ENGINEERING and MINING JOURNAL.

VOL. XXIX., NO. 7. (WITH SUPPLEMENT.)

RICHARD P. ROTHWELL, C.E., M.E., ROSSITER W. RAYMOND, Ph.D., } Editors.
WILLIAM H. WAHL, Ph.D., Department of Progress in Science and the Arts.

NOTE.—Communications relative to the editorial management should be addressed to RICHARD P. ROTHWELL, P.O. Box 4404, New York.
Communications for Mr. RAYMOND should be addressed to ROSSITER W. RAYMOND, P.O. Box 1465, New York. Articles written by Mr. RAYMOND will be signed thus *.
SUBSCRIPTION PRICE, including postage, for the United States and Canada, $4 per annum; $2.25 for six months; all other countries, including postage, $5.00 = 20s. = 25 francs = 20 marks. All payments must be made in advance.
REMITTANCES should always be made by Post-Office Orders or Bank Drafts on New York, made payable to THE SCIENTIFIC PUBLISHING COMPANY.

THE SCIENTIFIC PUBLISHING CO., PUBLISHERS,
27 Park Place, New York.

CONTENTS.

AMERICAN INSTITUTE OF MINING ENGINEERS.

ANNOUNCEMENT OF THE NEW YORK MEETING, BEGINNING TUESDAY, FEBRUARY 17TH, 1880.

TUESDAY, 17TH.—Opening Session, 8 P.M., at the House of the American Society of Civil Engineers, 104 East Twentieth street.
WEDNESDAY, 18TH.—Morning Session, as above, 10 A.M. Afternoon Session, as above, 3 P.M. Evening Reception, 139 Fifth avenue. Mr. and Mrs. JAMES A. BURDEN will receive the members and their ladies and friends at 8.30 P.M.
THURSDAY, 19TH.—Morning Session, Columbia College, 10 A.M. in the Mathematical Lecture-Room, Madison avenue and East Forty-ninth street. Evening Reception, 19 West Twenty-fourth street. The Bullion Club will receive the members at 8.30 P.M. Ladies not expected.
FRIDAY, 20TH.—Session at Stevens Institute, Hoboken, 10.30 A.M. Luncheon at Stevens Institute, 12 M. Subscription Dinner, 7 P.M. The members and their ladies and friends will dine together at the Hoffman House, Broadway and Twenty-fourth street.

A printed list of papers to be read at the meeting will be ready for distribution at the opening session. T. M. DROWN, Secretary.

EASTON, PA., Feb. 10, 1880.

THE late cold "snap" caused an advance of about 25c. per ton, in domestic sizes of anthracite coal.

THE high prices asked for rails in Great Britain have reduced the demand both in the home and foreign markets.

THE Philadelphia Mining Exchange shows a growing and not unimportant business, especially for so conservative a city, and so soon after the establishment of the Exchange.

ALTHOUGH gold and silver mines are affording a harvest for promoters, there are indications that coal, iron, copper, and other mines will soon again come to the front.

MR. LOUIS JANIN, the eminent mining engineer, of San Francisco, who, as stated last week in these columns, has gone to Mexico, can be addressed, care of the American Legation, City of Mexico, for some time to come.

WE shall be pleased to hear from engineers as to their engagements and movements, the statement of which in the columns of the JOURNAL will be of benefit to them, and often be to the advantage also of those having mines to examine.

WANTED.—A thoroughly competent underground foreman, for a quartz-vein mine in the East. Must be energetic and experienced. Address, with full particulars, QUARTZ, care ENGINEERING AND MINING JOURNAL, P.O. Box 4404, New York.

THE West Brookside Colliery, of the Philadelphia & Reading Coal and Iron Company, produced, in the year ending November 30th, 1879, no less than 402,208 gross tons of coal. This is the largest production ever made from one colliery in this or any other country.

IT appears as though nearly every other man you meet has a gold or silver mine to sell, and, generally, several. We are happy to know, however, that but a very unimportant amount of money is going into mines except those of real merit, indorsed by good authorities, and under respectable management.

THE full reports of the Philadelphia & Reading RR. Company and the Philadelphia & Reading Coal and Iron Company have been issued to the public. They contain the usual amount of very valuable information, and can be studied with profit by all interested in the coal trade, either as stockholders, managers, or consumers. The President of these companies makes some very plain statements about the abuses practiced by officials holding high positions of trust, which are well worthy of the attention of stockholders and investors.

THE Philadelphia & Reading Coal and Iron Company mined 4,269,929 gross tons of anthracite during the fiscal year ending November 30th, 1879. The average cost per ton of mining was only $1.14·3 per ton, being 9·4 cents less than in the preceding year, and, as the production was very uniformly distributed throughout the year, the highest cost in any month was $1.24·3 and the lowest $1.07·9. The cost of production in 1879 was 10·4 cents above that in 1877, owing to the advance in wages paid to miners. Had the same rates of wages been paid in 1879 as in 1877, the cost per ton would have been $1.03·5 or nearly ½ cent per ton less than in 1877. During 1879, the Reading Company's collieries worked 243½ days as compared with 167·7 days worked in 1878. The capacity of the collieries operated by this company is now estimated by Mr. S. B. WHITING, acting chief engineer, at 400,000 tons monthly. The company mined in the same period 6615 tons of iron ore at an average cost of $3.06 per ton. In and about its coal mines there were 12,661 persons employed, of whom 52 lost their lives by accident, and 238 were seriously injured.

THE reports from our dividend-paying mines continue to be of a very encouraging character, and additions to the list are promised at an early date. The output of the Chrysolite continues to be enormous. The Little Pittsburg, though doing well, does not appear to be managed with quite the same skill and energy as its neighbor. A great number of other Leadville mines are attracting attention, and now that the war between the Atchison, Topeka & Santa Fé and Denver & Rio Grande roads has been settled, there is a prospect of Leadville getting railroad communications with the outer world in a short time. This will add immensely to the intrinsic value of Leadville properties: it would seem scarcely possible to add to their speculative value, which is already far beyond the reach of sober figures. Silver Cliff, with its Bassick and other mines, is producing largely, and promising still more. The Gunnison District is also attracting attention, and, in the spring, will, no doubt, become a very productive camp. The San Juan is one of the most promising districts in Colorado. It will, before long, secure railroad communication, and it has not yet become crazy on the value of prospect-holes. There are probably better bargains in the San Juan District to-day than in any other part of Colorado. The spring will see a wonderful boom in that direction.

In Utah, the Horn-Silver, the Stormont, the Ontario, and other well-known mines continue to produce very largely, and to accumulate dividends for their fortunate stockholders. The Empire mine, whose magnificent mill we illustrate this week, is said to be developing into a valuable property. We have not yet, however, seen any positive statement of its past or prospective yield. If it should be fortunate enough to find another pay-chute like that of its great neighbor, the Ontario, that district wouldbe exceptionally favored; for it is extremely rare to find two such chimneys on one vein.

RELATIVE ECONOMY OF DIFFERENT SYSTEMS OF WIRE-ROPE CONVEYANCE.

In this country, the suspended wire-rope tramway has been adopted with success in a number of places; in fact, in most mountainous districts it could be used to effect a very great saving in the cost of transportation. The system is coming into use so generally that it will be of interest to know something about other forms of it which have been used in other countries. In the Somorrostro Iron District, near Bilbao, in Spain, two systems of wire-rope conveyance are in use—that of HODGSON and that of BLEICHERT. BLEICHERT'S arrangement is the more recently introduced, and, though the more expensive system, is preferred, as being cheaper in working, and capable of carrying twice as much ore per day. In it, the main cables are fixed, and serve merely as rails for the trams or tubs which are suspended from them to run on, and these are drawn along by a second light-running cable. The cost of transport, for a distance of 2 kilometers (say 1½ miles), is, by HODGSON'S wire-rope line, about 7d., and by BLEICHERT'S 4d. per ton.

The HODGSON system is that which is in use here; and it would appear

from the above, that the wire-rod road which is known here as the HEVNER system is much more economical than that which we now employ. It is not clear why there should be such a difference in cost, and it may possibly be due in part to mechanical details, which, under other circumstances, might more nearly equalize these figures. Nevertheless, it appears that there must be such a substantial advantage in the wire-rod road as to make the question worthy of the attention of those interested in the matter. The wire-rod system has a representative in this city, so that the necessary information could no doubt be obtained by those desiring it.

PRESERVING AND PERFECTING WEIGHTS AND MEASURES.

We are aware that there are still a few persons in this country who would sooner retain the old weights and measures, which have been a nightmare to us from time immemorial, than adopt the simple and easily-understood metric system; but we had no idea that a sufficient number of persons holding these views could be found to organize an institute with the object of perpetuating this legacy of barbarism. It seems we were mistaken. Before us is a circular signed by a Mr. CHARLES LATIMER, "First Vice-President of the International Institute for Preserving and Perfecting Weights and Measures." This circular states the object of the Institute to be "preserving and perfecting our present units of weights and measures, and opposing the introduction into this country of the French metric system." The Institute also proposes "to modify and improve our tables so as to make them more readily understood and more simple in their application, at the same time preserving, with jealous care, the old familiar units so well known and so easily comprehended." If the circular did not give other evidence of being a serious document, we should have thought that this was intended for irony. It is highly improbable that any member of the International Institute could even name one half of the "easily comprehended familiar units" of our beautiful system of weights and measures. What with the remembrance of pounds Troy and avoirdupois, with 12 ounces and 16 ounces to the pound, with grains and pennyweights, and drams, with tons of half a dozen different weights, and bushels of a score of different weights, and feet and yards, and perches, furlongs, and chains, and a hundred (more or less) "other old familar units so well and so easily comprehended," and which this Institute would "preserve with jealous care," one might well suspect that the circular before us was intended for a huge joke; for otherwise, its request for our "hearty approval" of its objects were an insult to our intelligence. No, gentlemen, we feel no sympathy with your movement; we have had too much experience in using these beautiful "old familiar units" to like them, and we have no desire whatever to see them "preserved with jealous care." Nor do we see how they can be perfected while being preserved, nor can we comprehend why this Institute is called International; for assuredly no other country is going to adopt these units, unless, indeed, it should be in Central Africa, which is still in the darkness of barbarism.

We have used both the metric measures and our own so-called "system," and we vastly prefer the former. They are now adopted by nearly every civilized country, and it is too late to-day to tell any intelligent being that they are not infinitely superior in every respect to the very nightmare of weights and measures which has come down to us from the barbarism of the middle ages, and which nothing but ignorance of the other system could make any one desire to perpetuate.

THE DUTY ON STEEL RAILS.

In another column will be found a letter from Mr. JOHN GRIFFEN, the General Superintendent of the Phœnix Iron Works, Pa., in which he criticises statements made in these columns last week. While Mr. GRIFFEN thinks our remarks were made "without reflection," he repeats and confirms our statement that, last summer, steel rails were sold without loss in England at about £4 per ton. It needed no argument or demonstration to show that the reason English steel rails can not now be brought into this country at £4+15s. freight=$23.75+$28 duty; say at $52, is because there has been a great increase in the price in England: that fact has been recorded in our columns every week for months past. Nor do we see any pertinency in the question, "What would have been the price in England to-day, if we had no Bessemer works?" We might as well guess what would be the price of quill pens, if GILLOTT or some one else had not succeeded in supplying the world with cheap steel pens. Neither do we waste any sympathy on the railroad companies, on account of the high price of rails. We merely remark that more roads would be built, and those now building would cost less, and could therefore afford to carry cheaper, if rails cost $18 a ton less than they now do; and the public at large would benefit by the greater number of roads and the lower freights. As new roads have no old rails to sell, that compensating item, of course, disappears from the problem.

No one is opposed to the establishment of steel works in this country, and we favor their extension; neither does any one desire to see our steel works unprofitable, but we—and we believe the great majority of our people also—desire to see abuses of our tariff lopped off, before they excite such a wave of opposition as will sweep away the duties which are still necessary to certain of our industries.

Mr. GRIFFEN makes some strange statements with regard to the freedom of manufacture of Bessemer steel. It is possible that, at the present moment, the steel rail monopoly may be disposed to license new works; but Mr. GRIFFEN can scarcely be ignorant of the fact that, up to a very recent date, if indeed not to the present time, the owners of the Bessemer patents would not grant licenses to new works, and even paid a large sum yearly to the St. Louis mill to stand idle. Nor, even if the owners of the Bessemer patents are now willing to grant licenses, of which we have no knowledge, would it be quite correct to say that "any one desiring to go into the business can buy a license from them, just as it could have been bought from the original patentees," since the royalty charged by Bessemer was 75 cents per ton, and that charged the existing works by the monopolists here is $2 per ton.

Mr. GRIFFEN is quite correct in saying that the price of steel rails would probably be much higher if we had no steel works, and depended on importation alone for our supplies; but, since no one either questions that fact, or regrets the establishment of our steel works, or would have them otherwise than prosperous, his remarks in this connection seem somewhat irrelevant. But when recording the fact that previous to the establishment of steel works here, thirteen years ago, and consequently before our present steel-rail mills owned the Bessemer patents, and when steel came in free, he says that the price of steel rails was $150 per ton, and gives this as a result of those conditions, and states that it took "no more pig-iron nor any other material, in any greater proportion, to make a ton of Bessemer steel then than it does to-day," Mr. GRIFFEN is both incorrect in his statement of the factsand illogical in his conclusions. It did take a great deal more labor, fuel, and some other "material," summarized in the term "cost," to make a ton of Bessemer steel thirteen years ago, than it does to-day; and if Mr. GRIFFEN and other steel-makers who use the same argument believed it to be a fact that free trade in steel and low royalty on the use of the Bessemer patents were in any way the cause of higher prices for Bessemer steel, we should certainly have none of the bitter opposition to the reduction sought to be made in the present enormous duty. When they make such childish inferences, to convince the public of the desirability of continuing to pay an exorbitant tax to the steel manufacturers, they not only assume the public to be on the verge of idiocy, but they show a weakness in the cause which resorts to such an argument in its defense.

NEW PUBLICATIONS.

GEOLOGICAL SURVEY OF CANADA. ALFRED R. C. SELWYN, F.R.S., F.G.S., *Director. Report of Progress for* 1877-78. Montreal, 1879. 8vo, 577 pages. 38 Plates, 4 Maps.

This volume contains, besides the introductory matter, a number of separate reports, independently paged, and simply juxtaposed within a common cover and provided with a common table of contents. They are distinguished by letters.

A is Mr. SELWYN'S own report on the stratigraphy of the Quebec group and the older crystalline rocks of Canada. His views on these subjects are well known. They express a reaction against the tendency to subordinate stratigraphy to paleontology and mineralogy in determining the relations and equivalencies of formations; and the tendency, growing out of that, to multiply classes, based upon lithological variations in the rocks. We are not competent to pass judgment upon a discussion of such complicated phenomena, the data for which are even yet incomplete; but we confess to a natural leaning toward Mr. SELWYN'S view, partly because he is the last speaker, and partly because his recommendations have the merit of superior simplicity, at least on paper.

In his advocacy of an eruptive origin for the so-called Norian rocks, he makes one remark which deserves to be remembered in some other controversies, whether it be decisive in this one or not. It is, "that great local unconformities and lithological differences may exist without indicating any important difference in age, especially in regions of mixed volcanic and sedimentary strata; and that the fact of crystalline rocks (greenstones, diorites, dolerites, felsites, norites, etc.) appearing as stratified masses and passing into schistose rocks, is no proof of their not being of eruptive or volcanic origin: their present metamorphic or altered character is, as the name implies, a secondary phase of their existence, and is unconnected with their origin or original formation at the surface, but is due partly to original differences of composition, and partly to the varying physical accidents to which they have, since their formation, respectively been subjected."

Of course, Mr. SELWYN would admit that some or all of the phenomena which he declares to be "no proof" of a sedimentary origin are, nevertheless, evidence creating a presumption in that direction. But, as a whole, the caution is timely and wise. There is too much rash arguing from such indications at single points to conclusions embracing wide areas.

B is the preliminary report of GEORGE M. DAWSON on the physical and geological features of the southern portion of the interior of British Columbia, comprising the results of his explorations in 1877. Mr. DAWSON has proved himself the worthy inheritor of a great name. We may fairly add that, like his illustrious father, he has enjoyed a great opportunity. Whatever subsequent laborers in the same field may accomplish, his laurels are secure.

C is the report of Dr. ROBERT BELL on an Exploration of the East coast of Hudson's Bay in 1877; and C C is the report of Dr. BELL of his examination in the following year of the country between Lake Winnipeg and Hudson's Bay. Taken together with the elaborate work of Mr. DAWSON, these reports convey a vast amount of information concerning the most important zone of British America.

D, by Mr. R. W. ELLS; D D, by Prof. L. W. BAILEY; and E and E E, by Mr. G. F. MATHEW, are devoted to the geology of Southern New Brunswick; F is a report of surveys and explorations in Cape Breton, N. S., by Mr. HUGH FLETCHER; G is a mineralogical report by Dr. B. J. HARRINGTON; and H, the concluding paper of the volume, is Mr. CHRISTIAN HOFFMANN'S discussion of Canadian apatite, its constitution and its chemical treatment in the manufacture of superphosphate.

We regret extremely both our delay in noticing this volume, and our inability at this time to do more than give our readers a bare catalogue of its varied and valuable contents. *

BOOKS RECEIVED.

A Treatise on Metalliferous Minerals and Mining. By D. C. Davies, F.G.S., M.E., etc. London: Crosby Lockwood & Co. 1880. Crown 8vo, pages xx + 432, and 148 illustrations. (*Very full Glossary and Index.*)

Thirty-first Annual Report of the Cincinnati Chamber of Commerce and Merchants' Exchange, for the Commercial Year ending August 31, 1879. Cincinnati: 1879. 8vo, 254 pages. (*No Index.*)

Eureka and its Resources; a Complete History of Eureka County, Nevada, containing the United States Mining Laws of the District, Bullion Product, and other Statistics for 1878, and a List of County Officers. By Lambert Molinelli & Co. With 12 illustrations. San Francisco: H. Keller & Co. 1879. 8vo, 109 pages. (*No Index.*)

Experiments on the Strength of Wrought-Iron and of Chain-Cables. Report of the Committees of the United States Board appointed to Test Iron, Steel, and other Metals, in Chain-Cables. .... By Commander L. A. Beardslee, U.S.N., Member of the Board, and Chairman of the Committees. Revised and Abridged by William Kent, M.E. New York: John Wiley & Sons. 1879. 8vo, 119 pages. Heliotype Frontispiece. (*No Index.*) Price, $2.

Graphics for Engineers, Architects, and Builders. .... Trusses and Arches Analyzed and Discussed by Graphical Methods. By Charles E. Greene, A.M., Professor of Civil Engineering, University of Michigan. .... Part II.—Arches. Eight Folding Plates. New York: John Wiley & Sons. 1879. 8vo, 190 pages. (*No Index.*) Price, $2.50.

A Treatise on Fuel, Scientific and Practical. By Robert Galloway, M.R.I.A., F.C.S. With Illustrations .... London, 1880. 8vo, 136 pages. (*No Index.*)

American Health Primers. Brain-Work and Overwork. By Dr. H. C. Wood. Philadelphia: Presley Blakiston. 1880. Square 12mo, 126 pages. (*No Index.*)

THE DUTY ON STEEL RAILS.

EDITOR ENGINEERING AND MINING JOURNAL:

SIR: I notice in your issue of Saturday, the 7th, an article which I think was written without reflection. You say in it that, in 1879, the Bessemer steel makers of England sold steel rails at £4, and that it was stated they made some profit on that. As the freight was from 10s. to 15s. to the United States, it follows that, without the duty, it would then have been profitable to have delivered them in New York at £4 10s. to £4 15s. So far as these figures are concerned, they represent the price at which steel rails were sold in England, deliverable in Montreal, near the last of August, last year. When I was in England, I was told by the manager of the West Cumberland Steel Works, Mr. Snelus, that they had just taken 10,000 tons, being a part of 30,000 tons of steel rails, to be delivered at Montreal at £4 10s. He did not say any thing about the profit on them, but he did say they would probably lose nothing. Taking the English prices as right in August at say £4 15s., in New York say $23.75, to which add the duty of $28, why are the present rates in this country so high as $85? This difference is no less than $33.25. It is very certain that our railroads would import their steel rails, if they could get them $33.25 per ton less from England than from here. Is it not the fact, then, that Bessemer steel rails have advanced a larger percentage, and nearly as many dollars, per ton in England as they have here? As the advance must have been at least $33.25 per ton in England, notwithstanding the fact that the steel works of this country are making all the rails they can, what would have been the price in England if we had no Bessemer steel works?

The case with the railroads is not, after all, so very hard. Last year, old rails were worth $18@$19 per ton, while to-day your own journal quotes them at $47.50.

It may be true that the steel mills made considerable money, during the last few years. I do not, however, believe it. I know one of the companies failed, and I know, also, that among the manufacturers of iron, both pig and wrought, their wrecks are by the wayside in every part of this country, as well as in England.

I do not know what you call a monopoly. The steel business may be so, but it certainly does not arise from the fact that the ownership of the patents has passed by sale from the patentees to the owners of the Bessemer Steel Works. Any one desiring to go into the business can buy a license from them, just as it could have been bought from the original patentees, and just as any one wanting to go into the Siemens-Martin steel manufacture must buy of the owners of those patents.

The fact is, that ever since 1873, the price of all the metals, both in this and other countries, has been very low; in many cases, below the cost of production, with a very limited demand. Every thing was wearing out, and every body was expecting still lower prices. During all this time, the manufacture was being reduced, and was not in excess of the demand. Suddenly, it seemed to have been discovered that there was a scarcity; the blast-furnaces, the iron and the steel mills found themselves unable to meet the demand, except by an increase of production, the consequence of which has been an increase in the price of ore, coal, labor, and transportation. Every thing entering into the manufacture of pig-iron, wrought-iron, or steel has very largely increased, and in some cases has more than doubled. It is not a healthy condition of things, but was unavoidable under the circumstances, and would have been the same, or worse, if there had not been a pound of Bessemer steel made in this country. You are, of course, aware that it is only thirteen years since the first Bessemer steel was made in this country; that previous to that date all used came from England, free of duty, at a cost of $150 per ton, in gold. At that time, it required no more pig-iron, nor any other material, in any greater proportion, to make a ton of Bessemer steel than it does to-day. At that time, the patent for the manufacture of Bessemer steel was not in the hands of the steel-makers, but was owned by Mr. Bessemer, who granted licenses to all who wanted them, as the Bessemer steel-makers of this country now do. I fail, therefore, to see where the monopoly comes in. Respectfully yours,

JOHN GRIFFEN.

ROSE-COLORED REPORTS BY FAR-SEEING EXPERTS.

$122,786,937.50 NET VALUE!!

EDITOR ENGINEERING AND MINING JOURNAL:

SIR: At this time, when mining investments are so popular, and capitalists all over the country are forming companies for systematic mining operations, to be conducted on business and scientific principles, it is well known to the engineering profession that many worthless schemes and properties are being offered, and still many more which, though of real worth, are offered at fictitious and exaggerated figures. It is one of these latter cases which I wish, through the medium of your paper, to bring to the notice of the public.

Before me lies a prospectus, consisting of a printed report by Prof. J. H. McChesney, of New York, dated October 4th, 1879, upon the Lake Como Gold and Silver Mines of San Juan County, Colorado. The report, with maps, describes this property, consisting of seven lode *locations*, as lying around and *under* Lake Como. After classing it among "the few great mining properties of the world," the professor says: "Yet we find in the property under consideration, one great compound lode that rivals the Comstock in the richness of its ores, and almost equals it in width from wall to wall." After briefly describing the seven lodes and the ore-bodies in each, and giving the average *assay* value of their contents, as proved by fourteen *assays*, showing returns in nine of the samples of from $125 to $600 per ton, the report continues as follows:

"While these mines are almost wholly undeveloped, the natural exposure of the ore-bodies is so extensive that a better estimate of the actual amount of ore can be made than is possible in many developed mines. The mineral is seen along the lake shore, half-way up the mountain and all the way over the mountain to the west or opposite end of the lodes. *So nothing is left to guess-work.* * * * * *

"We can *safely* assume, as a basis of calculation, an average of *six hundred feet* of these ore-bodies, the *entire* fifteen hundred feet in length."

It is to be noted that these lodes are absolutely undeveloped save by two or three small prospect-holes and discovery-shafts, and that all levels mentioned are "proposed levels," or levels on paper.

I quote again from the report:

"I have based an estimate of the *net* value of the ores of this property upon the result of fourteen samplings of the ores from the various ore-bodies, as analyzed by Paul Holder, one of our best chemists. This estimate includes only the ore above the lake level, in the three mines, the Canandaigua, Discount, and Three Brothers, six hundred by fifteen hundred feet, and the ore of the Champion, above level No. 1, three hundred by fifteen hundred feet.

"In making this calculation, I have deducted from the assay values of the ores *twenty-five* per cent for waste and milling, and *twenty-five* per cent for transportation and mining. After making this reduction, which must be regarded as *very liberal*, it will be seen that the value of the ore amounts to one hundred and twenty-two million seven hundred and eighty-six thousand nine hundred and thirty-seven dollars and *fifty cents* ($122,786,937.50). This result appears immense, but, as an expert who examined this property, has said: 'There is an immensity about it that baffles all calculation.' When we consider the vast bodies of ore lying deep down below the levels, we must agree with him in the above expression."

In these careful estimates, the Canandaigua mine alone, and but one of the four lodes, is shown to have an ore-body of twelve feet average thickness, and to fairly outrival the Robert E. Lee and Chrysolite mines, of Leadville, as shown by the following net value from the professor's table of estimates:

No.	Dimensions Vein in feet.	Tons of Ore.	Value per ton.	Totals.
1.	3½ × 600 × 1500	262,500	$63.15	$16,578,875.00
2.	3 × 600 × 1500	225,000	21.05	2,736,250.00
3.	1½ × 600 × 1500	112,500	99.80	10,117,500.00
4 & 5.	5 × 600 × 1500	375,000	75.52	28,320,000.00
	Total value Canandaigua			$57,752,625.00

In closing, the author of this report says:

"Here the entire development can be made on pay ground. This property requires no inflated language to render it attractive to capitalists capable of judging of values, no rhetoric to make it appear better than a statement of the *simple* facts presents it." * * * "The estimate of the number of tons in each ore-body is based upon the assumption that twelve (12) cubic feet of ore are necessary to make a ton. The ores of these mines are all heavy, and eight to ten cubic feet will weigh one ton; but I have allowed liberally for the gangue and rock mixed with the ore, as it will be taken from the mines." * * * "In my report I have made no mention of the value of the lead."

