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CONTENTS.

PROF. GEORGE W. MAYNARD has started for the Wood River District, Idaho. Letters and telegrams will be forwarded from his office, 24 Cliff street.

PROF. THEODORE B. COMSTOCK, one of our San Juan correspondents, will soon leave the city for Colorado, where he will act as manager of the Niagara Consolidated Mining and Reducing Company. His address will be Eureka, Colo. At present, he may be seen or addressed at Room 35, No. 61 Broadway, in this city.

OUR old correspondent EZUEST writes from Southern New Mexico, where he finds almost all the characteristics of Leadville—chloride ore, carbonates, and rich galenas. He counsels those owning claims which have hitherto disappointed them to "go deep;" and points out the coming season as offering the best opportunity to secure good properties at low rates. See his letter.

AMONG the removals of the patrons of the JOURNAL we notice those of the Chrysolite Silver Mining Company, to 18 Wall street; JAMES WILLIAMSON & CO., to 65 Wall street; STICKNEY & CONYNGHAM, successors to S. H. BROWN & Co., to 5 and 7 Cortlandt street; BECKETT & MCDOWELL and D. MACNIVEN, to same address; the Thomas Iron Company and the Lackawanna Iron and Coal Company, to 52 Wall street; BERWIND, WHITE & Co., to 55 Broadway; and the Rand Drill Company to 240 Broadway. The Robert Aitchison Perforated Metal Company, of Chicago, has removed to 292 and 294 State street; and in Philadelphia, WILSON BROTHERS & Co., Civil Engineers and Architects, are in their new offices, 435 Chestnut street.

THE stock operators will be deprived, to a certain extent, of their ability to influence the coal stocks by referring to the condition of the iron trade, when they learn how little direct influence it has on the demand for anthracite coal. A small demand for iron, blowing out of furnaces, stopping rolling-mills and forges, closing iron mines, etc., are sure indications of an unsatisfactory condition of general business; but directly they mean but a reduction of 1,000,000 to 1,500,000 tons in the consumption of anthracite coal. During the census year 1880, when the total production of iron, including certain prominent forms of advanced manufacture, amounted to 7,265,140 tons, the consumption of anthracite coal by this great industry was but 3,322,498 tons, while the consumption of bituminous coal was 5,659,055 tons and coke 2,277,555 tons, making a total of 11,259,108 tons of all kinds of coal exclusive of charcoal, which records a consumption for iron-making during the same year of 69,592,091 bushels.

THE *Tribune* pacifies the West Ontario Mining Company by the following:

"Referring to the special dispatch from Park City, Utah, published in the *Tribune* of April 27th, concerning the West Ontario Mining Company, the officers of the company state that it was incorporated January 26th, 1881, under New York laws, with a capital of $200,000 in 200,000 shares. At their request, the maps, abstracts, and reports of this company have been carefully examined by a *Tribune* reporter. The company has quit-claim deeds to three mining claims—one in Uintah Mining District, Utah, in which district is the well-known Ontario property; another in West Tintic, where the Crismon-Mammoth mine is located; and the other—a gold claim on which some work has been done—in Globe District, Arizona."

This has a look similar to the Buckeye Mining Company, of Colorado, and promiscuously the balance of the West. The public can refer to their experience in that mine before investing in the West Ontario. Good property in one district has generally been considered sufficient for one company to possess. It should certainly receive better management than if it were in three districts separated by great distances; and good management is fully as important as a good mine.

THE EUREKA DECISION.

The U. S. Supreme Court has decided the Richmond-Eureka case, on appeal, in favor of the Eureka Company, and it is said that the decision carries with it a large amount—some $500,000—of damages, which the Richmond Company must pay. Concerning the latter point, we are not yet fully informed. The case tried in 1877 at San Francisco, which we suppose to have presented all the points involved in the appeal, did not include the question of damages. That was to be settled (and perhaps it was settled, as to amount) by a subsequent and separate proceeding. It may be that, the damages having been determined, their payment was suspended to await the final determination of the important questions appealed in the ejectment suit, and that the adverse decision upon these leaves the Richmond no further pretext of defense or delay.

When we shall have examined the full text of the Supreme Court decision, we will speak more at length of its bearings and weight. *

THE VIRGINIA MEETING

The next meeting of the American Institute of Mining Engineers is to begin, as we understand, at Staunton, Virginia, on Monday evening, May 30th. When we say that JAMES F. LEWIS is engineering the local preparations, we call up reminiscences of the famous Amenia meeting, not yet eclipsed by later glories, and certain to inspire assured confidence of a "good time."

From the April number of *The Virginias* (which is, by the way, a handsome and vigorously conducted journal, published at Staunton by Mr. JED. HOTCHKISS, and devoted to the development of Virginia and West Virginia), we learn that there will be excursions over the Shenandoah Valley Railroad, the Valley Branch of the Baltimore & Ohio the Chesapeake & Ohio, and the Richmond & Alleghany roads, including visits to the White Sulphur Springs, the New River Gorge, the Falls of the Kanawha, perhaps the Natural Bridge, and the Balcony Falls of the James. There will certainly be no lack of magnificent scenery; and, on the other hand, the professional purposes of the meeting, apart from the important papers expected or promised, will be served by the view of a goodly number of enterprises in progress, and a vast exhibition of natural resources in iron, coal, salt, etc. The geologist will find in these excursions some of the grandest sectional exposures on this side of the continent. And finally, a large number of members will find—what is not the least attraction—one another. *

THE HISTORY OF TIN.

From an interesting paper by E. REYER, in the Austrian *Zeitschrift für Berg- und Hüttenwesen* (Vol. xxviii., 1880) we gather the following particulars concerning the history of tin. The most ancient names for this metal (Indian, *naga;* Persian, *aonya;* Hebrew, *anak;* Ethiopian, *naak*) indicate that its earliest source was farther India, from the great placer deposits of which it was distributed over Asia and eastern Africa. The Mediterranean name, *kassiteros*, used by HOMER, was probably spread by the Phœnicians through their commercial world; and its prevalence from 1000 B.C. indicates the supply of tin through these enterprising traders from Spain and also from Britain. Perhaps they carried the name, though not the article, even to India. At least, it is certain that, in the centuries just preceding the Christian era, the name *kastira* occurs for tin in Indian documents, instead of the more ancient native term.

The bronze manufacture of China, which flourished as early as 1800 B.C., and the equally ancient industry of India, must have required large quantities of tin from the Indian placers.

During the commercial supremacy of the Phœnicians, Cadiz in Spain was the principal metropolis. After the Roman conquest of Spain, the

British tin trade took a new route. CÆSAR speaks of the *plumbum album* of Britain; and DIODORUS relates that it was found as ore in the rocks, and that the smelted metal was carried in bars to Iktis (the Isle of Wight), thence to Gaul, and through Gaul on horses to the Rhone. Marseilles was the shipping port, and soon assumed for this trade the position formerly held by Cadiz.

At this time, the pure metal was used for tinning copper (at which PLINY says the Gauls were very skillful), for making vessels, and occasionally for coin. Its alloys with copper (bronzes) were cast into statues, arms, coins, and mirrors. Probably these alloys were produced, not by mixing the metals, but by the smelting of ore-mixtures containing both metals.

That Cornwall was, during the first centuries of our era, the chief source of tin, is shown by the new name, *stannum*, which replaced *plumbum album*, and which is a Latinized form of the Cornish *stean*, no doubt related to the German *zinn*, and the English *tin*.

After the fall of the Roman empire, other cities took this trade from Marseilles. Thus Cologne, subsequent to the Norman conquest, maintained a direct commerce with England; and in the twelfth and thirteenth centuries, Brügge controlled the whole West-European market, including that of tin. It was here that the Italian and German merchants made their purchases.

After the fourteenth century, the Mediterranean cities obtained a large share of the trade, sending their ships on the one hand to Britain, and on the other to Constantinople and Alexandria. Up to this time, the product of Devon and Cornwall ruled the market. Down to the thirteenth century, the "stream-tin" of Devon furnished much the larger portion; but the mines of Cornwall at last took the lead, and the placer-product of Devon became, and has remained, insignificant.

The royalties paid in Cornwall were at first excessive. About A.D. 1300, the sovereign received 40 per cent of the gross product; in 1480, the tax was 20 per cent to the sovereign and 20 per cent to the landlord; in 1600, the crown abated its claim to 10 per cent; in 1750, the percentages were respectively 6 and 10 to 12; in 1830, 4 to 5 per cent for the sovereign and 5 to 7 for the landlord was the rule; and since 1838, the former royalty has been entirely abolished.

It was in the thirteenth century that the Bohemian mines became largely productive; and during the fourteenth, they probably drove the British tin from the German market.

The manufacture and the wide-spread religious use of bells, during the middle ages, is proof of a large consumption of tin. At the end of the middle ages, the introduction and increasing use of bronze cannon demanded still greater quantities of this metal. In the sixteenth century, other important ores were discovered: tin-foil for mirrors, tin-glaze for pottery, etc., and tin-enamel for metallic wares.

In the seventeenth century, DREBBEL discovered the value of tin-salts in dyeing. A vessel containing extract of cochineal stood in his window. The window-panes were framed in tin. By accident, a little *aqua regia* was spattered upon the window, and a few drops fell from the tin into the cochineal-extract, where they produced a bright red color. The acute chemist did not rest until he had discovered the cause of the phenomenon, and added almost a new art to civilization.

Among the disastrous effects of the Thirty Years' War—perhaps the most devastating calamity of modern times—was the almost total destruction, for at least half a century, of the mining industry of Germany. The tin mines of Saxony and Bohemia shared in this prostration; but the ill wind that blew nobody any good on the continent transported prosperity to the shores of Albion. German miners were imported into England, and carried with them their knowledge of hoisting, timbering, draining, drilling, dressing, and smelting. Blasting was also introduced by them in the seventeenth century. Yet at that period the product of Cornwall was but 1000 tons of tin annually—not one tenth as great as that of the Asiatic mines.

In the eighteenth century, the tin industry of Bohemia and Saxony reached its climax. During the present, it has dwindled away. It was after the middle of the eighteenth century that NEWCOMEN'S "fire-engine," and in the "seventies" of that century that WATT'S steam-engine, was introduced in the Cornish mines. At the end of the century, the product of Cornwall had become 3000 tons annually.

During the first half of the present century, it was noticed that, with increased depth in the Cornish mines, the proportion of copper was increased, and that of tin diminished. This fact will indeed be found laid down in some books as a "law," at least for Cornwall, analogous to that other "law," concerning the decrease of gold in depth, which has been deduced from limited data by hasty philosophers. But since 1850 it has been found that, with still farther advance in depth, the proportion of tin has again become dominant. The "law" is simply one of alternation; and the product of tin, which has risen to more than 8000 tons per annum, is due to the courageous persistence of men who did not accept mere dogma as truth.

Since the above was written, we have received a pamphlet by Mr. REYER (ZINN: *eine geologisch-montanistisch-historische Monografie.* Berlin, G. Reimer, 1881, pp. 248, 8vo), which deals with the subject much more fully, giving an admirable *résumé* of the geological, mineralogical, and metallurgical conditions, as well as the history of the different tin-producing regions, and a valuable catalogue of the publications which treat of different branches of the inquiry. From this pamphlet we take the following summary of production in metric tons:

	England.	Straits.	Banca and Billiton.	Australia.	Tasmania.
1870	10,200	4,000	7,500	Little	.....
1871	11.300	8,000	7,500	Little	.....
1872	9,600	10,000	8,000	1,000	.....
1873	10.000	7,000	8,000	6,500	.....
1874	9,900	8,000	9,000	11,000	Little
1875	9,500	11,000	9,000	13,500	Little
1876	8,500	10,000	8,000	12,000	3,000
1877	9,500	10,000	7,000	13,000	5,000
1878	10,000	?	?	?	8,000

The great new modern sources of tin are Australia and Tasmania. China is believed to have produced, a few years ago, at least 5000 tons per annum; but the Chinese importation at present of some 10,000 tons every year of the cheap wash-tin of India seems to indicate a falling off in the domestic product.

The present annual product of the world is therefore about 50,000 tons. It is principally used in Asia for the tinning of copper, and in Europe and America for the tinning of iron. The manufacture of alloys is believed to consume a minor proportion only.

NEW PUBLICATIONS.

OUTLINE OF METALLURGY (*Grundriss der Metallhüttenkunde*), *by* BRUNO KERL, *Professor in the Royal Mining Academy at Berlin, etc. Second Revised and Greatly Enlarged Edition. With 299 Wood-cuts in the Text.* Leipzig: Arthur Felix. 1881. 8vo, 575 pages. (*Index.*)

The merits of KERL'S *Hand-Book of Metallurgy* are too widely known to require comment. But the latest edition of that work, in four large octavo volumes, was completed in 1865; and the progress of the art since that date has been such as to call for newer text-books. It was therefore good news to metallurgists when Professor KERL announced his *Outlines*, in three parts, devoted respectively to general metallurgy (fuels, furnace-construction, etc.), iron, and other metals. The latter part appeared in 1873 (the general introductory volume still earlier), and the volume on iron in 1875. A second edition of the general metallurgy was issued in 1879, and the second edition of the *Metallhüttenkunde* now lies before us. We can not translate the title by any word which would indicate that iron and steel are omitted from the contents. Indeed, the German word does not strictly bear that meaning, though the German usage distinguishes between "iron-metallurgy" and "metal-metallurgy."

In the preface to the first edition, Professor KERL said this work was intended primarily as a guide to instructors and students, yet so full in details as to be valuable also to the practical operator. For the sake of the latter, abundant references to larger works and to technical periodicals were given in foot-notes, to facilitate the consultation of the original sources, thus placing the metallurgist in communication with the latest records of experience. We can bear witness, from the habitual employment of the book since its appearance, to its great convenience and value, particularly (from the stand-point of Americans) as a compendium of European practice and progress. Being already familiar with the first edition, we open the second, to learn the nature and extent of the improvement it has received.

The 445 pages of the first edition have become 575, which is certainly a substantial increase. On examination, we find this additional material to be distributed pretty evenly throughout, every metal having received a portion. Lead has 24 additional pages; copper, 23; silver, 20; gold, 12; quicksilver, 10; zinc, 20; and nickel, 10. The 246 illustrations have become 299, there being 13 new ones under lead, 12 under copper, 4 under silver, 2 under gold, 8 under quicksilver, 7 under zinc, and 7 under nickel (which had none before). In truth, there are more additional cuts than these figures indicate, since a number of the old ones have been omitted from this edition. Pictures are of course not every thing; but it so happens that most of the new ones here introduced are connected with representative apparatus or methods of recent invention; and thus a survey of them gives, to some extent at least, a comprehensive view of the field of improvement. We find here, for instance, drawings of the Arents automatic siphon tap, of the demi-Raschette lead-furnace at Eureka, of the Balbach and Du Faur zinc-distilling furnaces, of the Deetken roasting-furnace, of the Knox quicksilver furnace, etc.; all not only recent, but also American improvements.

Apart from the introduction of many new examples under the former titles, a number of new sections have been added. We find, for instance, beginning at page 226, a discussion of the properties of pure copper and of the effect of small percentages of other metals, in the course of which the somewhat surprising results of HAMPE'S investigation, published in 1874, are cited. At page 306 is given a description of the ROZAN process of pattinsonation with steam, together with the data of practice at St. Louis, near Marseilles, and at Przibram. (The experience with this process of the Richmond Company at Eureka, Nev., is not mentioned.) At page 369, there is a brief notice of the galvanic method of separating

silver from black copper or gold. (We find no allusion to the similar method proposed by KEITH for treating work-lead; but the omission is perhaps justified by the circumstance that this method has never yet been operated on a large scale.) At page 427, the roasting of cinnabar in muffle-furnaces is described, and PATERA's Idria furnace is figured, while the muffle-furnaces of California receive a passing mention. The chapter on the metallurgy of zinc has received important additions. The preparation of the fire-clay for retorts —an essential matter, omitted from the first edition—is here explained; and the list of spelter processes is reinforced with a new title, that of the modified Carinthian process, which is a revival of the old, abandoned Carinthian system of vertical pipes in the distillation-furnace, with modications which are said to adapt it for the treatment of zinc ores containing lead. We notice that Professor KERL, in speaking of recent investigations and experiments having the manufacture of spelter in shaft-furnaces for their object, praises the conclusions and apparatus of CLERC, of Bethlehem, as theoretically the most correct, and representing the ideal which should be striven after in practice. At the same time, no shaft-furnace process is at present in actual and successful use. We are sorry that CLERC's principle has not been tried on a working scale.

These are the principal novelties which a glance through the new edition reveals to us. It shows us also, however, in a thousand places, the hand of correction and completion. As a summary of the present state of metallurgy, it is the best with which we are acquainted.

We notice some errors in proper names, which are not surprising, though they must be in some cases annoying. That our friend CLERC appears as "Clerk" is not likely to deprive him of his just credit. The allusion (page 285) to the lamented STEITZ as the inventor of the iron water-cooled cupelling-hearth is vailed under the name "Streitz." (STEITZ'S ingenious siphon for the conveyance of molten metal—for instance, lead from the kettles—is, so far as we can find, entirely overlooked.) The citizens of Austin, Nevada, may well be surprised to find their city called "St. Austin." Distance must cast a notable halo of religion over the Reese River Valley to permit such an allusion as that!

This book, like all foreign technical publications of the last few years, manifests an increasing sense of the importance and merit of American practice. True, Professor KERL has not discussed our practice as fully and accurately as it deserves; but he has evidently taken the best accounts he could find of it; and such papers as those of the Institute of Mining Engineers have been most welcome to him. By the time a third edition of his *Outlines* is required, we think American technical literature will furnish a mass of most trustworthy and valuable material. *

LEADVILLE.

Written for the Engineering and Mining Journal by Hamilton S. Wicks.

Almost from the moment that Colorado was welcomed into the sisterhood of States in the Centennial year 1876, she assumed a commanding position as a producer of silver bullion. Her carbonate deposits have amazed those thoroughly grounded in mining lore, and have attracted the attention of the entire world. As determined by the fossil remains of the carbonate district and by the geological arrangement of the rocks, it would appear that at one period of its history it was covered by the waters of a shallow ocean. The limestone, almost invariably found underneath the mineral vein, was deposited by the life of this ocean. The porphyry which is above the vein flowed over the limestone after the waters had retired. Thus the "contact" was originally formed. Sulphurets were first deposited along or above this contact by mineral solutions from below. Subsequently, when the mountains were uplifted as we now see them, the sulphurets were oxidized by the surface waters carrying oxygen and carbonic acid, and the world-famous carbonates were evolved. It is evident that the force which lifted the strata was exerted from west to east, as shown by the numerous breaks running north and south, and by the dip of the mineral vein, which is generally east, and its "strike," which is 3° east of north. It has been determined by a careful examination of the mines of the carbonate district that there are eight breaks of the character indicated between Leadville and the Mosquito Range. The first break is well marked in such mines as the Pendery, Glass, Welden, and Mystic; the second is marked in the Shamrock, Carbonate, Evening Star, Morning Star, Crescent, Waterloo, Vulture, Little Pittsburg, Little Chief, and Chrysolite; the third is marked in the Columbia, Wolf Tone, Result, Robert E. Lee, Matchless, Dunkin, and Virginius; the fourth is marked in the Dome, Rock, Lime, Iron, Hunkie-Dorie, and Last Chance; the fifth, in the Breece iron mine and Mike; the sixth, in the Highland Chief and Highland Mary; the other two breaks are shown by the character of the formation between the last-named mines and the summits of the Mosquito Range. The same geology extends five miles north and nine miles south and west of the first break to the Arkansas River. The carbonate deposits of the entire region are that class of fissure-veins known as contact-fissures. There are gold-bearing rocks above the porphyry which immediately overlies the carbonate deposits; and such mines as the Printer Boy, Green Mountain, and Colorado Prince show their richness. The grinding of these rocks distributed the gold in the rich placers, the working of which preceded that of the carbonates, and gained a double reputation for the district. After California Gulch had outlived the excitement incident to its wonderfully productive gold placers (an excitement that peopled the gulch with 10,000 souls and produced $1,500,000 of gold), two men, Stevens, of Detroit, and Wood, of Ann Arbor, Michigan, upon the solicitation of the former, bought up a large area of placer ground, believing that by hydraulic mining on a large scale this ground already worked over could be made to yield largely. They dug a ditch eleven miles in length, bringing water at an expense of about $50,000 from the head-waters of the Arkansas to their own territory. This was in 1875. While prosecuting hydraulic mining, these gentlemen frequently came upon heavy sand and boulders of the same material, which ignorance had pronounced "heavy porphyry," but which their sagacity determined to be carbonate of lead. The source was soon found in a magnificent cropping of 16 feet thickness on the south side of California Gulch. The first location made on this cropping was the Rock mine, now owned by the Iron Silver Mining Company. Stevens & Wood revealed their discovery to no one; but after devoting a year to the careful study of the geology of the adjacent territory, and particularly of Rock and Iron hills, in the summer of 1876, they staked out a large number of claims which recent developments have proved to embrace a large amount of "apex," covering the most wonderful and permanent of Leadville bonanzas. In the fall of 1876, the J. D. Dana mine, on Long & Derry Hill, owned by Long & Derry, began shipping a good grade of ore, and other new discoveries were made on Rock Hill. In the winter, the Gallagher Brothers discovered the Camp Bird and Charlestown mines, whose ore at that time carried a heavy percentage of lead, and more than 60 ounces in silver per ton. In the summer of 1877, the Carbonate mine, after which Carbonate Hill has been named, was discovered by Hallock & Cooper, and supplied, temporarily, shipments of high-grade ore. Then followed the discoveries of the Crescent, Yankee Doodle, Catalpa, Evening Star, Morning Star, and many others. A short season of barren prospecting followed; but in the early part of 1878, George Fryer dug a hole in a locality now famed throughout the country as "Fryer Hill," which had been condemned as mere "wash," and here, in conjunction with "Chicken Bill" (the brass nugget man), he struck the New Discovery, Chrysolite, and Carboniferous mines. Just after the New Discovery commenced producing, in the spring of 1878, August Riche began digging on the very top of Fryer Hill, about 150 feet above the New Discovery shaft. It was supposed that the vein which Fryer struck 50 feet underground dipped toward the east at an angle of about 15°, and it was assumed that Riche would be obliged to sink 500 feet at least. H. A. W. Tabor backed Riche and his "pard" in their unpromising venture, and lo! the vein dipped upward instead of downward, and at a depth of 28 feet, with an outlay of $84, the world-renowned Little Pittsburg was first uncovered.

This wonderful discovery stimulated work on the Chrysolite and Carboniferous, both of which opened up grandly. Ore was also found in the Amie, Dunkin, Matchless, and Iron mines, but until within the last year these latter have not amounted to much. In the winter of 1879, the Robert E. Lee was found, and soon surprised the public with the marvelous richness of its ore. During this year, the Morning Star struck an immense body of ore, and at once jumped to the front rank of producing mines. The Evening Star, profiting by this discovery in its neighbor, and backed by an enterprising superintendent, soon followed the Morning Star in extent of ore production. The years 1879 and 1880 developed excellent properties in the Highland Chief, Little Ella, and numerous mines of value on Breece and Little Ella hills. The Hibernia and Surprise, near the R. E. Lee, both producers of high-grade ore, and the Glass-Pendery, and Etna, on Carbonate Hill, both valuable properties, as developments have proved, are all discoveries of recent date—at least, their ore-bodies are. Quite recently, an important strike was made in the Columbia, on the south side of California Gulch and west of the Rock mine, opening up a new field, and showing that no ground in this vicinity should be condemned as worthless until fully prospected. Since the Columbia, other important strikes have been made, notably in the Green Mountain, Titus, Denver City, Henriette, Scooper, and many others. The ore output of the mining properties named in this article, and that of hundreds of others not named, has swollen the bullion yield of the "Carbonate Camp" during the past year, 1880, to the handsome figure of $15,025,153, and this in the face of a long strike, the exhaustion of two of her leading mines, and a disastrous fire in another. On account of these calamities, the report went out among the stock-jobbers of New York that the ore-deposits of Leadville were of a very unreliable character. The fact is, however, patent to reasonable persons who have not been singed by stock gambling, that those ore-deposits are in reality of wonderful regularity, permanence, and extent. If the mineral deposits of Leadville were set upon edge, like the fissures of Nevada, they would make a few mines equaling in depth and richness the famed Comstock lode; and there would be a few colossal fortunes, varying from 25 to 60 millions, accumulated. As these deposits are, however, comparatively horizontal, the district embracing them is emphatically the people's mining district, and benefits a far greater number of individual operators and companies than any other camp yet discovered. Any one who has made himself thoroughly acquainted with the immense area of mineral territory surrounding Leadville, and has taken pains to examine such systematically worked mines as the Iron Silver group, the Morning Star, the Evening Star, the Matchless, the La Plata, and others, can not fail to see even in these few properties a large and permanent supply of ore, which justifies predictions of many years of prosperity for Leadville.

THE SMELTING INDUSTRY.

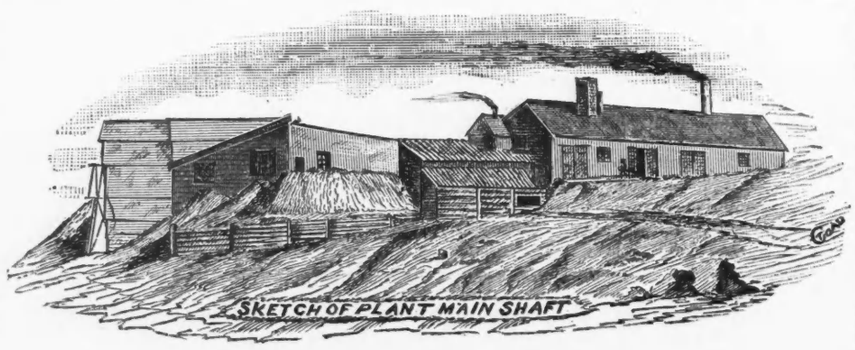
Before carbonates were discovered, the first smelter of the district was erected at "Swilltown" (or Malta), some ten miles down the gulch from Leadville. With the discovery of ores, the facilities for marketing and treating them increased. The pioneer smelter of Leadville was located in the spring of 1877, by Edwin Harrison, of the St. Louis Smelting and Refining Company, and was styled the Harrison Reduction Works. The Grant smelter was next erected, and from a small beginning has grown to be one of the largest concerns of Colorado. Then followed Berdell & Witherell (now the La Plata Mining and Smelting Company), which will shortly be treated more in detail; after which, the following concerns were established, and are now operating: Billing & Eilers, the American, the California, the Malta, Cummings & Finn, Ohio & Mississippi, Gage, Hagaman & Co., and the Elgin smelter. The total number of furnaces is 31, and they treat from 650 to 700 tons of ore daily. There have recently been added to these establishments three mills for the treatment of low-grade ores, of which there is a very large supply.

THE EVENING STAR MINE.

WITH SUPPLEMENT.

No better illustration of a carbonate mine of the first order can be given than the celebrated Evening Star mine. The engraving of the underground workings of the mines, herewith given in the Supplement, shows, as well as can be shown in a map, the character and quantity of work accomplished in this mine. This map was carefully prepared from special surveys by Messrs. Jaycox, Goad & Corning, Mining Engineers of Leadville, on scale, for the ENGINEERING AND MINING JOURNAL.

