per ton of 28 bushels, 80 lb. per bushel, 40c. gold.

NEW YORK, May 15, 1874.

The production of Anthracite coal in the different regions, for the week ending May 9th, was as follows:

Table with 4 columns: Region (Wyoming, Lehigh, Schuylkill, Sullivan), Tons, and Year* (Tons). Rows list production for various regions and companies.

Giving a total production of 467,212 tons, as against 403,267 tons for the previous week, and 438,224 tons for the corresponding week last year. The total production for the year is 5,877,166 tons, as against 5,199,248 tons for the corresponding period of 1873.

The same monotony exists in the Anthracite coal trade, there being no change in the demand, in which a decrease for domestic uses is counterbalanced by an increase for manufacturing and other purposes. The retail trade is very dull. During the past week vessels have been in abundant supply, and shipments to Boston have been made as low as \$1 50 per ton for large vessels, and \$1 70 for ordinary size.

Low rates are anticipated during the summer to points beyond Cape Cod, from a large number of vessels going to Maine for ice. The following are the wholesale prices f. o. b. at the shipping ports:

Table with 6 columns: Location (Wyoming Coals, Lehigh, Schuylkill), Lump, Steamer, Grate, Egg, Store, Chestnut. Rows list prices for various coal types and locations.

* f. o. b. in New York Harbor.
† These prices are for registered contracts. Buyers not having contracts will be charged 15 cents per ton more than above prices.

Per ton. Freight from Elizabeth, Fort Johnston, Haboboken and Wehawken to New York 45c. Freight from South Amboy to New York 50c. " " Newburgh to New York 65c. " " Port Richmond, " Philadelphia" alongside. 95c.

Line Prices for May, 1874.

WHOLESALE.

Table with columns: AT, Lump and Broken, Egg, Stove, Chestnut, Pea. Lists various coal types like Carbondale, Fair Haven, Ithaca, etc. with prices.

Lehigh furnace lump remains at \$3 25, without commission.

Retail prices per 2000 lb. are as follows:

Table with columns: Grate and Egg, Stove, Chestnut. Lists prices for Pittston coal, Delaware & Hudson, Scranton, etc.

The receipts at Port Richmond, for the week, are reported at 69,000 tons; shipments 53,000; and balance on hand 112,000 tons.

The receipts, for shipment, at Coal Port, for the week, were 10,699 tons and the shipments 10,718 tons. The receipts at South Amboy were 12,930 tons and the shipments 14,708 tons.

Bituminous Coal.—The complaint of a dullness of trade is more general among the bituminous dealers, than with the anthracite. We are unable to learn of any sales of note from this market. The only one, reported to us last week, of 7,000 tons of the Potomac Company's coal, shipped from Baltimore, and delivered in Boston at \$6 07, is a subject of much comment among the trade of this city.

The production of Cumberland coal from January 1st to May 9th was 602,667 tons, as compared with 680,646 tons for the corresponding time last year. The production for the week was 59,264 tons, as compared with 54,819 tons for the previous week.

The following is the production of Bituminous coal for the week ending May 9th:

Table with columns: Week. Tons, Year. Tons. Lists production for Cumberland and Pennsylvania R.R., Cumberland Branch R.R., Barclay R.R., etc.

Coke.

Table with columns: Week. Tons, Year. Tons. Lists coke production for Tyrone and Clearfield, Allegheny Region, etc.

Chesapeake and Ohio Railroad.

Coal received from mines for week ending May 9, 1874:

Table with columns: TONS, Cannel Coal, Splint, Bituminous Coal, Total.

In gas coals and foreign house coals, we are unable to learn of a transaction. The arrivals of gas coals are all for contracts made earlier in the season. In Provincials, both buyers and sellers are awaiting the result of the attempt to renew the reciprocity treaty, which, if accomplished, will remove the duty from Provincial coals.

The arrivals of Provincial coals from Port Caledonia for the past week amount to 1,111 tons.

Coal shipped from Picton, N. S., for the week ending May 9, 1874.

Table with columns: DESTINATION, WEEK, YEAR. Lists destinations like United States, Canada, Other provinces with weekly and yearly tonnage.

The following are the

WHOLESALE PRICES. F. O. B.

Table with columns: Broad Top, Derby, Kittinging, etc. Lists coal types and prices per ton.

Freight from Richmond, Va., to New York, \$2 00@2 10. * \$1 1 f. o. b. at Richmond.

Delivered at wharf.

RETAIL PRICES.

Per ton of 2000 lb.

Table with columns: Liverpool House Orrel, Live pool House Cannel, Live pool House Cannel, etc. Lists coal types and prices.

The following are the prices of provincial coals, f. o. b., at the shipping ports of the mines:

PRICES IN GOLD F.O.B. AT THE SHIPPING PORTS OF THE MINES.