Mr. Editor, this report speaks for itself—and for the property—and needs no further criticism. The owner of this property certainly should be congratulated and classed among our "bonanza kings."

The mining engineer will find this report interesting from a professional stand-point, and the general public from the stand-point of *common sense*. It is to be noted that, in the estimates given above, it is assumed that nothing but solid pay-ore exists to a depth of six hundred feet.

Yours very respectfully, T. E. SCHWARZ, M.E.

GEORGETOWN, COLO., Jan. 22.

N. B.—The italics throughout the above are mine.

[Probably a liberal discount upon the above magnificent figures would be made for instant belief. What we particularly admire is the exactness of the calculation which determines this immense value down to the cents.—ED. E. AND M. J.]

MICHIGAN MINERAL STATISTICS.

EDITOR ENGINEERING AND MINING JOURNAL:

SIR: Recent numbers of your admirable JOURNAL coming to hand, I find, on reading them, a partial review of the "First Annual Report" of the Commissioner of Mineral Statistics for the State of Michigan, which does that valuable work, I think, injustice, and affords scanty and, in some respects, incorrect information to your readers, of its nature and scope. Permit me, therefore, to correct what is erroneous in the article referred to, as well as to supply certain omissions needed to a proper understanding of the report itself.

It should be understood that the duties of the Commissioner of Mineral Statistics of Michigan are, to a considerable extent, expressed in the terms of the statute creating that office. They are in brief as follows: "To make an annual report to the governor, setting forth, in detail, the mineral statistics for the year, with the progress and development of its mining and smelting interests;" to make such "geological and other surveys as are needful for carrying out the purposes of this act; to observe and record, by maps and plans, when necessary, especial facts which may be developed in the progress of mining and explorations." For this work, an annual appropriation of $1500 is made, which "sum shall cover the compensation and expenses of said Commissioner, and for all surveys or explorations made by him, or under his direction, and also include the cost of publication, under his direction and control, of 1000 copies of his report."

It is evident that the Commissioner is to determine substantially what shall be published relating to the general subject of the mineral resources of the State, including the enjoined statistics.

Mr. Charles E. Wright, the Commissioner, has availed himself of the opportunity given in this his first report, or rather, the first report under the law, to lay before the citizens of Michigan and others interested in the mineral resources of that State a vast amount of information, scientifically correct, and yet freed in a great measure by his happy style from the dry technical expression that too often characterizes such works, and which makes them by that forbidding feature practically sealed books to the general reader, and, too often, to the practical miner and stockholder in mining companies. That he should do this on the appropriation of $1500, is a matter of credit to him and of surprise to others less disinterested than he, and is attributable to his strong love for his profession and devotion to science.

Let us glance at the contents of the report. The first chapter, consisting of twenty pages, is a sketch in brief of the Laurentian and Huronian series of Michigan; adopting, as he states in classifying the Huronian series, the same members employed in the Geological Report of 1873; but he bases *his* descriptions of the members on a microscopic examination. The next chapter, of twenty-five pages, is devoted to a historical sketch of the Lake Superior iron region. Then comes a chapter of seventy-five pages, which gives an accurate description of the majority of the Lake Superior iron mines. It includes a brief history of the mines, their methods of mining, and character of the ore produced, also many very interesting geological features. After this, is a chapter of sixty-eight pages, relating to the copper region, from the pen of Hon. J. H. Forster; followed by brief chapters on the Lake Superior brown stones, slates, ganister, silver, and marble, and the gypsum of the lower peninsula, giving the statistics of each, and some geological facts of much economic value. Also, an interesting chapter of sixteen pages, prepared by S. S. Garrigues, Ph.D., on the salt industry of Michigan; and lastly, tabular statements of statistics of the mineral products of the State. Such is the broad field ably covered by the report.

In the article referred to, is quoted the statement in the preface of the report that "no official compilation had before been attempted;" then is added, "This is a strange assertion to follow Mr. Wright's explicit acknowledgment that he has availed himself of information contained in the State Geological Report of 1873." This does not strike me as a just reflection; for it is evident that the cited statement relates to the mineral *statistics* of the State, and, in the sense in which the compiler meant to be understood, it is unquestionably true, since his is, in fact, the first report under the law specifically requiring their compilation.

In the compilation of the iron ore statistics, Mr. Wright had several sources to draw from. First, the sworn statements which the mining companies make annually to the State. Secondly, the reports which the mining companies rendered to the Commissioner. Thirdly, the reports of the railroad companies of the amount of iron ore shipped over their respective roads. Fourthly, Hon A. P. Swineford's statistical tables and those contained in the Geological Report of 1873. The data obtainable from these different sources tally very closely with each other, from which it may be understood how it is that the figures of the iron ore table up to 1873 agree so nearly with those found in the Geological Report of that year. We find given in the former tables the number of gross tons of iron ore shipped annually by each mine, the annual shipments of each mine, the total of each mine to December 1st, 1878, and the grand total of all the mines to same date.

The plan of the tables in Mr. Wright's report differs from that of the Geological Report of 1873, inasmuch as several of the shipping companies make no distinction between the magnetic and specular ores, and others only partially between hard and soft hematite. The plan of the latter tables would give, at best, only approximations. In Mr. Wright's description of the iron mines, the character of the ores mined by each company is specifically stated. This plan, in connection with a description of each mine, affords better and more comprehensive information of the mines themselves than the one you refer to in the Geological Report of 1873.

Further complaint is made that Mr. Wright "has, with the exception of the Menominee region, where the ores are notoriously very low in phosphorus, given but few analyses." The appropriation of $1500 for the work in question, considering all the other draughts upon the fund, would afford very scanty remuneration for such service; but nevertheless some analyses have been given, and, in addition to that, the Commissioner has stated, in nearly all the descriptions of the mines, whether the ore is adapted to the manufacture of Bessemer steel or foundry and mill iron purposes. Mr. Wright's practical experience in the iron business and position as analytical chemist to all of the Lake Superior and Menominee iron mines enables him to judge well on these points. His collection of Lake Superior iron ore analyses is probably the largest extant, and among them are over eight hundred analyses made by himself for the companies since 1873.

The statistical tables, showing the production of the pig-iron and coal of Michigan, as you observe, were not indexed, nor are any of the other tables or sketches, which leads me to infer that the index was prepared from the unbound forms. On the subject of blast-furnaces, I find in the preface of this report this statement: "It has not been possible to report the coal mines or blast-furnaces, nor have I been able to complete a geological cross-section of the copper series. Considerable data relating to these subjects have been collected, and are reserved for a future report;" wherefore the elaborate criticism made on the subject seems to be uncalled for. Indeed, it is misplaced, as you admit by the statement that you are "wandering from the subject," which assuredly was true.

The compilation of the copper statistics was not an easy task. Some of the companies began work more than ten years before the iron mines were opened. Many of them have been organized, dissolved, and reorganized several times; others have consolidated two or three into one; others, again, have been divided to form two or more companies; and in this rearrangement the books and accounts of the defunct companies have been scattered and lost. Another complaint is made to the effect that the Commissioner does not give the cost of mining the iron ores nor of the production of the copper. Possibly, the Commissioner could have done so, as doubtless he had frequent and, to a great extent, free access to many of the detailed cost-sheets of the Lake Superior mines. But mining companies justly consider such information private, and, for obvious reasons, prefer to keep it so. A parade of the personal property of individuals, or even of companies engaged in mining or smelting ores, could not be accurately or fairly made unless the parties assented to it; and an approximation to such facts, based possibly on erroneous data, certainly would be of little value. No one would expect the Commissioner to put into his report private concerns of which he obtained knowledge in another capacity. I think I may safely assert that the future annual reports of mining companies will contain less rather than more items giving data of cost of production, unless they are advanced to counteract the constantly recurring heresies of the ubiquitous free-trader.

The article referred to closes with a copy inserted, it appears, for the "benefit of those who have the Geological Report of 1873, of a few figures from this report, bringing the totals of the production down to the end of 1878." And there are given the totals of the iron ore and refined copper to 1873, and their respective annual totals, to the end of 1878. This is well, as the statistics of the Geological Report of 1873 relate only to *iron* ore and pig-iron.

En résumé, I think it is evident that the Commissioner has performed his duty to the State and has made a report which can not fail to be regarded by those familiar with the details and descriptions furnished by him as exceptionally free from mistake. If, in describing the mineral interests, he has sometimes given prominence to the bright side, it will be found that he has not failed to give to the practical man a glimpse of the other side; and I may add that his statements are considered by mining men on Lake Superior to be conservative, reliable, and valuable.

CHARLES D. LAWTON.

[We publish Mr. LAWTON'S letter, in order to avoid even the appearance of injustice; but we can find nothing in it to change the views we have already expressed concerning the work of Mr. WRIGHT, which we regard as slovenly and incomplete. That it contains valuable information, only aggravates the case. Such information deserves to be better digested and arranged. In one particular, Mr. LAWTON makes the matter considerably worse than we did. He excuses the paucity of analyses, by saying the appropriation was so small, and adds that Mr. WRIGHT has 800 analyses, made by himself, which he did not publish!]

MAINE MINING NOTES.

Special Correspondence of the Engineering and Mining Journal.

New mining companies are organizing in this county nearly every day—so fast, in fact, that I am unable to keep track of them. Besides the companies, there are hosts of places opening up where no companies have as yet been organized. In the Blue Hill District, every thing is pushed forward as fast as the weather will permit, and it seems now as if, upon the opening of spring, the most intense excitement would prevail. The older companies in Blue Hill pursue the even tenor of their way, steadily improving in appearance. The Blue Hill has recently received a very fine lot of machinery from the Burleigh Rock Drill Company, including air-compressor, hoisting-engine with two winding drums for working from both shafts, two Burleigh drills, Worthington pump, etc. This machinery will soon be in operation, when I hope to send you a full description of both mine and mill.

The Atlantic mine, under the management of Mr. Lee Phron, is looking finely. A pair of Haskins engines has recently been put in for hoisting.

The Douglass is raising a large quantity of good ore. I learn that the present insufficient hoisting-engine will be replaced by a large engine early in the spring.

Mr. William H. Darling is sinking a shaft on property recently pur-

chased by him, lying between the Blue Hill on the east and the Atlantic on the west.

The Twin Lead Company is building a shaft-house, and at many other places work is either in progress or will begin with the opening of spring.

SURRY, ME., Feb. 9. DIRIGO.

EMPIRE MINING COMPANY, PARK CITY, UTAH.

WITH SUPPLEMENT.

The property owned by this company is said to consist of fifteen locations of fifteen hundred linear feet each, and one of three hundred feet, all situated in the Uintah Mining District, Summit County, Utah, and known as the O'Brian, Clara Davis, Silver Treasure, Prince Oscar of Sweden, Little Maud, Solid Muldoon, Inflexible, Celeste, McKay, Challenger, Corr, Thunderer, Jennie Powers, Thunderer Tunnel, New Found Treasure, and Special Payment lodes. They are said to cover, or adjoin, the mother lode of the district, about 1200 yards westerly from the well-known Ontario mine. Their altitude is about 8000 feet above sea-level. The Eastern office of this company is at 52 Wall street, New York City.

The principal work done has been on the Clara Davis claim. We condense as below from a report by Professor William P. Blake:

"This claim, 1500 feet long on the course of the lode, with 100 feet on each side for working purposes, is in Parley's Park, about thirty-five miles from Salt Lake City, and a mile and a half south of Park City. The claim is adjacent to the Ontario, being 2900 feet from the west line of that property. There is ample evidence that the Empire Company has the same vein as the Ontario. The hanging-wall of porphyry is separated from the vein by a clay gouge or selvage containing pebbles worn by the attrition of the walls. This, together with the structure of the vein, shows that the vein occupies a cleft or fissure, and also that it is deep-seated. It is a true fissure-vein of great extent in length, and, practically, as regards working, of unlimited depth. Its direction is nearly east and west, with a southerly dip of 63° to 65° on the surface, and a steeper dip of 70° below. I have no doubt it is upon the same fissure as the Ontario, and of similar origin.

"The vein consists in part of quartz and in part of argillaceous and feldspathic material. It is not wholly charged with ore, the pay-streak occupying only a part of the fissure, as also in the Ontario. In width, this pay-streak varies from eighteen inches to three feet.

"The openings consist of one main engine shaft and two levels; shaft 245 feet deep, vertical, and not on the dip of the vein. The latter is therefore reached from the shaft by cross-cuts. The first cross-cut is at a depth of 100 feet from the surface, and the second, at 200 feet from the surface. From the points of intersection of these cross-cuts with the vein, levels have been extended each way, east and west. The 100-foot level extends 100 feet east and 105 feet west; being, therefore, 205 feet long. The 200-foot level has been driven 121 feet east, and 123 feet west, being 244 feet long. These measurements were in October, 1879, and the work has been progressing since that time. The quantity of milling ore developed in October was, according to a statement of Mr. E. B. Wilder, about 8000 tons, worth, at $35 per ton, the sum of $280,000.

"The vein is favorably situated for mining, being in a salubrious, temperate region, with an abundance of timber and water at command."

There is no statement made in these reports as to whether the mine has produced any ore, though Mr. E. B. Wilder estimates as above that there are 8000 tons of ore in sight, having a value of $35 per ton. Prof. Blake makes no estimate of the ore in sight.

THE EMPIRE MILL.

The Empire Mining Company awarded the contracts to furnish the machinery for its mill to Messrs. Griffith & Wedge, of Zanesville, Ohio. The design and plan of the mill, as shown in the accompanying supplement, were made by W. H. H. Bowers, Mechanical Engineer, of Salt Lake City, Utah, who represents Messrs. Griffith & Wedge on the Pacific coast.

Every thing connected with the mill will be first-class. Its estimated cost, including machinery, buildings, grading, mason-work and material to complete the same, ready to crush ore, will be about $250,000. That our readers may realize the magnitude of this mill, we will state that the machinery weighs over 1,200,000 pounds, and the item of freight alone, from Zanesville, Ohio, to the mines, is over $26,000.

The following is a detailed description: The mill has 60 stamps of 750 pounds each, which will run at ninety drops per minute, with a fall of eight inches.

The batteries (dry crushing) will reduce 90 tons of ore every 24 hours.

It will be furnished with two large rock-breakers, two revolving dry-kilns, twelve self-feeders, and three revolving furnaces for desulphurizing and chloridizing the ore; each cylinder 60 inches in diameter and 24 feet long. They will be capable of treating all the ore reduced by the mill.

There will be 36 Union combination amalgamating-pans, 18 Belding settlers, two pans for cleaning amalgam, with retorts and melting furnace. Four thousand feet of gum belting will be used, of various sizes, varying from four inches up to 30 inches broad.

The power to run the mill consists of one 450 horse-power engine, automatic cut-off, condensing pattern, with six boilers of 75 horse-power each.

The building is 260 feet long, measured from ore-house to pan-room, and 272 feet from boiler-house to furnace-room.

The mill is of the pattern known as dry-crushing and chloridizing, and is expected to work the ore to 90 per cent or over of the fire assay.

The process of treatment is as follows: The ore is delivered from the mine to the mill by cars, which are loaded in the workings of the mine below the surface, hoisted to top of shaft, and thence run on tramway 200 yards to the mill. The ore is then shoveled into the rock-breakers, from which it passes, by gravity, into the revolving dry-kilns. The latter deliver it into a hopper, from which a car can readily be filled and conveyed by the several tracks arranged for it, and dumped into the self-feeders. The self-feeders supply the stamps uniformly, and every way better than is possible by hand. After being crushed and passed through the 40-mesh screen, the ore is conveyed to the elevator on top of building and, from there, a long line of conveyors delivers it into the roasting and chloridizing room, where it is equally distributed to the three furnaces. After treatment in the furnace-room, the ore is again put into cars, and taken to the amalgamating-room, where 3000 pounds of it are charged into each of the amalgamating-pans. After being thoroughly amalgamated, it is discharged into the settler, where the silver is finally separated from the ore in the form of amalgam. From the settler, the amalgam is taken to the retort-room, and the pulp in the settler, being now worthless, is allowed to flow out and down the cañon. The amalgam is retorted, and the resulting silver is melted down into bars weighing 130 pounds, and in this form it goes to the mint, or other refineries.

Messrs. Griffith & Wedge are constructing several other mills, but of smaller size than the one above described.

MONTANA MINING NOTES.

Special Correspondence of the Engineering and Mining Journal.

There is every reason to suppose that unusual activity in mining pursuits will be seen this coming spring in Montana. Several gentlemen, well-known in mining circles, are now in the East negotiating the sales of several excellent properties; and if they are successful, there is no doubt but that great advancement will be made in mining. The permanency of the silver mines at Butte is established beyond doubt, and Professor Clayton is preparing a report, soon to be published, upon the Alice, in Butte. There is a well-founded rumor here that the Alice is to be stocked for $10,000,000, 100,000 shares at $100 per share. The main shaft of the Alice is now down 500 feet, and the character of the ore below the water-line is richer, if any thing, than above. Butte is greatly elated at the good report, and feels confident of the future prosperity of the whole camp.

Mr. Clayton, whose long experience gives his opinion weight, says that, "though in certain localities in Nevada, Utah, and Colorado there are isolated mining properties of greater richness than those of the Summit Valley District surrounding Butte, yet there has never been discovered an area of mineral-bearing ground containing such a net-work of profitable mining properties as he has noted during his short stay in this district."

The later developments in the Colusa are of such a character as leads one to expect that a large quantity of high-grade copper ore will be extracted and reduced when the new smelter of the New York Copper Company is fairly at work.

The Belmont Mining Company discharged all its miners last week, and is now pushing the work of development and taking out ore under the contract system, with what success remains to be seen.

The mines of the Cataract District look well. The boom in their favor has rapidly subsided, and the work of development and discovery is carried on with vigor. The Independence has sunk a shaft to the depth of 30 feet, and looks well. The Mantel is not so rich as first reported; the very rich vein is only 4 inches wide, and is traced for 300 feet. The entire vein averages 3 feet. The camp offers considerable inducements, and bids fair to be permanent.

The Pipestone District is looking well. The Equinoxial, Independent, and Rip Van Winkle leads have a sufficient development to prove, beyond doubt, their value. The first two have sold selected ores to the Hecla Company that work 300 ounces to the ton in silver. The Rip Van Winkle is a very wide vein—20 feet—but the vein-matter is not very rich. It also carries a small percentage of copper. The Pipestone District is quite large, being 18 miles long, and four in width. It is supposed to be a spur from the Butte District.

The Alta-Montana Company still continues to attract attention here and in the East, and its success, we have a very reasonable right to think, is fully assured. It is acquiring many valuable properties, and buying great quantities of ore at its own price. It expects to have its smelting works in operation very shortly. TUBEROSE.

A REVIEW OF THE BRITISH IRON AND METAL TRADES.

We are in receipt of the Annual Report on Metals prepared by Messrs. ROBERT CROOKS & Co,, of Liverpool, from which we glean the following:

The average price of Scotch warrants for the ten years, 1870 to 1879, inclusive, was 69s. 5d. while the average price in 1879 was but 67s. per ton. The average price of charcoal tin plates, Allaway grades, third cross specification, for the ten years was 27s. 3d. The highest average was 38s. 10d. in 1872, and the lowest 18s. 3d. in 1878. The highest average for a month was 45s. in August, 1872; and the lowest, 17s. 1d. for several months in 1878. Prices advanced from 18s. 4d. in July, last year, to 27s. 4d. in November, and declined to 26s. 10d. in December. The average price of coke tin plates, B. V. grade, for 10 years was 23s. 4d. The highest monthly averages were 39s. 6d. during the middle of 1872, and the lowest 13s. 6d. in September, 1878. The average price for 1879 was 19s. 5d. The increase in the exports of tin plates from 1870 to 1879 was almost continuous and large. In the former year, they amounted to 99,851 tons, and in the latter to 197,849 tons. The increase in 1879 over 1878 amounted to 27½ per cent; while the shipments to the United States amounted to 155,795 tons, being an increase of 44 per cent over 1878. The exports to Canada increased from 1878, 9½ per cent; to France, 1½ per cent; to Australia, a decrease of 34½ per cent; and to other countries, a decrease of 13¼ per cent.

The shipments of pig-iron to the United States during 1879, as compared with 1878, increased 748 per cent; of bars, angles, bolts, and rods, 360 per cent; of hoops, sheets, and plates, 924 per cent; and of railroad iron of all sorts, 561 per cent.

The average price of L. & F. tin for the years 1875 to 1879, inclusive, was £76 7s. 10d. The average of 1875 was £90 4s., and of 1879, £73 13s. 4d. The average price of 1873 was £65 12s. The imports of tin in 1870 were 4739 tons, and in 1879, 16,801 tons. The exports in 1870 were 6182 tons, and in 1879, 15,062 tons.

The average price of copper for the five years from 1875 to 1879, inclusive, was £75 9s. 8d. In 1875, it was £88 4s. 6d., and in 1879, £63 10s. 6d. The imports of copper in 1870 were 136,596 tons, and in 1879, 180,429 tons. The exports in 1870 were 52,912 tons, and in 1879, 66,245 tons.

The average price of lead for the six years from 1874 to 1879, inclusive

was £19 12s. 9d. In 1876, the price was £21 15s. 9d., and in 1879, £14 18s. 7d. The imports of lead into Great Britain in 1870 were 58,634 tons, and in 1879, 102,140 tons. The exports in 1870 were 50,064 tons, and in 1879 but 39,007 tons.

PROGRESS IN SCIENCE AND THE ARTS.

Technology.

The Electric Light experiments in London with the Jablochkoff candle, for public lighting on the Waterloo bridge and elsewhere, have yielded some remarkable results (and even better results are confidently looked for) in the amount of light obtained for the power expended. From the accounts given, we are told that a 20 horse-power engine sustains 60 lights of from 500 to 700 candle-power each, and when another couple of Gramme machines is put in, 80 lights are promised. The length of the circuit is over 3¼ miles. From the above facts, it appears that the experiments in question have already demonstrated the practicability of realizing a light exceeding 1500 *candle-power for every horse-power expended*, and even better results are claimed. (Theory would permit of an improvement up to 12,000 candle-power per horse-power.) The enormous loss of light entailed by the division of the current, which becomes necessary when the electric light is to be used for domestic purposes, becomes apparent when it is stated that Mr. Edison has succeeded thus far in getting only 150 to 200 candle-light per horse-power by his system of illumination.

A Novel Extension of the Use of the Telephone is reported from London. It consists in making the loud-speaking telephone of Mr. Edison—which embodies the principles of the electro-motograph—automatic by employing his small electric motor to turn the chalk cylinder. It is reported that instruments of this kind are in use in the London *Times* newspaper office, and that a large number more are in preparation for the same establishment. The utility of this arrangement consists in the fact that the reporters of the paper, instead of dictating their shorthand notes to copyists, and transmitting the long-hand copy to the printer, simply read them directly to the telephone, thus saving the time of copying and carrying the report. The compositor sitting at a type-setting machine in the printing-office, sets the type as one would play on the piano, as the words are transmitted by the automatic telephone. The saving of time on the compositor's account, as he has no copy to decipher, is also considerable. The *Scientific American* of recent date makes this and other noteworthy advances in the applications of electricity the text of an enthusiastic sermon on the future of electricity, in which our neighbor is delivered of the following: "The indications are, that by the use of automatic and autographic telegraphy (in conjunction probably with stenographic type-writers) reports of public meetings will soon be almost instantly transmitted through long distances and at a fraction of the expense which such work now involves. Such inventions open up lines of progress too far-reaching for the boldest imagination to follow."

Technical Brevities.—Bardy reports to the Photographic Society of France the results of his studies of the *solubility of gun-cotton* in the preparation of collodion. He finds that acetone, glacial acetic acid, and methyl alcohol are excellent solvents for it. A mixture of alcohol and ether is commonly employed.——*Cauline*, a new dye obtained from the red cabbage, has been brought out by a French firm, at one of the recent exhibitions of science applied to the industries in Paris.——Miss Hosmer, whose magnetic motor—which, unfortunately, would not work—lately gained widespread notoriety, is reported to have become completely infatuated with the idea of discovering "the great secret of *perpetual motion*," and is said to have taken a large building and workshops in Westminster, to aid her in working out the problem. It frequently happens, where two parties go into business together, that one puts in the money and the other the experience; and it is the case very often that, after the lapse, say, of a year or two, the conditions of the contracting parties are reversed—so that, for example, the fellow who puts in the money has earned the experience—and *vice versa*. We commend the moral conveyed in the above to Miss Hosmer's earnest consideration; for, though she may be strong-minded enough to despise entangling alliances, the length of time required to find her in the condition of our supposititious capitalist will depend entirely on the length of her purse.

The Alleged Production of the Diamond.—Prof Maskelyne, Curator of the Mineral Department of the British Museum, to whom were referred for identification some samples of the microscopic crystalline particles, alleged by Mr. MacTear to be diamonds, has given the results of his examination of the material to the London *Times*, from which it may be of interest to our readers to present a few details. The general conclusions of Mr. Maskelyne, which were unfavorable to Mr. MacTear's claim, we have previously noticed.

Mr. Maskelyne submitted the dust (for such he terms the material) to three tests to determine (1) its hardness, (2) its refrangibility, and (3) its combustibility.

In the first of these, he placed some of the alleged "diamond" dust between the polished surfaces of two plates—one of topaz and the other of sapphire. These were then carefully worked over each other, to see if lines of abrasion would be produced by the particles between them. There was no such abrasion, and the particles finally were ground to powder without producing a scratch even on the topaz.

