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OUR readers must remember that apparent activity in a mining stock does not mean that the public owns it, and that to "short" many stocks is to furnish the manipulators with the means to "bull" them and squeeze you.

SOME months ago, we commented upon the Philadelphia discussion of Dr. DUDLEY's paper, and promised to show wherein his conclusions were mathematically deficient, falling short of what his valuable data could be made to yield under a more vigorous treatment. This promise is fulfilled in the remarks of Dr. RAYMOND at the Virginia meeting, which we print in this number.

THE Semi-Centennial Exhibition of the American Institute of the City of New York will open September 14th, 1881. Heavy machinery will be received as early as August 22d; other goods, September 5th. Exhibitors must make early application to secure proper space and classification. For blanks and information, address General Superintendent American Institute, New York City.

FOR years we have predicted the injurious results to accrue from the unwise policy adopted by the Baltimore & Ohio Railroad toward the Cumberland coal trade. We are now seeing our predictions realized, or about to be. This railroad made its first mistake in assuming the burden of the Consolidation Coal Company, and then acting as though its interests were opposed to the interests of the other mining companies. Had a liberal policy been pursued, the Cumberland region would to-day be producing at the rate of 3,000,000 tons of coal per annum, and the Baltimore & Ohio Railroad would be carrying nearly all of it at remunerative rates of toll. But, as ruin faced the other mining companies, it became necessary, for self-preservation, to get additional independent outlets to market, and, as a result, public spirit came to the front, and the George's Creek & Cumberland Railroad was built and is already delivering to the Pennsylvania Railroad, for transshipment at Philadelphia, 4000 tons per week, with the prospects of soon increasing this quantity to 10,000 tons. Every possible obstacle has been put in the way of the George's Creek & Cumberland Railroad to prevent it making a connection with the Chesapeake & Ohio Canal; but the public senti-

ment is so strong that this can not be delayed long; and then, with the enlargement of the locks on the canal, which was approved at the annual meeting of the canal company, and with the adoption of the best modes of haulage, which is making rapid progress, the Baltimore & Ohio Railroad will see an important portion of its trade slip from its selfish grasp.

It will repay those who are contemplating, or, for the matter of that those who are not contemplating, a visit to the little village the other side of the herring-pond, for the purpose of placing mines, to read, mark, learn, and inwardly digest a spicy letter contributed by our well-known Ouray correspondent, Mr. W. WESTON, M.E., on the condition of affairs now existing in London. It is some time (January 15th, 1881) since we noticed editorially in the JOURNAL, under the title "British Capital and Indian Gold Mines," the fact that, from the information as set forth, the only evidence as to the intrinsic value of many of these concerns appeared to be based on the fact that "old native workings" existed, the results of a few crushings and pannings taken on the spot, and the results of assays made from small quantities of ore taken from the surface, which, of course, would give abnormally high products; but then, only seventeen such companies had been floated on the poor public. They cried for more—and got them. What we predicted then is more than confirmed by our correspondent.

Where is this feverish inquiry, this speculative must-have-it-at-any-price mania, for Indian gold mines and old worked-out properties in Cornwall and elsewhere going to end? A day of settlement must come, and like the old story of two persons who went into partnership, positions will be changed—the one having the cash, and the other the experience; and those who had originally all the experience (the promoter) will have all the cash, and the others (the poor public) will have part of the experience and all the properties. "It comes high, but they must have it."

Not long ago, "a reported discovery" of a rich "vein of gold" in an Indian gold mine advanced the shares from £10 to £65, and shares in other companies advanced in sympathy from 12 to 200 per cent. It is estimated that no less a sum than £110,000,000 sterling has been asked and subscribed for by new incorporations this year. They have got the fever. We wish them a safe recovery, even if it is a slow and tedious one. It will be seen from an editorial published in another column on the State Line mines that we are not altogether free from this condition of affairs, even in this conservative market.

Mr. WESTON has returned to Colorado, and our readers may look for a renewal of his valuable letters as soon as he fairly gets settled again to his work.

WE reproduce elsewhere a letter addressed to the Montreal Gazette on Charcoal Iron Making in Canada. It is written by one evidently well understanding the subject, and should be of interest to our charcoal iron workers. The Three Rivers charcoal iron has long been celebrated for its excellent chilling properties. Messrs. J. MACDOUGALL & SONS, of the St. Maurice Forges, Three Rivers, Province of Quebec, at the Centennial International Exhibition, 1876, displayed specimens of their ores, slag, sandstone for furnace hearths, gray and white pig-iron made with charcoal and cold blast, and various specimens of manufactured iron. From the *Descriptive Catalogue of the Economic Minerals of Canada*, compiled by the Geological Corps, under its able Director, Mr. A. R. C. SELWYN, F.R.S., F.G.S., we extract the following interesting notes:

"Bog iron ores are of common occurrence in the Provinces of Quebec and Ontario, more especially in the sandy tracts which often flank the Laurentian hills. The variety employed for smelting occurs in concretionary masses, which are either dull or earthy, or at times highly lustrous when fractured. The color is usually yellowish-brown, and dark brown, or black when much manganese is present. The concretions are scattered through the soil, or else form patches or continuous layers, which are sometimes several feet thick, though generally only a few inches. The specimens analyzed contain an average of fifty per cent of iron, but the yield in the furnace is generally only thirty to forty per cent, owing, no doubt, to the difficulty of freeing the ore from sand. The blast-furnace at the St. Maurice Forges was built as early as 1737, and is the oldest one in Canada. The fuel employed is entirely charcoal and the flux limestone from the Trenton formation. The usual charge is bog ore 600 pounds, limestone 45 pounds, charcoal 16 bushels (the *minot* = 2250 cubic inches), weighing 11 to 12 pounds to the bushel. The pig-iron is shipped to Montreal, and there manufactured into car-wheels, for which long experience has shown it to be well adapted. Small quantities of wrought-iron are also made in a *hearth-finery*. The manufacture of axes has recently been discontinued. At L'Islet, about four miles from the St. Maurice, there is another blast-furnace, also owned by the Messrs. MacDougall."

At Rivière aux Vaches, also in the Province of Quebec, "Bog ores similar to those occurring near the St. Maurice Forges are found in the vicinity of the St. Francis River, south of the St. Lawrence. In 1869, a blast-furnace was erected for smelting them, at Rivière aux Vaches, by the St. Francis River Mining Company, and in the ensuing four years between five and six thousand tons of pig-iron were made, about half of which was white and mottled. The ore yielded on an average about thirty-six per cent of iron. In 1873, the furnace was sold to John MacDougall & Co., of Montreal, who make use of the iron produced in the manufacture of car-wheels."

At St. Urbain, Bay St. Paul, Province of Quebec, attempts were made by an English company in 1873, called the Canadian Titanic Iron Company, to make charcoal iron from an ore (ilmenite) containing over forty per cent of titanic acid and about thirty-seven per cent of metallic iron, and two blast-furnaces were erected for the purpose; but owing to the

very large consumption of fuel, amounting to from 190 bushels of charcoal as a minimum, to 400 bushels as a maximum, the trial was a failure. To the difficulty of treating such an ore, there was undoubtedly gross mismanagement to be added. The blast-furnaces were forty feet high, fourteen feet in diameter at the boshes, eight feet at the throat, and four feet at the hearth, and every thing was substantially built. We understand this property has lately passed into the hands of an American company. At Londonderry, Nova Scotia, from 1853 to 1873, some 30,000 to 40,000 tons of charcoal iron was made from one blast-furnace, and this property is now owned by the Steel Company of Canada (Limited), an English corporation which has two furnaces, the ore being smelted with coke made from the Pictou coal mines. Other attempts, some successful, others not, have been made from time to time, to produce charcoal iron in Canada; but all attempts so far have been made out of the Province of Ontario, and on comparatively poor ores. A scheme is now on foot to demonstrate that charcoal can be made at a sufficiently low cost to make charcoal iron profitably from the exceptionally high-grade ores back of Kingston (mostly magnetites); and if the preliminary step proves successful, furnaces or forges will be, we understand, erected.

That Canada offers, at points, exceptionally good facilities for the production of good and cheap charcoal iron, we are convinced; but we doubt whether the Canadians will accomplish it, from their want of knowledge (with exceptions) and their apathy as to every thing pertaining to mining or metallurgy. Let our own charcoal works, therefore, look into the matter before it is too late. The enormous amount of railroad construction now going on will give the market which to some extent was heretofore wanting.

THE SMUGGLER CASE.

We publish in another column the important portion of Judge HALLETT'S charge to the jury in this case, recently tried at Denver and lost by the Iron Silver Mining Company. One of the Denver papers says this verdict "practically settles, or ought to settle, that the people of Colorado will never permit the owner of a 'blanket' lode to follow it beyond its legitimate side-lines into neighboring claims." This is important, if true; and we will add frankly that, if true, it is far from creditable to the people of Colorado. We purpose to show briefly what has really been "settled" by this case; and in what position it leaves the Iron Silver Mining Company.

Judge HALLETT'S charge is clear and decisive as to the right of the owner of a "blanket" lode to follow it on the dip, according to the law. The only loop-hole which it leaves for an evasion is the statement that if the territory of the plaintiffs is so jumbled up and mixed that there is nothing continuous in it, then there is no lode in it, or apex of a lode, and of course the plaintiffs' location covers nothing beyond its side-lines. On this question of fact, Judge HALLETT says that the testimony is conflicting to a degree unsurpassed in his experience, and leaves the jury to believe either set of witnesses. The jury believes the defendants' set, and finds against the "big corporation."

In a portion of the charge which we do not reprint, the Judge mildly reprobates the appeal of the defendants' counsel to the jury. As in former cases, so in this, a large amount of demagogue's talk was made to do service as argument. We suppose Judge HALLETT does all that he feels it right to do, when, after the lawyers have been allowed the utmost latitude of inflammatory harangue, he follows with a brief, dignified, and passionless statement that, in his opinion, such conduct was improper. Indeed, we admit that even to do so little requires moral courage—a quality in which Judge HALLETT is not lacking. Nevertheless, this gentle reproof, after the fact, does no good. In the next case that arises, a new jury is invited, by the same lawyers, in the same style, to strike a blow against the tyranny of capital and monopoly and bloated corporations; and his Honor remarks again, at the close of the affair, that this was, in his judgment, improper. But the jury has swallowed the poison, and rose-water is not a strong emetic.

Yet whether or not injustice has been done by the verdict of the jury in this case (though our personal opinion is strong on that point), it is plain that the case has rather strengthened than overthrown the right of the owner of the apex of a "blanket-lode" to go beyond his side-lines. The jury concluded that the Iron Company did not have a true apex, because its claim did not cover any portion of the lode in place. But the witnesses who were so ready to swear the lode away while it was under the Lime location, found it in place all right under the Smuggler; and the Smuggler will doubtless claim to follow it farther.

As to the effect of the verdict, it must be borne in mind that the Iron Company is entitled to a new trial, and that even this particular issue is not settled until that trial has taken place. All other questions of law or fact having been swept away by the rulings and charge of the court, there will be but the one question of fact to be made plain; and that may, perhaps, be made so plain that neither political oratory nor local prejudice can override it.

But in case the Iron Company should finally lose the right to

follow from the Lime location downward beyond its side-lines the formation or zone of ore-bearing rock which has been decided so many times to be legally a vein, and so many times to be not legally a vein, in what situation would that company be left? It owns certain large placer claims, which, we believe, are not contested, and which protect the extensions of some of its lode claims. Aside from this, it has the Iron mine proper, with the interfering Grand View, Luella, Tucson, and other claims all settled. In this ground, which may now be worked indefinitely on the dip, are very large reserves of ore, ready for stopping. The larger part of the Bullseye and the ground on its dip has been ceded by the company in compromise, to the Silver Cord combination. Next comes the Lime location, which is now in controversy. Then, at the head of the gulch, lies the Stone location, of which we know little as to its value; and then, on the other side of the gulch, come the Rock and Dome, which cover a magnificent body of ore. It is from the Iron mine and the Rock and Dome that the company's large product of some 250 tons has been and will be maintained. None of the ground that it has ceded away or is in any danger of losing has been the source of this product. Fortified by actual agreements, independent of jury geology, in the possession of its most valuable ground, or at least of all that ground which has been proved valuable by its actual workings, the company is in one sense stronger than ever.

The heroic determination of "the people of Colorado" about side-lines, to which our Denver contemporary alludes, does not resist the power of money. The honest adventurers who squat over the dip of a deposit of which some one else has discovered the outcrop, and, putting down a shaft, strike ore with joyful surprise, are willing to sell out, even to a monopolist. And we can not seriously blame the mine-owner who submits to fate and pays money to avoid greater trouble and loss, particularly if he is notified that, no matter what his legal rights may be, "the people of Colorado" propose to make him pay. But the effect on the interests of Colorado is not beneficial; and the real people of Colorado ought to see it. The class falsely pretending to that name does not include the true pioneer prospectors. To these men, certainty of mining title is a necessity. Without it, their labor may be brought to naught by the second-hand prospectors who come down on a half-developed mining district like flies on a carcass. The latter class thrives on uncertainty of titles. Millions of dollars have already been spent in fighting and in compromising with such people in the Leadville region; and the result is seen in the low prices of such stocks as that of the Iron Company, in spite of its splendid mines, and the general depression of Leadville interests, in spite of the continued large product of the region. Nobody is benefited, save our friends the lawyers, who probably pocket in fees and expenses about all the plunder of their clients, "the people of Colorado." *

THE STATE LINE MINES.

From the *Tribune* of June 13th we take the following:

"Since New York became the financial center of the mining industry of the country, few enterprises have attracted such wide-spread interest among the general public as the State Line Mines of Esmeralda County, Nevada, which were incorporated in October and December last by New York capitalists, under the general laws of this State.

"The stocks, which were placed on the market less than six months ago at the uniform price of \$1 per share, have been gradually absorbed by shrewd investors, and a few weeks ago led the mining stock market at prices ranging from \$3 to \$12 per share. The recent depression in these stocks created no little excitement among persons holding mining securities, many fearing a panic similar to that caused by the collapse of the Little Pittsburg mine. As a natural result of this uneasy feeling, and the general weakness of the market, large holders of the State Line stocks and leading operators dispatched confidential and experienced agents to Gold Mountain, to examine the mines and report on their condition. Several gentlemen interested in other properties, and who believe in exposing all illegitimate schemes, also visited the properties of the State Line companies in person, determined to ascertain from actual examination the value of the mines, and, if they were unworthy of public confidence, to expose the plans of the promoters.

"One of the last-named class was Mr. Thomas Ewing, General Manager of the Robinson Consolidated mines of Colorado, who arrived in New York last week after an inspection of the State Line properties. Mr. Ewing was found at his hotel yesterday by a reporter of the *Tribune*, and in the course of a long conversation gave the following facts concerning the present condition of the mines:

"I arrived at the mines May 20th. They are on the southern slope of Gold Mountain, about 6000 feet above the sea-level. The vein is a true fissure in slate formation. The surrounding country is granite. The vein is very large and strong, cropping out boldly for 2000 feet, and is from three to twenty feet in width, and all this great cropping contains free gold. The locations on the strike of the vein are four: State Line No. 1 with 1500 feet; No. 2 with 800 feet; No. 3 with 1600 feet; and No. 4 with 1500 feet. On No. 1 claim, the vein crops out nearly the entire length of the claim and shows some good ore, but the work on this claim has not been such as to develop it, and the ground is more or less broken. Nos. 2 and 3 are lower down the mountain, extending over the great croppings of the vein, and cover the wonderfully rich pay-chute of ore. No. 4 claim extends out over the low ridges of the range, showing no croppings, and little or no development.

"Of Nos. 2 and 3, it would be hard to say too much in praise of the present showing and the chances for the future. The vein at this point is large and very rich, portions of the croppings showing ore that will assay hundreds of dollars per ton, the average being a splendid one. I fully confirm the conservative and honest reports of the present general manager, I. W. Taylor, concerning these claims and their present showing. In my opinion, Mr. Taylor has been so fair in all his estimates that little more need be said of them. The development on these two claims covering this great chute of ore consists of five shafts, three of which are connected by drifts in the ore-body from one to the other. All these shafts are from 38 to 66 feet below the surface where drifts are run, opening up level No. 1 and exposing many thousands of tons of rich ore which all are

allowed to examine and sample for themselves. The ore-chute proper is here, so far as developed, 450 feet along the strike of the vein, and will average 9 feet in width. It is so uniform in thickness, as well as in richness, that it would be hard to determine which part of it would be the best. Very few, if any, properties have ever been found that, with the same amount of development, have shown any thing like the amount of rich ore now exposed in these mines. This ore-chute is about equally divided between Nos. 2 and 3 claims, there being a joint shaft sunk on the line and near the center of the great ore-body from which drifts have been run east and west connecting with the other shafts.

"The samples taken by me were from large bodies of ore, and secured by cutting across the vein, up and down both sides of the ore exposed, and at distances of five feet throughout the entire openings of the mine. They represent as fair an average as can be taken. Samples were also taken from all over the dumps, and by digging down into the piles of ore, so that no fairer test could be made of it. There is a large amount of ore now on the dumps ready for mining. All of this ore has been taken out through developments alone, no attempt having been made to slope in the mines, and all the ground prospected and developed is purely virgin, showing great bodies of ore. The water to be used for the reduction of this vast body of ore and for other purposes connected with mining has to be brought sixteen miles through iron pipes, causing a large outlay of money; but the pipe-line is nearly completed, and by July 15th will be running at the mines and mill. These companies are erecting a splendid 40-stamp mill under the supervision of Thomas Patton, one of the very best mechanics and skilled mill-builders in the West, who assured me that he would turn over to the companies on the 15th of July the most complete and perfect gold mill in America. This mill is within 150 feet of the main working-shaft of Nos. 2 and 3 mines. The ore of these mines is perfectly free, and will amalgamate up to a high per cent of its assay value by simply passing over the plates, and with the mill run to its full capacity, 100 tons per day can be reduced, and, with the present grade of ore, large dividends are assured for a long time. I fully confirm the opinions of many mining men who have visited these mines and made such glowing reports upon the prospects for the future of this great property. Should it develop in depth for 400 or 500 feet as it has to the present time, and no reason can be given why it should not, no fair estimate can be placed upon the value of the shares of these mines, and no property gives fairer promise of large profits to those who wish to engage in mining."

"The following are the assays referred to, the official certificates of which are in Mr. Ewing's possession:

1—Fair average of first-class ore, 11 8'10 ounces.....	\$236
2—Average, old incline, 100 feet deep, No. 1 claim, 1 9'10 ounces....	38
3—Average, west dump, No. 2 claim, 4 1'10 ounces.....	82
4—Average, main working shaft, No. 2 claim, 1 8'10 ounces.....	38
5—Average, east end main drift, 45 feet, No. 2 claim, 2 6'10 ounces.	52
6—Average, drifts east from windlass shaft, 35 feet, No. 3 claim, 2 9'10 ounces.....	58
7—Average, drift west from windlass shaft, 30 feet, No. 3 claim, 1 5'10 ounces.....	30
8—Average, joint shaft, 66 feet, Nos. 2 and 3 claim, 3 1'10 ounces....	62
9—Average, west drift, east shaft, No. 3 claim, 1 9'10 ounces.....	38
10—Average, east shaft, 30 feet, No. 3 claim, 2 9'10 ounces.....	58
11—Average, dump east shaft, No. 3 claim, 2 5'10 ounces.....	50
12—Average, dump joint and main shafts, Nos. 2 and 3 claims, 3 4'10 ounces.....	68

These mines have "attracted wide-spread interest" from the fact that the promoters have been able, by dispatches and interviews published in the papers, East and West, to keep these mines constantly before the public. In addition to that, a large number of operators were "let in" at prices much below the present market quotations of these stocks, with the understanding that there would be a "big deal," and they have found it to their interest to encourage a bull movement, and many have unscrupulously done so.

And well the public may have feared a "panic similar to that caused by the collapse of the Little Pittsburg." The decline in the aggregate value of the State Line and Oriental and Miller groups has already wiped out a larger value than the total extinction of Little Pittsburg; and we fear that much lower prices will yet be seen, although by manipulation they may be made to advance again.

Mr. THOMAS EWING, General Manager of the Robinson Consolidated mines, who is put forward as one of "several gentlemen interested in other properties, and who believe in exposing all illegitimate schemes, also visited the State Line mines in person, determined to ascertain from actual examination the value of the mines, and, if they were unworthy of public confidence, to expose the plans of the promoters." Now it is a well-known fact that the Robinson mine is a ROBERTS mine like the State Line, and we should not look upon the report of Mr. EWING as disinterested, although, not knowing the gentleman, we can not pronounce it false.

In reviewing the interview of Mr. EWING, we are unable to get any light on the subjects which have met with criticism, namely: 1st. How much per month can these companies earn? 2d. How long can they continue the earnings? 3d. What will be the average of the ore? 4th. What will be the cost of working it? 5th. Will the companies be able to supply their mills with a sufficient quantity of water to run them? 6th. Have the companies a sufficient amount of capital to prevent them from being sold out for indebtedness upon the completion of the mill? (remember the precarious condition in which the ROBERTS management left the Chrysolite in this particular); and 7th and lastly, Are these stocks a sale or purchase at present prices? Another review by a *Tribune* reporter, answering these questions, is much desired.

Mr. EWING indorses Mr. TAYLOR, and every body who goes there indorses every body else. Somebody may not be familiar with what has been said about these properties, and this promiscuous indorsing will give trouble some day. A further evidence of this appeared in the *Tribune* of the 14th inst., as follows:

"H. A. Spears, a well-known Colorado mining engineer, recently sent out to examine the State Line properties in the interest of New York capitalists, telegraphed to his principals yesterday morning from Gold Mountain, Nev.: 'After careful examination of the State Line mines, I find them true fissure-

veins, with an immense body of high-grade, free-milling ore, fully up to what they claimed it to be.'"

