

## ENGINEERING and MINING JOURNAL.

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PROF. J. S. NEWBERRY, of Columbia College School of Mines, expects to spend his summer in the West examining mines and investigating geological questions of interest.

THE battle of the gases is waging at Yonkers, N. Y., and water-gas is coming out ahead. Those interested in this important question will here have an admirable opportunity for comparison.

MR. H. M. HOOK, our correspondent at St. Louis, but recently at Little Rock, Ark., has gone in the interest of the ENGINEERING AND MINING JOURNAL to examine the mineral belt running through Arkansas, Texas, Arizona, New Mexico, and Mexico, and will communicate from time to time the results of his investigations in letters to the ENGINEERING AND MINING JOURNAL.

THERE is a prospect of a lively business in the Utah courts before long. It is said that influential parties, among whom rumor, whether correctly or not we can not say, has placed the names of Judges HUNTER and EMERSON, U. S. District-Attorney VAN ZILE, and his Deputy, J. H. BEATTY, U. S. Marshal SHAUGHNESSY, Surveyor-General SOLOMON, and Special Agent CHASE, of Washington, have been purchasing claims in the vicinity of good mines, and the suit against the Ontario is supposed to be but the opening of the game. In this connection, and as throwing some light on this matter—which has come to us from other sources—our Utah correspondent's letter will be read with interest.

THE announcement has just been made of the failure of the Philadelphia & Reading Coal and Iron Company. No particulars are yet obtainable; but the effect on the stock of the Reading Railroad Company, which fell nearly \$16, from 46¼ to 30¼, shows how serious the matter appears on the street. It is with great regret that we record this suspension; for while it has long been known that the company has been struggling under an enormous load, it was hoped that the great improvement in the coal trade had come in time to carry the company through to prosperity. The policy which has resulted so disastrously to the Reading Coal and Iron Company has frequently been criticised in the pages of the ENGINEERING AND MINING JOURNAL; but, at the same time, it has been our pleasure to express our full confidence in the strict uprightness and integrity of the Reading management. It is with the greater regret, therefore, that we make the above announcement. The company will, of course, go into the hands

of a receiver, and, as Mr. GOWEN will undoubtedly be the receiver, there will be no change in the management. The company, in some senses, will be stronger and less embarrassed than before, and, under the honest management of Mr. GOWEN, it will, it is to be hoped, soon revive and recover.

## THE SILVER SANDSTONE FORMATION AT SILVER REEF, UTAH.

The Silver Reef *Miner* has suddenly developed into a geological critic, and with a stroke of its pen demonstrates "to all intelligent and unprejudiced minds" that the two reefs of silver-bearing sandstone at Silver Reef are but parts of the same beds dislocated by a great fault.

The geologic opinions of our esteemed contemporary are, to say the least, misty; and its agreement or disagreement with the conclusions arrived at by Mr. ROTHWELL, after the most careful investigation, and stated in his report on the Stormont Company's property, is of so little consequence as not to call for any remark on our part; but the *Miner* sees fit to cite in support of its "fault theory" some well-known experts. It says:

"Mr. Louis Janin, who, as a mining expert, has few equals and no superior, expresses the opinion *unqualifiedly* that the Buckeye Reef is a faulted and dislocated portion of the White Reef. Mr. Charles Hoffman, the trusted mining expert who organized the Leeds Mining Company, was of the same opinion. G. F. Williams, M.E., former Superintendent of the Leeds Company's mines, was also of that opinion, while Mr. A. G. Bemis, the former able Superintendent of the Stormont Company's property, is unswerving in the belief that the Buckeye is but a faulted portion of the White Reef."

It is somewhat unfortunate for our contemporary that Mr. JANIN, who happens to be at present in this city, informs us that, never having given the subject that close examination which he considered necessary, he has no "unqualified" or definite opinion upon the subject. Mr. WILLIAMS, who probably gave the subject more attention than any other expert previous to Mr. ROTHWELL's examination, arrived at the conclusion that there is *no fault*, but that the reefs are parts of different beds. We are not aware of Mr. HOFFMAN's opinion; and as Mr. BEMIS is not in any sense an expert, his opinion, whatever it may be, is of little consequence.

The results of Mr. ROTHWELL's examination are thus stated in his report above-mentioned, and need no further remark:

"The remarkable general resemblance between the beds of these two reefs; the curious coincidence of a series of red and gray sandstones and sandy shales, with bands of greenish and red clay shales of the most marked characteristics occurring in precisely the same stratigraphical order in each reef, and, above all, the occurrence of fossil plants and silver ores in certain beds of similar appearance in each, naturally lead to the supposition that these reefs are composed of the same beds broken off between the reefs by a great fault. A closer examination, however, reveals a certain dissimilarity between the ore-bearing beds, and the most careful search has failed to find any data to confirm this theory of a break or fault between the reefs. I have, therefore, concluded that the beds forming the Buckeye Reef run under the White Reef," etc.

It was not, however, to defend these views that we have noticed the remarks of the *Miner*. That paper has of late been waging war with the Christy Company, and it has occurred to the brilliant and upright genius who "runs" our contemporary that the double-reef theory adopted by Mr. ROTHWELL is favorable to the property of the Christy Company, and that consequently Mr. ROTHWELL must have manufactured it to order for so much money—according to the more or less usual custom in some Western mining camps. It could not affect the ingenuity of the theory, nor detract from the courtesy and delicate sense of honor and honesty which dictate this infamous supposition, to say that Mr. ROTHWELL did *not* examine or report professionally upon the Christy Company's mines, or do any other professional work for that company.

It appears to us, however, that our contemporary is entirely mistaken in its appreciation of the effect of its "fault" theory upon the value of this and other property on the Buckeye Reef; for if there were in reality a fault, and the silver-bearing beds of the White Reef were parts of those in the Buckeye Reef, we should have a positive demonstration of the richness of the Buckeye beds down to the line of assumed fault, which would, in most places, be over one thousand feet. No such demonstration now exists, and we should be inclined to consider the establishment of the fault theory as a benefit and not a disadvantage to mines situated on the Buckeye Reef. Of course, since the question whether it were an advantage or disadvantage to any particular property has nothing to do with the facts in the case, it had no bearing whatever on the conclusions of Mr. ROTHWELL or the other experts who examined the district.

## NEW PUBLICATIONS.

SPECIAL REPORT OF THE NEW YORK STATE SURVEY on the Preservation of the Scenery of Niagara Falls, and Fourth Annual Report on the Triangulation of the State, for the Year 1879. JAMES T. GARDNER, Director. Albany, 1880. 8vo, 96 pp., with maps and plates.

The first part of this volume is devoted to a description of the great and growing evils attendant upon the private ownership of the banks (particularly the American bank) of the Niagara River at the Falls, involving the progressive destruction of the beauty of the scenery, besides

much annoyance to visitors. The report, prepared by Mr. GARDNER and Mr. FREDERICK L. OLMSTED, shows that there is no American soil from which the Falls can be contemplated, except at the pleasure of a private owner, and upon such conditions and amid such surroundings as may suit his pleasure or whim; that, from the head of the rapids to the cataract, not a foot of the shore retains its natural character, the whole being defaced with walls, platforms, and buildings; that, the once lovely Bath Island has been spoiled by a paper-mill, covering the ground with unsightly sheds and buildings, and disfiguring the rapids above with wing-dams and ice-barriers; that Goat Island, the one spot in which the primeval forest has been spared, is likely to pass from the hands of its present owners, and to be ruined like the rest, in the interest of speculation and trade, becoming perhaps a mill-site, perhaps a race-course, perhaps a mass of town-lots; and that these evils can be remedied by the purchase on the part of the State of a comparatively narrow strip of land along the bank (in most places about a hundred feet wide), and of the islands above the Falls, by removing from this land unnecessary artificial objects, making those which are necessary as little conspicuous as possible, and restoring natural landscape conditions as far as this can be done consistently with indispensable facilities for the convenience of visitors. The Commissioners offer no estimate of the cost of this important reform, but declare their opinion that it will amount to much less than has been commonly supposed, and urge that the Legislature should take the preliminary steps to determine the amount of awards to private owners required by the plan, before involving the State in unforeseen expense. The arguments of the report are convincing, and its descriptions are made clear, even to those not familiar with the place, by an admirable series of illustrations, mostly photographs. The memorial on this subject, addressed by a large number of eminent Americans to the Governor of New York and the Governor-General of Canada, and also that part of the message of Governor ROBINSON, addressed to the Legislature in January, 1879, which resulted in the present official inquiry, are included in the volume. We earnestly hope that the subject will not be allowed to rest, until some efficient remedy shall have been applied to the evil so justly complained of.