The Evening Star mine is a half claim, 150×1500 feet, located on the northern portion of Carbonate Hill. It runs due east and west over the brow of the hill; and, as indicated on the map, is bounded by the Catalpa mine on the south and the Morning Star on the north. The only misapprehension that this map may occasion is the appearance that the different levels have of cutting the reserved ore-bodies into small irregular blocks. It must be borne in mind that the map shows a horizontal section of the entire mine, and that one level is from 100 feet to 140 feet below another; for instance, the "Y" shaped or "exit level" is fully 140 feet below any workings of the mine; yet it appears to cut the ore-bodies above. In truth, all the ore extracted is dropped down to this exit level, and run out to the shafts. The numbers on the bottom and the letters on the side of the map are for the purpose of pointing out the location of any particular ore-body in the mine. To illustrate: A recent strike was made in 54 C. Follow up the lines from these, and it will give us the locality in the region of the last winze. Again, between blocks 26 and 46, all drifts are in ore, and the probability is, that the drift now making in 55 and 56 will be in ore. The striking characteristic of the Evening Star mine is the large bodies of ore actually in sight. Our correspondent says: "I went down the main shaft No. 2, of the middle workings, on the very morning (April 22d) that ore was struck in the uprise near the Catalpa, which established the fact of the ore-chute extending diagonally through the entire dimensions of the mine, with a northeasterly trend the same as the Iron mine. The Evening Star, indeed, is in the mineral pocket of Carbonate Hill, and every ton of ore thus far extracted is represented by at least four times as much blocked off as a reserve in the mine. The management counts $10 a ton on the development-work of the mine. When this is completed and stoping commences, cross-cuts will be run; the reserve blocks of ore will be made as small as possible, and rude cribbing put in as fast as the columns are taken out. The cost of this will be comparatively slight, and a dividend of $2 per month can be paid without difficulty for a considerable time. This is as much as the famous Comstock bonanzas paid in their glory.



EVENING STAR MINE, LEADVILLE.

"Mr. A. S. Ward, manager of the Evening Star, who showed me through the mine, seemed especially pleased with a new drift, opened within the two weeks previous, running north from winze No. 1, a distance of only 30 feet, and dipping at an angle of about 20° north. The vein has a width of 2 or 3 feet where first struck, but widens to 8 or 10 feet. Mr. Ward said that this ore had never been calculated in the estimate of the mine; that the ore was high grade; and that he would pay a $20,000 dividend out of it, netting $140 per ton. I was shown through all of the drifts, cross-cuts, and winzes of the mine, and after a thorough inspection came up the new shaft No. 3, which has a perpendicular distance of 308 feet. In the middle workings between main shaft No. 2 and winze No. 2, there are still remaining about fifteen blocks of reserve ore averaging 25 feet square. On the third level, these blocks were walled up for 40 feet with five sets of timbers. On the fourth level, the hight of the ore was 36 feet, with four sets of timbers. The length of the levels averages 160 feet, and the drifts 130 feet. The fifth level runs parallel with the Morning Star, and, as they have demonstrated in the Morning Star that the ore is 30 feet above, an uprise in the Evening Star will strike the same body of ore. From the new shaft, by which we made our exit, the unexplored portion of the mine extends for 500 feet to the east end line. A handsome body of ore has been exposed near the west line. Work will begin on it shortly. The Evening Star ore is the most legitimate sand carbonate in the camp, averaging 55 ounces silver and 25 ounces lead. It is all screened prior to being shipped to the smelters. Fifty tons are shipped per day, about all the shafts can handle. The ore is hauled by contract at a cost of 90 cents per ton. The Evening Star operates two engines and hoisters, manufactured by the Colorado Iron-Works, of Denver. It employs 120 men, paying wages of $3 per day. This mine has already paid ten dividends of $25,000 each, aggregating $250,000. The dividends have all been paid from work on drifts. It has been conspicuous for its excellent management, which, operating on the basis of any other legitimate business enterprise, has yielded the greatest possible returns with a minimum expense. The following are the names of the officers and directors of the company: W. B. Dickerman, President; H. K. McHarg, Treasurer; W. S. Wood, Vice-President and Manager.

STRIKE AT JEFFERSONVILLE, IND.—The coal-cart drivers and coal-shovelers here, numbering nearly 150 men, struck on May 2d for higher wages. An attempt to run teams in the afternoon with new hands was prevented by the strikers.

TOMBSTONE, ARIZONA.

EDITOR ENGINEERING AND MINING JOURNAL:

SIR: From Benson, on the Southern Pacific Railroad, on the arrival of the east and west-bound trains, stages depart daily for the mining town of Tombstone. The road is comparatively good for twenty-eight miles. When within twelve miles of the journey's end and before leaving the San Pedro River, a small stream that is first met near the railroad, the rumbling of the stamps is heard. There is a gentle rise thus far, then rolling hills of unstratified alluvial formation, composed of gravel and boulders, traversed by winding valleys, are ascended. This mesa terminates in eruptive elevations of only a few hundred feet, with the gradual synclinal slope to the northeast. The town has an estimated population of from 4000 to 5000 people, and at least one fifth as many houses, generally of the one-story box pattern; every day adds to both. The trades and professions are well represented. Business, though large, is over-done, as the mines are easily worked and do not require so many miners as in Nevada or in Colorado. Perhaps not over five hundred men find employment with the twenty or more properties in process of development and operation; but the idle men might become prospectors, to the profit of themselves and the territory.

THE GEOLOGICAL FORMATION.

The approach from Benson, on the north side, encounters, within a short distance of the most noted mines, large and small syenitic granite boulders. The slope of the range in which are situated the most productive properties consists of crystalline dolomites and porphyry, possibly plutonic, while the various strata mantle around the flanks of the granite. The strike is N. S., or nearly so; and the dip, N.N.W., seldom remains constant, owing doubtless to the irregular thickness and quality of the strata. The veins (or rather vein) traverse a polar strike, the south end penetrating the low mountains. It is asserted that the north end continues far into the valley; the opponents of this theory maintain that it circles into the Tough Nut ground; if so, it is very sudden.

The ores differ somewhat in the respective groups of mines, but are chiefly chloride and carbonates, and are treated by the pan amalgamation process. As they contain a small percentage of lead, the tailings are saved for future treatment. The deficiency of local facilities, wood and water, add much to the expense of beneficiation. Wood costs from $8 to $10 per cord, of inferior quality when obtained from the mesa, being mesquite, a bush rather than a tree. This source of supply is limited. The oak and pine come chiefly from the Dragoon Mountains, ten or more miles northeasterly, and from fifteen to twenty miles from the Huachuca Mountains, southwest. The water for present milling purposes comes from the San Pedro River, requiring the hauling of ores from ten to twelve miles at the rate of from $2.90 to $3.25 per ton. For mining and domestic use, the Sycamore Company supplies a portion at a cent per gallon, which is brought in pipes from springs in the Dragoon Mountains. Watervale, nearly two miles from town and on the road to Benson, furnishes some, delivered by water-wagons. These are inadequate sources of supply for the growing demand, and a company has been formed to pipe water from the Huachuca Mountains. The company asserts that an amount can be obtained more than enough for present necessities, and that it will be brought to the mines to furnish hoists and mills, in order to save hauling, and to treat much ore of too low a grade with present expenses. The report of striking a strong and no doubt permanent flow of water in the sulphurets at a depth of 510 feet may, in a great measure, settle the vexed water question.

The economic facilities of mining and milling may be said to be good; the dry condition of the mines, with easily-mined ore, requiring but little timber, and most of the ore-yielding mines being on or near the surface, and having required little exploration and small labor force. Possibly the average cost per ton for mining and hoisting is not over six dollars; and the beneficiation, owing to the ability of the stamps to crush from 2½ to 3 tons per day, does not cost more than $6 or $7 per ton for the large mills, and $8 or $10 for the small mills; therefore the total expense, including incidentals, in the bullion-producing mines, does not exceed $20 per ton. Possibly not over 80 per cent is saved, and less when the lead carbonates predominate.

The following are the mines with hoists and mills: Western Mining Company (Contention), 2 steam-hoists and 25 stamps; Tombstone Mining and Milling Company includes 11 locations, principally the Tough Nut, 2 hoists, 10 water and 15 steam stamps, and 5 more being added; Grand Central, one hoist, a larger one contemplated, and 30 stamps; Vizina, Sulphurets, Tranquillity, Girard, Empire and Cincinnati, each a steam-hoist. Numerous other mines of considerable depth have either whips, whims, or windlasses; among them are the Contentment, Sydney, Grand Central South, Hawk Eye, Flora Morrison, Way Up, Bob Ingersoll, and Gilded Age. The Boston, 20-stamp, and the Pillsbury, 5-stamp mills will do custom work. Total, 12 steam-hoists and 120 stamps, treating 300 tons or more of ore daily, that will mill from $40 to $200 per ton, chiefly silver, with some gold. The low average of $75 per ton and 80 per cent saved would give the flattering yield of nearly $20,000 per day, or about $7,000,000 per annum, as the present capacity. Moreover, the mills are accumulating piles of tailings and the mines reserving large dumps and segregations of ore on the surface and in the workings, that

will assay $40 and under. With an abundance of water from the mines and the Huachuca Mountains, a railroad connection for cheap fuel (coal) and cheap freighting to the river, the bullion production must be augmented.

Tombstone is healthy but hot. The elevation is over 4500 feet, and eight months summer, with the dust nuisance of your Eastern cities.

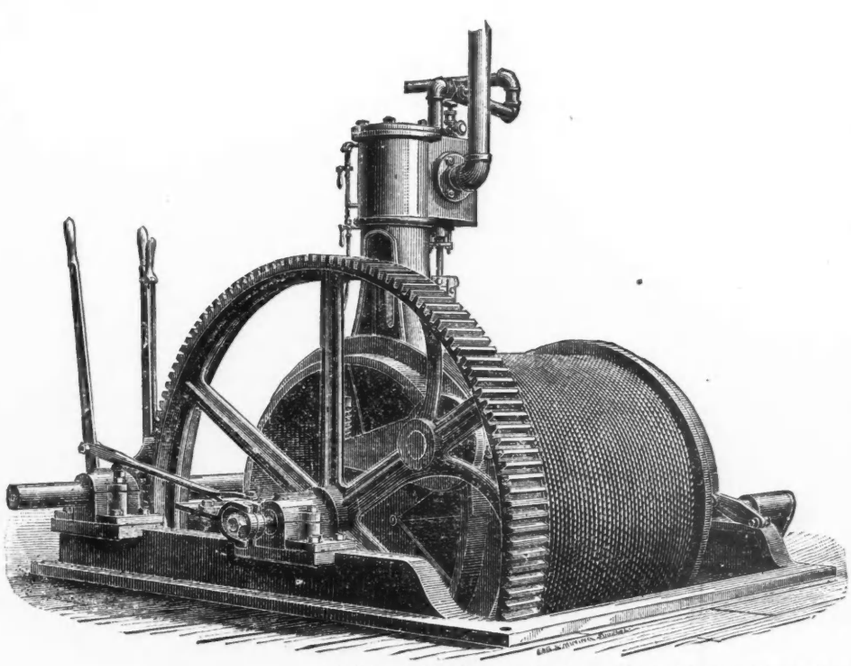
A paper statement of the shipment of bullion through Wells, Fargo & Co.'s Express for the month of March puts the amount for Contention at $168,329; and Charleston, the shipping-point of the Tombstone Mining and Milling Company, at $136,904. Some of the bullion finds its way to commercial centers through other avenues. The Grand Central and the Head Center have just started, and in a few months reports will be made from all the mills.

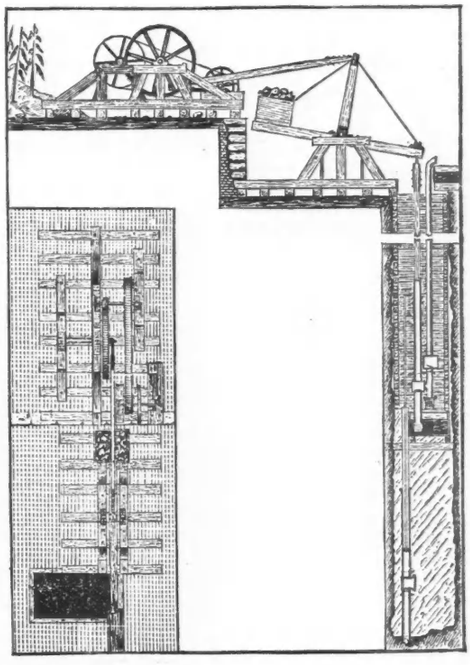
Two large parallel veins are proved by exploration to course through the Contention Hill. It is conjectured that at no great depth they will unite, forming a large ledge. J. M. G.

TOMBSTONE, ARIZ., April 25.

THE COLORADO IRON WORKS.

In these works, the manufacture of mining machinery is carried on with the advantage afforded by a location in the mining region, and in being conducted by men of large experience in the manufacture and use of mining machinery. The managers have had more than twenty years' experience in the mining districts of Colorado, and are thoroughly familiar with the requirements. The Colorado Iron-Works have grown





THE COLORADO IRON WORKS—HOISTER AND CORNISH PUMP.

to an interest of first importance in this new State, in their particular line, employing steadily more than ninety men, and turning out an aggregate of one hundred and thirty tons of work per month.

The principal articles of manufacture are hoisting and pumping machinery for the mines, and mills and furnaces for the reduction of ores. We present herewith illustrations of a hoister and a Cornish pump (models of their kind), produced at these works; and extended inquiry in the mines, and among men well versed in these matters, shows that no machinery is more popular or better subserves the purpose for which it is designed than that produced by the Colorado Iron-Works.

The Cornish pump is considered most reliable wherever the mines are deep and the quantity of water considerable, and our engraving is a good representation of the arrangement of pumping machinery in the larger number of the most important Colorado mines.

The hoister, illustrated, is supplied with the Havens friction clutch, and for safety, durability, and economy is unsurpassed. It is a deservedly popular hoister, and largely in use in Colorado mines.

A large number of the experienced managers of mines in Colorado have all their machinery manufactured in Colorado shops, arguing that, while it may not be always the cheapest to start with, their wants and needs are distinctly understood and appreciated by their home manufacturers, and that, in the long run, they obtain better results.

The Colorado Iron-Works have the sole agency for Deane's patent steam-pumping machinery, manufactured by the Deane Steam-Pump Company, of Holyoke, Mass., New York, and Boston, and Colorado agents for the productions of the Erie City Iron-Works, of Erie, Pa., manufacturers of engines, boilers, and saw-mills.

STRIKE ON THE DELAWARE, LACKAWANNA & WESTERN RAILROAD.—The trackmen on this road, in the vicinity of Morristown, N. J., who have been receiving one dollar a day, struck for higher wages on May 2d. The movement is unimportant as to the number of the strikers, but it is thought that their example will be generally followed along the line.

THE MEYER REDUCTION WORKS.

WITH SUPPLEMENT.

This is an institution that occupies an intermediate position between the mine and the smelter. Its great business has hitherto been, and is to-day, to furnish a market for ores of all kinds. The products of mines are purchased, and, after crushing and sampling, are sold to the smelters. The miner is supplied with funds to prosecute his developments, and the smelters are kept in blast. Thus is the local mining industry kept constantly lubricated and moving. This firm began operations in Leadville early in the fall of 1876. The only ore produced and marketed at that time was from the Rock mine, which, although carrying only from 6 to 8 ounces of silver per ton, contained more than 60 per cent of lead, and was shipped chiefly by Mexican ox-teams to Colorado Springs, and thence by rail to St. Louis. In the winter of 1876, A. R. Meyer & Co. closed a contract for the production of the Camp Bird, and established their store-room and mill in a two-room log shanty. The ore was broken by means of a sledge-hammer preparatory to its shipment to the East. The expense was heavy; but the object was accomplished of thoroughly testing the ores during the winter, and, by furnishing a market, to gain a claim upon the first consideration of the miners, which they have retained to the present. Although there was no competition, yet high prices were paid for ore, and through this instrumentality Leadville, as a mining camp, was enabled to make rapid strides. In the spring, A. R. Meyer & Co. began the reconstruction of their establishment and the erection of machinery. Additions and improvements have from time to time been since made, until the works now cover several acres of ground, and have a capacity of from 400 to 500 tons of ore per day, which can, if necessary, be increased to 600 tons.

The business of A. R. Meyer & Co. is the purchase and sampling of ore and the purchase of bullion. The ore is received from the mines in bins holding about 50 tons each. From here it is sent to the crusher-house, where it goes through the following processes: First, the rock-breakers operate upon it and crush it to what is styled "fist size." Secondly, one tenth of this is put through the Cornish rolls, 36 inches in diameter, and crushed to "pea size." The nine tenths of coarse crushings are moved forward to the store-houses and shipping platforms, ready for transportation to the smelters by rail. Thirdly, the one tenth referred to is next passed over a scoop which takes a sample of about 20 per cent. Fourthly, the sample is quartered until it represents about 500 pounds. Fifthly, these 500 pounds are put through a set of finishing rollers and reduced to "corn-meal size." Sixthly, quartering is again resorted to; and in proportion as the quantity is diminished, the size is also decreased by passing through screens and "bucking" down. Seventhly, the final result is about five pounds of ore, all of which has passed through a sieve of 80 meshes to the inch. The sample is put into three bottles, which are sealed. One goes to the miner, one to the assay department, and the third is held back to be used as the umpire assay, should the assays of the buyer and the seller disagree. The illustrations in the Supplement give a thorough idea of the magnitude of the Meyer Works. The bins and receiving-houses have a capacity of 2000 tons. Two tracks of the Denver & Rio Grande Railroad run through the premises. Employment is given to about 50 workmen. In 1880, 33,187 tons of ore were purchased and sold in Leadville by this company, containing an average of 60 ounces silver and 25 per cent lead, representing a value of $2,893,926.64, figuring silver at $1.12 per ounce, and lead at 4 cents per pound. In the same year, 5246 tons of bullion were purchased, containing an average of 250 ounces silver, and representing a value of $1,888,560, making a grand total of $4,782,486.64.

THE LA PLATA MINING AND SMELTING COMPANY.

WITH SUPPLEMENT.

The illustrated Supplement gives a complete and graphic idea of the smelting industry, as exemplified in the now famous La Plata Smelting Works. The illustrations carry with them their own explanation, yet it may not prove uninteresting to give a detailed description of the extent and methods of operation. Prior to the year 1879, the La Plata Mining and Smelting Company was established by the enterprising gentlemen who still have control of the present corporation, Messrs. Berdell & Witherell. In June, 1879, it was thought desirable to stock the company at $2,000,000, in 200,000 shares of $10 each; and $100,000 was set apart as working capital. The old works were enlarged and improved, involving an expense of $50,000, and the new organization at once took rank among the leading smelting establishments of Colorado. During the year 1880, other important improvements were made, new machinery and equipments were added to the plant, and more territory was acquired in order to meet the growing demand of the business, until to-day the main works, ore-houses, and outlying buildings have a frontage of 2650 feet, and occupy an area of about thirty-two acres. These are all located in California Gulch, within easy access of the mines by an excellent wagon-road, and directly accessible to the Rio Grande and South Park railroads, whose tracks traverse the premises. This establishment has grown with the growth of Leadville, and will doubtless continue to do so in the future. The La Plata furnaces produce in the neighborhood of 50 cars of bullion per month, which averages per car of 10 tons fully $5000. Every twenty-four hours, these furnaces (five in number) turn out 17 tons of base bullion. They consume 86,000 bushels of charcoal per month, and 420 tons of coke; the former costing 13 cents per bushel and the latter $21 per ton. The lime used is obtained from their own quarries in California Gulch, and costs only the hauling, while the iron flux, costing $8.50 per ton, comes from the Iron and Breece mines. The company also owns silver-lead mines in California Gulch, abundantly supplied with low-grade ores, and which, in combination with high-grade ores from such mines as the Robert E. Lee, Chrysolite, Evening Star, and others, are found extremely valuable. The ores to be smelted are deposited in bins, which have an aggregate storage capacity of 3000 tons. The ore is graded in mixture piles containing 300 tons each, and the proper amount of fuel and flux for each mixture is determined; this requires the nicest discrimination of the laboratory. The ore, lime, and iron are all commingled, and taken to the furnace-room. The furnaces are charged with alternate layers of fuel, ore, and fluxes. The quantity of fuel averages 22 per cent. On account of the air being less dense in this high altitude, a greater quantity of fuel is said to be required, and also more blast. Slag is obtained two hours after the blast commences; and three hours after the blast, the metal is obtained, which is run off in the shape of "bullion pigs," weighing 105 pounds each. Clean slags are obtained by slow smelting, and as the La Plata smelter pays for all the lead in the ore, clean slag is a desideratum. The bullion pigs, mentioned above, are carefully assayed to determine their value before being shipped to the refining works at Newark, N. J.

The La Plata establishment is fully equipped with all the improvements and conveniences that an enlightened management can suggest. By a system of dust-chambers, through which the smoke is made to pass on issuing from the chimneys, the escaping silver and lead dust is saved, and is found to run from 45 to 75 ounces in silver and 25 per cent lead. It is resmelted by being mixed with ore containing clay or with milk of lime. Some months this "flue-dust" aggregates 70 tons, and the average saving is $3000 per month. The La Plata Company paid its nineteenth dividend of $15,000 February 1st, making the total dividends paid to date $295,000. Balance on hand March 15th, $154,281.

The resident officers are: Nathaniel Witherell, President; Theodore Berdell, Vice-President and Treasurer; A. Landon, Secretary; M. E. Smith, Manager; and W. F. Day, Superintendent.

SILVER CITY AND SOCORRO, NEW MEXICO.

Special Correspondence of the Engineering and Mining Journal.

The Sherman mine, at Silver City, owned by the Williams Brothers, a half-interest in which, I hear, has been obtained by the Income Mining Company, of Boston, is showing up wonderfully well, and only proves what development will do with the mines of this country. Messrs. Williams deserve a great deal of credit for the perseverance they have shown for the past few years, in working this claim in the face of disappointment, and all wish them well in their final success. Years ago, some good ore was taken out on the surface, and then, like many other mines in Grant County, low-grade iron was found. By driving a deep tunnel, rich ore was found under the porphyry, and opened in several places. Here are almost all the characteristics of Leadville—chloride ore, carbonates, and rich galenas. A great deal of the ore is free-milling rock, carrying horn-silver or embolite, the usual mineral in this part of the country. They are working their old dumps, running about 17 ounces in the new custom mill, and accumulating a handsome dump of 100-ounce ore and a ton or two of rich mineral. At present, they are developing their ore-body, and not trying to take out ore.

All the southern part of New Mexico is coming rapidly to the front with rich developments. I suppose Lake Valley takes the lead with its test of 200 pounds of ore producing 50 odd pounds of silver, and blocks of solid horn-silver, with numerous ton-lot tests of from 70 to 600 ounces. The Black Range is showing fine assays up to 5000 ounces; also the Mogollons. From the former we want to see some mill-runs, to counteract the adverse talk of some parties. The mineral certainly looks well, but I have not examined mines as yet. White Oaks, Oscuras, Tres Hermanas are all attracting much attention. Those who own claims that have disappointed them will do well to follow the example of the Sherman, and go deep. A little more such enterprise about Silver City will not only prevent a tendency to herbaceousness in her streets, but furnish some of the richest mines in Grant County.

The coming season will be about the last chance to secure good properties at low rates, as all parties are realizing the character and value of the deposits through this country.

Socorro can justly point with pride to her one mine at all developed, the Torrence, and say, Go and do likewise! A seam of about 10-ounce ore has developed into a three-foot vein of ore, running from 30 to 250 ounces, and shows a five-foot ore-body in places, with 26 running feet of the drift averaging 100 ounces from 100 pound samples every few feet, free milling ore to 83 per cent. One block of ground is opened containing some 9000 tons, and the second block is now in process of exploration at a depth of 175 feet, with equally promising results. A mill is building to treat the ore of this mine, when more interesting results may be looked for. The country is not a very favorable one for prospecting; bad water, rough mountains, and sometimes Indians are some of the hardships; but the railroads are fast opening up the country. EZUEST.

SOCORRO, NEW MEXICO, April 22.

THE ROBERT E. LEE MINE.

WITH SUPPLEMENT.

On another page we present a view of the works of the Robert E. Lee mine, located at Leadville, Colo., and owned by the Robert E. Lee Mining Company, a corporation organized under the laws of the State of New York, with a capital of $5,000,000. This illustration gives a very comprehensive view of the company's property. The property consists of about thirteen acres, less than two acres of which have yet been worked. The drifts driven from the main workings show a vast body of ore in all directions. The mine has been under development for the past four months; and when stoping begins, the output will be very large. The claims are located on the north and east slope of Fryer Hill, and the property has proved itself the richest of all the celebrated mines yet found in the Leadville camp. The owners of this mine have received in dividends, after deducting all of the improvements and expense of working, including the surface improvements, which we illustrate, nearly a million and a half dollars. The principal shaft-house is about 75×200 feet in size, including the ore-bins on the south and west sides. The shipments from the mine have lately averaged from forty to fifty tons per day. During the three months of September, October, and November of last year, the output was ninety tons per day. Last year, one day's output from this mine, of ninety-three tons, netted the owners $118,500. This is unparalleled in the history of American mining. The main shaft is now down more than 225 feet, the first station being at 160 feet. From here, following the main drift northeast, the ore is found rapidly pitching to the east. This property is now thoroughly equipped with ample machinery and a first-class sampling-works, by which the value of its ores is tested before going to the smelters.

The officers of the company are: Hon. James Y. Marshall, President, Leadville, Colo.; Lorenzo D. Roudebush, Vice-President, New York; Willis A. Barnes, Secretary and Treasurer, 63 Broadway, New York.

THE INGERSOLL ROCK DRILL AND THE INGERSOLL AIR COMPRESSOR.

WITH SUPPLEMENT.

This drill consists, in its principal parts, of a shell, a cylinder, a piston, and a valve. The shell is a half cylinder, provided with ways in each side; in these ways the cylinder is moved forward, automatically or by hand, as the bit of the drill cuts into the rock. The holes are continued by running the cylinder back on the feed-screw, and inserting a longer drill-bit into the chuck at the end of the piston. The cylinder, which is a strong casting, inclosing the piston, has its two heads protected on the inside by elastic cushions, which receive the blow of the piston when the bit suddenly cuts into an open seam or hole. The piston, a solid bar of forged steel moving backward and forward in the cylinder, is propelled by steam or by compressed air. The drill steel, on the end of which the cutting-bit is forged, is firmly attached to the end of the piston by means of the chuck, these two pieces of solid steel alone receiving the shock of the blow. The piston rotates at each backward stroke, and moves straight and with freedom on the forward or cutting stroke. The device which effects this action, and the use of an X-shaped bit, enable a hole perfectly round to be drilled. Each wing of the bit strikes just far enough in advance of the last blow to chip away the rock, instead of crushing it, as in hand-drilling. The valve, which admits the steam or the compressed air into the cylinder to move the piston, is itself moved back and forth by the steam or the air used in the drills. This arrangement adds greatly to the simplicity and durability of the machine. The bits are forged on the ends of steel bars of different lengths, and are usually X-shaped, the diameter on each additional length decreasing slightly to conform to the wear on the shoulders of the preceding bit. On the opposite end, a head is turned or forged to fit into the drill-chuck. In rock that is very loose or seamy, a Z-shaped bit may be employed to advantage. The merit of simplicity is claimed for this drill, since it has but two quick-moving parts, the piston and the valve. Its durability is due to its few moving parts, none of which is struck by the piston. As the piston has no parts to strike and move, the full force of the blow is delivered on the rock. Further advantages claimed are, adjustability, cheapness, and interchangeability of parts.

Compressed air is especially adapted to running machinery in mines, shafts, and tunnels, where the power is to be transmitted long distances. After service for drills, hoists, pumps, and engines, it may be exhausted into the workings and furnish the workmen with a continuous supply of pure, cold, and fresh air. Free air is admitted into the cylinder of an air-compressing engine, and compressed to any density desired. It is then discharged into a receiver, where the water discharged with the air is deposited. The air is carried from the receiver to a point conveniently near to the drills through large air-tight iron pipe, whence smaller pipe and short lengths of rubber hose connect the main pipe with the drills. The power, of course, may be either steam or water.