As no one has ever made a report over his name for the public guidance, and as the companies only furnish verbal information, it would be well to have the basis of indorsements put before the public.

The fact of the thing is, that the San Francisco plan of producing a "boom" is being tried here, and we hardly think it will work. If it does, it will ruin the interest already developed and rapidly growing in the East. All who sincerely wish to foster a legitimate mining business will do well to discourage the ROBERTS plan of selling stocks.

AND still they come! A reporter of the *Tribune* called upon J. M. SELOVER, of the New York Stock Exchange, who lately visited the State Line and Oriental and Miller properties. He says he is a large holder of the stock, and is still a purchaser at present prices. This is the first recommendation (although indirect) that has been made to purchase these stocks at prevailing prices. But the Major can be forgiven, owing to his inexperience, in case any thing goes wrong.

THE ROBINSON CONSOLIDATED.

We take the following from the *Tribune* of June 14th:

"Thomas Ewing, general manager of the Robinson Consolidated mine, in an interview with a *Tribune* reporter yesterday, made the following statement regarding this property:

"The company is now filling a contract with the Boston & Colorado Smelting-Works at Argo for the delivery of 10,000 tons of ore, besides what is being reduced at the company's smelter. The mine looks splendidly throughout. There are now developed and in sight in the reserves in the mine not less than 30,000 tons of ore that will yield 100 ounces per ton. The development is being pushed forward rapidly, and has now reached a depth of 700 feet in the ore-body, and the vein shows as strong at this point as at any other place in the mine, averaging 9 feet in thickness; the ore-body is wider at this depth than at any other point yet developed, and the ore is of higher grade than in any other portion of the mine. The average assay from the present lower level is 150 ounces. While the mine is yielding from 70 to 80 tons per day, the developments are being pushed forward so as to increase rather than diminish the ore-reserves. The mine is being worked with great economy, and the company will, in all probability, pay large monthly dividends for years, and at the same time accumulate a large surplus for the payment of extra quarterly dividends. He stated that in all his experience in mining he never before saw a body of ore so uniform in thickness and in grade. Both furnaces are now running on first-class ore, and the product of bullion will be large and regular."

This is another of the ROBERTS mines. With a fair speculative value added, it is selling much too high. It is a good mine, with a large quantity of ore developed; but the ore is very refractory and expensive to work. In the above-quoted remarks of the superintendent, a gross value of only \$3,000,000 is given, while it is a well-known fact that it is a safe rule to discount superintendents' reports. The market price of the stock has lately ranged on a basis of from \$2,000,000 to \$2,150,000 for the property; and we have good authority for the statement that the mine does not contain any such net value "in sight." We regret to say, further, that this is not the worst feature in this company's affairs. The Captain JACQUE claim against this company is, by good and disinterested authority, considered just; and will probably cost the company a quarter of a million dollars. This stock has had so much bolstering from the press of late that it is evident that the insiders are working their way out.

ANOTHER LEADVILLE LAWSUIT.

The following is the essential portion of the charge of Judge HALLETT, in the case of the Iron Silver Mining Company vs. WALTER S. CHEESMAN et al., recently tried at Denver. The defendants, owning the Smuggler location, adjoining the Lime location of the plaintiffs, were working, as the latter claimed, upon the vein of which the plaintiffs' location contained the outcrop. The jury found a verdict for the defendants.

Whether in the ground in controversy there is a vein or lode bearing silver within the meaning of the act of Congress, is the principal question in this case. The words used in the statute to designate a mineral deposit in rock in place are *vein*, *lode*, and *ledge*, and these are supposed to be nearly synonymous in meaning. However these words may differ in meaning, it is not important in this case to look for a distinction between them. Nor is it important to define their meaning in a manner that may be accepted in all cases. Any effort so to define them would probably result in failure; but we must seek for a meaning which will enable us to reach a conclusion in this case. So proceeding, it is enough to say that a vein or lode is a body of mineral or mineral-bearing rock within defined boundaries in the general mass of the mountain. This is a sufficient description, certainly, as to all bodies of ore that may be found within the lines of the location. As to what may be found in the body of the claims, there being no conflicting location, it is not very important to consider whether it is in place. But the statute giving the right to pursue the lode beyond the lines of the location in a downward course refers to veins or lodes *in place*, and whenever such right may be claimed or asserted, it is important to consider whether the vein or lode, or that which may be alleged to be such, is *in place* within the meaning of the act of Congress.

And first, on that point, it may be said that, if the ore-body is continuous to the extent that it may maintain that character, it is in place. So far as the ore-body is continuous, it must have been deposited in that form or removed bodily, and with its inclosing rocks, to the place in which it may be found. And in either case, as to such continuous ore-body, it is proper to say that it is in place within the meaning of the act. And this is the point in controversy between the parties. You

will remember that the witnesses for the plaintiff unite in saying that the ore extends with more or less uniformity, and that it is practically continuous from the plaintiff's claim into and through the defendants' claim so far as it has been explored. The plaintiff produced assays to testify that samples of ore were taken from all parts of the vein, and found to contain silver and lead. The maps put before you by plaintiff to show the condition of the ground give the vein as extending from one claim to the other, and clearly that is the position assumed. On the other hand, defendants contend that the ground in controversy is so broken, and the several parts so intermingled, that there is not and can not be a body of ore extending for any considerable distance through any part of it. They have many witnesses to testify to that condition of the ground. They concede that in the ground in controversy there are detached fragments, particles, and perhaps masses of ore intermingled with the country-rock in the like fragments, particles, and masses. But they deny that there is any thing like a continuous body or sheet of ore extending from one claim to the other. And this is the question in issue. It is pretty nearly a direct issue between the witnesses for the plaintiff and the witnesses for the defendants; and as you give credit to one party or the other, you should find the fact.

I do not think that I can in any manner make it clearer to you.

I have to say, also, that the burden of proof is upon the plaintiff by a preponderance of testimony to establish the facts which are necessary to support a finding in its favor, and the fact mainly in issue, as I have stated to you, is, What is the condition of this ground extending from one of these claims into the other?

A good deal has been said by the witnesses as to whether there is a top or apex of the vein. That depends, gentlemen, very much as to whether there is any vein or lode there. If you find that there is a vein or lode, to my mind the evidence is clear enough that the top of it is in the Lime location; and if there is none there, of course that which does not exist does not exist in any part—it does not exist by its top nor by its bottom, nor anywhere between the two points.

So that it is, gentlemen, a question of the credibility of witnesses. The testimony is strongly conflicting—I do not think I have ever known a case in which it was more so; and, as I have said, the question is as to which one of these theories you will accept.

Now, I ought to say to you further, that as to this ore-body that I have spoken of, whether it is of greater or less extent—that is, whether it is very thin or very thick—is immaterial. If it extends, as claimed by the plaintiff, from their claim to and into the other, the strength of the vein is not material. Their position is, as you remember, that it extends all the way from their claim to and into the other so far as it has been explored; and it is not material whether it is strong or weak, if it extends in the manner described by them.

But if the territory is, as claimed by the defendant, so broken up, jumbled, and mixed, the several parts together, that there is nothing continuous, of course there can be no lode extending from one claim to the other.

THE CHEMICAL CONSTITUTION AND WEARING CAPACITY OF STEEL RAILS.

Remarks of E. W. Raymond at the Virginia Meeting of the American Institute of Mining Engineers, Staunton, May 31st, 1881.

It occurred to me, after the presentation of Dr. Dudley's interesting paper on this subject, and after the discussion to which it gave rise, that the important data he had collected might be made, by suitable mathematical treatment, to yield more significant indications than had yet been obtained from them. It is true that Mr. Cloud has discussed by the method of least squares the results set forth in Dr. Dudley's former paper, on the breakage of rails. But the breakage of a rail is, I think, far more likely to be due to mechanical or accidental (not chemical) conditions than the loss of metal by wear. For this reason, I should attach less importance to the data, and place less reliance in their discussion. Moreover, the number of observations in the paper referred to was relatively small—too small to permit the method of least squares to give trustworthy results. Finally, Mr. Cloud correlated the chemical constitution with certain physical tests, not directly expressive of the resistance of the rail to breakage. In the case before us, we have sixty-four observations; and they directly connect certain chemical proportions with a definite physical result of experience, namely, the loss of metal by wear. I think, therefore, that this case presents a better opportunity for such a mathematical discussion as will test to some extent the assumptions underlying Dr. Dudley's conclusions.

These assumptions are: that the loss of metal per million tons of traffic depends, first, upon the circumstances under which the rail is worn; secondly, upon the proportions of its various constituents; and that the amount of loss is affected by each constituent, in a certain ratio, so that, if the circumstances were the same for all the rails, the wear per million tons might be approximately expressed by an equation of the form $I + Cc + Pp + Ss + Mm = R$, in which I is an unknown value, depending on the quantity of iron (and other ingredients not determined) in the rail, and assumed to be constant for all the rails; c , p , s , and m are the experimentally determined quantities of carbon, phosphorus, sulphur, and manganese, as tabulated in Plates 6 and 7 of Dr. Dudley's paper; and R is the experimentally determined wear per million tons; while C , P , S , and M are unknown coefficients. In other words, it is assumed that the difference in wear is proportional to a difference in c , p , s , or m , and that the effects of a change in the amount of either are independent of the amount of the rest—within the experimental limits of the problem.

It is also assumed that sulphur, copper, and other ingredients not determined, are equally present in all the rails, or at least do not affect the wear, since I is taken as constant.

Dr. Dudley tacitly assumes the coefficients C , P , S , and M to be positive; and assigns certain values to them, by means of which he reduces the equation to the form $I + X = R$, X being equal to $\frac{Cc + Ss + Mm + Pp}{P}$, or

the number of so-called phosphorus units in the rail,

But we do not have R directly given under constant circumstances. The varying weights (per engine, car, or train) and the varying speeds, we must neglect, for lack of data, and assume that in these respects the rails examined have been treated substantially alike. But there remain the varying conditions as to track, which must be eliminated. Dr. Dudley gives six classes, four of which contain 8 rails each, and two 16 rails each. Beginning with the first (tangent grade), we take the mean of the figures expressing wear for that class; and continuing this process through the other five, we obtain six expressions in quantity of loss by wear, which we assume to represent in their differences the varying conditions of the track, with respect to grade and direction. We now take the mean of these means (giving double weight to the groups containing 16 observations). This general mean is the loss of metal per million tons of traffic for a rail of average constitution under mean circumstances. The difference between it and the mean for any one group is a constant correction, to be applied to the tabular wear of each rail in that group, to obtain what may be called the reduced loss for that rail, that is to say, an expression for the loss per million tons of traffic which that rail would have shown, had it been worn under average circumstances. For example (the tabular numbers being multiplied by 1000, to get rid of long decimals), the general mean of loss is 76.7; the mean for the tangent grade group is 70.1; the correction is + 6.6; the experimentally determined loss of rail 887 (of that group) is 38.6; and the reduced loss, 45.2.

I had at first intended to do with the units of wear what Dr. Dudley did with his chemical units—reduce them all to one actual group. As he obtained phosphorus units, so we might obtain tangent grade or grade curve or level curve units. But the reduction to an ideal average unit of wear is preferable, as giving the smallest possible average corrections and distributing the errors involved in the corrections uniformly over all the observed cases, instead of concentrating them on a part. I am indebted for this suggestion, and for the larger part of the voluminous calculations required in the details of the work, to a mathematical friend, without whose aid I should scarcely have been able, in the scanty intervals of other absorbing occupations, to solve the problem, even after stating it.

It is, however, simple enough, though very tedious. From the 64 given cases, we form 64 equations of condition, of the form $I + Cc + Pp + Ss + Mm = R$, in which the different symbols have the same meaning as before, except that R is the reduced loss by wear, as already explained.

These 64 conditional equations are now, by the method of least squares, reduced to 5 normal equations, containing the 5 unknown quantities, I , C , P , S , and M . The solution of these equations will give us the most probable values for I , C , P , S , and M , which the equations of condition can yield.

I do not intend at this time to publish the details of the calculation. If time permits, there are other assumptions which I should like to introduce into the discussion, to test the results already obtained. It would be interesting, for instance, to repeat the whole process with equations of the form $I \times Cc \times Pp \times Ss \times Mm = R$.

At all events, I am not now prepared to present the figures of the calculation, in which, though the equations have been solved, the probable errors of the solutions have not yet all been determined. But I am able to say that Dr. Dudley's own data and assumptions, thus treated, show the coefficient of silicon to be negative, and that of manganese to be practically zero. In other words, the silicon, though a "hardener," does not, like carbon and phosphorus, increase, within the limits of these tests, the loss of metal by wear; on the contrary, it increases the wearing capacity. And manganese seems to be neutral in that respect, behaving like so much iron. These two metals play, then, a very different part from that assigned to them in Dr. Dudley's formula, which holds true (and that with modified coefficients) for the non-metals, carbon and phosphorus only.

I will not here enlarge upon the imperfections inherent in the application of the method of least squares, and in the necessary employment of so many assumptions. In spite of them all, I believe that the indications here afforded are significant. Certainly the "phosphorus unit" system must be abandoned, so far as silicon and manganese are concerned; but are there not hints of practice pointing in the same direction as the results of this mathematical inquiry, as to those two elements? Have we not heard repeatedly of high-silicon rails showing extraordinary wear? And is it not "important if true" that manganese may be increased beyond Dr. Dudley's limit, if it be otherwise useful or convenient, without injury to the wearing capacity?

SIPHON-TAP VERSUS DR. PERCY.

EDITOR ENGINEERING AND MINING JOURNAL:

SIR: Under the above caption, in your issue of the 11th inst., Dr. Hahn says: "I feel, and I think other readers will concur with me, that Dr. Percy, in commenting on American practices, sometimes gives vent to expressions which savor very strongly of prejudices against American smelters." In Dr. Percy's *Metallurgy of Silver and Gold*, I fail to find an expression which savors of prejudice against American smelters, and I question Dr. Hahn's ability to find in any of Dr. Percy's valuable contributions to metallurgical science any unfriendly comments on the work of American scientific men. Dr. Percy has always been and is most desirous of expressing his approbation of American work and of any contributions sent to him from this side of the water. He always takes particular delight in praising the work of the American Institute of Mining Engineers. Dr. Percy is, of all men, most amiable in discussion, and labors conscientiously to have the statements in his works as nearly accurate as possible, and he will be the first to acknowledge a mistake; and in this connection I believe that he will, on further thought, see that he has made a mistake in claiming that the misnamed siphon-tap and Vorherd are one and the same. Dr. Hahn is quite right in his reference to the Clausthal "*Spurofen mit verdecktem Auge*," the working of which I have frequently witnessed. The siphon-tap has too firm a hold upon the American lead smelters to be displaced by the shade of Father Karsten.

GEORGE W. MAYNARD.

24 CLIFF STREET, NEW YORK.

THE ASTUTE AND CONSERVATIVE BRITISHER.

Special Correspondence of the Engineering and Mining Journal.

The astute and conservative Britisher, 'of whom,' save the adjectives, 'I am one of which;' and whom, during a two months' visit to my native village of London, I have studied with much amusement and instruction.

The mining fever has reached "the land that bears a well-known name," and though, as the song says, "'tis but a little spot," there's a tremendous lot of idle money in it, a great deal of which is now finding its way into the pockets of wily promoters, mine-venders, and sharps, who, as we say in my beloved Colorado, are "going for" the British public, and "everlastingly whooping it up to them."

But are these promoters, venders, and sharps the American bird of that species, of whom you hear so much in London? O dear! no—not by any means! The average Britisher, who is far too astute to go into any thing really good because it is American, does not in the least object to be swindled, provided it is done by his own countrymen, and if by a body of them with a Duke's name as a director, it is positively delightful. Now the titled "guinea-pig" is very easily procured in London; that is to say, Sir George Deadbroke, Bart., Lord Arthur Pauper, Viscount Damphule, Major-General Haw-Damme, late of H. M. Forty-first Fall-backs, and others of that ilk, are always ready to lend the charm of their great names to these enterprises, and attend the board meetings, for the moderate consideration of one guinea per meeting; and the British snob, who, I regret to say, forms a very large proportion of the population of the "tight little island," snaps at the bait, only too proud to be hooked by such august fishermen. Did you ever, when fly-fishing during a hot, still day, whip a most inviting-looking pool for some time without a rise, when all at once a little breeze swept over the water, and the trout commenced to feed? Well, a breeze of that kind has just swept over the British public, and they are biting like mad, but at the most rudely-made and laughably inartistic artificial bait you ever saw. Indian gold reefs are first favorites, and abandoned and drowned-out Cornish workings second; and I assert as a positive fact that, if they are offered an Indian prospect, wholly undeveloped, but with a large outcrop of quartz, which, to quote from a prospectus, "should contain several ounces of gold to the ton," and which if it does contain that amount of gold per ton, will pay 50 per cent per annum; and, on the other hand, an American developed mine with a one-hundred stamp-mill running and paying 15 per cent net profit, and enough ore in sight for the next generation—they will take the former, and pay more for it.

Of course, there are in London several firms of promoters, and individual promoters, successful and honest. I talked with some of these on the subject, and they said at once: "It's no use, W.; the British public does not want any thing good in America just now; they want swindles of entirely home manufacture, and—they're getting them."

Not but what I believe there are some good things in India. A friend of mine, an associate of the Royal School of Mines, has just returned from inspecting them, and he tells me that, while there are some undoubtedly rich properties in a narrow belt, there are a great many outside the belt from which it is impossible to obtain even good specimens of gold quartz; and these latter, of course, are selling on the reputation of the former.

The Cornish ventures are quite as absurd. In one instance, a company is forming to work a mine that has been full of water for twenty-five years, with no possible means of knowing what is in it except on the printed statement of Captain Smith, Captain Brown, *et al.*, said captains being simply underground foremen, whose statements were most probably written out for them, and which they were very likely induced to sign by the promise of a quart of beer. If the mine would not pay *then*, I don't see why it should pay now, especially with the additional expense of pumping it out, and putting up new machinery; and what the Cornish miners, who are the best in the world, could not make pay, I am sure no others can. Another mine now offering at upward of £150,000, was sold thirty years ago by my father for £1500; and he tells me it never paid a penny, and never can.

When I left New York for England last February, I was given a gold property to find a customer for, which was paying at the rate of \$25,000 per month net profit, fully equipped, and ore enough in sight for at least fifty years' working. It is not necessary to mention the price. As soon as I reached home, and saw a few specimens of the prospectuses issued by the Indian companies, and found that in every instance there was no evidence of real value, but every thing entirely prospective, I thought to myself, "Surely a dividend-paying property like mine will take at once."

I got a letter of introduction from a friend (an ex-Member of Parliament and one of the richest men in England), to a firm of promoters in London, who had once done some business for him; and according to his instructions, I inclosed this letter of introduction with a brief description of the property I had to offer, and sent it by a messenger, asking for an interview. An appointment was made for eleven o'clock next day, and at that hour I called promptly. Large office—lots of clerks—several waiting-rooms—general air of bustle and mystery—name taken in on a slip of paper by a poor, subdued-looking man—and I was shown into an inner room where sat Mr. Padwick, a little, fat, red-nosed chap, who looked at me with a pleasant, "what the devil do you want here" sort of air. So I said I had come to see him about the property mentioned in my letter of yesterday, and had brought a map and printed report on it, so that, in case he was very busy now, he could look them over at his leisure and tell me when to call again. "No time to look at any thing," he snapped out, "let's see what you've got;" and he took up my letter, which the subdued person had laid before him, and read it through. "You say these people have such a property for sale at such a price, and they are not lunatics." "I do say so," said I, "their business is dealing in mines; they buy them as prospects, develop them into pay, and then sell them at a profit." "It's a mere subterfuge," he snarled, "a mere subterfuge; if you had come to me and said—" Here I thought he'd gone far enough, so I got up and told him that I had come there with a letter from a gentleman, which was a guarantee that I was one, and I expected to be treated as such, did not choose to be talked to about subterfuges, and with some difficulty refraining from emptying the ink-pot in his face, walked out, leaving the red-nosed little cad evidently very much agast at my impudence.

I told a friend in the city about it afterward, and he said, "Ah! that's just old Padwick's style; but you didn't go at him right. If you had known him well enough to soap him first with a check for £10,000, he would have talked very differently. He's brought out one or two good things, and several extremely questionable ones; and the less you have to do with the firm of Padwick & Allenson, the better."

Some of my American friends may doubtless contemplate bringing a first-class mining property to London or Paris, and the foregoing will give them some idea what to expect. But don't let them bring developed and dividend-paying mines, with a sure and certain yield for the next two generations. These have a certain return, and give no scope for wild flights of fancy into regions of hundreds per cent profit. Undeveloped claims at small prices, with prospects of enormous returns in the dim vista of the future, are what take, no matter how dim and how future.

I have one of the Indian prospectuses before me, and it may be somewhat interesting to Americans to study the faith and exceeding hope displayed in these productions, not to mention the charming simplicity of a people who will accept them as any thing else but a burlesque:

THE SANDHILL AND KINGDOM COME GOLD MINING COMPANY.

This property is to be purchased for a sum of \$650,000 on the following evidence of real value, as printed in the prospectus, with some slight alteration in names:

No. 1. Mr. ROUGH GUESS, reporting to the government, referring to the auriferous reefs and native workings near Devala, remarks: "In those places, where there are enormous bodies of quartz exposed at the surface, the old native workings are extensive. The most striking examples of this remarkable occurrence of what must have been HIGHLY AURIFEROUS QUARTZ, where the reefs exhibit their greatest thickness, are to be found on the SANDHILL (one of the estates of this company), and on the Elizabeth and Strathearn Estates, and at Konambant."