Table with columns: Coarse, Slack, Sydney, Reserve, Coarse, Slack. Lists coal types and prices in gold.

Freights from Cape Breton to New York, \$2 75.

Anthracite Coal Trade of Philadelphia.—The slight improvement in the Anthracite Coal Trade, lately noticed from all quarters, is barely sustained. There has been a further decline in freights to the Eastward; some vessels having been secured at \$2 per ton. The rate to Providence remains \$1 75.

It would be a sad mistake to believe that what was called the "cut-throat business" is stopped. The combatants have changed, that is all. It was done before in a legitimate way, and without the pretensions to high tone put forward so conspicuously by some of the corporations.

The receipts at Port Richmond, published by the Reading R. R., for last week, are given at 69,000 tons, while they were actually 11,120 cars which could never have weighed that much.

By the burning of the Engine-house at the top of Mahanoy Plane, over which a large amount of coal passes, that tonnage will be diverted for some time to another branch of the Reading R. R.

The Bituminous Coal Trade of Philadelphia.—The Bituminous trade may be reported as successfully maintaining its usual dullness. Low prices and cheap transportation rates seem no inducement to buyers. The shipping wharves are fully stock'd and the collieries generally run on half and quarter time.

The bitter competition of the Cumberland coal shippers in New York and Eastern ports, and the prevailing low vessel freights from Georgetown have much affected the prospects of the Clearfield shippers in those markets—who now look upon the business of 1874 as dead for the season.

Outside of a few local sales, none are reported for shipment.

The following are the quotations: ANTHRACITE. Broken, in the yard \$5 00, Egg and Stove 5 00, Chestnut 4 75.

BITUMINOUS. Pennsylvania and Westmoreland Gas 6 00, Broad Top, f. o. b., Fort Richmond 4 75@5 00, Red Bank Cannel 8 50.

Clearfield and Broad Top coals are about \$6 25 per ton at South Amboy, f. o. b.

RETAIL.

ANTHRACITE.

P. & R. C. and I. Co., per ton of 2,240 lb.

Table with columns: In Yard, Delivered. Lists Anthracite prices for Broken, Egg and Stove, Chestnut.

Other dealers generally ask a little more than the P. R. C. & I. Co., having special brands that are prepared in a superior manner.

BITUMINOUS.

Per ton of 2,240 lb.

\$6@6 25 in yard; \$6 75@7 00 delivered.

A new department has just been created by the Delaware and Hudson Canal Company, which will have the entire supervision of its real estate business. E. W. Weston is the superintendent.

Mr. TILLINGHAFT, Treasurer of the Lehigh and Wilkes-Barre Coal Company, sailed for Europe on Saturday last. We are informed that the object of his trip is to negotiate a loan of \$10,000,000 for the company.

From the Wyoming region we hear complaints that the companies' prices for chestnut and egg coal differ too much from those for other sizes. In the northern trade, last year, there was always a full demand for chestnut coal, though its price was only 25 cents lower than stove. This year the Committee of Six put the price of chestnut \$1 below stove at New York, and, with the opening of the canals, chestnut coal is brought from New York, and underseals the regular quotations.

THE BRITISH COAL TRADE.

LONDON, April 25, 1874.

Since our last there have been reductions in the prices of coal in certain districts, and the market is weak, with a tendency to go still lower. Some districts are kept quite busy by an increased demand for shipment, and from districts where labor troubles exist. With the strikes, and the curtailment of output practiced at many collieries, there is not, as a rule, a great accumulation of stocks.

There has been no change in the state of affairs in South Staffordshire since our last. The masters who have withdrawn their notices for a reduction, experience a steady demand, and are thus reaping a temporary advantage at the expense of the larger firms, who show no disposition whatever to retire from the position they have taken. The supplies of fuel from the North Warwickshire district are seriously interrupted by a strike of 2,000 miners, which has just commenced. The leading coalmasters in South Staffordshire, have expressed themselves favorable to the formation of a Conciliation Board, to which the points in dispute might be referred.

The average prices of coal in Lancashire may be stated as

follows: House coal, 14/15/6d.; common do., 12/6d.; burgy, 9/10/11, and 10/6d.; best slack, 9/9/6d.; and common do., 7/ per ton. In Durham, coke is quoted at about 20/ at the ovens, and household coals, 14/17/ at the pit, and in North Durham 1/10/11/6d. per ton less. The Cannock Chase Colliery Company quote cannel gas coal, producing 15,600 per ton of 2,352 lb., at £2.