The single steam compressor is arranged with one steam and one double acting air-cylinder passed horizontally and side by side; each cylinder has its own bed, the two being rigidly bolted together. The

power is applied to the air-cylinder by means of a double crank shaft, having a balance-wheel on each end. Rods, cross-heads, and guides are used to connect the steam and air-pistons. The whole is put together in such a manner that the greatest power is applied at the point of greatest resistance, and so as to admit of a high speed. Water is admitted into the air-cylinder for lubricating and cooling, in the ordinary way. The inlet-valve to the air-cylinder is a slide-valve, and is moved by an eccentric on the main shaft. This valve is held in place or balanced by admitting the pressure from the discharge-pipe into the valve-box through a small pipe. The delivery-valves are what are termed poppet-valves, and are arranged on the top of the cylinder at each end. The entire volume of air in the cylinder is discharged at each stroke, the spaces being filled by the water. By the use of a slide-valve moved by an eccentric, a positive, full, and free opening is made for the admission of air under all speeds. No springs are used with this valve, and the cylinder is entirely filled with free air at each stroke of the piston, because its free passage into the cylinder is not obstructed by having first to lift a valve.

GUNNISON COUNTY (COLO.) COAL DEPOSITS.

A correspondent of the New York *Tribune*, writing from Irwin, Gunnison County, Colorado, says:

"A great source of the prospective wealth of the Gunnison country is in its coal. How extensive the coal regions are is not yet known, but enough has already been discovered to supply all demands for many years. Along the southern slopes of the mountains facing the Gunnison Valley, a vein of bituminous coal from four to six feet in thickness crops out in places; and as it has a dip toward the valley there is but little doubt in regard to its extending under the valley. Thousands of acres of coal lands have been located on this vein. The coal is free from slate, is hard, and burns freely with a bright flame. It cokes, but not so freely as Pittsburg coal.

"On East River, at Crested Butte, a vein of bituminous coal four feet thick is opened and the coal used for fuel in the ore-reducing works at that place, and also in the town. This coal is equal to the best Pennsylvania coal, cokes readily even in the open air, and makes a coke of the first quality. The vein is opened at the base of the mountain, where the overlying strata have been worn away by the water of Coal Creek, which there enters the valley of Slate River. The vein dips toward the river, and no doubt underlies the broad valleys of Slate and East rivers.

"Near the town of Irwin, anthracite coal is found in a vein four feet in thickness. This is a hard, bright coal, containing 92 to 93 per cent of carbon. It burns freely, without flame or smoke, and is entirely free from slate. It is used for fuel in Irwin. Farther down the creek, this coal is found in veins ten to fifteen feet thick, and is known to extend west and northwest a distance of fifteen miles. Beyond that, large veins of coal are seen to crop out in many places, but the nature of the coal has not been determined. Some ten miles below the source of Rock Creek, a vein of anthracite coal, similar to that found at Irwin, five feet nine inches in thickness, has been opened close down to the bed of the creek. It is not known how extensive the vein may be. At present, it is too inaccessible to be of value."

PROGRESS IN SCIENCE AND THE ARTS.

Behavior of Metals in Solidifying.—The question is again before scientists for discussion, Whether the expansion of bodies on heating and contraction on cooling occur, as a rule, in the passage from the solid to the liquid state, and *vice versa?* Ice, it is well known, behaves differently, and is regarded as an exception. Kopp's researches have shown that phosphorus, sulphur, wax, stearic acid, stearine, chloride of calcium, phosphate of soda, hyposulphate of soda, and Rose's metal grow larger in volume when fused. Observations made in the past concerning metals give very discordant results, and therefore Nies and Winkelmann have lately studied the question anew. As a foundation experiment, the solid metal was put into the fused metal. In certain cases, the difference of density could be measured. For instance, tin in solidifying is increased in volume 0·7 per cent; zinc is increased 0·2 per cent; solid bismuth is fully 3 per cent less dense than the fused metal. Expansion in solidifying was also demonstrated for antimony, iron, and copper. Indecisive results were obtained with lead and cadmium; lead presented difficulties in the probably very small difference of density as a solid and as a liquid, its small heat conductivity and heat of fusion; and cadmium in the fact that in fusion it passes first into a viscous state. Thus, of the eight metals examined, six distinctly showed expansion in solidifying, and expansion may occur in lead and cadmium. If these experiments stand good, expansion would seem to be the rule for metals.

Birth of a Salt Industry in the North of England.—According to the *Ironmonger*, a few gentlemen, accompanied by Mr. T. Hugh Bell, of the firm of Bell Brothers, have visited the Saltholme Farm, near Middlesbrough, and inspected a core or sample of salt which had been brought from the salt-bed underlying the Tees. The salt, after twelve months' boring operations, had been reached at a depth of 1043 feet, and, from previous boring experiments, the salt-bed or basin may be stated to be fully 100 feet thick. The district has hitherto been exclusively dependent on iron and iron manufacture in two or three forms; and after its long and severe depression, the new trade, which promises so much, will be doubly welcome. The consumption exceeds 200,000 tons annually on the Tyne and in the North of England, and the successful working of this salt-bed will prove of the greatest importance. Messrs. Bell Brothers intend to lay down machinery for raising 250 tons a day, or 75,000 tons per year.

Statistics of the Manufacture of Glass.—Mr. Joseph D. Weeks, Special Agent in charge of Statistics of Glass, has submitted to the Superintendent of the Census his preliminary report of the statistics of the manufacture of glass for the year ending May 31st, 1880. Mr. Weeks's investigation was confined to those works which manufacture glass from crude material, and not those in which manufactured glass is a raw material, such as manufactories of painted or stained glass, mirrors, chemists' ware, etc. There were 194 establishments making plate-glass, window-glass, glassware, and green glass, with a capital of $19,415,599. The number of furnaces was 330, with 2815 pots. The total of wages paid was $9,112,301, distributed among 23,822 employés. The materials were valued at $7,991,303, and the manufactured product reached a total of $21,013,464. Although a satisfactory comparison between the results here given and those for 1870 is impossible, owing to imperfection in the division into classes in the latter year, the following comparative table may be considered as approximative:

	1880.	1870.
Number of establishments	194	154
Employés	23,822	15,367
Capital	$19,415,599	$13,826,142
Wages paid	9,112,301	7,589,110
Material used	7,991,303	5,904,265
Value of product	21,013,464	18,470,507

There were six window-glass works entirely idle during the census year, ten glassware factories, and eight green glass factories. There were in process of erection one new plate-glass works at Pittsburg; two window-glass establishments; nine glassware works; and five new green glass works.

James Russell Lowell's Tribute to the Modern Engineer.—At the late annual banquet of the Institution of Civil Engineers, the American Minister, in proposing prosperity to the Institution of Civil Engineers, said: "I feel that there are certain relations between engineers and that general civilization of which literature and art can also claim their share, which give me, perhaps, some claim to propose the toast assigned to me. Naturally, in some respects I confess I am wanting in sympathy with some of the achievements of modern science; yet, with all the world, I must confess that you are the makers and the masters of the modern world, so far as it is visible, palpable, and serviceable to the rest of the world. * * * I think there is no achievement of modern science which so touches the imagination as that narrow bridge for thought which engineering skill has stretched through the profound and silent stretches of the Atlantic between this continent and the other. Nothing touches the imagination more than the way in which the modern engineer has realized that dream of the ancient philosopher—that the earth was a sentient being. It has made mankind contemporaries in a sense in which they were never contemporaries before."

Papyrotile.—Under this name, the London *Building and Engineering Times* describes the latest novelty in products for decorative treatment of interiors. Papyrotile is neither paper nor tile, but a tough pliant fabric, in substance like leather, though artificially composed of prepared materials which result in a non-conductor of heat and sound. These quasi-tiles may be advantageously employed for wall or ceiling decorations simply by the aid of glue or other cement, and are readily cleaned by the ordinary dust-brush. The decoration is applied in one or more colors to straight or curved lines, either flat or in high relief.

STRIKES IN CANADA.—At Toronto, Ont., the brakemen on the Grand Trunk Railroad requested, on May 2d, an advance in their wages from $1.25 to $1.40 per day on passenger and way trains, and to $1.50 on through freight trains.

The strike at the Diamond Colliery, at Stellarton, Nova Scotia, has ended, the demand of the men being acceded to.

GENERAL MINING NEWS.

ARIZONA.

Late Arizona exchanges have the following:

GRAND CENTRAL.—The new three-compartment shaft is down 25 feet.

HARSHAW.—The shaft on the Hermosa mine has attained a depth of 185 feet.

CALIFORNIA.

THE BODIE DISTRICT.

The Bodie *Free Press* says:

There is every probability that work will shortly be resumed on the Belvidere, Summit, Double Standard, Dudley, Champion, Goodshaw, South Bodie, and University. Bechtel will probably remain idle until some arrangement is made about a mill. The water is 35 feet deep in the Goodshaw shaft, but it is understood that the principal officers of the company will be here during the current week to view the situation and decide upon a future course of action. The Syndicate is still stoping and milling ore. Bodie Tunnel is still breasting ore from the Festoon or No. 20 vein, and vein No. 7 is also yielding some very good ore. The principal owners of the Tunnel property are expected here during the week, and it is highly probable that they will make arrangements with the Goodshaw Company for the erection of a joint mill of some pretensions. The new and powerful hoisting-engines of the Standard Consolidated are now in good working order, and will begin hoisting as soon as the old engine and gallows frame can be removed and the new cables reeled. There is no change to note in either cross-cut of the 1000-foot level, and the face of the east cross-cut, 700-foot level, 613 feet east of the main vertical shaft, is in very hard rock. The stopes are all looking well; some of them still yield very rich ore. Consolidated Pacific is showing some fine silver ore in the north drift from the east cross-cut, 600-foot level. The east cross-cut, 600-foot level of the Jupiter, is in 98 feet, having passed through the hard bar and come into more favorable ground, indicating the proximity of the east Savage vein. The South Bulwer has its new engine in position, and will resume sinking about the 1st proximo. Tioga still has a pretty heavy flow of water, but the north drift from the east cross-cut and the west cross-cut, 982-foot level, are both pushed as usual, the former in good ore and the latter in feeders of quartz-carrying gold. The shaft of the Boston Consolidated is down 71 feet below the 300-foot station, with indications that the shaft is nearing the east vein. In Bulwer Consolidated, an uprise recently commenced in the Stonewall ledge, south of the shaft, 400-foot level, is in 2½ feet of ore. The Bodie is looking well throughout, and is turning out some very rich ore. Oro is making very satisfactory developments in all directions. Noonday is showing some improvement south, both on the 412 and 512-foot levels, and all the machinery of the mine and mill is working finely. North Noonday is also improving on the 312 and 412-foot levels, the stopes from the latter level showing a vein of good ore eight to twelve feet wide. The north drift on the main east vein of Concordia is vigorously pushed, and the vein is large, strong, and looking well. The Lent shaft is down 575 feet, the bottom still in very hard rock, with no signs of water, and it is now hoped that water will not interfere until the 600-foot station is opened. But little was added to the depth of the Red Cloud shaft during the week, owing to stoppage to add to the pump-columns, but the pump started up

again last evening. The new shaft of the South Noonday is down 140 feet, in favorable ground, and a steam-engine will shortly be put up to facilitate matters.

COLORADO.

CLEAR CREEK COUNTY.

DIAMOND TUNNEL.—According to the *Courier* of the 28th ult., the tunnel has reached a length of 1636 feet, the heading being at present in hard granite. The various workings on the lode are looking well, there being seven parties of lessees, all of whom are taking out ore.

LAKE COUNTY.

The Amie has stopped work, and discharged all its hands; cause, broken machinery. The Catalpa is shipping ore; the shipments for April are reported at about 400 tons. The Glass-Pendery mine shipped, during the fortnight ending April 30th, 150 tons of ore; shipments are now making regularly. The Highland Chief has resumed ore-shipments; about 25 men are employed, and the product averages 10 tons per day. Iron-Silver is shipping largely and the mines are reported looking favorably. The shipments for April are approximated at 5000 tons. The *Democrat* says: Two thirds of the shipments come from the Iron Hill mines and the remainder from the Rock and Dome mines, located on the south side of California Gulch. The company is now employing between five and six hundred men, and doing a great deal of exploration work in addition to the large ore extraction. At the Iron mine, the ore-bins have been almost emptied of their over-taxed loads, but hundreds of tons are still in dumps near the site of the old ore-houses under the elevated track leading from the south incline to the ore-bins, which is now shipped as rapidly as the limited teams will permit. The manager states that a great deal of rich ore has been discovered under some of the old stopes, which is being taken out. Stoping is also carried on in other parts of the mine. Development and exploration work from the lower levels and in the vicinity of the Tucson shaft continues showing up new mineral resources. The work carried on to the north of the new incline is also reported very promising. At the Rock mine, a great deal of work is doing, and ore-extraction is being vigorously carried on. The workings of the Rock and Dome mines have recently been connected by a drift, and the bulk of the product of the latter mine is hoisted through the Rock incline. Some work is also doing on the Lime and other properties of the company, but these enumerated are the principal workings. The Leadville Company is greatly troubled with water in the end of the main incline, which has retarded running in the Carbonate and the Little Giant mines. Little Chief shipments average 20 tons per day, principally of high grade ore. The Miner Boy reports a very important strike at a depth of 300 feet in the main shaft; the stamp-mill is running steadily, and bullion shipments are regularly made. The Morning Star has decreased its shipments, and is pushing development-work.

LITTLE CHIEF.—The Leadville *Democrat* of the 1st inst. reports the present condition of this mine as follows: A tour through the workings of the Little Chief shows numerous fine streaks of ore, and discloses indications that would seem to insure a product fully as large, for an indefinite time to come, as in the past, and great probabilities of a much more prosperous and productive future. The finest ore-faces in the mine, and stopes yielding the greatest quantity, are located near the No. 3 shaft, and apparently are stringers from the immense eighty-foot body, the old stopes of which are situated a short distance to the north. The ore-body here seems to be on the very verge of the porphyry dike, which separates it and the northern workings from those about Nos. 1 and 7 shafts, several hundred feet to the south. The mineral is located above the drifts and stopes, and was opened by a rise, showing ore, separated by spurs and streaks of porphyry, for a hight of probably 20 feet. The amount of ore in sight here is extremely difficult to determine, as it lies in trends or chutes, separated from one another by streaks of iron and porphyry, and having all directions. One fine vein of rich ore, starting at the foot of the rise, and measuring three to four feet in thickness, seems to pitch downward, while near the top are several equally large chutes, that look as if they might continue in a slightly upward course to the southeast, over the porphyry dike, or into it. How much ore will be extracted in following these different trends no one could venture to predict; but their course, which is into unprospected ground, that is, running considerably above any of the old workings, shows that there are great possibilities of encountering large and rich bodies, as the process of extracting ore carries the miners forward. Another very fine streak of ore is found almost due west of the Daly shaft, in the large body of iron, which is also situated so as to give hopes of opening up into a much larger body of ore. A short distance south of this place, another good streak has been followed into a solid block of comparatively unprospected ground. As stated in the last report of this property in the *Democrat*, the possibilities of a large strike are few, and could only be made either in or over the porphyry dike between Nos. 1 and 4 shafts, or in the large iron deposit north of the Daly shaft. The amount of ore, however, that may be discovered above and below the old stopes and in some of the fifty-foot blocks of supposed barren territory will doubtless prove very considerable. A look through the mine now would indicate that the manager will have to penetrate all the fifty-foot blocks of ground, and make innumerable winzes and rises in the old workings, before the mine can be said to have been thoroughly prospected and gleaned.

MEXICO.

STATE OF CHIHUAHUA.

There are to-day in the State of Chihuahua, says *El Fronterizo*, six American companies engaged in working the mines. The mining company of Santa Eulalia owns the famous mines of that name, 16 miles from the city of Chihuahua. In former years, these mines paid $11,000,000. Although they have been worked for many years, they are still very rich. The Americans have been deliberating on piercing the mountains by a tunnel, and constructing a railroad as far as the confluence of the Sacramento and Chihuahua rivers, so as to place machinery there to work the metals. The Cusiquirlach mines were bought last year by a San Francisco company for $500,000. These mines are 90 miles from Chihuahua. The vein at the depth of 600 feet contains metal solid in some cases to the breadth of 15 feet. The metal has been treated by lixiviation. The Batopilas mines, in the southwest of the State, of which Messrs. Wells, Fargo & Co. are the owners, contain great deposits of silver and produce large sums to the workers. The archives of Chihuahua show that these mines produced during the rule of the Spaniards, the vast sum of $400,000,000. The Parral mines belong to the Knott Company, of Chicago. These mines are in the city of Hidalgo. According to the State archives, these mines have yielded $60,000,000. An Indiana company owns the La Luz mine, which is five miles from the Parral. The Guijas, or gravel mines, are owned by the Chicago Mining Company. Besides these Chihuahua properties, there is that of the Michoacan Syndicate, which comprises some sixty mines of demonstrable value. We predict that the future of these Mexican properties will exceed the most sanguine expectations of their owners.

MONTANA.

From our Montana exchanges we condense the following:

SUMMIT VALLEY DISTRICT.

The *Inter-Mountain*, in speaking of the developments of this district, says: The recent very important and encouraging developments in many of the leading properties of the district, notably in the Alice, Magna Charta, Moulton, and Stevens, have infused a new life into mining operations. New shafts are starting in all directions, and there seems to be a general determination among mine owners to open up their properties and let their resources be known. On many valuable claims which have heretofore been worked through small vertical and inclined shafts, double-compartment shafts are sinking, it being the intention to develop the ledges at depths varying from 300 to 800 feet. Such shafts are on the following properties:

Anselmo	400-foot shaft.
Bell	500 " "
Colusa	600 " "
Gray Rock	300 " "
Lexington	500 " "
Magna Charta (this mine is the property of the Alice)	500 " "
Moulton	800 " "
Salisbury	250 " "

On the Star West, Stevens, Mount Moriah, Original Butte, Amy-Silversmith, and many other properties, some of which have been recently incorporated, it is also intended at a very early day to begin the sinking of main working-shafts having two or three compartments.

NEVADA.

THE COMSTOCK LODE.

The Gold Hill *News* of the 27th ult. says: At the Utah and Sierra Nevada, the usual work is going on. The bonanza mines, also the Sierra Nevada, continue making weekly shipments of ore, and doing the other customary work. The Gould & Curry and Best & Belcher are still retarded by the failure of the machinery to reach here. All but surface work has been suspended at the Savage until the C. N. S. pump is started to work; and nothing can be done in the Chollar or Potosi until the same time. Excellent headway is made in raising the water from the Yellow Jacket and adjacent mines. It will not be long before the Bullion and Justice mines are classed among those actively prospecting for a bonanza.

ESMERALDA COUNTY.

MALACHITE.—The *True Fissure* of April 23d says: Tunnel No. 4 is pushed ahead rapidly. At a distance of 225 feet, it is expected the ledge will be cut. The tunnel is now within 75 feet of that point. This property, which is operated and owned by Eastern people, is located in Volcano range, and bids fair to prove a valuable mine.

NORTHERN BELLE.—The cross-cut from the fourth-level drift has been extended 17 feet during the week without developing any change in the formation; total length to date, 126 feet. Other shaft-levels look fully as well as at any time in the past two weeks. Above the first, there has lately been quite an improvement. The eleventh or adit level is still producing considerable ore, and promises finely for the future. All the levels above, especially the ninth, present a fine appearance. The average production of ore for the week has been 86½ tons per day. The bullion shipments for the week ending April 20th were $25,139.56; total shipments for the month to same date, $70,644.67.

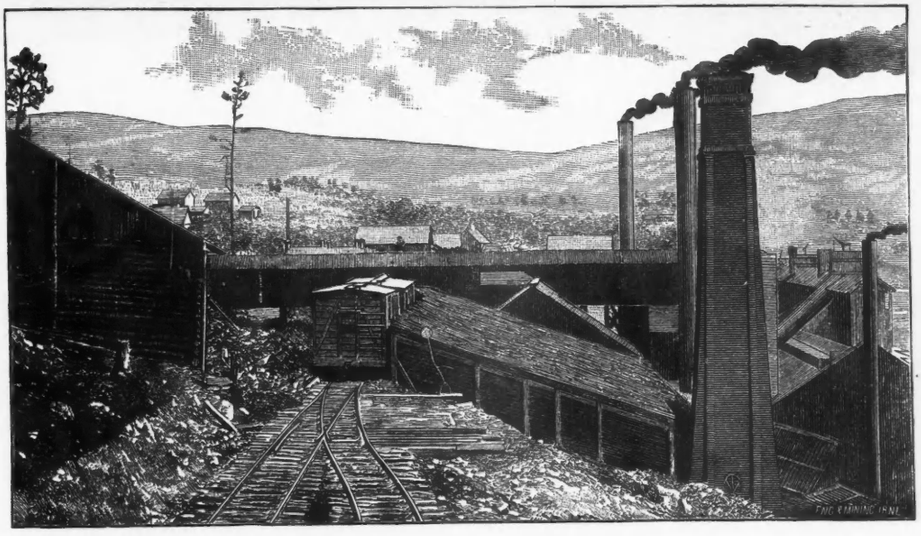
WISCONSIN.

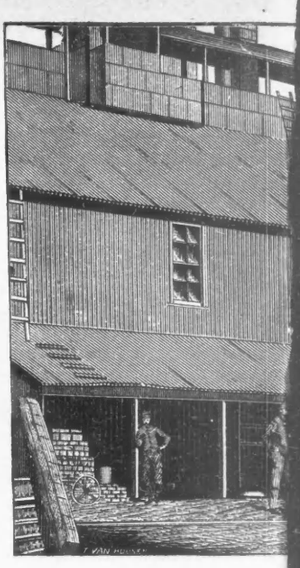
A press dispatch of May 5th from Fond du Lac says: Some time since, what was thought to be gold-bearing quartz was discovered a few miles northwest of this city on the farm of N. R. Maxwell. A ledge of lime-rock, varying from 10 to 50 feet perpendicular face, partially encircles Fond du Lac, at a distance of from three to ten miles. It was at a point on this ledge where the quartz crops out under the limestone that the specimens were found. At this point, the gold-bearing quartz shows nine feet above the surface of the ground, and reaches to an unexplored depth beneath. Some specimens taken from the top of the drift assayed in Boston $21 per ton. Others taken from six feet below the surface of the ground assayed in Chicago $148.80 per ton. On the strength of the first assay, made in Boston, a company of Boston capitalists has secured a working lease of the farm, and has a stamp-mill and the necessary mining machinery now on the road. It expects to begin operations within the next sixty days.

PROPOSALS AND SALES.

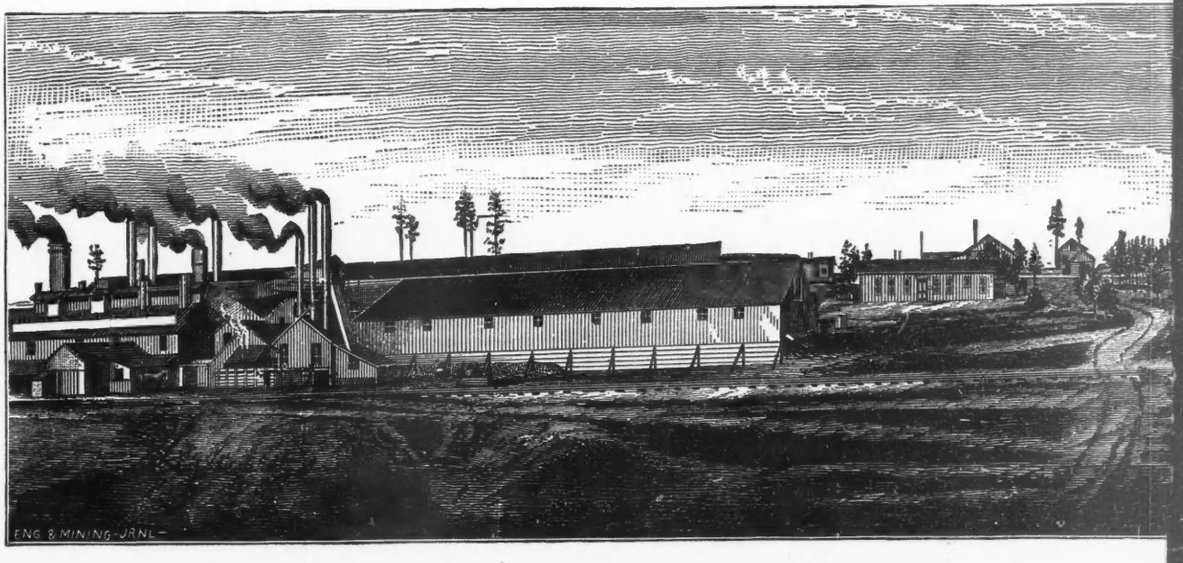
For the benefit of many of our readers, we compile weekly such proposals and solicitations for contracts, etc., as may be of interest. The table indicates the character of proposals wanted, the full name and address of parties soliciting, and the latest date at which they will be received:

Dredging 600,000 Cubic Yards of Material in Upper Galveston Bay, Texas; S. M. Mansfield, Major of Engineers U. S. A., U. S. Engineer's Office, Hendley Building, Galveston, Tex.	May 9, 1881.
Improvement of Harbor at Charleston, S. C.: Q. A. Gillmore, Lieut.-Col. of Engineers, U. S. Engineer's Office, Army Building, New York City...	" 9, "
Building a Distributing Reservoir, and also the Foundation for the Pumping-Engine and Boilers, Engine and Boiler-House and Chimney, for the City of New Castle Water Co.; J. H. Harlow, Engineer, 81 Wood street, Pittsburg, Pa	" 9, "
Continuing the Construction of Jetties at the Mouth of Saint John's River and at the entrance to Cumberland Sound, Fla.; Specifications, instructions to bidders, and blanks for proposals may be obtained at this office or from Lieut. W. L. Fisk, Jacksonville, Fla.; Q. A. Gillmore, Lieut.-Col. of Engineers, U. S. Engineer's Office, Army Building, New York City	" 10, "
Construction and Delivery of Iron-Work needed for the Davis Island Dam, situated on the Ohio River, five miles below Pittsburg, Pa.; Approximate Weights, Wrought-Iron, 132 tons; Cast-Iron, 78 tons; William E. Merrill, Major of Engineers, U. S. Engineer's Office, Cincinnati, O.	" 12, "
Improvements at the following Harbors: Ontonagon Harbor, Mich.; Manistique Harbor, Mich.; Menominee Harbor, Mich.; Green Bay Harbor, Mich.; Kewanee Harbor, Wis.; Two Rivers Harbor, Wis.; Manitowoc Harbor, Wis.; Sheboygan Harbor, Wis.; Port Washington Harbor, Wis.; Major Henry M. Robert, Corps of Engineers, U. S. A., U. S. Engineer's Office, 427 Milwaukee Street, Milwaukee, Wis.	" 13, "
Dredging out the Slip at the Foot of Remsen street, East River; Department of City Works, Municipal Department Building, Brooklyn, N. Y.	" 14, "
Constructing 1600 Lineal Feet, more or less, of the new Breakwater at Cleveland, O.; John M. Wilson, Major of Engineers, U. S. A., U. S. Engineer's Office, Cleveland, O	" 14, "
Constructing 280 lineal Feet of Pier at Ashtabula Harbor, O.; John M. Wilson, Major of Engineers, U. S. A., U. S. Engineer's Office, Cleveland, O	" 14, "
Furnishing and Placing Stone for Sinking and Filling Cribs and Superstructure of the Exterior Breakwater at Chicago, Ill., during the fiscal year ending June 30th, 1882; G. J. Lydecker, Major of Engineers, U. S. A., U. S. Engineer's Office, Chicago, Ill	" 19, "
Dredging and Removing Bars and other Obstructions from the Channel of the Cuyahoga River, between the Lake Superior & Michigan Southern Railroad bridge and the new Canal Lock, and also the old River Bed; City Engineer B. F. Morse, Cleveland, O	" 19, "
Improvement on the Upper Mississippi River: 1. Constructing Brush and Stone Dams and Shore Protections between Reed's Landing and Wabasha, Minn.; 2. Construction of Stone Dams and Shore Protections above Winona, Minn.; 3. Dredging in the Galena River; 4. Constructing Brush and Stone Dams and Shore Protections at Andalusia, Ill.; 5. Completion of a Dam and Shore Protection of Brush and Stone at Alexandria, Mo.; 6. Dredging in Quincy Bay, Ill.; 7. Constructing Dams and Shore Protections of Brush, Stone, and Gravel, and Dredging at Hannibal, Mo.; 8. Constructing Dam of Brush and Stone at Louisiana, Mo.; A. Mackenzie, Captain of Engineers, U. S. Engineer's Office, Rockland, Ill.	" 20, "
Furnishing 25,000 yards Concrete Pavements for the City of Washington; W. J. Twining, Major of Engineers, U. S. A., U. S. Engineer's Office, Washington, D. C.	" 25, "

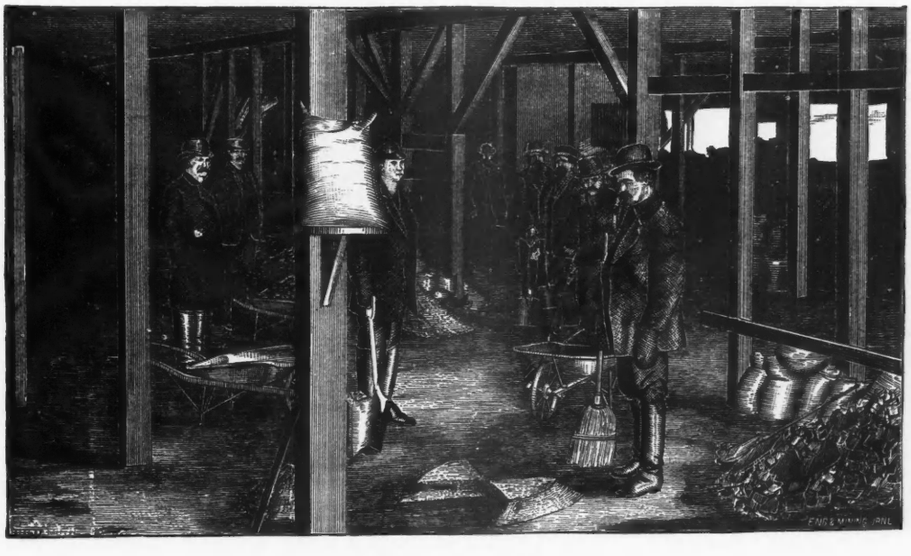




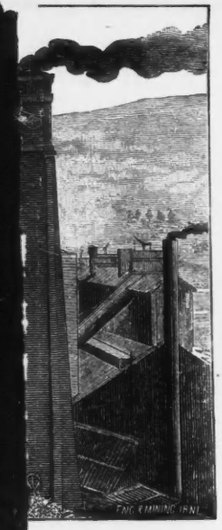
FUEL-RECEIVING DEPARTMENT—LA PLATA WORKS.