Mr. O. BUGLER says that "the principal reefs on the adjoining Elizabeth Estate of the South-East Wynaad Company continue directly into the Sandhill and Kingdom Come;" and

No. 2. Mr. ROUGH GUESS, referring to one of these reefs (the Dawson), says: "The quartz was found to be full of pyrites, and GOLD was VISIBLE in some of the pieces;" and in his report to the Moyer Coffee Company of 29th March he states that some of the reefs in the now celebrated Maryland and Strathearn Estates (distant about a quarter of a mile) extend into this company's property. The Rhodes reef is on these estates. It embraces only 50 acres, and has recently been sold for £130,000, whereas this property, which contains about five times that area, and is equally rich and valuable, is offered for £91,500 only.

No. 3. Mr. H—— states, in his special report upon this property, that quartz, which he had taken haphazard and unselected from it, gave a VERY GOOD SHOW OF GOLD when washed; yet he adds: "I SET MORE VALUE on the fact of the ancient miners and Koorumbers having worked the reefs so very extensively near the surface, and as deep as they could go with their rude appliances. As to the quantity of gold the reefs contain, DEPEND UPON IT THESE PEOPLE DID NOT DIG THAT GROUND OVER, AND TURN THE PLACE INSIDE OUT AND UPSIDE DOWN FOR NOTHING. This to me is the BEST GUARANTEE that the reefs must contain GOLD IN PAYING QUANTITIES."

The evidence in No. 1 is some old native workings, which are supposed to prove that the quartz "must have been highly auriferous." If it was highly auriferous, it was taken away and the question is now, not what there was, but what there is. It is a well-known axiom among miners, that "Gold is just where you find it," in a lode or reef, sometimes in chutes, sometimes in pockets or bunches, and sometimes on the surface of a reef, disappearing as depth is gained. I know of a quartz-reef in which a two-ounce nugget was found three years ago, and which has never produced a pound of pay-ore since. I know another where the outcrop quartz was full of free gold, and where six hundred feet of tunneling, one hundred feet beneath this outcrop, failed to produce any pay-ore at all; and in silver belts it is generally found that gold lodes "play out with depth."

The evidence of real value in No. 2 is based on the adjoining estate, in which the quartz was found to be full of pyrites (it does not say auriferous pyrites), and GOLD was visible in some of the pieces; and also on the fact that another estate, a quarter of a mile off, was sold for £130,000. Now it is a well-known fact in quartz mining that adjoining extensions of a very rich claim on the same lode or reef are sometimes barren; and the fact that the property a quarter of a mile off was sold for £130,000 does not prove that it was worth that sum, or that either of them are worth any thing at all.

But for winsome, guileless simplicity, No. 3 "knocks the socks off" any thing I ever read. What would you say in America, if you were asked to buy a mine in New Mexico on the strength of a hole dug by the Aztecs or some other extinct race, as these Koorumber gentlemen are said to have done? Methinks you would "set more value on the fact" that the gentleman sent to report on the lode had made carefully-selected samples of it wherever it outcropped, and then distinctly stated how much gold per ton his assays yielded. That they turned it inside out and upside down, is a very slim guarantee that the Koorumbers did obtain gold in paying quantities; but any one who knows the extreme uncertainty of gold in a lode will see that, even if they did, it is no "guarantee" that there is any more there. A much better guarantee would have been to put a few shots in the quartz, and then have it thoroughly tested.

My partner last winter went into California to prospect for gold, as we had an idea that, where the old rich placer-washings had turned out such an enormous quantity of gold "in the days of '49," if we could find the reefs or lodes that this gold came from we should be "eternally healed." We did find them, but the gold was too widely distributed through the quartz and iron pyrites for it to pay for milling. Nature had been milling the outcrop of these lodes for ages, by erosion, decomposition, washing, and natural concentration; and while the products of this Nature's mill paid enormously, the lodes in their pristine form would not pay to work.

The very attractive way in which italics, small capitals, and large capitals are made use of is amusing and instructive. GOLD, wherever mentioned, is thus printed; and I saw one of the maps in which the gold reef was shown by a bright gilt band drawn across it.

I do not mean to say but that some of these Indian things may be

very good; but if they are, they have a most remarkable way of avoiding facts in their prospectuses; and saying, in my opinion, a good deal too much "must have been" and "should be," instead of *was* and *is*.

My only object in writing the foregoing is to show that, though very sharp and cautious after his own peculiar fashion, yet how easily gulled, provided it be done in the right way, is the Astute and Conservative Britisher.

LONDON, May 30.

W. WESTON, E.M.

CHESAPEAKE & OHIO CANAL.

The annual meeting of the stockholders was held at Annapolis on the 6th inst. President Gorman's report of the company for the year ending December 31st, 1880, shows earnings amounting to \$372,616.17, and expenditures for operating the canal \$227,277.11; leaving net revenue, \$145,338.96. In addition to the ordinary expenses there were paid for *law*, \$33,298.44; part of purchase money of basin wharf, \$15,325; interest on notes and repair bonds, \$11,184.23. Deducting these, the actual net revenue was reduced to \$85,531.29.

The revenue for the first five months of 1881 amounted to \$67,706.22.

The boatmen and the boat-owners taking a ton of coal from Cumberland and putting it on board vessels at Georgetown receive \$1.78 per ton, of which the canal gets 51 cents. The charges by the Baltimore & Ohio Railroad from Cumberland to Locust Point have been reduced to \$1.81 per ton.

Mr. Gorman says that, notwithstanding this reduction by the Baltimore & Ohio Railroad Company, the output of the Cumberland region is decreasing, while the output of the Clearfield and other coals is increasing. This state of the trade compels further reduction in the cost of transportation from the Cumberland region, which, if not made this year, will be in 1882.

The president and directors were authorized by the passage of a resolution to dispose of \$250,000 of the repair bonds issued under the act of 1878, and in addition to use the net revenue of the company for the purpose of lengthening the locks of the canal. Mr. Gorman declined a re-election; but it was protested against by the principal bondholders, and he was again chosen to serve another year, together with the old board of directors, composed of Patrick Hamill, John Humbird, Henry D. Farnandis, James G. Berret, Thomas P. Morgan, J. Bayard, H. Smith.

THE MANUFACTURE OF CHARCOAL IRON IN CANADA.

The following is a communication to the *Montreal Gazette*, from one who is evidently familiar with his subject:

In all our efforts and discussions in the direction of increasing our home industries, this one, extensive in the United States and elsewhere, does not get even passing mention. It exists in this country on a small scale in private enterprise, but gets no share of public attention, although in no country do better conditions exist for its pursuit.

For a variety of reasons, the manufacture of charcoal iron in Canada has not been attended with much success. A certain want of confidence exists in relation to it, and the conditions of success have been concluded as against it. This is partly due to the general ignorance of the nature of the trade, owing to its small extent so far. As there can be no question that it can be carried on as successfully here as in the United States, the subject is of interest. We have in it all the elements of a large manufacturing industry to produce an article which we largely import from other countries in various forms, and it certainly is as much entitled to attention and to offers of subsidy, as other industries which do not find their raw material in this country, as those of cotton, wool, sugar, etc. Every particle of material that enters into the composition of charcoal pig-iron is found here. We have unlimited rock ores, containing twenty per cent more iron than our bog ores, scattered over the whole country, whose analyses compare favorably with those producing the best brands of charcoal iron; hundreds of miles of untouched forests for fuel, in immediate vicinity of and surrounding the ores. It remains to enlist the attention and interest of our capitalists, who could be supplied with all information and data on the subject, by persons experienced in the manufacture here or elsewhere.

Hitherto the production of this iron has been from bog ores only, and is still. Its consumption has been limited almost exclusively to the manufacture of car-wheels, for which a well-known and tested brand is absolutely insisted upon by railway companies. The character of iron from bog ores is established, and no producer has so far presumed to use other ores in his furnaces, or admixture of them, as he would thus be compelled to prove the adaptability of his iron made from new and unknown ores to the purposes for which the known article was used. Consequently our furnace-owners, in their old establishments, or in locating new, have given attention only to bog ores.

But the best charcoal irons of the States and of the world are made from rock ores, both magnetic and hematite, and go entirely into the manufacture of articles requiring resisting and tensile strength. Notwithstanding the high quality of our bog ore iron, it is admitted that it is not equal in strength to the car-wheel charcoal of the States from rock ores, and that wheels made from it have to be several pounds heavier, in order to be equal in strength to American wheels. In fact, a considerable quantity of charcoal iron is annually imported by our wheel-makers, for mixture, to get strength.

In the use of our rock ores, equal to any in the world, will be solved the question of making a high brand and a cheap charcoal iron. The Americans, paying more than double for their fuel, from scarcity of wood and costliness of labor, still make iron cheaper than we, and undersell us in our own market. The real cause of our disadvantage is in the fact that bog ores are difficult to work in the furnace, added to the costliness of making them, and their leanness. They exist divided into fine particles, consequently pack closely on the surface, prevent the proper ascension of the blast and distribution of gases; and arrive at the melting-point improperly prepared, thus causing waste of fuel; they have also a tendency to run down through the fuel, arriving green below. From those causes, among others, the furnace works irregularly, demanding great caution on the part of those in charge, and fuel has to be

sacrificed to safety. Rock ores are free from those defects, and work easily. In the States, in furnaces of the same capacities, strength of machinery, size of works, cost of management, etc., as ours, is produced as much pig-iron from one bushel of charcoal as is here, in many cases, from three bushels. Here, the average production of our blast-furnaces, which are all, within a few inches, of the same dimensions, is four tons of pig-iron in twenty-four hours. There, with the same capacities, it is from twelve to twenty tons in the same time. With our cheap fuel and labor and a good ore, our advantages are evident, to enable us to produce a cheap and strong iron, not only to supply all our home demand, but for export.

Till now, the manufacture has been confined almost exclusively to the production of the iron in pigs, and carried on by private enterprise, with inadequate capital. Thus the manufacturer was restricted to a market demand for pig-iron alone, necessarily small and easily overstocked. This demand has, however, greatly increased of late, mainly for the manufacture of car-wheels, now made in great numbers, to supply the wants created by our great railroad extension all over the country, added to the old demand.

To secure success, an organization is required with sufficient capital not only to manufacture the pig-iron, but to convert it into different forms of trade requirements. Of these, there is an endless variety; car-wheels, boiler-plates, malleable iron, agricultural implements, etc., etc.

We have in this country unsurpassed sources from which to create a large home industry of the nature discussed, as safe for investment of capital as any other.

A. M.

THREE RIVERS, May 31, 1881.

CHICAGO COAL RECEIPTS AND SHIPMENTS.

MAY 1 TO JUNE 1, 1881.

	Tons.
Receipts by rail of anthracite coal from May 1st to June 1st, 1881.....	17,963
Corresponding period, 1880.....	15,253
Increase, 1881.....	2,710
Receipts by rail of bituminous coal from May 1st to June 1st, 1881.....	155,370
Corresponding period, 1880.....	108,358
Increase, 1881.....	47,014
Receipts by lake of anthracite coal from May 1st to June 1st, 1881.....	49,284
Corresponding period, 1880.....	50,975
Decrease, 1881.....	1,691
Receipts by lake of bituminous coal from May 1st to June 1st, 1881.....	45,968
Corresponding period, 1880.....	48,962
Decrease, 1881.....	2,994
Total receipts of all kinds of coal, including coke, from May 1st to June 1st, 1881.....	268,585
Corresponding period, 1880.....	223,546
Increase, 1881.....	45,039
Total shipments of coal by lake and rail from May 1st to June 1st, 1881.....	28,949
Corresponding period, 1880.....	32,247
Decrease, 1881.....	3,298

The receipts of coke are included in the receipts of bituminous coal.

H. PRATT, Secretary Chicago Coal Exchange.

YEARLY STATEMENT—MAY 1, 1880, TO MAY 1, 1881.

NOTE.—As our coal year in Chicago is considered to end on April 30th, we issue with this report a YEARLY STATEMENT showing statistics of business of year ending April 30th, 1881, as compared with those of the year previous.

	Tons.
Receipts by rail of anthracite coal from May 1st, 1880, to May 1st, 1881.....	420,567
Corresponding period, 1879-80.....	430,902
Decrease, 1880-81.....	10,335
Receipts by rail of bituminous coal from May 1st, 1880, to May 1st, 1881.....	1,751,355
Corresponding period, 1879-80.....	1,413,677
Increase, 1880-81.....	337,678
Receipts by lake of anthracite coal from May 1st, 1880, to May 1st, 1881.....	379,867
Corresponding period, 1879-80.....	505,332
Decrease, 1880-81.....	125,965
Receipts by lake of bituminous coal from May 1st, 1880, to May 1st, 1881.....	296,403
Corresponding period, 1879-80.....	330,165
Decrease, 1880-81.....	93,762
Total receipts of all kinds of coal, including coke, from May 1st, 1880, to May 1st, 1881.....	2,787,692
Corresponding period, 1879-80.....	2,680,076
Increase, 1880-81.....	107,616
Total receipts of anthracite coal by lake and rail from May 1st, 1880, to May 1st, 1881.....	799,934
Corresponding period, 1879-80.....	936,234
Decrease, 1880-81.....	136,300
Total receipts of bituminous coal by lake and rail from May 1st, 1880, to May 1st, 1881.....	1,987,758
Corresponding period, 1879-80.....	1,743,842
Increase, 1880-81.....	243,916
Total shipments of coal by lake and rail from May 1st, 1880, to May 1st, 1881.....	627,913
Corresponding period, 1879-80.....	572,595
Increase, 1880-81.....	55,378

The receipts of coke are included in the receipts of bituminous coal.

NOTE.—50,892 tons of hard coal and 34,087 tons of soft coal were received by lake last year prior to the 8th day of May—the date of first arrival of coal from Lake Erie this year.

RECEIPTS BY MONTHS, IN TONS.—1880: May, 157,318 bituminous; 66,228 anthracite. June, 141,159 bituminous; 79,560 anthracite. July, 160,298 bituminous; 69,697 anthracite. August, 139,358 bituminous; 78,930 anthracite. September, 185,148 bituminous; 72,787 anthracite. October, 143,112 bituminous; 81,476 anthracite. November, 185,468 bituminous; 75,434 anthracite. December, 191,068 bituminous; 60,368 anthracite. **1881:** January, 179,709 bituminous; 44,150 anthracite. February, 153,128 bituminous; 45,032 anthracite. March, 163,503 bituminous; 68,743 anthracite. April, 188,494 bituminous; 56,632 anthracite. Total, tons bituminous, 1,987,758; tons anthracite, 799,934.

SHIPMENTS BY MONTHS, IN TONS.—1880: May, 32,247; June, 32,865; July, 33,458; August, 51,142; September, 67,912; October, 53,756; November, 65,065; December, 76,304. **1881:** January, 61,126; February, 50,377; March, 51,243; April, 52,418. Total, tons, 627,913.

H. PRATT, Secretary Chicago Coal Exchange.

THE STEAM VACUUM DREDGE.

The invention of this dredge, an account of which was recently given in these columns, is due to Mr. Augustine Crosby, of Maine; although the International Vacuum Mining and Dredging Company first brought it into actual use. The first machine was built last year, and is now in successful operation in Fraser River, British Columbia. Although the principle involved had been well known, it far exceeded in actual working the expectations of the company. For instance, the dredge at Fraser River has a 24-inch pipe, and a vacuum-chamber 11 feet by 6 feet, and raises from four to six tons of stone, gravel, etc., at a lift. The company claims that it can make 20 lifts, or from 80 to 120 tons, in an hour, and that the capacity can be increased to any size; while the expense is, compared with other methods, very light. A company is already organized with a license to use these dredges, in working for gold on Snake River, Idaho. In Maine and Vermont, it is proposed to work them for gold and iron; and in South Carolina, for phosphate deposits; for dredging purposes in the Kennebec River; and five machines are building for the gold-bearing river-beds of Brazil. The diamond rivers of Africa and pearl fisheries, rivers and harbors, with a long list of et ceteras, will at once suggest themselves as fields where this machine should receive employment and meet with success.

PROGRESS IN SCIENCE AND THE ARTS.

Zinc Sheathing for Iron Ships.—In a yacht recently launched at Rutherglen, Scotland, the zinc is 28 ounces to the square foot, between wind and water, and at the bottom 28 ounces per square foot. Zinc is the only metal capable of application without injury to iron, as it protects it from corrosion, and the combination of the two metals causes the zinc to act as copper does on the bottom of a wooden ship. The sheathing zinc is attached directly to the iron plating of the vessel, no paint of any kind being used. The places on the iron where these attachments are to be made are first burnished with an emery wheel, and the alloy used is a solder. The zinc plate is similarly prepared and placed in position, and amalgamation is produced by the application of heat. The laps and butts are then soldered together, and are either lapped or butt-jointed together. The first vessel with this sheathing has been in work for nine months. It trades in canals and rivers abounding in acids from chemical works, all corrosion of the iron bottom of the vessel being, according to the *Ironmonger*, effectually prevented by the zinc sheathing.

The Largest Steam-Hammer in Scotland.—The London *Ironmonger* of the 4th instant describes a steam-hammer, just erected at the iron and steel works of Messrs. I. & W. Beardmore, Parkhead. It is built on the Rigby type, which differs mainly from the Nasmyth hammer in the piston-rod forming the hammer, instead of a small piston-rod and a cast-iron tup, and, though of colossal proportions, is wonderfully simple in make. The foundation on which it stands is a bed of iron concrete, 20 feet thick, and weighing 500 tons. The hammer delivers blows having a force of between 300 and 400 tons with a rapidity which allows the steel to be perfectly worked before growing cool, producing a better slab, and reducing to a minimum the risk of breakages through unfair resistance. This little pocket-piece was christened "Samson," and is the seventeenth steam-hammer now at work at the Parkhead Forge, ranging from 12 to 2 tons.

Rail-Making at Bolckow, Vaughan & Co.'s, Middlesbrough.—In the discussion following Capt. W. R. Jones's paper on Bessemer Steel and Steel Rails, read before the British Iron and Steel Institute, Mr. E. Windsor Richards, although admitting that "the output of ingots given by Mr. Jones had really taken the conceit out of him," went down to Middlesbrough determined that an effort should be made to produce the largest possible output. London *Iron* of June 3d says: "Every one, therefore, last week worked his best, from Mr. Richards himself—who was at the works every day from eight A.M. till six P.M.—downward. All knew that an attempt was being made to leave the Americans far in the rear, and to gain for the firm of Bolckow, Vaughan & Co. premier place as steel-makers. Every morning and night during the last two hours of the shift, there was great excitement, the most strenuous efforts being exerted to increase the tonnage to above that of the previous shift. It was known how much had been made, and how it compared with the quantity turned out in the preceding shifts. The one mill (No. 1) made 400 tons one night shift, and most nights 40 tons more were turned out than by the day men. The machinery ran remarkably well, there being no hitches of any kind; and at the end of the week, this one mill had manufactured 36.0 tons of rails in six days, nearly 1000 tons more than the next largest make—that at the Edgar Thomson Works. If this could be kept up, the annual make would be about 180,000 tons, or more than half the total output of iron rails in the North of England in 1872, when that trade was in its most flourishing state. The week's make of steel rails, however, will hardly be maintained unless the two other mills are worked; but if that were done, the weekly make might be at least 7000 or 8000 tons. But before that can be accomplished, the number of converters must be increased." The paper of Captain Jones, as our readers will remember, was concluded last week in this JOURNAL; and on page 399 will be found the remarks of Mr. Richards, to which this paragraph may be added as Supplement No. 1. What Captain Jones may say or do in the future in the way of cutting

out work for our emulous brethren across the water, will possibly constitute Supplement No. 2 in some later issue of this JOURNAL.

The Propulsion of Boats by Electricity.—The Paris correspondent of London *Nature* was present on Friday, May 27th, during an experiment made by M. Trouve on a small boat between Port Royal and Pont des Arts. The boat, measuring 5 m. 50 by 1'30, and carrying three persons, obtained a mean velocity of 1 m. 30 per second, with a magneto-electric motor weighing 2 kilog., and two series of six Wollaston elements weighing 12 kilog. each. The trial lasted an hour and a half, and was interrupted by darkness. These experiments will be repeated shortly on the Bois de Boulogne lakes. The motor, which was constructed to give 8 kilogrammeters per second, did a duty which a single rower would have been unable to perform. The electro-magnetic motor was placed on the rudder, and the motion communicated to a small screw placed in the lower part by a chain. This system is not calculated to utilize the whole extent of the motive power generated by the elements, but it dispenses entirely with any alteration to the boat. This last circumstance is considered as decidedly important in popularizing the system among yachtsmen. There is not the slightest vibration felt or noise of any description heard on board.

EXPECTING A COAL MINE TO CAVE IN.—WILKES-BARRE, PA., June 14.—An extensive cave-in of a portion of the Diamond mines in this city, is hourly expected. Orders were issued to-day by Charles Parrish & Co., the operators, forbidding any of the employes to enter the mine until further notice.