For the second test, he selected some particles more crystalline in appearance than the others, and examined them under the microscope with polarized light. Each showed the phenomenon of "double refraction."

For the third test, he placed several of these particles upon platinum foil, and heated them intensely with the blow-pipe flame. They resisted the attempt to burn them. Some real diamond dust was laid on the foil alongside of the Glasgow particles, and the experiment was repeated. The diamond particles glowed and disappeared, while the others remained unaltered as before.

Mineralogists would doubtless agree that either of these tests would suffice to determine the fact that the questionable material was not the diamond; but, taken together, the array of proof that it is not, is overwhelming. After determining what it was not, Mr. Maskelyne made further tests to determine, if possible, what the material was; and, without going into detail, we will simply state his conclusion, that it "consisted of some crystallized silicate, possibly one resembling augite."

Finally, Mr. Maskelyne ventures the opinion that, although we may ultimately solve the problem of artificially producing diamonds, the conditions necessary may prove very difficult to fulfill. It is possible, he thinks, that carbon, like metallic arsenic, passes directly into the condition of vapor from that of a solid, and that the condition for its sublimation in the form of crystals, or its cooling into the crystalline diamond from the liquid state, may be one involving a combination of high temperature and high pressure present in the depths of the earth, but very difficult to establish in a laboratory experiment.

Bisulphide of Carbon Motors.—The idea of utilizing the elastic force of the vapors of certain volatile liquids like bisulphide of carbon, which, as they boil at very low temperatures, give off an elastic vapor possessed of high pressure at temperatures considerably below the boiling-point of water, and which have the advantage over steam of having a very low latent heat, has frequently been advanced by mechanical inventors with more or less enthusiasm. In some cases, the project of the inventor is to use bisulphide of carbon (or its equivalent) in the generator n place of water, and in others, more sensible according to our way of thinking, the inventor has striven to utilize, by means of such volatile liquids, the heat remaining in the exhaust passed from the engine, to generate an additional quantity of vapor, the elastic pressure of w hich, utilized through the mechanism employed in connection with the device, was so much power directly gained. Neither of these suggestions has, thus far, met with any substantial success for several excellent reasons: (1) All (or nearly all) the volatile liquids suitable for this application have such an affinity for oils and fats as to render the question of lubrication a difficult one; and (2) leakages, which are unavoidable, interpose the difficulty of filling the air of the engine-room with a highly inflammable and explosive vapor.

A recent inventor in this field claims to have overcome most of the objections that have been urged against this class of motors.

According to descriptiсn, the engine employed does not differ substantially from the common low-pressure engine with surface condensation; and the boiler is of the usual type. In operation, the latter is about half filled with water, on which is poured a few gallons of petroleum oil. The water is heated almost to the boiling-point, the pump is set to work, and a small quantity of bisulphide of carbon is thrown in at each stroke—the quantity being regulated as circumstances require. The bisulphide at once absorbs heat from the water, generating a vapor, of greater or less pressure according to the action of the pump. The presence of petroleum vapor which it carries along with it through the engine, it is claimed, destroys its great affinity for the lubricants (?), and, being itself a lubricant, supplies enough of itself for all the interior rubbing surfaces. After passing the engine, the vapor is carried by the exhaust-pipe to the condenser, where it is condensed, and falls into the reservoir from which the feed-pump again passes it into the generator, and so on. The same quantity of bisulphide,it will be noticed, is used over and over again, and very considerable pressures are obtained, it is claimed, without heating the water in the boiler to the boiling-point.

Engineering.

The Delaware Ship-Canal.—The surveys of the several routes proposed for the canal to connect the Chesapeake and Delaware Bays have been completed by the government engineers in charge of the work, and the reports upon the same are made.

In all, six different routes have been surveyed, of which, it appears, the so-called Sassafras route is the shortest in time and the cheapest, though having the drawback of requiring expensive approaches to be maintained and other serious conditions to be overcome, if it is to be used in winter-time. The so-called Choptank route rates somewhat below the Sassafras in respect to time of transit, while it comes next in point of cost; but has the advantage of freedom from obstruction from ice and economy of maintenance of approaches. The following table shows the relative merits of the two routes from which the selection will most probably be made, namely:

	Sassafras route.	Choptank route.
Length in miles	129·25	149·81
Length of canal proper	16·20	37·67
Cost in millions of dollars	8·00	16·50
Relative time of transit in hours	15·10	19·50
Saving in distance in miles	195·75	175·00

The lengths in the first column are calculated from Baltimore to a common point at sea, 12 miles outside the Delaware Breakwater.

Railroads of the United States.—From the annual statements of the *Railroad Gazette*, we are enabled to present our readers with a comparative view of the extension of the railroads of the country for a series of years. Commencing with the long-to-be-remembered year 1873, we have for the number of miles of new road added in that and succeeding years the following figures:

Year.	Miles.	Year.	Miles.
1873	3,883	1877	2,301
1874	2,025	1878	2,916
1875	1,561	1879	4,430
1876	2,460		

The inspection of these figures shows unmistakably that the activity of railway extension throughout the country sympathized most sensitively with the condition of general business. Beginning with 1873, the figures of which year show a decided falling off from those of 1872 (7340 miles), the figures for the following two years show a progressive diminution, attaining the lowest position in 1875, in which year the effects of the financial crash of 1873 were most severely felt. From this year onward, the figures, remaining almost stationary during 1876, 1877, and 1878, take a remarkable upward bound in the year 1879, as the general business of the country experienced the influence of the revival under the effects of which all classes are rejoicing.

Incidentally, it may be of interest to note that the total mileage of railway in the United States, from the most reliable statistics, was, at the beginning of the year, 86,263 miles; giving, for an estimated population of 49,500,000, one mile of railroad to every 574 inhabitants—a proportion

greatly in excess of that of Europe, which has one mile of railroad to every 3300 persons.

This state of affairs is not to be ascribed to an unreasonable and unnecessary extension of the railway system in this country, but rather to its vast extent, the diffusion of its population over great areas, the distances between its populous centers, etc.

GENERAL MINING NEWS.

ARIZONA.

The *Sentinel* says :

"The daily arrival of mill and mining machinery for new plants, and tool-supplies, etc., for those already established, speaks louder than the most flattering reports our mining experts and other visitors could make in praise of the territory as a place of investment."

Carbonates are reported near the Little Colorado, 150 miles north of Prescott.

Statements of new copper discoveries come in from numerous localities.

At Black Cañon, sixty placer miners are said to be at work, taking out $3 to $8 each per day.

The Whetstone Mountains are being actively prospected, and many locations made. Horn-silver is stated to have been found to a consinerable extent.

The Mule Mountain range is attracting considerable attention.

Pima County, in which the Tombstone District is located, has about half the population of the territory.

GRAND CENTRAL MINE.—The *Nugget* says: "The shaft is down 181 feet. At 78 feet from the surface, is the first level, and a station will be established every 50 feet as the work progresses, from which cuts will be made. There is no change in the ore for the entire depth of the shaft, unless it be for the better."

INDEPENDENT MINE.—This mine, in the Santa Maria District, says the *Miner*, "discovered in 1871, is opening up very rich. The working average of the ore is $80 per ton. Vein, 6 feet wide."

MODEL MINE.—*Democrat*, Jan. 23d : "Discovered eighteen months ago, and work constantly kept up on the vein to the present time. It is in granite, and shows everywhere a smooth foot-wall with a clay gouge from four to twelve inches thick, affording a fine chance for working ; indeed, hardly a shot has been put in on all the work performed. About one hundred tons of quartz have been worked, which have yielded an average of $52 per ton. The vein stands very nearly perpendicular in the ground, and all the ore taken out is worked in arrastras without assorting. The proceeds have left a good margin of profit after paying all expenses. The mine is located in the near vicinity of a fine agricultural district, is surrounded by timber, and in close proximity to water."

SILVER BELT.—The Agua Fria smelter is running on this ore, and the piles of silver brick about the furnace attest its richness and successful treatment.

YAVAPAI COUNTY.

With the early completion of a railroad on the thirty-fifth parallel, the mining industry of Northern Arizona will take on an unprecedented development.

Tiger District, so long idle, is now one of the most prosperous camps in the territory. The Tiger Company, having thoroughly opened its mine before erecting reduction works, is making a steadily increasing yield of bullion. Work on the mine is pushed day and night. Sixty men are employed at the mill and mine. The bullion product at present is about $30,000 per month.

TIP-TOP MINE.—Since the ten-stamp mill began operations, the output of bullion has been steady and constantly increasing. Sixty men are employed in sinking the main shaft on the mine and opening new levels. This number will be doubled within three months. The vein is widening, and the ore improving as depth is attained.

PECK MINE.—This has produced over half a million of treasure with little or nothing attempted in the way of regular development. It is hoped that the litigation which has so greatly impeded the production of this mine will be settled, and the work of bullion-making go on without interruption.

THE LONGFELLOW COPPER MINES.—We condense from the *Globe SilverBelt* of January 31st, the following, concerning this mine : "The present working in this mine is confined principally to tunneling, of which there is nearly one mile and a half. In almost every instance where a tunnel has been run, it has penetrated one grand chamber after another, yielding thousands of tons of fine ore, apparently without limit. A force of about one hundred and ten men, Mexicans and Chinamen, is constantly employed in the mine, and the yield of ore is about fifty tons per day, without going into any of the reserves.

"Mr. Wendt, a mining engineer, of New York, visited the mine a few weeks since, and, after a careful examination, at a low estimate, placed the amount of ore actually in sight at 50,000 tons, averaging 25 per cent, with a reasonable calculation of finding as much more, by displacing that already exposed. With these figures, we deduce the following : Fifty thousand tons of 25 per cent ore will yield 12,500 tons of copper, or 25,000,000 lbs., and, at the present price of copper (23 cents), $5,750,000. The company expects, this year, to produce 4,500,000 lbs. of pig-copper, which, at the above rate, will give $1,035,000 ; hence, it is clearly to be seen that the Longfellow is not only a wonder, but one of the most productive and best-paying mines of America. The statement made by the *Belt*, that a third interest of this mine had been sold, is denied.

"The company employs, directly, about 500 men, and indirectly, including charcoal-burners, freighters, etc., 1000, in all about 1500, and the operations of this one mine alone give daily bread to over 2500 people.

"There are in transit to the railroad over one half-million pounds of copper from this mine, and two freight wagons are daily loaded at the furnace, with 8000 pounds, which amount it is the intention of the company to increase to 12,000 or 15,000 pounds. Eight thousand pounds of copper per day, with the enormous amount of merchandise sold by the company, net to it over $1000 per day.

"Mr. Wendt gives it as his opinion that the mine is a true fissure-vein, and that the heavy body of ore is to come from below, which, when reached, with railroad transportation, will render the product of the mine almost beyond arithmetical computation.

"The Longfellow Company has built and stocked a narrow-gauge (20-inch) railroad, nearly five miles in length, from the mine to the furnace, at a cost of about $75,000. It is complete in every particular, with the exception of a locomotive, which, we learn, has been ordered. The rolling stock, at present, consists of eight cars, of three tons capacity each, and are hauled by mules from the furnace to the foot of the mountain, where the ore is lowered from the mine by means of a tramway, 1600 feet, and a chute, 480 feet. From here, the grade of the road is sufficiently descending to carry the train back to the furnace, of its own specific weight. A double tramway will soon be built, and the chute done away with; and then the ore from the cars (one ton capacity) on the tramways will be dumped directly into the cars on the road, and thus save repeated handling. The company intends to extend this road about four miles farther up Chase's Creek, to a point accessible to the Coronado mines, which are owned by the company. This group of mines, six in number, are remarkable for their extent of high-grade ore, and are valued by the company in the ratio of four to one, compared with the Longfellow. Nothing is being done with them at present, for the reason that the character of the ore renders it impossible to be handled by the present mode of treating ores at the works. At the bottom of the deepest shaft on these mines, 75 feet, a streak of copper glance, 12 feet in width, in a vein of unknown width, is found, that will average 60 per cent copper. This ore, unlike that of the Longfellow, does not carry the necessary properties for self-fluxing, and the purpose of the company is to let these mines lie idle for a year or two, until railroad facilities are available for shipping."

CALIFORNIA.

THE BODIE DISTRICT.

STANDARD CONSOLIDATED.—Following is the official letter of the superintendent, February 1st :

"The main shaft has attained a depth of 75 feet, below the 700-foot level, and continues in hard blue porphyry, with a gradual increase in the flow of water as depth is reached.

"There is no important change to report in the appearance of the different stopes throughout the mine. In the north drift, 385-foot level, the ledge continues to look well, with an average width of 25 feet. In the Standard stopes, the ledge is 4½ feet wide, of the usual good quality of ore. The ledge in the stopes 550-foot level is 8 feet wide, and looks well.

"Besides shipping to the Standard and Syndicate mills, we are raising ore to the Bulwer Tunnel station, for the Bulwer-Standard mill, which will start crushing to-morrow, February 2d. The pumping machinery is working well."

THE COLUMBUS MINING DISTRICT, in which the famous Northern Belle is situated, is said to be attracting wide attention throughout the coast, by recent rich developments in other mining locations. If the present rush of travel continues, there will be a largely increased resident population there in the spring.

HYDRAULIC MINING IN NEVADA COUNTY.

The Nevada *Transcript* says : "Every hydraulic mine in that county, large and small, is now washing. They consume, every twenty-four hours, a total of 14,000 miners' inches of water, or 238,000,000 gallons, one half of which is furnished by the South Yuba Canal Company. This quantity is two and one third times that which is used in the same length of time by the city of New York, with her 1,500,000 inhabitants, and eleven times as much as the city of San Francisco."

ELSEWHERE.

"This California interest is reported to be everywhere prosperous. In Calaveras County, the following recent items are given :

"There is no cessation of operations at the Duryea hydraulic. An immense amount of gravel is being daily put through the flume.

"In the Mammoth, work is now being prosecuted at the upper or north end of the claim.

"A partial clean-up has been made at the Bonanza lately, the gold being emptied out of but a few of the boxes. Those cleaned were in such plethoric condition as to indicate that when a *bona-fide* clean-up is made, it will throw all previous yields in that vicinity into a total eclipse.

"The Eureka hydraulic work is being urged hard. No water is brought through the new ditch, however, for the very good reason that it is all frozen up at the head. A few days of warm weather would give the Eureka double the quantity of water now being used.

"At the Safe Deposit, Rough Diamond, Champion, and other mill gravel claims, operations are being prosecuted energetically and with profit.

"From Sierra County, in which the Graphic and other valuable mines are located, the following is noted :

"The North Star is in over 300 feet, and is finding indications of the channel it is hunting.

"The 1001 Gravel Company, above Sierra City, has a 500-foot tunnel. It is now lowering and retimbering. Coarse gold is found.

"The Haskell Peak Company has a 300-foot bed-rock tunnel. It owns two and a half square miles of ground under lava. A living stream of water comes from the mountain.

"The Eureka is searching for the extension of Haskell Peak lead.

"The Blue Gravel shaft is down about fifty feet in blue gravel, the tunnel being in 140 feet, and within less than 100 feet of the shaft.

"The Savage tunnel is in 500 feet. It is believed, thirty feet will bring them to the old Pliocene channel.

"Gravel washing has commenced at Hayward's claim, Dutch Flat.

"At the Sailor Flat Company, Blue Tent, the ditch still remains closed from the effects of the recent storm.

"The Blue Tent Consolidated Mining Company recommenced washing, with 1000 inches of water. Operations had been suspended since the big snow-storm early in January, which shut off the water supply.

"Some Chinamen working on the opposite side of the ridge from the Savage, have cleaned up 240 ounces of gold, since last October, and, half a mile east, Way & Co. are making big money.

"While sluicing in the Rising Sun gravel recently, the Hidden Treasure Company unearthed a quartz ledge over three feet thick. Thirty feet have been cleared off and tested, and average about $25 a ton. A mill is to be erected in the spring. Directly overlying the ledge are thirty feet of rich gravel."

THE SPENCEVILLE COPPER MINE.—The property known as the San Francisco Copper Mine, located at Spenceville, Nevada County, 12 miles distant from railroad station at Wheatland, has produced as follows for the year 1879 :

Ore manipulated, tons	6,000
Cement copper produced, pounds	512,128
Ore, hoisted, tons	16,000
Ore roasting in open foles, tons	13,000
Estimated copper production in 1880, pounds	1,500,000
Ore already manipulated, on hand, but still containing 64 per cent of red oxide of iron, tons	18,000

The tests which have been made to produce iron have been very satisfactory, being of a very superior quality of white iron, and, with a proper furnace, 1000 tons per month could be shipped regularly to the market. The San Francisco Copper Mining Company, which has been developing, since the last four years, slowly, the above-mentioned property, we understand, would be willing to dispose of its waste ore to any party who would take hold, to produce iron in this country, at a very reasonable price.

MISCELLANEOUS.

The Acton (P. Q.) copper mines are, it is stated, to be operated again shortly, after being closed for several years. There is some demand for lands there.

COLORADO.

There is great excitement in Denver, over the new discovery of gold near the mouth of the cañon of the Platte, a mile from the South Park Railroad, and only twenty miles west of Denver. The vein of mineral was struck in the Dolly Varden mine, at a depth of 120 feet, last Friday. A specimen was brought to Denver and an assay obtained Saturday, the assay giving the value of the ore at $21,199 per ton, $20,166 of it being gold. Two hundred locations have been made.

The Boston & Colorado Smelting Company has had built in Pittsburg, Pa., a small narrow-gauge engine which will be run between Denver and the company's works at Argo.

CLEAR CREEK AND VICINITY.

We condense from the Georgetown *Miner* of late dates as follows :

Emma lode on Democrat Mountain. Deepest workings, 225 feet. This mine continues to turn out ore of unusually high grade. Near the surface, black sulphurets and silver glance are quite frequently mixed with fine-grained galena, and, in the bottom level, there is a large proportion of copper pyrites, which run very high in silver. Polybasite, a rich ore of silver, for which this mine is famous, is also found throughout, in variable quantities. A large number of assays range from 500 to 1068 ounces of silver per ton, the lots taken being of classified ore. The last mill-run of 965 pounds of first-class ore returned 2004 ounces in silver per ton, and 4440 pounds of second-class returned 956 ounces per ton.

Kirtley mine is turning out thousands of dollars per month, and has ore reserves that will last for from one to two years already opened up. They are now

stoping in the deep workings, 90 feet below the level of the tunnel. The pay-vein is all the way from two inches to two feet in width, and carries very satisfactory quantities of gray copper that mills from 600 to 700 ounces for first-class ore, the second-class containing the screenings, milling about 125 ounces of silver per ton.

In the east end, there are six inches of solid, that mills from 200 to 300 ounces, all of one class.

Over twenty men are steadily employed.

SILVER CLOUD.—A party of lessees are stoping and drifting near the bottom of the shaft on this lode, which is somewhere about 100 feet in depth. There is a foot of good-looking ore at this point that carries gray copper, the first-class milling several hundred ounces of silver per ton.

CUSTER COUNTY.

"The Bassick," says the *Record*, "continues to grow richer. There are 80 men at work, who take out 15 tons per day. The ore-body is almost solid in the bottom of the shaft, with a prospect in a short time of its being entirely so."

GILPIN COUNTY AND VICINITY.

The *Register-Call* says:

KANSAS-MAMMOTH.—"A 13-ton lot of smelting ore, taken from the cross-cut vein of the Kansas-Mammoth lode, Nevada District, sold to the Boston & Colorado Smelting Works, brought an average of $90 per ton over and above treatment. Messrs. Hill & Co. are working the vein, under lease.

KING OF THE RANCH.—"A lot of ore sold to the Boston & Colorado Smelting Works gave the following very flattering showing: First class, 388 ounces silver per ton, 65 per cent lead; second class, 310 ounces silver and 35 per cent lead per ton; third class, 145 ounces silver per ton. The ore was taken from a level being driven at the depth of 48 feet."

KENT COUNTY MINE.—Richard Mackey yesterday afternoon brought down from his Nevadaville stamp mill a gold retort of over 200 ounces, the product of a two weeks' run from ore taken out of his Kent County mine. Mr. Mackey is putting this fine property in good shape for a much larger daily output of ore than has heretofore been produced.

The Whitcomb Mill Company's 25-stamp mill, in Nevadaville, is running full of custom ore, the average yield of gold from which is fully up to former standards.

LAKE COUNTY AND VICINITY.

From recent Leadville papers we condense as under:

HIGHLAND CHIEF.—A large body of very rich mineral has been struck at 200 feet from the surface. The developments show vast wealth for the mine, and insure an immense production for a long time to come. The entire workings of the mine have been prosecuted with a view to thoroughly open it and keep it in shape for future operations. The main bodies of mineral are left standing, drifts extending along and around, with occasional cuts made for prospecting.

LITTLE PITTSBURG.—The Leadville *Herald* says: "An immense body of very rich carbonates, the vein 10 feet in thickness, has recently been struck in the New Discovery mine of the Little Pittsburg Company. It is west from the main shaft and nearly under where the assay office is located. The large new shaft-house on the New Discovery is nearly completed, and the cages are to be run in the shaft. This is to be the main working shaft of the mine."

THE LITTLE PRINCE mine at Leadville is being actively worked. A first-class shaft-house, with a good engine, is on the property. The shaft is about 290 feet deep and still sinking, although a large body of mineral has been passed through.

ROBERT E. LEE.—The commercial value of ore mined during the month of January was $301,494.79. On the 3d inst., Eddy, James & Co. settled for 344 tons of Lee ore, paying therefor the sum of $130,775.86, or an average of $380 per ton. The whole amount was paid in a single check, which was deposited in the Bank of Leadville. This was doubtless the largest single check ever drawn for ore in the camp. This ore was a portion of the January output of the mine.

The semi-monthly dividend of the Robert E. Lee, for the last half of January, amounted to $130,000.

The following are the sample assays of ores shipped from the Robert E. Lee to Eddy, James & Co., during the month of January, as returned in settlement statements:

Lbs. assayed.	Oz. silver per ton.	Lbs. assayed.	Oz. silver per ton.
3,441	11,535	10,484	1,088
2,576	4,676	14,199	729
5,208	4,670	14,852	576
13,059	1,290	15,364	568
14,852	1,215	20,561	530

A new body of rich chloride ore, with iron and quartzite gangue, has just been uncovered in the Lee, while prospecting a low-grade sand streak. An average sample assayed 890 ounces. This body is quite distinct from the rich ores of the older workings, although further developments may prove it to be a portion of the same deposit.

ROBINSON MINES.—George B. Robinson, owner of the Robinson mines at Ten Mile, is now putting up roasters at that camp, and will erect a large smelter as soon as lumber and machinery can be secured. It will have two furnaces and a capacity of 80 tons daily.

THE GRANT SMELTING COMPANY.—Says the Leadville *Herald*: "The Grant Smelting Company, a private partnership consisting of J. B. Grant, Edward Eddy, and William H. James, is at present handling more ore and producing larger amounts of bullion than any smelting works in the country. From small proportions the works have steadily advanced, and are even now adding to their capacity. At the present time, eight furnaces are running, handling about 150 tons of ore daily, and a new furnace of thirty-five tons daily capacity is being added. The smelting works were started in September, 1878, but one furnace being put in operation at first. On December 29th, the second furnace was started up. The production from the works in 1878 amounted to $150,000; the number of tons treated being 1050, producing 676,158 pounds of bullion, the average assay of which was 326½ ounces. The third furnace was started up in April, and the fourth in May, 1879. These four furnaces were kept steadily running during the summer. In the latter part of the season, a contract was made to treat all the ores from the Little Pittsburg Mining Company, and to do this the works were again enlarged. On September 29th, the fifth and sixth furnaces were started up, and the seventh on November 7th. The eighth furnace was also started up at the same time, but did not seem to work well, and, after a number of vexatious delays, it was taken down and entirely rebuilt. All the eight furnaces have been kept running most of the month of January, 1880. During the year 1879, over twenty thousand tons of ore were reduced at the works, producing 9,003,010 pounds of bullion, the value of which amounted to $2,497,512.68. The production in the month of December was valued at $423,900. The production from the works for the month of January amounted to $457,712."

SUMMIT COUNTY, says the Leadville *Democrat*, during the present year, "will astonish the world in her great production of mineral. Genuine carbonates and fissure-veins of galena and sulphurets are distributed all along her many streams, while in the Ten Mile and Eagle countries are fabulous deposits of gold and silver-bearing ore."

EAGLE RIVER DISTRICT.—Snow two and a half to three feet deep, making prospecting difficult, though a great deal of it is going on.

RED CLIFF contains nearly a hundred buildings. A town company has been organized. Vacant lots are selling readily at $50 to $200. A large number of mines are being opened in the vicinity.

SAN JUAN COUNTRY.

The *Prospector* says: "The weather has been colder and more snow has fallen this winter than at any time for ten winters past. The mercury at Wagon Wheel Gap was solid one night recently. The weather on the range between Del Norte and Lake City is simply intolerable. The snow is from five to ten feet deep, and, as fast as a track is shoveled out, the wind fills it again. There is no telling when the road will be passable."

DAKOTA.

THE BLACK HILLS.

THE ORO CACHE MINE.—We condense the following from the Deadwood *Times* of January 31st:

"This mine is located in Spruce Gulch. The owners have a tunnel driven in over 100 feet, with several cross-cuts, which have demonstrated the fact that they have a good mine; a ledge of ore, the extent of which is at the present unknown, the cross-cuts demonstrating the fact that at the narrowest point the vein is over 20 feet in width. Its length can only be guessed at, as the tunnel has been driven in on the ledge over 100 feet, and the further in they go, the wider the ledge is, and through this entire distance the ore will mill from $8 to $20 per ton.

"Spruce Gulch will soon come to the front, as during the next season this company will erect a first-class mill.

"Adjoining this mine on the west is the El Salado, a full location, and on the east the Anna and Ophir, all belonging to the same company; and on each one of the last named mines, there are now from 100 to 200 feet of tunnel, and in all of them good showings of ore have been made."

CHEYENNE, WYOMING, Jan. 30.—A special election, which was held yesterday, on the question of issuing $400,000 of bonds to aid the extension of a branch of the Union Pacific Railroad to the Black Hills, resulted almost unanimously in favor of the proposition.