The Annual Report of Director GARDNER is a brief and business-like document, describing the progress of the survey during the year 1879, and accompanied with maps and tables, showing the primary triangulation and its relations to county-lines, old lot corners, etc., and the altitudes and magnetic variations determined thus far. The fact that the State Land Office has already begun to refer its measurements to the monuments and meridians established by the State Survey, justifies Mr. GARDNER'S statement that "the days are passing away when boundaries of valuable estates are to be described as beginning at a stake or a pile of stones, and mapped with magnetic needle courses, which are always varying." The moderate expenditure involved in this important public work has thus borne fruit of practical advantage to the land-owners of the State, giving promise of much greater benefit hereafter. \*

#### YONKERS THE BATTLE-GROUND OF THE ILLUMINATING-GASES.

EDITOR ENGINEERING AND MINING JOURNAL:

SIR: Yonkers, at the present time, presents a most interesting field of observation for all concerned in the business of manufacturing illuminating-gas. Here may be seen, in active competition with each other, the old Yonkers Coal-Gas Company; the new Yonkers Municipal, having the Motay system of water-gas; and the Westchester Company, having the Lowe water-gas system. Still a fourth, the Yonkers Fuel-Gas Company, is putting in the Strong process.

A brief sketch of gas-lighting in Yonkers may not be out of place in this connection. The Coal-Gas Company, of which Thomas C. Cornell, Esq., is president, is the oldest in Yonkers, having been in existence for about thirty years. It had a monopoly of the business until about five years ago, when the Westchester, also a coal-gas company, was started. After about three years of sharp competition, an arrangement was made by these two companies, by which the territory was divided between them, and the old company was to make the gas for the Westchester at the works of the former, which, being located on the Hudson River, could be operated more economically.

Considerable dissatisfaction existed, on the part of many consumers, with regard to the quality and price of gas made by the old company; and about a year ago, another company was organized, called the Yonkers Municipal, which began to build elaborate and expensive works, to manufacture a water-gas after the plan of the New York Municipal (Tessie du Motay system).

The managers of the Westchester Company being convinced that coal-gas, such as was supplied by the old Yonkers Company, could not fight water-gas, endeavored to induce that company to put in a good water-process, which would enable the two companies to defend themselves successfully against the impending attack. The old company did not profess to feel any anxiety on the subject, and neglected to do any thing. The Westchester Company finally took independent action. It acquired the Lowe process, and, early in March last, commenced putting it in its works, which are situated about two miles inland. The Municipal works were then approaching completion, and were about being heated up. About the 27th of April last, it commenced delivering its gas. On the 3d of May—six days later—the Westchester Company was also enabled to supply gas made by the new process, which had been put in in less than two months; and just here the chief point of interest in the situation occurs. During the few days that the Municipal Company could supply

its water-gas in advance of the Westchester Company, it took several of the latter company's consumers. But as soon as the Westchester Company began delivering its own water-gas, it not only checked any further encroachment upon its business, but has received as large a number of new applications as the Municipal Company, all, of course, at the expense of the old company, which, under this double attack, is bleeding at every pore, and its total collapse is but a question of a very short time.

This is the first instance in which the Motay has met the Lowe in a hand-to-hand conflict; and while it is impossible for a non-expert to distinguish the one gas from the other, burning side by side, the Lowe has the advantage in simplicity and cheapness of apparatus and economy of material and labor. It has enabled the Westchester Company to reduce the price of gas from \$2.25 per 1000 feet to \$2, although it has to cart its coal and oil about two miles. This reduction has compelled the Municipal to follow suit, which is the first occasion upon which the Motay has been obliged to lower its price to meet competition. Meanwhile the Yonkers Fuel-Gas Company is pushing forward the Strong works, which will be capable of producing about half a million feet of gas per day. It is expected that they will be in operation by about the 1st of September next. It seems to be the purpose of the proprietors of the Strong process to pit it against the best of the established water-processes, and the boldness of their attack would indicate great confidence in its power.

Yonkers is evidently to be the battle-ground upon which the conflict of the gases will be fought out, and very speedily, too. Here tests and comparisons of the rival processes can be made in the presence of each other; and no element will be lacking to finally settle the question of superiority. The attention of the whole gas world will now be fixed upon Yonkers. P.

#### THE UTAH EASTERN RAILROAD.

Special Correspondence of the Engineering and Mining Journal.

The Utah Eastern Railroad was incorporated December 27th, 1879, by a party which has become largely interested in coal property in the vicinity of Coalville, Summit County, Utah. They own about five thousand acres of coal-land. The company was organized and proceeded to elect the following-named gentlemen as officers: R. C. Chambers, of the Ontario mine, President; Frank Armstrong, Vice-President; George M. Scott, of Salt Lake City, Treasurer; Adam S. Patterson, Secretary; and Edmund Wilkes, Chief-Engineer. A party of engineers was immediately put in the field, and a course and location were made. The grades and curvatures were found very favorable for a mountain country. The course lies in an easterly direction from Salt Lake City, crossing the summit of the Wahsatch range of mountains. One hundred and forty feet per mile is the maximum grade, and curves of eighty.

The gentlemen connected with the enterprise have been very reticent, but have been quietly at work. It is now understood that they have let a contract to do all the grading, tying, and bridging for the entire line, and have opened negotiations for the iron and rolling-stock.

The capital stock is \$700,000, of which the greater portion is not transferable for a term of years.

Combining, as this company does, the large mining interests of Parley's Park with the popular feeling here, it can not fail to do a large proportion of the coal traffic to Salt Lake City and to the mines of Park City.

The lay of the route, including branch to Park City, is 48 miles. The coal from Coalville is a lignite very free from slate, and shows a vein of 12 feet in thickness. The coal mines are now opened and have required but a small outlay to make them large producing mines.

ARCHIBALD.

#### UTAH MINING NOTES.

Special Correspondence of the Engineering and Mining Journal.

Tintic, for a long time considered a third-rate mining camp, is now rapidly moving to the front. Very important developments have been made in a number of the mines there recently; notably those in the Elmer Ray and in the Crismon-Mammoth. The last-named property is bonded in New York at a high figure. In this mine, recent developments have all been in the north drift, which is run from the lower tunnel along the east wall of the vein 400 feet. A number of west cross-cuts from the drift have been run, developing a vein of ore which averages twelve feet in thickness, which samples from \$5 to \$350 per ton, the average of thirty-one samples being \$43. The last cross-cut, made from the face of the north drift, and completed on Saturday night, shows the vein at that point to be thirty-one feet thick, eighteen inches of which is gold ore carrying \$500 to the ton.