FAILURE OF E. P. CUTLER & CO., OF BOSTON.—The failure of E. P. Cutler & Co., iron and metals commission merchants, of Boston, is announced. The failure was not altogether unexpected, as in some quarters it has been known that the firm had met with heavy losses. The liabilities have not been definitely ascertained, but are estimated by some of the creditors as high as \$500,000. The liabilities in this city are stated to be over \$100,000. Four creditors hold claims amounting to \$40,000 for old rails. A large proportion of the creditors are in the Lehigh region of Pennsylvania, and also along the Hudson River. The firm was regarded as active and shrewd. In 1879, when the prices of iron advanced, the house did a large and profitable business, mainly in iron rails and pig-iron, but it lost considerable when the excitement subsided. In June, 1880, the firm claimed a surplus of \$100,000, the direct liabilities being \$75,000, and contingent liabilities \$200,000, all claimed to be on good business paper. The firm owns a foundry at Roxbury, Mass., iron property in Virginia, and other property at Katahdin, Me. The paper of the house has been on the market here; but for some months it is said that it was hard to negotiate the same, and in some cases it was even refused. A creditor stated yesterday that the failure would probably be a disastrous one, as he had heard that a large part of the iron was hypothecated for advances. Another creditor stated that the failure was the result of speculation.

SIX RAILROADS CONSOLIDATED.—THE NEW JERSEY MIDLAND TO BE CARRIED INTO THE COAL-FIELDS.—The New Jersey Midland Railroad, the Paterson Extension Railroad, the Midland Connecting Railroad, the North Jersey Railroad, the Water Gap Railroad, and the Pennsylvania Midland Railroad have been consolidated under the name of the New York, Susquehanna & Western Railroad. The officers of the new corporation are Frederick A. Potts, President; W. D. Dunn, First Vice-President; Garrett A. Hobart, Second Vice-President; Albert L. Lee, Secretary and Treasurer. The Midland Railroad of New Jersey extends from West End to Unionville, a distance of 50 or 60 miles; the Paterson Extension Railroad, a spur of the Midland 3800 feet long, from the main line in the suburbs of Paterson into the heart of the city; the Midland Connecting Railroad, from Ogdensburg, on the Midland, to the line of the North Jersey Railroad, a distance of 40 miles; the North Jersey Railroad, 4 miles long, from the Midland Connecting to the Delaware Bridge; the Water Gap Railroad, 5 miles long, from the Delaware River to Stroudsburg, Pa., and the Pennsylvania Midland Railroad from Stroudsburg to some point not yet definitely decided in the Pennsylvania coal-fields, either in the Wyoming Valley or in the vicinity of Scranton. The various roads extending to Stroudsburg are all under contract to be finished not later than December 1st next, and the officers in charge are confident that the line will be in running order to that point by that date. Boards of directors of the several companies determined upon the consolidation about two weeks ago, and on Friday last the stockholders met in Jersey City and ratified the matter. The Midland Railroad Company of New Jersey has a capital stock of \$3,000,000. The holders of \$2,200,000 voted in favor of the consolidation. The stockholders of the other companies unanimously ratified it. The new company will have \$20,000,000 of common and \$10,000,000 of preferred stock. All of this will not be issued at once, as the contracts for the building of the various lines of railroad have been made on very favorable terms. The new corporation will have a road double the length of the old Midland for about the same amount of money as the Midland cost. The company expects to make additional connections in New York and Pennsylvania, to buy large tracts of coal lands, to develop a great coal business, and possibly to make a new through passenger route to the West.

GENERAL MINING NEWS

ARIZONA.

We quote from latest Arizona exchanges as follows:
COPPER QUEEN.—During the past week, have commenced opening up the third level, which is 140 feet below the first level, are drifting north and south, with the drifts all in ore of a high grade. On the second level, they are drifting and cross-cutting, with like results as on the third level. There has been no stopping done in the mine. The supply of ore furnished the furnace is principally taken from the open cut.

GLOBE DISTRICT.

SILVER NUGGET.—The east cross-cut on the 180-foot level is pushed ahead rapidly, and is now in over 40 feet, and in favorable formation. The south drift on the same level is about to be continued, as there is good ore in the face; and in order to secure a thorough under-ground circulation of air, this drift will be run to connect with the main shaft, and, when completed, will greatly reduce the surface expenses.

TOMBSTONE DISTRICT.

EMPIRE.—On the 400-foot level, 20 feet advance was made into the ore-body last week. The winze from the 200-foot level is now down 20 feet, with a steady

increase in the size of the vein. In cross-cutting west from the shaft, on the 400-foot level, they have cut the same vein they are sinking the winze upon from the 200-foot level. It looks well at this point. No arrangements have been made, as yet, for milling the ore, and it is more than probable that there will not be until the company satisfies itself whether it will be better to rent or build.

FLORA MORRISON.—Rapid progress is making in getting the foundation in for the hoisting-works. There is a large amount of granite on the ground for the foundation to the engine. Sinking in both the east and west shafts is rapidly pushed ahead.

CALIFORNIA.

THE BODIE DISTRICT.

There are no startling developments reported in these mines for the week ending the 4th inst. On the 6th inst., work was resumed on the Bechtel mine. The Standard shaft was sunk 9 feet during the week, making the total depth 1034 feet. The east cross-cut, 1000-foot level, has been extended 10 feet, making the total length 298 feet. The west cross-cut, 1000-foot level, has been extended 11 feet; total length, 242 feet. The face of this cross-cut is in very favorable formation, and there is an increased flow of water and strong indications of the near proximity of the main ore-vein. As the Standard is bounded on this side by the Bulver mine, the character of the formation exposed in this cross-cut will affect, to a certain extent, the prospects of the Bulver. There is no change reported in the condition of the latter mine; the usual amount of work has been done during the week. Bodie is taking out some good ore from the north stopes, between the fourth and sixth incline levels, and from the stopes just started from the winzes and gangways below the sixth level. Tioga has resumed work in the lower levels, and is making fair progress through a favorable formation. But little depth has been added to the Leut shaft, on account of the low ring and placing in position of three heavy pumps. All the stopes in the Noonday are looking well and yielding ore of a good quality. The No. 1 south drift, 512-foot level, has been extended 38 feet during the week, and is now 760 feet south of the shaft; the vein in the face of the drift is three feet wide. A small seam of rich ore, discovered on the 250-foot level of the Syndicate about a year ago, has been followed by an uprise from the level, and has widened to three and a half feet of rich ore.

NEVADA COUNTY.

THE CITY OF MARYSVILLE vs. THE NORTH BLOOMFIELD MINING COMPANY ET AL.—The Nevada City Transcript of June 4th says that restraining orders were served three days ago at the San Francisco offices on the North Bloomfield, Milton, Eureka Lake, and Blue Tent hydraulic mines of this county, and the Excelsior Company at Smartsville, in the case of the City of Marysville vs. the North Bloomfield Mining Company et al. There are about twenty others claims dumping into the Yuba River and its tributaries that will be served with similar notices as soon as the officers can reach them. The companies above specified suspended all operations Thursday, and it is reported the others named as defendants have since followed suit. A fair trial will be sought for by the miners, and no effort will be spared to have the injunction dissolved as soon as possible.

COLORADO.

CLEAR CREEK COUNTY.

DUNDERBERG.—This mine, which under the management of the company could not be worked to pay expenses, is said to be yielding a fair monthly profit by the leasing system. About 80 tributaries are at work in the mine.

HUKILL.—The Hukill mine continues to ship the usual quantity of smelting and concentrate.

LAKE COUNTY.

The shipments from the Leadville mines are estimated at 1000 tons per day of smelting, milling, and iron ores. The product of the smelters for May is placed by the Chronicle at \$1,120,068, as against \$740,760 for April, showing an increase for last month of \$379,308. In addition to \$1,120,068 as the smelters' product, the mill output is estimated at \$110,000, and the amount of shipments of raw ore to Denver, Golden, Pueblo, etc., at \$125,000, making the total product for the month, \$1,355,068. The Little Pittsburg Company has again been obliged to stop work in the New Discovery claim, on account of the gas from the smoldering fire in the Chrysolite workings. Dr. Raymond, President of the Chrysolite Company, is at present in Leadville, and it is expected that some method will shortly be devised by which the fire can be extinguished. At present, all the ore extracted by the Little Pittsburg Company comes from the No. 2 claim. The machinery at the Roberts shaft of the Chrysolite is resetting, and but little is doing at the mine. It is expected that the repairs will be completed by the 25th inst., and shipments resumed. The ore taken from Amie is of very low grade, and it is said that it will barely pay the cost of mining. Catalpa shipments average in value \$1000 per day. Crescent is shipping about 10 tons per day. Part of the mine has been retimbered, and the superintendent is about commencing the sinking of a new shaft. The shipments from the Evening Star amount to about 50 tons per day of fine lead ore. Morning Star is also showing up well, and shipping over 30 tons per day. The outlook for Hibernia is not encouraging; the manager has orders from the New York office to give no information, and to allow nobody in the mine. The shipments amount to a little over 10 tons per day, and it is not expected that they will equal in value those of last month. The Leadville Company has suspended shipments from the Carbonate mine, in order to make some necessary repairs. Little Chief is looking up; the shipments amount to about twenty-five tons per day, of good ore, and the mine is reported to present an improved appearance. Miner Boy continues shipping about 20 tons of ore per day; the first-class ore is sold to the smelters, and the mill is kept running on second-class. The Dunkin shipments are about 45 tons daily, of rather low-grade ore. The ore from the Robert E. Lee is running low at present, with shipments of about 40 tons daily. When the new pump and machinery are placed in operation on the new shaft, the shipments will be increased. It is said that the force at work on the Climax has developed a fair ore-body in the east drift toward the Dunkin.

PARK COUNTY.

The Fairplay Flume says that the most noted mines in Mosquito Gulch are the London and the New York. A force of sixteen men is working in the two tunnels opened on the property of the former, but as to the amount of ore in sight I could obtain no reliable information. The New York mine is the heaviest producer of ore in the camp. The average output daily is twenty tons. At the present time, the ore and shaft-houses are full of ore awaiting the opening of the road for shipment. A force of sixteen men is employed working two shifts.

IDAHO.

A dispatch from Salt Lake, under date of the 15th inst., says:

The Golden Circle and a group of mines on the North Fork of Salmon River, in Lemhi County, Idaho, were purchased by English capitalists yesterday. The price is given at \$250,000. If this venture turns out well, it is expected that more English capital will be invested in the mines of Idaho.

YANKEE FORK.—The Yankee Fork Herald of the 4th inst. says: The superintendent of the Yankee Fork Consolidated Gravel Mining Company arrived here from New York last Wednesday, to commence active operations. He informs us that piping will begin Monday in the face of the bank, which is 60 feet high, and the gravel prospecting from the surface down. Arrangements are also making to extend the ditch down to the bars two miles below, where one or two Little Giants will be put to work this summer. The indebtedness of the company has been settled, and it is the intention to push operations this year. The ditch carries 2250 inches of water, which is capable of considerable work.

MONTANA.

Our Montana exchanges contain the following:

ALICE.—The winze that is sinking from the 500-foot level to the 700 is down about 175 feet, and will reach the 700-foot level in 50 feet more, which will take about two weeks. As soon as this is done, sinking on the shaft will be resumed, and it will be rapidly pushed down an additional 300 feet, making the working depth of the mine 1000 feet. In the 300-foot east level, a small seam of ore was struck this week by some workmen who were engaged in exploring the ledge in a side-drift. It was only a few inches thick, but being followed up, it is said, opened up eight feet wide.

ANSELMO.—Sinking on the two shafts is rapidly prosecuted, the west shaft being 320 feet and the east shaft 270 feet in depth. From the 300-foot station in the former, the east drift has been extended 20 feet, the ledge being about a foot wider than in the level above, and the ore showing an improved quality. In the upper workings, the appearance of the ledge has undergone no important change.

MAGNA CHARTA.—The main shaft is down 287 feet. The new Howland pulverizer will be placed in position shortly; it has a capacity of about 20 tons of ore daily. This is about twice the amount of ore that is treated at the mills; and when the pulverizer gets to working, the shipments of the mine will be correspondingly increased.

MONTANA COPPER COMPANY.—The blast-furnace started up on the 4th ult. The matte-producing capacity of the new furnace is estimated at twelve tons daily, which, added to the output of the two other furnaces in operation, will amount to between 18 and 20 tons every twenty-four hours. The 100 tons of ore daily treated are all taken from the 160-foot level of the Colusa.

MOULTON.—The three-compartment shaft has attained a depth of 372 feet; the shaft has been sunk at the rate of two feet per day for the past four days, the granite through which it had to pass being much softer. The frame of the mill will be raised within a week.

NEVADA.

COLUMBUS DISTRICT.

NORTHERN BELLE.—The report of this mine for the week ending June 4th is as follows: The development in the intermediate, between the first and second levels, shows considerable improvement as work progresses. Otherwise, the shaft-levels show no material change, but continue their usual yield. In the levels above the adit, the outlook is very encouraging, the stopes showing no diminution in yield, either as regards the quantity or quality of the ore. During the week, the daily product of ore has been about 82 tons. Mill No. 1 was stopped on May 27th for repairs, but started up again June 1st; ten stamps on Northern Belle and ten on Mount Diablo ore. Shipments of bullion for the week ending June 1st, \$32,203.44; total production for May aggregated \$130,928.55.

EUREKA DISTRICT.

We are indebted to the Ruby Hill Mining News for the following notes: EUREKA CONSOLIDATED.—The new shaft of the Eureka Consolidated will reach the 12th level of the old workings during the present week.

RICHMOND.—The main shaft of the Richmond is down 1000 feet. It is still in quartz, of the same character as that described two weeks since. Six contracts have been let for the present month. The mine is being placed in good working order, and operations can be conducted upon a larger scale than ever when the work of repairing the furnaces is completed.

PROPOSALS AND SALES.

For the benefit of many of our readers, we compile weekly such proposals and solicitations for contracts, etc., as may be of interest. The table indicates the character of proposals wanted, the full name and address of parties soliciting, and the latest date at which they will be received:

Building a Bridge across the Wis-shickon Creek at or near the Site of the Old Red Bridge; Russell Thayer, Superintendent Fairmount Park, Philadelphia, Pa.	June 18, 1881.
Construction of an Ice Pier in the Harbor of New Castle, Del.; J. N. Macomb, Colonel of Engineers, U. S. Army, U. S. Engineer's Office, 1125 Girard street, Philadelphia, Pa.	" 18, "
Estimates for Building Four Iron Bridges over the Bronx River; Department of Public Parks, New York City	" 22, "
Removing the Reefs off Van Wie's Point, Hudson River, near Albany; Removing Part of Sheepshead Reef, Echo Harbor, New Rochelle; John Newton, Colonel of Engineers, Room 31, Army Building, Houston and Greene streets, New York	" 23, "
Dredging Channel, and for Blasting and Removing Rock in New Rochelle Harbor, N. Y.; John Newton, Colonel of Engineers, U. S. Engineer's Office, Room 31, Army Building, corner Houston and Greene streets, New York City	" 27, "
Dredging at Choptank River, Maryland; William P. Craigbill, Lieut., Colonel of Engineers, U. S. Engineer's Office, 70 Saratoga street, Baltimore, Md.	" 30, "
Construction of the Railroads from Bage to Cacequy, and from Cacequy to Uruquayana, in the Province of S. Pedro do Rio Grande do Sul. Particulars can be had by application to the Brazilian Consulate-General, No. 71 Broadway, Room No. 62, New York City	July 4, "
Construction of the Iron Superstructure of a Railroad Bridge over the Savannah River, on the Charleston & Savannah Railroad, near Savannah, Ga.; also, for Completing the Foundations (now in an unfinished condition) of the same Bridge. The Bridge will be about 1000 feet in length, including a Draw-Span. For further information, apply at the Office of the Company, at Charleston, S. C.	" 4, "
Constructing and Erecting Pumping Machinery, having a capacity sufficient to deliver 60,000 cubic feet of water per minute 8 feet high, from the South Branch of the Chicago River into the Illinois and Michigan Canal; Carter H. Harrison, Acting Commissioner Department of Public Works, Chicago, Ill.	" 8, "
Dredging in Mobile Harbor, Ala., in Tampa Bay, Fla., at the mouth of the Suwanee River, Fla., Escambia River, Fla. and Ala., in Apalachicola Bay, Fla., in Pensacola Harbor, Fla.; and for construction of Jetty at Pensacola Harbor, Fla.; A. N. Damrell, Captain of Engineers, U. S. A., U. S. Engineer's Office, Mobile, Ala.	" 9, "

The Philadelphia Gas Trust—Contracts Awarded for Coal.—The Trustees of the Philadelphia Gas-Works met on the afternoon of the 10th, with President Roberts in the chair. The Finance Committee reported that from an examination of the cashier's account the amount on hand at this date was \$566,760.07; cashier's account, \$183.84; total cash on hand, \$566,943.91. The committee has approved bills amounting to \$100,517.68, and offered a resolution, which was adopted, that checks be drawn to the order of the cashier for \$144,816.13, which, with the balance to his credit, \$183.84, will make the sum to be accounted for by him in the next certificate \$145,000, to be applied in payments of bills approved and wages due 15th instant; also, a resolution that the president and cashier be authorized to sign a check for \$118, to pay E. A. Rollins for amount advanced for service-pipe, etc. Professor Rogers reported that the candle-power for May averaged 16'49 candles. Professor Stevens made the highest candle-power 16'44. The chief-engineer reported that City Boiler Inspector Overn had condemned two boilers at the Twenty-sixth ward works, and he recommended that they be displaced. It was referred to the Committee on Works. That committee had reported that the chief-engineer had sent out proposals for gas-coals to nine different parties, and bids were received from six, as follows: West Fairmont, 50,000 tons, at \$5.99; Penn Gas Coal Company, 175,000 tons at \$4.65, gross; Westmoreland Coal Company, 175,000 gross tons at \$4.65; Despard Coal Company, 25,000 (2000 pounds) at \$5.40@5.47; Chesapeake & Ohio, 60,000 tons, gross, at \$4.25; Shaw Brothers, Monongahela coal, 50,000 tons, gross, at \$4.20. On motion of Mr. Stanton, the committee awarded 50,000 tons to Shaw Brothers at \$4.20. On motion of Mr. Manuel, 30,000 tons were awarded to the Chesapeake & Ohio Company, and on motion of Mr. Stanton, the Westmoreland and Penn companies each were awarded contracts for 135,000 tons each at \$4.65. The report was adopted. In answer to the proposals for thirty cast-iron retorts, Messrs. Jesse W. Starr & Son offered to furnish them at 2½ cents per pound; Morris, Tasker & Co. bid 2½ cents per pound, and received the contract.

DIVIDEND-PAYING MINES.