The year 1879 was one of unprecedented prosperity in the Black Hills. Deadwood has been rebuilt since the great fire which destroyed over $2,000,000 of its property and in a far more substantial manner than before. Nearly three hundred new stamps were added on the mineral belt during the past year, making a present total of about twelve hundred, most of which are in profitable operation. It is expected that fifteen hundred stamps will be dropping by the 1st of July. The bullion shipments amounted to over three million dollars. The average yield of ore is about eight dollars per ton.

Although mainly a gold-producing territory, silver is found at many localities. One silver mill (at Galena) is turning out from $20,000 to $25,000 of fine silver per month, and two more of large capacity are in process of erection.

The gold-bearing rock being generally in very large bodies of low-grade ore, work on an extensive scale is required for profit. The permanent prosperity of any mining territory is, as a rule, dependent less upon exceptionally rich mineral than upon the quantity of medium and low-grade ore that can be remuneratively treated. Under this view, Dakota may be regarded as one of the most substantial bullion-producing sections of the country.

RAILROAD.—The Bismarck *Tribune* of late date says: "Negotiations have been going on between the Bismarck & Black Hills Railroad Company and a New York company lately organized, for the early construction of the line from Bismarck to the Black Hills. Engineers will take the field as soon as the weather will permit, to locate the route and proceed with the work of construction. The road will be of standard gauge, and will be known as the Dakota Southern Railroad. The parties engaged in the enterprise have abundant capital to complete the line."

We condense as below from the Black Hills *Pioneer*:

BEAR BUTTE DISTRICT.

FLORENCE MINING COMPANY.—The plant of this company is kept at work exclusively upon the ore of its own mine. At the Florence mill, each alternate day, a brick is made that weighs from 1000 to 1300 ounces of fine silver. Ten stamps are now at work, with ten more about to be hung. The developments on the Florence lode consist of a tunnel running into the mountain 800 feet horizontally, a shaft 98 feet deep at 450 feet from the mouth of the tunnel, and a number of cross-cuts and drifts, most of which have been continuously through pay-ore. The company also owns five placer claims on Bear Butte Creek. Water is brought to the stamp-mill through a covered sluice-way over half a mile in length. The engine is of 200 horse-power. The capital stock of the company has recently been increased from $150,000 to $300,000 for the purpose of more rapidly developing the mine and adding to the capacity of the mills.

ORO FINO MINE.—Professor Walter P. Jenny, in a recent report on this mine, states that the assay value of the ore is nearly nine dollars per ton, and that 3½ tons per stamp could be crushed in 24 hours in a stamp-mill of the usual pattern, the gangue of talc slate being light and easily washed through the screens. In view of the pyritous character of the ore and the difficulty of saving the gold, he does not recommend the erection of a mill at the present time.

POTATO CREEK DISTRICT.—The miners are making preparations to operate their placer mines in the coming spring. A ditch is being dug two miles in length, to carry water to Gumbo Gulch, where a hydraulic is to be run with a pressure of 300 feet.

DURANGO MINE—a full claim, 1500 by 300 feet—is a horizontal deposit and not a lead. The ore is exceedingly rich, the gold being found in quartz and oxidized iron of a dark-brown color and yielding readily to the crusher. In runs at four different mills, the product has been from $14 to $19 per ton, or an average of about $15. Some of the specimens are very rich in free gold, and prospects are often obtained of fifty cents to the pan. Two tunnels have been pushed into the mine, one 175 feet and the other 135 feet, starting in about 50 feet apart. There are three cross-cuts from one tunnel to the other, all in ore. At the breast of the tunnels, the ore-body is 50 feet wide and 13 feet thick between the slate and porphyry. Nine men are now taking out 40 tons of ore a day at a cost for mining of about 80 cents a ton. The milling is done at the Racine mill. The ore in sight is estimated at from 8000 to 10,000 tons.

LEXINGTON MINE.—The mill on this mine is in process of construction, and as rapid progress is made with it as is possible under the circumstances. The stamps will be dropping in a few weeks.

IDAHO.

The *Avalanche* says:

"Although a brisk midwinter campaign is not among the possibilities of the present, the outlook for the immediate future continues quite encouraging. In addition to operations on Florida and War Eagle Mountains, it is now certain there will be lively camps at South Mountain and Wagontown the coming season. Operations will also be renewed in the old Flint District, and there is, upon the whole, a very fair prospect of a good year in Owyhee, while the prospective reports from other sections of the territory are equally favorable.

"The Glenbrook mine is sending ore to the Ellmore mill. The ore is of good quality, and is expected to realize from sixty to seventy dollars to the ton. There are 100 tons of quartz at the mine for shipment.

"At the Josephine mine, near Fairview, the work of sinking is still in progress. Some very rich rock has been taken out recently, and the outlook is unusually good.

"ELLMORE MILL.—Machinery has recently undergone thorough repairs, and every thing around the establishment is now in good condition for business. It will start up in a few days.

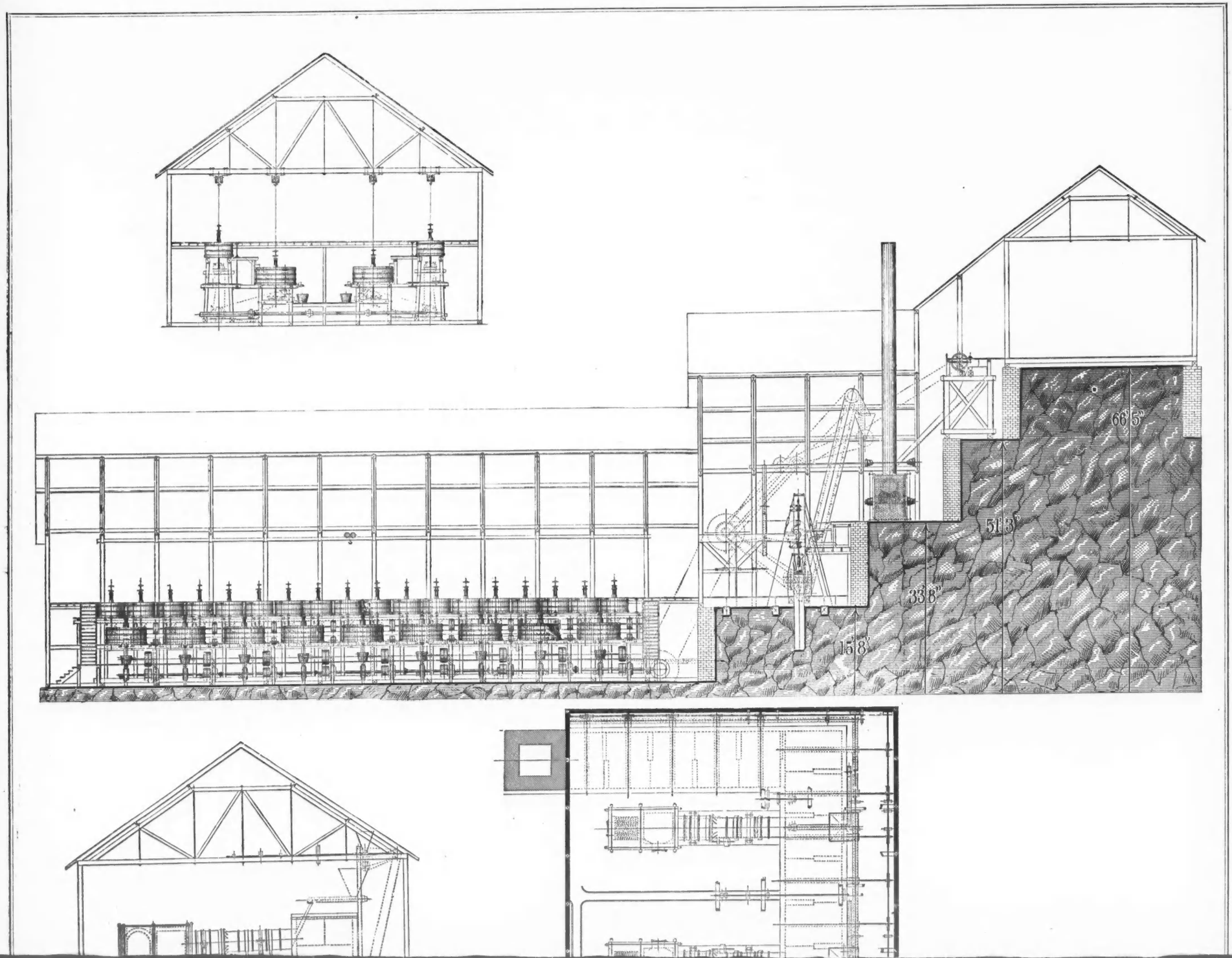
"OWYHEE.—This mine, in the neighborhood of the celebrated Poorman, has gone into the hands of Boston capitalists.

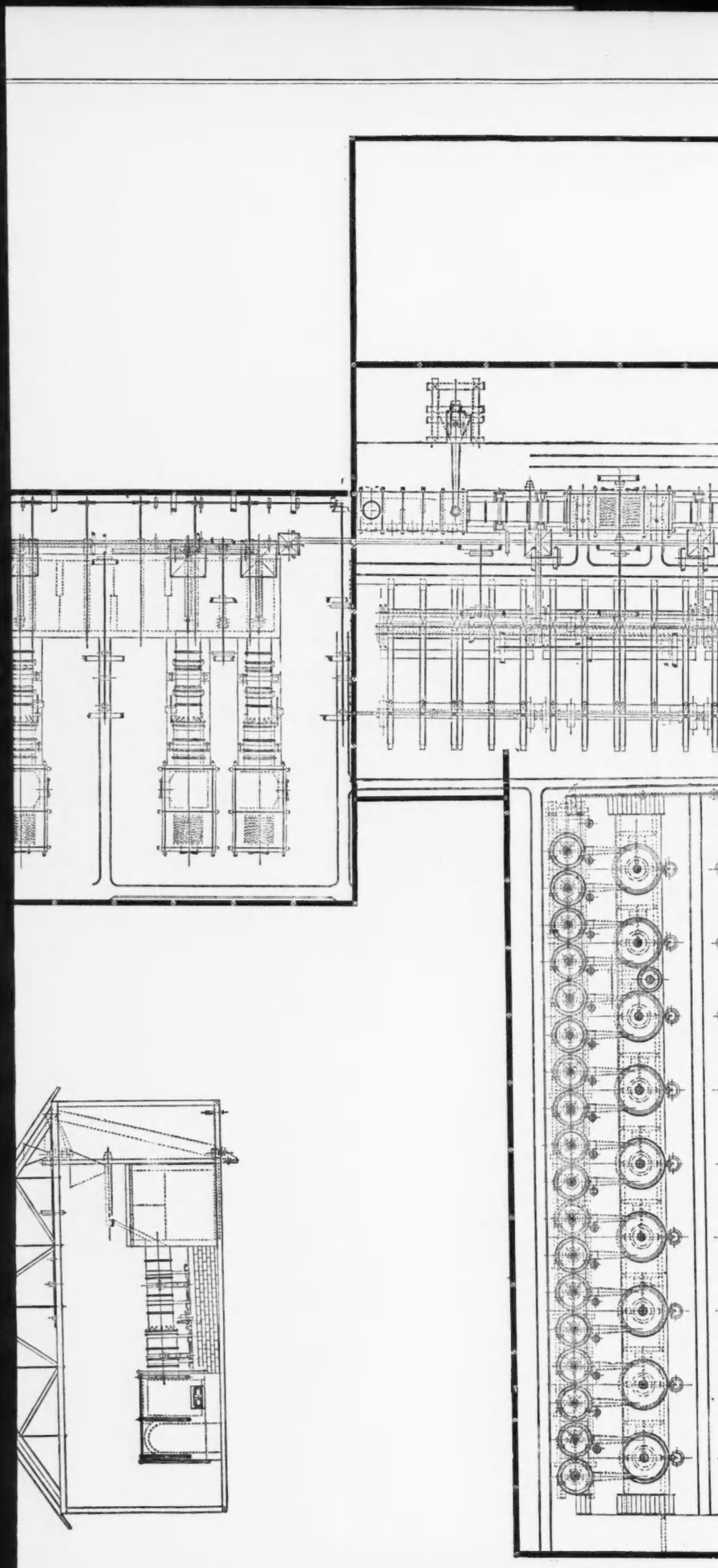
"WASHINGTON.—Forty tons of ore recently crushed yielded $2000."

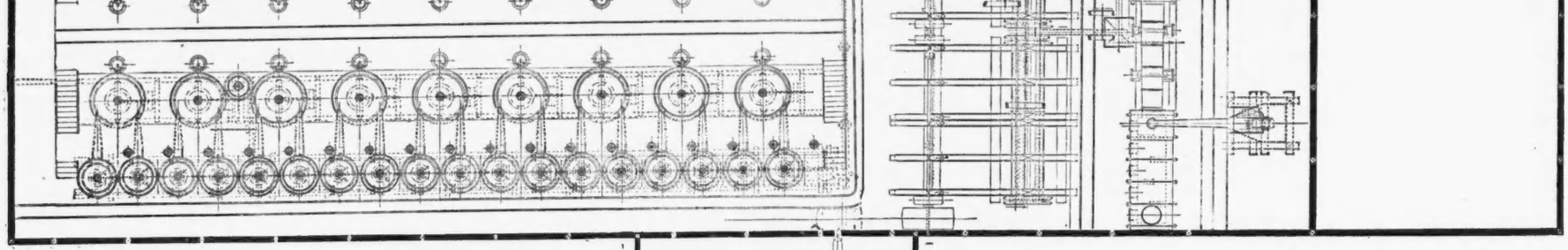
MAINE.

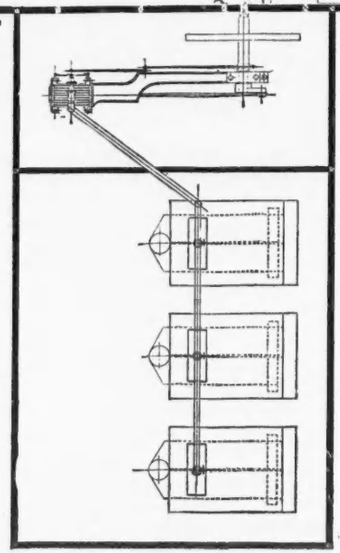
We are indebted to the Ellsworth *American* of the 12th inst. for the following:

"Most active work is going forward among the mines of the Sullivan District,


66' 5"
51' 3"
33' 8"
15' 8"







THE EMPIRE MINING COMPANY

60-STAMP SILVER MILL.

BUILT BY MESSRS. GRIFFITH & WEDGE,

ZANESVILLE, OHIO.

Eng. and Min. Jour., N. Y.

and a number of companies are being organized, among which we note the Egypt Silver Mining Company, incorporated on the 29th of January, with a capital stock of $400,000. The West & Soule Silver Mining Company was incorporated in Ellsworth, on the 11th inst., with a capital stock of $500,000, divided into 100,000 shares. This mine is located in Gouldsboro'. The Homestead of Ambrose Hodgkins, in Hancock, upon which is a vein of quartz, carrying copper and silver, has been leased. A company will be organized to open up and develop the property. Specimens of silver-bearing ore have been brought from Harwood Island. The Candage Copper Mining Company has been incorporated at Sedgwick, with an incorporated stock of $500,000. This mine is located on land formerly owned by S. J. Candage. Five men are at work sinking a shaft, which is down only a little distance. The Eggemoggin Silver Mining Company is sinking its shaft, with eight men at work. It is proposed to put on a night shift very soon. Preparations are making for opening a mine on the land of Parker Billings. Work on the Western Union mine is progressing favorably."

NEVADA.

The amount of mineral soap produced daily at Elko is two tons. The article has an extensive sale.

WALES CONSOLIDATED is the name of the most recent Nevada fraud. Letters and telegrams purporting to be signed by the superintendent, announcing the uncovering of rich ore and advising recipients to buy without limit, were sent to numerous parties, and for a time the stock was active at advanced prices. Inquiry at the mine developed the fact that the shaft, if one existed, was covered by a building which no one was allowed to enter; that but two men were employed; that there was no machinery, and nothing to indicate that there was any ore about the location. The result was, of course, no exception to the usual outcome where persons invest money upon confidential points furnished to them by parties whom they do not know.

PAYMASTER (Ward District).—At the present rate of progress, the tunnel will be in 2600 feet by 1st of August next.

WHITE PINE DISTRICT.

EBERHART & AURORA TUNNEL.—Eureka papers say that letters received from Hamilton confirm the reported strike in the workings of this tunnel, and that ore assaying $300 per ton has been encountered.

The Bay State, Central Treasure, and Jennie A. mines are about to resume work on an extensive scale.

OHIO MINE.—Letters from Osceola state that a rich and extensive ore-body has been uncovered.

THE EUREKA DISTRICT.

The *Leader* of the 3d inst says:

"Work is entirely suspended at the Phœnix. Chloriding is being done with good results at the Grant mine. The Silver Lick has forwarded its monthly shipment, and has resumed the work of extraction. A constant supply of ore is being shipped from the California mine to the Richmond furnaces, and the teams kept busy hauling. Jo Molino says that the Macon City is looking splendid. Work is being pushed ahead lively, and the ore for another shipment is being taken out. The K. K. is sinking a new shaft in front of the Consolidated boarding-house, presumably for the purpose of better demonstrating its boundary lines. The Silver Connor is raising the usual amount of ore, and the bonanza in the lower workings is still furnishing its regular supply, with no indication of diminishing.

"There is a group of five mines in New York Cañon, situated contiguous to each other. They are the Keystone, Eureka, and Clipper, until lately owned by a New Yorker, and the Stella and Seventy-Six. The owner has lately made an arrangement by which the five mines passed into the hands of a New York incorporation. The property was examined by experts before purchasing, and was bought on their recommendation. A representative of the purchasers is expected here shortly to initiate the work. It is proposed to sink a shaft in a suitable locality to prospect the entire property. A working capital of $50,000 has been raised to prosecute the work."

NEW MEXICO.

GRANT COUNTY.

The Plymouth Rock Mining Company has purchased one of the best and most completely equipped diamond drills ever sent out to the mining regions. The company purchased with it the exclusive right to use the diamond drill in Grant County. Its use in exploring and prospecting mines will be almost invaluable, and it will also save an immense amount of dead-work. Power for the drill is furnished by a 15-horse portable boiler mounted on large wheels so as to be easily moved from place to place. Grant County has an area greater than that of the whole State of Massachusetts. Throughout the county are large deposits of silver, gold, and copper ores, and it contains many mines which were worked by the Spaniards hundreds of years ago.

LOS CERRILLOS DISTRICT.—This new mining district is situated 20 miles southwest of Santa Fé, at an altitude of 6000 feet above sea-level, on the line of the A., T. & S. F. Railroad.

The mines are reported to be true fissure-veins, carrying silver and carbonates, and assaying as high as 400 ounces silver per ton, and 25 to 40 per cent lead. The ore is generally very easily worked, having no zinc or antimony; can be smelted for ten dollars per ton. There is said to be an abundance of good coking coal on the Galisteo River, within three miles of the lodes. The ore is at present shipped to the Pueblo (Colo.) smelting works; but a new thirty-ton smelter is now being erected at the mines. The rush to the district is very great. The mines were worked by the Spaniards two hundred years ago, but were newly discovered a year since. About one hundred lodes are already worked by about three hundred miners. Wages are from $25 to $35 per month and board.

The McGregor mine, in the Georgetown District, has cleaned up from 7 tons 400 pounds of its ore over 2200 ounces of silver, or at the rate of 317 ounces per ton.

The Naiad Queen is as usual turning out a large amount of high-grade ore, which is fast accumulating, as the capacity of the mill is only three tons. With an expense of less than $100, it is said to be turning out from three hundred and fifty to six hundred ounces of silver per day. The vein is penetrated to a depth of 250 feet, and is from three to four feet wide.

SOCORRO COUNTY.

The latest mineral discovery of importance in the territory is said to be in the Ladrone Mountains, 92 miles from Santa Fé and 13 miles from the line of the Atchison, Topeka & Santa Fé Railroad. There are four principal leads, from 15 to 30 feet in width, running parallel to each other in a northeast and southwest direction. The ore-matter consists of sulphurets of silver, carbonates, silver-bearing galena, and copper ore. The samples thus far assayed show from 132 to 270 ounces of silver.

UTAH.

BINGHAM DISTRICT.

The Salt Lake *Tribune* says:

"The Excelsior has ten men employed, and is turning out good ore.

"The Crockett vein is widening, and bids fair to prove remunerative.

"Utah is about making a large shipment of jigged ore.

"Neptune has just shipped eighty tons.

"Jordan is working twenty-five men. Considerable gold quartz is being extracted, which receives attention at the mill.

"Silver Hill is producing large quantities of shipping ore. The second class is reserved for the jig process.

"The Stewart No. 2 is working a large force of men on ore. The connection of the lower tunnel with the upper works has been made, and the facilities for shipping the ore to the mill increased.

"The immense depth of snow in the mountains has proved a great detriment to the development of numerous mines, and as a result, many are idle that under ordinary circumstances would be at work. It will ultimately prove a blessing to those who contemplate concentrating ore in the spring by providing them with abundance of water."

"SOUTHERN UTAH RAILROAD.—The engineers are at work on the grade from Milford up to Frisco under the direction of A. G. Campbell, Treasurer and General Manager of the Horn Silver mine. Notwithstanding we have had quite a dense snow-storm the last two or three days, track-laying on the extension has been kept up. As we generally have fine weather in the month of February, we hope to see the track completed to Milford by the first of March."

WASHINGTON TERRITORY.

THE SKAGIT MINES.—Accounts from this region concur in reporting a large immigration, and prospect of an active camp next season. Gold was first struck on the Skagit River in September last, and one claim only was worked in 1879, yielding, it is said, $1200 within a week. The country is new and unexplored; the deposits, so far worked, are placers. It is stated that good pay-dirt has been found on a number of locations, and several specimens taken out, weighing an ounce or more each. The camp is described as being one of the most uninviting on the continent, the country almost impassable to the surest-footed, and full of precipices, gorges, sink-holes, swamps, and tangled thickets. To reach it, rapids must be passed and steep mountains ascended. The bars are all extensive, some of them two or three miles long and a quarter of a mile wide. The diggings extend for a distance of forty miles. The country-rock is granite, and craters of extinct volcanoes stand out on all sides. The snow is five to six feet deep.

NEW PATENTS.

The following is a list of the new inventions relating to Iron, Coal, Mining Machinery, Chemical Apparatus, and the treating of Precious Metals, etc., from *The Official Gazette of the United States Patent Office*, for the week ending January 27th, 1880:

No. of Patent.	*Title of Invention.*	*Name of Inventor.*	*Residence.*
223,815	Manufacturer of Cement and Artificial Stone	Frederick Ransome	Lower Norwood, Eng.
223,823	Ore-Stamp	Horace H. Taylor.	Oakland, Cal.
223,825	Steam Generator and Superheater	John B. Ward	San Francisco, Cal.
223,829	Coal-Oil Cooking-Stove	William H. Wiester	San Francisco, Cal.
223,845	Dynamo-Electric Machine	Stephen D. Field	San Francisco, Cal.
223,848	Mining-Pump	William E. Harris (a)	New York City.
223,850	Ore-Roasting Furnace	Henri Herrenschmidt (b)	Melbourne, Vic.
223,860	Electro-Deposition of Nickel	Joseph H. Potts	Philadelphia, Pa.
223,870	Blast-Furnace	Peter L. Weimer	Lebanon, Pa.
223,888	Rock-Drill	John Grey Cranston	Newcastle - upon-Tyne, Eng.
223,891	Pressure-Regulator Valve	James Danby (c)	Wilmington, Del.
223,898	Electric Lamp	Thomas A. Edison	Menlo Park, N. J.
223,906	Ore-Feeder for Stamp-Mills	Isaac B. Hammond	Deadwood, Dak.
223,913	Extracting Metals from Ores	Ottokar Hoffmann	Monitor, Cal.
223,922	Dumping-Car	John Jones	Lakeville, Cal.
223,931	Process of Refining Lead-Fumes	George T. Lewis	Philadelphia, Pa.
223,932	Process of Manufacturing Pigment Bases	George T. Lewis	Philadelphia, Pa.
223,943	Hydraulic Motor	John A. Myers	Louisville, Ky.
223,962	Puddling and Heating Furnace	Wm. Stubblebine (d)	Bethlehem, Pa.

(a) Assignor of one half of his right to Frederick J. Hoyt, same place.
(b) Assignor of one half of his right to James White and William George Lempriere, same place.
(c) Assignor to John S. McDaniel, same place.
(d) Assignor of one half of his right to Bernard C. Lauth, Philadelphia, Pa.

PROPOSALS.

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:

For Repaving; Office Board Public Works, Grand Rapids Mich	February	14,	1880.
Pumping-Engines; H. H. Forsyth, City Clerk, Peoria, Ill	"	"	"
For Subsistence Stores; G. Bell, C. S., U. S. A., Fort Leavenworth, Kan	"	16,	"
For Construction of a New Court-House; E. F. C. Klokke, Clerk, Criminal Court Building, Michigan st., Chicago, Ill	"	16,	"
For Marble Tiling; Office of the Engineer and Architect, G street, between Eighth and Ninth, Washington, D. C	"	16,	"
For Pumping-Engines; H. H. Forsyth, City Clerk, Peoria, Ill	"	17,	"
For Bricks, Brick-Work, and Lumber; F. De Haes Janvier, Office of Commissioners Public Buildings, Penn Square, Philadelphia	"	18,	"
For Furnishing and Erecting a Monument in Greenwood Cemetery; Frederick S. Massey, Department of City Works, Department Building, Brooklyn	"	18,	"
For the Purchase of Obsolete and Unserviceable Ordnance Stores; U. S. Ordnance Agency, cor. Houston and Greene streets, New York City	"	22,	"
For the Purchase of Wrecked Light-Houses; Office of Light-House Engineers, Fifth District, Baltimore, Md	"	28,	"
Dredging the Manistee River; Ramsdell & Benedict, Manistee, Mich	March	1,	"
Alterations and Additions to State House; C. E. Kemble and A. Peebles, Joint Architects, Charlestown, Kanawha Co., West Va	"	1,	"
Tenders for Construction of a Railway in the Island of Ceylon, 41¼ miles; tenders, sealed and indorsed, "Tender for Nanu-oya RR.;" Penrose G. Julian, Crown Agent for the Colonies, Downing street, London, Eng	"	3,	"
For Dredging in the Patapsco River; U. S. E. Office, No. 70 Saratoga street, Baltimore, Md	"	4,	"
For Artillery Horses; Department Quartermaster's Office, cor. Houston and Greene streets, New York City	"	10,	"

ASSAY DEPARTMENT OF THE ENGINEERING AND MINING JOURNAL.