In the Elmer Ray, a property owned in Chicago, a bonanza has been developed. Two shafts, 235 feet apart, are down on the vein 150 feet, at which depth they are connected by a level. Other levels and cross-cuts show the average width of the vein to be sixteen feet, carrying about four feet of ore, which will sample 100 ounces of silver and \$8 gold. This ore-vein carries seams which, in places, are almost pure metallic silver. (I herewith mail you a lean specimen.) The Tintic Mining and Milling Company has purchased the Wyoming ten-stamp mill at Homensville, about ten miles distant from the Elmer Ray mine, and proposes starting it up in the course of a few days on Elmer Ray ores.

The melting snows in Bingham Cañon are flooding some of the mines. The workmen in the Lead mine were driven out of the works on Sunday by water pouring in upon them through an old shaft. The delays thus occasioned will be only temporary.

In Parley's Park, the Ontario Company has its mill fully repaired. The new roasting-furnaces will be completed in a day or two, when the mill will be started up. The McHenry mine, also in the Park, and situated on the Ontario belt, has large bodies of ore in reserve, and active operations will be resumed at this mine very soon. Mr. R. C. Chambers, of the Ontario, is authority for the declaration that it is one of the largest mining properties of the territory. Adjoining the McHenry is the Hawkeye, owned here and in New York. Pumps and hoisting-machinery have been ordered for this mine, and will be put in as soon as possible.

Full reports have not yet been made on the two strikes in the Kearsarge mine, Dry Cañon, made last week.

The Old Telegraph smelter is running but one stack; the Brooks, the same. All the other smelters are shut down, waiting for the roads to the mines to improve, so that ores can be brought to market.

The Utah Southern Extension is now completed to Milford, a town about fifteen miles from the Horn-Silver mine, and the company will commence running regular trains from that point on the 7th instant.

SALT LAKE CITY, UTAH, May 5.

YOSEMITE.

#### THE ONTARIO AND THE HENRIETTA.

Special Correspondence of the Engineering and Mining Journal.

Some months ago, U. S. Marshal Shaughnessy bought an interest in the Henrietta claim in Parley's Park. This mining property lies south of and parallel with the Banner, which, in turn, lies south of and parallel with the west half of the Ontario and the east half of the Last Chance mines. The Henrietta ground was covered by the Great Eastern claim, which was owned by Mr. R. C. Chambers, of the Ontario. Mr. Shaughnessy commenced suit against the Great Eastern claim, to quiet his title to the Henrietta, and the case was tried recently before Judge Hunter, of the Third Judicial District Court. Testimony for the plaintiff was introduced to show that the Great Eastern location notice, although dating two years prior to the Henrietta's, designated the claim as running north and south, but that the defendants had swung it around to run east and west, covering the Henrietta ground, when the survey for a patent was made. The defendants' testimony went to show that the claim had never been swung around, and that it always ran parallel with the Banner. The court, however, gave judgment in favor of the plaintiff, and the defendants filed a notice of appeal. On the 11th instant, Mr. Shaughnessy filed a complaint in the District Court against the Ontario Company, claiming \$1,000,000 damages. It is sworn to on information and belief, and alleges that the Ontario Company through its lower workings has been for a long time past extracting ore from the Henrietta ground. It was on this state of facts that your correspondent interviewed some of those who are prominently connected with the suit. Mr. Chambers came in from the mine last evening; and when I called at the Ontario office this morning, Marshal Shaughnessy's deputy was just serving on Mr. Chambers a copy of the complaint.

*Correspondent.*—"I have called, on behalf of the ENGINEERING AND MINING JOURNAL, to learn what you have to say about the suit against your company."

*Mr. Chambers.*—"I ordinarily prefer to try my cases in the courts. I assure you, however, the developments in the Ontario and Last Chance mines enable me to most emphatically assert that Mr. Shaughnessy's suit is groundless and without any merit."

*Correspondent.*—"Mining men here in town boldly assert that it is a blackmailing suit, and that some of the officials are materially interested in the result."

*Mr. Chambers.*—"I prefer not to be interviewed on the subject any further."

Your correspondent then visited District-Attorney Van Zile's office; but found only his deputy, Mr. Beatty, there.

*Correspondent.*—"Judge, it is charged that your client's suit against the Ontario has no merit."

*Mr. Beatty.*—"The other side always makes that assertion, but I think we will show in a material way that it is meritorious enough. Of course, we can not say, of our own knowledge, that the Henrietta is furnishing to the Ontario all the ore now being taken out of that mine; but the Marshal has men in the employ of the Ontario Company, who are reporting to him just what is being done in the mine, and they say the Ontario ore comes from the Henrietta ground. We expect to get an order to enter the works and have a survey made. So far as the merit of our case is concerned, I can say that we have brought this suit in good faith and expect to make something out of it. Mr. Chambers has not come down from the mine yet, has he?"

*Correspondent.*—"He has."

*Mr. Beatty.*—"Well, if he brought down \$800,000 with him, we will see him. I never saw so poor a country as this is for an attorney to get his pay. Before I got in partnership with Van Zile, I was employed by the Flagstaff Mining Company, and, notwithstanding I saved to the company \$45,000 by locating the Virginus, that \* \* \* Billings euhred me out of my just dues, and eked out to me a pittance sufficient only to keep soul and body together. I have struggled to get along here, and it has been a struggle—nothing else—and now I, for one, am going in to make a winning."

*Correspondent.*—"This is a pretty heavy suit, involving large interests, and why is it you did not call in additional counsel?"

*Mr. Beatty.*—"Judge Van Zile has done that heretofore, but we are confident of success, because the propositions involved are so clearly in our favor that we can't lose the case. Van says, if he loses this suit, he will never try another mining case. Why, the Ontario vein crops out on the Henrietta, and we can show it."

After thanking Mr. Beatty for the information furnished, your correspondent left, and next called on Mr. Harkness, of the law firm of Bennett & Harkness, attorneys for the Ontario Company, who said: "So far as we know, or are advised, the suit against the Ontario is without merit. But you may probably hear a different statement from the attorneys on the other side."

#### IN PARLEY'S PARK,

the weather has become quite settled, and mining operations have generally been resumed. The Ontario mill is still shut down, owing to the hoist having failed to get there on time. Every thing, however, is now nearly ready, and the mill will be started up on Monday next.

Work on the Park City smelter is progressing slowly, owing to the company being unable to obtain necessary lumber. It is expected that the stack will be fired up about June 1st.

A portion of the Hawkeye mine has been disposed of for \$40,000, which sum has been expended in hoisting-machinery and pumps, to be put in the mine this season.

The Empire starts up her pumps to-morrow, and next week, it is hoped.

the vein will be tapped from the 400-foot station. Work on the company's new sixty-stamp mill will be commenced at once.

#### BINGHAM.

In this camp, the Old Jordan has been opening up a large body of low-grade free-milling gold ore, which is said to average \$1350 per ton. This figure is, however, so much beyond the average in other mines working similar ores, that we think the figure may allow a discount. There appears to be a large body of the ore, whatever its average grade may be. The company's new mill is progressing and will be finished about July 1st. The manager asserts that he can mine, ship, and mill the ore for \$3 per ton.

The Stewart No. 1 is shut down, waiting for the cañon roads to improve so that a supply of fuel for the mill and timber for the mine can be obtained. This company is making preparations to increase the capacity of its twenty to a sixty-stamp mill. The Argonaut Hydraulic Mining Company in this cañon has a full head of water in a large gravel-bank above the town of Bingham, and claims to be doing well. It will not clean up until the water supply is exhausted, which will be in July.