Wales.—The labor question stands as at the date of our last, but trade, if anything, is not so good. There are now miles of laden coal trucks at Cardiff waiting customers, and in some cases coal has been sent off on speculation. Prices are low, but they have produced no marked result. The best classes of coal are still firm, and many of the large coalowners continue to send off great quantities to this city and Liverpool. Steam coal is now quoted at 18/; house coal at 17/; and small bituminous at 8/9/ at the pit.

Scotland.—In the East of Scotland matters are in a very unsatisfactory state, owing to the dullness of the demand for coal. Prices have been reduced from 1/10/11/6d. per ton at the pit head. On the whole the shipping and export trades remain inactive. There is very little activity in the gas coal trade, and orders are much scarcer than usual. In the Dysart district, where the trade is chiefly foreign, the stocks have of late diminished considerably. Household coals are quoted at 13/ per ton; steam coal, 11/; dress, or small coal, 7/, all delivered in trucks at the collieries. In the West of Scotland, trade is in a very depressed state, the supply being much in excess of the demand. Prices have declined in all about 60 per cent. from the highest point, owing greatly to the ironmasters sending their coals on to the market at very low prices—so low as 6/6d. @ 7/ per ton being charged at the pit. A large number of the men have gone to work at a reduction of 40 per cent. of wages. The wages of the colliers are now down to 4/6d. @ 5/6d. a day; the former being the ironmasters', and the latter the coalmasters'. The miners at their last conference passed the following resolution: "Taking the present state of affairs into consideration, and with the view of getting the furnaces relighted, the offered reduction of the ironmasters be accepted." The number of shipping orders are less promising than they were, purchasers expecting further reductions.

Georgetown, D. C., and Alexandria, Va.

George's Creek and Cumberland f.o.b. \$4 40 @ \$4 55, wholesale.

Baltimore, Md.

Reported by E. STABLER, Jr., coal merchant.

WHOLESALE PRICES.

Table with columns: Coal type (Wilkes-Barre, Lump, Egg, Stove), Price at depot, Price at wharf.

Pittston and Plymouth.

Table with columns: Coal type (Lump, Egg, Boston, Shamokin, Lykens Valley), Price at wharf, Price at depot.

From wharf or yard, wholesale, 50 @ 75c. additional. By retail, all kinds and sizes, per ton of 2240 lb. \$7 @ 7 50.

BITUMINOUS.

Table with columns: Coal type (George's Creek, West Va. Gas, Kanawha, Tyrone, Ritchie Mineral), Price.

Boston, Mass.

May 13, 1874.

Trade is very quiet, nothing of importance transpiring in either Cumberland or Anthracite coals.

Receipts of coal at this Port for the week ending May 2:

Table with columns: Domestic, Foreign, Yearly totals.

CARGO PRICES TO TRADE.

Table with columns: Coal type (Lingan, Caledonia, Rock House, Red Bank), Price.

Buffalo, N. Y.

May 13, 1874.

Table with columns: Coal type (Youghiogheny Gas, Catfish Lump, Nut and Slack, Anthracite f.o.b. vessel), Price.

Chicago, Ill.

May 11, 1874.

REPORTED BY RENO & LITTLE, Coal Merchants.

Prices of bituminous coal remain the same, while there has been a reduction in anthracite. We quote:

Table with columns: Coal type (Lehigh Lump, Lackawanna, Barre and Pittston, Grate, Stove or range, BITUMINOUS, Briar Hill and Erie), Price.

Cincinnati, O.

May 12, 1874.

Reported by A. BUCHANAN & Co., wholesale and retail dealers in coal and coke.

We quote prices in this market same as last week. Business here seems fully as dull as during the "Panic." One of the three principle gaugers here reports the amount of bituminous coal gauged by him during the months of January, February and March as 4,630,983 bushels. We quote:

Table with columns: Coal type (Youghiogheny, Pomeroy, Cannel, Semi Cannel), Price.

The following are retail prices delivered:

Table with columns: Coal type (Youghiogheny, Pomeroy, Cannel, Semi Cannel, Anthracite), Price.

Cleveland, O.

May 11, 1874.

No changes in prices of coal, and market exceedingly dull. The miners in the Straitsville region are on strike, and bid fair to remain so for some time, unless they accept the terms offered by the producers, as the coal is in no demand. The "coal-heavers" in this city have been on strike for the last ten days. The shippers are not united, and it looks as though a compromise would be made at 50 per cent. of the advance asked. On Friday, the 8th inst., a serious riot amongst the "coal-heavers," who desired to work, and others who were determined to prevent them, was only stopped by the whole police force of the city being called out, and firemen and military being held in reserve. Some blood was shed, fortunately however, no one killed.

Quotations are as follows:

Table with columns: Coal type (Youghiogheny, Pomeroy, Briar Hill, Brookfield, Massillon, Hocking Valley, Straitsville, Columbiana, Strip Vein, Mountain Blossburg, Darlington and Sterling, Cannel), Price.