This department is opened for the benefit of miners, prospectors, and others interested in minerals.

Replies will be made in these columns, and *without charge*, to questions asked regarding the nature and commercial value of minerals, and of samples sent.

Assays determining the actual composition and value of ores will be made at the following rates. All assays are made with the utmost care by the most experienced and competent assayers:

Assay for gold	$3.50	Assay for copper	$3.00	Assay for iron	$4.00
" silver	3.00	" lead (wet)	3.00	" nickel and cobalt	10.00
" gold and silver	5.00	" zinc	5.00		

The amount should invariably accompany the order, and expressage or postage must always be prepaid.

Communications, samples, etc., to be addressed to
ENGINEERING AND MINING JOURNAL, 27 Park Place, New York
(P.O. Box 4404).

FINANCIAL.

Gold and Silver Stocks.

NEW YORK, Friday Evening, Feb. 13.

There has been a large business, without special features for the whole market. The wild-cats listed are having a much better show now. The public is buying with the belief that manipulation will advance prices, and but few questions are asked, and these are answered by interested "disinterested parties." Those who go into stocks because they are apparently dealt in, and have a market value, and who do not inquire, in disinterested quarters, into the merits of the mines, will unquestionably be disappointed. Some mines, with no positive known value, will perhaps strike something; but the majority of this class of mines will never develop real merit. Bodie has made great advances upon two rich discoveries, and upon these there are a number of other mines, selling at much higher prices than Bodie did before making the first strike, with not nearly as good chances.

The Comstock shares are stronger than a week ago, with less business. The sales of California amount to 2745 shares at $3.55@$3.90. Consolidated Virginia records 5520 shares at $3.55@$3.95. Odd lots of Sierra Nevada, amounting to 100 shares, sold at $25½@$22½. On Tuesday, 10 shares of Yellow Jacket sold at $10¾. Consolidated Imperial has ranged between 69@62c., with sales of 5350 shares. Yesterday, 50 shares of Kossuth sold at 25c. Leviathan has been more prominent than for a long time, selling up to 35c. on Wednesday, and back to 30c. to-day. The total sales for the week was 6600. This wild-cat has been before the public so long that no sympathy can be offered those who may get scratched. To-day, 25 shares of Belcher sold at $10.63.

The Bodie stocks have had but a moderate business. Bodie sold from $10¼ on Monday to $9¾ yesterday, with no transactions to-day. The sales aggregate 795 shares. Standard sold down to $29½ during the earlier portion of the week, but recovered to $31 to-day, with $30¼ bid at the close. The sales for the week aggregate 2700 shares. Bechtel has been quiet and weak. The sales amount to 900 shares at $2.15@$1.90. Bulwer has been very quiet and weaker than for a long time past. The sales amount to 840 shares at $11@$9. Consolidated Pacific only records 100 shares at $4. Those who have had an experience in this stock will not look so favorably on the Bodies. Goodshaw has declined from 40c. to 37c., under sales of 2900 shares. The dealings in May Belle amounted to 900 shares at 29@27c., and were confined to Monday. North Standard sticks firmly to $1.95@$2, value or no value. The sales reported amount to but 800 shares. South Bulwer, which is supposed to have no greater value than North Standard, has sold to the extent of 4950 shares at $2.10@$1.85. Did the insiders pay the recent assessment on this stock? South Noonday records sales of 2800 shares at $1.90 @$1.85. Our readers will bear in mind that the leading Noonday mines are the Noonday and the North Noonday. They will therefore examine closely before investing in South Noonday. Tioga declined from $3.50 on Monday to $3 to-day, under sales of 2750 shares.

The Tuscarora stocks are quiet and without feature. Belle Isle records sales of 1140 shares at 90c.@$1.10@ 95c. The sales of Independence aggregate 900 shares at $1.20@$1.25. Martin White declined from $1 to 94c. under sales of 400 shares. On Tuesday 400 shares of Navajo sold at 32c. Tuscarora has been active and fairly steady. The sales amount to 21,600 shares at 18@21c.

The miscellaneous San Francisco stocks have been very quiet. The dealings have been as follows: Eureka, 255 shares at $17¼@$16½; Raymond & Ely, 400 shares at 60c.; Caledonia (B. H.), 130 shares at $3.35@$3.20; Tip Top, 550 shares at $3.90@$4.05.

In the stocks of our regular list there has been a large business. Caribou has been very quiet, the sales amounting to but 70 shares at $4½. This company will declare a dividend of 1 per cent to-morrow, the first since the hoisting works were destroyed by fire last year. Central Arizona has had a moderate business at weakening prices. The greatest weakness was to-day, when the price declined to $7, altnough at the close $8¾ was bid. This mine has been largely advertised of late, and has given fluctuations enough in the price of the stock to suit a genuine speculator. This may be a good mine, but the public has not yet had such evidence regarding the property as would enable it to form a judgment. Those who have gone into this stock, did so largely on "points" for a rise. Climax remains very steady, under a 10c. dividend. The sales amount to 2050 shares at $3⅜@ $3½. On Saturday, 210 shares of Deadwood sold at $21½; since then there has been not a transaction. The sales of Excelsior aggregate 490 shares at $21¼@$22¼. Findley has been fairly active and stronger under the announcement of a strike in the mine. The sales amount to 23,100 shares at 61@72c. Great Eastern has been quite active and much stronger. The sales amount to 82,200 shares at 50@62c. Green Mountain has been one of the features of the week. This stock advanced from $2.50 on Saturday to $3.10 to-day. The late developments in this mine warrant the management in erecting 68 additional stamps, making 100 in all.

Prof. W. P. Blake has lately visited the mine, and more than verifies all the statements made by the managers. The sales of this stock aggregate 31,910 shares for the week, with a very strong demand to-day. Homestake only records sales of 150 shares at $37@$37½. Hukill has been quite active, but weak. The sales amount to 32,245 shares at $4.50@$4.15. La Plata has been dealt in to but a moderate extent. The sales amount to 2635 shares at $5¾@$6¼. Leadville has been quiet, and fairly steady at $3.90@$4, with sales of 3800 shares.

Little Pittsburg has been very active and has recovered somewhat from the late decline. The sales amount to 10,674 shares at $22¼@$25¼, closing at 23⅛ bid. There are several explanations of the late decline, but we are reliably informed by disinterested parties that it is from no fault of the mine. Moose has been fairly steady and a little quiet. The sales amount to 6575 shares at $1.90@$2.15. New York & Colorado records sales of 1000 shares at $2.10 @$2.25. The sales of Plumas amount to 600 shares at $2.60@2.65. The sales of Mariposa Common amount to 1982 shares at $4.75@ $3.60, and of Preferred, 100 at $5. The sales of Quicksilver Preferred amount to 900 shares at $66½@$65, and of Common, to 2000 shares at $21⅛ @$20½. Rappahannock has been quiet at 35@39c.; the sales aggregate 13,250 shares. Shamrock records 1800 shares at $1.20@$1.10. South Hite has been irregular, with an upward tendency and a large business; the sales amount to 33,000 shares at $2.15@ $3.15. Sutro Tunnel has been quite weak under a large business; the sales amount to 33,100 shares at $3⅝@$2½.

In the "fancies" the business has been as follows: American Flag, 4900 shares at 54@47c.; Buckeye, 62,710 shares at 48@58c.; Dahlonega, 9500 shares at 17@18c.; Gold Placer, 76,400 at 31@45c.; Granville, 29,000 at 39@35c.; Lacrosse, 10,600 at 50@ 49c.; Lucerne, 2000 at 18c.

The Spring Valley Hydraulic Mining Company was organized on the 9th inst., with the following very strong Board of Directors: Charles M. Fry, President of the National Bank of New York; A. Foster Higgins, of U. S. Lloyd's Marine Insurance; R. M. Pulsifer, proprietor of the Boston *Herald;* James W. Simonton, agent of the Associated Press; Edward Bates Dorsey, mining engineer; Edward A. Flint, consulting engineer, Boston; W. S. Nichols, of W. S. Nichols & Co., New York; Ben. G. Arnold, of B. G. Arnold & Co.; and Henry M. Taber, of G. C. & H. M. Taber. This is the first child of the United States Mining Investment Company, which is to be congratulated, first, upon the confidence secured with the public, as demonstrated by the manner in which it rapidly absorbed this stock; second, by having a good property, indorsed by a number of experts; and, third, by having adopted a low nominal capitalization for the purpose of protecting the stockholders from personal liability. The capital stock of this company is but $200,000, divided into 200,000 shares of the par value of $1 each. Of course, this capitalization is far below the actual value of the property, and this fact was so clear to the public that it came forward and paid $10 per share, upon which price quarterly dividends, beginning with May, are promised at the rate of 12 to 15 per cent per annum on the investment price, while the experts estimate that, after this year, the earnings can be more than doubled, and continued for many years.

Some of the mines which will stand investigation are furnishing the public with regular information on the operations and developments. As a rule, however, there is a great lack of information, and, in most cases, such as is received is given by insiders as a "point" covered with mystery. There is no point that will stick worse than a mining point, and we advise our readers to confine their operations to those companies who treat the public in a fair and open manner. The subject of compelling mining companies to make statements of the condition of the mines, as well as of the finances, to the stock exchanges, which was lately recommended by the Bullion Club, is well worthy of attention.

OFFICIAL LETTERS.

Green Mountain Mining Co.—The superintendent, under date of February 4th, reports both mills running steadily. Will clean up this week. One mill has been crushing ore from the new level the past ten days.

Native Silver Mining Co.—A dispatch to this company, dated the 11th instant, says: "Have struck good mineral in the shaft. Are pushing it down day and night. Drifts are producing very rich mineral. Doing no stoking, but opening ground. Mine never looked better than it does at present."

The Chrysolite.—A dispatch from W. S. Keyes, dated February 11th, says: "Average samples taken from the cross-cut connecting drift to the Roberts shaft assay 230 ounces silver. We shipped to-day 135 tons."

Bull-Domingo.—The superintendent of this mine telegraphs, under date of February 11th, as follows: "There are in the ore-house 380 tons of sorted galena. There can be obtained from the dumps 1000 tons of concentrating ores. The main shaft is down 108 feet, and there is no water."

Great Eastern.—"CENTRAL CITY, D. T., Feb. 9. —Great Eastern cross-cut in seven feet; all fine-looking ore. All ledge matter. Cross-cut will run night and day until hanging-wall is reached. Can't determine width of ledge. The location characters of the ledge and prospects good. Letter of 7th inst. on the road."

Dunkin Mine.—Under date of February 6th, the superintendent of this mine reports that "in the west we have a magnificent breast of ore 20 feet in width. Average depth, four feet, and dipping down as far as we can see. Have had mill runs showing from 160 ounces silver and 40 per cent lead to 289 ounces silver and 58 per cent lead per ton."

Hukill & Freeland.—A dispatch from Hukill, dated February 11th, says that the prospects on the third level are far ahead of expectations, and they are now concentrating twenty-five tons of ore daily. Freeland is looking splendid.

The Elko Consolidated.—Tunnel is in 586 feet, and working day and night, retimbering lower tunnel, and have contracted for water-jackets to be done in 20 days.

DIVIDENDS.

The Homestake Mining Company has declared its usual dividend for January, payable at Wells, Fargo & Co., on the 25th. Transfers close onthe 20th.

The Climax Mining Company has declared a dividend of 10 cents per share, payable February 23d.

The Amie Consolidated has declared a dividend of $50,000, being 10 cents per share on the capital stock, payable on the 18th inst.

The Deadwood Mining Company has declared a monthly dividend for January, of 25 cents per share, payable at Wells, Fargo & Co's, on the 20th. Transfers close on the 14th.

The Green Mountain Mining Company has declared its eighth dividend of 5c. per share, payable Feb. 25th.

The Bassick Mining Company has declared its first dividend of 25 cents per share, payable Feb. 18th.

REVIEW OF THE SAN FRANCISCO MARKET.

With but a few exceptions, we again lower the quotations of the San Francisco market, and, from present indications, no one can foresee what is in store for the future. The output from the producing mines on the "great lode" is now making a very creditable showing in our table of bullion production; and were it not for the diversion of capital in other directions and the past sad experiences of the average Comstock operator, this fact of itself would unquestionably impart great strength to the market; but, as it is, this influence is seemingly not felt. Assessments continue to be levied, and the work of opening up, developing, exploring,

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. Feb. 7. H.	Feb. 7. L.	Feb. 9. H.	Feb. 9. L.	Feb. 10. H.	Feb. 10. L.	Feb. 11. H.	Feb. 11. L.	Feb. 12. H.	Feb. 12. L.	Feb. 13. H.	Feb. 13. L.	SALES.
Argenta, s.	Nev.	1,500	10,000,000	100,000	100	75,000	Jan.. 1879	20,000	July.. 1879 20													
Bassick, s.	Colo			100,000				25,000	Feb.. 1880 25													
Belle Isle, s.	Nev.	1,500	10,000,000	100,000	100	30,000	Mar. 1880 30	300,000	Dec. 1879 25	95	90	95		1.10	98	1	95	1		95		1,140
Belcher, G. S.	Nev.	1,040	10,400,000	104,000	100	1,808,800	Dec.. 1879 1 00	15,397,200	Apr. 1876 1 00											10.63		25
Bobtail, G.	Col.	2,500	1,136,630	227,326	5	*		125,030	Sept. 1879 15													
Bobtail Tunnel, G.	Col.		100,000	20,000	5	52,000	July 1873 0 30	56,000	Dec. 1878 40													
Bodie, G.	Cal.		10,000,000	100,000	100	75,000	May. 1879 1 00	1,175,000	Feb.. 1880 25	10¼	10	10⅛		9.88		10	9¾	10	9¾			795
Briggs Con., G.	Col.		2,000,000	200,000	10			8,000	Dec.. 1879 04													
California, G. S.	Nev.	600	54,000,000	540,000	100			31,320,000	Dec.. 1879 50	3.65	3.55	3.90	3.75	3.90		3.75	3.70	3.75	3.60	3.80	3.75	2,745
Caribou Con.	Col.	1,400	1,000,000	100,000	10			50,000	Jan .. 1879 10	4½			4½									70
Central Arizona, S.	Ariz		10,000,000	100,000	100					11⅛	11	12½	11⅛	12⅛	11⅛	11⅛		11¼	10	10¼	7½	6,400
Chollar, G. S.	Nev.	700	11,100,000	112,000	100	112,000	Dec.. 1879 0 50	3,080,000	Feb.. 1872 1 00													
Chrysolite, S.	Col.		10,000,000	200,000	50			600,000	Jan.. 1880 1 00													
Climax, S.	Colo		2,000,000	200,000	10	*		40,000	Jan.. 1880 10			3⅜		3.40	3⅜	3⅜	3⅜	3.45	3.40	3.50	3⅜	2,050
Cons. Virginia, G. S.	Nev.	710	54,000,000	540,000	100	474,600	June 1873 3 00	42,390,000	Dec.. 1879 50	3.65	3.55	3.95	3.75	3.95	3.90	3.80	3.75	3.80	3.65	3.85	3.75	5,520
Confidence, G. S.	Nev.	130	2,496,000	24,960	100	256,320	Apr. 1878 0 50	78,000	May. 1865 8½													
Crown Point, G. S.	Nev.	600	10,000,000	100,000	100	2,323,370	Feb.. 1880 0 50	11,588 000	Jan.. 1875 2 00													
Deadwood, G.	Dak	1,500	10,000,000	100,000	100			25,000	Jan.. 1880 25	21½												210
Eureka Cons., G. S. L.	Nev.		5,000,000	50,000	100	100,000	May. 1876 1 00	4,075,000	Feb.. 1880 50	17¼	16½							17				255
Excelsior W'k'r & M. Co	Cal.	525 acres	10,000,000	100,000	100				Jan. 1880 25			22	21¾			22¼						490
Findley, G.	Geo.		200,000	200,000	1			8,000	May. 1879 1c	61		63	61	72	61	70	67	68		68		23,100
Gould &Curry, G. S.	Nev.	612	10,800,000	108,000	1	3,152,000	Feb.. 1880 1 00	3,826,800	Oct.. 1870 10 00													
Grand Prize, S.	Nev.	1,500	10,000,000	100,000	100	220,000	Dec.. 1879 0 75	400,000	Feb. 1878 1 00													
Great Eastern, G.	Dak	1,200	300,000	300,000	1			10,000	July. 1879 01	54	50	54	53	59	54	62	58	62	60	61	59	82,200
Green Mountain, G.	Cal.	4,350	1,250,000	125,000	10			46,875	Jan.. 1880 7½	2.70	2.50	3	2.60	2.95	2.85	3	2.85	3	2.80	3.10	3	31,910
Hale & Norcross, G. S.	Nev.	400	11,200,000	112,000	100	3,004,000	Feb.. 1880 1 00	1,598,000	Apr. 1871 5 00													
Homestake, G.	Dak		10,000,000	100,000	100	200,000	Apr.. 1878 1 00	390,000	Jan.. 1880 30			37								37½	37	150
Horn, S.	Uth.		10,000,000	400,000	25			200,000	Jan.. 1880 25													
Hukill, G. S.	Col.	3,288	1,000,000	200,000	5	*			Dec.. 1878	4.40	4.25	4.45	4.25	4 40	4.15	4.50	4.15	4.45	4.25	4.25	4.15	32,245
Independence, S.	Nev.	1,500	10,000,000	100,000	100	80,000	Feb.. 1880 0 30	225,000	Sept. 1879 25	1.25	1.20	1.25		1.25	1.20	1.20				1.25		900
Kentuck, G. S.	Nev.	95	3,000,000	30,000	100	300,000	Aug. 1878 1 00	1,252,000	Mar. 1870 5 00													
K. K. Cons.	Nev.	1,200		50,000		500,000	Oct.. 1879 2 00	62,500	Sept. 1873 25													
La Plata, S.	Colo							75,000	Feb. 1880 7½					6		6	5¾	6¾	6			
Leadville, S.	Col.		2,000,000	200,000	10	*		150,000	Jan. 1880 15	3.95	3.90	4	3.95	4	3.90	3.95		3.95		3.95		2,635
Leeds, S.	Uth.	3,000	6,000,000	60,000	100			78,000	Oct.. 1878 15									5)		50		3,800
Leopard, L. G. S.	Nev.	1,500	5,000,000	50,000	100	342,500	Sept. 1879 50	162,500	Dec. 1876 50													200
Little Pittsburg, S.	Col.		20,000,000	200,000	100			1,350,000	Feb.. 1880 50	24	22¼	24	23	25¼	23¾	25	24⅞	24⅞	24	24¼	23½	10,674
Manhattan, S.	Nev.	129,810		100,000		200,000	July. 1879 1 00	400,000	Feb. 1877 1 00													
Martin White, S.	Nev.	22,900	10,000,000	100,000	100	650,000	Jan. 1880 50	90,000	July. 1879 30			1		1		93				94		400
Merrimac, S.	Mas.	1,500	500,000	100,000	5	*		120,000	Mar.													
Modoc	Cal.	4,000		100,000		450,000	Feb.. 1879 0 50	50,000	Dec. 1876 50													
Moose, S.	Col.	39,000	2,000,000	200,000	10	*		550,000	Mar. 1878 25	2	1.90	2.05	2	2.05	2	2.15	2.05	2.15	2.05	2.10	2	6,575
N. Y. & Colorado, G.	Col.		1,000,000	50,000	20	*		25,000	July. 1879 10	2.20				2.20	2.10			2.20	2.15	2.25	2.15	1,000
Northern Belle, S.	Nev.	1,600	5,000,000	50,000	100			1,500,000	Nov. 1877 1 00													
Ontario, S.	Uth.	3,000	10,000,000	100,000	100			2,600,000	Feb.. 1880 50													
Ophir, G. S.	Nev.	675	10,080,000	100,800	100	2,594,200	Nov. 1878 1 00	1,603,200	Jan. 1880 1 00													
Ore Knob, C.	N. C.	1,600 acs.	1,500,000	150,000	10	*		97,500	Dec. 1879 40													
Potosi, G. S.	Nev	700	11,000,000	112,000	100	112,000	Dec.. 1879 0 50															
Plumas, G.	Cal.		1,000,000	100,000	10			151,000	July 1879 8					2.60		2.65				2.60		600
Raymond & Ely, G. S.	Nev.	5,000	12,000,000	120,000	100		Mar. 1880 25	3,075,000	Sept. 1873 3 00											60		400
Richmond, S.	Nev.		1,350,000	5,400	25	660,000																
Rye Patch	Nev.	1,600		30,000		157,500	Dec.. 1878 1 00	105,000	Dec. 1877 25													
St. Joseph, L.	Mo.	2,000 acs.	1,000,000	100,000	10			250,000														
Stormont, S.	Uth.		1,500,000	150,000	10			45,000	Feb.. 1880 30													
Savage, G. S.	Nev.	800	11,200,000	112,000	100	4,684,000	Dec.. 1879 1 00	4,460,000	June 1869 3 00													
Seaton, G. S.	Col.	1,700	500,000	50,000	10	*			May 1877 10													
Sierra Nevada, G. S.	Nev.	3,650	10,000,000	100,000	100	3,750,000	Feb.. 1880 3 00	102,000	Jan. 1871 1 00			25½	24½					24	23½	22½		100
Silver King, S.	Ariz	1,500	10,000,000	100,000	100			450,000	Nov. 1878 50													
Standard, S.	Cal.		10,000,000	100,000	100	50,000	July 1878 1 00	1,550,000	Feb.. 1880 50			30½	29⅛	30	29¾	29½		29½		31	29⅞	2,700
Yellow Jacket, G. S.	Nev.	1,200	12,000,000	120,000	100	3,398,000	Jan.. 1880 1 00	2,184,000	Aug. 1871 2 50					10¾								10

Non-Dividend Mines.