Ferdinand Dickert, a mining engineer, has brought suit against Allen G. Campbell, Treasurer of the Horn-Silver Mining Company, to recover \$50,000, for damaging the reputation of the plaintiff. It appears Mr. Campbell did not think Mr. Dickert much of an engineer.

The Horn-Silver bullion is carrying more gold and silver to the ton than formerly, and the shipments from that property have now been resumed in earnest, as the reports of daily bullion shipments will show.

#### SILVER REEF.

Orders have been given to put two more pans and another settler into the Christy mill. The machinery and casting have been ordered from San Francisco. This company to-day received United States patents for two more of its claims. All of the Silver Reef mines are turning out ore, and bullion shipments are made regularly from the mills of that camp.

#### PERSONAL.

William B. Wells, a well-known mining man, arrived in Salt Lake last evening, and leaves for Southern Utah to-morrow morning.

Capt. L. H. Lubbock, manager of the Christy Mining Company at Silver Reef, arrived from New York to-day, and is stopping at the Continental. He leaves for Silver Reef to-morrow.

YOSEMITE.

SALT LAKE CITY, UTAH, May 14.

#### SAN JUAN—THE OUTLOOK AND THE ROUTES.

Special Correspondence of the Engineering and Mining Journal.

Before another month is gone, there will be very lively times in this region. The road to Silverton will not be open before May 15th or 20th; but Rico, on the Dolores, will be accessible from Silverton this week, if some needed work is done on the trail. Persons leaving New York about May 25th will probably find good traveling facilities over the main road; and by the time they reach here, our supply of provisions will be renewed. A large quantity of freight and express matter, and probably some back-mail, lie out, ready to come in at the first opportunity. The new companies are making preparations to begin, the old to resume or continue, operations, and the outlook for a very favorable and productive season is most excellent. Skilled miners will find abundant employment, and there will soon be room for all who are willing to work, in all departments of labor which have any connection with mining interests.

April has been an uncanny month, the weather a mixture of snow, heat, cold, thawing, freezing, cloudiness, and bright sunlight, with wind and calm. At present writing, it is impossible to say what an hour may bring forth. Visitors should be very careful, if they come early, not to expose themselves needlessly, as pneumonia is very easily contracted at this season by new-comers, and it is very fatal in its effects upon such subjects.

Old settlers are returning daily, all of them bringing word of great excitement outside regarding this country. The following hints as to routes may be serviceable as a guide to persons intending to visit this portion of Colorado. It will be well to have the trip well marked out beforehand, according to the object in view. If one desires to make a hasty run to Rico and return, he can not do better than to take Barlow & Sanderson's stage at Alamosa, leaving it at Antelope Springs, going thence to Silverton, and from there to Rico. Upon his return, he may come back to Howardsville, five miles north of Silverton, going thence by stage, via Eureka, to Animas Forks, and then to Lake City, where he will again take Barlow & Sanderson's line back to Alamosa; or he may go, via Indian Creek, Saguache, and the Poncho Pass, to the Leadville branch of the D. & R. G. RR., at Cleora. The same trip may be made in reverse order; or, coming by either of these routes, the passenger may go from Rico to Ouray and out to Cleora, avoiding Lake City, if he has left the stage at Antelope. The better way, however, would be to come from Alamosa to Lake City direct, thence to Animas Forks, Eureka, Howardsville, Silverton, Rico, Ouray, Saguache, and Cleora, or vice versa. Side trips should be made, when possible, from Del Norte to Summit and return, from Animas Forks to Mineral City and to Poughkeepsie Gulch, from Howardsville up Cunningham Gulch (on road to Antelope), and, from the most convenient point reached, the San Miguel District. Parties remaining through the summer may find it more advantageous to go out by the southern route, striking the new San Juan branch of the D. & R. G. RR. at the terminus, somewhere on the Animas River below Silverton.

Ouray may be reached most directly from the East just now, via Cleora and Saguache. Lake City is best approached via Alamosa, and Silverton can be most speedily gained by the first-named route, via Alamosa and Antelope Springs, this being also the shortest route to Rico. Other trips can readily be devised, as one can pass between all prominent points not connected by wagon-roads over good trails on horseback.

Judging from well-authenticated reports of development in this country, the mining work during April has proved more profitable than at any previous period of the same duration. A number of mines hitherto but little remunerative have yielded better ore; and we hear of important

"finds" in the Alaska, Red Cloud, Ulé, Oriental Tunnel, and a number of other claims.

The mining bill before Congress has excited much interest here, and I have yet to hear one utterance in favor of some of its most vital provisions. For this district, at least, it means the policy of "taking from him who hath not even that he hath," and giving it to him who hath in abundance. It is easy to prove that it will seriously retard development in this section, if passed, by preventing the discovery of claims; for prospecting is not to be done in such a rugged country, except by men of nerve, endurance, and perseverance, like our hardy pioneers. They are too poor to locate claims under the proposed law; but no class of men deserve more liberal treatment for the work they have done—and will do, with but half a chance. Western residents would be better pleased if fewer amendments to the present law were offered by men who know nothing of the subject from experience.

I shall be able to give you more explicit reports later in the season. Too much of the news sent out from the mining districts, through the press and otherwise, is mere gossip or interested over-statement. In fact, if I were to give you all I hear, you would be surprised to find every mine in the region "the very best in San Juan." For one, I am as willing to trust to future developments for "the proof of our local pudding" as any one can be; for I believe implicitly in the outcome, feeling confident that no region is more richly endowed by nature with mineral resources. But I do hesitate to express my firm belief that John Smith or Timothy Brown or the Evangeline or Wild Mountaineer lode is the man or claim that is richest of all. To the novice, one ton or one ounce of rich ore is as good as a million in sight; for he believes it is all a matter of chance, and even some of those whose opinions are considered of weight in the market are too prone to estimate with regard only to a limited number of calculations. The periodical wail against the "expert" is again in the air, and the complaint is a just one, in a measure; for nine tenths of the so-called experts who come here from the East have no claim whatever to the cognomen. Yet it seems never to have occurred to investors that a man's own recommendation of himself is least worthy of trust. If one half the pains were taken to secure a competent examiner that are commonly used to obtain a favorable report, we should see some now bloated bondholders earning their living by the side of the "practical miners" whom they affect to esteem so highly while engaged in cutting their throats.

But let no one come to San Juan thinking to find a weak, credulous population, eager to jump at every catch-penny scheme. There is a great deal of talent here, and some at least of our people have already cut their eye-teeth.

Provisions are running low; but the supply in most places will not be quite exhausted before new stores are brought in. Prices at Eureka are now as follows: Beef, by the quarter, 14 and 15 cents; flour, 10 cents; potatoes, 13 cents (5 cents for transportation from Animas Forks, four miles distant); onions, 25 cents (brought sparingly from the Forks); of course, no butter, eggs, oil, etc., at any price.

There is less talk about new smelters than was heard a few weeks ago. Perhaps it means more action. Reduction works and concentration works are needed; but it behooves investors in such companies to look well before they leap.

The William Penn Mining Company, of Pittsburg, will work properties on Jones's Mountain, above Eureka, not far from the claims of the Niagara Consolidated Company. The Pride of the Alps is a new organization, just reported, without particulars. The San Juan Bullion Company, of Chicago, is another acknowledged failure—bankrupt.

Even another month will bring about great things for this district, no doubt.

EUREKA, SAN JUAN CO., COLO, May 3.

THEODORE B. COMSTOCK.