Detroit, Mich.

May 13, 1874.

Reported by ROBINSON & KEYS, dealers in all kinds of coal. Prices remain as last quoted. Not much coal being received at present. Demand for steam coal fair. We quote:

Table with columns: Coal type (Lehigh Lump, Lehigh nut, Wilkes-Barre, Blossburg, Briar Hill, Willow Bank, Brookfield, Chippewa, Massillon, Straitsville, Erie), Price.

Denver, Col.

RETAIL PRICES.

Table with columns: Coal type (Canon, Marshall, Murphy, Baker, Boulder Valley, Euliner, Black Diamond), Price.

Indianapolis, Ind.

May 11, 1874.

Reported by MESSRS. H. MCCOY & Co. Coal trade dull—prices steady—the principal demand being for manufacturing and railroad purposes. We quote at wholesale on board cars in city:

Table with columns: Coal type (Best Block, Best Highland, Block Nut, Highland, Block slack, Peytona cannel, Indiana cannel, Hocking Valley, Youghiogheny, Gas coke, Blossburg, Piedmont), Price.

ANTHRACITE (Lackawanna).

Table with columns: Coal type (Grate, Egg, Chestnut, Stove), Price.

Louisville, Ky.

May 9th, 1874.

Reported by BYRNE and SPEED, wholesale and retail coal dealers.

The coal market here is somewhat depressed, owing to the partial stoppage of factories and continued strike in the rolling mills. The stock of Pittsburgh afloat in first hands is about 175 packages, say, 2,200,000 bushels; stock in dealers hands, 650,000 bushels; total 2,850,000. Coal is offering at 10 cents, 1/2 cash 1/4 mos., per bushel afloat, but dealers are buying for immediate wants only. Memphis, New Orleans, and other lower markets have unusually heavy stocks with low prices and very moderate demands. There is a fair amount of coal from the Paducah R. R. being marketed here at 8 1/2 c. per bushel, on cars in Louisville.

Table with columns: Coal type (Pittsburgh, Kentucky, Indiana and Peacock, Anthracite), Price.

New Orleans, La.

May 9, 1874.

Reported by P. and R. DeVOS, Wholesale and Retail Dealers in Pittsburgh, Anthracite and Cannel coal.

There is still a weakening tendency in the market, and purchasers have all the advantage and can nearly command their own prices. Some sales of Pittsburgh coal have been made at the remarkably low figure of 33 cents. All the rivers being now

on the decline, we may look shortly to a stiffening market. We quote:

Table with columns: Coal type (Pittsburgh coal, Anthracite, Spadra), Price.

Omaha, Neb.

Table with columns: Coal type (Blossburg, Anthracite, Iowa), Price.

Pittsburgh, Pa.

May 12, 1874.

Both coal and coke trades remain very dull, with no change in price since last quotations. The lower markets being overstocked, a pretty general suspension in the river is anticipated within the next two weeks. We quote:

Table with columns: Coal type (Youghiogheny, Connellsville), Price.

San Francisco, Cal.

From the Commercial Herald April 30.

Both the Nanatmo and the Wellington mines of British Columbia are yielding more freely. The coast mines, especially Bellingham Bay and Coos Bay, are producing steadily and increasing in quantity. Anthracite is scarce, particularly Lehigh, which sells at high figures. Cumberland is in fair supply and is also selling at high rates. We quote:

Table with columns: Coal type (West Hartley, Wallsend, Australian, Coos Bay, Nanaimo, Bellingham Bay, Mt. Diablo, Anthracite, Cumberland), Price.

St. Louis, Mo.

May 12, 1874.

Reported by the COLLINSVILLE COAL AND MINING COMPANY. Demand for coal very dull, and prices have a downward tendency which will probably cause an unsettled market for sixty days.

Prices per ton of 2000 lb. are as follows:

Table with columns: Coal type (Lehigh Lump, Indiana Cannel, Washington, O. Fallen, Illinois, Retail), Price.

Toledo, Ohio.

Table with columns: Coal type (Scranton, Lehigh Lump, Blossburg, Briar Hill, Bituminous), Price.

Hallfax, N. S.

May 8, 1874.

Table with columns: Coal type (Sydney, Other Sydney, Gowrie, Little Glace Bay, Albion), Price.

Toronto, Ont.

Prices in gold, per ton of 2000 lb.

Table with columns: Coal type (Scranton, Lehigh prepared, Lump, Bituminous, Blossburg), Price.

TOWING

FROM NEW YORK TO POINTS ON THE HUDSON RIVER.

Table with columns: Towing location (Manhattanville, Spuyten Duyvel, Haverstraw, Verplanck's Point), Price.