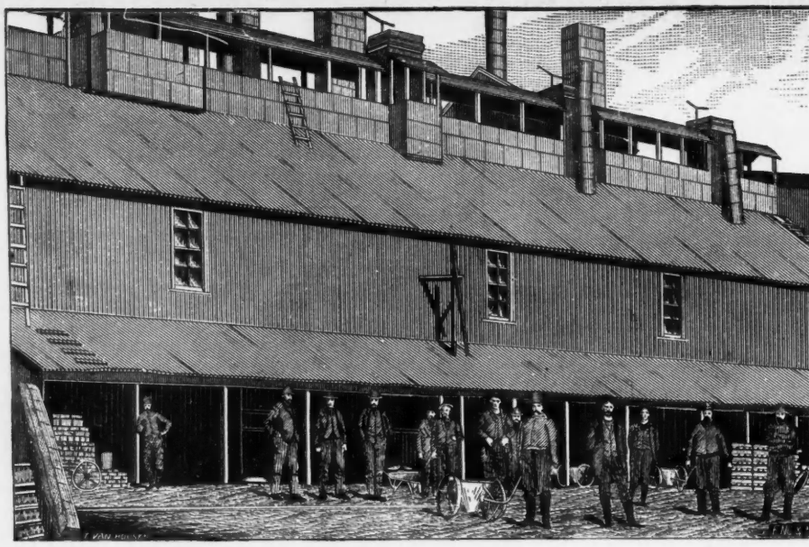


WORKS OF THE LA PLATA MINING AND SMELTING COMPANY.



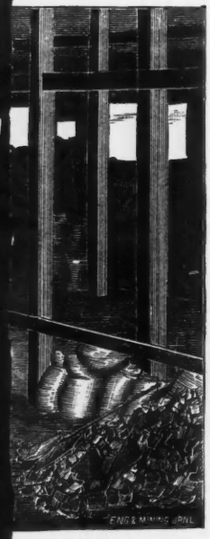
SAMPLING-ROOM—MEYER'S WORKS.

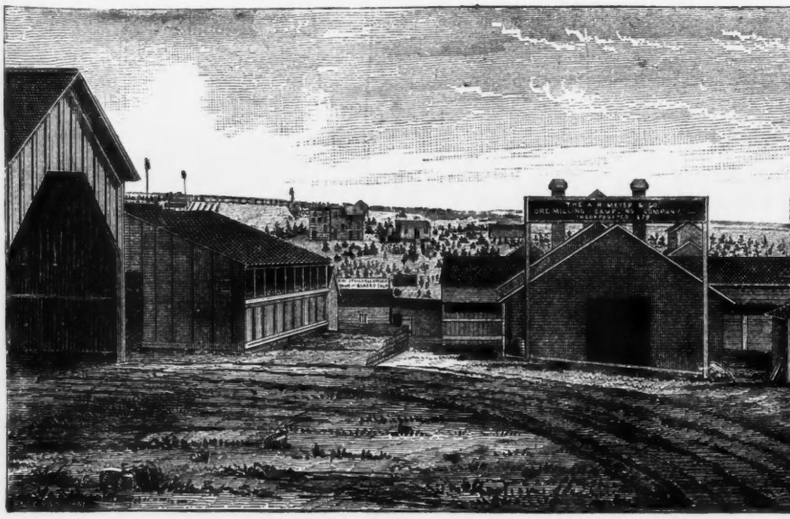




SHIPPING DEPARTMENT—LA PLATA WORKS.

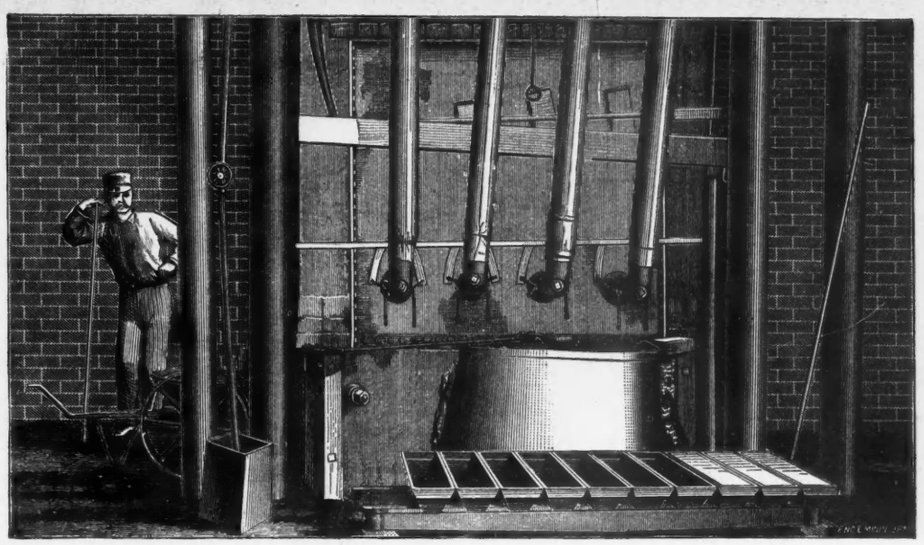
NING AND SMELTING COMPANY.



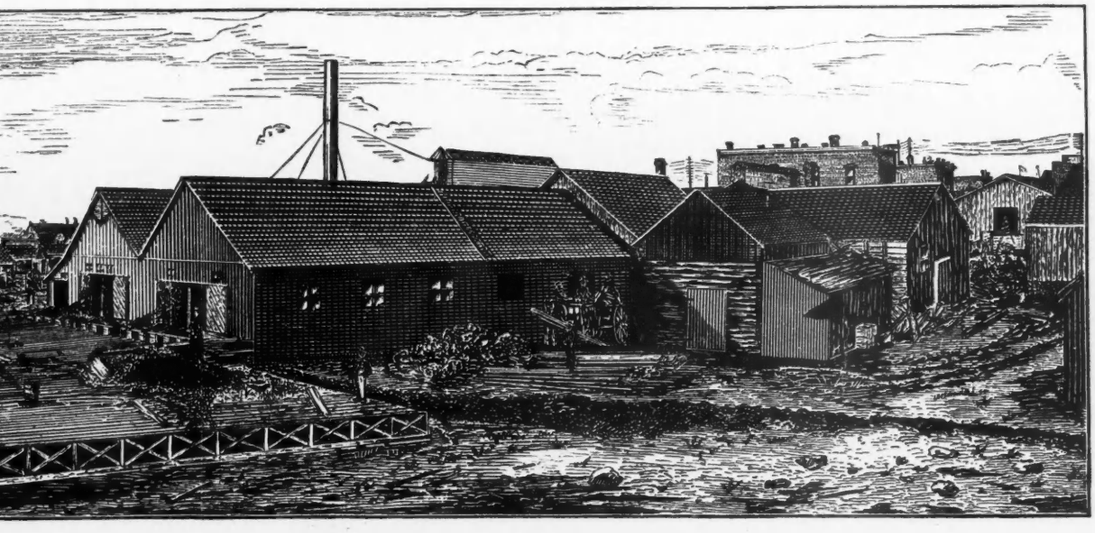


ORE-HOUSES AND RECEIVING-BINS—MEYER'S WORKS.

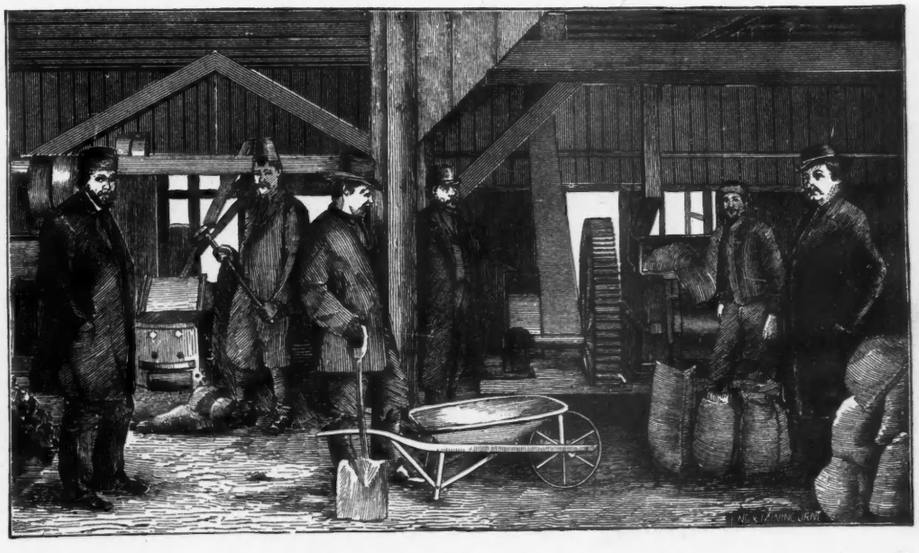
SMELTING WORKS AND AUGUSTUS R. MEYER'S ORE-MILLING AND SA



VIEW OF FURNACE—LA PLATA WORKS.



WORKS OF AUGUSTUS R. MEYER'S MILL AND SAMPLING COMPANY.



ORE-CRUSHERS.—MEYER'S WORKS.

D SAMPLING COMPANY, LEADVILLE, COLORADO.

FINANCIAL.

Gold and Silver Stocks.

NEW YORK, Friday Evening, May 6.

A seat in the New York Mining Stock Exchange sold this week at $3250. The improvement in value of these seats is the best index of the outlook for a legitimate mining stock business.

The sales for the week under review aggregate 889,055 shares at prices about steady. A number of the stocks show advances, while a greater number have been steady or weaker. The business has not been as large as last week and not as encouraging, although by no means discouraging. Most of the stocks are too high on actual merit, and it is difficult to get the public to advance quotations on speculation.

The Comstock shares have been more quiet than they were, but as a rule, weak. California declined from $1.40@$1.35, under a business of 3450 shares. Consolidated Virginia was quite active but weak, selling from $2.75 down to $2.35, under a business of 15,935 shares for the week. Sierra Nevada had a fair business at moderately well maintained prices. Sutro Tunnel was fairly active, but irregular and weak. The sales amounted to 36,870 shares at $1.88@$2.25@$1.88. The other mines on this lode have received but little attention.

The Bodies have been quiet, with the better mines about steady. Bulwer has had a liberal business at strong prices, the sales amounting to 1700 shares at $3@$3.35@$3.10. As long as the Standard mine can continue to run the Bulwer mill and pay $11 per ton for milling ores, Bulwer should pay well on $300,000, the present selling price; but is this profitable arrangement assured for any great length of time? Consolidated Pacific has been a disappointment, declining from $1.05@89c., with sales of 6385 shares. North Standard, which we condemned at the time it was first dealt in here, records sales of 14,400 shares, declining from 14@5c. Noonday was dealt in to the extent of 400 shares at $2. Bodie has been quiet but strong at $6.38@$7. Standard records a moderate business at $24@$24¼@$24½, the sales amounting to 1325 shares. Mr. William M. Lent has returned to San Francisco, and it is thought some developments may be made relative to this district. If such should be the case, the public will put their past experience in the scale before taking any of the stocks. The mines of this district have done remarkably well, but the insiders have reaped the main profits.

The Francklyn & Brown stocks have suddenly taken to booming. Horn-Silver has been much more largely dealt in than in any previous week. The sales aggregate 5450 shares, advancing from $10 to $14.25, although losing some of the advance before the close. Bassick has been quiet, but has advanced from $9@$10.

The Roberts stocks (the State Lines and Oriental and Miller) have been active but weak. These stocks will probably be recognized by the New York Mining Stock Exchange, where the dealings have been among the members of the Board, although not regularly on the list.

Amie has been fairly active and steady. Chrysolite has been quiet under weak efforts at an advance. Glass-Pendery has been active and about steady. Green Mountain, under a moderate business, has been very weak, declining from $6.13@$5.50, under a business of 2925 shares. Hibernia has been quite active within the range of $1.05@$1.35; the sales aggregate 149,250 shares. Iron Silver has been active (manipulated) and weak, the sales amounting to 15,050 shares at $3.50@$3. Leadville has been active and irregular, the sales amounting to 20,742 shares at $1.10@$1.55. Little Chief has been active and weak, with sales of 33,550 shares at $1.65@$1.40. Moose has been fairly active and strong, under talk of the company's realizing something from its machinery, low-grade dump, etc. Stormont has been quite active and strong, advancing from $3.25@$4.15, with the latter figure bid at the close. Barcelona declined from $2@$1.65, with a business of 11,900 shares. Big Pittsburg has been very active and irregular, with a final inclination to weakness: the sales aggregate 15,150 shares at $3.75@$3.25. Boulder Consolidated declined from $1.10@90c. under sales of 21,400 shares. Bull-Domingo records sales of 4950 shares at $3@$2.50. Bye and Bye developed great strength, advancing from 35@63c; the sales amounted to 26,100 shares. Cherokee was active and steady. Miner Boy declined from $1.65@$1.15, with sales of 17,300 shares. Silver Cliff was active, irregular, and a little weak.

The fancies have received but little attention.

UNLISTED QUOTATIONS.

Mr. L. V. Deforeest, No. 70 Broadway, under date of May 6th, 3 P.M., reports the current quotations of unlisted stocks as follows:

	Bid.	Offer'd		Bid.	Offer'd
Barcelona	$1.60	$1.70	O. K. & Winnebago	....	$1.00
Breece	1.10	1.20	Patagonia	....	.75
Bald Mountain	.06	.07	Plata Verde	....	2.50
Carbonate Hill	.15	.25	Sacramento	....	.25
Con. Arizona	.75	.80	Santa Cruz	....	.75
Empire of Cal.	....	1.75	Sir Rodr'k Dhu	....	.25
Empire, Utah	1.75	2.50	Silver Nugget, old	$0.50	....
Freeland	2.00	....	Silver Nugget, new	.70	.73
Glass-Pendery	2.00	2.05	State Line, Nos. 1 and 4	2.45	2.50
Grand View	....	.50	State Line, Nos. 2 and 3	8⅜	8¾
Highland Chief	6.00	8.00	Starr-Grove	....	9
Hite	5.50	....	Trinity	....	1.50
Julian	....	1.25	Vandewater G.	.69	.70
Lowland Chief	....	.50			
Mack Morris	3.00	....			
May Flower	....	.40			
Native Silver	.10	.50			
North Hite	....	.75			
Oriental & M.	....	3.40			

The Trinity Mining Company has issued $25,000 in first mortgage bonds, to be sold in $50 and $100 certificates. The bonds bear 8 per cent, payable semi-annually, and can be subscribed for at Wells, Fargo's office, 65 Broadway.

The *Evening Post* of May 3d says:

In consequence of the dullness of the gold and silver mining interest, attempts are being made to revive confidence in the old copper mines of California, which have been repeatedly brought out only to result in loss and failure to those investing in them. These mines would probably pay well under good management, with copper selling at any thing above a dollar a pound.

Copper is more easily influenced in value by the large production than the precious metals, and the recent large development of copper mines throughout the United States and territories threatens to flood the country with copper, and neither protective duty nor any thing else can hold up present prices. When the producers are compelled to enter the markets of the world for purchasers for their products, a very important reduction in price will have to be made; and outside Lake Superior brands, there will be difficulty in securing even the current rates of other countries. Many enterprises that can figure up large prospective profits at the present price of copper will find them all wiped out with the price reduced to 12@15c. per lb., and, in fact, will record losses instead in practical operations. The first question for investors in this class of property to consider is, Do the prospective requirements of the country warrant the opening of new mines?

There will be a meeting of the Robinson Consolidated Mining Company stockholders in this city on the 13th inst., to consider the advisability of reducing the capital to $5,000,000 to be divided into 50,000 shares of the par value of $100 each.

On Monday, the annual meeting of the Little Pittsburg Company was held in this city, and the old board of trustees was re-elected. The manager values the mines at $20,000,000, and recites the following additional assets: Fire claim against Chrysolite, $8301; cash in bank, $51,693, making a total of $20,079,113. The liabilities are $20,000,000 capital stock; Little Chief mining claim, $463; profit and loss to June 1st, 1880, $34,316 and from June 1st, 1880, to April 1st, 1881, $44,333, making a total of $20,079,-113.

The annual meeting of the Silver Cliff Mining Company was held on the 2d inst. The only change in the board was the substitution of J. H. Flagler for J. W. Bailey. In November, the company borrowed on notes payable November, 1881, $43,000, and in January, 1881, a further amount of $20,750 was borrowed. The report announced that for ten full days' work the new mill crushed 1050 tons of ore, the pulp-assays of which averaged 22 ounces of silver. The cost of mining and milling the ore is placed at only $4. The amount of ore "in sight" is placed at 60,000 tons.

The annual meeting of the Hibernia Mining Company took place on Monday. The old board of trustees was unanimously elected. According to the manager's report, the product of the mines for the year was $186,000, of which $120,000 was paid in dividends. He estimates the ore "in sight" to have a value of over $100,000.

OFFICIAL LETTERS.

Chapparal.—The superintendent, under date of April 23d, writes:

Champion No. 1 is in 121 feet, giving same amount of feet in the backs, and equal amount under foot, with forehead looking as well as ever. The vein holds the same, and is very uniform and regular.

Standard Consolidated.—The official report, April 25th, shows that the east cross-cut, 1000 level, is in from the shaft 233 feet. The west cross-cut is in 178 feet. The total length of the east cross-cut, 700 level, is 613 feet, with face in very hard rock. The total length of the south drift, 500 level, is 218 feet, showing the vein five feet wide. The north drift, No. 1, 385 level, is in from the main east cross-cut 286 feet, the vein continuing about 25 feet wide. The Cook south drift is now timbered for a distance of 250 feet from the main east cross-cut. The uprise on the West Standard is up 75 feet, showing the vein 4½ feet wide. On the 385 level, the vein in the stopes of the north and south drifts is from 8 to 20 feet wide, and on the 550 level the vein shows an average width of 15 feet; the product for April was $166,375.74.

Hite.—The superintendent writes that every thing progresses favorably, and that a 40-stamp mill is now running. The vein of ore in the 900-foot level is said to be very flattering, the foot-wall vein being about 12 feet in width and the hanging-wall vein about 6 feet wide.

Cherokee.—The superintendent reports that the cross-drift to the ledge from 130-foot station cut through a vein of pay-ore five feet thick, and not yet reached main ledge. Every thing promises well.

Green Mountain.—The superintendent reports the mine turning out the same quality of ore as milled last month. No. 5 tunnel is being pushed ahead rapidly. The face is in first-class ore. The cross-cuts have not yet reached the walls of the ledge. The trouble with the flume has prevented a full run of the mills during March and April, but, with no more loss of time, the monthly production will be fully up to expectations.

Rising Sun.—The superintendent reports every part of the mine to 800 level presents very healthy appearance and abundance of ore. The new mill work progressing. A new shaft has been started to assist in ventilating the mine as well as prospect a very promising parallel ledge.

Cheyenne Consolidated.—The managing director, under date of April 26th, reports that, in the opening up of a new cut in the Hoodlebug mine to connect with the old cut, to enable deeper workings on the lode, they have struck a large body of splendid ore showing a good deal of free gold. They have been very much retarded in building their tramway from the mine to the mill, on account of the unfavorable weather, but it is very nearly completed, when milling ore will commence at once.

Allied.—The superintendent reports for the week ending April 23d:

Hidden Treasure, cross-cut advanced 9 feet. Norma, No. 1 level advanced 9 feet; total length, 249 feet; width of ore-body, 3 feet; average assays, 40 ounces. Norma, No. 2 level advanced 6 feet. Yellow Rose, No. 1 level advanced 8 feet; total length, 171 feet; four feet quartz; average of last pocket, 80 ounces. Yellow Rose, No. 2 level advanced 6 feet; total length, 377 feet; width of ore-body, 1 foot, averaging 61 ounces; winze advanced 7 feet; total length, 42 feet; width of ore-body, 1 foot; average assay, 39 ounces. Emily, level advanced 7 feet; total length, 311 feet; width of ore-body, 1 foot; average of breast, 49 ounces.

Southern Belle Mine.—Mr. William J. Floyd, superintendent, left for North Carolina, Monday evening, the 2d inst. He will commence operations at once.

Canada Consolidated.—The superintendent, writing under date of April 30th, says:

During the week, the second compressor and balance of machinery belonging to compressors have been landed, and are in place on the foundations. We are awaiting the machinist, to make connections. We have completed straightening the shaft, and are now placing the road for hoisting with whip. We have erected during the week a captain's office, 12 × 20 feet. Every thing progresses favorably.

DIVIDENDS.

The Alice Gold and Silver Mining Co. announces its 3d dividend of 10c. per share, aggregating $40,000, payable on the 16th inst.

The Tombstone Mill and Mining Co. announces

GENERAL MINING STOCKS.

Dividend-Paying Mines.