Alpha, G. S.	Nev.	306	3,000,000	30,000	100	300,000	Nov. 1879 1 00															
Alta	Nev.	600		108,000		1,155,000	Jan. 1880 0 50															
Am. Flag, G.	Col	5,300	1,250,000	125,000	10	*				54	47c	47c		52c	48c			50c	48c			4,900
Andes	Nev.	2,000	500 000	100,000		405,000	Jan.. 1880 0 25															
Baltimore Cons.	Nev.	1,050		84,000		1,015,000	Apr. 1878 0 50															
Benton	Nev.	600		108,000		91,800	Sept 1879 0 50															
Bechtel	Cal.			69,000		113,250	Jan.. 1880 0 25					2.15	2.10	2.15	2	2.05		2		1.95	1.90	900
Belvidere	Cal.	1,500		60,000		48,000	Jan.. 1880 0 25															
Bertha & Edith. G.	Vir.	645 acs.		500,000	1	*																
Best & Belcher, G. S.	Nev.	545	10,080,000	100,800	100	841,700	Dec. 1879 1 00															
Buckeye	Col.		2,000,000	400,000	5	*				51	48c	50c		55c	50c	52c		55c	52c	58c	54c	62,710
Bullion, G. S.	Nev.	943⅓	10,000,000	100,000	100	3,252,000	Feb.. 1880 0 50															
Bulwer	Cal.		1,000,000	100,000	100		Dec.. 1877 50			10		11	10	10¾	9.63					9.50	9	840
Cal., B. H.	Dak.		10,000,000	100,000	100	200,000	Jan.. 1880 0 50							3.35	3.20							130
Caledonia	Dak.	2,188	10,000,000	100,000	100	1,835,900	Dec.. 1879 0 50															
Cashier	Co.		500,000	250,000	2	*																
Challenge	Nev.	90		50,000		10,000	Nov. 1878 0 20															
Cleveland, G.	Col.	3,715	250,000	25,000	10	*																
Cons. Imperial, G. S.	Nev.	468	50,000,000	500,000	50	1,175,009	Jan.. 1880 0 20			65c	64c	69c	67c	65c	64c	66c		65c		65c	62c	5,350
Con. Pacific	Cal.	1,400	600,000	60,000	100													4		4		10
Dahlonega	Ga.		250,000	250,000	1	*				17c		18c	17c	18c		18c						9,500
Day	Nev.	1,500	10,000,000	100,000	100	70,000	Feb.. 1879 0 15															
Dayton	Nev.	1,600	10,000,000	100,000	100	750,000	Apr. 1878 0 25															
De Frees	Ariz	1,500	10,000,000	100,000	100	140,000	May. 1879 15															
Exchequer, G. S.	Nev.	400	10,000,000	100,000	100	530,000	Mar.. 1880 0 50															
Gold Placer, G.	Col.		5,000,000	200,000	25				May 1877	32c	31c	33c	32c	36c	33c	38c	35c	38c	36c	45c	39c	76,400
Goodshaw	Cal.		10,000,000	100,000	100	80,000	Dec. 1879 0 25			40c		39c	38c	38c	37c			38c	37c	37c		2,900
Granville, G.	N. C.	1,231 acs.	300,000	300,000	1	*				39c	35c	38c	36c	36c	35c	37c	36c	36c	35c	37c	35c	29,000
Hussey	Nev.	4,500	10,000,000	100,000	100	125,000	Aug. 1879 0 15															
Julia, G. S.	Nev.	3,000	11,000,000	110,000	100	1,130,500	Dec.. 1879 1 00															
Justice, G. S.	Nev.	2,000	10,500,000	105,000	100	3,079,000	Dec.. 1879 0 50															
King's Mountain, G.	N. C.		1,200,000	120,000	10	*																
Kossuth	Nev.	2,700	10,700,000	108,000	100	421,200	Aug. 1877 0 15											25c				50
Lacrosse	Col.	3,900	1,000,000	100,000	10	*				50c		52c	49c	50c	49c	50c	49c	50c				10,600
Leviathan	Nev.	2,000	10,000,000	100,000		290,000	Aug. 1879 25					28c		30c		35c	30c	30c		30c		6,600
Lucerne	Col.	4,200	5,000,000	500,000	10	*				18		18c						18c		18c		2,000
Mariposa preferred.	Cal.	44,387	25,000,000	50,000	100	1,425,000	June 1877 1 00							5								160
" common	Cal.	acres.	10,000,000	100,000	100	1,425,000	June 1878 1 00			4¾	3.60	4		4.15	4	4	3.90			4		1,982
May Belle	Cal.		1,500 10,000,000	100,000	100	36,000	Jan. 1880 0 15					29c	27c									900
McClinton	Cal.	1,000		60,000		75,000	Oct.. 1879 0 25															
McCracken	Ariz	4,500	10,000,000	100,000	100	100,000	Sept. 1879 0 25															
Mexican, G. S.	Nev.	600	10,080,000	100,800	100	1,121,400	Feb.. 1880 2 00															
Mono	Cal.	750	5,000,000	50,000	100	123,000	Sept. 1879 0 50															
Navajo	Nev.	500	10,000,000	100,000	100	145,000	Feb.. 1879 0 20							32c								
New York	Nev.	1,000	10,000,000	100,000	100	865,000	Feb.. 1880 0 05															400
Nth. Standard	Cal.									2		2				1.95		2				800
Orig. Keystone	Nev.	1,500	10,000,000	100,000	100	125,000	July 1879 0 25															
Overman, G. S.	Nev.	1,200	3,840,000	38,400	100	3,481,030	Dec.. 1879 2 00															
Quicksilver preferred.	Cal.	8,500	4,291,300	42,913	100	*				66⅞		66	65½			65		65				900
" common.	Cal.	acres.	5,708,700	57,087	100	*				21¾		21⅝	21½	21	20½	21	20⅜	20¾				2,000
Rappahannock, G.	Va.	345 acres	250,000	250,000	1	*				37c	35c	37c	35c	37c	36c	39c	36c	38c	36c	39	36c	13,250
Seg. Belcher, G. S.	Nev.	160	640,000	6,400	100	244,800	Oct.. 1876 3 00															
Shamrock	Colo		10,000,000	100,000	100									1.15		1.20	1.15	1.20	1.15	1.15	1.10	1,800
Silver Hill, G. S.	Nev.	5,400	10,800,000	108,000	100	1,512,000	Jan.. 1880 0 50															
Silver Prize	Nev.	1,500	10,000,000	100,000	100	65,000	Mar 1879 0 25															
So. Bulwer	Cal.	1,500		100,000		95,000	Feb.. 1880 0 25															
So. Noonday	Cal.											1 10	1 00	2	1.85	2	1.90	2	1.90	2	1.85	4,950
South Hite G. M. Co.	Cal.		2,500,000	100,000	25					1.85		1.80		1.90	1.85	1.85	1.80	1.90	1.85	1.85		2,800
Sutro Tunnel	Nev.		20,000,000	2,000,000	10	*				2.40	2.15	2.40	2.20	2.75	2.40	3.15	2.35	3.35	2.90	3.05	2.70	33,000
Tiptop	Ariz		10,000,000	100,000	100	120,000	Apr. 1878 0 25			3⅜	3⅛	3½	3¼	3⅜	3¼	3¼	2⅞	3¼	3	3⅜	2⅞	33,100
Tioga	Cal.	1,500	10,000,000	100,000	100	155,000	Dec. 1879 0 20			3.30		4	3.90	4.05		4				4		550
Trio	Col.	1,250	150,000	150,000	1							3.50	3.35	3.50	3.45	3.20				3.15	3	2,750
Trojan	Nev.	1,500	10,000,000	100,000	100	290,000	Jan.. 1880 0 25															
Tuscarora	Nev.		10,000,000	100,000	100	35,000	Mar. 1880 0 15			19c		18c		19c	18c	18c		19c	18c	21c	19c	21,600
Union Cons. G. S.	Nev.		10,000,000	100,000	100	860,000	July. 1879 2 00															
Utah	Nev.	1,000	2,000,000	20,000	100	1,140,000	Jan.. 1880 2 00															
Ward	Nev.	1,200	11,000,000	110,000	100	143,000	Jan.. 1880 0 40															
Wells Fargo	Nev	1 500	10,000,000	108,000	100	253,800	Dec. 1879 0 10															

G. Gold. S. Silver. L. Lead. C. Copper. * Non-Assessable. † Assessment paid. ‡ Ex dividend.

Total Assessments levied to date.....

Total Dividends paid to date.....

Total Shares sold during the week.....

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

NAME OF COMPANY	CLOSING QUOTATIONS. Feb. 6.	Feb. 7.	Feb. 9.	Feb. 10.	Feb. 11.	Feb. 12.	Opening. Feb. 13.
Alpha	9¼	9½	9⅛	9	9	9	9
Alta	5	4½	4⅝	4½	4⅝	4¼	4
Argenta	1	1¼	1⅛	1⅛	1	1	
Bechtel	2⅛	2	2	2		2	2
Belcher	10⅝	11⅝	11¼	10⅝	11¾	11½	11½
Belle Isle	13-16	27-32	1¼	1⅛	1	1	
Belvidere	¼	1	1⅛	1⅛	1¼	1¼	
Best & Bel	10¾	10⅛	10⅛	9⅞	9¾	9¼	9¾
BlackHawk	29-32	29-32	29-32	11-16	27-32	13-16	
Bodie	10½	10¼	10	10	9¾	9	9
Boston Con.	1½	1⅜	1⅜	1¼	1½	1⅜	1.60
Bullion	4⅜	4¾	4¾	4⅜	4⅝	4⅜	
Bulwer	10½	10¼	10¼		9¾	9¼	9¼
Caledonia	1⅛	1⅛	1⅛	1	1	1	
Cal., B. H	3	3	3½	3½			
California	3½	3⅝	3⅞	3¾	3⅝	3¾	3¾
Chollar	7⅜	7⅞	7⅞	7¼	6⅞	6¼	6⅛
Con. Imp							
Con. Pacific	4	4	4	4	4¼	4	4
Con. Va	3½	3⅝	3⅞	3¾	3½	3⅝	3⅝
Crown P'int	4⅝	5⅛	4⅞	4⅜	4¾	4⅜	4¾
Dudley	9-16	½	½	½	½	½	
Eureka Con	16½			16½	16½	16½	
Exchequer	3¼	3	3	2⅝	2¾	2½	3
Goodshaw	13-32	13-32		13-32	7-16	13-32	
Gould & Cur	5⅞	6	6	5½	5¾	5½	5½
Grand Prize	1¼	1⅜	1⅜	1¼	1¼	1¼	
Hale & Nor.	6⅛	6⅜	6⅜	6	6⅜	5½	5½
Hillside	19-32	1	1		11-16	1	
Indep'd'nce	1	29-32	15-16	15-16	13-16	1	1
Jackson	3			2	3		
Julia Con	2	2	2	1¾	1¾	1½	1½
Justice	2¾	2¼	2⅛	2⅛	2	1½	1⅞
Kentuck							
Lady Wash	1	21-32	15-18	1	13-16	13-16	
Leeds	13-32	13-32	13-32	13-32	13-32		
Leopard		5-32		3-16	3-16	¼	
Leviathan	11-32	5-16	⅝	5-16	5-16	5-16	
Mammoth	3	3	3	2½	2½	2½	2½
Manhattan	1⅝	1⅝			1¾	1¾	
May Belle	51	¼	¼	¼			
Mar. White	1		29-32	29-32	13-16	13-16	
McClinton	19-32	½	9-16	½	13-32	½	
Mexican	15½	15¼	14½	16¾	17⅛	16¾	16¾
Mono	9	8¾	8⅞		8¼	8	
Navajo			13-32	5-16		11-32	
North. Belle	13⅞	13¼	14¾	15	16¾	17⅛	
N. Bonanza	9-16	9-16	9-16		9-16		
N. Standard							2.05
Noonday	4	4	4	4¼	4¼	4	
Ophir	16⅞	17⅛	16½	16½	16½	16¾	18⅞
Orig. K'ys'e							
Overman	7⅜	7⅜	7⅛	6⅞	6⅞	6¾	
Potosi	4½	4¼	4¾	4¼	4¼	4⅛	4⅛
Ray. & Ely		29-32		¼	11-16	¾	
R. de Monte	1½	1⅜	1½	1⅜	1⅜	1⅜	
Savage	6¼	6	6¼	5¾	6⅛	5¾	5¾
Scorpion							
Seg. Belcher							
Sierra Nev.	21¼	23¾	22	20⅞	23	20½	20½
Silver Hill	1½	1½	1⅜	1⅞	1⅜	1¼	1¼
Silver King			6¾		7	7½	
So. Bulwer	2	1¾	1⅝	1½	1⅝	1⅝	
Summit							
Syndicate	1¾	1⅝	1¾	1⅝	1¾	1⅝	
Tioga	3⅛	3⅛	3¼	3⅛	3	3	
Tip Top	4	4⅛	4¼	4⅛	4¼		4
Trojan			5½		¼	4	
Tuscarora					5-32		
Union Con.	36	36½	35¾	34¾	36	34½	34½
Utah							13
Wales	3		3½	3	3	3	
Yel. Jacket	9⅝	10	9⅝	9⅝	9⅝	9	9

and placing immense plants of powerful machinery is going forward with an energy, faith, and courage, which, if in the end it does not prove profitable, certainly demonstrates a spirit of enterprise never before attempted on an equal scale.

Belcher opens at $11¼. This stock has been pretty te ady during the week, the price having advanced $1 per share from that reported a week ago. The secretary's report of this company's operations for the year ending December 31st, 1879, shows a total of $546,-554 as receipts for the year, $416,000 of this being derived from four assessments. The local press speaks very encouragingly of this company's prospects. We note recent sales of Belmont, on the San Francisco market, at 70c. per share. This stock has been sparingly dealt in. A recent letter from this mine states that the concentrating mill is running very nicely, and that a large amount of low-grade ore has been found in the 300 level. Mono closed yesterday at $8, against $9¼ as recorded a week ago. It is stated that rich ore has been discovered between this mine and Noonday. The exact location of the discovery is not given. Noonday has been very steady during the week, closing at $4. It is stated that the 30-stamp mill of this company and the North Noonday is doing good work, the ore yielding about $25 per ton. The cost of milling, etc., varies from $8 to $10. Two new levels are being opened by these companies, at a depth of 412 and 512 feet respectively.

Raymond & Ely, according to the report of the sec. retary, showed total receipts, during 1879, amounting to $367,657. The disbursements were $365,564, leaving $2073 on hand. This stock is weak, closing yesterday at 75c. per share. Recent letters from the superintendents of the South Bulwer and South Noonday mining companies are very favorable. There is no particular feature to observe in the prices of either of these stocks. Sierra Nevada opened to day at $20½, a decline of $1 from our last. It is said that the winze from the 2400 level, 145 feet north of the incline, has encountered good milling ore. This ore is reported to be a different formation from any thing ever before found in the mine. The Mariposa mill is crushing ore from this mine, which is said to be yielding well. Yellow Jacket shows an inclination to weakness, opening to-day at $9 against $9⅝, as recorded a week ago. The vertical shaft of this mine is now down 2863 feet, and it is proposed to carry it at least to the depth of 3500 feet, which would make it the longest vertical shaft in the world. It is said that no paying ore is found below the 1028 foot level. The stopes of the Union Consolidated continue to yield the usual quantity of milling ore which is being found in the drift south and east on the 2400 level. This stock, in sympathy with the market, or the market in sympathy with it is lower, opening to-day at $34½, against $36¼, as recorded in our last. Ophir shows an exceptional advance, opening at 18⅞, which is decidedly the best price of the week. Recent letters from this mine are favorable. Excavations on the north and south line on the Hardy vein, along the 2200 level, are in good ore. In the same vein, on the 2100 level, stopes have been opened for extraction of ore. It is said, however, that no dividend need be expected from this company this month, owing to the distri- bution of the surplus in previous dividends. The drift north of the 2300 level, in the Sierra Nevada mine, has, it is stated, encountered good milling ore.

The San Francisco *Commercial Herald* of Feb ruary 5th says:

"The City of Panama for New York via Panama, carried 960 bars New Coso bullion, 80,000 lbs., valued at $14,000; 30 bars O. S. & L. Co., 2652 lbs., valued at $300; 2374 bars Richmond Lead, 330,000 lbs., valued at $21,450; 534 bars German lead, 43,100 lbs., valued at $2000; 227 bbls. copper, 48 tons, valued at $10,000; for Liverpool, 32 tons copper material, valued at $500."

The Assessment Record.—The following list is published, showing the lastest assessments, with the date of their delinquency and day of sale. Under California law, stock can be redeemed up to date of sale.

Company and Location.	No.	Am't.	Levied.	Delinquent.	Sale.
Alta, Nev	16	50	Dec. 18	Jan. 22	Feb. 10
Andes, Nev	13	25	Dec. 18	Jan. 23	Feb. 16
Belle Isle, Nev	1	30	Jan. 27	Mar. 3	Mar. 25
Belvidere, Cal	5	25	Dec. 18	Jan. 27	Feb. 21
Booker Con., Cal	4	20	Dec. 30	Feb. 4	Feb. 24
Bullion, Nev	13	50	Jan. 26	Feb. 28	Mar. 17
Caledonia, B. H	5	50	Dec. 18	Jan. 27	Feb. 12
Champion, Cal	5	20	Dec. 24	Jan. 30	Feb. 20
Crown Point, Nev	40	50	Jan. 15	Feb. 19	Mar. 11
El Tesoro, Cal	8	25	Dec. 15	Feb. 28	Mar. 20
Europa, Nev	8	10	Dec. 30	Feb. 3	Mar. 6
Exchequer, Nev	15	50	Jan. 13	Feb. 17	Mar. 9
Gila, Nev	6	25	Jan. 15	Feb. 7	Mar. 9
Gould & Curry, Nev	37	1.00	Jan. 6	Feb. 11	Mar. 4
Hale & Norcross, Nev	63	1.00	Jan. 14	Feb. 19	Mar. 11
Independence, Nev	5	30	Jan. 13	Feb. 17	Mar. 9
Iowa, Nev	8	10	Jan. 21	Feb. 23	Mar. 11
Lady Bryan, Nev	4	50	Dec. 27	Jan. 30	Feb. 28
Lady Washingt'n, Nev	1	20	Dec. 22	Jan. 26	Feb. 14
Mammoth, Cal	3	1.00	Dec. 5	Jan. 15	Feb. 13
Mackey, Nev	2	15	Jan. 3	Feb. 7	Feb. 26
Mexican, Nev	10	2.00	Jan. 10	Feb. 13	Mar. 4
Mono, Cal	6	50	Dec. 22	Jan. 26	Feb. 16
Mountain View, Nev	1	25	Dec. 31	Feb. 10	Feb. 28
New York, Nev	21	5	Jan. 26	Feb. 28	Mar. 20
Orig'l Gold Hill, Nev	8	15	Dec. 20	Jan. 26	Feb. 14
Scorpion, Nev	6	25	Jan. 6	Feb. 10	Mar. 2
Senator, Nev	1	10	Dec. 22	Jan. 24	Feb. 21
Sierra Nevada, Nev	61	3.00	Jan. 6	Feb. 11	Mar. 3
Silver Hill, Nev	9	50	Jan. 2	Feb. 5	Feb. 26
South Bodie, Cal	2	10	Jan. 16	Feb. 18	Mar. 10
South Bulwer, Cal	6	25	Jan. 20	Feb. 24	Mar. 17
South Utah, Nev	4	10	Dec. 22	Jan. 24	Feb. 13
Trojan, Nev	12	25	Dec. 23	Jan. 26	Feb. 16
Yellow Jacket, Nev	35	1.00	Dec. 19	Jan. 23	Feb. 23
Etna, Arizona	1	5	Dec. 23	Jan. 29	Feb. 18
Albion, Nev	1	10	Jan. 15	Feb. 27	Mar. 26
Atlanta, Utah	1	5	Dec. 23	Jan. 29	Feb. 18
Black Rock, Cal	1	3	Dec. 16	Jan. 20	Feb. 24
Butte Hydraulic, Cal	4	15	Dec. 31	Feb. 5	Feb. 25
Giant & Old Abe, Dak	3	50	Nov. 21	Dec. 31	Feb. 10
Gover, Cal	40	10	Dec. 24	Feb. 2	Mar. 1
Headlight, Cal	1	15	Dec. 4	Jan. 17	Feb. 12
Ivanpah, Cal	1	10	Jan. 19	Feb. 23	Mar. 11
Jupiter, Cal	7	40	Jan. 23	Feb. 23	Mar. 19
Lady Emma, Cal	1	10	Jan. 13	Feb. 20	Mar. 20
Leeds, Utah	1	10	Jan. 17	Mar. 3	Mar. 31
May Belle, Cal	4	5	Dec. 13	Jan. 19	Feb. 10
Mayflower Gray, Cal	7	10	Jan. 19	Feb. 23	Mar. 16
Monte Christo, Cal	2	10	Dec. 22	Jan. 26	Feb. 20
Phœnix, Arizona	22	30	Jan. 19	Feb. 20	Mar. 26
Rocky Point, Cal	2	10	Jan. 14	Feb. 20	Mar. 11
Star, Cal	3	10	Dec. 10	Jan. 15	Feb. 10
Tuscarora, Nev	5	15	Jan. 24	Mar. 1	Mar. 22
Belle Isle, Nev	1	30	Jan. 27	Mar. 3	Mar. 25
Belcher, Nev	21	1.00	Jan. 29	Mar. 3	Mar. 25
Phœnix, Nev	22	30	Jan. 19	Feb. 20	Mar. 26
Western, Arizona	2	1.00	Jan. 28	Mar. 4	Mar. 30

THE PHILADELPHIA MINING EXCHANGE.

From the initial number of the *Bullion Miner* of February 7th, published at 1220 and 1224 Samson street, Philadelphia, we take the official directory of the Philadelphia Mining and Stock Exchange, as follows:

President, William M. Capp; First Vice-President, Ed. H. Green; Second Vice-President, Fred. Schuellermann; Treasurer, Samuel W. Powell; Secretary, George A. Q. Miller; Clerk, George W. Powell.

Governing Committee—Samuel W. Powell, William N. Viguers, Charles Kane, Fred. Schuellermann, Lawrence Emig, Charles Gladding.

Standing Committee—Samuel M. Capp, William Davis, Sparta Fritz, William Wilson, Samuel Gladding.

As an evidence of the interest being taken in mining investments in the Quaker City, we append the official record of the transactions for the 12th inst., as under:

BEFORE BOARDS.

Iowa Gulch:
3200, lots $0.65

FIRST BOARD.

Argent:
200 ..... 1.60
500, b15 ..... 1.65
100, s10 ..... 1.60
100, s3 ..... 1.60
Bechtel:
100 ..... 2.00
Belle Isle:
500 95
Bodie:
5 ..... 13.00
Cons. Imperial:
300 65
Cons. Virginia:
15 ..... 3.90
Findley:
900 65
Independence:
100 ..... 1.15
100 ..... 1.20
Martin White:
200 95
South Hite:
100, s3wn 3.05
Sutro Tunnel:
100 ..... 3.15

SECOND BOARD.

Iowa Gulch:
4000, lots 65
100 70
Argent:
79 ..... 1.65
100, s3wn 1.60
Cons. Imperial:
200 65
100 66
Tip Top:
100 ..... 4.10
Tioga:
100 ..... 3.30
Moose:
100 ..... 2.10
Hukill:
600, lots 4.25
Bechtel:
100 ..... 2.10
Belle Isle:
100 97
California:
100 ..... 3.65
Cons. Pacific:
200 ..... 4.30
Findley:
2000 66
Independence:
100, s3wn 1.15
Leadville:
200 ..... 3.90
Martin White:
200 92
Shamrock:
200 ..... 1.15
Gold Placer:
100 38
Sutro Tunnel:
200, s3 ..... 3.12½
Navajo:
100 35
Tombstone:
100, s30 ..... 3.20
100 ..... 3.10
200, s30 ..... 3.00
100, s60 ..... 3.00

The Chicago *Times*, of the 10th inst., says that speculation in mining stocks is evidently gaining a strong foothold in that city, as the sales of the five mines now "listed" on the Chicago Mining Board reached 22,100 shares on the preceding day.

Copper and Silver Stocks.

Reported by C. H. Smith, Commission Stock Broker No. 15 Congress street, Room 3.

BOSTON, Feb. 12.

The market for copper stocks has been very active the past week, and the transactions are daily assuming large proportions. The most active stock is Copper Falls, which advanced rapidly after the assessment of $3 per share was announced, to 11⅝, and has since sold up to 19 regular, and 19¼, buyer 30. This seemed to be the culminating point, and the pressure to sell was too great, resulting in a break-down to $15 yesterday, rallying, however, to-day to 15¾, at which it closed. Sales aggregate about 13,000 shares.

Calumet & Hecla, dull but steady, at 244½@246; closing, 242 bid, 243 asked.

In Central not much doing and but little stock offered; sales at 46½@47½, closing at 47 bid, 50 asked.

Franklin continues to be a favorite, and has persistently advanced, notwithstanding the efforts made to keep it down; the lowest price for the week was at the opening on the 6th, one sale of 50 shares only at 44, and to-day reached 48½, the highest yet, closing at 48½ bid; none offered. Sales about 5000 shares.

Osceola firm at 46@47½, highest and lowest, closing at 45½ bid, 47 asked.

Quincy has also partaken of the rise in the market, and has advanced from 42 to 44¼ on sales of about 2500 shares, closing at 42¼ bid, 43 asked.

Pewabic opened at 64, advanced to 69½ on the 9th, declined to 66½ on the 10th, but is stronger to-day at 68¼, closing 67 bid, 68 asked.

Ridge also shows considerable strength with good buyers; the market opened at 9, advanced to 9⅞, closing 9¾ bid.

Atlantic was dull and heavy in the early dealings at 23, but has since rallied, and is in good demand at 28, closing 27 bid.

Phœnix steady at 14@15 as the extreme prices, closing 14@14¼.

Allouez has again been placed on the Stock Exchange list, and sold at 28 on the 6th, declined to 23 yesterday, but sales are reported at 25 to-day, closing 25 asked.

Blue Hill is dull and seems to have lost its vim. Sales 7⅝@8, closing 7⅝ bid, 7¾ asked.

Huron was placed on the list this week at 10, and has advanced under strong buying to 13, with sales of over 13,000 shares, closing 12½@12¾.

Bunswick Antimony has been active, with large transactions and fluctuations. The opening price was 12½, advanced to 14¾, declined yesterday, on the pressure to make sales, to 12¾, but quickly rallied again to 14¾ at the same session. Sales to-day at 14½, closing 13⅞ bid, 14 asked.

National sold up to 7 highest, closing 6 bid.

Mesnard, sales 4@4⅛.

Of the non-producing mines the most active is Star, which was very dull in the early part of the week at $2; but large orders coming in yesterday and to-day, the stock advanced to 4¼, closing a little lower—at 3⅞ bid, 4 asked.

Madison, sold at 3½@3¼ bid.

Minnesota, sales 7.

Manhattan, sales 25@50c.

Humboldt, sales 1½@1⅝.

Washington, sales 62½@87½c.

Winthrop, sales 1@1⅛.

Pontiac, sales, 1@1¼.

Dana, sales 87½c.

Superior, sales 50c.

Silver stocks dull and inactive. We note sales Silver Islet 23@23½.

Duncan Silver, 4¼@4½.

Sullivan, at 12.

COAL STOCKS.

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.	Last Dividend. Y.	Last Dividend. R't.	Rate per Ann.	Feb. 7. H.	Feb. 7. L.	Feb. 9. H.	Feb. 9. L.	Feb. 10. H.	Feb. 10. L.	Feb. 11. H.	Feb. 11. L.	Feb. 12. H.	Feb. 12. L.	Feb. 13. H.	Feb. 13. L.	SALES.
	$		$				Per c'nt													
Am. Coal Co.	1,500,000	60,000	25	....	..	....	....	1.50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Atl. Coal Co..	.....	.....	10	....	..	....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	200
Buck Mt. Coal	.....	.....	50	....	..	....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ches. & O. RR	15,000,000	150,000	100	....	..	....	....	21⅞	21½	21⅞	21⅜	21⅞	21¾	22	21⅝	22½	22	22¼	22	6,775
Consol. Coal.	10,250,000	102,500	100	Jan.	77	2½	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cumb. C. & I.	500,000	5,000	100	....	..	....	....	65	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	100
Del. & H. C..	20,000,000	200,000	100	Aug	76	4	9	71⅜	74¾	74⅜	73⅝	73⅝	73	72¾	71¾	72⅝	70⅛	73⅛	72	14,466
D., L. & W. Rl.	26,250,000	524,000	50	July	76	2½	5	86⅛	83⅜	86	83¼	84⅜	83½	84¾	83¼	84¾	83½	85⅜	84¼	99,950
Lehigh C. & N	10,148,550	208,971	50	Sept	76	1½	5⅛	36⅛	35⅜	36⅞	36¼	36¼	.....	36½	36	36¼	36	36¾	36⅛	5,105
Leh. V'y R. R	27,228,855	540,858	50	Sept	79	1	4	52	.....	.....	.....	51⅛	51¼	51⅜	51⅛	52	51⅛	52	51⅞	2,752
Maryl'd Coal	4,400,000	44,000	100	Jan.	76	1½	1½	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Morris & Es'x	15,000,000	300,000	50	July	79	3½	7	†	.....	103⅛	103¼	103⅛	102½	103½	103	103½	.....	.....	.....	949
New Cen. C'l	5,000,000	50,000	100	Jan.	79	2	...	26	2⅛	21½	21	27⅛	25	26⅛	24	30	26¼	31	30	8,690
N. J. C. R. R.	20,000,000	200,000	100	Apr	79	2½	2½	82	81⅜	81¾	80¼	81¼	80½	82½	80½	82½	81½	83⅜	82¼	60,394
Penn. Coal..	5,000,000	100,000	50	Oct.	79	3	....	195	.....	200	195	195	.....	.....	.....	.....	.....	.....	.....	212
Penn. R. R...	68,870,200	1,337,404	50	Nov.	79	2½	10	53⅜	52¼	52½	52¼	52¼	52⅛	52⅛	51⅞	52½	52	52¼	52	25,738
Ph. & R. R.R*	34,278,175	685,563	50	Jan	76	2½	10	67½	.....	67¼	66½	66¼	65¾	65¾	64	65½	64⅞	66¼	65	70,125
S. Clara M'g	.....	.....	100	....	..	....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Spring Mt. C'l	1,500,000	30,000	50	Dec.	79	3½	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Spruce H. C'l	.....	.....	..	....	..	....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

*Of the sales of this stock, 52,925 shares were sold at the Philadelphia Stock Exchange, and 17,200 at the New York Stock Exchange.