#### THE SILVER-MINING INDUSTRY.

We take the following from the New York Tribune of May 10th:

Silver mining in the United States is steadily working out of the reckless, speculative phase which marked the early stages of its development, and is beginning to take rank as an important national industry, contributing annually to the wealth of the country an amount that can be calculated in advance with approximate accuracy, and depended on with as much confidence as the coal product or the yield of wheat. It is evidently destined to a great but not feverish expansion. The area of silver-bearing deposits is constantly extended by the researches of prospectors and the enterprise of capitalists; and with all the activity of the past two years, there still remains so large an expanse of unexplored territory in which the precious metal is likely to be found that no limit to the future productiveness of this new industry can now be fixed. The fact that silver mining requires a heavy outlay of capital before it yields any returns, tends to make the business more and more conservative. Heavy losses have been suffered by investments in partially-explored lodes and by attempts to work mines without sufficient means, and the result of such costly experiments has been to make investors cautious about trying doubtful stocks, and companies slow to undertake expensive operations until the value of their properties has been fully ascertained by thorough examination.

All this is healthful for mining as a permanent and profitable industry. The enormous gains and losses of the past will not be likely to be repeated in the future; but the business will get upon a sound, stable basis, where its net yield will be amply remunerative for the money spent in carrying it on. Public sentiment about mining stocks as an investment will then undergo a great change. Indeed, the change begins to be seen already. Men no longer put a few hundreds or thousands as a "flyer" into a company they know nothing about, in the same spirit that they might invest the money in lottery-tickets or lay it down on a roulette-table. Careful inquiry is now made about the prospects of the company, the reports of experts on its property, and the character of the men concerned in its management. People who condemn mining as a ruinous, demoralizing, gambling sort of business are usually those who have lost money in it by a reckless disregard of the most ordinary principles of business life. Among conservative capitalists, the industry grows in favor with increasing knowledge of its capabilities and an intelligent comprehension of its future.

It is certain that in the high, arid water-shed of the continent, embracing the States and territories of Colorado, Dakota, Montana, Idaho, Utah, Nevada, Arizona, and New Mexico, there is a vast store of argentiferous ore; that the location of only a small part of it has been determined and its development barely begun; that the mines which have been opened and worked, when opened on well-tested veins and worked with reasonable sagacity and economy, have yielded handsome profits. The business is therefore a legitimate one, inviting to investors of surplus capital and to men of enterprise. If people will exercise the same prudence in buying mining shares that they exercise in buying bank shares or railroad shares, the gambling feature in it will soon disappear, and the risks of loss will not be more serious than in mercantile or manufacturing ventures. Recent experience has shown that the strong companies which are able to make large expenditure for shafts and levels, and for the purchase of machinery, so as to be prepared for thorough operations before expecting any returns, succeed the best. The result is to throw the business more and more into the hands of such companies, and to discourage the formation of weak concerns which have barely means enough to scratch the surface of the ground, and must break down if they can not speedily earn dividends. The hazards of mining are thus diminished; for the strong companies, backed by ample capital, are not likely to spend large sums on uncertainties. The history of the mines of precious metals in Europe is instructive in this regard, showing as it does that such mines do not, as a rule, become profitable until thoroughly opened and equipped. The royal Hungarian mines of Schemnitz and Kremnitz, for example, opened in Maria Theresa's time, are worked by the aid of a great drainage tunnel 45,000 feet long, constructed at a heavy expense. They have been operated for over a hundred years, and their yield does not vary much from 6000 pounds of gold annually, worth about \$1,440,000. The network of veins is apparently inexhaustible, and such is the case with all true metalliferous districts.

The importance of the role which silver mining is destined to play among our national industries can not now be estimated, but it is certain to be very great. Here is a product which all the world wants, and is ready at all times to take off our hands at a price that is nearly stable, in exchange for its commodities or in payment of our debts. Its increased yield must be a source of satisfaction to the patriot and the political economist. All the facts thus far ascertained lead to the belief that the output of our silver regions will be steadily augmented for the next ten years, at least, by the discovery of new mines and the more thorough working of old ones, and that, when it culminates, it will remain without serious diminution for generations.

#### PETROLEUM NOTES.

COMPARATIVE SYNOPSIS OF REPORTS FOR MARCH AND APRIL, 1880 AND 1879.

42 GALLONS = 1 BARREL.	1880.		1879.	
	March, 31 days.	April, 30 days.	March, 31 days.	April, 30 days.
Production for the month.....	2,022,502	2,019,680	1,489,315	1,530,450
Daily average.....	65,242	67,323	48,365	51,015
Stock at the wells.....				
Iron tank stock.....	9,482,693	10,660,115	6,067,177	6,415,689
Total stock.....	9,482,693	10,660,115	6,318,099	6,666,611
Number of producing wells.....	12,222	12,572	10,692	10,882
"    drilling wells.....	577	580	406	468
"    "    completed.....	367	500	238	270
"    "    dry holes.....	21	17	22	16
Aggregate daily production of new wells.....	8,000	11,000	5,021	6,645
Average.....	21 8-10	22	21 1-10	24 6-10
Number of rigs building.....	612	550	453	412
Total shipments out of the region.....	1,613,371	842,268	973,879	1,136,188

—Stowell's Petroleum Reporter.

**RUSSIAN PETROLEUM FIELDS.**—The London Times says: "The owners of American petroleum deposits will, before long, have to encounter a considerable amount of opposition, in view of the discoveries of this valuable oil on the continent, and especially in Hanover and Russia. The beds in the latter country are comparatively boundless, extending for a distance of 1500 miles along the Caucasus range, from the Caspian to the Black Sea. At the present time, however, there are but two districts in this large area where any systematic efforts are being made to obtain the petroleum. One is in the valley of the Kooban River (which flows into the Black Sea), where two wells have been sunk by a French company under the superintendence of an American manager. This company has a refinery at Taman. The other and most productive district is near Bakoo, on the Caspian Sea. Many wells have been sunk here to the depth of 300 feet, having a daily yield of 28,000 barrels of crude petroleum. An extraordinary amount of sand flows out with the oil, which is heaped up near the orifice of the wells in banks at least thirty feet high. Large refineries exist at Bakoo, though the refined oil at present produced there is not as good as the American oil."

An exchange says: "The visible supply of petroleum is the largest known in the history of the trade, being estimated at between 9,000,000 and 10,000,000 barrels, and, with a production largely in excess of the consumption, it is steadily increasing. True, there is a good deal of the raw article being exported, but the actual consumption in this country has been light since early in the winter, since which time the great majority of the refineries have been stopped, and they are not likely to be started up again for some time yet, or until the export season fairly opens up."

**GAS FROM PETROLEUM.**—The cities of San José, Chico, and Eureka, in California, are making exclusive use of petroleum for the manufacture of gas, and the cities of Oakland, Sacramento, and San Francisco are moving in the same direction. The only obstacle which now prevents the change from coal to petroleum being effected is the uncertainty of a supply of crude oil in California, and a proposition has been made to a company running a line of tank cars to the Pacific coast to furnish crude for this purpose.

**OIL FIRES—BRADFORD, May 13.**—A series of remarkably destructive oil fires have, during the past week, ravaged the Bradford District. Eleven miles of valuable territory were burned over yesterday, and, at this hour, the whole valley is being swept by flame. The fire, however, in Trim

Hollow, though still burning, is practically under control. On May 6th, by the premature explosion of a torpedo, Raw City, containing 600 inhabitants, was laid in ashes, and 150 wells in the neighborhood burned. Fires at other points on the same day swelled the number of wells destroyed to 343. Last Sunday, five sixths of the town of Rixford were burned, twenty acres being burned over. This involved a loss of \$250,000. At Rixford, two 25,000-barrel tanks and one 7000-barrel tank were burned. During the week, small fires have prevailed in various parts of the field, but until yesterday no heavy damage was done. Yesterday, the fire broke out afresh, starting at White Rabbit, near the head of Trim Hollow. The fire spread over the ridge, running north and south, sweeping the hillsides and valley for a distance of eight miles. The Hollow was thickly lined with rigs and tanks, including several large iron tanks, each with a capacity of 25,000 barrels. Yesterday and to-day, fully 350 wells and 90,000 barrels of oil were burned. During the past seven days, over 350,000 barrels of crude oil have been consumed, including about 700 rigs.