NAME AND LOCATION OF COMPANY.	Feet on Vein.	Capital Stock.	SHARES. No.	SHARES. Par Val	ASSESSMENTS. Total levied to date.	ASSESSMENTS. Date and amount per share of last.	DIVIDENDS. Total paid to date.	DIVIDENDS. Last Dividend.	HIGHEST AND LOWEST PRICES PER SHARE AT WHICH SALES WERE MADE. April 30. H.	April 30. L.	May 2. H.	May 2. L.	May 3. H.	May 3. L.	May 4. H.	May 4. L.	May 5. H.	May 5. L.	May 6. H.	May 6. L.	SALES.
Alice	Mon	3,000	10,000,000	400,000	25	*			80,000	Apr. 1881	10				7.25		7.00				200
Amie Con. s. L.	Col.		5,000,000	500,000	10	*			305,000	May. 1880	10	.50		.54	.49	.52	.51	.52	.49	.55	.51	44,000
Argenta, s.	Nev	1,000	10,000,000	100,000	100	130,000	Mar.. 1881	20	40,000	Feb. 1880	20			.30				.35				300
Barbee & Walker	Ut'h		1,000,000	100,000	10	*			60,000	Nov. 1880	10											
Bassick, G. S.	Col.		10,000,000	100,000	100	*			25,000	Feb.. 1880	25				9.00				10.00		200
Belle Isle, s.	Nev.	1,500	10,000,000	100,000	100	30,000	Feb. 1880	30	300,000	Dec. 1879	25	.56							.51	.50	500
Belcher, G. S.	Nev.	1,040	10,400,000	104,000	100	2,328,000	Apr. 1881	75	15,397,200	Apr. 1876	75										
Bodie Cons., G	Cal.		10,000,000	100,000	100	75,000	May. 1879	1 00	1,200,000	Mar. 1880	25			6.63	6.38	7.00		7.25	7.00		980
Breece	Col.		5,000,000	200,000	25	*			2,000	Feb.. 1880	01										
California, G. S.	Nev.	800	54,000,000	540,000	100				31,320,000	Dec.. 1879	50	1.40	1.30	1.35		1.40	1.35	1.30		1.25		1.35	1.25	3,450
Calumet & Hecla, C.	Mch		2,500,000	100,000	25				19,350,000	Apr.. 1881	5 00										
Caribou Con., G.	Col.	1,400	1,000,000	100,000	10	*			50,000	Mar 1880	10			2.50						2.00	200
Catalpa, S. L.	Col.		3,000,000	300,000	$10							2 85		2.85	2.80	2.85		2.80	2.75	2.75	2.75	5,500
Cedar Tree												2.75	2.70	2.70				2.75	2.70	2.70	2.75	2.65	2,900
Chrysolite, S. L.	Col.		10,000,000	200,000	50	*			1,100,000	Apr.. 1880	50	6 25	6.00	6 00		6.00		6.00		6.13	6.00	6 25	6.00	2,350
Climax, S. L.	Col.		2,000,000	200,000	10	*			180,000	Aug. 1880	30			.72		.70		.69		.68	.68	2,950
Cons. Virginia, G. S.	Nev.	710	54,000,000	540,000	100	411,200	June 1873	3 00	42,930,000	Aug. 1880	50	2.75	2.55	2.60	2.50	2.70	2.60	2.55	2.40	2.40	2.35	2.50	2.25	15,935
Copper Knob	N.C.		1,000,000	1,000,000	1	*			15,000	Nov. 1880	02					.05				.05	.05	.06	.05	35,900
Crown Point, G. S.	Nev.	600	10,000,000	100,000	100	2,573,370	Mar. 1881	0 50	11,588 000	Jan.. 1875	2 00													
Deadwood Terra G.	Dak		5,000,000	200,000	25	*			†250,000	Apr.. 1881	25					10.00								50
Dunkin	Col.		5,000,000	200,000	25	*			185,212	May.. 1881	12½	1 60		1.55		1 60		1.60		1.75	1.60	1.70	1.60	3,180
Eureka Cons., G. S. L.	Nev.		5,000,000	50,000	100	100,000	May. 1876	1 00	4,605,000	Apr.. 1881	50	33.00	31.50	30.75	30.00	32.00	25.00	31.25		31.25	30.50	31.50		920
Excelsior W't'r & M. Co	Cal.	525 acres	10,000,000	100,000	100				850,000	Sept. 1880	25			5.25										20
Father de Smet, G.	Dak		10,000,000	100,000	100				315,000	May 1881	25									8.00				100
Findley, G.	Geo.		200,000	200,000	1	*			8,000	May. 1879	1c	.28		.28				.30		.29		.30		2,000
Freeland	Col.		5,000,000	200,000	25	*			50,000	May. 1880	25													
Glass Pendery	Col.		5,000,000	250,000	20				25,000	Apr.. 1881	10	2.10	2.05	2.15	2.00	2.10	2.00	2.15	2.00	2.10	2.05	2.10	2.00	14,250
Gold Stripe	Cal.		1,500,000	150,000	10				67,500	Mar.. 1881	15			2.85						2.95	2.90	6.00		
Gould & Curry, G. S.	Nev.	612	10,800,000	108,000	100	3,260,000	Feb. 1881	50	3,826,800	Oct. 1870	10 00													
Grand Prize, S.	Nev.	1,500	10,000,000	100,000	100	265,000	Mar.. 1881	40	450,000	Sept. 1880	0 25			.95		.95								300
Great Eastern, G.	Dak	1,200	300,000	300,000	1	*			16,000	July. 1880	01	.23	.21	.21		.22		.22		.22				8,600
Green Mountain, G.	Cal.	4,350	1,250,000	125,000	10	*			146,875	Apr.. 1881	7⅛	6.13	6.00			5.75	5.50	5.88	5.63	5.88		6.13	5.50	2,925
Hale & Norcross, G. S.	Nev.	400	11,200,000	112,000	100	3,586,000	Mar. 1881	50	1,598,000	Apr. 1871	5 00													
Hibernia	Col.		7,500,000	300,000	25	*			120,000	Apr.. 1881	10	1.30	1.15	1.30	1.05	1.35	1.20	1.25	1.15	1.25	1.20	1.30	1.20	149,250
Homestake, G.	Dak		10,000,000	100,000	100	200,000	Apr. 1878	1 00	960,000	Apr.. 1881	30													
Horn-Silver, S. L.	Uth.		10,000,000	400,000	25	*			200,000	Jan.. 1880	25					10.00		10.00		10.25	10.00	14 25	10.50	5,450
Hukill, G. S.	Col.	3,288	1,000,000	200,000	5	*			210,000	Dec.. 1878	10	1.10	1.00	1.05	1.00	1.10	1.00	1.05		1.10	1.05	1.15	1.05	2,400
Independence, S.	Nev.	1,500	10,000,000	100,000	100	155,000	Apr.. 1881	0 20	225,000	Sept. 1879	25					.48		.49		.49	.47			1,100
Indian Queen	Col.		10,000,000	500,000	20	*			100,000	Apr.. 1881	20							2.60		2 60				200
Iron Silver	Nev.		250,000	125,000	2				226,250	Apr. 1881	05			3.50	3.00	3 25	3.60	3.25	3.00	3 00		3.00		15,050
La Plata, S.	Col.		2,000,000	200,000	10	*			300,000	May. 1881	7½													
Leadville Cons., S. L.	Col.		4,000,000	400,000	10	*			150,000	Jan. 1880	15	1.45	1.25	1.30	1.25	1.35	1.10	1.35	1.15	1.35		1.55	1.25	20,742
Leeds, S.	Uth.	3,000	6,000,000	100,000	100	36,000	Feb. 1881	15	78,000	Oct.. 1878	15	.20												140
Little Chief, S. L.	Col.		10,000,000	200,000	50	*			700,000	Aug. 1880	50	1.65	1.60	1.60	1.45	1.55	1.40	1.55	1.40	1.45	1.40	1.50	1.40	33,750
Little Pittsburg, S. L.	Col.	30 acres.	20,000,000	200,000	100	*			1,350,000	Mar.. 1880	50			3.00		3.50	3.35	3.50	3.30	3 50	3.25			1,450
Martin White, S.	Nev.	22,900	10,000,000	100,000	100	850,000	Mar. 1881	25	90,000	July. 1879	50													
Moose, S.	Col.	39,000	2,000,000	200,000	10	*			550,000	Mar. 1878	25	1.30	1.25	1.35		1.25		1.30	1.25	1.35	1.30	1.40	1.30	7,200
Navajo	Nev.	600	10,000,000	100,000	100	175,000	Dec. 1880	0 20	25,000	Mar. 1881	25	.90	.84	.89	.85	.93	.87	1.05	.98	1.05	1.00	.99	.98	7,500
N. Y. & Colorado, G.	Col.		1,000,000	20,000	20	*			25,000	July. 1879	10													
Northern Belle, S.	Nev.	1,600	5,000,000	50,000	100				1,775,000	Mar. 1881	50			18.10				18.50				20.25	19.88	385
North Belle Isle	Nev.	1,500	10,000,000	100,000	100	25,000	Feb.. 1880	15	15,000	Sept. 1880	15			.33		.30								700
Ontario, S.	Uth.	3,000	10,000,000	150,000	100				3,325,000	Apr. 1881	50	37.75		37.75	37.50									273
Ophir, G. S.	Nev.	675	10,080,000	100,800	100	3,092,600	Mar. 1881	1 00	1,603,200	Jan.. 1880	1 00													
Plumas, G.	Cal.		1,000,000	100,000	10				151,000	July 1879	8	1.50												100
Rising Sun	Cal.		750,000	150,000	5	*			90,000	Feb.. 1881	15	2.65				2.75				2 80	2.75	2.85	2.80	2,400
Robinson Cons.	Col.		10,000,000	200,000	50	*			175,000	Sept. 1880	50	8.50	7.75	8.25		8.38	8.25	8.63	8.38	9.00	8.50	9.13	8.75	4,900
Sierra Nevada, G. S.	Nev.		10,000,000	100,000	100	4,550,000	Apr.. 1881	1 00	102,000	Jan. 1871	1 00	10.75	10.50	12.00	11.75	11.75		12.50		11.88				860
Silver King, S.	Ariz		10,000,000	100,000	100	*			600,000	Apr. 1881	25													
Spring Valley	Cal.	3,650	200,000	200,000	1	*			50,000	Jan. 1881	5			3.00		2.90		3.00		3 00		2.90		700
S anard, S.	Cal.	1,500	10,000,000	100,000	100	50,000	July 1878	1 00	2,625,000	Apr. 1881	75	24⅜	24.00	24.50	24⅜	24.50	24⅜	24⅜	24.25	24 75	24.50	24.50		1,325
Starr Grove	Col.		2,000,000	200,000	10				120,000	Apr. 1881	10	9.00		8.90						8.50				
Stormont, S.	Uth.		200,000	200,000	1				135,000	Nov. 1880	30	3.55	3.25	3.35	3.25	4.00	3.40	4.25	4.00	4.05	3.85	4 15	3 88	15,810
Tombstone, S.	Ariz		12,500,000	500,000	25	*			650,000	Apr. 1881	10													
Yellow Jacket, G. S.	Nev.	1,200	12,000,000	120,000	100	3,978,000	Oct.. 1880	1 00	2,184,000	Aug. 1871	2 50			5.50	5.25									20

Non-Dividend-Paying Mines.

Alta Montana	Mon		5,000,000	500,000	10	*						2.10		2.10		2.20						2.00		750
Am. Flag, S.	Col	5,300	1,250,000	125,000	10	*						26c												400
Bald Mountain	Colo		10,000,000	1,000,000	10	*						6c		7c	6c							7c		12,800
Barcelona	Nev		5,000,000	200,000	25	*						1.95	1.80	2.00	1.80	1.95	1.80	1.80	1.70	1.85	1.70	1.75	1.65	11,900
Bechtel Con., G.	Cal.		10,000,000	100,000	100	162,750	Dec. 1880	0 15				70c								80c		75c		800
Best & Belcher, G. S.	Nev.	545	10,080,000	100,800	100	992,900	Mar. 1881	50																
Big Pittsburg	Col.				100	*						3.75	3.30	3.50	3.30	3.55	3.45	3.50	3.25	3.50	3.40	3 55	3.45	15,150
Black Jack	Cal.		2,500,000	100,000	2½							1.45		1.50				1.50		1.55				1,800
Bonanza Chief	Mon		1,000,000	1,000,000	1	*						25c												200
Boston Con, G.	Cal.		1,000,000	100,000	10	30,000	April 1881	30				37c	35c	34c		36c		35c		35c		35c		2,000
Boulder Con	Colo		2,000,000	200,000	10	*						1 10	1.00	1.15	1.00	1.00	82c	95c	85c	99c	90c	92c	90c	21,400
Buckeye	Col.		2,000,000	100,000	5	*						16c				16c		15c				16c		2,500
Bull-Domingo	Colo		10,000,000	200,000	50	*						2.75	2.70	2.65	2.60	3.00	2.60	2.60	2.50	2.70	2.60	2.60		4,950
Bullion, G. S.	Nev.	943½	10,000,000	100,000	100	425,000	Feb.. 1881	1 00																
Bulwer, G.	Cal.		10,000,000	100,000	100	30,000	Dec.. 1877	50								3.25	3.00	3.35	3.15	3.10		3.10		1,700
Bye and Bye	Ariz		1,000,000	100,000	10	*						37c	35c	38c	35c	55c	40c	57c	50c	65c	60c	63c	59c	26,100
Calaveras, G.	Cal.	2,200 acrs	500,000	500,000	1	*						24c	23c	24c				25c	24c	26c	25c	26c	24c	15,700
Cal., B. H., G.	Dak.		10,000,000	100,000	100	400,000	Mar. 1881	0 25				1.90				2.00		2.10	2.05	2.05	2.00			750
Carbonate Hill	Col.		4,000,000	400,000	1																			
Catskill	Nev.		1,500,000	300,000	5							7.63		7.75						7.75		7.88		650
Central Arizona, S.	Ariz		12,000,000	100,000	100													4¾	4½	4¾				500
Cherokee, G.	Cal.		1,500,000	150,000	10									1.75	1.70	1.80	1.75	1.75	1.70	1.75		1.80	1.70	10,950
Cheyenne Cons	Dak.		30,000	300,000	1							77c		78c		78c	76c	76c		74c	72c	75c	74c	3,100
Colorado Central	Col.		3,000,000	300,000	10																			
Columbia Con., G. S.	Nev		5,000,000	100,000	50																			
Cons. Imperial, G. S.	Nev.	468	50,000,000	500,000	100	1,375,009	April 1881	0 10				17c	16c			17c	16c	17c		19c				3,200
Con. Pacific, G.	Cal.	1,400	6,000,000	60,000	100	90,000	July. 1880	0 50				1.05	1.0	1.05	90c	1.00	97c	1.00	95c	1.0	90c	96c	89c	6,385
Con. Pay Rock	Colo		2,500,000	250,000	1							1.55	1.50			1.50				1 55				2,000
Crowell	N. C.		500,000	50,000	1							6c		7c	6c			7c		7c		9c	8c	9,400
Dahlonega, G.	Ga.		250,000	250,000	1	*										7c	6c	7c						1,100
Dardanelles	Cal.		1,000,000	1,000,000	10	*																		
Dunderberg	Colo		1,500,000	150,000	10	*						90c		90c		90c				9 c				1,000
Durango	Dak.		500,000	500,000	1	*						19c	18c	19c	18c	19c	18c	19c	17c	19c	18c	19c	17c	10,600
Empire	Ut'h																							
Girard	Ariz																							
Glynn Dale Con. G	Cal.		10,000,000	100,000	100	75,000	Jan.. 1881	0 25																
Gold Placer, G.	Col.		5,000,000	200,000	25													45c		4 c				150
Goodshaw, G.	Cal.		10,000,000	100,000	100	145,000	Feb.. 1881	15				60c								65c		60c		600
Granville, G.	N. C	1,231 acs.	300,000	300,000	1															4c		5c		1,900
Harshaw	Ariz		10,000,000	100,000	100																			
Head Center	Ariz		10,000,000	100,000	100																			
Hortense	Col.		2,000,000	200,000	10	*						56c	54c	55c	54c	54c	53c	54c		55c	53c	54c	53c	10,400
Lacrosse	Col.	3,900	1,000,000	100,000	10	*						35c		35c	32c	31c		37c	34c			34c	33c	6,000
Legal Tender	Col.																							
Leviathan	Nev	2,0	10,000,000	100,000	100	350,000	Mar. 1881	25																
Lucerne	Col.	1,200	5,000,000	500,000	10	*								14c				14c	12c	12c		19c	13c	3,900
Mariposa preferred	Cal.	14,387	5,000,000	50,000	100	1,425,000	Dec. 1880					8.00	7.75	7 63										700
" common	Cal.	acres.	10,000,000	100,000	100	1,425,000	Dec.. 1880					6.75	6.00	6.88	6.50	7.00	6.50	7.00	6.75			7.25	7.00	3,000
May Belle, G.	Cal.	1,500	10,000,000	100,000	100	66,000	Mar. 1881	0 10				20c												100
Mayflower	Colo		1,000,000	100,000	100	*																		
Mexican, G. S.	Nev.	600	10,080,000	100,800	100	1,488,200	Jan.. 1881	0 50																
Mineral Creek	Ariz		2,000,000	200,000	10	*						1.60	1.50	1.60	1.55	1.65	1.50	1.70	1.60	1.70	1.65	1.70	1.65	14,100
Miner Boy	Colo					*												1.65	1.45	1.30	1.15	1.25	1.15	17,300
Mono, G.	Cal.	750	5,000,000	50,000	100	300,000	Mar.. 1881	50										3.00						10
Moose Silver	Colo			3 0,000																				
North Standard, G.	Cal.																							
Oriental Miller	Nev.													14c		11c	5c	7c	5c	6c	5c	5c		14,400
Quicksilver preferred	Cal.	8,500	4,291,300	42,913	100	*						4.00	3.70	4.00	3.80	3.95	3.75	3 80	3 45	3.70	3.35	3.60	3.35	21,900
" common	Cal.	acres.	5,708,700	57,087	100	*										67	66	19	18	67¼	67	67¼		1,600
Rappahannock, G.	Va.	345 acres	250,000	250,000	1	*						18¾		18¾	18	18		19	18	19.75	19¾			2,500
Red Elephant	Colo		5,000,000	500,000	10	*						13c		18c				18c		13c		18c		2,100
Silver Cliff, S.	Col.		10,000,000	200,000	50	*						15c		25c	25c	25c				25c		25c		5,900
Silver Nugget	Ariz		2,000,000	200,000	10	*						5.75	5.50	6.13	5.50	6.00	5.75	5.88	5.75	6.00	5.75	5.63	5.50	8,100
" new stock	Ariz		2,500,000	250,000	10							38c		38c	37c	37c	36c	38c	36c	45c	40c	51c	47c	7,325
South Bodie, G.	Cal.	1,500	10,000,000	100,000	100	85,000	Nov. 1880	0 25				71c	69c	71c	69c	70c	66c	70c	67c	70c	63c	75c	70c	14,100
South Bulwer, G.	Cal.	1,500	10,000,000	100,000	100	170,000	Dec.. 1880	0 25				26c	24c							23c				1,500
South Hite	Cal.		2,500, 00	250,000	10											25c								1,400
" new stock	Cal.											1.15		1.10		1.25	1.10	1.15		1.15				1,900
Sutro Tunnel	Nev.		20,000,000	2,000,000	10	*						1.15	1.10	1.20	1.10	1.20	1.05	1.15		1.20	1.15	1.15		9,900
Tioga	Cal.	1,500	10,000,000	100,000	100	225,000	Nov.. 1880	0 15				2.00	1.88	2.25	2.00	2.20	2.00	2.15	2.00	2.15	2.00	2.00	1.88	36,870
Tip-Top	Ariz	1,500	10,000,000	100,000	100	120,000	Mar. 1886																	
Tuscarora, S.	Nev.		10,000,000	100,000	100	95,000	Apr. 1881	0 15				27c				28c	27c	30c				30c		1,400
Unadilla	Colo		500,000	500,000	1	*						12c		13c				12c	11c	11c				5,100
Union Cons. G. S.	Nev.	800	10,000,000	100,000	100	1,060,000	Mar. 1881	1 00												9.75				100
Vandewater	Nev		2,000,000	200,000	10	*						75c	70c	80c	72c	79c	65c	71c	67c	75c	67c	69c	68c	42,900
Willshire	Cal		50,000	50,000	1	*										1.45		1.45						1,200

G. Gold. Silver. S. L, Lead. C, Copper. *Non-Assessable. † The Deadwood mine paid in dividends, previous to the consolidation, $275000. Total shares sold during the week, 889,055.

its 14th dividend of 10c. per share, aggregating $50,000, payable on the 16th inst.

The Indian Queen Mining and Milling Co. announces a monthly dividend from the net earnings of the mine for April (No. 12) of 2½ per cent on the par value of the stock (or 5 cents per share), payable May 19th.

The Ontario Silver Mining Company has declared its 67th regular dividend, payable on the 16th inst. Transfers close on the 10th.

The Cedar Tree Mining and Milling Company has declared its 2d dividend of 5c. per share, payable May 12th.

The Standard Consolidated Mining Co. has declared its usual monthly dividend of 75 cents per share, payable on the 12th inst.

It is announced that the Father de Smet Co. will probably stop dividends while 20 stamps are being added to the mill.

The Napa Consolidated Quicksilver Mining Co. has declared a dividend of 10 cents per share, aggregating $10,000, payable on demand.

The Bethlehem Iron Company declared a dividend of three per cent, payable May 10th, and a deferred dividend of three per cent, payable on the same date, both payable to stockholders as they stand recorded April 30th. These dividends make nine per cent on the capital stock for the fiscal year. The deferred dividend of three per cent is intended to make up for a dividend passed during the panic.

The Pennsylvania Railroad has declared a semi-annual dividend of four per cent, payable in cash on and after May 28th. The shareholders will also have the privilege of subscribing at par to the stock of the company in the proportion of 12½ per cent of the number of shares registered in their names April 30th, 1881, and those entitled to a fraction of a share can subscribe for a full share. All subscriptions must be made and paid for in full prior to June 15th next, and no subscriptions will be received after that date. The privilege of taking new stock may be sold by any stockholder, and blank forms of allotment will be furnished upon application at the company's office.

SAN FRANCISCO MINING STOCK QUOTATIONS.

Daily Range of Prices for the Week.

NAME OF COMPANY	CLOSING QUOTATIONS. April 29.	April 30.	May 2.	May 3.	May 4.	May 5.	Opening. May 6.
Alpha	3⅞	3¾	4¼	4⅛	3⅞	3⅞	.....
Alta	3⅛	3¼	3¼	3⅜	3⅛	3¼	.....
Argenta	.....	.....	.....	.....	.....	.....	.....
Bechtel	11-16	.....	13-16	13-16	29-32	27-32	.....
Belcher	2¼	2½	2½	2⅜	2⅜	2⅜	.....
Belle Isle	.....	.....	.....	.....	.....	.....	.....
Best & Bel	11⅝	12½	12¾	12⅝	11¾	11¾	.....
Bodie	6	6½	7	7½	7	7	.....
Bullion	1¼	1⅜	1½	1¼	1¼	1	.....
Bulwer	.....	3	3	3¼	3¼	3	.....
California	1¼	1⅜	1⅜	1⅜	1¼	1¼	.....
Chollar	3⅛	3½	3⅜	3½	3⅜	3⅜	.....
Con. Imp	.....	.....	.....	.....	.....	.....	.....
Con.Pacific	.....	.....	.....	.....	.....	.....	.....
Con.Va	2⅝	2¾	2⅝	2⅝	2¼	2⅛	.....
Crown P'int	2⅜	2¼	2¾	2⅝	2½	2½	.....
Eureka Con	33½	30½	30½	30¼	31½	31½	.....
Exchequer	1½	1¼	1⅜	1½	1½	1½	.....
Goodshaw	19-32	9-16	.....	19-32	21-32	9-16	.....
Gould &Cur	7	7¼	7⅛	.....	7⅛	6¾	.....
Grand Prize	½	15-16	27-32	¾	¾	¾	.....
Hale & Nor	5½	5¾	5⅞	6	5¾	5½	.....
Mar. White	.....	5-16	.....	.....	.....	5-16	.....
Mexican	10⅛	11⅜	12¾	13⅛	12⅝	11⅝	.....
Mono	2¼	2⅛	3¼	3¼	2¼	3¼	.....
Navajo	13-16	13-16	27-32	1	1	1	.....
North. Belle	17⅞	18	.....	18¾	19	19⅛	.....
Noonday	2¼	.....	.....	.....	.....	2¼	.....
Ophir	6⅞	8	8⅜	8¾	8⅞	7⅞	.....
Oro	1⅛	1	1	1	1	13-16	.....
Overman	1⅞	2	2	1⅞	1¾	1½	.....
Potosi	4⅛	4¼	4⅜	4½	4¼	4¼	.....
Savage	4¼	4¼	4¼	4¼	4⅛	4⅜	.....
Scorpion	.....	.....	2	2	1⅞	1⅞	.....
Sierra Nev.	10¼	11½	11¾	11¾	11⅞	11⅜	.....
Silver King	22	22½	22½	22⅛	22½	22½	.....
So. Bulwer	3-16	.....	.....	.....	.....	11-32	.....
Tioga	.....	.....	.....	.....	.....	.....	.....
Tip Top	.....	.....	.....	.....	.....	.....	.....
Tuscarora	.....	.....	.....	.....	.....	.....	.....
Union Con	9¼	10¼	10¾	10½	10⅜	.....	.....
Wales Con	1⅜	.....	.....	1⅜	.....	.....	.....
Yel. Jacket	4¾	5	5⅜	5⅝	4⅞	4⅞	.....

REVIEW OF THE SAN FRANCISCO MARKET.

The San Francisco market has been pretty steady during the week, and prices generally firm. The Nevada papers contain rumors about Senator Sharon going for the control of Sierra Nevada, Union, Ophir, Mexican, and Yellow Jacket, and other unconfirmed rumors are to the effect that the Bonanza men are about to withdraw from the Comstock. Mr. Mackey, it is said, will open a New York banking-house, and Mr. Fair will invest in Mexican railroads.

A general press dispatch, dated San Francisco, May 2d, says:

There has been a noticeable move in the mining share market to-day. All the Comstock stock was very strong, Mexican being the feature, having advanced from $11 to $13 since Saturday. There is talk of a strike on the north end of the Comstock. The new hydraulic pumps of the Chollar-Norcross-Savage shaft have shown a capacity to handle the water and drain the mines; but some weak points have appeared, which can only be remedied by substitution of brass for iron. The market is somewhat excited to-day, and transactions have been larger than at any time since the Bonanza period, though small by comparison. Accounts from Nevada are very encouraging. There are reports of new strikes in the Eureka District, including Eureka Consolidated, Richmond, and Albion mines. The Northern Belle is said to be looking very well in the old level. Mount Diablo will soon start a mill on ore.

The cash balances May 1st of the mining companies named below were as follows:

Standard	$212,300	Chollar	$25,500
Northern Belle	211,300	Best & Belcher	23,500
Bulwer	51,200	Bodie	20,500
Crown Point	50,600	Gould & Curry	19,800
Silver King	32,300	Potosi	19,000

On the 3d inst., a fire broke out in the old workings of the Consolidated Virginia mine, at a point between fifteen and sixteen hundred feet below the surface, which is the widest part of the underground excavations, where a mass of timbers support the sides and roof of the chamber. These timbers extend a distance of some 1500 feet in length, 500 feet in hight, and 300 feet in width. The extinguishment of a fire once started in such a body of seasoned timber, amounting to many millions of feet, will be next to impossible, and their destruction would no doubt cause the caving of the sides and surface of the earth, the destruction of the best part of Virginia City, and of the mines adjoining the Consolidated Virginia.

A dispatch dated Virginia City, Nev., May 5th, says:

The fire in the Bonanza mines causes no excitement, the present workings of this mine being nearly half a mile eastward from the fire, which has been walled in on all sides by building drifts, and will be allowed to burn itself out.

The hydraulic pump at the Combination shaft is running all right.

The Yellow Jacket shaft is being rapidly drained.

Philadelphia.

THE PHILADELPHIA MINING STOCK EXCHANGE.

Business during the past week has been quite good with the Philadelphia Mining Stock Exchange, which does a considerably larger trade than the Stock Exchange Annex. It certainly would be much better, not only for both these institutions, but also for mining interests in this city, if the two boards were united. Not only would the union give the survivor a much larger influence than either one can have under existing circumstances, but it would help to consolidate a large share of mining interests of the country in Philadelphia, as being one of the main centers.

Though it is impossible to fix a date for this event, it is not too much to say that in the near future a union of these two boards is inevitable, and this result will certainly be most beneficial to both buyer and seller; the rivalry which now often affects the market will be done away with, more care will be exercised in listing new stocks, the opportunities for enlarging the business will be greatly increased, and the aggregate expenses will be considerably reduced.

The new officials of the Philadelphia Mining Stock Exchange are as follows:

President of Exchange, J. Whitaker Wright; Vice-President of Exchange, J. H. Strickler; Chairman of Exchange, F. Schuellerman; Secretary of Exchange, G. A. Q. Miller; Treasurer of Exchange, J. W. Thompson; Clerk of Exchange, J. A. Johnson; Governing Committee, W. R. Thompson, Chairman; A. Hazest, A. Warthman, E. P. Moxey, L. Hall, C. L. Landis, F. S. Snyder, T. J. Stewart, W. N. Viguers, J. Hirshfeld, John Tracy, N. N. Anders, A. W. Kimmell, L. S. Gans, L. R. Morris.

The tellers appointed last week to receive the votes on the resolution increasing the capital stock of the Argent Mining Company, of Leadville, from 200,000 to 400,000 shares, reported at the close of the polls on the 4th inst. that 198 stockholders had voted 138,695 shares of stock in favor of the increase, and that not a single opposing vote had been cast. This is 5565 over the necessary two-thirds majority of the shares actually issued hitherto, which are 199,695, or 305 less than authorized heretofore. Secretary Huckel thinks about $50,000 will be raised by the new issue, which is to be offered first to the stockholders of the old, and then to the public, if there is any stock left. The money subscribed will be used to employ an adequate laboring force developing the company's property in Colorado.