Table with columns: Towing location (Yonkers, Hastings, Piermont & Dobbs Ferry, Nyack & Tarrytown, Sing Sing, Croton Landing, Peekskill & Newburg, West Point & Cold Spg., Poughkeepsie, Hudson), Price.

Boats of 100 tons and under—per boat.

Table with columns: Towing location (Manhattanville, Yonkers, Sing Sing, Newburgh, Spuyten Duyvel, Tarrytown, Peekskill, Poughkeepsie), Price.

ON LONG ISLAND SOUND.

Table with columns: Towing location (Norwalk & Bridgeport, New Haven, Derby, Southport & Westport, Milford, Branford, New London, Middletown, Norwich, Hartford & Stonington, Mystic, Harlem, Mott Haven, Port Morris, West Farms, Creek, West Farms, West Chester, College Point, Flashing & White Stone, East Chester Town Dock, New Rochelle & Glen Cove, Mamaroneck & Port Chester, Greenwich, Stamford & Darien), Price.

Harbor Towing.

From Hoboken to

Table with columns: Towing location (53d st., Gowanus, Newtown Creek, Port Johnston), Price.

Coal Freights from the Anthracite Mines to the Principal Markets.

Table with columns for coal types (Schuylkill Coals, Lehigh and Wyoming Coals) and destinations (Newark, Philadelphia, etc.). Includes rates per ton and various tolls.

* These tolls do not include wharfage or shipping expenses at tide ports.
† Ten per cent. is deducted from these rates for lump, steamboat and broken coal.

†† Rates on line coal from Hazleton are 9c. per ton above these figures.
‡ The cost of unloading is to be added to these rates. No charge less than 40c. per ton will be made for any distance.
§ Twenty cents per ton less when five cars at a time to one party.

120th street, North River 18 00
From East River to Weehawken and return to East River 9 00

Fishkill Landing and West Point 25 c.
Peekskill, Haverstraw, Saugerties, and Tarrytown 45 c.
New York 65 c.

So much lower prices before the summer is past. A weakness in prices is more easily observed than at the date of our last, and information received from well-informed and disinterested parties, confirms our own opinions, while from those carrying stocks we would be led to suppose that the market is firm, although it is quite evident that the bulk of the sales are made on private terms; which usually means too great a concession to be made public.

Freights.

Table listing various ports (Augusta, Albany, Boston, etc.) and their corresponding freight rates.

MISCELLANEOUS FREIGHTS.

Gas Coals.
From Fairmont and Clarksburg, via B. and O. R. R., to Baltimore, including loading, \$5 20

Lehigh and Delaware Division Canals.

MAUCH CHUNK, PA., March 25, 1874.
Until further notice the following rates of toll, via the above canals will be adopted:
From Mauch Chunk to Easton per ton of 2240 lb. 46c.

Erie and Champlain Canals.

NEW YORK AND SHIPPING POINTS IN THE VICINITY TO
* Buffalo and Lockport, \$1 85
* Rochester, 1 75
* Burlington, Vt., 1 75
* Albany, 85

Chesapeake and Ohio Canal.

BITUMINOUS COALS.
The freight on George's Creek coal per ton of 2240 lb. to Georgetown is \$1 86. To Alexandria, Va., it is 1 10, per ton more. By the B. & O. R. R. to Baltimore the freight on George's Creek coal is 2 70 per 2000 lb., and 4c. per gross ton for use of cars.

Delaware and Raritan Canal.

TOLLS AND TOWING.
Per ton of 2240 lb.
Fairmount to New York 64 cents.
Greenwich " 66 1/2 "
Trenton " 35 "
Port Richmond " anthracite 58 "
Philadelphia " bituminous 65 1/2 "

IRON MARKET REVIEW.

Import Duties.
The following are the duties in Gold on Iron:
Flat Iron, not less than 1, nor more than 6 inches wide, nor less than 3/4, nor more than 2 inches thick. Round Iron, not less than 3/4, nor more than 2 inches in diameter, and Square Iron, not less than 3/4, nor more than 2 inches square 9 lb. 9-10 of 10.
Flat Round or Square Iron, of larger or smaller sizes than the above mentioned, per lb 35-1000

American Pig.—We can learn of no sales worthy of note. It is rumored that a sale of 1000 tons of Jagger Iron has been made, but we understand that it was a sale from a dealer back to the maker—perhaps a convenient mode of meeting a note arriving at maturity. Although concessions made in this city for round lots of foundry iron are considerable, yet, from our Philadelphia advices we learn that iron bringing \$35 in small quantities, is sold as low as \$30 to large buyers.