**CANADIAN OILS.**—In the Canadian House of Commons, May 3d, the Minister of Inland Revenue moved the House in committee on the following resolution: "That it is expedient to amend the acts respecting the inspection of petroleum, and to provide for raising the fire-test of Canadian petroleum from 105 degrees to 115 degrees Fahrenheit, and for reducing the fire-test on foreign petroleum from 130 degrees to 120 degrees Fahrenheit, and for placing the responsibility as to the quality of the petroleum on vendors thereof." During the debate, it was stated the discrimination was not because there was any material difference between Canadian and American oils, but in order to give Ontario refiners a monopoly. The resolution passed through committee, and a bill founded on the same was introduced and read a first time.

**THE FIRST OIL-WELL.**—This notice was given in the Greensburg Gazette of November 18th, 1819: "We are informed that Mr. John Gibson, formerly of this town, has, in boring for salt water, near Georgetown, on the Cone-maugh River, struck upon a copious supply of Seneca oil, which our informant says rises from the bottom of the well, now 207 feet deep, and floats on the water at the top. He supposes that a barrel per day might be procured."

## PROGRESS IN SCIENCE AND THE ARTS.

### Technology and Mineralogy.

**Technical Brevities.**—Dr. Neil Carmichael publishes an article in which he endeavors to rehabilitate the old faith in the *effectiveness of the water-seal*, as commonly in use with the water-closet system, soil-pipes, etc. He announces the conclusion that an efficient water-trap excludes soil-pipe atmosphere to such an extent that what escapes through the water is so little in amount and so purified by filtration as to be perfectly harmless. This conclusion is opposed to the current opinion that the water of a trap will absorb the air of a soil-pipe until it is saturated and give off noxious gas on the house side.—The *obelisk* about to be shipped to this city from Alexandria is to be placed on a natural knoll in front of the new building of the Metropolitan Museum of Art, on the west side of the main carriage-way.—At a meeting of the Chemical Society of Philadelphia, held last week, several large pieces of *metallic aluminium* were exhibited. It was stated that works had been lately established in that city for the manufacture of this metal and its alloys on the large scale. The process of manufacture was not given; but it was stated that for the usual method of reduction by means of metallic sodium had been substituted a cheaper and more direct process. The metal produced was affirmed to be quite free from iron. The establishment of the aluminium industry in this country will interest many of our manufacturers.—A novelty in metallurgy, which is reported to be one of the features of a new chlorination process, consists in the *separation of the gold* by filtration through or agitation with charcoal (or bone-black). The gold is thereby reduced from its solution and precipitated in the metallic state on the surface of the charcoal, coating the fragments with a brilliant film of gold. This singular phenomenon seems to be a physical and not a chemical action.—The Old Colony Railroad Company is introducing on its locomotives a device by which the engine-driver can draw *colored screens across the head-light*, and thus signal to other engineers. The same device also gives the number of the train.—The Philadelphia Rapid Transit Company, whose plan for an elevated railway through that city similar in character to those in New York we referred to several weeks ago, has been making strenuous efforts to obtain the permission of the city authorities to proceed with the project, but has been met with such energetic protests and opposition from all quarters that the future of the enterprise is involved in serious doubt. Our conservative neighbor is wise in not following too hastily the example of the metropolis in this particular.—The *compressed-air system* in use in driving the heading of the Hudson River Tunnel appears to work very satisfactorily. No timber or props of any kind are required other than a light stick to sustain the plating while it is riveted. The bank at the headings is reported to stand up straight, and the soil is dry enough to allow the men to stand on it in making their "benches," just as in any ordinary embankment. The engineer in charge entertains no misgivings respecting the working of the system, and anticipates no difficulties.—The English company that was lately organized to promote the introduction of *toughened-glass railway-sleepers* purposes likewise, according to announcement, to add to its manufactures *toughened-glass pipes* and tubes for gas and water, for drains and chemical apparatus.—The *Edison electric lamp* has been introduced into the state-rooms of the magnificent steamship Columbia, lately finished for the Oregon Railway and Navigation Company, by John Roach & Co., of Chester, Pa. This vessel, by the way, is said to be the most handsomely finished steamship afloat.—The *shipping of the world* is now estimated at 20 million tons, which is ten-fold greater than the figures of two centuries ago. It is especially noteworthy that it has doubled within the last twenty-five years. Accompanying the increase in tonnage, there has also been a vast increase in speed, so that the amount of maritime commerce now is at least forty times as great as in the year 1680.—A women's society for the promotion of *silk culture* in the United States has been organized in Philadelphia under very favorable auspices. The society has opened industrial schools where the art of growing and reeling silk will be taught. The plans of the new society are very

sensible, and the movement promises to be successful. As rapidly as practicable, branch associations and schools will be established in other localities, to extend the work of the organization.—The well-known electrician, M. Janin, is announced to have patented an *electric lamp*, of which great things are expected.—The discoveries of several large *bismuth* deposits near Beaver City, Utah, which were noticed at the time in the JOURNAL, are again attracting attention. It seems unfortunate that there are no uses for this metal in the arts that call for more than a few tons yearly. The deposits referred to, it is asserted on excellent authority, can be made to yield any quantity of the metal. Here is a chance for metallurgists to open up some new avenues in which bismuth can be profitably utilized.—The need of a *harmless green pigment* for wall-paper and the like has apparently been met by Caseli, who calcines an intimate mixture of one part of potassium bichromate and two parts of baked gypsum. The grass-green product, boiled with water or treated with dilute muriatic acid, leaves behind a pigment of an intense green color.

**Tysonite—A New Mineral.**—Messrs. Allen and Comstock have described a new anhydrous fluoride of cerium, lanthanum, and didymium, brought from the neighborhood of Pike's Peak by Mr. S. T. Tyson. The examination revealed Ce, 40.19 per cent; La, Di, 30.37 per cent; and F1 (by diff.), 29.44 per cent. H. = 4.5-5; sp. grav. 6.13; color, pale wax-yellow, decrepitating when heated in a closed tube, and changing to pink; B. B. blackens but remains infusible; insoluble in muriatic and nitric acids, but soluble in concentrated sulphuric acid with evolution of hydro-fluoric acid. Associated with tysonite, was found the fluo-carbonate of the cerium group of metals, called by different writers hamartite or bast-näsite. This mineral, from its composition and the manner of its occurrence—surrounding and inclosing the tysonite—would appear to be of secondary formation, proceeding from the alteration of the latter.

**Electro-Deposition as a Substitute for Casting.**—We find, in London Nature, an interesting reference to the process of electro-deposition lately referred to in this department of the JOURNAL, and which, in the hands of an electro-metallurgical company of Brussels, promises to become a practical substitute for casting in the production of bronze statuary. Our contemporary confirms our previous statement that this company had succeeded in producing a colossal statue of Van Eyck by the deposition of copper electrically upon the clay model. The same authority notices a simple procedure by which the production of bronzes on the small scale may readily be carried out. Take any plaster figure or group, boil in stearine, then coat well with black-lead, and place in the copper bath as in ordinary electrotyping. Attach a very weak battery, and deposit very slowly a thin coating of copper. Then remove from the bath and bake in an oven until the plaster model shakes out in dust. There remains now only a thin copper shell of the model. Varnish this on the outside, to prevent further deposition there, and replace in the bath, with a much stronger battery power. The copper will now deposit on the inside, and when the same becomes thick enough, the process is finished.