NAME OF COMPANY.	Opening April 29	Highest during the week.	Lowest during the week.	Closing May 5.	Total shares sold.
Algonquin	6.75	6.75	6.50	6.50	200
Argent	.34	.39	.32	.36	22,800
Big Pittsburg	3.40	3.40	.....	3.40	500
Bl'ck Sulphuret	1.00	1.00	.....	1.00	100
Buena	.22	.22	.20	.20	16,450
Chrysolite	6.40	6.40	6.25	6.25	1,700
Cincinnati	.86	.86	.60	.72	14,800
Compromise	.30	30	.....	.30	1,000
Dauntless	.07	.09	.06	.08	126,900
Del Monte	.12	.12	.11	.11	200
Denver City Con	1.25	1.25	.....	1.25	750
Diam'nd Tunnel	3.50	3.60	3.50	3.60	6,100
Fairview Con	.06	.07	.05	.05	42,600
Fisk Con	5.35	5.75	5.35	5.65	2,300
Flora Morrison	4.55	4.55	4.50	4.50	700
Girard	2.50	2.55	2.50	2 55	950
Golconda	.26	.26	.23	.25	9,300
Governor Group	.40	.46	.37	.41	14,600
Grand Union	.08	.08	.07	.08	8,700
G'n's'n Imp't Co	3.00	3.20	3.00	3.10	5,300
Hibernia Con	1.40	1.45	1.15	1.20	9,900
Homestake	.05	.06	.04	04	6,800
Iowa Gulch	.50	.51	.46	.47	59,000
Little Chief	1.60	1.75	1.55	1.55	14,700
Little Maud	.08	.08	.....	.08	1,000
Long & Derry	.05	.05	.....	.05	200
Mt. Lincoln	.10	.10	.09	.09	25,800
Mt. Sheridan	.05	.06	.05	.06	21,900
National	.34	.40	.30	.30	10,700
Native Silver	.50	.50	.....	.50	300
Orig. Keystone	1.40	1.40	.....	1.40	500
Orion	1.35	1.35	1.30	1 35	1,200
Orion Pref	2.00	2.00	.....	2.00	200
Penn Breck	.11	.11	.10	.11	2,000
Pizarro	.10	.12	.09	.10	24,050
Pizarro Extens.	.06	.09	.06	.08	8,100
Rara Avis	.50	.52	.48	.51	5,300
Rico Pioneer	.12	.12	.....	.12	1,000
South Mountain	2.25	2.50	2.25	2.40	11,100
Standard	.07	.08	.07	.07	7,000
Tombstone	5.10	5.20	4.80	5.00	5,700
Victor	.04	.05	.04	.04	38,300

Copper and Silver Stocks.

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

BOSTON, May 5.

There is a decidedly better tone to the market for copper stocks, and for the past two or three days the disposition has been to purchase the reliable stocks at advanced prices. The expectation that the demand for ingot copper will materially advance the price has doubtless caused the shrewd operators to lay in a good supply of stocks at the low prices, in anticipation of an early boom. At all events, from whatever cause, there is no doubt a more hopeful feeling for the future, and higher prices are confidently predicted. The silver stocks have been very active, and in several specialties higher prices have been paid.

Calumet & Hecla has been exceptionally weak, declining from $238 to $235¼, but was in better demand to-day, at $236 bid and none offered.

Copper Falls in good demand, with sales at $9@$10.

Franklin opened at $12, and, on small sales, advanced to $14. It was a little off to-day, on sale of 50 shares at $13¾. At the present price of this stock, it is considered a good purchase, as the mine will undoubtedly take its place among the dividend-paying mines during the present year.

Pewabic advanced from $16 (April 22d) to $18@$18½. There is but little of this stock offered, and it is held very firm, and a much higher price must be bid to call it out.

Quincy opened at $33¾, and advanced to $35 on sales of about 1100 shares. This stock is largely bought for investment, and is undoubtedly good for a handsome advance.

Osceola steady at $35.

Atlantic advanced from $12½ (April 18th) to $15, with good buyers at $15 bid.

The low-priced copper stocks are neglected as yet, but we anticipate a more active market in this class, with a good speculative demand. Allouez steady at $3; Ridge, $3⅞@$4; Star, $1½.

Brunswick Antimony dull at $15.

In silver stocks, Catalpa active at $2 11-16@$2⅞, with sales of over 5000 shares.

Crescent very steady at $1¾; sales about 4000 shares.

Duncan Silver declined from $3@$2⅝@$2⅝. This stock ought to sell higher, the reports from the mine being of an encouraging character.

Harshaw had one of its periodical spurts—opening at $9½, declined to $9; and on the 3d, on good reports from the mine and large buying orders, it advanced to $13⅞, but subsequently declined to $11, with sales of about 6000 shares.

Silver Islet, also on favorable news from the lake, ad-

vanced from $36@$48, followed by a decline to $43, closing at $43 asked.

Bonanza Development, but recently put upon the Board at $3, advanced on large sales to $4¾.

The Maine mines generally are lower. Sullivan & Waukeag sold at $3¼, but declined to $3, closing $2⅛ bid.

3 P.M.—The market this afternoon was a little lower; sales of Allouez at $3.

Copper Falls, $9¼.
Harshaw, $11.
Huron, $3¾@$3⅝.
Quincy, $34⅞.
Silver Islet, $14.
Calumet, $237 bid.
Atlantic, $15 bid.
Blue Hill, $3@$3⅝.
Copper Falls, $9¼ bid.
Douglass, $3¼ asked.
Franklin, $13@$13⅜.
Harshaw, $11 asked.
Pewabic, $17½ asked.
Ridge, $4 bid.
Silver Islet, $43 asked.
National, $1 asked.
Allouez, $3 asked.
Antimony, $15⅜ bid.
Catalpa, $2⅝@$2 11-16.

At the Boston Mining and Stock Exchange, Empire continues to lead in the amount of sales, aggregating the past week over 32,000 shares at $1.03@$1.11, the market closing to-day at the lowest price for the week. Simpson Gold continues active, about 15,000 shares changing hands at 15@17c. Milton Mining and Milling Co., of Maine, has been active at a decline from 87@67c., with sales of over 12,000 shares, closing 70c. bid. Mendocino advanced from $3½@$3¾ on moderate transactions. Outside of the leading specialties, there has been but little doing; the market being generally dull and inactive.

The annual report of the Osceola Copper Mining Company for 1880 shows the gross receipts to be $656,557. The net profit was $125,257; amount of dividends paid during the year, $211,000; balance of assets January 1st, 1881, $301,041.

Boston Mining Stocks.

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 May 4th.

NAME OF COMPANY.	Opening.	Highest.	Lowest.	Closing.	Sales.
Allouez, c.	3.00	3.00	.....	3.00	465
Arizona Queen..	1.29	1.33	1.29	1.31	3,300
Atlantic, c.	14	15 1-16	14	1 51-16	685
B'n'nza D'v'l'mt	3¼	4⅝	3¼	4⅝	14,550
Boston& Eureka	1.52	1.54	1.50	1.50	1,000
Brunswi'k Ant'y	15	15	.....	15	95
Cal. & Hecla, c..	239	239	235	235½	61
Catalpa	2.75	2.88	2 11-16	2 11-16	5,750
Central, c.	30½	30½	.....	30½	15
Copper Falls, c.	9.00	10	9	9¼	400
Crescent	1.62½	1.88	1.62½	1.75	5,150
Dental Naboil	3.50	3.75	3.25	3.75	1,000
Douglass	3.12½	3.12½	.....	3.12½	100
Duncan, s.	2½	2⅝	2⅜	2½	850
Dunkin	1.57½	1.68	1.55	1.68	3,270
Empire	1.02	1.17	1.00	1.05	39,800
Franklin, c.	11¾	14	11¾	14	865
Harshaw	9.50	13	9.00	11.50	5,325
Huron	3⅝	3⅝	.....	3⅝	100
Indian Queen	2.60	2.60	.....	2.60	1,000
Kokomo	.50	.50	.....	.50	500
Mass.& N.Mex.	.55	.66	.54	.61	11,560
Mendocino	3.50	3.75	3.50	3.75	1,900
Milton	.80	.95	.67	.75	10,900
Napa Con	4.75	4.75	.....	4.75	100
North Castine	4.25	4.40	4.25	4.40	800
Osceola, c.	35	35	.....	35	35
Pewabic, c.	18	18	.....	18	200
Promontory Con	9.50	9.50	8.50	8.50	300
Quincy, c.	33¾	35	33¾	35	1,065
Ridge, c.	3⅜	3⅜	.....	3⅜	50
Silver Islet, s.	36	48	36	44	2,444
Simpson Gold	.12	.18	.09	.16	19,100
South Hite	1.25	1.35	1.25	1.30	200
Sul'v'n & Wa'k'g	3.00	3.25	2.75	2.75	1,675
Sycamore	1.50	1.62½	1.47	1.55	3,400
Town Site	1.31	1.34	1.30	1.32	3,700
Tremont Silver.	1.00	1.03	.95	1.00	1,450
Twin Lead	1.30	1.40	1.05	1.15	4,000
Young Hecla	.50	.60	.50	.50	1,000

c. Copper. s. Silver.

Gas Stocks.

NEW YORK, Friday Evening, May 6.

Gas stocks are dull and steady. Auction sales are reported of $700 Metropolitan scrip at $102½, 165 shares of New York at $93@$94¾, 90 shares of Brooklyn at $112¼, and 62 shares of Nassau at $50½. Dividends disbursed by gas companies of New York and vicinity during April and May were as follows: Mutual, 1½ per cent; New York, 4 per cent; Manhattan, 7 per cent; Brooklyn, 5 per cent; Citizens, 2½ per cent; and the Municipal, 5 per cent.

The Electric Light for Street Lighting.—On the 3d inst., the Board of Aldermen of this city passed an ordinance over the Mayor's veto, giving the Brush Electric-Light Company the privilege of laying its wires and mains in the public streets. The company is now making preparations to light sections of Broadway, Fifth avenue, Fourteenth and Thirty-fourth streets, embracing Union and Madison squares. Each square will contain one lamp, elevated 208 feet above the level of the soil, upon an ornamental tower. In this position it will be elevated more than one hundred feet above the roofs of the highest adjacent buildings, and it is calculated that Fifteenth street will be brilliantly illuminated from Third to Eighth avenues, each of the lamps having a power of 36,000 candles, and being equal to lighting a square mile of open country.

Representatives of the same company appeared before the Philadelphia Sub-Committee of Councils with a proposition to illuminate Chestnut street, between the two rivers, with the electric light. These representatives proposed to light Chestnut street for one year for $5000, they bearing the entire expense of putting up the lamps and necessary machinery. The proposition is favorably considered by the committee.

The Philadelphia Gas Trust.—At a special meeting of the Finance Committee of the Philadelphia Common Council, on the 2d inst., a resolution was passed appropriating $2000 to prosecute the members of the Gas Trust. A committee was also appointed to consult with the City Solicitor with reference to preparing an ordinance for abolishing the Trust and taking possession of the works.

COAL STOCKS.

The following list of companies in New York and vicinity is corrected weekly by GEORGE H. PRENTISS, Broker and Dealer in Gas Stocks, No. 17 Wall street, New York. Quotations are based on the equivalent of $100.

COMPANIES IN NEW YORK AND VICINITY.	Capital Stock.	Par.	DIVIDENDS. Rate per ann.	DIVIDENDS. Am. of last.	DIVIDENDS. Date of last.	QUOTATIONS. Bid.	QUOTATIONS. As'd.
	$		P. ct.				
Mutual, N. Y.	5,000,000	$100	6	1½	April '81	65	68
" Bonds	900,000	1,000	6	3½	Feb., '81	100	105
N. York "	4,000,000	.....	8	4	May, '81	90	94
Metrop. "	2,500,000	100	10	6	Feb., '81	135	138
" Certfs.	1,000,000	.....	7	3½	Feb., '81	100	103
Harlem "	1,850,000	50	.....	3	Feb., '81	75	80
Manhat. "	4,000,000	50	.....	7	April, '81	175	178
Brooklyn, Bkln.	2,000,000	50	.....	5	April, '81	112	115
Nassau	1,000,000	25	.....	2½	Jan., '81	48	51
" Certfs.	700,000	1,000	7	3½	May, '81	95	98
People's	1,000,000	10	.....	3½	Jan., '76	30	35
" 1st m. Bonds	400,000	.....	7	3½	May, '81	101	104
Bonds	100,000	.....	6	3	Jan., '81	75	80
Metrop. "	1,000,000	100	5	2½	Jan., '81	55	60
W'msb'g "	1,000,000	50	.....	2	Jan., '81	57	65
" Bonds*	1,000,000	1,000	6	3	April '81	101	104
Citizens'	1,200,000	20	.....	3½	April '81	45	50
" Bonds	315,000	1,000	.....	3½	April '81	100	105
J. C., N. J.	750,000	20	.....	7½	Jan., '81	150	155
Municipal, N. Y.	2,000,000	100	.....	5	April '81	150	160
" Bonds	750,000	100	7	3½	May, '81	105	110
Fort'n M'nicipal.	1,500,000	100	.....	.....	.....	.....	55

Quotations of New York stocks are based on the equivalent of $100. Philadelphia prices are quoted so much per share.

NAME OF COMPANY.	Capital Stock.	SHARES. No.	SHARES. Par Val.	Last Dividend. Mo.	Y.	R't.	Rate per Ann.	April 30. H.	April 30. L.	May 2. H.	May 2. L.	May 3. H.	May 3. L.	May 4. H.	May 4. L.	May 5. H.	May 5. L.	May 6. H.	May 6. L.	SALES
	$		$				Per c'nt													
Am. Coal Co.	1,500,000	60,000	25	....	..	....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Col. C. & I.	10,000,000	100,000	10	....	..	....	....	54¾	54½	56	54⅝	56	5½	57	56	57½	56¾	56⅝	.....	11,217
Ches. & O. RR	15,000,000	150,000	100	....	..	....	....	26½	25⅝	27½	26¾	29	27¾	29⅞	28⅜	29⅝	28¾	29	28½	40,370
Consol. Coal	10,250,000	102,500	100	Jan.	77	2½	....	.....	.....	.....	.....	.....	.....	.....	.....	38	.....	38	.....	300
Cumb. C. & I.	500,000	5,000	100	....	..	....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Del. & H. C.	20,000,000	200,000	100	Aug	76	4	9	†	107⅛	110¾	108⅞	110⅞	110¼	112	110¾	112⅝	112	112¾	111⅝	24,773
D., L. & W. RR	20 000,000	524,000	50	Mar.	81	1½	6	‡	116½	120¾	117½	120⅜	119⅝	124¼	120⅝	125¾	123⅜	125	124	382,100
Elk Lick C'Co	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lehigh C. & N	10,448,540	208,971	50	Sept	76	1½	5½	45	.....	45½	45¼	45⅝	45¼	46¼	45½	46¼	46	.....	.....	9,253
Leh. V'y R. R.	27,042,900	540,858	50	....	....	....	4	61¾	61⅜	61½	61⅜	.....	.....	61½	.....	61¾	61⅜	.....	.....	2,124
Mary'd Coal	4,400,000	44,000	100	Jan.	76	1½	1½	....	.....	28	27⅝	28	.....	28	.....	29	.....	.....	.....	920
Montauk C'l.	2,500.000	25,000	100	....	..	....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Morris & Es'x	15,000,000	300 000	50	....	..	....	7	123	.....	123	.....	.....	.....	124¾	124⅛	124¾	.....	124½	.....	2,549
New Cen. C'l	5,000,000	50,000	100	Dec.	80	2	....	.....	.....	.....	.....	.....	.....	29½	27¼	31	30	30⅜	.....	2,000
N. J. C. RR.	20,000,000	206,000	100	Apr	76	2½	2½	97¾	96	99	97⅛	99	97¾	100¼	99⅜	101¾	100	101¼	100⅜	122,218
Penn. Coal	5.000,000	100,000	50	Oct.	79	3	....	240	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10
Penn. R. R.	68.870,200	1,337,404	50	May	81	4	....	69¾	68⅛	69½	69	*69⅛	65⅜	65⅞	65¼	65¼	64¾	.....	.....	76,389
Ph. & R. RR.	34,278,150	685,563	50	Jan	76	2½	10	53¾	51¾	55⅜	53	54⅜	53⅛	55	54¾	54⅜	54⅛	54⅜	54⅛	74,385
Spring Mt. C'l	1,500,000	30,000	50	....	..	....	6	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cameron C'l.	..	..	....	....	..	....	....	....	.....	.....	.....	.....	.....	28	.....	.....	.....	.....	.....	400

* Of the sales of this stock, 31,910 shares were sold at the Philadelphia Stock Exchange, and 41,475 shares at the New York Stock Exchange.

† 109¼. ‡ 118½. Total Sales..... 750,008. § Ex-dividend.

Coal Stocks.

NEW YORK, Friday Evening, May 6.

A great improvement has taken place in the market for these securities during the past week. While considerable activity has prevailed, the stocks show a great degree of strength, closing at about the highest prices of the week.

Delaware, Lackawanna & Western has been very active, the sales amounting to 382,100 shares, at prices ranging from $116¼@$125⅝. Delaware & Hudson has sold to the extent of 24,773 shares at $107⅛@$112⅞. New Jersey Central has been active and strong; the sales amount to 122,218 shares at $96@$101⅞. Reading records sales of 41,475 shares at $51¾@$55⅝@$54¾.

There has been a liberal business done in the stocks of the miscellaneous coal companies. Maryland Coal records sales of 920 shares at $27½@$29; New Central Coal, 2000 shares at $27½@$31; Pennsylvania Coal, 10 shares at $240 (ex dividend); Cameron Coal, 400 shares at $28; Colorado Coal and Iron, 11,217 shares at $54¼@$57½; and Consolidated Coal, 400 shares at $38.

Counsel for the McCalmont Brothers and the Bond managers of the Philadelphia & Reading Railroad on the 5th inst. submitted a reply to the opposite party. They propose to ask the Court of Common Pleas next Saturday to grant a preliminary injunction restraining Mr. Gowen and his associates from acting as officers of the road, and demand a hearing then or at the earliest possible day. They are also ready, they say, to meet the Gowen counsel at Harrisburg to join in the application to Supreme Court for an early hearing of the case.

The stock of another coal company has lately been added to those already figuring in the transactions of the New York Stock Board. This company is entitled the Cameron Coal Company, and was originally organized with a capital stock of $2,500,000, and $250,000 first-mortgage bonds. As recently reorganized, the capital is continued at $2,500,000, divided into 50,000 shares, of $50 each; but the bonds have been canceled, and $100,000 of floating indebtedness has been liquidated. The property consists of 9325 acres of bituminous coal and timber lands situate in Cameron County, Pa., at the junction of the Philadelphia & Erie with the terminus of the Buffalo, New York & Philadelphia Railroad. An officer of the company states that at present there are mined about 400 tons of coal per day, at a profit of one dollar per ton. The following are the officers of the company: President, William K. Soutter, of the firm of Souttee & Co., bankers; Vice-President, James Moore, who is also superintendent of the Central RR. of New Jersey; Secretary, S. L. Simpson; and Treasurer, Samuel Knox, also treasurer of the Central RR. of New Jersey. The directory is a strong one, and embraces in addition to the above-named gentlemen, Messrs. E. A. Quintard, J. H. Swoyer, G. L. Stout, R. P. Smith, R. H. Williams, and other gentlemen well known in the coal trade.

BULLION MARKET.

NEW YORK, Friday Evening, May 6.

The London market for silver has declined the past week as per our table annexed, but sterling exchange has advanced here nearly enough to meet this decline abroad. Nothing tangible yet from the Paris Monetary Conference.

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

DATE.	London Pence.	N. Y. Cents.	DATE.	London Pence.	N. Y. Cents.
April 30	52	112⅝	May 4.	51¾	112¾
May 2	*	†	May 5.	51¾	112⅝
May 3	51¾	112⅜	May 5.	51¾	112⅛

* 52@51¾ † 112⅝@112¼

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 $1.29-29 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 13½ per cent to arrive at actual value:

MINES.	States.	For the week.	Month of April.	Year from Jan. 1st, 1881.
Alice, G. S.	Mont	$26,618	$80,886	$367,336
Barbee & Walker, S.	Utah	.....	.....	81,155
Belmont, G.	Mont	.....	5,100	20,370
Bodie, G.	Cal	8,070	26,270	130,679
Bos. & Colo. S. W'ks.	Colo.	.....	.....	665,000
California, G. S.	Nev.	43,400	29,940	107,176
Caribou, S.	Colo.	.....	3,085	46,702
Christy, S.	Utah	6,542	41,772	158,128
Concordia, G.	Cal	.....	.....	2,234
Connor, S.	Utah	1,200	16,950	45,325
Contention, S.	Ariz.	25,600	129,320	782,198
Con. Virginia, G. S.	Nev.	32,560	29,000	146,560
Crismon-Mammoth, G.	Utah	1,200	8,125	23,379
*Custer, G. S.	Idaho	.....	.....	123,669
*Deadwood-Terra, G.	Dak.	.....	.....	197,218
Derbec, G.	Cal	.....	3,700	43,357
Dexter Mill	Mont	.....	3,500	14,500
Elkhorn Mill	Dak.	.....	.....	5,000
Eureka Con., G. S. L.	Nev.	31,700	139,000	548,023
Exchange Silver	"	.....	.....	44,400
Ferry Bullion	Utah	.....	.....	7,210
Fresno Enterprise, G.	Cal	.....	.....	9,600
Frisco M. and S. Co.	Utah	12,394	30,405	104,114
Germania	"	7,330	22,210	94,629
Grand Central Mill	Ariz.	.....	45,917	106,568
Grand Prize, S.	Nev.	.....	6,960	73,339
Hale & Norcross, G. S.	"	.....	.....	33,090
Head Center	Ariz.	.....	.....	9,825
Harshaw, S.	"	.....	.....	237,000
*Homestake, G.	Dak.	.....	.....	265,281
Horn-Silver, S. L.	Utah	22,796	71,796	305,368
Idaho, G.	Cal	.....	.....	51,000
Independence, S.	Nev.	.....	.....	14,000
*Indian Queen, S.	"	.....	4,302	61,986
Iron Silver	Colo.	.....	.....	264,331
Jocusta, S.	Mex.	.....	.....	82,000
Lexington	Mont	.....	.....	7,000
Little Chief, S. L.	Colo.	.....	.....	63,314
Mack Morris	Ariz.	.....	15,767	73,489
Mingo	Utah	.....	.....	4,554
Morgan Smelt'g Wks.	"	.....	.....	24,179
Morning Star	Colo.	.....	.....	15,200
Mount Potosi	Nev.	.....	8,450	59,830
Navajo	"	5,700	21,500	80,181
Nevada Silver Ore	Utah	.....	.....	11,875
Noonday, G.	Cal	12,300	24,090	120,583
Northern Belle, S.	Nev.	31,830	84,200	424,917
Oneida, G.	Cal	.....	.....	8,684
*Ontario, S.	Utah	40,459	127,216	753,646
Ophir, G. S.	Nev.	.....	.....	5,170
Pascoe, S.	Utah	4,020	4,020	7,470
Rebellion	"	.....	.....	3,700
Richmond, S. L.	Nev.	19,457	78,360	476,051
Robinson Con., S.	Colo.	.....	.....	107,000
Sierra Nevada, G. S.	Nev.	31,800	50,600	99,175
Silver Bow	Mont	.....	20,600	71,342
Silver Cliff	Colo.	.....	7,300	7,300
Silver King, S.	Ariz.	24,100	76,440	225,338
Sullivan, S. L.	Maine	.....	.....	5,000
Standard, G.	Cal	31,830	169,402	760,832
Star, S.	Nev.	.....	12,800	44,013
Stormont, S.	Utah	.....	.....	77,249
Syndicate, G.	Cal	.....	6,000	32,987
Tintic M. and M. Co.	Utah	5,038	7,422	41,091
Tip Top	Ariz.	.....	.....	147,900
*Tombstone	"	.....	20,199	385,127
Union Con., G. S.	Nev.	.....	.....	43,100
Wood River	Idaho	.....	.....	6,450

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

ARIZONA.

Bradshaw.—The superintendent telegraphed that he would ship $20,000 on the 15th instant, the result of fifteen days' mill-work in May.

Copper Queen.—Bullion shipments from this mine have been as follows:

April 15th	24,549	pounds	copper	bullion.
" 16th	11,124	"	"	"
" 17th	20,494	"	"	"
" 23d	26,430	"	"	"

The smelter started up on the 15th of April. Another 30-ton smelter has been ordered.

CALIFORNIA.

Plumas.—It is reported that this company is pushing work vigorously in its Gopher Hill claims. Since the water commenced running, $17,000 has been cleaned up, and for the week ending April 26th the company shipped $7300.

COLORADO.

Big Pittsburg.—The superintendent reports shipments for past week 96 tons of ore; settled for 132 tons, which produced $30,000.

Brittenstene Mines.—Plans are being prepared for the erection of a dry concentrator to be used in concentrating the gangue rock, which averages sixty ounces per ton.

Caribou.—A dispatch from the superintendent, dated May 2d, states that he has shipped 6000 ounces of fine bullion.

Chrysolite.—The official production of the company since its organization in 1878 aggregated 38,227 1426-2000 tons of ore, which was sold to smelters for $2,625,506.16 net. Of this amount, there was produced, under the management of W. S. Keyes, up to September, 1880, 31,564 1767-2000 tons, yielding net $1,986,051.37. Since that period and up to the present time, under the superintendency of Messrs. Marden and Rolker, there have been produced 6662 1659-2000 tons, which yielded $639,454.79. The production under Tabor, Borden & Co. was 12,866 tons, which sold for $1,064,858.70, which makes a total production of 51,033 1426-2000 tons, $3,690,364.86. The managers telegraph that the shipments for the week ending May 2d were 274 tons of ore.

Custer County.—The following from the Silver Cliff *Gazette* approximates the daily output of the following mines for the week ending April 29th:

ROSITA MINES.	Tons of ore.
Bassick	40
Polonia	6
Twenty-Six	1
Total	47

Silver Cliff mill, 120 tons of ore.

Dunkin.—The superintendent, under date of May 4th, telegraphs: Shipped 1195 tons during April.

Iron Silver.—It is reported that the ore-shipments have averaged over 300 tons per day for the week ending April 28th.

Little Chief.—For the week ending April 30th, 145 tons of ore have been shipped; settled for 153 tons, which produced $9000. An average of $58.82 per ton.

Little Pittsburg.—This company's report shows that the amount received for ore from June 1st, 1880, to April 1st, 1881, was $208,247; expenses, $156,297.

Robinson Consolidated.—This company is shipping 50 tons of ore daily, besides treating 35 tons in its own smelters.

Silver Cliff.—The shipments of bullion by this company for the week ending April 28th were:

7 bars weighing	875 lbs.
Previously reported	673 "
Total to date	1,548 "

DAKOTA.

Caledonia.—The manager reports that for the week ending April 23d there were 1260 tons of ore shipped to the mill, the bullion produced from which amounted to $7866.

Father de Smet.—The superintendent reports for the week ending April 22d that 1910 tons of ore were extracted from the first and second levels.

MAINE.

Sullivan & Waukeag.—This company reports as follows: The value of the pulp taken from the stamp is from $12 to $35 per ton, and the present daily output of ore is from 10 to 15 tons.

Actual run of the mill for March, 1881:

		Full Duty.
Tons of ore milled	133	378
Number of days run	17	27
Average tons per day	7 83-100	14
Average assay value	$20.63	$20.63
Total value of ore	$2,743.49	$7,798.14
Per cent. silver saved	85¼	85¼
Amount silver saved	$2,339.08	$6,647.13
Milling expense (including repairs)	$1,593.39	$1,593.39
Cost per ton	$11.48	$4.22

MONTANA.

Butte.—The shipments of silver bullion through the express office at Butte, for the week ending April 23d, aggregated 3?08 pounds, valued at $51,328.

NEVADA.

Comstock Mines.—The Virginia *Chronicle* publishes the following reports for the week ending April 25th:

	Tons of ore raised.	Assay value per ton.
California	504	$22.75
Con. Virginia	454½	20.95
Sierra Nevada	2,711	*

*The average value of this ore from recent mill-runs was about $40 per ton.

Manhattan Mill.—During the week ending April 15th, 161 tons of ore were crushed at this mill, having assay value of $49,053.

UTAH.

Park City Smelter.—Following is the bullion shipment from the Park City smelter for the week ending April 23d: 223 bars, weighing 23,100 lbs.