NAME AND LOCATION OF COMPANY.	Feet on Vein.	Capital Stock.	SHARES.		ASSESSMENTS.		DIVIDENDS.		HIGHEST AND LOWEST PRICES PER SHARE AT WHICH SALES WERE MADE.															
			No.	Par Val.	Total levied to date.	Date and amount per share of last.	Total paid to date.	Last Dividend.	June 11.		June 13.		June 14.		June 15.		June 16.		June 17.					
									H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	H.	L.				
Alice, s. c.	Mon	3,000	10,000,000	400,000	25			160,000	June 1881	10	7.25		7.00		7.13		7.13		7.00		7.00		1,620	
American Cons.	Col.							305,000	May 1880	10	42	46	45	47	46	46	45	47	44	45				13,950
Amie Con. s. L.	Col.		5,000,000	500,000	10			40,000	Nov. 1880	20														60
Argenta, s.	Nev.	1,500	10,000,000	100,000	100	130,000	Mar. 1881	20																100
Barbee & Walker, s.	Uth		1,000,000	100,000	10			25,000	Feb. 1880	20														1,680
Bassick, G. s.	Uth		100,000	100,000	100			300,000	Dec. 1879	25	20													100
Belle Isle, s.	Nev.	1,500	10,000,000	100,000	100	30,000	Feb. 1880	30																1,680
B-leher, G. s.	Nev.	1,040	10,400,000	104,000	100	2,323,000	Apr. 1881	75	15,397,200	Apr. 1878	75													690
Bodie Cons., G.	Cal.		10,000,000	100,000	100	75,000	May 1879	1 00	1,200,000	Mar. 1880	25	6.88	6.75	6.88				6.50						690
Breese	Col.		5,000,000	200,000	25			31,320,000	Dec. 1879	50	1.90	1.55	1.60	1.55	1.80	1.60	1.80	1.60	1.75	1.60	1.70	1.60		8,655
California, G. s.	Cal.	600	54,000,000	540,000	100			19,350,000	Apr. 1881	5 00														
Calumet & Hecla, C.	Mch		2,500,000	100,000	25			50,000	Mar 1880	10														
Caribou Con., s.	Col.	1,400	1,000,000	100,000	10			150,000	May 1881	20														
Catalpa, s. L.	Col.		3,000,000	300,000	10			1,100,000	Apr. 1880	60	5.25		5.38	5.25	5.30	5.25	5.50	5.00	5.50	5.25				1,200
Chrysolite, s. L.	Col.		10,000,000	200,000	50			180,000	Aug. 1880	30	5.9		6.0	5.4	6.1	5.90	6.00	5.9	5.5					1,780
Cincinnati, s. L.	Col.		2,000,000	200,000	10			42,930,000	Aug. 1880	50	3.90	3.55	3.80	3.40	3.90	3.60	3.90	3.60	3.75	3.90	3.65	3.85		1,900
Cons. Virginia, G. s.	Nev.	710	54,000,000	540,000	100	411,200	June 1878	3 00	15,000	Nov. 1880	02	1.9	0.7	0.8	0.7	0.8		0.8		0.8	0.9	0.8		45,315
Copper Knob, C.	N. C.		1,000,000	1,000,000	1			25,000	July 1881	10														45,300
Copper Queen	Ariz		2,500,000	250,000	100			25,000	July 1881	10														
Crown Point, G. s.	Nev.	600	10,000,000	100,000	10	2,573,370	Mar. 1881	0 50	11,588,000	Jan. 1875	2 00													
Deadwood Terra G.	Uth		5,000,000	200,000	20			4340,000	June 1881	20	1.35	1.00	1.20	1.10	1.15	1.10	1.00	1.00	1.00	1.00	1.00	1.00		45
Dunkin, s. L.	Col.		5,000,000	200,000	25			4,630,000	June 1881	50	33.00													20,840
Eureka Cons., G. s. L.	Nev.		5,000,000	50,000	100	100,000	May 1876	1 00	860,000	Sept. 1880	25	1.94		1.50	1.38	1.25		1.75		1.50	1.25	1.63	1.50	1,190
Excelsior W'r & M. Co.	Cal.	525 acres	10,000,000	100,000	100	100,000	June 1881	1 00	30,000	June 1881	10													
Evening Star, s. L.	Col.		10,000,000	100,000	10			340,000	July 1881	25														
Father de Smet, G.	Dak		2,000,000	200,000	1			50,000	May 1880	25														
Findley, G.	Geo.		200,000	200,000	1			50,000	May 1880	25														
Freeland, s.	Col.		5,000,000	200,000	25			50,000	May 1881	10	1.70	1.65	1.85	1.80										2,700
Glass Pendery, s. L.	Col.		5,000,000	250,000	20			90,000	July 1881	15														
Gold Strips, G.	Cal.		1,500,000	150,000	10			3,826,800	Oct. 1870	10 00														700
Gould & Curry, G. s.	Nev.	612	11,200,000	112,000	10			16,000	Sept. 1880	0 25														100
Grand Prize, s.	Nev.	1,500	10,000,000	100,000	100	290,000	May 1881	50	1,598,000	Apr. 1871	5 00													700
Great Eastern, G.	Dak	1,200	300,000	300,000	1			165,625	June 1881	7 1/2	5.75													4,200
Green Mountain, G.	Cal.	4,350	1,250,000	125,000	10			1,598,000	Apr. 1871	5 00														
Hale & Norcross, G. s.	Nev.	400	10,000,000	100,000	10	3,642,000	May 1881	50	180,000	July 1881	10	1.10	.98	1.10	1.05	1.00								80,355
Hibernia, s. L.	Col.		7,500,000	300,000	25			200,000	Jan. 1880	25	16.00				17.75	17.25	18.00	17.38	17.50	17.00				1,410
Homestake, G.	Dak		10,000,000	100,000	100	200,000	Apr. 1878	1 00	210,000	Dec. 1878	10	1.40	.93	.95				1.00		.98	.95	.97		1,800
Horn-Silver, s. L.	Uth		10,000,000	400,000	25			39,000	July 1881	7 1/2														
Hukill, G. s.	Col.	3,288	1,000,000	200,000	5			150,000	Jan. 1880	15	1.30				1.40			1.40		1.40	1.35	1.35		2,525
Independence, s.	Col.	1,500	10,000,000	100,000	10	36,000	Feb. 1881	15	78,000	Oct. 1878	15													
Indian Queen, s.	Nev.		250,000	125,000	5			70,000	Aug. 1880	50	1.40	1.35	1.40	1.35	1.40	1.35	1.40	1.35	1.45	1.30				5,100
Iron Silver, s. L.	Col.		10,000,000	500,000	20			1,350,000	Aug. 1880	50	3.25	3.13	3.15		3.00		3.15	3.05	3.15	3.00	3.10	3.00		2,050
La Plata, s. L.	Col.		2,000,000	200,000	10			90,000	July 1879	50														
Leadville Cons., s. L.	Col.		4,000,000	400,000	10			560,000	Mar. 1878	25					1.35		1.35	1.30						850
Leeds, s.	Uth	9,000	10,000,000	100,000	10	36,000	Feb. 1881	15	25,000	Mar. 1881	25	.80	.77	.75	.70	.78	.70		1.35	1.30				3,100
Little Chief, s. L.	Col.		10,000,000	200,000	10			25,000	July 1879	10														
Little Pittsburg, s. L.	Col.	30 acres	20,000,000	200,000	100			1,800,000	July 1880	7 1/2					22.00	21.75	20.50		18.00		18.75			570
Martin White, s.	Nev.	22,900	10,000,000	100,000	100	85,000	Mar. 1881	25	90,000	July 1879	50													260
Moore, s.	Col.	39,000	2,000,000	200,000	10			560,000	Mar. 1878	25					1.35		1.30							100
Navajo, s.	Nev.	500	10,000,000	100,000	100	175,000	Dec. 1880	0 20	25,000	Mar. 1881	25	.80	.77	.75	.70	.78	.70		1.35	1.30				250
N. Y. & Colorado, G.	Col.		1,000,000	50,000	100			25,000	July 1879	10														150
Northern Belle, s.	Nev.	1,600	5,000,000	50,000	100			1,800,000	July 1880	15					32									570
North Belle Isle, s.	Nev.	1,500	10,000,000	100,000	100	25,000	Feb. 1880	15	15,000	Sept. 1880	15													260
Ontario, s.	Uth	3,000	10,000,000	150,000	100			3,475,000	June 1881	50	37.00													100
Ophir, G. s.	Cal.	675	10,000,000	100,000	10	3,092,000	Mar. 1881	1 00	1,093,200	Jan. 1880	1 00													250
Plumas, G.	Cal.		1,000,000	100,000	10			151,000	July 1879	8					2.60									10
Rising Sun, s.	Cal.		750,000	150,000	5			210,250	May 1881	25					2.60									120
Robinson Cons., s. L.	Col.		10,000,000																					

NON-DIVIDEND PAYING MINES.

NAME AND LOCATION OF COMPANY.	FEET ON VEIN.	CAPITAL STOCK.	NUMBER OF SHARES.	ASSESSMENTS.		HIGHEST AND LOWEST PRICES PER SHARE AT WHICH SALES WERE MADE.										SALES.		
				Total levied to date.	Date and amount of last.	June 11.		June 13.		June 14.		June 15.		June 16.			June 17.	
						H.	L.	H.	L.	H.	L.	H.	L.	H.	L.		H.	L.
Albion, s. L.	Nev.	15,000.00	150,000	150	May, 1881	35	2.10	1.90	2.05	2.05	2.10	1.90	2.00	1.90	1.00			
Antipattans, g	Mont.	5,000,000	500,000	10			24c	24c	25c						7,638			
Am. Mts.	Colo.	1,250,000	125,000	10			5c	5c							200			
Bald Mountain, g.	Nev.	1,000,000	100,000	10			1.30	1.30							7,500			
Barcelona, g	Nev.	5,000,000	500,000	25						1.25	1.25	1.30	1.35		800			
Battle Creek.	Colo.	5,000,000	500,000	25						75c	75c	71c	73c		7,400			
Bar Creek	Colo.	30,000	30,000	1						75c	75c	71c	73c		204			
Bechtel Con., g.	Cal.	10,000,000	1,000,000	100	162,750	Dec. 1880	0.15			89c	89c			90c	50c			
Best & Decher, g. s.	Nev.	10,080,000	1,008,000	100		Mar. 1881	50					16.25			204			
Big Pittsburg, s. L.	Colo.	20,000,000	2,000,000	100			2.75	2.75	2.70	2.60	2.55	2.40	2.20	2.05	1.75			
Black Jack, g.	Mont.	2,500,000	250,000	25			1.25	1.25	1.8c	1.8c	1.30	1.00	1.20	1.15	1.10			
Bonanza Chief	Mont.	1,000,000	100,000	25			23c	23c							15,400			
Bondholder	Cal.	10,000,000	1,000,000	100	30,000	April 1881	30	55c	50c	50c	53c	50c	51c	49c	2,500			
Boston Con, g.	Colo.	2,000,000	200,000	10			75c	71c			70c	65c	62c	78c	6,000			
Boulder Con, s.	Colo.	2,000,000	200,000	10					10c	11c	11c	11c	11c	10c	8,600			
Bradshaw, s.	Colo.	100,000	100,000	1					2.40	2.25	2.55	2.35	2.35	2.25	1,900			
Buckeye, s.	Colo.	10,000,000	1,000,000	50	475,000	May 1881	50					2.50	2.50	2.35	1,413			
Bull-Domingo, s. L.	Nev.	10,000,000	1,000,000	100	30,000	Dec. 1877	50					2.90	2.90	3.00	270			
Bullion, g. s.	Cal.	10,000,000	1,000,000	100					2.87	2.75	2.90	2.80	2.90	3.00	12,400			
Bulwer, g.	Cal.	10,000,000	1,000,000	100					40c	38c	40c	41c	42c	41c	39c			
Bye and Bye.	Cal.	1,000,000	100,000	10					18c	15c	16c	15c	16c	15c	7,400			
Calaveras, g.	Cal.	2,500,000	250,000	25					1.85	1.85	1.85	1.80	1.75		400			
Cal., B. H. g.	Dak.	10,000,000	1,000,000	100	400,000	Mar. 1881	0.25	1.90				1.5c			1,000			
Carbonate Hill, s. L.	Colo.	4,000,000	400,000	40					10.63			10.75	10.50		300			
Catskill, s.	Nev.	1,500,000	150,000	15					1.70	1.65	1.70	1.65	1.70		3,500			
Central Arizona, s.	Ariz.	1,000,000	100,000	10					65c	62c	70c	66c	74c	70c	87c			
Cherokee, g.	Cal.	1,500,000	150,000	15					28c	27c	28c	28c	28c	28c	200			
Chryseus Cons, g.	Dak.	30,000	30,000	3					1.70	1.50	1.55	1.05	1.50	1.55	1,500			
Colorado Central, s.	Colo.	3,000,000	300,000	30					1.70	1.50	1.55	1.05	1.50	1.55	1,500			
Columbia Con., g. s.	Nev.	5,000,000	500,000	50					28c	27c	28c	28c	28c	28c	7,500			
Cons. Imperial, g. s.	Cal.	5,000,000	500,000	50	1,375,000	April 1881	0.15	28c	27c	28c	28c	28c	28c	28c	2,500			
Cons. Pacific, g.	Cal.	6,000,000	600,000	60	90,000	July 1880	0.50	1.70	1.30		1.30	1.55	1.05	1.50	3,700			
Cons. Pay Rock, s.	Colo.	2,500,000	250,000	25					17c	17c	17c	16c	15c	17c	400			
Crescent, s. L.	Colo.	3,000,000	300,000	30											270			
Crowell, g.	N. C.	250,000	250,000	1					17c	17c	17c	16c	15c	17c	590			
Dalhousie, g.	Cal.	1,000,000	100,000	10											100			
Dardanelles, g.	Cal.	1,000,000	100,000	10											300			
Dunderberg, s.	Colo.	1,500,000	150,000	15											100			
Durango, g.	Dak.	500,000	500,000	5											100			
Empire, s.	Utah	10,000,000	1,000,000	100					32c	31c	33c	35c	31c	35c	51c			
Enterprise	Cal.	10,000,000	1,000,000	100	75,000	Jan. 1881	0.25	32c	31c	33c	35c	31c	35c	51c	17,600			
Glynn Dale Con. g	Colo.	10,000,000	1,000,000	100											200			
Gold Placer, s.	Colo.	5,000,000	500,000	50											200			
Goodshaw, g.	Cal.	10,000,000	1,000,000	100	145,000	Feb. 1881	15	45c	5c						20,900			
Granville, g.	N. C.	1,231 acres	100,000	100					0c	5c	6c	5c	5c	5c				
Harshaw, s.	Ariz.	10,000,000	1,000,000	100	55,000	May 1881	30								1,500			
Head Center, s.	Nev.	2,000,000	200,000	20					41c						100			
Hortense, s.	Nev.	11,000,000	1,100,000	110											100			
Julia	Colo.	1,000,000	100,000	10											7,500			
Kossuth	Colo.	1,000,000	100,000	10					32c	31c	31c	33c	31c	34c	39c			
La rosse, g.	Colo.	1,000,000	100,000	10											900			
Legal Tender, s. L.	Colo.	2,000,000	200,000	20	35,000	Mar. 1881	25								4,200			
Leviathan, s.	Nev.	10,000,000	1,000,000	100					1.25	1.20	1.30	1.20	1.30	1.20	4,200			
L. Leane, s.	Nev.	5,000,000	500,000	50					1.25	1.20	1.30	1.20	1.30	1.20	4,200			
Malachite	Cal.	1,000,000	100,000	10					2.80	2.50	2.50	3.50	3.00	3.00	1,750			
Mariposa	Cal.	5,000,000	500,000	50	1,425,000	Dec. 1880									1,300			
Mariposa common, g.	Cal.	5,000,000	500,000	50	1,425,000	Dec. 1880									1,300			
May Belle, s.	Colo.	1,000,000	100,000	10	65,000	Mar. 1881	0.10											
Mayflower, s.	Colo.	1,000,000	100,000	10														
McClean, g. s.	Nev.	1,000,000	100,000	10	1,453,200	Jan. 1881	0.50								470			
Michigan Syndicate	Mex.	10,000,000	1,000,000	100														
Mineral Creek, s.	Ariz.	2,000,000	200,000	20					1.75	1.70	1.75	1.70	1.70	1.75	6,100			
Miner Boy, g. s. L.	Colo.	5,000,000	500,000	50	325,000	May 1881	50	92c	85c	94c	90c	90c	93c	10c	99c			
Mono, s.	Colo.	5,000,000	500,000	50											55,100			
Moose Silver, s.	Ariz.	500,000	500,000	5														
Nevada Syndicate	Cal.	10,000,000	1,000,000	100											700			
North Standard, g.	Cal.	10,000,000	1,000,000	100											1,500			
North Horn Silver, s. L.	Utah	4,000,000	400,000	40					60c						500			
Noonday	Cal.	6,000,000	600,000	60														
Old Dominion, g.	Ariz.	2,000,000	200,000	20														
Oriental and Miller, s.	Nev.	10,000,000	1,000,000	100					2.05	1.75	1.90	1.45	1.85	1.55	2.05			
Overman, g. s.	Nev.	3,840,000	384,000	38											51,000			
Overman preferred	Cal.	8,500	8,500	1					62.00						500			
Overman common	Cal.	4,291,300	429,130	43											200			
Rappahannock, g.	Va.	345 acres	345,000	345					20c	19c	20c	20c	20c	17.25	8,800			
Red Elephant, s.	Colo.	5,000,000	500,000	50					21c	18c	21c	22c	21c	22c	18,900			
San Pedro, g. s. L.	N. M.	10,000,000	1,000,000	100					4.25	4.20	4.15				1,100			
Silver Cliff, s.	Ariz.	10,000,000	1,000,000	100					6.50	6.00	6.50	6.38	6.75	6.50	6.63			
Silver Nugget, s.	Ariz.	2,000,000	200,000	20					67c	55c	59c	64c	60c	62c	6.50			
Silver Nugget, new stock, s.	Ariz.	2,500,000	250,000	25					1.00	75c	73c	74c	84c	80c	73c			
South Bodie, g.	Cal.	1,500	100,000	100	85,000	Nov. 1881	0.25	7c							400			
South Bulwer, g.	Cal.	1,500	100,000	100	125,000	May 1881	0.25	7c							18,800			
South Hite, new stock.	Cal.	1,500	100,000	100					1.05	1.05	1.05	1.00	90c	1.05	95c			
State Line No. 1, s.	Nev.	5,000,000	500,000	50					2.05	1.95	2.20	1.90	2.10	2.00	2,650			
" No. 2, s.	Nev.	5,000,000	500,000															

The La Plata Mining and Smelting Company announces its regular dividend of seven and a half cents per share, aggregating \$15,000, payable on the 1st of July.

This makes \$340,000 thus far disbursed by this company to its stockholders. At the stockholders' meeting held by this company on the 16th inst., the following trustees were elected: G. W. Thorne, N. Witherell, Theodore Berdell, George A. Thorne, Vanderbilt Allen, M. E. Smith, Harry Allen.

The Northern Belle Mining Company announces its usual monthly dividend of fifty cents per share. An extra dividend of twenty-five cents per share is also declared.

The Starr-Grove Mining Company has declared regular monthly dividend No. 8, of one per cent of the capital stock of the company, payable June 30th to stockholders of record June 21st.

OFFICIAL LETTERS.

Bye and Bye.—A recent letter from this mine says work is being rapidly pushed on the lower tunnel, and the ledge is being cross-cut to determine the full width of the vein. The ore-body is said to be larger, the vein stronger, and the ground higher than that of the Longorino, an extension of the Bye and Bye lode.

Catalpa.—A recent letter from the superintendent says:

The two drifts, the first and third, running west from Slawson drift, show a continuous streak of mineral, that furnishes about six tons of ore a day, carrying 50 ounces of silver and 40 per cent lead to the ton. In the Stanley drift, under the old workings, a body of mineral has been opened that looks very rich. There is no material change in winze. The quality of mineral still improves as we run toward the Evening Star.

Chapparral.—A recent letter from the superintendent of this mine states:

Tunnel No. 1 in 178 feet; tunnel looking splendid; width of ledge same as last report. Contract price of Tunnel No. 2, \$6 per foot; work progressing; ground hard and firm; formation same as Tunnel No. 1 north, being slate and greenstone. Every thing about the mine looking exceedingly well. The last contract on Tunnel No. 1 north will be completed in a few days. Will immediately let another, and push things in anticipation of increasing milling facilities.

Excelsior Water and Mining Company.—The secretary telegraphs, under date of the 13th inst.:

Excelsior in better shape than for some time. Can corral tailings without violating injunction. Will continue work at reduced wages.

Father de Smet.—The superintendent reports, for the week ending June 8th, that 1200 tons of ore were extracted from first level, 600 tons from second level, and 32 tons from third level. During the week, 1832 tons of ore were milled. Cook's contract on sill-floor of McGinty chamber was advanced one set. The prospect-drift running south, east cross-cut, second level, has been advanced 8 feet.

Gold Stripe.—The superintendent reports the mills running full time. The Wisconsin mill is running on ore from the Lawrence. The rise in the Goodwin ledge is opening out good ore. The shaft in No. 3 is in hard-running country-rock, but a change is expected soon.

Horn-Silver.—The general manager telegraphs, under date of the 13th inst., that the new smelter is in blast and every thing progressing favorably.

Satemo.—The superintendent telegraphs from this mine, which is located in Nova Scotia, under date of June 10th:

I send you to-day by express another brick of gold. During most of the month, I have been doing dead-work; but with 20 feet more of sinking, there will be stoping ground enough to last a year. By the time the new mill is finished, I shall have plenty of rich quartz ready, and then look for a boom in Nova Scotia.

Standard.—From the superintendent's letter, covering this company's operations for the week ending June 4th, we extract the following: The shaft has reached the depth of 1034 feet; all the various levels, drifts, etc., continue to look well.

REVIEW OF THE SAN FRANCISCO MARKET.

Comparing the prices of the San Francisco stocks at the close of the market yesterday with those published in our last, a decline is observed extending almost uniformly throughout the list. Yellow Jacket closed yesterday at \$5½, the best price of the week, and a slight advance over that recorded in our last. It is said that the main pump in this mine is working satisfactorily, and that the water has been reduced below the 2700-foot level. Sierra Nevada has fallen \$3 per share for the week. Advices regarding this mine are conflicting. A recent letter states that sinking has been resumed in the Osbiston shaft; that the Sierra Nevada cross-cuts had been ad-

vanced thirty-five feet, the ground being a mixture of quartz and porphyry, with small streaks of clay. Both Mackey and Fair are in San Francisco, and Mr. Fair is credited with the statement that development (by which it is presumed he means cross-cutting, will soon begin in the Bonanzas on the Comstock, although, as pertinently remarked by our contemporary, the *Evening Post*, the public has as yet no evidence of the existence of these bonanzas. Union Consolidated has not fluctuated so violently as Sierra Nevada, the closing price yesterday of \$13¾ showing a decline of less than \$1 per share for the week. It is stated that this mine is extracting about 350 tons of ore per week, which has an assay value of \$40 per ton. Active work appears to be going forward in all the principal mines, and it is possible that some ore may yet be struck; but it is well to exercise the greatest caution in investing in any of these stocks, as almost any value desired may be placed upon them by the co-operation of a few persons supposed to control them. The San Francisco boards, it is announced, will adjourn from the 1st to the 6th of July, inclusive. The *San Francisco Commercial Herald* of the 9th inst. reviews the condition of the market as follows:

Mining stocks have not changed much since our last report. Rumors of a "deal" are afloat, making it a certainty that such and such stocks will go to a named price, a slow upward movement showing itself in the mean time, under very considerable sales, which we would hold as rather unfavorable for the attainment of the advanced prices named, because under so large an output on a small upward tendency it looks as though the outsiders were allowed to have all they want, having constantly in view the gain they will obtain at the rumored high figure, and not dreaming that the holders are at present more than doubling their investments by selling. We hope we are wrong in our present view of the market.

The Financial Condition of Certain San Francisco Mining Companies.—The San Francisco Exchange of June 4th reports the financial condition of the mining companies named as follows:

Name.	Receipts.	Disbursements.	Indebtedness.	Cash on hand.
Belmont	\$3,388	\$3,138	\$5,752	\$250
Belding	1,147	20	10	1,127
Betty O'Neal		13,747	13,747*	
Bulwer Con.	16,945	8,088		60,098
Challenge		497	418	
Chollar		4,805		20,698
Day	3,043	30,431	2,352	3,024
Hale & Norcross	21,834	30,700	15,251	
Imperial	44,347	16,506		21,377
Lewis	2,929	1,047		982
Mammoth Bar	106	125	181	
Mexican	21,300	21,130		242
Mono	17,786	17,786	35,821	
Mount Diablo	238	27,297	34,908	
Navajo	44,167	26,380	1,012	7,778
Ophir	33,193	33,614		2,176
Potosi		4,851		14,018
Saratoga	8,190	28		8,161
Spaulding	140	722	10	594
Silver Hill	2,187	2,970		889
Standard	152,372	40,167		228,266
Steep Hollow	2,149	2,149	12,758	
Tioga	3,842	3,842	119	
Wedge Con.	1,859	1,859		163
Alta	547	14,255	761	34,166
Benton	41	6,475		5,025
Grand Prize	14,216	14,216	5,188	
Argenta	11,910	2,575		9,335
Independence	17,600	11,422		6,177
N. Belle Isle	6,477	2,355		4,121
Belle Isle	4,875	4,875	8,514	
Oro	7,233	5,819	24	1,413
Star	32,864	26,729	10,514	6,135
Lady Washington	10,806	155	2,952	641

* Overdraft.