† 103½.

Total Sales..... 295,406.

BOSTON MINING STOCKS.

NAME OF COMPANY.		Feb. 6. H.	Feb. 6. L.	Feb. 7. H.	Feb. 7. L.	Feb. 9. H.	Feb. 9. L.	Feb. 10. H.	Feb. 10. L.	Feb. 11. H.	Feb. 11. L.	Feb. 12. H.	Feb. 12. L.	SALES. Shares.
Allouez, c.....	Mich.	.....	.....	27	26	26	.....	26	25	23	.....	25	.....	1,758
Atlantic, c.....	Mich.	24	23	25	.....	26	25	27	25½	28	.....	28	... ..	2,414
Blue Hill, c.....	Me...	8	7⅞	8	7½	7¾	.....	.....	.....	.....	7¾	.....	7¾	1,230
Brunswick...	Me...	13	12½	14	13¾	14¾	14¼	14½	14	14¾	12¾	14½	.....	9,850
Calumet & Hecla, c.....	Mich.	245	.....	.....	.....	246	245½	244½	.....	.....	.....	.....	.....	134
Central, c.....	Mich.	.....	.....	.....	.....	.....	.....	47½	46½	.....	.....	.....	.....	217
Chrysolite	Colo..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Copper Falls, c.....	Mich.	12¾	11⅝	17	15	19¼	17½	17½	16	15½	15	15¾	15⅝	12,870
Copper Harbor, c	Mich.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dana, c.....	Mich.	.....	.....	.....	.....	.....	.....	87½c	.....	.....	.....	1	.....	500
Douglas, c.	Me...	.....	.....	.....	.....	6	.....	.....	.....	.....	.....	.....	.....	100
Duncan, s.....	Ont..	.....	.....	4¼	.....	4½	.....	.....	.....	.....	.....	4	.....	225
Franklin, c.....	Mich.	44½	44	45¼	44¾	46¾	46	46½	45¾	47¼	46	48½	47¾	5,291
Great Western.....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	100
Humboldt, c.....	Mich.	.....	.....	1⅝	1½	1½	.....	1½	.....	1½	.....	1⅝	.....	600
Hungarian, c.....	Mich.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Huron.....	....	.....	.....	10	.....	12	11	13⅛	12½	13⅛	12¾	13	12¾	15,315
International, s.....	Ont..	55c.	.....	.....	.....	50c.	.....	.....	.....	.....	.....	.....	.....	300
Manhattan, c.....	Mich.	25c.	.....	.....	.....	50c.	.....	.....	.....	.....	.....	.....	.....	200
Mesnard, c.....	Mich.	.....	.....	.....	.....	4⅜	4	4⅜	4¼	4⅜	4¼	4¼	.....	4,075
Minnesota, c.....	Mich.	.....	.....	.....	.....	7	.....	.....	.....	.....	.....	7	.....	300
National, c.....	Mich.	.....	.....	6½	6	7	6¼	6¾	6½	6	.....	6⅛	.....	4,910
Orford.....		.....	.....	.....	.....	9¼	.....	.....	.....	.....	.....	.....	.....	100
Osceola, c.....	Mich.	46	.....	46⅜	46	47½	47¼	47	.....	47	.....	.....	.....	954
Pewabic, c.....	Mich.	66	64	66½	65¾	69½	69	67	66½	67	.....	68¼	67	1,331
Phœnix, c	Mich.	.....	.....	14¼	14	15	14¾	14½	.....	14½	14¼	.....	.....	1,570
Pontiac, c.....	Mich.	.....	.....	.....	.....	1	.....	.....	.....	*	1	1¼	*	2,615
Ridge, c.....	Mich.	.....	.....	.....	.....	9¼	9	9½	9⅛	9¾	9½	9⅞	9⅝	5,315
Rockland, c.....	Mich.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Quincy, c.....	Mich.	42	.....	42¾	42	43	42½	44	42½	44½	.....	44½	43	3,211
Silver Islet, s....	Mich.	23	.....	.....	.....	23½	.....	23½	.....	23½	.....	23½	23	175
So. Hite, c.....	Cal..	.....	.....	.....	.....	2¼	.....	2¾	.....	3	2⅞	,3	2⅞	1,050
Star, c.....	Mich.	2	... ..	2	.....	2¼	2⅛	2⅞	2½	3¼	2⅞	4¼	3¼	16,100
Sullivan, s.....	Me..	12	.....	.....	.....	.....	.....	3⅜	.....	.....	.....	.....	.....	350
Superior, c...	Mich.	.....	.....	.....	.....	.....	.....	50c.	.....	.....	.....	.....	.....	200
Sutro Tunnel.....	Nev..	.....	.....	.....	.....	.....	.....	3⅜	.....	.....	.....	.....	.....	50
Union.....		.....	.....	4¼	4⅛	4	.....	.....	.....	.....	.....	4⅛	.....	1,000
Washington, c.....	Mich.	.....	.....	62½c.	.....	75c.	.....	87½c	75c.	.....	.....	75c.	.....	1,550
W. Minnesota.....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Winthrop, c.....	Mich.	.....	.....	.....	.....	1	.....	1⅛	1	1	... ..	1⅛	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

c. Copper. s. Silver. * 1 1-16

Coal Stocks.

NEW YORK, Friday Evening, Feb. 13.

The transactions in coal stocks this week show increased sales as compared with those of the previous week, and prices have slightly declined.

The Philadelphia market has been unsettled and irregular, with increased sales.

Delaware & Hudson has been dealt in to the amount of 14,466 shares, at prices fluctuating between 74⅞ and 70⅛.

Delaware, Lackawana & Western shows sales of 99,950 shares at 86⅛@83¼.

In Philadelphia & Reading, the transactions have amounted to 70,125 shares, nearly double those of the preceding week, 52,925 of which were sold on the Philadelphia market; the prices have ranged from 67½ to 64.

New Jersey Central records sales of 60,394 shares at prices ranging from 80¼ to 83¾.

Pennsylvania Railroad shows sales of only 25,738 shares at 52⅝@51⅞.

The annual meeting of the Spring Hill Mining Company, of Nova Scotia, was held on the 27th ult. The report stated the out-put of coal during 1879 at 90,107 tons. Five per cent was declared upon the capital stock A shares, the only portion at present entitled to dividend.

Gas Stocks.

NEW YORK, Friday Evening, Feb. 13.

In gas stocks, the market has been strong, and prices show considerable advance, as compared with last week's figures. On Saturday last, the Municipal Gas-Light Company purchased from the Knickerbocker Gas Company all of the latter's gas-works, its rights, franchises, etc. The price paid was not made public, but it is believed to be about $1,000,000. The Knickbocker Company was an outgrowth of the old Union Company, which was sold under a foreclosure of mortgage, six or seven years ago, after beginning the building of works at Second avenue and East Ninety-ninth street. In 1878, certain capitalists took hold of the Kickerbocker, and the work of laying mains, etc., was pushed with great rapidity. At present, the company has 65 miles of pipe laid, and works with a capacity of 2,000,000 cubic feet of gas. The price of the stock of the Municipal advanced 15 per cent last week. The directors of this company have called a meeting of the stockholders, to be held on the 26th inst., to consider the proposition to increase the capital stock from $2,000,000 to $3,000,000.

In Brooklyn, the several gas companies offered to light the streets in their separate districts at the following rates: Brooklyn, $20 a year; Williamsburg, $23; Citizens', Peoples', Nassau, and Metropolitan, $24 each. A bid was also put in by the Automatic Gas-Lamp and Lighting Company, of New York, which offered to light all the street lamps in the city for $19 a lamp, or 1000 lamps for $20 each. The bids of the gas companies were accepted.

The following list of companies in New York and vicinity is corrected weekly by GEORGE H. PRENTISS, Broker and Dealer in Gas Stocks, No. 24 Broad street, New York.

COMPANIES IN NEW YORK AND VICINITY.	Capital Stock.	Par.	DIVIDENDS. Rate per ann.	DIVIDENDS. Am. of last.	DIVIDENDS. Date of last.	QUOTATI'NS Bid.	QUOTATI'NS As'd.
	$		P. ct.				
Mutual, N. Y....	5,000,000	$100	6	1½	July, '79	55	62
" Bonds...	900,000	1,000	6	3½	Feb., '80	100	104
N. York "	4,000,000	.....	8	4	May, '79	95	100
Metrop. "	2,500,000	100	10	3½	Feb., '80	117	121
" Certfs...	1,000,000	.....	7	3½	Feb., '80	99	100
Harlem "	1,850,000	50	6	3	Feb., '78	44	50
Manhat. "	4,000,000	50	....‡	5	June, '79	155	160
Brooklyn, Bkln.	2,000,000	50	15	5	Nov., '79	117	120
Nassau	1,000,000	25	....‡	2½	Jan., '80	50	55
" Certfs...	700,000	1,000	7	3½	Nov., '79	85	95
People's.....	1,000,000	10	....‡	3½	Jan., '76	25	30
" Certfs...	250,000	1,000	7	3½	Jan., '80	75	85
" Bonds....	375,000	.....	7	3½	Nov., '79	90	95
Metrop. "	1,000,000	100	5	2½	Jan., '80	55	60
W'msb'g "	1,000,000	50	8	1½	Feb., '80	65	75
" Certfs...	1,000,000	.....	7	3½	Jan., '80	90	100
Citizens'.....	1,200,000	20	....‡	2½	July, '79	50	55
" Bonds...	315,000	1,000	.....	3½	Oct., '79	100	103
J. C., N. J.....	750,000	20	10	7½	Jan., '79	145	155
Municipal, N. Y.	2,000,000	100	12	5	Jan., '80	155	165
" Bonds..	750,000	100	7	3½	Nov., '79	105	110
Fult'n M'nicipal.	1,500,000	100	.....	... ..	.....	85	95

Miscellaneous Stocks and Quotations.

Sales and quotations of the stocks and bonds dealt in at New York, Philadelphia, and Baltimore, for the week ending the 12th inst., are given in the following tables. The Philadelphia quotations will have a * affixed. The Baltimore quotations are indicated thus †.

STOCKS.	Par Value.	High'st	Lowest	Closing	Sales: Shares.
St.L., I.M.& S.R.Co..	100	59¾	56¾	59¾	‡82,281
*Cambria Iron Co..	50	.....	.....	.....	.....
*Penn. Salt Mf'g Co.	50	83	82½	83	119
*Schuyl. Nav. Co.pf	50	16⅛	16	16	415
*N. Central RW....	50	33⅛	32½	32½	210
*H.& B.T.Mt.RR.pf	50	12¼	10¼	12	2,487
" " " " com.	....	16¼	14¼	15¾	2,978
Northern Penn.RR.	50	52	§51¾	§51¾	296
†B.&O.RR.Co.1st pf	.....	115½	.....	.....	10
†B.&O.RR.Co.2d pf	100	106	105½	106	50
" " " " com	90	154	153¾	153¾	74

BONDS.	Princ'l. When Due.	Int'est. When Due.	Hig'st.	Lowest	Amount.
D., L. & W., 7s, conv	1882	J. & D.	.....	.....	.....
" " " " 2d 7s..	1907	M. & S.	.....	.....	.....
M. & E., 1st con., 7s.	1915	J. & D.	.....	.....	.....
" " " 2d 7s...	1891	F. & A.	112	.....	1,000
" " " 7s, 1871...	1901	A. & O.	.....	.....	.....
N.J.C., 1stmtge.new	1890	F. & A.	.....	.....	.....
" " " 1st mtge., con	1899	Q.	106½	105⅝	‡53,000
" " " convt. 7's ...	1902	M. & N.	106¾	106½	‡28,000
" " " Adimt bds...	1903	M. & N.	106¾	106	17,000
" " " Income.....	1908	M. & N.	86½	84⅞	18,000
L. & W.B., con....	1900	Q.	99¼	98	‡75,000
" " Income	1888	M. & N.	70	69¾	3,000
Am. Dock & Imp. 7s	1886	J. & J.	.....	.....	.....
St.L.I.M.& S..1st mt	1892	....	114	.....	1,000
" " " " " pf.inc.	...	.....	95	88½	451,000
" " " " " 2d, 7s	1897	F. & A.	104	102¾	245,000
" " " " " pf.inc.	.....	.....	81	72	2,541,000
St. L. & I., M. C. & F., 1st, 7s	1891	M. & N.	106½	106	21,000
St. L. & I. M. & Cairo, A. & T., 1st, 7's..	1897	J. & J.	102	.. ..	10,000
Ches.& O., 1st s'rs b	1908	J. & D.	67½	66	187,000
" " 6s, cr. int. df	1918	M. & N	42½	41	88,000
D & H C Co., 1stm.rg	1884	J. & J.	104½	104	10,000
" " " " " "	1891	J. & J.	107¾	107	15,000
" " " " " m.loan cp	1894	A. & O.	.....	.....	.....
" " " " " " rg.	1894	A. & O.	109½	.....	1,000
" " " " " new mge.	.....	.....	.....	.....	.....
" " " " " 1st Pa. div., 7s, coup.	1917	J. & D.	113¾	111¾	31,000
" " " " " 1st Pa.. div., 7s, rg	1917	M. & N.	114	.....	5,000
L.V.R., 1stm.6s.cp.	1898	M. & S.	.....	.....	.....
" " " " rg.	1898	J. & D.	.....	.....	.....
" " " 2d m. 7s, rg.	1910	J. & D.	125½	.....	4,000
" " " con.m.6s, rg	1823	M. & S.	113	.....	1,000
" " " " 6s cp.	1923	J. & D.	112½	.....	1,000
*Pa. RR., 1st m.6s, cp	1880	J. & D.	102	.....	2,000
" " g. m., 6s, cp.	1910	J. & J.	.....	.....	.....
" " " 6s, rg.	1910	J. & J.	117	....	6,000
" " con.m.6s, rg.	1905	A. & O.	111	.....	2,000
" " " 6s, cp.	1905	Q.	110¼	.....	1,000
" " new loan, 5s	.....	J. & D.	111½	111	4,200
*P.& R. R., 1st m.6s, R. C. 43-44.....	1880	J. & J.	.....	.....	.....
*P. & R. R., 1st m.6s, R. C. 48-49.....	1880	J. & J	.....	.....	.....
*P.&R.R.,gen6s,G C	1908	J. & J.	.....	.....	.....
" " " scrip....	1882	J. & J.	88½	87	4,220
" " " deb.ex-cp.	1893	.....	.....	.....	.....
" " " c.m.7s,cp.	1911	J. & D.	116	.....	1,000
" " " " 7s. rg.	1911	J. & D.	.....	.....	.....
" " " cvt. 7s, exc	1893	J. & J.	66	.....	1,000
*L.Nav.Co.,6s,rg.m.	1884	J. & Q.	107¼	106	14,157
" " RR., rg. m.	1897	F. & Q.	.....	.....	.....
" " cvt. Gold R.	1894	M. & S.	106	.....	3,000
" " m Gold R. C.	1897	J. & D.	105¼	104	18,500
" " con.m.7s,rg.	1911	J. & D.	102½	102¼	13,000
*P.& N.Y.C.,7s,R.C.	1896 1906	J. & D.	.....	.....	.....
*Pa Canal, 6s..	1910	J. & J.	80	.....	5,000
*Schuyl. Nav., 6s...	1882	.....	83	.....	1,000
Sus. Can. 6s, ex-cp.	1918	.....	53	.....	2,000
*Sus.Coal, 6s, c....	1911	J. & J.	.....	.....	.....
†Balt.&O. RR., 6s..	1880	J. & J.	.....	.....	.....
" " " " 6s..	1885	A. & O.	109	108½	2,500

‡ Assented. § Exdividend.

THE BULLION MARKET.

NEW YORK, Friday Evening, Feb. 13.

The market has declined under the award of an increased amount of India Council bills on Wednesday

of this week, at a decline of ⅛d. per rupee, as compared with the award of the previous week. We regard the market, however, as firm though very quiet, with limited transactions.

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

DATE.	London Pence.	N. Y. Cents.	DATE.	London Pence.	N. Y. Cents.
Feb. 7	52 9-16	113⅞	Feb. 11	52⅝	113⅝
Feb. 9	52 9-16	114	Feb. 12	52⅝	113⅝
Feb. 10	52⅛	113⅞	Feb. 13	52⅝	113⅝

BULLION SHIPMENTS.

We give below a statement showing the latest published bullion shipments, in addition to those announced in our issue of February 7th:

Jan.	5	Standard Consolidated	Cal.	$18,124
"	5	Bodie Consolidated	Cal.	13,255
"	12	Noonday	Cal.	8,000
"	19	Bodie Consolidated	Cal.	9,610
"	19	Noonday	Cal.	9,810
"	21	Ontario, 4 bars	Utah	3,300
"	21	Stormont, 4 bars	Utah	7,124
"	21	Germania, 4 bars	Utah	3,600
"	25	Star	Nev.	5,300
"	26	Standard Consolidated	Cal.	39,502
"	26	Corbin Mill, Lucky Cuss Mine, 1 bar	Ariz.	1,900
"	26	Noonday	Cal.	6,179
"	27	Belmont	Nev.	4,400
"	28	Northern Belle	Nev.	6,387
"	28	Paradise Valley	Nev.	3,913
"	29	Hillside	Nev.	5,200
"	30	'Frisco Smelter, 4 cars base bullion	Utah	8,240
"	30	Ontario, 6 bars	Utah	5,274
"	30	Eureka, passing bullion	Nev.	3,025
"	30	Germania, 3 bars	Utah	2,890
"	30	Horn Silver, 4 cars	Utah	8,240
"	31	Old Telegraph, 4 cars bullion; Chicago, 1 car; Germania, 3 bars	Utah	6,950
"	31	Gird & Corbin mills, 2 bars	Ariz.	3,418
"	31	Frisco Smelter, 4 cars bullion	Utah	9,646
"	31	Old Telegraph, 3 cars bullion; Germania 2; Morgan 1	Utah	21,650
"	31	Christy, 1 bar	Utah	2,064
"	31	Eureka, passing bullion	Nev.	6,379
"	31	Richmond	Nev.	19,063
"	31	Ophir	Nev.	14,558
"	31	Sierra Nevada	Nev.	15,545
"	31	Union Consolidated	Nev.	25,595
"	31	California	Nev.	57,454
"	31	Horn Silver, 4 cars bullion	Utah	9,646
"	31	Ontario, 12 bars	Utah	8,573
Feb.	1	Old Telegraph, 1 car bullion; Chicago, 1; Germania, 3 bars	Utah	6,900
"	1	Eureka, passing bullion	Nev.	5,047
"	1	Gird & Corbin's mills	Ariz.	3,198
"	2	Standard Consolidated	Cal.	21,043
"	2	Union Consolidated, on hand	Nev.	35,000
"	2	Bodie Consolidated	Cal.	7,786
"	2	Noonday	Cal.	6,498
"	2	Horn Silver, 3 cars	Utah	7,500
"	2	Ontario, 8 bars	Utah	6,928
"	2	Christy, 1 bar	Utah	1,727
"	2	Consolidated Virginia	Nev.	57,000
"	2	Ophir	Nev.	29,112
"	2	Rocky Mountain National Bank	Colo	5,200
"	2	Bidwell, Ivanpah, 2 bars	Cal.	3,600
"	3	Christy	Utah	7,867
"	3	Horn Silver, 2 cars	Utah	5,200
"	3	Ontario, 4 bars	Utah	3,820
"	3	Stormont, 4 bars	Utah	7,906
"	3	Germania, 4 bars	Utah	3,730
"	3	Central City banks	Colo	7,248
"	3	Christy, Silver Reef	Utah	7,867
"	3	Richmond, 6 bars	Nev.	12,111
"	4	Morgan, 2 cars bullion; Chicago, 2 cars; Toledo, 4 cars	Utah	13,550
"	4	Ontario, 4 bars	Utah	3,820
"	4	Germania, 4 bars	Utah	3,730
"	1 to 4	Eureka Consolidated, base bullion	Nev.	153,210 lbs.
"	4	Eureka, passing bullion	Nev.	$3,415
"	5	Old Telegraph, 2 cars; Morgan, 1 car; Germania, 4 bars	Utah	15,050
"	5	Ontario, 4 bars	Utah	3,793
"	5	Eureka, passing bullion	Nev.	2,400
"	5	Central City banks	Colo.	18,000
"	5	Chicago Smelter, 1 car; Morgan, 1; Germania, 4	Utah	7,300
"	5	Germania, 3 bars	Utah	2,850
"	5	Horn-Silver, 2 cars	Utah	7,500
"	5	Germania, 2 cars; Morgan, 1; Chicago, 1	Utah	7,500
"	6	Ontario, 6 bars	Utah	5,860
"	6	Christy, 1 bar	Utah	2,133
"	6	Old Telegraph, 5 cars; Germania, 3 bars; and gold bar, 100 ounces	Utah	15,350
"	6	Leeds, 4 bars	Utah	5,355
"	6	Eureka, passing bullion	Nev.	1,000

We compile the following from papers published at or in the vicinity of the localities named:

The following are the bullion shipments, so far as has been reported, from the Globe District, Pinal County, Arizona, during the month of January, 1880:

Messrs. Eaton & Bailey (for Stonewall Jackson)	$13,034.64
Messrs. Eaton & Bailey	3,097.15
" " Gold	66.10
E. F. Kellner	5,052.00
B. Weisl & Co	1,742.83
King mine	54,000.00
Total	$76,992.72

At Eureka during January, 1880, the Richmond shipped $139,080.23 in bullion, against $98,105.96 for January, 1879.

Passing bullion, valued at $71,437.18, passed through Wells, Fargo & Co.'s office, in Eureka, Nev., in January, against $76,210.22 for the same month last year.

The Union Consolidated began crushing ore about December 1st, 1879. The yield for the month was as follows: Gold, $144,965; silver, $132,318; total, $277,283.

Bullion for January to the amount of 1,011,515 pounds was shipped by the Eureka Consolidated, a daily average of 35,845 pounds.

The Eureka assessor's returns for the quarter ending December 31st show that from 37 mines 23,015 tons of ore were worked, from which $322,196.79 was extracted. The amount of tax collected was $4,882.18.

The Argenta shipped in January $45,906.75. The Young America, South, shipped $7500. The shipment from that camp will probably be as large next month.

Thirty sacks of ore were brought to Central City, Col., from the Pride of the Mountain mine, during the last week in January. The first-class yielded at the rate of $1849.50 per ton; second-class, $406.80; third-class, $235.90.

During the month of January, the Utah Central Railroad received at Salt Lake City 142,700 pounds of ore, and forwarded 1,989,043 pounds of bullion and 438,311 pounds of lead. The Utah Southern received 2,075,454 pounds of bullion, 2,201,676 pounds of ore, and 394,463 pounds of lead, and forwarded 317,916 pounds of ore and 204,731 pounds of bullion. The Utah Southern Extension received 231,683 pounds of bullion.

The Robert E. Lee mine, of Leadville, Colo., produced ore valued at $301,494 during last month, of which $130,775 was the yield of 344 tons, making an average of $380 per ton. The semi-monthly dividend of the mine for the latter half of January was $130,000.

The January bullion shipments for the mines mentioned below were as follows: Consolidated Virginia, $194,424; California, $162,268; Ophir, $60,666; and Union Consolidated, $115,717.

The mills of the Tough Nut and Lucky Cuss mines, at Tombstone, Arizona, are said to be producing and shipping daily one bar of bullion each, worth an average of $2000 each.

The annual report of the North Bloomfield Gravel Mining Company for 1879 shows that the receipts were $315,171, after deducting office expenses and water bill, and the face value of the bullion produced was $331,760. The year's profits amounted to $183,855. The mine has paid 15 dividends, aggregating $438,750, and levied 43 assessments, aggregating $1,545,000.

The bullion shipments from Tucson, Arizona, from January 6th to January 30th amounted to $45,000.

William Willis, the secretary, reports the January yield of the Standard Consolidated mine at $102,475.80, of which $94,333.10 was gold. He also reports the yields of the Northern Belle mine during the same month at $101,100.44, all in silver.

The bullion shipments from Silver Reef through Messrs. Wells, Fargo & Co., for the month of January, aggregated $84,456.

With the ninth dividend paid on the 2d inst., the total dividends of the Little Pittsburg to date aggregate $1,450,000.

One million tons of tailings will be worked near Gold Hill, Nevada, this summer. These are estimated to be worth $15 per ton.

Since the mill of the Father de Smet began crushing ore, in April, 42,000 tons have been worked, yielding $421,973, at a total cost of $129,360, and leaving a net profit of $292,613. The mill is, at present, running eighty stamps, which the company propose to double during the coming summer.

At Ouray and Silverton, in San Juan, Colo., there has been purchased during the year past $50,000 of the Upper San Miguel ores. It is estimated that ores valued at $500,000 remain on the dumps.

The Eureka *Leader* of February 5th, says: "Shipments from the Newark mine still continue. Some twenty tons of high-grade ore were the last assorted and sent in. The California mine is still yielding its usual quantities of ore, and there are now about twenty-five tons of first-class ore lying on the dump awaiting transportation to the furnaces."