**Wickerscheimer's "Preservative Fluid."**—We have received the following interesting communication, respecting a late reference in this department to this new preservative agent, which is just now attracting much attention on the part of naturalists. The letter is self-explanatory. Professor Mell occupies the chair of natural history and geology in the Alabama State Agricultural and Mechanical College.

EDITOR DEPARTMENT OF PROGRESS IN SCIENCE AND THE ARTS OF THE ENGINEERING AND MINING JOURNAL:

SIR: In reading the ENGINEERING AND MINING JOURNAL of a few weeks past, I noticed the recipe of Herr Wickerscheimer's preservative fluid. I have made a careful test of the preparation, with some satisfactory results. It occurred to me that, if the liquid contained all the qualifications claimed for it, the tedious work of stuffing birds might be dispensed with. I therefore prepared a gallon of the fluid, and immersed in it a mocking-bird (*minus polyglottus*), a common toad (*bufo vulgaris*), and a small turtle. I permitted these specimens to remain in the solution one month, and then placed them out to dry. They have been exposed to a free circulation of air for two weeks.

The following points deserve special notice: The bird, after remaining in the liquid one week, lost many of its delicate tints, and at the expiration of the month assumed a dull lead-color. All of the specimens were shriveled and reduced in size. The eyeballs have entirely disappeared. Although I have exposed the bird to air for two weeks, the feathers, on damp days, become exceedingly moist, and the body acts in the capacity of an excellent absorbent.

There is no doubt of the excellency of the fluid's preserving qualifications; for not the slightest unpleasant odor has emanated from the above specimens since they were taken from the solution. My experiments, however, have failed to retain the color and perfect form of the animal. Still I think this can be accounted for on the ground that the fluid was too strong, and by weakening with water better results may be obtained.

Yours very truly,

P. H. MELL, JR.,

AUBURN, ALA., May 11, 1880.

To this we may add that the Wickerscheimer preservative fluid is receiving very thorough testing in the Museum of Natural Sciences, Philadelphia; and so far as we have heard reports respecting it, it has given great satisfaction. It appears to us that Professor Mell would get decidedly better results by slightly modifying his procedure. We suggest something like the following: Inject the specimen, if its size will permit, after the manner practiced in the dissecting-room, remove the viscera, and fill up the aperture with a plug of tow, or the like, saturated with the fluid.

### Engineering.

**The Howgate Polar Colonization Project**, having received congressional indorsement, an expedition is now fitting out for carrying it into execution. The Gulnare, a steam vessel of about 200 tons, has been selected for the purpose, and will be sent out fully manned and equipped with two years' supplies. The *personnel* of the expedition will comprise about twenty-five, including a corps of scientific observers. The expedition, it is said, will proceed to the west coast of Smith's Sound (latitude 81° 40'), where the first permanent depot will be located, and the vessel is expected to return in the fall. The general features of Howgate's plan are concisely expressed by the *Kansas City Review* as follows: Howgate

proposes to reach the pole, if possible, by a system of slow but continuous advances, made during several successive seasons, pushing his camps farther and farther northward as rapidly as may be found practicable, establishing a secure basis of supplies, and replacing men who may become disabled or disheartened with fresh recruits each year. This plan, though necessarily expensive, it is believed may prove in the end to be the least expensive and most effective method of accomplishing the desired result.

**The Chesapeake & Delaware Ship-Canal.**—It is said that the congressional committee to whom was referred the question of a proposed ship-canal to connect the Chesapeake and Delaware bays will shortly report (if they have not already done so) in favor of a route leaving the Chesapeake at Queenstown, Md., running across to Lewes, Del., and terminating at the Delaware Bay about five miles above the Delaware Breakwater. The total length of this line will be 51 miles. The canal will be 200 feet wide and 25 feet deep, and will therefore be capable of accommodating vessels of the largest class, and of allowing two such vessels to pass each other. On this route, there are no natural waterways, and the whole line will require to be excavated. There will be no locks except tide-locks. It is believed that the canal can be built for \$31,000,000, though the report, it is understood, will ask for a somewhat larger appropriation. Respecting the advantage of this much discussed project, it is to be noticed that vessels bound to any European port north of the Mediterranean would be able, by going through the canal, to save the time consumed in sailing down the Chesapeake and around the Capes. It would make the trips of the trans-Atlantic lines of steamships entering and leaving the Chesapeake nearly two days shorter. The report will also recommend that the canal be constructed under the supervision of the War Department.

**THE Oxford (N. J.) Iron Company** has demanded a reduction of wages, which the men oppose, and, as a consequence, work is suspended.

**AFTER six weeks of idleness, the Allentown (Pa.) rolling-mill** has resumed work, the employes having accepted reduced wages and a sliding-scale.

**A SUBSTITUTE FOR GOLD.**—A new preparation, made of 100 parts of copper, 17 of pure tin, 6 of manganese, 9 of common tartar, 3.60 of ammonia, and 1.60 of chalk, forms, it is said, an excellent imitation of gold, from which it can only be distinguished by the difference in weight. This metal can be worked almost as thin as gold-leaf.

**THE FINEST SPECIMEN OF THE RARE FOSSIL BIRD** (the archaeopteryx) has just been acquired for the Berlin University collection, at an outlay of 80,000 marks, or £4000. This is only the third which has been discovered and preserved, and is in the best state of preservation of them all. Of the two others, one is in Bavaria, and the other in the British Museum.

**IMPORTANT MINING SUITS DECIDED—DENVER, COLO.,** May 19.—In the United States Circuit Court to-day, the suits of the Marshall Silver Mining Company and the Colorado Central Company against the Equator Mining and Smelting Company, were decided in favor of the Equator Company. The suits involved the title to the Halcyon lode, an important part of the property, claimed by both the Equator and the Colorado Central Consolidated Company.

**STOPPAGE OF ENGLISH IRON-WORKS.**—By cable from London, dated May 18th, we notice the Chatterley Coal and Iron Company has decided to stop work again soon, partly on account of the continued depression in the price of iron in the United States, and partly on account of the unsettled condition of labor in England. If the present condition of affairs lasts, we fear, as far as iron furnaces are concerned, the law of survival of the fittest will be brought into operation.

**CANADIAN PHOSPHATES.**—One of the finest "shows" of phosphate yet discovered in this part of the country has been opened on Mr. Korry's lots in Bedford, leased to Messrs. J. W. Adams & Co., and worked by Mr. W. Davis. It is about 40 feet long and 10 feet wide, and stripping has not yet been completed at the ends and on one side. If it goes down, it should be good for a thousand tons. These lots have already turned out well.—*Montreal Gazette, May 17.*

**A SHOWER OF METEORIC DUST.**—Professor Silvestria, of the Catania Observatory, reports the fall, on the night of the 29th of March, of a shower of meteoric dust, mingled with rain. Besides the usual characteristics of color, chemical composition, and the mixture of mineral and organic particles, and minute infusoria, there was a considerable proportion of iron, either in a purely metallic state, or in metallic particles, coated with oxide. The size varied from a tenth to a hundredth part of a millimeter, and the form was either irregular or spherical, as if it had undergone fusion. This phenomenon was first observed in the Indian Ocean, south of Java, in 1859, and has been corroborated by Professor Nordenskjöld's Arctic observations.