The receipts in the case of Belding, Saratoga, North Belle Isle, and Oro consisted of cash on hand May 1st. Mono will get \$24,347 from a pending assessment. Alta reports available assets, \$2765.

The San Francisco Bulletin reports Consolidated Virginia in debt June 1st, \$28,285; California, \$75,766; Union Consolidated, \$23,123; Albion, \$26,636; Alpha, \$13,744, and Star, \$4379. Other companies reported cash balances as follows: Argenta, \$9335; Belcher, \$77,500; Bodie, \$22,712; Bullion, \$7067; Caledonia B. H., \$7154; Caledonia, Nev., \$455; Crown Point, \$14,795; Exchequer, \$3552; Gould & Curry, \$7951; Leeds, \$556; Martin White, \$5919; New York, \$721; Occidental, \$8421; Overman, \$18,113; Sierra Nevada, \$34,907; Utah, \$2126, and Western, \$155,636.

The balance-sheet of the Caledonia (B. H.) Company, presented at the company's meeting in San Francisco on June 7th, shows: Receipts since the organization of the company—voluntary assessment, \$5000; assessments, No. 1 to No. 11, \$433,368.51; bullion sold in Black Hills, \$244,907.85; Bank of California overdraft, \$4426.47. Disbursements, \$687,580.63. Cash on hand, \$122,20.

The monthly statement for May of the Albion Consolidated Mining Company shows: Assets—cash on hand, \$1264.88; balance of assessment No. 7 to be collected, \$36,559. Liabilities, \$64,459.97. Balance (deficiency), \$26,636.09.

At the regular meeting of the Leeds Mining Company, held in San Francisco on the 14th inst., the financial statement showed that the total net receipts of bullion since the organization of the company have amounted to \$581,579.07; assessments collected, \$23,791.50; dividends paid, \$78,000; cash on hand, \$1052.05.

A regular meeting of the Clara Consolidated Company was held in San Francisco on June 7th, when the balance-sheet showed that \$25,000 has been collected in assessments since the organization of the company, and \$3784.10 has been received for bullion. Disbursements, \$28,688.05. Cash on hand, \$96.05.

SAN FRANCISCO MINING STOCK QUOTATIONS.
Daily Range of Prices for the Week.

NAME OF COMPANY	CLOSING QUOTATIONS.						Open- ing, June 17.
	June 10.	June 11.	June 13.	June 14.	June 15.	June 16.	
Alpha	4¼	3¾	4¼	4¼	4¼	4	
Alta	4¼	3¾	4¼	4¼	4¼	4	
Argenta							
Bechtel	29-32		27-32	29-32	29-32	31-32	
Belcher	3¾	3¾	3¾	3¾	3¾	3¾	
Belle Isle							
Best & Bel.	15¼	15	16	15¼	15¼	15¼	
Bodie	7¼	7¼	7¼	7¼	7¼	7¼	
Bullion	1	21-32	15-16	29-32	27-32	29-32	
Bulwer	27						
California	1¾	1¾	1¾	1¾	1¾	1¾	
Chollar	3	2¾	2¾	2¾	2¾	2¾	
Con. Imp.							
Con. Pacific							
Con. Va.	4	3¾	3¾	3¾	3¾	3¾	
Crown P'int	3	2¾	2¾	2¾	3	3	
Eureka Con.		33	31	32½	31¼	31	
Exchequer	1½	1½	1½	1½	1½	1½	
Goodshaw							
Gould & Cur	8¼	8¼	8¼	8¼	8¼	8¼	
Grand Prize	11-32	5-16			5-16	5-16	
Hale & Nor.	4¾	4¾	4¾	4¾	4¾	4¾	
Mar. White							
Mexican	12¼	11¾	13¼	12¾	12¾	12¾	
Mono	27-32	2¾	2¾	2¾	2¾	2¾	
Navajo					11-16	11-16	
North Belle	21¼	21¼	21	20	18	19	
Noonday	1¾	1¾		1½	1½	1½	
Ophir	8¼	8	8¼	8¼	8¼	8¼	
Oro	21-32	19-32	19-32	19-32	19-32	19-32	
Overman	1½	1½	1½	1½	1½	1½	
Potosi	3¼	3¼	3¼	3¼	3¼	3¼	
Savage	3¾	3¾	3¾	3¾	3¾	3¾	
Scorpion	1¾	1¾	2	2	2	2	
Sierra Nev.	16¾	15¾	16¼	15¾	15¼	15¼	
So. Bulwer	22½	22½	22	21½	21½	21½	
Tioga		3-32			3-32		
Tip Top	2¾	3		3	3¾	4	
Tuscarora							
Union (on	13¼	12¾		14¼	13¾	13¾	
Wales Con.	1¾	1¾	1¾	1¾	1¾	1¾	
Vel. Jacket.	5¼	5¼	5¼	5¼	5¼	5¼	

Philadelphia.

PHILADELPHIA MINING STOCK EXCHANGE.

NAME OF COMPANY.	Opening June 9.	Highest during the week.	Lowest during the week.	Closing June 15.	Total shares sold.
Argent	.37	.40	.33	.34	73,500
Bl'ck Sulphuret	.60	.65	.60	.65	2,100
Bodie Chief	.20	.20		.20	4,500
Buena	.25	.25	.22	.23	17,800
Chrysolite	5.25	5.25		5.25	1,000
Cincinnati	.71	.74	.63	.65	8,200
Compromise	.20	.20		.20	200
Crown	.05	.05		.05	7,700
Dauntless	.07	.08	.05	.07	31,500
Denver City Con.	1.30	1.30		1.20	400
Diam'nd Tunnel	3.80	3.80		3.80	2,500
Fairview Con.	.04	.05	.04	.04	10,000
Girard	2.15	2.20	2.15	2.20	400
Golconda	.29	.29	.28	.28	13,400
Governor Group	.60	.60	.58	.59	1,300
Grand Union	.09	.09	.08	.08	14,500
Great Eastern	.27	.27	.24	.26	11,800
G'n's'n Imp't Co	1.05	1.05	1.00	1.00	7,600
Hibernia Con.	1.05	1.05	1.00	1.05	10,200
Hukill	.92	.95	.92	.95	2,000
Iowa Gulch	.44	.44	.40	.41	21,900
Leadville Con.	1.30	1.45	1.30	1.40	2,400
Little Chief	1.35	1.45	1.35	1.40	5,500
Long & Derry	.08	.10	.07	.08	45,200
Mt. Lincoln	.08	.09	.08	.08	1,000
National	.03	.03	.02	.03	4,100
Orion	1.15	1.25	1.15	1.20	1,400
Penn Breck	.12	.12	.11	.11	2,700
Permanent	.42	.44	.42	.44	2,600
Pizarro	.07	.07		.07	8,000
Rainbow	.35	.35		.35	1,100
Rara Avis	.82	1.05	.80	.95	4,800
Rico Pioneer	.08	.08		.08	1,000
San Pedro Con.	.51	.55	.51	.53	13,700
Silver Cord	1.20	1.25	1.20	1.25	600
South Hite	1.05	1.10	1.00	1.05	6,000
Tombstone	5.60	5.75	5.25	5.25	700
Victor	.03	.05	.03	.04	32,200

The market has improved greatly. Several important strikes have been made in properties belonging to Philadelphia corporations, tending to strengthen the feeling of the entire market. The following dispatch, dated Central City, Colo., June 12th, has been received from the superintendent of the Rava Avis, Mr. H. H. Boucher: Shaft down two hundred and ninety-four feet. Crevice increasing in size and richness. Three assays to-day of bottom ore give average value four hundred and ninety-six dollars per cord. The Willis Creek Mining Company is placing a valuable Virginia property on the market. Governor's Group has its machinery nearly erected, and in less than twenty days expect to have the mill in operation. Buena has made the acquisition of two mining properties adjoining; it now possesses three claims. The

COAL STOCKS.

NAME OF COMPANY.	Capital Stock.	SHARES.		Last Dividend.	Rate per Ann.	Quotations of New York stocks are based on the equivalent of \$100. Philadelphia prices are quoted so much per share.												Sales from June 10th to 17th inclusive.
		No.	Par Val.			June 11.		June 13.		June 14.		June 15.		June 16.		June 17.		
						H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	
Am. Coal Co.	1,500,000	60,000	25		45	45	44	44	43	43	43	43	43	43	43	43	17,220	
Cameron C.I.	2,500,000	50,000	50		45	45	44	44	43	43	43	43	43	43	43	43	10,041	
Col. C. & L.	10,000,000	100,000	10		31	30	31	31	31	31	31	31	31	31	31	31	6,428	
Ches. & R.R.	15,000,000	150,000	100		41	40	40	40	40	40	40	40	40	40	40	40	700	
Consol. Coal.	10,250,000	102,500	100	Jan. 77	2 1/2												100	
Cumb. C. & I.	500,000	5,000	100														100	
Del. & H. C.	20,000,000	200,000	100	May 81	1 1/2												7,750	
D. L. & W. R.R.	28,930,000	289,300	50	Mar. 81	1 1/2												131,200	
Elk Lick C. Co.																		
Lehigh C. & N.	10,448,550	208,971	5	Sept 76	1 1/2	5 1/2	4 7/8	4 7/8	4 7/8	4 7/8	4 7/8	4 7/8	4 7/8	4 7/8	4 7/8	4 7/8	7,415	
Leh. V. & R.	27,042,900	540,858	50														803	
Mary'd Coal	4,400,000	44,000	100	Jan. 76	1 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	1,650	
Montauk C.I.	2,500,000	25,000	100															
Morris & Es'x	15,000,000	300,000	50														720	
New Cen. C.I.	5,000,000	50,000	100	Dec. 80	2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	2,150	
N. J. C. R.R.	20,600,000	206,000	100	Apr 76	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	43,610	
Penn. Coal.	5,000,000	50,000	100	Oct. 79														
Penn. R. R.	68,870,200	1,377,404	50	May 81	4	6 1/2	6 1/2	6 1/2	6 1/2	6 1/2	6 1/2	6 1/2	6 1/2	6 1/2	6 1/2	6 1/2	20,462	
Ph. & M. R.R.	34,278,150	685,563	50	Jan 76	2 1/2	10	6 1/2	6 1/2	6 1/2	6 1/2	6 1/2	6 1/2	6 1/2	6 1/2	6 1/2	6 1/2	19,168	
Spring Mt. C.I.	1,500,000	30,000	50															

* Of the sales of this stock, 14,493 shares were sold at the Philadelphia Stock Exchange, and 4,675 shares at the New York Stock Exchange.
 † 110% \$126% \$104% Total Sales..... 309,414

Minerva Mining Company is being organized with a capitalization of \$40,000, divided into 400 shares at \$100 each. Messrs. Tracy & Vallance, of Philadelphia, the financial agents of the North Horn-Silver Mining Co., report that very large subscriptions for this stock have recently been made by capitalists in New York and Boston. This mine is one of the most promising properties represented in this city.

Copper and Silver Stocks.

Reported by C. H. Smith, 15 Congress street, Boston. Stock Broker and Member of the Boston Mining and Stock Exchange.

BOSTON, June 16.

The market continues to rule heavy, with but little doing in copper stocks, and a constant tendency to lower prices. The sales of the week at the regular Stock Exchange, where the principal business in copper stocks is transacted, will not aggregate much over 4000 shares, while at the Mining Exchange the transactions in one stock alone (Empire) reached upward of 140,000 shares. The speculation runs entirely on the low-priced silver stocks, and until some movement is started in ingot copper the copper stocks will remain inactive, and prices continue to decline. Calumet & Hecla has ruled dull at a decline from \$238@233, on sales of about 100 shares only.

Copper Falls declined from \$7@6. Franklin has just about held its own on the good reports from the mine; sales, \$11 1/2@11 1/4. The Portage Lake Gazette says: It will no doubt be of interest to the stockholders of the Franklin to hear that the mine underground at no period of its history looked better than it does at this time; and if copper rules at its present figure for the balance of the year, the earnings of the industry will be sufficient to pay an exceedingly handsome interest on its shares at double their present price. No. 2 shaft, which has just reached the 210-fathom level, for a long distance passed through lode-matter rich in stamp and barrel work. In a winze north of this shaft, sinking below the 200 level, the deposit is of unusual width and filled with mineral of all grades. No. 5 shaft, now sinking under the 170 level, is opening out some of the best ground for barrel and stamp copper ever seen in this part of the mine. In a word, the stops, drifts, shafts, and winze openings in the Franklin, in the way of productivity, are all that could be desired, which, coupled with the fact that the machinery plant of the mine is now very efficient and in good order, shows our sanguine expectations touching the future of the industry to be more than well founded.

Pewabic dull as ever, with sales at \$13, a decline of \$1% from last week. Quincy is the only strong point in the market, and has advanced from \$37 1/2@38 1/4, due, however, to the manipulations of certain parties who are largely interested and long of the stock.

Osceola advanced from \$32 1/2@33, but finally declined to \$32. Sales of Huron at \$4. Messard, \$1 1/2. Star, \$1. Allouez, \$2@2 1/4. Blue Hill steady at \$4.

The yield of the mines in the Portage Lake District that have handed in their product for May was: Calumet & Hecla, 1693 tons 885 lbs.; Quincy, 150 tons 1850 lbs.; Atlantic, 150 tons 1380 lbs.; Franklin, 131 tons 500 lbs.; Allouez, 90 tons 310 lbs.; Pewabic, 70 tons 400 lbs.; Hancock, 41 tons; Huron, 13 tons 1230 lbs.

In silver stocks, Bonanza Development has been quite active, and advanced from \$5@5 1/4, closing \$5 1/4. Catalpa fairly active at \$3 1/4@3 1/2. Crescent steady at \$1 1/4. Harshaw declined to \$8 and advanced to \$9. Silver Islet declined from \$4 1/4@4 3/4 in the early dealings, but on good buying orders it advanced to \$4 6/8. San Pedro advanced from \$4@4 1/4. Duncan Silver dull at \$2 1/4@2 1/4. Sullivan declined from \$3@3 1/4, but again advanced to \$3 1/4.

At the Boston Mining and Stock Exchange there has been a large business done in the leading stocks, nearly all at a decline, and at one time it seemed as if every one was anxious to clean out his stocks at any price. Empire, as usual, was the leading card, opening at \$3c, and declining on immense sales to 55c., which was the culminating point, and from which it rallied, sold up to 72c., and closed at 67c., sales and bid; over 140,000 shares changed hands. Milton was the next in activity, with sales of over 20,000 shares at 57@64c. regular, and 52c. seller 60 to 70, buyer 60.

Dunkin has also been largely dealt in, and has steadily declined from \$1.37 1/2@90c.; sales aggregate about 17,000 shares. The decline in this stock is said to be due to the poor grade of the ore, and the probability of passing the next dividend.

Massachusetts & New Mexico declined to \$50, after selling at \$55, and closes \$51 bid.

Copperopolis has ruled steady at \$1.65@1.67. Mendocino firm at \$4 1/4, and all stock offered at that is quickly taken.

Arizona & Massachusetts has advanced to 95c.@\$1. closing 95c. bid for round lots.

3 P.M.—There was no special change in the market this afternoon. Bonanza sold at \$5 1/4; Catalpa, \$2 1/4; Empire, 67@70c.; San Pedro, \$4 1/4; Osceola, \$32 1/4; Calumet & Hecla, \$230 bid; Atlantic, \$12 bid; Copper Falls, \$6 bid; Franklin, \$11 1/4 bid; Silver Islet, \$45 bid; Pewabic, \$13 asked; Harshaw, \$8 1/2@8; Huron offered at \$4, and National at \$2; Dunkin, 95c. bid.

Boston.

The following is a synopsis of the transactions in mining stocks at the Boston Stock Exchange, and at the Boston Mining Stock Exchange, for the week ending June 15th.

NAME OF COMPANY.	Opening June 9.	Highest during the week.	Lowest during the week.	Closing June 15.	Total shares sold.
Allouez, c.	2.00	2.00	.....	2.00	50
Arizona & Mass.	.85	1.00	.75	1.00	3,000
Atlantic, c.	12.00	12.00	.....	12.00	15
Blue Hill, c.	4.00	4.00	.....	4.00	900
B'n'za D'v'l'mt	5.00	5.50	.....	5.25	5,680
Cal. & Hecla, c.	238	238	233 1/2	233 1/2	62
Catalpa.....	2-5-16	2-9-32	2 1/4	2-9-32	3,510
Copper Falls, c.	6.00	6.00	.....	6.00	100
Copperopolis...	1.65	1.66	1.64	1.65	7,200
Crescent.....	1 1/4	1-5-16	1 1/4	1 1/4	5,100
Douglass.....	3.00	3 1/2	2.50	3.00	1,550
Duncan, s.	2 1/2	2 1/2	.....	2 1/2	900
Dunkin.....	1.45	1.45	.90	.98	18,250
Empire.....	1.90	.95	.55	.66	145,941
Franklin, c.	11 1/2	11 1/2	11 1/4	11 1/4	250
Gold Stripe.....	2.87 1/2	2.87 1/2	.....	2.87 1/2	100
Harshaw.....	8.00	9.00	8.00	9.00	410
Huron.....	4.25	4.25	4.00	4.00	250
Mass. & N. Mex.	.57	.57	.51	.51	3,900
Mendocino.....	4.50	4.50	.....	4.50	850
Messard.....	.50	1.50	.50	1.50	300
Milton.....	.55	.70	.50	.70	20,000
Osceola, c.	33	33	32	32	1,003
Pewabic.....	14.00	14.00	13.00	13.00	285
Pine Tree.....	1.00	1.25	1.00	1.25	400
Promontory Con	8.75	9.00	8.50	9.00	700
Quincy, c.	37.00	38 1/2	37.00	38 1/2	1,384
Kidge, c.	3 1/2	3 1/2	.....	3 1/2	50
San Pedro.....	4 1/4	4-7-16	4.00	4-7-16	3,000
Simpson C.I.	1.14	1.14	.....	1.14	6,800
Silver Islet, s.	44.00	46 1/4	43 1/2	46 1/4	276
Star.....	1.00	1.00	.....	1.00	50
Sullivan.....	2 1/2	3 1/4	2 1/2	3 1/4	248
Sul'v'n & Wa'k'g	2.75	2.75	.....	2.75	100
Sycamore.....	1.50	1.50	1.25	1.50	4,325
Tremont Silver.	1.25	1.25	1.00	1.00	150
Twin Lead.....	.98	.98	.....	.98	300

c. Copper. s. Silver.

COAL STOCKS.
 NEW YORK, Friday Evening, June 17.

The course of these stocks during the past week has been downward and the transactions lighter than usual. The market has been uniformly dull, and has during the latter end of the week developed considerable weakness. Toward the close to-day, stocks were in better demand, and a little firmer.

Delaware, Lackawanna & Western has had sales of 131,200 shares at \$120 1/2@122. Of Delaware & Hudson, but 7750 shares have been sold at \$111@109. On sales of 43,610 shares, New Jersey Central has been weak, selling from \$104 1/4 down to \$100. Reading is weaker, selling to-day at \$56 1/2, as against \$60 1/2 in the early part of the week.

The stocks of the various bituminous coal companies have, as a rule, been lightly dealt in at prices that are, in sympathy with the general market, a few points lower. Cameron Coal records sales of 17,220

shares at prices ranging from \$45@42 1/2. Maryland Coal has had sales of 1650 shares at \$33@31 1/2. On sales of 2150 shares, New Central has sold down to \$30 as against \$33 on Monday. There was a sale of 100 shares of Cumberland Coal and Iron in the early part of the week at \$15 1/2. Consolidated Coal has had sales of 700 shares at \$41 1/2@40.

That the Cameron Coal Co. means business, and has something upon which to build a business, is demonstrated by the appointment of Mr. E. A. Quintard as manager, and his acceptance. Mr. Quintard has been identified with the coal trade for years, having held the position of general sales-agent for the Reading R.R. for a long time. If there is any trade to be had, Mr. Quintard will secure it, and he would not take the management if he did not think there was some business to secure.

BULLION MARKET.

NEW YORK, Friday Evening, June 17.

The London market has been especially weak since our last report, under lower rates for India exchange, and our market, as a consequence, has correspondingly declined.

DAILY RANGE OF SILVER IN LONDON AND NEW YORK, PER OZ.

DATE.	London		DATE.	N. Y.	
	Pence.	Cents.		Pence.	Cents.
June 11...	51 1/2	111 1/2	June 15 51	*	
June 13...	51 1/2	111 1/2	June 16 51	111	
June 14...	51 1/4	111 1/4	June 17 51	111	

* 110%@111

ARIZONA.

Grand Central.—There were shipped 2700 tons of ore to the mill from this mine during the month of May.

Head Center.—This company contemplates adding ten stamps to its mill at an early date, increasing the reduction capacity to about 60 tons per day.

Mineral Creek.—It is reported that this company's mill will be running by the first of July.