Following is the reported production of the mines named for 1879:

Argenta	$85,193
Belle Isle	557,817
Endowment	20,848
Grand Prize	308,455
Independence	253,230
Leopard	40,064
Navajo	18,269

The following shipments where made by Eureka mines to the Richmond furnaces for the week ending February 4th: Dunderberg, 5 tons, 1977 pounds, assay value per ton, $87.90; Silver Lick, 44 tons, 1165 pounds, assay value, $33.77; 11 tons, 917 pounds, assay value, $108.85, and 14 tons, 278 pounds, assay value, $29; Bay State (Newark District), 5 tons, assay value, $78. About 700 tons were received from K. K. Consolidated, the assay values of which were not obtained.

The Foothill (Cal.) *Tidings* says: "The product of our principal mines for December, 1879, was lighter than usual, as follows: Idaho quartz, $29,600; Milton gravel, $21,500; North Bloomfield gravel, $30,000; Pittsburg quartz, $4300.

"The Bald Mountain Gravel Company, at Downieville, Cal., on January 24th, realized 399 ounces of gold. Average daily yield, about 300 ounces.

"Dividends for 1879 by mines in this section of California were: Excelsior gravel, seven, amounting to $147,000; Idaho quartz, twelve, $168,950; North Bloomfield gravel, one, $90,000; Plumas Eureka quartz, one, $60,900; Plumas National quartz, six, $54,000; Sierra Buttes quartz one, $46,900."

At Leadville, the smelters report for the first week in February, ending the 7th, as follows:

	Lbs.	Ozs.
Bullion produced	1,005,486	
Silver		189,451
Gold		21½
Value of silver		$214,492.93
" gold		430.00
" lead		59,223.00
" bars of bullion on hand, about		20,000.00

Receipts of Bullion and Specie at New York.—Following is an official statement of the reported receipts of bullion and specie at the port of New York on February 6th:

Vessel.	Description.	Amount.
Acapulco, Aspinwall:	Foreign silver	$137
	United States silver	231
Frisia, Havre:	United States gold	47,478
	Foreign gold	154,400
Emily, Belize:	United States gold	870
	United States silver	200
Total		$203,316

The *Transcript* says: "The Golden Smelting Works have shipped, since January 1st, bullion valued at $26,300, and copper matte, $4000, making a total of $30,300. These works are receiving two car-loads of ore per week from the famous Robert E. Lee mine, at Leadville.

"Since January 1st, the Valley works have shipped bullion amounting to $28,000; copper matte, $4500; total, $32,500."

WASHINGTON, Feb. 12.

The Treasury Department to-day purchased 350,000 ounces of silver for delivery at the Mints at New Orleans and Philadelphia.

Examining Mint Coinage.—PHILADELPHIA, Feb. 12.—The Assay Commissioners completed their work at the Mint to-day, and report that they assayed the gold and silver coins received from the several Mints, and found them in conformity with the law, and that the coinage of 1879 reflects credit on the Mints.

METALS.

NEW YORK, Friday Evening, Feb. 13.

The week under review has been a quiet one in all departments, yet prices have been well maintained, and the indications all favor a better condition of affairs at an early day.

Copper.—The business in this article has been small, yet prices are nevertheless better. We quote at 24¼@24⅝c. for Lake, and 23⅞@24c. for Baltimore. London prices are: Best Selected, £81; Chili Bars, £74. There have been several speculative spurts in this market, and certain contracts, which will expire next week, have something of an unsettling effect.

Tin.—There has been a good jobbing business, but no large sales are reported. It is rather difficult to express an opinion as to the early future of this article. On spot 23½c. is quoted for Straits, while for near arrivals 23¾c. is asked. London quotes £96 10s.@£97 for spot, and £97 10s. for futures. Singapore quotes $30.25, and Penang $29.75, with exchange at 3s. 10½d. The Billiton sale took place this week, and 63.15f. was received as an average price. This is equal to £98 in Holland. L. & F. is quoted at 23¼c., and Refined at 23¼@23½c.

Tin Plates.—The business in these has been small, and prices have declined about 25c. per box. The foreign market is very strong. We quote charcoal tins, third cross, Melyn grade, at $9.87½@$10, and Allaway grade at $9.75@$9.87½; charcoal ternes, Allaway grade, at $9; coke tins, B. V. grade, at $8.62½; and ternes at $8.50@$8.62½.

The *Astorian* has the following relative to the tin plate trade of the Pacific Coast:

Tin Plate en Route.—The following is a list of all vessels *en route* to the Pacific Coast, January 15th, 1880, part of which cargoes consist of tin plate:

Vessels.	Boxes.
Charles Cotesworth	5,624
Patterdale	6,405
Compadre	7,444
Golden Gate	8,441
Centaur	14,731
Springwood (estimated)	8,000
John Gambles	8,000
Margaret Heald, direct to Astoria	3,268
Via Isthmus and Cape Horn	5,000
Total	66,913

There were consumed on the Columbia River last year 43,000 boxes, and on the coast, for all purposes, 130,000 boxes. Comparing shipments at this time with the corresponding period of last year, we find that the reports show 30,000 boxes less on the way now than were reported last year.

Lead.—There has been a business of 300 to 500 tons, at 5·95@6c. The market is fairly strong at these figures. There is nothing to indicate that any great quantity will be sold at lower figures for months to come.

Spelter and Zinc.—Both are quiet; the former quoted at 6¾c., and the latter at 8¼@8½c.

Antimony.—This is quiet. We quote Cookson's at 23c.; Hallett's, 20c.; and Johnson & Mathys's, 19½c.

Quicksilver.—The San Francisco *Commercial Herald* of February 5th says:

"The market continues in a quiescent state, with a restricted demand. Price nominal at 40c. asked, 38c. offered."

The same authority, under date of January 15th, says: The exports by sea were:

	1878. Flasks.	1878. Value.	1879. Flasks.	1879. Value.
To—				
Mexico	10,812	$347,927	16,774	$309,268
New Zealand	174	5,610	71	2,127
China	20,445	703,988	36,696	1,073,663
Japan	690	22,702	777	22,802
Central America	102	3,305	105	2,985
Australia	422	13,843	980	31,077
British Columbia	30	990	14	471
South America	1,405	45,975	2,262	65,296
Java	....	.....	1	21
New York	200	6,350	500	13,196
Totals	34,280	$1,150,690	52,180	$1,520,856

In 1877, the exports were 46,280, and 1876, 41,140 flasks, while in 1874 they were but 6770 flasks.

The general impression has been that, owing to the increased production of quicksilver, the stock of the world was fast increasing, and we are free to say that we coincided with this opinion, until we carefully

studied the matter at the close of the year 1879, when we were astonished at the result arrived at. In our annual report of 1877, we gave the stock on hand, December 31st, 1877, at—

	Flasks.
Hong Kong	20,000
London	40,000
San Francisco	15,000
Scattering	5,000
Total	80,000

	Flasks.
The production of California for 1878, was	63,000
" " " " 1879, "	73,000
" " Almaden, Spain, " 1878, "	40,000
" " " " " 1879, "	40,000
" " Idria, Austria, " 1878, "	10,000
" " " " " 1879, "	10,000
Showing that with the stock of on hand, in the leading markets of the world, December 31st, 1877, we have to account for	80,000 316,000

On December 31st, 1879, the stocks were as follows:

	Flasks.	
In London	20,000	
In Hong Kong	12,000	
In San Francisco	5,000	
Scattering	13,000	
		50,000
Which deducted, leaves for the consumption of the world in two years		266,000

Or an annual consumption of 133,000 flasks. The consumption prior to 1876 was generally computed at about 80,000 flasks, in 1875, '76 and '77 at 100,000, 105,000 flasks, and now we show it to have been 133,000 flasks annually, for the past two years. The advance in London, since the first of the year, would lead us to suppose that holders there had discovered these facts, and well they may be astonished.

From the preceding remarks, giving the statistical position of the world's market at the close of 1879, and which can be relied upon as strictly correct and truthful, having obtained them from semi-official sources, it is plain to be seen that there is every evidence that a higher scale of prices is to rule in 1880 than those current the past year. The increased world's consumption more than keeps pace with the production, and this will certainly continue to be the case in California, to say the least, so long as prices rule below 50c. It is admitted that the consumption of the Bonanza mines upon the Pacific Slope has greatly fallen off the past two years: yet this has been more than made up by the increased consumptive demand in New York and other Atlantic cities, the same being used very extensively in the manufacture of new patent paints and other articles not necessary here to be enumerated. There is no question but that the very low prices ruling for mercury here and elsewhere have very greatly increased and stimulated the consumption of it in China and Japan in a variety of manufacturing interests that were hitherto impracticable by the reason of its high cost; and, once entered upon, it is difficult to give up its more general use. Our statistics, that are annexed, are so full and complete that further comment appears superfluous. We now proceed to give in brief the notable changes in price during 1879: In January, the range was 39@40c.; February, 39@37c.; March, 36@37½c. to 40@38c.; April, 37@37½c., closing at 36c.; May, 36c., throughout the month; June, 35@34c. to 33@33½c.; July, 33½@34¾c.; August, 35@37½c., at the close, 40@42½c.; September, 40@39c., closing at 37½c.; October, 36@34@42½@45@47½c., but closing at 40@42½c.; November, 40@42½@38@36@39c.; December, 39½@40@37@38c., closing at 40c. In January, an unexpected rise in London, from £6 10s. to £7 5s.@£7 10s., caused a corresponding advance here, holders in some cases asking 45@50c.; but, so far as we are advised at this writing, no important sales have yet been made over 40c. Prices at this date are, therefore, more or less nominal.

Owing to the prevailing low prices of this metal, it has been the policy of nearly all the California companies to make as little the past year as was practicable and not discontinue production altogether, it being desirable for the preservation of both the works and the mines that operations should not come to a stand-still, as both suffer more rapid deterioration under such condition of things than under active service. This being the case, there has been, of course, no profit in the business. Actual current expenses have been met, but hardly more. If a sharp line were drawn on the operations of the year, no loss would appear, and yet, if an estimate covering a series of such years were to be made, including wear and tear, cost of replacing and repairing machinery, etc., to say nothing of interest on original investments and depletion of the mines, a considerable loss would become apparent. Further attempts have been made the past year to restrict production to the wants of the trade, but without success, owing to want of coöperation on the part of a few impracticable companies, who refused to come into the proposed arrangement. For the first time in many years, it is the case, however, that the production of last year was not greatly, if at all, in excess of the consumption, to which is to be ascribed the present improvement in prices. Home stocks have run low, there being now but 4000 flasks on hand here against 12,000 at this time last year. The consumption of quicksilver on the Comstock lode stands at about 400 flasks per month, against some 2000 last year. The schooner Montana, for Mexican ports, carried 700 flasks, valued at $20,349, shipped by Thomas Pell & Co.; 210 flasks, valued at $7200, by Thannhauser & Co.; 20 flasks, valued at $590, by W. Loaiza; 6 flasks, valued at $175, by D. H. Templar; total, 976 flasks, valued at $28,384. Receipts for the week, 1308 flasks. The price at the close is altogether and entirely nominal, 45c. asked and 40c. offered. Holders not anxious to make sales at date.

IRON MARKET REVIEW.

NEW YORK, Friday Evening, Feb. 13.

American Pig.—This article has been very quiet, but exceedingly strong. The prospects of a scarcity of coke in and about Pittsburg, owing to a strike among the workmen in the Connellsville region, is having a beneficial effect on the market here, as it is thought that a number of the furnaces may have to bank up, and a demand will be made for anthracite iron.

The low price of foreign iron compared with American is, to an extent, reducing the demand for the latter. We quote No. 1 Foundry at $40; No. 2 Foundry at $38@$39; and Forge at $37@$38.

Scotch Pig.—Sales aggregating 3000 tons of Gartsherrie on private terms are reported. Prices are without change here, while abroad they have advanced. We quote Eglinton at $31.50@$32; Coltness, $34.50@$35; Gartsherrie, $33; and Glengarnock, $33@$33.50. The shipments advised are quite large.

Rails.—Sales of 8000 or 9000 tons of foreign steel at £9@£10, according as whether order was placed with speculators or mills, are reported. According to to-day's quotation, steel rails can be sold in this market at $82@$83. American steel rails are without business, and quite nominal in quotation. In iron rails we learn of nothing foreign; prices are £8 17s. 6d.@£9.

Messrs. John H. Austin & Co., of London, under date of January 29th, say: "The high prices demanded by makers for steel and iron rails have considerably checked business; but the works being fully engaged, there is no inclination shown at present to reduce quotations. We quote steel rails at £9 15s.@£10 15s., and iron rails at £9@£9 5s."

Old Rails.—These have been very quiet, although fairly firm. We quote T's at $42@$43 and D. H. $44.

Wrought Scrap.—Sales of about 1500 tons are reported. We quote from yard at $45@$46, and for shipments at $42@$43.

We publish the following letters received from our regular correspondents:

"BALTIMORE, Feb. 9.

"The iron market continues active, and prices are firm at quotations.

Balt. Char.	$58.00@$60.00	M. & White	$37.00@$38.00
Va. "	58.00@ 60.00	C'lC.B.Blooms	95.00@100.00
Anth. No. 1	41.00@ 42.00	" " Billets.	95.00@100.00
" " 2	40.00@ 41.00	Refi'd Blooms.	80.00@ 85.00
" " 3	39.00@ 40.00		

"R. C. HOFFMAN & Co."

"COLUMBUS, Feb. 11.

"The pig-iron market the past week has been very quiet. There seems to be no disposition on the part of furnacemen to make any concessions, as they are well sold up. The stocks of foundry irons in consumers' hands are light, and a brisk demand is looked for next month.

"We quote prices same as before.

"KING, GILBERT & WARNER."

"LOUISVILLE, Feb. 9.

"The market has shown a little dullness for the past two or three days, but is firm again, and shows indications of another advance.

"GEORGE H. HULL & Co."

"RICHMOND, Feb. 10.

"This market is rather unsettled, and hence difficult to quote. With the exception of old rails, there has been no positive decline.

"ASA SNYDER."

"ST. LOUIS, Feb. 7.

"There is nothing new to report in the condition of the pig-iron market. Considerable iron is selling, and prices are well maintained.

"Continue quotations of last week.

"CARD & HOFFER."

THE COAL TRADE REVIEW.

NEW YORK, Friday Evening, Feb. 13.

There has been a better business since the late cold period set in, and although dealers are doing a smaller trade under such weather as prevails now, yet the prices of domestic sizes are about 25c. per ton better than they were. The demand for furnace and manufacturing sizes still continues to be very strong, and prices are full being obtained.

It is said that stocks increased at tide-water about 300,000 tons for the month of January. This is a small amount, when the large production and the unusually mild weather are taken into consideration. There is so large a demand for furnace coal that the proportion of domestic sizes made is not nearly so great as it has been for a number of years past, and there will not be nearly the surplus of these sizes that many suppose. There may, however, be so much coal turned into lump and steamboat sizes as to more than meet the demand for those classes of coal; but as these are produced at less cost, and avoid the great waste consequent in crushing the coal, they can stand a reduction better than the prepared sizes.

Although, at the present time, the actual condition of affairs is in favor of the bears, yet we find a large amount of hopefulness expressed by the officers of the coal companies and the dealers, who say that stocks in second hands are pretty well reduced, and express the belief that the demand for all purposes, upon the opening of navigation, will be very large. There are some sores of long standing that are likely to prevent any thing like a united action to regulate trade, yet there is no indication of a repetition of the ruinous wars witnessed during the past few years. In fact, it is said that prices will not be permitted to fall back to the low level reached in 1879.

The production of anthracite coal last week was 301,712 tons, as compared with 422,314 tons for the previous week, and 379,899 tons for the corresponding week of 1879. The total production from January 1st to February 7th was 1,981,541 tons, as against 1,820,099 tons for the like period of last year, showing an increase this year of 161,442 tons.

The production for the week ended February 7th shows a large falling off as compared with the previous week, as well as compared with the corresponding week of last year. The reduction in the output is well distributed among the several districts. The total production so far this year is in excess of that for the like period at any time since 1875.

Our Philadelphia correspondent writes under date of February 12th, as follows:

"The trade for small sizes continues unable to take the amount produced, although the expectation of a stoppage in the Schuylkill region and probably in the Lehigh, from the 19th inst. inclusively to 1st of March, is almost certain,

FREIGHTS.

Coastwise Freights.

Per ton of 2240 lbs.

Representing the latest actual charters to Feb. 13th, 1880.

PORTS.	From Philadelphia.	From Baltimore.	From Elizabethport, Port Johnson, South Amboy, Hoboken and Weehawken.
Alexandria			
Annapolis			
Apponang			1.00
Baltimore			
Bangor			
Bath, Me		2.25	
Beverly			
Boston, Mass		2.25	1.40
Braintree			
Bridgeport, Conn.		1.85	
Burlington			
Cambridge, Mass.			
Cambridgeport			
Camden			
Charleston			
Charlestown			
Chelsea			
City Point			
Coosaw, S. C.			
Damariscotta			
E. Boston			
East Cambridge			
E.Gr'nwich, R. I.			
Fall River		1.75	80
Georgetown			
Hackensack			
Hartford		1.75	
Keyport			
Lambertville			
Lynn			
Marblehead			
Medford			
Millville			
Milton			
Mystic River			
New Bedford			90
Newburyport		2.40	
New Haven		1.75	
New London		1.75	
Newport			80
New York		1.65	
Norfolk, Va			
Norwich			
Norwalk, Conn		1.80	
Pawtucket			
Plymouth			
Portland		2.25	
Portsmouth, Va.		2.40	
Portsmouth, N.H.		2.25	
Providence		1.75	
Provincetown			
Quincy Point			
Richmond, Va.			
Rockland			
Rockport			
Roxbury			
Saco			
Sag Harbor			
Salem, Mass.		2.25	
Saugus			
Savannah			
Somerset			
Staten Island			
Trenton			
Troy			
Wareham			
Washington			
Weymouth			
Williamsbg, N.Y.			
Wilmington, Del.			
Wilmington, N.C.			

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

and the iron manufacturers are providing themselves for it, as well as the dealers.

"Vessels are more plenty, but orders for shipment not to be had; $1.75 and probably less can be secured for Boston."

Bituminous.

There has been a very fair business done in this class of coal, but prices look weak at the present time. The mining companies feel that they will be compelled to make considerable concessions to their men before long; and the indications are, that the demands in many cases will be so unreasonable as to make resistance necessary.

PITTSBURG, Feb. 12.

COAL.—Many of the mills and some of the retailers have their facilities for receiving their supplies of coal, connected with railroads, which is the reason why prices here go up when the miners strike who work in the mines that market their coal by rail. Coal can always be had from the mines along the river at the prices set down in our quotations; and the higher rates are owing to the cost of obtaining supplies where trade connections have to be improvised, as is the case with those who are cut off from the railroad sources by the stoppage of mining. This is a serious matter to all who depend upon frequent renewals, and lay in but small stores at a time—a practice that embraces a majority of consumers hereabouts.

Though coal can now be bought at 5 cents, loaded on the river craft, it is retailing at from 10 to 12 cents, for the reasons given above—the lack of connecting facilities for delivery and the interruption of the stream of railroad supplies. The river coal that can now be had at 5 cents is on board large boats, of which there are hundreds with their cargoes aboard afloat at the mines, that draw too much water to be navigated at the present low stage of the river. The only way to make it available is by flats which draw but little, and will transport 2000 or 3000 bushels. There is so much shoveling and handling by this process that coal brought into use in this way costs extra, from two to four cents a bushel.

Were retailers sufficiently stocked with cheap coal in the fall, buyers would be relieved from the exorbitant prices now prevailing—a circumstance especially aggravating, when they hear of Pittsburg coal selling 500 miles off, at Cincinnati, for less than they are compelled to pay here in sight of the mines. The Kanawha region is still closed under the ban of strikers—no concession having been made on either side after a profitless strife of several weeks. Our quotations stand as they were last week, sales having been made to meet demands, and the stocks of dealers not being beyond the prospective demand before more coal will be sent down.

PRICES AT PITTSBURG.

Wholesale, on board.	5	cts. per bushel,	$1.30 per ton
Retail, delivered. ...	7@8	" "	2.12 "

AT CINCINNATI.

Wholesale, on board.....	8	cts. per bushel,	$2.12 per ton
Retail, delivered.....	10	" "	2.65 "

AT LOUISVILLE.

Wholesale, on board.....	8	cts. per bushel,	$2.12 per ton
Retail, delivered.....	10	" "	2.65 "

AT NEW ORLEANS.

Wholesale, on board.....	30	cts. per barrel,	$2.90 per ton
Retail, delivered.....	50	" "	4.83 "

Bushels are rated among dealers here at 76 lbs.—26⅓ bushels make a ton, 2000 lbs., nearly.

The barrel that rules the coal measurement in New Orleans contains 2 4-7 bushels of 80 lbs. each, making about 200 lbs. Nine and two thirds of these barrels weigh a ton, within a small fraction.

COKE.—A general strike has taken place of the employés—miners and drawers—throughout the Connellsville District. The demand is for an advance in wages of 25 per cent—as this is on present pay, about $2.50 a day, it would amount to about $3. From the disposition shown by the operators, it is not probable they will concede the advance demanded, but will strive to supply the place of the discontents by others from the East, from Europe, or from wheresoever they may be found. This interruption has somewhat unsettled prices, and occasioned an increase, varying from 25 cents to $1 a ton. Quotations, therefore, are from $3.25 to $4 per ton of 2000 lbs. on board cars at the ovens. For small lots for foundries and domestic uses, a superior article is sold at prices somewhat higher.—*American Manufacturer.*

SAN FRANCISCO, CAL., Feb. 5.

COAL.—The general market continues without life or animation. The weather this winter has been unusually cold, causing a larger house demand for fuel than ever before. This demand has been largely met by Wellington, Seattle, and other coast coals, with the addition of few cargoes of Scotch and English. Anthracite enters very slightly into the family account. Less Australian coal has been used here the past year than for seven years past, and imports from that quarter are expected to fall off still more as our local mines become more fully worked, prices of which are so low as to bar the door against profitable imports from abroad. The arrivals during the week embrace the following cargoes: Germania, 1385 tons Wellington; Modoc, 530 tons Seattle; Gussie Telfair, 360 tons Coos Bay; Arcata, 340 tons Coos Bay; Helicon, 1791 tons Cardiff; City of Chester, from the Nanaimo mines, 450 tons. Cargo prices are to be found elsewhere.

Schooner Premier, from Coos Bay, has 387 tons, and the Jennie Stella 400 tons.—*Commercial Herald.*

STATISTICS OF COAL PRODUCTION.

The Production of Bituminous Coal for the week ending Feb. 7th was as follows:

Tons of 2000 lbs., unless otherwise designated.

	Week. Tons.	Year. Tons.
Cumberland Region, Md.		
Tons of 2240 lb	29,720	173,204
Barclay Region, Pa.		
Barclay RR., tons of 2,240 lbs.....	6,338	45,245
Broad Top Region, Pa.		
Huntingdon & Broad Top RR.....	†.....	19,432
*East Broad Top.....	1,083	2,330
Clearfield Region, Pa.		
*Snow Shoe.....	1,610	2,803
*Tyrone and Clearfield.....	41,840	77,714
Alleghany Region, Pa.		
*Pennsylvania RR.	6,603	12,153
Pittsburg Region, Pa.		
*West Penn RR.....	4,927	8,770
*Southwest Penn. RR.....	1,663	2,430
*Penn & Westmoreland gas coal, Pa. RR.....	22,601	28,609
*Pennsylvania RR.....	11,776	22,880

*For the week ending Jan. 14th.
† This report was not received.

This is the only Report published that gives full and accurate returns of the production of our Anthracite mines.

Comparative statement for the week ending Feb. 7th, and years from January 1st:

TONS OF 2240 LBS.	1880. Week.	1880. Year.	1879. Week.	1879. Year.
Wyoming Region.				
D. & H. Canal Co..	58,300	362,111	51,830	269,985
D. L. & W. RR. Co.	59,964	338,868	59,383	313,227
Penn. Coal Co.....	8,782	52,062	23,364	98,419
L. V. RR. Co.....	20,589	112,817	22,301	76,594
P. & N. Y. RR. Co..	32	1,247	1,029	2,785
C. RR. of N. J.....	5,958	148,862	21,672	108,045
	153,625	1,015,967	179,579	869,055
Lehigh Region.				
L. V. RR. Co.....	44,263	263,642	41,234	197,018
C. RR. of N. J.....	19,413	169,820	33,431	158,060
S. H. & W. B. RR..	.....	1,646	917	2,951
	63,676	435,108	75,582	358,029
Schuylkill Region.				
P. & R. RR. Co	75,126	480,172	119,985	556,445
Shamokin & Lykens Val.....	8,953	46,939	3,382	30,214
	84,079	527,111	123,367	586,659
Sullivan Region.				
St Line&Sul.RR.Co.	332	3,355	1,371	6,356
Total	301,712	1,981,541	379,899	1,820,099
Increase.....	.....	161,442	.....	.....
Decrease.....	78,187	.....	.....	.....

Total same time in	1875.....	1,289,912 tons.
" " "	1876.....	1,329,752 "
" " "	1877.....	1,468,020 "
" " "	1878.....	1,399,548 "
" " "	1879.....	1,820,099 "

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.

The increase in shipments of Cumberland Coal over the Cumberland Branch and Cumberland and Pennsylvania railroads amounts to 93,398 tons, as compared with the corresponding period in 1879.

Fairhaven Business:	Tons.
Coal on hand Jan. 31st.....	25,374
Receipts.....	2,737
Shipments.....	.....
On hand Feb. 7th.....	28,111

The Production of Coke for the week ending Jan. 14th:

Tons of 2000 lbs.	Week	Year
Penn. R.R. (Alleghany Region).....	1,312	3,376
West Penn. RR.....	2,160	3,410
Southwest Penn. RR.....	14,306	27,162
Penn. & Westmoreland Region, Pa. RR..	2,302	4,134
Pittsburg, Penn. RR.....	10,135	22,797
Total.....	22,797	59,879