Scotch Pig.—Cable advices yesterday quoted: Gartsherrie at 105/; Glengarnock, 100/; and Eglinton, 86/1, with Coltness unobtainable, and Langloan and Glengarnock scarce. The above prices show an advance from our last of 7/ on Gartsherrie, 2/ on Glengarnock, and a decline of 4/ on Eglinton. The cable advices of the renewal of the strike in the Durham district does not bring with it news of an advance of Scotch iron, as was the case last week. Our mail advices state that the miners in Scotland are willing to submit to the 40 per cent reduction, but that the demand for iron is so light as not to warrant the masters in blowing-in their furnaces.

We note sales of 700 tons of Eglinton for consumption at \$34 @ 35; 200 tons ditto at \$34; 200 tons for Eastern delivery; 200 tons Summerlee; 100 tons Langloan; and 1,000 tons Eglinton. One or two small sales of Eglinton were made at \$33 @ 33.50. The stock of Scotch iron in importers hands, in this market, is about 2,000 tons; of which about 500 tons is Eglinton. There is but very little ahead. Our quotations to-day are: Eglinton \$34 @ 34.50; Coltness, \$40; Carnbroe \$35, @ 36; Summerlee, \$36 @ 37; and Glengarnock, \$35 @ 36.

Iron Rails.—Prices are weak, and we hear of exceptional lots being offered at figures much below our regular quotations. We are informed that the Bethlehem Iron Company is in receipt of an order for 1,000 tons, at \$63 cash, at the mill. There must be some mistake about the price paid, or the buyer was not familiar with the market. We also note the sale of 300 tons English, at \$54, time and interest. We quote American, at \$58 @ 60, currency, at the mills, and foreign at \$53 @ 54, gold, here.

Rates from Rondout to New York 15c. above Weehawken. They are 5c. less from Newburgh going south, and 5c. above Newburgh rates going north.
Under 150 tons, 50c. per ton.
† This is the rate alongside. Delivery on wharf costs from 16c. to 18c. additional.
†† Towing extra.
‡ 3c. per ton per bridge extra.
§ Freight from South Amboy are 5c. above these rates.

New York.
Trade, if anything, is even worse than at the date of our last, and the feeling is more prevalent, that we will, as a rule,

May 15, 1874.

Bessemer Rails.—The Bessemer steel business does not look so encouraging as it did at the beginning of the year. We note the sale of 1,000 tons at \$99—from a Pennsylvania mill. In English rails nothing is doing, although they are offered very low. We quote American at \$98 @ 100, currency, and foreign at \$94 @ 97 50, gold.

Old Rails.—This market is very weak, with nothing doing. Some old rails were offered this week at \$35 without procuring a customer. The ruling price is \$36, at which large quantities are being offered.

Scrap Iron.—The market is very dull and decidedly weak. We learn of small lots of wrought being bought at as low as \$33. The only transaction we note is 50 tons of old horse hoes for shipment from England. We quote No. 1 wrought \$38@40, and cast at \$28@32.

Baltimore.

May 9, 1874.

We have still to note a dull market for iron. There is a moderate foundry demand for Scotch Pig, and we quote at \$40 per ton, from yard. The trade in American Pig is light, and prices show no change. We quote No. 1 Anthracite, at \$33; No. 2, \$31; and No. 3, \$29 per ton.

Boston.

May 9, 1874.

The market for Pig Iron is quiet, and the sales are mainly in small lots at nominally unchanged prices. Coltness is a little firmer. Refined bar is selling in a moderate way, buyers supplying their wants as they occur, but not anticipating them. We quote yard lots of American Pig at \$35@40, including No. 2, X, at \$35@37, and No. 1 at \$38@40. We quote Eglington, at \$40@41; Coltness, at \$45@47; and Charcoal, at \$50@60.—Commercial Bulletin.

Chicago

May 12, 1874.

ROGERS & Co., dealers in Scotch and American pig iron, report the market as follows:

Our pig iron market continues dull without change in prices—transactions confined to small lots. We quote:

Table listing various iron products and their prices in Chicago, including items like No. 1 Coltness, No. 1 Gartaherrie, No. 1 Summerlee, No. 1 Glengarnock, No. 1 Eglington, Warner's "American Scotch", No. 1 Grand Lower Mo. ores, No. 1 Forge, Union "A", Union "B", No. 1 Lake Superior (charcoal), No. 2 Lake Superior, No. 3 Lake Superior, and No. 4 Lake Superior.

Cincinnati.

May 12, 1874.

Reported by TRABER & AUBERY, commission merchants for the sale of pig iron, blooms, ore, etc.

We have no improvement to note in our pig iron market. But few sales are reported and those generally at concessions from quoted prices. We quote:

Table listing iron products and prices in Cincinnati, categorized by Charcoal, Stone Coal, Car-Wheel, Blooms, and Scrap Iron.