Tombstone District.—The total shipments of bullion from this district for May amounted to \$481,803, an increase of \$51,000 over April.

Vizina.—A report states that 1914 tons of ore were milled during May, which gave a bullion value of \$124,000. For the last fifteen days, the ore milled averaged, it is said, \$185 per ton.

CALIFORNIA.

Bechtel.—It is stated that this company, after waiting patiently for some time for the proper milling facilities, meantime having thoroughly developed the mine, has secured a first-class mill with twenty stamps, and will immediately begin the work of crushing ore.

Bodie.—The superintendent reports that, for the week ending June 4th, 163 tons of ore were extracted.

Fresno Enterprise.—Speaking of this mine, the Republic of that county says: Since the present owners have controlled the mine—only two years—\$200,000 has been taken out, of which \$125,000 has been handed to the stockholders as dividends.

Oro.—It is stated that the ore of this mine is base and of high grade, but can be successfully worked by a furnace. Ninety-three tons worked in San Francisco yielded \$347 to the ton.

COLORADO.

Bassick.—The superintendent telegraphs that the product of the mill for the last three days was fully \$5000, the mill running steadily with plenty of water.

Big Pittsburg.—The superintendent reports that, during the week ending June 12th, 28 tons of ore were shipped; settled for 207 tons; proceeds, \$8600.

Dunderberg.—The superintendent writes that letting portions of the mine on percentage, and at \$4 and \$5 per foot, pays well. He has sampled 120 tons of ore, and shipped 40 tons during the past week. The mill is to be soon started up, and he expects that this month's product will be 130 tons.

Iron Silver.—1640 tons of ore were shipped from these mines during the first week in June.

Little Chief.—The superintendent reports, for the week ending June 12th: Shipment during the week amounted to 90 tons; settled for, 178 tons; remit, \$10,000.

Silver Cord.—1826 tons of ore were shipped from this mine in May.

DAKOTA.

Caledonia.—The superintendent reports that, during the week ending June 4th, 1065 tons of ore were shipped to the mill, which produced \$10,985 in bullion.

Great Eastern.—A recent run of fifteen days of this company's mill gave a product of \$6500.

MICHIGAN.

Lake Superior.—The May product of the following mines has been published:

Mine	Tons
Atlantic.....	150
Calumet & Hecla.....	1,693
Hancock.....	41
Huron.....	13
Quincy.....	150

MONTANA.

Atta-Montana.—The Comet mill, belonging to this company, crushes 14 tons daily, giving 6 tons of concentrates, carrying an average of 40 per cent lead.

NEVADA.

Cherry Creek.—The Cherry Creek News says that between \$50,000 and \$60,000 in bullion passed through Wells, Fargo & Co.'s office here during the month of May. This, we believe, is the best showing made by any camp in the State, except Eureka and the Comstock. With increased milling facilities, the amount of our monthly shipments could be easily raised to \$100,000.

Tikup & Geneva.—The bullion shipments from these mines, from June 10th to 14th, were two bars, weighing 2085 ounces.

Comstock Mines.—The following is the yield of the Com-

BULLION PRODUCTION FOR 1881.

We give below a statement showing the latest bullion shipments. These are officially obtained from the companies, where that is possible; and where official statements can not be procured, we take the latest shipments published in those papers nearest to the mines reported. The table gives the amount shipped for the week up to the date given, as well as the aggregate shipments to such date, from the first of January, 1881.

The shipments of silver bullion are valued at \$1.20-20 per ounce, Troy; gold at the standard \$20.67 per ounce, Troy. The actual value of the silver in the following table is therefore subject to a discount, depending on the market price of silver. The price of silver being now about \$1.12 per ounce, the following figures, where they relate to silver bullion, should be diminished by about 1 3/4 per cent to arrive at actual value:

MINES.	States.	For the week.	Month of June.	Year from Jan. 1st, 1881.
Alice, G. S.	Mont.	\$7,500	\$7,500	\$466,836
Barbee & Walker, S.	Utah			81,155
*Belle Isle	Nev.			12,950
*Bodie, G.	Cal.	6,850		167,178
Bos. & Colo. S. Wks.	Cal.			665,000
*California, G. S.	Nev.			107,164
Caribou, S.	Cal.			71,238
Christy, S.	Utah	14,570	14,570	195,406
Concordia, G.	Cal.			2,234
Connor, S.	Utah			46,570
Contention, S.	Ariz.		27,840	864,508
Con. Virginia, G. S.	Nev.			146,560
Crismon-Mammoth, G.	Utah	4,526	4,526	
*Custer, G. S.	Idaho			320,912
*Deadwood-Terra, G.	Dak.			340,372
*Derbec, Blue Grav., G.	Cal.			53,897
Dexter Mill	Mont.			14,500
Elkhorn Mill	Dak.			5,000
Eureka Con., G. S. L.	Nev.		30,550	708,823
Exchange Silver	Cal.			44,400
Ferry Bullion	Utah			7,210
Fresno Enterprise, G.	Cal.			9,600
*Frisco M. and S. Co.	Utah	23,202	28,202	207,325
Germani	Cal.	10,575	10,575	134,374
Grand Central Mill	Ariz.		40,000	294,854
*Grand Prize, S.	Nev.			51,658
*Hale & Norcross, G. S.	Ariz.			33,060
Harshaw, S.	Ariz.			237,000
*Head Center	Dak.			67,060
*Homestake, G.	Dak.			468,030
Horn-Silver, S. L.	Utah	35,000	42,500	432,868
Idaho, G.	Cal.			157,000
*Independence, S.	Nev.			17,108
*Indian Queen, S.	Cal.		4,360	83,773
Iron Silver	Cal.			264,331
Jocusta, S.	Mex.			156,888
Lexington	Mont.			7,000
Little Chief, S. L.	Cal.			63,314
Mack Morris	Ariz.			101,511
Mingo	Utah			4,554
*Modoc	Cal.			34,704
Morgan Smelt'g Wks.	Utah			24,179
Morning Star	Cal.			15,200
Mount Potosi	Nev.			59,830
*Navajo	Cal.		4,000	117,401
Nevada Silver Ore	Utah			13,825
Noonday, G.	Cal.	6,060		171,743
Northern Belle, S.	Nev.	26,630		598,155
Oneida, G.	Cal.			8,684
*Ontario, S.	Utah	47,483	47,483	1,068,389
*Ophir, G. S.	Nev.			5,170
Pasoco, S.	Utah		3,150	18,320
Rebellion	Cal.			10,512
Richmond, S. L.	Nev.	24,622	24,622	
Robinson Con., S.	Cal.			107,000
*Sierra Nevada, G. S.	Nev.			179,001
Silver Bow	Mont.			71,942
Silver Cliff	Cal.	3,400	7,600	22,775
Silver King, S.	Ariz.			278,948
Sullivan, S. L.	Maine			5,000
Standard, G.	Cal.		33,160	917,966
Star, S.	Nev.			60,504
Stormont, S.	Utah			77,349
Syndicate, G.	Cal.		5,800	44,387
Tintic M. and M. Co.	Utah			53,224
Tip Top	Ariz.			245,900
*Tombstone	Nev.			569,842
Union Con., G. S.	Nev.			43,100
Wood River	Idaho			6,450

G. Gold. S. Silver. L. Lead. * Official.

stock mines for the first quarter in 1881, as given by the county assessor of Storey County.

Mine or Company.	Tons extracted.	Gross yield or value.	Net yield.
Belcher	1,989	\$37,953	\$6,790
Crown Point	4,994	68,300	13,660
California	3,150	63,779	12,755
Con. Virginia	4,818	111,505	22,301
Con. Imperial	2,981	38,103	7,620
Ophir	216	5,173	1,034
Savage	47	1,682	789
Sierra Nevada	2,286	97,462	38,985
Monte Cristo	820	7,380	738
Tailings			
Courser Mill	337	3,538	353
D. W. Johannsen	75	476	101
Monk Neil	64	272	20
Benj. Pfeifer	180	900	90
Peter Secord	60	300	30
Bossell Mill	147	1,418	266
Totals	21,865	\$434,277	\$105,546

NOVA SCOTIA.

Our correspondent reports the following official returns:

Henry.—The crushing of the first month's work at the Henry mine, Nine Harbor, gave 84 ounces from about 25 tons, and the prospects of the mine are considered very good.

Sherbrooke.—The returns for the month of May were 325 tons quartz, which gave 195 1/2 ounces of gold.

Trio.—The result of one month's crushing at the Trio mine, Fifteen-Mile Stream, was 187 ounces.

UTAH.

Horn-Silver.—The Salt Lake Herald states that this company ships on an average about 8 cars of ore per day from the mine at Frisco to the smelting-works south of Salt Lake City.

MISCELLANEOUS.

Bullion Receipts from the Mines to New York.—The bullion received from the mines at the various offices in this city during the week ending with yesterday, as compiled from various sources, amounts to \$412,938.61, as against \$448,160.98 reported in our last.

Exports of Gold and Silver from New York.

Week ending June 11th	\$269,600.00
Corresponding week last year	133,264.00
Since Jan. 1st this year	5,147,786.00
Corresponding period last year	4,302,343.00

Gold Interest Paid Out by the Treasury.

Week ending June 11th	\$1,072,061.97
Corresponding week last year	417,394.44
Since Jan. 1st this year	26,574,934.36
Corresponding period last year	25,450,328.21

WASHINGTON, June 16.—The Treasury Department to-day purchased 335,000 ounces of fine silver, for delivery at the Philadelphia and San Francisco mints.

Reports about Bi-Metalism.—LONDON, June 13.—The Berlin correspondent of the St. James's Gazette mentions a report that America and France intend to form a bi-metallic union.

The bullion in the Bank of England has increased £620,000 during the past week. The weekly statement of the Bank of France shows an increase of 3,225,000 francs gold and 687,500 francs silver.

METALS.

NEW YORK, Friday Evening, June 17.

For the week under review, there would be but little to say, were it not for the break in copper. The Calumet & Hecla Company, after using its great strength to keep the market up, has at last used the same power to put it down. With the enormous production of this metal, it was a mere question of time when this war among the producers had to come, and we think it would have been better for all concerned had it come earlier. The Calumet & Hecla, with its low cost of production, can, of course, wipe out many concerns which had better have never been started. There are rumors that the price will go down to 14c.; but as the price depends so much upon what the Calumet & Hecla Company may do, the manufacturers and consumers must patiently await results.

Copper.—There is practically "no market," and it is utterly demoralized. In large lots, Lake is offered at 17c., or a break of 1c. per lb. from our last week's quotations. This is equal to a loss on the production of the Calumet & Hecla mines of \$360,000 per annum, putting their production at 18,000 tons a year.

Our English advices by mail include June 3d. June 1st. Chili Bars are firm and Metal scarce at current prices. A small lot of g. o. bs. sold at £60, three months prompt.

June 2d. Market steady, with but few parcels on sale. Good ordinary and named brands sold at £59 1/2 cash, closing rather buyers than sellers.

June 3d. Position of market without change. Sales of g. o. bs. at from £59@£59 1/2 cash, £59 1/2@£59 1/2 three months, the lower figure in each case being net money. Wallaroo remains £70 nominal, Burra being quoted £65 1/2@£66. English, firm; Tough Cake, £63 1/2@£65; Select Ingot, £65@£66 1/2; India Sheets, £70@£71; Yellow Metal Sheets, 5 1/2@6 1/2d. per lb. Exchange practically closed from June 3d to morning of June 7th, Saturday and Monday being bank holidays.

STATISTICS OF COPPER—LONDON, LIVERPOOL, SWANSEA, AND FRANCE.

	—May 1 to 31—	
	Imports.	Deliveries.
Fine foreign, chiefly Australian	865	880
Chili } Bars and Ingots	830	2,663
Chili } In Ores and Regulus	892	434
Totals, England	2,587	3,977
Fine foreign, chiefly American	715	240
Chili Bars, Ingots, and Barilla	1,595	1,136
	4,897	5,353
	—Stocks—	
	May 31.	April 30.
Fine foreign, chiefly Australian	8,829	8,844
Chili } Bars and Ingots	29,320	31,153
Chili } In Ores and Regulus	1,365	907
Totals, England	39,514	40,904
Fine foreign, chiefly American	885	390
Chili Bars, Ingots, and Barilla	4,463	4,004
	44,842	45,298
Chili, chartered } Mail	8,883	6,596
and afloat } Telegram	2,800	4,900
	58,525	58,794
Chili, G. O. Bs.	£59	£59
Wallaroo Cake	70	70

	—Jan. 1 to May 31—		
	1881.	1880.	1879.
Imports	Chili.....	14,086	18,330
	Other foreign.....	5,164	4,089
		19,250	22,419
Deliveries	Chili.....	17,930	19,205
	Other foreign.....	3,009	3,541
		20,939	22,746

Tin.—The market is quiet but firm, with a good outlook for the future. Sales have been effected here during the week aggregating about 250 tons spot and to arrive at from 20 1/2@21c. We quote for spot stuff in large lots: Straits, 20 1/2c.; Billiton, 21c.; L. & F., 21 1/2@21 1/2c.; Australian, 21c. By cable, the shipments for the first half of June from the Straits were 200 tons by steamer and 175 tons by sailing vessel.

London cables buyers at £91 with strong feeling; Penang, \$28 1/2; Singapore, \$28.40, with market cleared of stock.

Our English advices by mail include June 3d. June 1st. In cash stuff, prices paid were 88@88 1/2s. immediate payment. Closing values were 88@88 1/2s.

June 2d. Opened with good demand at 88@88 1/2s. cash, principally immediate payment. On second change, a quieter feeling prevailed, and sharp cash metal went at 88@87 1/2s.

June 3d. A little disposition was shown to realize cash metal, and sales were made on somewhat lower terms. About 75 tons changed hands at 87 1/2@87 1/2s. immediate payment.

STATISTICS OF FOREIGN TIN—LONDON AND HOLLAND.

	—May 1 to 31—	
	Imports.	Deliveries.
Australian and Straits	1,295	1,032
Banca (ex sale)	734	342
Billiton	283	352
Total	2,312	1,726
In transit—Straits, 368 tons;		
Australian, 277 tons	645	645
Total	2,957	2,371
	—Stocks—	
	May 31.	April 30.
Australian and Straits	8,064	8,421
Banca (ex sale)	1,290	898
Billiton	1,839	1,908
Total	11,813	11,227
Approximate quantity afloat, as estimated from tele-gram	Austr'n, 1,200	1,650
	Straits, 250	350
	Billiton, 1,100	1,400
Total	14,363	14,627
Australian and Straits	£88	£87 1/2
	—January 1 to May 31—	
	1881.	1880.
Sales of Banca by Trading Co.	2,038	1,722
Imports—Billiton	1,541	1,411
" Straits	3,185	455
" Australian	4,165	4,318
Total brought to market	10,929	7,636
Actual deliveries of foreign	9,195	8,562
In transit—Straits and Austral'n	2,016	3,903
	—May—	
	Imports.	Approximate shipments.
Australian	1,081	600
Straits	214	100
Total	1,295	700

Tin Plates.—The market for these is very quiet and featureless; there is nothing doing. We quote, per box, as follows: Charcoal tins, Melyn grade, 1/2 cross, \$6 1/2; Allaway grade, \$5 1/2. Charcoal Roofing, Dean grade, \$5 1/2 for 14 x 20, and \$11 1/2 for 20 x 28; Allaway grade, \$5 1/2 for 14 x 20, and \$10 1/2 for 20 x 28. Coke Roofing, B. V. grade, \$4 1/2@5 for 14 x 20, and \$10@10 1/2 for 20 x 28. Coke tins, A. B. grade, 1c, \$5 1/2@5 1/2; B. V. grade, \$4.95@5; ICW, \$4 1/2 for 14 x 20.

Messrs. Robert Crooks & Co., of Liverpool, under date of June 2d, say of tin and terne plates:

During the past ten days, there has been a very decided further break in quotations, and large offerings have been made by holders and makers at the reductions without finding buyers. Something has been done in 28 x 20 Charcoal Terne, but not enough to do more than temporarily keep makers of a few favorite brands from selling further for the present.

Lead.—In this metal, sales are not very active, but some moderate lots have found purchasers at 4 1/2@4 3/4c. for common, holders of large lots asking 4 1/2c.

The Age of Steel, under date of St. Louis, June 11th, says:

The market for lead is in a very quiet condition. During the week, some 200 tons of soft changed hands at about 4 1/2c., stocks on hand being very light and buyers

few. Somewhere between 400 and 500 tons of hard sold at prices varying from 4'02@4'05c., the greater part in the neighborhood of the lower figure.

The shipments over the St. Louis & San Francisco Railroad for week ending June 7th were 201 tons.

The San Francisco Commercial Herald of June 9th says: The ship Seminole for New York carried 220 tons pig-lead.

Spelter and Zinc.—The market is very inactive, and there is very little doing. We quote the former at 4'95@5c. for ordinary, and the latter sheets at 4'7/8@7c.

The Age of Steel, under date of St. Louis, June 11th, says:

An utter stagnation seems to prevail in the spelter market; there is absolutely nothing doing in the article.

Antimony.—In spite of a fair demand, prices are weak. We quote Cookson's at 14c.

Quicksilver.—The San Francisco Commercial Herald, under date of June 9th, says:

The market is strong. Some holders continue to demand 38c., and this price is said to have been paid for several hundred flasks shipped per Eustace. We quote 38c. asked, 37 1/2c. bid.

The exports for the week, by sea, were as follows:

	Flasks.	Value.
Totals.....	2,085	\$55,816
Previously since January 1st, 1881.....	17,836	519,081
Totals.....	19,921	\$574,897
Totals same period, 1880.....	13,855	432,017
Increase in 1881.....	6,066	\$142,880
Receipts since January 1st, 1881, 24,093 flasks.		

IRON MARKET REVIEW.

New York, Friday Evening, June 17.

If any change in the iron trade can be noticed, it is only for the better. A large failure in Boston is one of the clearing-up showers, and adds relief rather than distress to the market. The trouble in the iron trade is an unliquidated speculative interest, which must be adjusted upon some basis, and which is rapidly being brought about.

American Pig.—Outside of a sale of 1000 tons of a Lehigh forge at \$20 at the works, we learn of no business worthy of note. A lot of furnaces have gone out of blast, and there is talk of a still further curtailment. We quote No. 1 Foundry at \$24; No. 2 Foundry, \$21 1/2@22; and Forge, \$20@20 1/4.

Scotch Pig.—The arrivals are small and absorbed as rapidly as received. Most of the pig-iron reported by the Custom-House as arriving is Bessemer, spiegel, etc. Glasgow prices are a shade firmer, while freights from Glasgow are 10s. and from Liverpool 15s. per ton. The advance in freights is due to the large movement of Bessemer iron, and greatly to an extraordinary demand for building stone, of which the builders say they can not get enough. We quote Eglinton at \$20 1/4@21; Glengarnock, \$22; Gartsherrie, \$22 1/2; and Coltness, \$23@23 1/2. We note a sale of 1000 tons of English Forge at \$16 1/2, which cost the importers \$35. This is another evidence of the liquidating of the speculative account. Bessemer pig is reported to have sold at \$21.75, and to have been offered at \$21.50. It is impossible to import this iron and sell it at such figures without a loss.

Messrs. John E. Swan & Brothers, of Glasgow, under date of June 3d, report 121 furnaces in blast, as against 116 at the same time last year. The quantity of iron in Connal & Co.'s stores was 561,227 tons, an increase of 1485 tons for the week. The shipments show a decrease since Christmas of 114,040 tons, as compared with the shipments to the same date in 1880. The imports of Middlesbrough pig-iron for the same period show an increase of 29,352 tons. The following were the quotations of the leading brands of No. 1 pig-iron: Gartsherrie, 53s. 6d.; Coltness, 55s.; Langloan, 56s.; Summerlee, 54s.; Carnbroe, 51s.; Glengarnock, 51s. 6d.; Eglinton, 46s. 6d. Middlesbrough pig-iron was quoted as follows, f. o. b.: No. 1 Foundry, 40s. 9d.; No. 2, 38s. 9d.; No. 3, 36s. 9d.; No. 4, 36s. 3d.; No. 4 Forge, 36s.

Messrs. J. Berger Spence & Co., of Manchester, under date of June 4th, say: The information to hand during the week points to a slightly firmer position of values in the pig-iron trade, and also to an increase of business. The excessively low prices ruling last week brought buyers into the market more largely; and their operations, together with some slight speculative buying, have improved the tone for the time being, and rather higher rates are being sub-

mitted to by purchasers. The advances, however, are extremely small and by no means general, nor is the position at all a substantial one. Glasgow Warrants have struggled upward to 46s. 3d. as we write, from 45s. 10 1/2d. on Monday, and there is rather more doing at the end of the week. Expectations are freely indulged in that a far higher range of values will now rule; but as far as can be judged, they are based on a very weak superstructure of hope. Middlesbrough Numbers have made some fair progress. No. 3 has advanced from 36s. to about 36s. 9d., No. 1 being 40s., and No. 4 Foundry 36s. At these figures, a steady business is still doing.

Rails.—There has been a very good business in steel rails for next year's delivery on the basis of \$56 at tidewater. We quote at \$56@56 1/2 here, according to time of delivery. Iron rails have been quiet. We quote at \$44@46 here. Foreign rails are firm.

Old Rails.—We learn of a sale of 1000 tons of D. Hs. 1st at \$27. We quote Ts. at \$25 1/2@26, and D. Hs. at \$27.

Wrought Scrap.—This is very quiet. We quote at \$27@28.

Philadelphia. June 16.