Salt Lake City.—The bullion shipments from Salt Lake City for the week ending April 28th aggregated $121,519.86.

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 $336,773.28, as against $236,686.08, reported in our last.

Coin Assets of United States Treasury, May 1st, 1881:

Gold coin	$73,178,856.33
Gold bullion	97,140,898.20
Standard silver dollars	58,044,826 00
Fractional silver coin	26,493,612.56
Silver bullion	3,863,582.74
Gold certificates	1,400.00
Silver certificates	11,522,208.00
Nickel and minor coin	725,138.46

The following is a statement of the business at the United States Assay Office at New York for the month ending April 30th, 1881: Deposits of gold, $16,971,000; deposits of silver, $489,700; total deposits, $17,460,700. Gold bars stamped, $1,261,935; silver bars stamped, $406,232; total, $1,668,167.

The coinage of the various mints during April amounted to $11,260,000, of which about $9,000,000 was gold coin.

The coinage of the United States Mint at Philadelphia, during the month of April, was to the value of $8,108,900, of which $7,483,000 was gold, $600,000 silver, and the remainder base coins.

The Director of the Mint thinks the laboring classes are hoarding gold to such an extent as to appreciably affect the amount in circulation.

The Treasury Department at Washington, on the 5th inst., purchased 310,000 ounces of fine silver for delivery at the San Francisco, Philadelphia, and New Orleans mints.

Exports of Gold and Silver from New York.

Week ending April 30th	$258,400.00
Corresponding week last year	104,408.00
Since Jan. 1st this year	4,122,969.00
Corresponding period last year	3,271,541.00

Gold Interest Paid Out by the Treasury.

Week ending April 30th	$207,580.63
Corresponding week last year	414,408.27
Since Jan. 1st this year	17,175,318.77
Corresponding period last year	19,117,260.52

The Gold Flood.—It is reported that $866,211 in gold coin and bullion have arrived from foreign sources in addition to that announced in our issue of the 30th ult.

The weekly statement of the Bank of France shows an increase of gold to the amount of 6,350,000 francs, and an increase of silver to the amount of 5,575,000 francs, making a total increase of 11,925,000 francs.

METALS.

NEW YORK, Friday Evening, May 6.

The week under review has been an unusually quiet one, and has had quite a depressing effect. The outlook for metals appears to be rather discouraging, although this may suddenly change within a few weeks, the stagnation not being confined to metals alone.

Copper.—There is practically nothing doing in this article, and there is a general impression that stocks are so large that a decline in prices must come. We quote Lake at 18¾@19c., and Baltimore at 18½@18⅝c. The first copper from the Lake is expected here about the end of the month; and as but very little was brought overland during the winter, it is thought that very large supplies will reach here after the opening of navigation. Chili Bars are quoted in London at £59.

Our English advices include April 22d, from which we extract the following:

April 20th. The market was fairly active, and about 600 tons changed hands at from £59¼, without brokerage, up to £59⅝, less usual brokerage, closing at £59⅝ bid. Wallaroo and Burra Burra dull at £70 and £67 respectively.

April 21st. Chili Bars were more quiet at £59¼, without interest or brokerage, and £59½@59⅝ usual 14 days.

April 22d. The market for Chili Bars was sensitive. The business amounted to 250 tons g. o. bs. at £59@£59¼ cash, and £59⅜@£60 forward deliveries.

Tin.—The market for this article has been very quiet. This, however, was more the fault of the holders than of the buyers, the former being unwilling to dispose of their stocks at current rates. In fact, it is stated that at present prices it is easier to buy small than large lots. Straits, in London, is quoted at £88 on spot, and £89 5s.@£89 10s. for future delivery, with a very large business doing. Singapore quotes $27¾; Penang, $27¼, with exchange at 3s. 6d.

Mr. Edward P. White, under date of New York, May 2d, gives the following statistics of tin:

April 1st, 1881—	Tons.	Tons.
Stock in all hands, New York, Boston, and Philadelphia		2,865
Imported during April, Straits and Malacca, into New York	325	
Imported during April, Australian, into New York	25	
Imported during April, L & F., into New York	30	
Imported during April, Banca, into New York	5	385
		3,250
Consumption during April		900
Total spot stock		2,350
Afloat to date, Straits and Malacca, ex December and February, per sail	150	
Ex March and April, per steamers	750	900
Total in all hands, spot and afloat		3,250

With the setting in of spring weather and the near approach of the reopening of canal and lake transportation, our general metal trade has shown increased animation. Stocks in the hands of consumers having run very low during the late protracted winter, we may now anticipate an increasing demand to make up for lost time.

Pig-iron for the month opened firm, dealers going into stock pretty freely during the first fourteen days, with

transactions of fully 400 tons spot and to arrive, at from 20@20¼c., closing strong, with an upward tendency.

On the reopening of business after the Easter holidays, however, the London market, having broken £2 per ton, down to £86 on the spot, and several of our holders having reduced their spot prices to 20c., buyers were enabled to secure from 250 to 300 tons at this figure, at which, however, it would to-day be impossible to find round lots, holders generally asking ¼@⅜c. advance. Thus, the fluctuations in this metal during the whole month have not exceeded ¼c. per lb., which seems to indicate that the present moderate prices are giving satisfaction all round. Still, it can not be denied that our dealers and distributors have shown great reluctance to increase their stocks, in spite of a well-sustained consumptive demand.

Our new shipments from the East (only 330 tons during the month) fall considerably below our requirements, and our present prices leave no margin of profit to our importers; and so long as this continues, we must be content to work off our old holdings. In this connection it should, however, not be overlooked, that the total shipments to Europe and America from Singapore and Penang so far this year show a decrease of nearly 25 per cent, as compared with the same period last year, the combined shipments thence from January 1st to April 30th, 1881, having been only 3100 tons as against 4000 tons in 1880.

The reduction in supplies consists entirely of the favorite Malacca brands, shipped exclusively from Singapore, and seems to confirm the repeated statements made by several prominent houses in the East to their correspondents here, that the production has of late been falling off, and that old stocks in the port have been completely cleared. Should this falling off from the Malacca mines continue throughout the year in the same ratio as during the first four months, we may calculate upon a deficiency of about 3000 tons from this quarter alone; it remains, however, to be seen whether this deficiency may not be made up later on in the year.

The subjoined figures of importations and floating supplies this year, as compared with last, may be of interest:

1881.

Arrivals in New York and Boston, January 1st to May 1st:

	Tons.
Straits and Malacca	2,310
Australian	147
L. & F. and Refined	80
Banca and Billiton	18
Total	2,555
Afloat on May 1st, 1881:	
Straits and Malacca	900
Australian	Unknown
Billiton	"
Tons	900

1880.

Arrivals in New York and Boston, January 1st to May 1st:

	Tons.
Straits and Malacca	4,155
Australian	595
L. & F. and refined	635
Banca and Billiton	960
Total	6,345
Afloat on May 1st, 1880:	
Straits and Malacca	1,700
Australian	300
Billiton	255
Tons	2,255

Our English advices include April 22d, from which we extract the following:

April 20th. There was a moderate business at weaker prices. Sales about 100 tons at 87¼@86¾s. cash, and 88s. for delivery at the end of July. Billiton sold at 87s. cash.

April 21st. Sales of about 250 tons took place. May deliveries sold at 86¼@86½s., three months' stuff at 87½s., and 86⅜s. prompt cash.

April 22d. A warrant of Australian sold at 85⅞s. sharp cash, and 40 tons of Straits at 86s. for delivery any time this month, in buyer's option.

Tin Plates.—The market has been extremely quiet and prices are slightly lower abroad. There is no out-of-town demand here at present. We quote: Charcoal tins, Melyn grade, ⅛ cross, at $6¼; Allaway grade, $5¾. Charcoal Roofing, Dean grade, $5.45@$5.50 for 14 × 20, and $11⅛ for 20 × 28; Allaway grade, $5¼ for 14 × 20, and $10¾ for 20 × 28. Coke Roofing, B V. grade, $5 for 14 × 20, and $10 for 20 × 28. Coke tins, B. V. grade, $5 for IC, and $4.45@$4.50 for I. C. W.

Messrs. Robert Crooks & Co., of Liverpool, under date of April 21st, say of tin and terne plates:

In consequence of the extra prices asked at Birmingham meeting, little business was done there, and this absence of transactions has depressed the market almost to the position of this day week. This is most noticeably the case with coke tin; charcoal tin and terne, being better supported by orders, are steady, though even for these the tendency is rather downward.

Pig-Lead.—The sales for the week amount to about 250 tons at 4·30@4·25c. At the close, 4·25c. is bid, and the market stands in favor of consumers, who are not particularly anxious to purchase, with the outlook for liberal supplies.

Spelter and Zinc.—There is nothing doing in either of these. We quote the former at 5@5½c, and the latter at 7c.

Antimony.—This article is exceedingly dull. We quote Cookson's at 14⅜@14½c., and Hallett's and Johnson's at 14¼@14½c.

Quicksilver.—The San Francisco *Commercial Herald* of April 28th says:

Spot stocks are light, and the asking price 37¾@38c., with small sales. London quotations, £6 7s. 6d. per bottle. Receipts since January 1st, 1881, 15,467 flasks. Exports by sea since January 1st, 14,028 flasks; same time in 1880, 8395 flasks.

IRON MARKET REVIEW.

NEW YORK, Friday Evening, May 6.

The week under review has been an exceedingly quiet one, and there are evidences that "hard pan" has been touched all round. If such is not the case, efforts will be made to find it and wipe out weak speculators and close up some unprofitable establishments among the producers. The evidences are, that there is a much greater consumption of iron at the present time than there was a year ago. Consumers are full of work, but are not purchasing iron. This can not last, and a better demand appears to be a certainty. There are no indications of its immediate appearance; but it can not be long delayed; and when it does come higher, prices will rule. We do not, however, see any thing to indicate a wild speculation similar to what has occurred several times during the past ten years.

American Pig.—The event of the week has been the sale at auction of 1000 tons of Allentown and 500 tons of Lehigh No. 1 Foundry iron at $23.75 at Elizabethport, and from the furnace on the same basis. Part of this has been resold at $23¾@$24. We do not learn of other business worthy of note. The above-mentioned lots have had a very demoralizing effect on the market for several weeks, and could have been closed out at private sale several times for better figures. This sale had no influence on makers' prices. There is said to be but little accumulation of stocks with makers. There is talk of about 20 furnaces going out of blast, owing to the unprofitableness of working a portion of them, and for the purpose of making improvements in the others, with the view of accomplishing some economies in manufacture. No. 1 Foundry is offered at $23; No. 2 Foundry, at $20@$21½, but good brands are quoted as follows: No. 1 Foundry, $24@$25; No. 2 Foundry, $22; and Forge, $20.

Scotch Pig.—Glasgow prices are nominal, and a little weak. The arrivals here are but moderate, and are all going into consumption. We quote Eglinton at $20½@$21; Glengarnock, $21½@$22½; Coltness, $23@$23½; and Gartsherrie, $23. We note a sale of 1000 tons of No. 3 Middlesbrough pig-iron at $16.75. The regular price is $17½, while red car-iron is quoted at $18. Bessemer pig is said to be offered at $23.

Messrs. John E. Swan & Brothers, of Glasgow, under date of April 22d, report 121 furnaces in blast, as against 114 at the same time last year. The quantity of iron in Connal & Co.'s stores was 547,935 tons, an increase of 2617 tons for the week. The shipments show a decrease since Christmas of 94,378 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 17,257 tons. The following were the quotations of the leading brands of No. 1 pig-iron; Gartsherrie, 57s. 9d.; Coltness, 57s. 9d.; Langloan, 58s.; Summerlee, 56s.; Carnbroe, 52s. 6d.; Glengarnock, 54s. 6d.; Eglinton, 48s. 6d. Middlesbrough pig-iron was quoted as follows, f. o. b.: No. 1 Foundry, 42s. 6d.; No. 2, 40s. 6d.; No. 3, 38s. 6d.; No. 4, 38s.; No. 4 Forge, 37s. 6d.

Messrs. J. Berger Spence & Co., of Manchester, under date of April 23d, say:

We observe from the various reports to hand during the week that the pig-iron markets are still rather disorganized and unsettled. At none of them has there been a satisfactory attendance of buyers; but this may be largely debited to the holidays, while the recorded transactions, with few exceptions, have been unimportant. Each day, however, the standard brands have made some slight progress, though the strugle has been a severe one, and it is a doubtful question if the advances gained can be long maintained. On Monday, Glasgow Warrants were selling at 47s. 9d.; on Tuesday, at 47s. 11d.; on Wednesday, 48s. 2d.; on Thursday, at 48s. 6d.; but on the evening of the latter day they receded to 48s. 3d. At Middlesbrough, on Tuesday, early, a sale of 1500 tons of No. 3 was reported on the part of a maker at 38s., but other offers at this price were refused. Afterward, sales were made at 38s. 3d., and ultimately 38s. 6d. was quoted, without much success, however. Second-hand parcels have since changed hands under the latter figure, and sales have been few, buyers preferring to hold over their orders for the present. Bessemer iron is in less demand, and though makers retain their quotations unchanged, they are more approachable, and fair offers are not refused, as stocks are threatening. Midland iron generally is cheaper. The Lancashire pig-iron trade is if anything rather worse situated than it has been, and the amount of trade done has been merely nominal.

Rails.—These have been very quiet. There has been nothing worthy of note reported during the week. Foreign steel here are quoted at $62@$62½, and domestic at mills, for the earliest delivery of quantities, which is for fall and winter, about $60. Foreign iron rails are quoted at $46@$47 here, and American at $48@$50.

Old Rails.—These have been quiet, although firmer. Some pressing lots, which we previously reported as sold, being out of the way, have worked this improvement. It is stated that on a lot of 14,000 tons sold there was a loss of $250,000. We note a sale this week of 1000 tons of D.Hs. at $27½, and a small lot at $27. We quote Ts. at $26c., and D.Hs., $27½@$28.

Wrought Scrap.—This article is very quiet, and is quoted at $27½@$28 ex ship, and $30 from yard.

We publish the following lettters from our regular correspondents:

Cincinnati. May 3.

[Specially reported by JACOB TRABER & Co.]

Our pig-iron market presents no new features. The demand continues moderate, without any perceptible change in prices. We continue to quote:

	Four mos.
No. 1 Hanging Rock Charcoal Pig-Iron	$27.00@$27.50
No. 2 " " "	26.00@ 26.50
No. 1 Tennessee " "	26.00@ 26.50
No. 1 Hanging Rock Coke "	24.50@ 25.00
No. 2 " " " "	23.00@ 23.50
No. 1 Jackson Co. Stone Coal "	20.00@ 24.00
H. R. C. B. Car-Wheels, all Nos	40.00@ 41.00
Southern C. B. Car-Wheels, all Nos	37.00@ 38.00
Virginia " " "	39.00@ 40.00

Columbus, O. May 4.

[Specially reported by KING, GILBERT & WARNER.]

The market has been quiet since the date of our last report. The sales are mostly in small lots for immediate use. The stocks in the hands of consumers are small. We quote as follows:

FOUNDRY IRONS.

No. 1 Hanging Rock Charcoal	$27.00@$27.50
" 2 " " "	26.00@ 26.50
" 1 Hocking Valley	23.50@ 24.00
" 2 " "	22.50@ 23.00
" 1 American Scotch	23.50@ 24.00
" 1 Glasgow	23.50@ 24.00
" 1 Jackson County	22.50@ 23.00
" 2 " "	21.50@ 22.00
" 1 Silver Gray	21.50@ 22.00
" 2 " "	20.00@ 21.00

MILL IRONS.

Gray neutral	21.00@ 22.00
Mottled and white neutral	19.00@ 20.00
Gray cold-short	20.00@ 21.00
Mottled and white cold-short	18.00@ 19.00

Louisville. May 3.

[Specially reported by GEORGE H. HULL & Co.]

The situation in the iron market is unchanged; consumption is very steady, but what few sales there are are very small. Deliveries on old sales are fully supplying the demand. We quote for cash as below:

FOUNDRY IRONS.

	No. 1.	No. 2.
Hanging Rock Charcoal	$27.00@$28.00	$25.00@$27.00
Southern Charcoal	23.00@ 24.00	22.50@ 23.00
H'n'g Rock, Ste'l & Coke	23.50@ 24.00	22.50@ 23.00
Southern Stonecoal & Coke	23.50@ 24.00	22 50@ 23.00

"Amer. Scotch"	$22½@$23½	Silver Gray.	$20.50@$22.50
Scotch Iron	24 @ 25		

MILL IRONS.

No. 1 Charcoal, cold-short and neutral	..@ .....
No. 1 Ste'l & Coke, cold-short and neutral	$21.50@$22.00
No. 2 Ste'l & Coke, cold-short and neutral	21.00@ 21.50
No. 1 Missouri and Indiana, red-short	26.00@ 27.00
White & Mottled, cold-short and neutral	17.00@ 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

Richmond. May 2.

[Specially reported by ASA SNYDER.]

Large consumers are temporarily off the market, although active sales are maintained by the number of small orders. Below you have carefully revised quotations:

Scotch Pig-Iron		$23.00@$27.00
Anthracite	" " No. 1	22.00@ 26.00
"	" " No. 2	20.00@ 23.50
"	" " No. 3	19.00@ 22.50
"	" Mottled and W	18.00@ 21.00
Virginia Coke Pig-Iron, No. 1		23.00@ 24.50
"	" No. 2	22.00@ 23.50
Va. Charcoal C. B. Wheel Iron		36.00@ 38.00
Old Rails		26.00@ 27.00
Wrought Scrap No. 1		23.00@ 25.00
Cast Machinery Scrap		20.00@ 22.00
Richmond Refined Bar Iron		2 5-10@ .....
Horseshoes (Tredegar)		4.00@ .....
Mule-shoes "		5.00@ .....

Freight to New York, by sail, $1.80 per 2240 lbs.

St. Louis. April 30.

[Specially reported by HOFFER, PLUMB & CO.]

This market continues dull and lifeless. Prices are nominally no lower than they have been for several weeks; but to induce transactions of any moment, lower ones would have to be made, and even then it is questionable whether trade of any volume would result. Consumption continues to be greater, but so is the supply, and the result is buyers for the present have the whip-hand of the market. The following is nominally the cash basis of this market:

HOT BLAST CHARCOAL.

Missouri	$27.00@28.00
Southern	25.00@26.00
Hanging Rock	28.00@29.00

COKE AND COAL.

Missouri	$27.00@28.00
Southern	24.00@25.00
Ohio	24.00@25.00

MILL IRONS.

Cold short	$22.50@23.00
Red short	25.00@26.00

CAR-WHEEL AND MALLEABLE IRONS.

Missouri	$31.00@32.00
Southern	35.00@38.00
Ohio	35.00@42.00

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

LONDON, E. C., April 21.

STEEL RAILS.—Our market continues very steady in tone; but the Easter holidays have left the past week almost a blank, so far as actual business is concerned. Makers are well filled up to July next, and even beyond that month in many cases. There are several inquiries for May, June shipments, which we cannot quote for.

IRON RAILS.—Are not so steady as steel, but a very little demand would soon fill up the weak mills. We quote £5 5s.@£5 10s. per ton, according to weight and section, May, June shipments.

BAR IRON.—Flat market at £5@£5 5s. per ton.

OLD RAILS.—Not much inquired for, but an order for O. D. Hs., c. i. f., Philadelphia, April, May shipments, at 82s. per ton, does not find sellers so far.

HEAVY WROUGHT SCRAP-IRON.—Nothing doing for export.

OLD RAILWAY LEAF SPRING STEEL.—C. i. f. nominally £6 per ton.

STEEL RAIL CROPS.—72s. 6d.@75s. per ton, f. o. b. Wales, etc.

OLD CAST-IRON RAILWAY CHAIRS.—42@44s. per ton.

STEEL BLOOMS, 7" × 7" AND UPWARD.—£5 15s.@£6 ter ton.

BESSEMER PIG-IRON, NOS. 1, 2, AND 3.—57s. 6d.@60s. per ton.

SCOTCH PIG-IRON.—Temporarily firmer at 48s. 3d.@48s. 6d. cash.

MIDDLESBROUGH PIG-IRON, No. 3.—Steady at 38s. 3d.@38s. 6d. cash.

COAL TRADE REVIEW.

NEW YORK, Friday Evening, May 6.

Anthracite.

The effort to bring about a curtailment of production this week was unsuccessful, but it resulted in a plan to work but half-time during the remaining three weeks of this month. Some companies, from having a more desirable class of coal, and others, probably, from having given buyers some special advantages, have been able to book a sufficient number of orders to permit them to run full time during the month. This, however, is the exception to the rule. The weaknes appears to be in the free-burning coals, which are in liberal supply compared to the market demands. Wall street appears to have forgotten the impending ruin that was prophesied a few weeks ago, and all the information distributed there now is of a character to inspire confidence in the belief that the companies will find difficulties in meeting the demands for coal, and that much higher prices will be realized. The bulls little think what a realization of such prophecies means. If the mines were driven to their full capacity for the next three years at this rate, they would yield fully 100,000,000 tons of coal, and even at the present prices for coal would earn fabulous profits. It is clear to every observer, however, that, if the companies mine coal during three fourths of all of the working days of the year, they will produce all, and most probably more than, the country will take at current rates. There are dull and active seasons, and neither should have undue influence on buyers and miners of coal, or dealers in the securities of the companies. An average must be taken, and nothing but the aggregates of production and income to be reached at the end of the year should be taken into consideration. There is at the present time a very fair business doing for this season of the year, but it is far from a "boom." Prices are remarkably well maintained, but still there are concessions made in many quarters. There is a strong desire shown in all quarters to prevent a disruption of the combination, and the trivial shortcomings of some are permitted to pass by with but casual notice rather than have the trade upset by the appearance of discord. A very important feature to the anthracite trade is the low price of bituminous coal, and its likelihood to absorb largely the steam coal orders.

The statistics of production for last week are very interesting, showing an aggregate of 715,939 tons, which, if continued for 52 weeks, would make 37,228,828 tons.

The production of anthracite coal last week was 715,939 tons, as compared with 415,746 tons the previous week, and 406,033 tons the corresponding week of 1879. The total production from January 1st to April 30th was 7,853,940 tons, as against 6,753,492 tons for the like period of last year, showing an increase this year of 1,100,448 tons.

Bituminous.

We learn of an Eastern railroad contract having gone to the Clearfield region, and another one enlarged and given to the same district. The Cumberland District is doing a fair business, but is greatly held back by two influences: The Baltimore & Ohio Railroad, and a political body known as the Board of Public Works. We state these as two; but if the Board does not take prompt action in the George's Creek & Cumberland Railroad connection, the public will begin to look upon it as part of the first.

We publish the following letters received fr om ou regular correspondents:

Baltimore. April 30.

[Specially reported.]

With the advent of spring weather, the demand for anthracite has ceased almost entirely, and dealers are cleaning up their yards and wharves, taking stock, making annual repairs, and generally preparing for the campaign of 1881-82.

Although the balance-sheet alone can show the final outcome of last year's business, yet it may be pretty safely assumed that a good business has been done, and if a dealer has made nothing he had better drop out of the race, as he will never, probably, have a better opportunity to make money. The supply, both by rail and canal, is now ample for any purposes, and prices for May are announced as the same as for April. For the smaller sizes, the opening prices are slightly in excess of May, 1880, but broken is a little lower.

Dealers are not buying yet, but it is understood that present quotations are bottom for the season, and that an advance along the line may be expected for July and possibly for June. The dealer who is wise will lay in stock now.

Wholesale prices per 2240 lbs.

ANTHRACITE COAL.

Hard White Ash, Free Burning, and Shamokin.

	In cars at N. C. RR. depot
Lump and Steamboat	$5.15
Broken	4.20
Egg	4.35
Stove	4.50
Chestnut	4.20

Lykens Valley Red Ash.

Broken	$5.30
Egg	5.30
Stove	5.30
Chestnut	5.00

Bituminous.

George's Creek, or Cumberland, f. o. b. Locust Point	$3.60@$3.75

Afloat, per cargo, 15c. less than car rates; to trade in yard or wharf, 75c. additional.

Buffalo. May 1.

[Specially reported by C. M. UNDERHILL.]

On and after this date, until further notice, the prices of the coals of the Anthracite Coal Association will be as follows, subject to the usual conditions of shipment and sale:

ANTHRACITE COAL.

	Per gross ton 2240 lbs.		Per net ton 2000 lbs.		
	F. O. B. Vessel at Buffalo.	To Dealers on cars at Buffalo and bridges.	F. O. B. Vessel at Buffalo.	To Dealers on cars at Buffalo and bridges.	Retail delivered.
Lump	.....	.....	.....	.....	.....
Grate	$5.05	$4.75	$4.51	$4.24	$5.25
Egg	5.05	4.75	4.51	4.24	5.25
Stove	5.30	5.00	4.73	4.46	5.45
No. 4	.....	5.50	.....	4.91	5.90
Chestnut	5.30	5.00	4.73	4.46	5.45
Pea	.....	4.00	.....	3.46	4.45
Blossburg	.....	.....	.....	3.50	4.25

[Specially reported by LEE & LOOMIS.]

We send you price-list for anthracite and soft coal, and Connellsville coke, for month of May. Trade in soft coa is very quiet and prices low. Navigation has been declared open at Buffalo, and a large Western anthracite tonnage is expected the coming season.

Prices of coal, for the present, subject to our usual printed conditions, at the following prices per ton of 2000 lbs., delivered at Buffalo.

LEHIGH, LACKAWANNA, AND SHAMOKIN COAL.

Size.	Lackawanna and Shamokin. Cars and afloat.	F. O. B.	Lehigh. Cars and afloat.
Lump	$4.24	$4.51	$6.07
Grate (or broken)	4.24	4.51	5.40
Egg	4.24	4.51	5.40
Stove	4.46	4.73	5.50
Chestnut	4.46	4.73	5.27

	Lump.	Run of mine.	Nut.	Slack.
Connellsville coke	$5.50	.....	.....	.....
Brookfield Coal	4.00	.....	.....	.....
Briar Hill	3.85	.....	.....	.....
Youghiogheny	3.60	.....	.....	.....
Monterey	2.75	$2.65	$2.60	$2.25
Catfish	2.75	2.65	2.60	2.25
Stoneboro'	2.75	2.65	2.60	2.25
Sterling Cannel	5.00	.....	.....	.....

MCINTYRE BLOSSBURG COAL.

Per ton of 2000 lbs.

	F. O. B. at Buffalo.	F. O. B. at Lake Ontario Ports.	On cars at Buffalo and Bridges.	On cars at Lake Ontario Ports.
For Buffalo, local	.....	.....	$3.50	.....
" re-shipment	.....	.....	3.20	.....
" Canada	$3.50	$3.50	3.50	$3.25
" West of Canada	3.50	3.25	.....	3.00
" West to Chicago	3.50	.....	3.25	.....
" Chicago and beyond	.....	.....	3.00	.....

Chicago. May 3.

[Specially reported by RENO & LITTLE.]

Receipts of anthracite coal for April were fair, and every way equal to the demand. Prices are irregular, those having cars on tracks preferring to shade the price to buyers rather than pay demurrage to the roads. Bituminous coal in good supply, and prices tending downward. The following are approximate quotations:

Anthracite, all sizes	$7.00@$8.00
Briar Hill and Erie	6.50@ 8.00
Illinois and Indiana	4 25@ 4.50

Hamilton, Ont. May 3.

[Specially reported by H. BARNARD.]

The season just closed has been all that could be desired in point of cold weather and good profits. The high prices probably reduced the demand, but the market is entirely bare, and the prospects are that the coal business will be good here this season. There is a large increase in manufacturing, and the consumption of coal here will, in all probability, be much greater than any previous year.