Cleveland

May 12, 1874.

C. E. BINGHAM & Co., dealers in pig iron and iron ores, report the market as follows:

Our pig iron market has experienced very little change during the past week. There has been considerable inquiry for iron, but sales have been very light. We quote as follows:

Table listing iron products and prices in Cleveland, including items like No. 1 Anthracite Foundry, No. 2, No. 1 Bituminous, No. 2, No. 1 Grey Forge Bituminous, No. 2, Close Grey, No. 1 Massillon Black Band, No. B-1, No. 2, No. 1, Lake Superior Charcoal, No. 2, No. 3, No. 4, 5, 6, and American Scotch.

Detroit.

May 12, 1874.

Table listing iron products and prices in Detroit, including Scotch pig, net and Lake Superior pig, No. 1 and No. 2.

Louisville.

May 12, 1874.

GEORGE H. HULL reports the market as follows:

The market is dull and low. Sales are confined to small lots for immediate use, at prices quoted below.

The usual time, 4 mos., is allowed on the quotations below: HOT BLAST—CHARCOAL.

Table listing iron products and prices in Louisville, including items like No. 1 foundry, from Hanging Rock ores, No. 2, No. 1, forge, No. 1, foundry, Tennessee, No. 2, No. 1, forge, No. 1, foundry, Alabama, and No. 1, Iron Mountain.

HOT BLAST—STONECOAL.

Table listing iron products and prices in Louisville, including items like No. 1, foundry, from Missouri ores, No. 2, and No. 1, forge.

COLD BLAST—CHARCOAL.

Table listing iron products and prices in Louisville, including items like Car Wheel from Hanging Rock ores, Tennessee, Alabama, Georgia, Missouri, and Kentucky.

Philadelphia.

May 12, 1874.

Trade is very quiet, and prices very unsettled. Good No. 1 foundry irons bringing \$35 in small quantities, are sold as low as \$30 for large quantities. We learn of some American rails being offered as low as \$58 in this city. The prices of old rails and scrap iron are very weak. The following are nominal quotations: No. 1 foundry pig iron, \$32@35; No. 2, \$30@32; forge, \$27@28; white and mottled, \$22@26; old rails, \$38@40; wrought scrap, \$37@40, and new rails \$58@60, at the works.

San Francisco.

April 30, 1874.

We note the arrival of the Br. bark Stanley Sleath from Cardiff, with a full cargo of Railroad Iron, say 7791 bars, and 8547 screw plates, etc. The market for Pig Iron, and all other kinds of iron and steel is quite slack, and prices nominal. We cannot quote American or Scotch Pig Iron at over \$40 by the invoice.

Pittsburgh.

May 12, 1874.

Reported by A. H. CHILDS, commission merchant for the sale of pig iron, blooms, ore, &c.:

The pig iron trade continues in a very unsatisfactory condition, prices being at least two to three dollars per ton below cost of production. The aggregate sales for the past week have been larger owing to some further concessions in prices: Present quotations are:

Table listing iron products and prices in Pittsburgh, including items like No. 1 Foundry, anthracite or bituminous, No. 2, No. 1, Grey Forge, No. 2, and White and mottled.

The Pittsburgh Commercial reports the following sales for week ending May 8th:

IRON MADE FROM LAKE SUPERIOR ORES, SMELTED BY BITUMINOUS COAL.

Table listing iron products and prices in Pittsburgh, including items like 700 tons gray forge, 300 tons, 200 tons, 200 tons foundry, 160 tons close gray, 150 tons gray forge, 100 tons, 100 tons white and mottled, 100 tons gray forge, 100 tons gray forge, neutral, 100 tons white and mottled, 50 tons foundry, and 40 tons cold short.

HANGING ROCK CHARCOAL.

Table listing iron products and prices in Pittsburgh, including items like 40 tons No. 1 foundry.

EASTERN CHARCOAL.

Table listing iron products and prices in Pittsburgh, including items like 20 tons cold blast and 10 tons cold blast.

St. Louis, Mo.

May 9, 1874.

Trade continues very dull, and prices remain about the same. We quote:

HOT BLAST STONE COAL FIG.

Table listing iron products and prices in St. Louis, including items like No. 1 foundry from Iron Mountain and Maramac ores, No. 2 foundry from Iron Mountain and Maramac ores, No. 3 forge from Iron Mountain and Maramac ores, No. 1 Massillon, No. 1 Tennessee, cold short, and No. 1 Ohio, cold short.

HOT BLAST CHARCOAL FIG.

Table listing iron products and prices in St. Louis, including items like No. 1 foundry from Iron Mountain and Maramac ores, No. 2 foundry from Iron Mountain and Maramac ores, No. 1 foundry from Tennessee ores, and No. 1 forge from Tennessee ores.