The Philadelphia iron market is as follows: Pig-iron is inactive and prices are drooping in consequence of buyers holding aloof until prices settle; and secondly, large lots of foreign pig are being offered here at lower rates on behalf of New York parties and foreign speculative holders. Selling prices to-day are, for No. 1 Foundry \$3@3 1/4; No. 2, \$2 1/2@2 1/4; Gray Forge, \$2 1/2@2 1/4, delivered, or \$1.50 less at furnace. Stocks of pig in hands of consumers are low and the consumption continues at its maximum limits. The contracts for summer and fall, usually entered into in June, are held back. As soon as prices settle, there will be an active demand. Fifteen furnaces are out of blast for repairs in the Lehigh and Schuylkill valleys, six in the Susquehanna, and one in New Jersey. Some twenty may go out if prices continue to decline. Competent authorities foresee that isolated furnaces will be driven out, as it is very generally admitted that capacity is somewhat in excess of demand. This fact, supplemented by a threatening increase of foreign iron, is creating a depressing influence. Bessemer pig is bought up rapidly at \$22@22.50, and important negotiations are pending for fall deliveries. The new processes for making iron, which are being utilized abroad, are no doubt assisting to intensify the competitive struggle. The rolling mills are all busy at \$2.35, with an improved tendency in prices. The demand from bridge and ship and car-builders is steady, and prices are firm and upward in tendency. Steel rails are in demand, but large orders are going abroad for fall delivery at \$60@62. Iron rails are quite active at \$45@48 for heavy sections; but there is increasing delay in deliveries, owing to the overcrowded condition of the mills. Old rails are dull. The supply is increasing by accumulation at shipping points abroad, and by custom-house lots at home. Quotations are: \$26 for Ts. There are offers at from \$24@25 at present in this market for thirty thousand tons.

We publish the following letters from our regular correspondents:

Louisville. June 14.

[Specially reported by GEORGE H. HULL & Co.] The market continues dull, but is much better than usual at this time of year. Some large sales have been made, although ordinarily there is very little demand in June, except for small lots for immediate use. Some brands that are inferior in quality or little known have sold at prices considerably below quotations, though standard brands are held at full figures. Our quotations are for cash.

FOUNDRY IRONS.

	No. 1.	No. 2.
Hanging Rock Charcoal.....	\$28.00@29.00	\$26.00@27.00
Southern Charcoal.....	23.50@24.00	22.50@23.00
F'n g Rock, Stc'l & Coke.....	23.50@24.00	22.00@23.00
Southern Stonecoal & Coke.....	23.50@24.00	22.00@23.00
"Amer. Scotch" \$22 1/4@23 1/2 | Silver Gray.....	\$20.00@22.00	
Scotch Iron.....	24 @ 25	

MILL IRONS.

No. 1 Charcoal, cold-short and neutral.....	\$21.00@22.00
No. 1 Stc'l & Coke, cold-short and neutral.....	20.50@21.00
No. 2 Stc'l & Coke, cold-short and neutral.....	19.50@20.00
No. 1 Missouri and Indiana, red-short.....	25.00@27.00
White & Mottled, cold-short and neutral.....	18.00@19.00

CAR-WHEEL AND MALLEABLE IRONS.

Hanging Rock, cold blast.....	\$35.00@41.00
Alabama and Georgia, cold blast.....	35.00@40.00
Kentucky, cold blast.....	35.00@40.00
Hanging Rock W. B.....	30.00@35.00

Pittsburg. June 14.

[Specially reported by A. H. CHILDS.]

June is a dull month for pig-iron, and this month is dull even for June. Sales are effected only by concessions from former prices, and the market has declined about 50 cents per ton on average brands of pig-iron. There appears, however, to be no possibility of further reduction in cost of making metal, so that many furnaces must soon blow out or run at a loss. Quotations are:

	4 mos.	4 mos.
No. 1 F'dry.....	\$24.00@25.00	M. & White...\$19.00@20.00
No. 2.....	23.00@24.00	Hot Blast Ch. 24.00@28.00
Gray Forge.....	21.00@23.00	Cold Blast W. 23.00@38.00

Richmond. June 14.

[Specially reported by ASA SNYDER.]

The market yields gradually to the excess of production; still there is a readiness on the part of manufacturers to

accept the present ruling prices for their future supplies of pig-iron so far as they have orders for work.

Scotch Pig-Iron.....	\$23.00@27.00
Anthracite Pig-Iron No. 1.....	22.00@25.00
" " No. 2.....	20.00@23.00
" " No. 3.....	19.00@22.00
Virginia Coke Pig-Iron, No. 1.....	22.50@23.50
" " No. 2.....	21.50@22.50
" " No. 3.....	20.50@21.50
Va. Charcoal C. B. Wheel Iron.....	35.00@37.00
Old Rails.....	26.00@27.00
Wrought Scrap No. 1.....	22.00@24.00
Cast Machinery Scrap.....	10.00@20.00
Richmond Refined Bar Iron.....	2.50@
Horseshoes (Tredgar).....	4.00@
Mule-shoes.....	5.00@
Freight to New York, by sail, \$1.75 per 2240 lbs.	

St. Louis. June 11.

[Specially reported by HOFFER, PLUMB & Co.]

The market continues quiet. We quote for cash as follows:

HOT BLAST CHARCOAL.	
Missouri.....	\$27.00@28.00
Southern.....	25.00@26.00
Hanging Rock.....	28.00@29.00
COKE AND COAL.	
Missouri.....	\$26.00@27.00
Southern.....	24.00@25.00
Ohio.....	23.50@25.00
MILL IRONS.	
Cold short.....	\$21.00@23.00
Red short.....	25.00@26.00
CAR-WHEEL AND MALLEABLE IRONS.	
Missouri.....	\$28.00@30.00
Southern.....	35.00@38.00
Ohio.....	35.00@42.00

John H. Austin & Co.'s Special Market Report.

LONDON, E. C., June 2.

STEEL RAILS.—£6@£6 5s. per ton; tone of market unaltered.
IRON RAILS.—£5 @£5 5s. per ton. Crawshaw's Works are now finally closed for the manufacture of iron.
BAR IRON.—£5 per ton.
OLD RAILS.—Not much inquired for, except at c. i. f. prices, at which orders can not be executed.
HEAVY WROUGHT SCRAP-IRON.—Nothing doing.
OLD RAILWAY LEAF SPRING STEEL.—£5 15s. @£6.
OLD CAST-IRON RAILWAY CHAINS.—£2@£2 5s.
STEEL BLOOMS 7' X 7' AND UPWARD.—£5 15s. @£6 per ton.
BESSEMER PIG-IRON, Nos. 1, 2, and 3.—52s. 6d. @57s. 6d. per ton.
SCOTCH PIG-IRON.—45s. 6d. @45s. 9d. cash; weak market.
MIDDLESBROUGH PIG-IRON, No. 3.—36s. 3d., cash; weak market.

COAL TRADE REVIEW.

NEW YORK, Friday Evening, June 17.

Anthracite.

There is no curtailment of production being enforced this week, which fact is noticeable in the prices for coal, which are said to be weaker from "outside" parties, although it is claimed that the companies are standing firm to circulars. It is surprising, however, to see how much coal these outside dealers are able to furnish during times of depression. The only inference to be drawn is, that the large companies, to cover their tracks, furnish certain of these dealers with coal to sell at a concession, while they hold firmly to circular rates where there are chances of their concessions being made public.

The local demand is small. There is a good Eastern demand, but, owing to the scarcity of vessels and higher rates of freight, the coal is not being moved as rapidly as it should be. The Western demand is very fair, and promises to be very great soon.

Much weight is given to the blowing out of about 20 furnaces as bearing upon the decreased consumption of coal. It certainly amounts to something, but such a loss for a year would be overcome by a curtailment of about three days. Fortunately, the depression in the iron trade is confined almost entirely to the blast-furnaces, which are greatly affected by cheap foreign iron, which is being forced for sale at much below its cost delivered in this country.

There is a slight labor disturbance in the Lehigh Region, but we see no indications of a general strike. The companies appear to have come to a better understanding, and appear to be determined to go through this year without a rupture. The indications point to curtailment through July, and unchanged prices. There will probably be an advance made by August 1st on domestic sizes, while steam sizes are already so high that they can not successfully compete with bituminous coals, and it would be unwise to advance them.

The indications point to the next thirty days as the most desirable time for purchasing coal. Higher prices are likely to follow, while it appears almost certain that when the rush begins, as it certainly will,

There will be such a demand for vessels that much higher rates of freight will probably be asked.

The production of anthracite coal last week was 430,636 tons, as compared with 597,616 tons the previous week, and 401,277 tons the corresponding week of 1880. The total production from January 1st to June 11th was 10,808,673 tons, against 9,104,316 tons for the like period of last year, showing an increase this year of 1,704,357 tons.

Bituminous.

The only features in this trade are scarcity of vessels and higher rates of freights, which make it impossible for the companies to deliver coal as cheaply as they were doing. The prices at the shipping ports, however, are no stronger. There is a fair incidental business doing, but no large transactions are noticeable.

San Francisco. June 9.

The arrivals during the week have been liberal and include the following cargoes: Belvedere, 2050 tons Nanaimo; Harvest Home, 977 tons Seattle; Empire, 821 tons Carbon Hill; Wildwood, 1239 tons from Hull; Lady Cairns, 1682 tons Newcastle, N. S. W.; Hagerstown, 712 tons Anthracite from New York; Arcata, 580 tons Coos Bay; Gilroy from Cardiff, 1700 tons Coal and 700 tons Coke. Spot rates remain as for a long time past, say for Wellington, \$10; Carbon Hill, \$9; Seattle, \$7@7.50; Coos Bay, \$9@9.25; Mt. Diablo, \$5.50@8. Prices for cargoes to be shipped have not declined during the past month, and in some instances slightly better figures have been obtained. We quote English Steam Coals, \$5.75@6.12½; Scotch Splint and West Hartley, \$6.25, and Australian, \$6.25@6.50, per prompt shipment. Values of cargoes on the spot are only from 25 to 50 cents per ton higher, thus leaving heavy losses to importers. The cargo of Wallsend per British Merchant, which vessel arrived May 11th, had originally been sold at \$7.50, with free wharfage to ship to a dealer, who, after arrival, resold at \$6.25 to the Gas-Light Company.—*Commercial Herald.*

STATISTICS OF COAL PRODUCTION.

Comparative statement of the production of anthracite coal for the week ending June 11th, and years from January 1st:

Tons of 2240 lbs.	1881.		1880.	
	Week.	Year.	Week.	Year.
Wyoming Region.				
D. & H. Canal Co.	50,594	1,440,951	44,654	1,294,746
D. L. & W. RR. Co.	70,536	1,700,491	55,702	1,436,323
Fenn. Coal Co.	25,002	494,078	20,451	406,379
L. V. RR. Co.	5,611	456,536	19,732	424,799
P. & N. Y. RR. Co.	1,242	32,164	.....	10,946
C. RR. of N. J.	48,059	975,368	28,763	636,622
Penna. Coal Co.	11,538	117,109	15,554	112,978
	212,522	5,216,697	184,856	4,322,803
Lehigh Region.				
L. V. RR. Co.	54,704	1,756,143	61,685	1,283,985
C. RR. of N. J.	44,500	816,801	39,206	821,069
S. H. & W. B. RR.	.....	1,224	.....	5,831
	99,204	2,574,168	97,951	2,110,885
Schuylkill Region.				
P. & R. RR. Co.	96,358	2,560,311	105,326	2,350,961
Shamokin & Lykens Val.	21,350	430,478	13,144	302,321
	117,708	2,990,789	118,470	2,653,282
Sullivan Region.				
St. Line & Sul. RR. Co.	1,202	27,019	.....	17,346
Total	430,636	10,808,673	401,277	9,104,316
Increase	29,359	1,704,357	.....	.....
Decrease	.....	.....	.....	.....

The above table does not include the amount of coal consumed and sold at the mines, which is about six per cent of the whole production.

Total same time in 1876	6,452,293 tons.
" " " 1877	8,652,191 "
" " " 1878	6,302,849 "
" " " 1879	10,375,300 "

The shipments of Cumberland coal over the George's Creek & Cumberland RR. by the Maryland and the American Coal companies for the week ending June 11th amounted to 4312 tons, making a total of 13,301 tons since the beginning of transportation.

The decrease in shipments of Cumberland Coal over the Cumberland Branch and Cumberland & Pennsylvania railroads amounts to 112,768 tons, as compared with the corresponding period in 1880.

Belvidere-Deleware Railroad Report for the week ending June 11th:

	Week.	Year.	Year.
	1881.	1880.	1880.
Coal for shipment at Coal Port (Trenton)	1,483	17,968	11,409
Coal for shipment at South Amboy	11,807	286,721	171,111
Coal for distribution	10,118	309,601	205,601
Coal for company's use	1,449	45,561	44,608

The Production of Coke for the week ending June 4th, and year from Jan. 1st:

Tons of 2000 lbs.	Week.	Year.
	1877.	1880.
Penn. RR. (Alleghany Region)	1,977	43,417
West Penn. RR.	2,244	50,598
Southwest Penn. RR.	29,003	632,495
Penn. & Westmoreland Region, Pa. RR.	3,881	80,380
Pittsburg, Penn. RR.	11,429	277,688
Snow Shoe (Clearfield Region)	159	3,360
Total	48,693	1,087,944

The Production of Bituminous Coal for the week ending June 4th was as follows:

Tons of 2000 lbs., unless otherwise designated.	Week.	Year.
	Tons.	Tons.
Cumberland Region, Md.		
*Tons of 2240 lbs.	40,685	815,417
Barclay Region, Pa.		
*Barclay RR., tons of 2240 lbs.	8,472	190,075
Broad Top Region, Pa.		
*Huntingdon & Broad Top RR.	3,133	100,878
East Broad Top	1,164	29,776
Clearfield Region, Pa.		
Snow Shoe	2,769	41,506
Tyrone and Clearfield	46,249	979,174
Alleghany Region, Pa.		
Pennsylvania RR.	5,413	117,855
Erving Region, Pa.		
West Penn. RR.	4,029	138,000
Southwest Penn. RR.	390	13,387
Penn. & Westmoreland gas-coal, Pa.		
RR.	17,210	357,114
Pennsylvania RR.	10,022	262,895

* For the week ending June 11th.

FREIGHTS.

Coastwise Freights.

Per ton of 2240 lbs.

Representing the latest actual charters to June 17th, 1881.

Ports.	From Philadelphia.	From Baltimore.	From Elizabethport, Port Johnston, South Amboy, Hoboken, and Weehawken.
Alexandria85	.....
Annapolis
Albany
Baltimore
Bangor	1.25
Bath, Me.	1.15
Beverly	1.20
Boston, Mass.	1.50@1.45	1.50	1.20
Bristol
Bridgeport, Conn.	1.35	.60
Brooklyn
Cambridge, Mass.
Cambridgeport	1.20
Charleston	.80	.....	1.15
Charlestown
Chelsea
City Point
Com. Pt., Mass.
E. Boston	1.20
East Cambridge
E. Greenwich, R. I.
Fall River	1.30	1.35	.80
Galveston
Georgetown, D. C.
Gloucester
Hartford
Hackensack90
Hudson
Lynn	1.60	.....	.....
Marblehead
Medford
Millville
Milton
Newark, N. J.	1.49	.....
New Bedford	1.30	.....	.85
Newburyport	1.60	.....	1.30
New Haven60
New London75
Newbern75
Newport80
New York	.85	1.25	.....
Norfolk, Va.	1.50	.....
Norwich	1.50	.....
Norwalk, Conn.	1.40	.....
Pawtucket	1.35	.60
Philadelphia
Portland	1.50	1.50	.....
Portsmouth, Va.	1.10
Portsmouth, N. H.	1.75	1.25
Providence	1.35	.80
Quincy Point	1.25
Richmond, Va.	.85	.....	.....
Rockland
Rockport
Roxbury
Saco	1.50
Sag Harbor
Salem, Mass.
Saugus	1.15
Savannah
Somerset80
Staten Island
Trenton
Troy
Wareham	1.50	.....
Washington	80@.85@.90	.85	.....
Weymouth
Williamsburg, N. Y.
Wilmington, Del.60
Wilmington, N. C.

* And discharging. † And discharging and towing. ‡ 3c. per bridge extra. § Alongside. ¶ And towing up and down. ** Below bridge.

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DIVIDENDS.

THE

ROBINSON CONSOLIDATED MINING CO.

New York, June 1, 1881.

DIVIDEND No. 3.—The Board of Directors have this day declared a monthly dividend of \$50,000, payable on and after June 15th, at the office of the Company, 18 Wall Street. The transfer-books will be closed from the 10th to the 15th inst., inclusive.

FINANCIAL STATEMENT FOR MAY, 1881:

Amount in bank and deposited during the month	\$128,736.54
Bullion at Newark Smelting and Refining Works, and in transit to said works, less advances and freights	55,000.00
	\$183,736.54
May 9. Purchase of smelters at mines	\$87,500.00
Thomas Ewing's drafts and bills paid during the month	10,286.00
Dividends for June 15th	50,000.00
Surplus on hand	35,950.54

Attest: JAMES K. SELLECK, Secretary. BRAYTON IVES, President.

LA PLATA MINING AND SMELTING COMPANY—Office of La Plata Mining and Smelting Company, of Leadville, Colo., 58 Broadway, Rooms 12 and 13, New York, June 16th, 1881.

DIVIDEND NO. 22.

The Board of Trustees have this day declared a dividend of seven and one half cents per share (par value \$10) on the capital stock, payable on Friday, July 1st prox., at the office of the Company. Transfer-books will close on Saturday, June 24th, and reopen Saturday, July 2d, 1881.

Statement of the financial condition of the Company:
Working capital.....\$100,000.00
May 1, 1881—Balance surplus account.....55,079.79
June 1, 1881—Net Earnings month of May.....15,986.32

Dividend of 7½ cents per share, 200,000 shares.....15,000.00

Balance June 1, 1881.....\$158,066.11
D. OLYPHANT TALBOT, Assistant Secretary.

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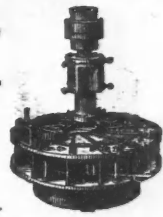
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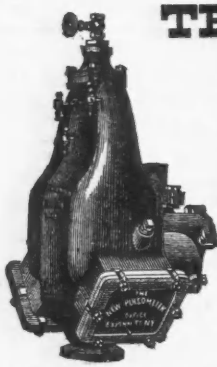
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MICHIGAN COAL CO.: BRATTLEBORO, VT., May 17, 1881.
GENTLEMEN: Please read the inclosed slip (extract from Railroad Review), and answer me as to the truth of the statement made therein, and oblige
S. H. WARREN, Esq., Brattleboro, Vt.
DEAR SIR: Your favor of the 17th inst. at hand. In reply, say it is true. We had a room cave in; had three No. 10 steam pumps submerged instead of two. They were of the kind mentioned in slip.
The New Pulsometers were run in connection with the two lift pumps mentioned in the slip, and did us excellent service. We are running one of them now, and like it very much. We consider it superior to any other steam pump for the reason that it does excellent service, and requires absolutely nothing to keep it in repair, while we find steam pumps a constant bill of expense for repairs.

Yours respectfully,
MICHIGAN COAL COMPANY, per Noyes.
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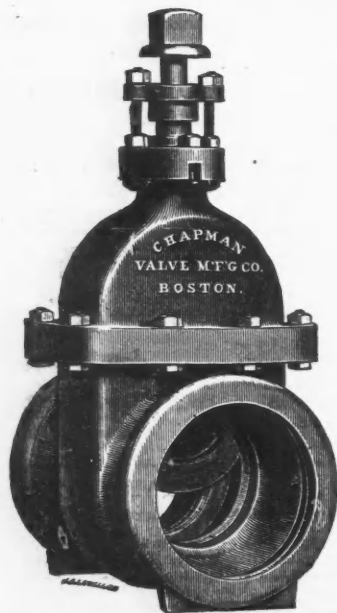
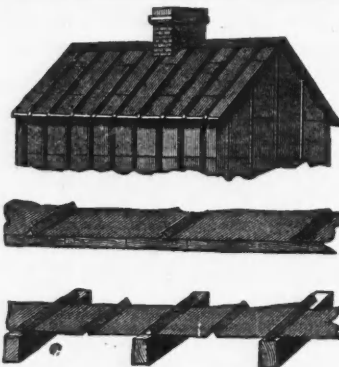
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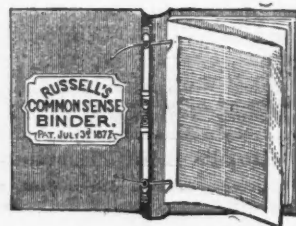
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COLORADO.—Topographical and Township Map of the State. Compiled from U. S. Government Surveys and other authentic sources, by Louis Nell, Civil Engineer. By means of symbols, the following mass of facts is graphically shown: Railroads in operation; Railroads chartered or in progress; Wagon-roads; Wagon-roads proposed; Trails; Drainage dry during the greater part of the season; County-seats; Post-offices (July 1st, 1880); Villages; Townships subdivided; Townships surveyed in outlines; Contour-lines, with vertical intervals of 1000 feet; Altitudes in feet above sea-level, by barometer observations, and by spirit-levels; Private grants; Military reservations; Indian reservations ceded to the U. S. Government; Arable land, with irrigation. Scale, 1 inch: 10.5 miles. Size, 31 x 40 inches. Pocket form, \$1.50, on thick paper, varnished, on rollers, \$1.75.

COLORADO.—Topographical and Township Map of Part of the State, exhibiting the San Juan, Gunnison, and California Mining Regions. By Louis Nell. Substantially same as above. Post-offices, March 1st, 1880. Scale, 1 inch: 9 miles, 1-570,240. Plain sheets for wall, 90 cents.

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