Prices are not changed from last quotations:

Retail prices delivered per ton of 2000 lbs.

Grate	$6.75	Reynoldsville Steam	$5.50
Egg	6.75	Lehigh Lump	8.00
Stove	7.00	Blossburg	5.50
Chestnut	7.00	Pea	.....
Brier Hill	7.00		

Louisville. May 2.

[Specially reported by BYRNE & SPEED.]

The retail demand for coal since the middle of April has been very limited, but for steam purposes the demand is still large.

Prices are as follows :

WHOLESALE.

Pittsburg, per bush...9½c. | Kentucky, per bush..... 8c.

RETAIL.

Pittsburg, per bush....	14c.	Kentucky, per bush.....	11c.
Cannel, " "	18c.	Coke, " "	11c.

Anthracite, per ton, $8.50

Milwaukee. May 2.

[Specially reported by R. P. ELMORE & Co.]

The demand for coal of all kinds has lessened very materially since the advent of warmer weather, and stocks are coming forward with more regularity, and are now equal to the demand from all quarters. We quote as follows :

Blossburg.....	$5.00	Briar Hill.....	$7.00
Cumberland.....	5.75	Straitsville.....	6.00
Lehigh lump.....	8.50	Illinois.....	4.00
Prepared (all sizes)...	8.50		

Per ton net. Terms cash.

Montreal. May 4.

[Specially reported by ROBERT C. ADAMS & Co.]

Owing to the lateness in the opening of the canals, there have been no arrivals yet of anthracite coal ; but we hear of some barges now loading at New York and Oswego. Prices for spring delivery in egg and chestnut, $6.30 ; stove, $6.40 (wholesale). Freights from New York are $1.60, from Oswego $1.50.

The market for bituminous is quiet, waiting the first arrivals from sea. Prices for future delivery are : Cape Breton, $3.50 ; Pictou, $4.15 : Scotch, $4.30. We learn of the sale of a cargo of Scotch in Quebec at $3.33 per ton. No arrivals here yet.

New Orleans. May 2.

[Specially reported by C. A. MILTENBERGER & Co.]

Our stock of coal, compared with amount on hand one year ago, shows less than one half the amount then on hand. At that time, there was a large stock at coal depots between this point and Vicksburg, and the upper coast trade with the sugar planters was pretty fairly supplied.

This year, there is but a fair stock at depots, and but very little of the coast business has been filled. There are a number of tows of coal out from Pittsburg, but not sufficient to fill the demand until December next, should no rise in the Ohio River occur before that time. In that event, prices will naturally advance before long. The demand for April has been good, at the following quotations:

Coal on hand in this city May 1st : Pittsburg coal, 65 boats and 6 barges. Consumption during April : Pittsburg coal, 24 boats and 5 barges. Arrivals during April : Pittsburg coal, 42 boats and 8 barges.

PITTSBURG COAL.

At wholesale.....	47@48c. per bbl.
To steamboats.....	60c. "
" factories, etc.....	65c. "
" families.....	75c. "
In hogsheads.....	$7.50 per hhd.

ANTHRACITE COAL.

At wholesale.....	$7.00@$8.00 per ton.
" retail.....	9.50@10.00 "

No Alabama, Virginia Cannel, or Kentucky coal in market.

Richmond. May 2.

[Specially reported by S. H. HAWES.]

Trade is flat. As we are between the seasons, there is nothing of interest to report. Market is quite bare of coal, but the demand is almost nothing, except for steam coals.

Kanawha Cannel.....	$9.00	New River Bituminous	$4.00
Coalburg Splint.....	4.50	Clover Hill Coal.....	2.50
Lewiston "	4.50	Norwood Gas and	
Kanawha Gas Coal...	4.10	Steam Coal.....	2.70

Sandusky. May 2.

[Specially reported by C. E. BLACK.]

This market is bare of anthracite. Owing to the weather an unusually good business has been done the past season. We look for a good summer trade, and think the trade in this section for 1881 will far exceed any previous year's, if operators will maintain prices. Our dealers fear a decline.

Present prices at this point :

ANTHRACITE.

Per ton of 2000 lbs.

	On cars.	Retail delivered.
Egg and Grate.....	$5.36	$6.25
Stove and Chestnut.....	5.58	6.50

BITUMINOUS.

Massillon	$2.75	$3.75
Hocking.....	2.50	3.50
Straitsville.....	2.50	3.50
Shawnee.....	2.50	3.50
Jackson.....	2.75	3.75
Piedmont.....	4.00	5.00

Toledo. May 2.

[Specially reported by GOSLINE & BARBOUR.]

The season opens with a brisk demand for bituminous coal for lake shipments as a result of the unexpectedly early closing of navigation last fall, the spring finding the entire upper lake region bare of coal. For interior points that obtain supplies by rail, the demand is less active. A large tonnage has been sold for delivery at lake ports at the opening of navigation. It is yet early to speak intelligently of the outlook in the anthracite market, as the new freight tariffs have but just come in force (May 1st), and since their announcement dealers seem to be cogitating the matter of advanced rates and future prospects. One thing is certain, however, which is, that the entire West is without hard coal, and the want must be supplied sooner or later, and the late purchaser will stand a chance of being left without his coal. We quote :

SOFT COAL.

Wholesale.

	Lump.	Nut.
Hocking and Straitsville per ton of 2000 lbs., f. o. b. vessel at Toledo or Sandusky	$2.85	$2.15
On cars at Toledo.....	2.85	2.15
Massillon on cars at Toledo.....	3.25	2.50

Retail delivered.

Straitsville and Hocking.....	$4.50	$4.00
Massillon.....	4.75	4.00

ANTHRACITE.

Wholesale on Cars.

Egg and Grate, gross ton.....	$6.00
Stove and Chestnut, gross ton.....	6.25
No. 4, gross ton.....	6.75
Retail delivered, all sizes, net ton.....	7.50
Blossburg Smithing, on cars, net ton.....	4.32
Cumberland " " "	4.50

San Francisco. April 28.

We hear of cargo sales of best quality English Steam for shipment to this coast at $5.75, duty paid. At this extremely low price, one would suppose that large consumers would stock up freely. This shows the eagerness of shipowners to get their vessels to this coast to load wheat at current high freights. This low price of foreign bituminous must work greatly to the injury of the Seattle and other Pacific coast mines that have for years past been selling largely upon contract to the steamship and railroad companies at $6. Imports for the week include 2284 tons English per Strathearn from Liverpool, 1597 tons Cardiff per Eaton Hall, also 402 tons coke from same, 1750 tons Nanaimo per Victoria, and 500 tons Wellington per Arcata. Carbon Hill seems to be gaining constantly in public favor as an excellent family coal, ranking with that of Wellington. The steamer Barnard Castle brings 2200 tons Wellington, and the Empire 750 tons Carbon Hill.—*Commercial Herald.*

STATISTICS OF COAL PRODUCTION.

Comparative statement of the production of anthracite coal for the week ending April 30th, and years from January 1st :

TONS OF 2240 LBS.	1881.		1880.	
	Week.	Year.	Week.	Year.
Wyoming Region.				
D. & H. Canal Co..	85,467	1,091,662	50,376	1,018,526
D. L. & W. RR. Co.	92,250	1,256,898	65,089	1,084,021
Penn. Coal Co.....	31,915	347,460	19,369	284,048
L. V. RR. Co.....	35,710	364,717	14,484	313,318
P. & N. Y. RR. Co..	2,470	21,339	648	6,735
C. RR. of N. J.....	64,679	719,380	25,693	487,150
Penna. Coal Co....	11,635	34,858	14,037	44,716
	324,126	3,836,314	190,296	3,239,315
Lehigh Region.				
L. V. RR. Co.....	124,435	1,289,962	56,992	930,440
C. RR. of N. J.....	57,547	583,950	35,152	615,909
S. H. & W. B. RR..	.....	1,666	.....	4,831
	181,982	1,875,578	92,144	1,551,180
Schuylkill Region.				
P. & R. RR. Co....	182,251	1,809,013	104,299	1,721,626
Shamokin & Lykens Val.....	26,125	312,167	18,377	226,330
	208,376	2,122,180	122,676	1,937,956
Sullivan Region.				
St Line & Sul. RR. Co.	1,455	19,868	917	15,041
Total	715,939	7,853,940	406,033	6,753,492
Increase.....	309,906	1,100,448	.....	.....
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.....	4,319,039 tons.
" " " " 1877.....	5,752,446 "
" " " " 1878.....	4,100,651 "
" " " " 1879.....	7,021,164 "

Belvidere-Delaware Railroad Report for the week ending April 30th :

	Week.	Year. 1881.	Year. 1880.
Coal for shipment at Coal Port (Trenton)	2,285	7,179	5,850
Coal for shipment at South Amboy	23,692	207,611	131,977
Coal for distribution.....	15,782	245,832	161,013
Coal for company's use	1,268	35,291	34,641

The decrease in shipments of Cumberland Coal over the Cumberland Branch and Cumberland & Pennsylvania Railroad amounts to 68,179 tons, as compared with the corresponding period in 1880.

The Production of Bituminous Coal for the week ending April 16th was as follows :

Tons of 2000 lbs., unless otherwise designated.

	Week. Tons.	Year. Tons.
Cumberland Region, Md.		
*Tons of 2240 lbs.....	34,816	515,807
Barclay Region, Pa.		
*Barclay RR., tons of 2240 lbs	1,528	145,732
Broad Top Region, Pa.		
*Huntingdon & Broad Top RR.....	1,742	78,201
East Broad Top.....	1,407	18,946
Clearfield Region, Pa.		
Snow Shoe.....	2,436	21,703
Tyrone and Clearfield.....	58,611	580,804
Alleghany Region, Pa.		
Pennsylvania RR.....	6,395	78,343
Pittsburg Region Pa		
West Penn RR.....	5,185	94,444
Southwest Penn. RR.....	376	10,053
Penn & Westmoreland gas-coal, Pa. RR.....	14,029	241,610
Pennsylvania RR.....	10,932	171,178

*For the week ending April 30th.

The Production of Coke for the week ending March 26th, and year from Jan. 1st :

Tons of 2000 lbs.	Week.	Year.
Penn. RR. (Alleghany Region).....	1,943	28,046
West Penn. RR.....	3,225	28,612
Southwest Penn. RR.....	25,755	416,057
Penn. & Westmoreland Region, Pa. RR..	5,151	59,686
Pittsburg, Penn. RR.....	13,039	140,279
Snow Shoe (Clearfield Region)	120	2,326
Total	51,233	675,006

FREIGHTS.

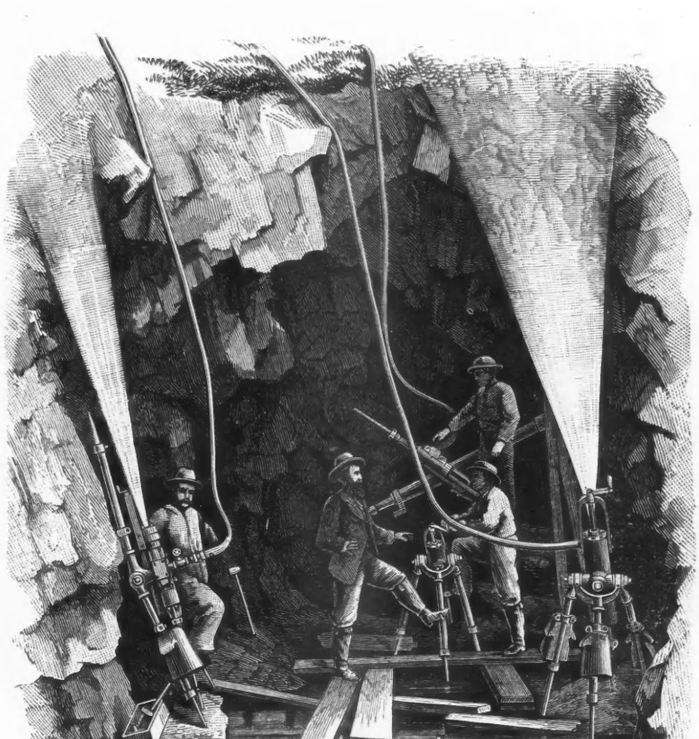
Coastwise Freights.

Per ton of 2240 lbs.

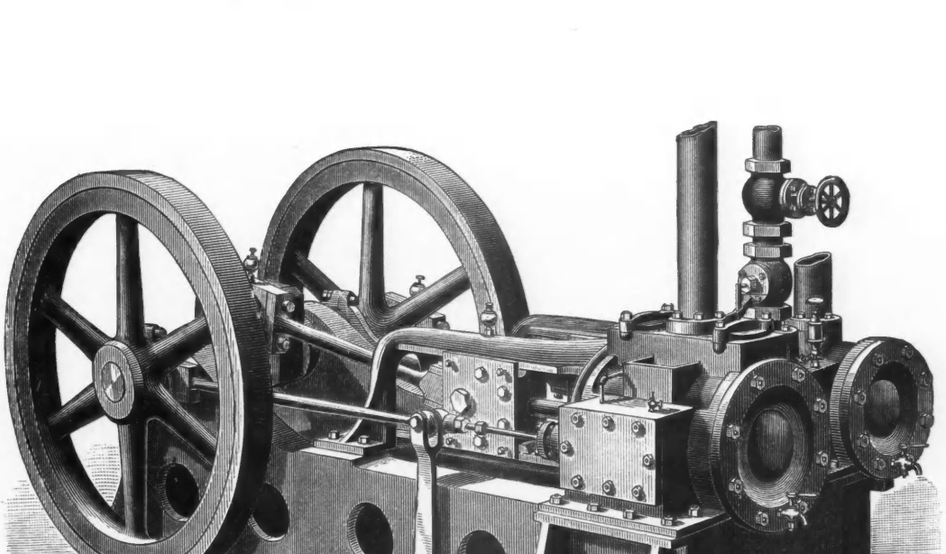
Representing the latest actual charters to May 6th, 1881.

PORTS.	From Philadelphia.	From Baltimore.	From Elizabethport, Fort Johnston, South Amboy, Hoboken, and Weehawken.
Alexandria.....	.....	.75	.....
Annapolis.....	.....	.....	.....
Augusta.....	.....	2.00	.....
Baltimore	.60	.....	.....
Bangor.....	.....	2.00	.....
Bath, Me.....	.....	1.60	1.15
Beverly.....	.....	.....	.....
Boston, Mass.....	1.40@1.35	1.50	1.10
Bristol.....	.....	.....	.....
Bridgeport, Conn.	.....	1.30	.....
Brooklyn	.....	.....	.....
Cambridge, Mass.	.....	.....	.....
Cambridgeport ..	.....	.....	.....
Charleston.....	1.00	.....	.....
Charlestown.....	.....	.....	1.10
Chelsea.....	.....	.....	.....
City Point.....	.....	.....	.....
Con. Pt., Mass...	.....	.....	.....
E. Boston.....	.....	.....	.....
East Cambridge.	.....	.....	.....
E.Gr'nwich,R. I.	.....	.....	.....
Fall River.....	.....	1.30	.80
Fredericksb'g,Va	.....	.....	.....
Galveston.....	.....	.....	.....
Georgetown, D.C.	.....	.....	.....
Gloucester.....	.....	.....	.....
Hartford.....	.....	.....	.90
Hackensack.....	.....	.....	.....
Hudson.....	.....	.....	.....
Lynn.....	1.37½	.....	.....
Marblehead.....	.....	.....	.....
Medford.....	.....	.....	.....
Millville.....	.....	.....	.....
Milton.....	.....	.....	.....
Newark, N. J.....	.....	1.40	.....
New Bedford	1.15	1.30	.85
Newburyport	.....	.....	1.25
New Haven.....	.....	1.25	.55
New London.....	.....	1.30	.....
Newbern.....	.....	.....	.....
Newport.....	.....	.....	.80
New York.....	.85@.80	1.25	.....
Norfolk, Va	.60@.55	.70	.....
Norwich.....	.....	1.50	.80
Norwalk, Conn .	.....	1.40	.....
Pawtucket.....	.....	.....	.....
Philadelphia.....	.....	.60*	.....
Portland.....	1.40	1.50	.....
Portsmouth, Va..	.....	.....	.....
Portsmouth, N.H.	.....	1.65	1.20‖
Providence.....	1.20	1.30	.80
Quincy Point.....	.....	.....	.....
Richmond, Va...	.85	.....	.....
Rockland.....	.....	.....	.....
Rockport	.....	.....	.....
Roxbury.....	.....	.....	.....
Saco.....	.....	.....	.....
Sag Harbor.....	.....	.....	.....
Salem, Mass.....	.....	.....	1.10
Saugus	.....	.....	.....
Savannah.....	1.05@1.10	.....	.....
Somerset.....	.....	.....	.....
Staten Island....	.....	.....	.....
Trenton.....	.....	1.00	.....
Troy.....	.....	1.75	.....
Wareham.....	.....	.....	.....
Washington.....	.85@.75	.75	.....
Weymouth.....	.....	.....	.....
Williamsbg, N.Y.	.....	.....	.....
Wilmington, Del.	.....	.60*	.....
Wilmington, N.C.	.....	.....	.....

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



THE INGERSOLL ROCK DRILL—STARTING A TUNNEL INTO THE MOUNTAINS.



THE INGERSOLL AIR COMPRESSOR.

THE INGERSOLL ROCK DRILL AND THE INGERSOLL AIR COMPRESSOR.

THE UNITED STATES ASSAY OFFICE AND ITS PROCESSES.

The New York *Evening Telegram* of April 21st has the following interesting sketch of an establishment, concerning which not so much is generally known as might be supposed from the frequent use of its name.

Next door below the Sub-Treasury, on Wall street, stands a quiet and unpretending building, whose marble front is dingy with age and covered with the accumulated dirt of years. It is seemingly a low building as seen from Wall street, but in the rear regions it mounts to the hight of seven stories. This is, as a sign over the door announces, the United States Assay Office, a building which contains more wealth than any other in the city, save the Sub-Treasury. At present, the amount of bullion stored in its great vault is about $50,000,000, but at times $60,000,000 and $75,000,000 have been on hand at one time. The Assay Office building was erected in 1823, and was originally designed for the use of the old United States Bank. In 1854, when the Assay Office was established, the building was partly vacant, and from that time it has been mainly occupied by that office.

ASSAY RECEIPTS.

In the early history of the Assay Office, less bullion came from abroad through banking mediums, the main receipts being from California, Montana, Nevada, and Lake Superior, the two latter furnishing silver in large quantities. Now, however, the receipts from abroad, mostly in the shape of foreign gold coin, all of which must pass through the Assay Office, form a large proportion of the gross receipts. Bullion is received in all forms—gold dust, bars, and jewelry. Deposits are received in the weigh-room, where the weighing clerk weighs them, giving the depositor a receipt. The scales used for these purposes are so perfect and accurate that they weigh within two one thousandths of seven grains.

MELTING THE GOLD.

Each deposit of bullion must be melted separately, for which purpose large numbers of crucibles of all sizes must be kept on hand. It makes no difference whether a deposit will "pan out" $2000 or $250,000; it must be treated separately and carry its own number throughout all the processes. The deposit having been carefully weighed and receipted for (the receipts are invariably in ounces of weight, and fix no value in money), is sent to the furnace-room and placed in a crucible suitable to its size. This is placed in a furnace which is kept at a white heat; and when the mass is melted, it is poured into vessels known as "shapes," and stamped with the deposit number. At this stage, the bar or bars formed by the melting of the deposit necessarily contain considerable alloys, impurities, and base metals. This is especially the case where the deposit happens to consist of jewelry, which, the assay officers say, seldom or never contains more than thirty per cent of pure gold. In fact, jewelry gold is the lowest grade ever deposited, and thirty per cent of pure gold is far above its general average. In coin gold, the English, French, and German contain ninety per cent of pure gold, as does the American.

GRANULATION.

The first process of refining the gold is known as granulation. This process is carried on in a department distinct from the deposit melting-room. Granulation is effected by mixing gold and silver in the proportion of one part of gold to two parts of silver. The result of this process is that the mixed gold and silver assume the shape of comparatively small grains or particles. The object of so dividing the metals is, that when, for the purpose of purification, the gold is brought into contact with the sulphuric acid, a larger surface of the metal may be exposed to its action. The admixture of copper is not allowed to exceed one twelfth of the weight of the mass. In the separating-room, a mass of say 200 pounds of these granulations is placed in a large kettle with 150 pounds of sulphuric acid. During the boiling process, which lasts about three hours, 200 pounds more of the acid are gradually added, and the resulting solution is run off by a siphon to the regulating-vat on the floor below.

SEPARATING THE METALS.

In the regulating-vat, most of the silver in the solution is precipitated, and the gold is subjected to a series of sulphuric acid baths which ultimately entirely free it from the presence of silver. After this, it is placed in a filter and receives several baths of warm and cold water. At this stage of the refining process, the gold is entirely lacking in that metallic luster which is its great charm to the eye, and looks like a muddy deposit in a pool of comparatively clear water. At length, however, after baths of cold and warm water and several applications of sulphuric acid, the metal comes out nearly pure and free from all baser materials, and is ready to be sent back to the furnace and cast into bars.

DETERMINING THE VALUE.

When the bars have been cast, a piece is cut off from the end of each, and these pieces are sent to two assayers, whose business it is to determine the value of the metal. These gentlemen work in separate laboratories, and send to the superintendent separate and independent reports of their assays. Thus they act as a check upon each other. It is seldom that any difference in the determination of values occurs. When the assayers have decided the value of the deposit, the gold is pronounced fit for the market, and the depositor receives gold or a check for the amount of his deposit. The only fee that is charged him is one tenth of one per cent per ounce for melting. As has already been said, the receipts of foreign gold at the Assay Office are very large, and are mainly in coin. Under the United States law, all imports of foreign coin must be turned into the Assay Office, to be melted and then turned over to the United States mints for recoinage. Inasmuch as the exact value of English, French, and German coins is known and acknowledged by our government, this law is looked upon by persons competent to judge as unjust to the importers of gold coin and unnecessary for the protection of American coinage. These argue that the government could easily hold foreign coin in reserve—the gold in the Treasury being at all times abundant—instead of insisting upon recoining money whose value is known and established. American gold, they say, is thus held in reserve by England and France.

WHAT BECOMES OF THE SILVER.

When the gold has been separated from the solution containing two parts of silver to one of gold, the solution is carried into tanks containing copper blocks. These, coming in contact with the sulphuric acid, produce sulphate of copper, and the silver is in the mean time precipitated. In none of these processes is there any loss. When the gold and silver have been refined and collected, the process by which these things have been effected gives sulphate of copper, and even the sulphurous fumes that arise are carried into condensers and turned into sulphuric acid again, ready for future use. There are now five of these condensers in use. One of the functions of the Assay Office is the testing of the coins turned out by the mints. Samples are taken from each batch of coins and are tested in the Assay Office before the lot is allowed to go into circulation. A variation of one thousandth in gold and three one thousandths in silver is allowed, it being found impossible to keep coins at the exact standard. The standard of gold coins is 90 per cent.

SOME STATISTICS.

The receipts of domestic bullion at the Assay Office average about $10,000 a month, and the receipts from abroad from the 2d of August last up to April 19th were $90,000,000. From August 2d, 1879, to February 1st, 1880, the receipts of foreign gold were $73,000,000. From the following table it will be seen that during the war the production of both gold and silver was very small, and also that the production of gold has not kept pace with that of silver, since most of the gold received is from abroad. The table is compiled from official sources, and shows the bullion receipts and the amount of gold and silver bars turned out from 1854 to 1879. The official figures of 1880 have not yet been promulgated.

	Bullion Deposits.		Gold Bars
	Gold.	Silver.	Manufactured.
1854	$9,260,893	$76,306	$2,888,059
1855	26,688,359	350,146	20,441,814
1856	17,803,692	458,725	19,396,046
1857	21,760,237	2,015,405	21,691,112
1858	19,301,911	2,275,980	19,125,484
1859	4,441,539	569,816	4,580,732
1860	16,942,272	536,163	11,276,419
1861	63,060,187	2,414,354	27,698,695
1862	2,548,362	290,999	3,010,857
1863	1,449,722	262,293	1,415,345
1864	3,041,031	227,560	2,779,961
1865	7,042,449	408,108	7,065,551
1866	14,386,689	518,963	13,831,467
1867	6,067,827	477,261	5,639,335
1868	8,267,442	687,486	8,175,723
1869	8,150,313	1,122,338	7,555,475
1870	5,659,280	1,455,970	5,573,119
1871	6,963,006	2,822,991	6,770,028
1872	7,785,142	3,717,847	7,318,719
1873	28,782,917	5,914,324	21,136,157
1874	6,708,649	5,707,295	4,932,160
1875	9,141,808	4,999,209	3,859,481
1876	11,399,964	7,214,365	3,577,387
1877	11,536,204	8,419,864	11,585,517
1878	11,757,028	10,514,177	11,747,667
1879	67,685,244	4,346,692	65,987,949
Total	$397,834,167	$67,804,647	$319,060,259

The amount of silver bars manufactured from 1854 to 1879 was $55,140,294.

From October 10th, 1854, to December 31st, 1879, $194,476,440 in gold and $24,576,919 in silver were transmitted to the mint at Philadelphia for coinage, the total cost of transportation being $194,476 for gold and $36,865 for silver, the former being expressed at $1 per $1000 and the latter at $1.50 per $1000.

LABOR NOTES.

A STRIKE AT READING ENDED.—A press dispatch, dated Reading, Pa., May 5th, says that the puddlers of the steel mill of the Reading Iron-Works, after being idle a month, caused by a strike among them for an advance in wages from $3.50 to $4.50 per ton, resumed work this morning at the old figures. It is understood, however, that a promise of an advance in the future has been made. Two hundred men are at work to-day. All the furnaces, eight double ones and one single, will be working to-morrow.

ONE THOUSAND MEN ON STRIKE IN THE HOCKING VALLEY MINES.—A dispatch to the New York *Times*, dated Columbus, O., May 4th, says that there are over 1000 coal miners on a strike throughout the Hocking Valley, which runs south from Columbus to the Ohio River. Ten days ago, the operators gave the men notice that they would reduce their wages from 80 to 70 cents per ton. A convention of miners from each mine in the district was immediately held, and, by a unanimous vote, it was concluded to resist the reduction. Notice was at once given to this effect, and the miners withdrew from the mines. The *Times's* correspondent made a tour of the valley to-day and found the men firm but quiet. The men have had steady work all winter at good prices, and now that spring has come the men prefer to hear the birds to working underground. The men say that they worked all winter for 80 cents, when they could have received 90 cents or $1, merely because the operators promised to give them steady work at 80 cents all summer. Now that there is less demand for coal, operators have made close marginal contracts, and they can not afford to pay 80 cents to the miners. The miners have laid away a snug sum during the winter, and they prefer to stand out rather than work for reduced prices. The fact that there is no pressing demand for coal shows that new hands are not likely to be introduced, and hence no trouble is likely to follow. The men firmly insist that they will work at nothing less than 80 cents, and the operators claim they can not pay more than 70.

CINCINNATI, O., May 2.—A special dispatch from Pittsburg says there is every prospect of a strike among the coal miners in the railroad mines in this section. The railroad coal operators have decided to reduce the price paid for digging coal from 3½ to 3 cents per bushel, and to-day notices were posted at different mines to that effect. The operators claim that the coal trade is dull, while the miners say that their sales were never larger than at present, and that they will not submit to a reduction.

STRIKE AT PITTSTON, PA.—The miners and other employés in the Tompkins mines at this place struck on May 2d, on account of dissatisfaction as to the time of payments. The strike throws a large number of men and boys out of employment.

SPECIAL NOTICES.

DIVIDENDS.