COLD BLAST CHARCOAL FIG.

Table listing iron products and prices in St. Louis, including items like Hanging Rock car wheel and Tennessee.

MISSOURI IRON ORES.

Table listing iron products and prices in St. Louis, including items like Iron Mountain Co.'s Quotations, Benton Creek, Surface ores, Red and brown hematites, Pilot Knob, and Rails, 50 to 60 lb. inclusive.

THE BRITISH IRON TRADE.

LONDON, April 25, 1874.

Upon the whole, business is a little better, which has, no doubt, been brought about by lower prices and the inability of buyers to delay supplying their wants. Although a slight improvement is observed, yet it will be impossible to bring about a material increase of business until wages and prices are settled and much lower as a rule. A number of firms in the iron business have suspended payments since the date of our last, but in no special case have the liabilities been startling, although in the aggregate they make a pretty good figure. The strike in South Staffordshire still continues with an additional one of about 2,000 miners in North Staffordshire. In the County of Durham some trouble is anticipated, which it is thought can be amicably settled by a proper board of arbitration.

Continued large sales of Belgian iron are reported as taking place in the South Staffordshire district, especially nail sheets and rods, which are being used in considerable quantities in that district. The price of Belgian bars, delivered in Wolverhampton, is £10 10/ per ton, and the quality is pronounced equal to that of Staffordshire iron, for which £12 is quoted. This feature is very serious for local firms. Some idea of the magnitude of Continental competition may be gathered from the fact that one order, which is now in course of execution a Liege, comprises not less than 4,000 tons of finished iron destined for the English market. In the North of England there has been a better demand, and prices are more firm, all the exceptional lots appearing to have been cleared off the market. Various lots of rails are in the market for New Zealand, Russia, Switzerland, Denmark, South America, etc. The directors of home railroads are coming cautiously into the market purchasing small lots for immediate requirements. The acceptance of a reduction of 10 per cent. in wages by the ironworkers has permitted the makers in some cases to sell rails as low as £8 10/, and matters, for rolling mills, look much more encouraging. The Bessemer steel trade continues quite good although prices are down. Orders are arriving for steel rails from the United States and Canada. In Wales the iron business is stagnant, and there can be no improvement until a large reduction in prices and wages is made, as a small reduction will not be likely to bring out buyers. The state of the bar and rail trade is not wholly caused by an absence of requirement, but is mainly from tactics of buyers who are holding off with the idea of being able to force the market down.

In the North of England the usual price for No. 3 pig iron is 62/ 6d. per ton, although during the past week small sales have been made as low as 60/, while there are makers who will not quote less than 65/. The fear that there might be trouble with the miners has given strength to this market. At Wolverhampton, common cinder pig is offering as low as £3 12/ 6d., and second class mine iron at £2 15/ 6d. per ton. Best all-mine pig iron, offered at £6, did not procure a customer. Best Bessemer iron has declined, and can now be bought at £6 2/ 6d. @ £6 5/. "Bradley Bridge charcoal" is quoted at £15 for gray; £15 10s. for mottled; and £16 for white per ton of 2,240 lb. Indian charcoal pigs are quoted in this city at £10@£12. Rails can be purchased at £8 10/, but £9 is the more general quotation.

Scotland.—Warrants have advanced since the date of our last report. The closing prices on Wednesday were: Sellers 75/ 6d., and buyers 75/ 3d., prompt cash. Several of the makers have withdrawn their quotations from the market, their stocks being nearly exhausted. The stock in CONWAY'S store is being reduced daily, there being only about 33,000 tons kept there now. There were about 45 furnaces at work last week, but as the demand for iron is very limited it may be some time before the employers blow in all their furnaces. A large number of the men have resumed work at a reduction of 40 per cent. The following resolution was passed at a recent conference of miners: "We, the representatives of the miners of Scotland, taking the present state of affairs into consideration, and with the view of getting the furnaces relighted, the offered reduction of the ironmasters be accepted." Although the prices of bar iron are very low, yet there is a great absence of demand. The shipments of Scotch pig for the week ending April 18th were 8,931, as compared with 16,128 tons for the corresponding week last year. The total decrease since Dec. 25th, as compared with the corresponding time last year, is 64,282 tons. The imports of Middlesbrough pig iron into Gange-mouth for the week were 1,570 tons, showing an increase from Jan. 1st of 19,252 tons.

The following are nominal prices for makers' brands: Gartshire No 1, 86/; Coltness, 92/ 6d.; Summerlee, 87/ 6d.; Carnbroe, 83/; Langloan, 90/; Calder, 92/ 6d.; Glengarnock, 86/; Eglington, 76/; Dalmellington, 77/, and Carron, 85/.