#### CANADIAN EXPORTS FOR 1879.

The trade and navigation returns of the Dominion of Canada for 1879 amounted to \$153,455,000, as against \$172,404,000 the previous year—a decline of \$18,949,000. The decline is most marked in lumber and timber exports, which are over six millions less. The value of exports of minerals in 1877-8 was \$2,869,363; in 1879, \$3,187,722. Phosphate of lime, silver, and salt, appear to be the principal articles of increased export. Coal is less by 24,000 tons (320,929 tons against 344,282); gold, iron, plumbago, copper, stone, and slate have all decreased in volume or value, or both.

#### GENERAL MINING NEWS.

##### ARIZONA.

###### GLOBE DISTRICT.

We gather from the *Silver Belt* of the 1st inst. the following notes: The Golden Eagle exhibits a ledge 18½ feet wide in solid ore, and well defined. The Pilgrim mine has been sold, and the owners have started sinking a shaft for development of the same. They will sink 75 feet at once, and then drift upon the ledge. The vein of the Yellow Metal measures, at a depth of 70 feet, 27 inches across, the vein-matter assaying #31 in gold.

The hoisting-works at the Mack Morris were set in motion on Tuesday. More men will now be employed in the mine.

###### TOMBSTONE DISTRICT.

We extract the following from the Tombstone *Nugget*, dated the 6th inst.: The manager of the Tombstone Company has, while in San Francisco, ordered machinery for additional milling facilities to its mills at Charleston.

**TOMBSTONE.**—The Tombstone Company is rapidly going down on the recent finds in the Tough Nut and the Goodenough mines, and is doing much exploitation without raising the ore exposed in the vein. In Head Center, on the 132-foot level, they have struck a fine body of ore. It is over 5 feet wide. It is a chloride with horn-silver, working very rich. The main and working-shaft, with double compartments, is now 235 feet deep and distant 225 feet from the old shaft, with connections made on the 132-foot level with the discovery-shaft, by level 250 feet long, all on vein of good rich ore. The extensions of this level have shown 275 feet of vein. A second level at 210 feet has been run 115 feet in ore. During the past week, in the 132-foot level, they struck a body of ore 5 feet wide, averaging \$240, about half gold. It is a chloride. They have 400 tons of ore on the dump.

**EMPIRE.**—The Empire mine has been running the double-compartment working-shaft very rapidly, having now gone 60 feet since starting up the steam-hoisting works.

**NAUMKEAG.**—The Naumkeag has now a 70-foot shaft, with a 170-foot level in ore all the way. Veins run north and south, and varies in width from 18 inches to 5 feet. Two winzes have been sunk on this level, each 30 feet deep, all in ore, with assays from \$43 to \$700.

**RANDOLPH.**—The Randolph and Junetta mines are attracting much attention by the rich ores now found in the Junetta. They have almost 30 tons of this ore on the dumps, and are driving the shaft down to a level with the Randolph shaft, which will make it 120 feet deep, then to run a level to connect.

**GORDON.**—The Gordon mine is looking exceedingly well. It started in with a knife-blade vein not an inch wide, which now, at a depth of 90 feet, has widened to five feet of rich ore, with horn-silver.

**TRUE BLUE.**—True Blue has its new double-compartment working-shaft down 100 feet, with two levels, one 60 and the other 45 feet long, all in vein-matter containing from three to six stringers or pay chutes of rich ore.

**VIZNIA.**—The Viznia mine is worked by two shafts. In the north one, there is a vein of rich ore five feet wide, dipping to the city, on a dip to the northwest, but inclining more and more to the vertical as depth is obtained.

##### CALIFORNIA.

###### THE BODIE DISTRICT.

We condense from late issues of the Bodie *News* as follows:

**BECHTEL.**—Ground has been broken for a new two-compartment shaft on the southern portion of the claim.

**BELVIDERE.**—Since the last report, the sump has been completed and stations opened both north and south at the 500 level. Nearly the entire station south is opened in the ledge and in ledge-matter, on the east side of which a drift south has been started. To the north, the ledge does not show in the station, and a west cross-cut has been started. The drifts and cross-cuts all being filled with rock, work on the 300 and 350 levels has been suspended.

**BULWER CONSOLIDATED.**—The south drift on the ledge discovered in the west cross-cut on the 433 level of the Bodie mine is in 152 feet; progress for the week, 12 feet. The ledge is 2½ feet wide. The upraise on this vein is up 103 feet; the ledge in the top is two feet wide, of good milling ore. The ledge in the Stonewall stopes, south drift, 380 level, is three feet wide, of good ore. The north drift on the Ralston vein is in from the tunnel 203 feet; progress since last report, 12 feet.

**BOSTON CONSOLIDATED.**—The station at the 300-foot level is now completed, and a cross-cut started east—now in 14 feet, the face in a firm and favorable formation of porphyry heavily stained with manganese, and working well.

**GOODSHAW.**—All work in this mine is confined to the 600 level. The east cross-cut has been advanced the past week 15 feet; total length, 85 feet, in hard working ground. The west cross-cut, same level, is now in 36 feet; progress for the week, 10 feet.

**MCCLINTON.**—The three-compartment shaft has been sunk the past week thirteen feet; total depth, 112 feet below the 300 level.

**MONO.**—Work has been stopped for several days, in order to overhaul the machinery. The bottom level of this mine is 575 feet from the surface. The cross-cut east is in 85 feet, and has cut the Mono or west ledge, 10 feet in width. At this point a turn-table has been put in and a drift started for the north line of the Mono, where a joint east cross-cut will be run by the Bodie and Mono to cut the companies' ledges. The east cross-cut on this level is in 105 feet.

**QUEEN BEE.**—On the 400 level, the north drift is now in 421 feet; advance made during the week, 20 feet. The east cross-cut from this level has been advanced 19 feet during the week, making a total length of 71 feet.

**SOUTH BODIE.**—Work in the east cross-cut, 500 level, is making fair progress, considering the character of the ground. The rock drills well, but is very tough and breaks short.

**SOUTH BULWER.**—The ground in the east cross-cut is hard blasting porphyry. The flow of water has increased slightly, but the pumps are working well. The south drift on the 350 level has been advanced twelve feet; total length, twenty-five feet. The ledge is four feet wide, of good milling-ore.

**SOUTH NOONDAY.**—The north drift on the 150 level is now in 123 feet; progress for the week, 9 feet. The winze on this level is now down 70 feet; progress for the week, 10 feet, the whole bottom being in good ore, averaging \$25 per ton.

**STANDARD.**—The north drift from the east cross-cut, 700-foot level, is in 47 feet; progress for the week, 10 feet. The west cross-cut is in fair working ground and making good headway. The tank at 800-foot level of shaft is now in, and sinking resumed. The shaft now down 814 feet; the rock in the bottom hard. The work of timbering the north drift, 500-foot level, is finished. The drift is in 200 feet. The north drift from the west cross-cut, 300-foot level, has been run 12 feet during the week, and is now in 329 feet. The ledge is five feet wide, of good ore. The east cross-cut, south drift, 550-foot level, is in 44 feet; progress for the week, 21 feet. The ground is very hard. The upraise from the south drift, same level, is up 110 feet. The ledge is about 3½ feet wide, of good milling-ore. The ledge in the stopes, 385-foot level, looks same as at last report. The ledge in the south drift, same level, has a uniform width of about 6 feet, for the entire length of the stopes, about 150 feet. The ore is very rich. In the West Standard stopes, the ledge is 5 feet wide, of high-grade ore.

**TIOGA CON.**—The east cross-cut on the 800 level was advanced 14 feet during the past week. Have cut through a vein of quartz two feet wide, which prospects very well by the horn process. West cross-cut, same level, had 27 feet added to its length since last report.

##### COLORADO.

###### CLEAR CREEK COUNTY.

The Idaho Springs *Iris* reports a rich strike of tellurium in Opal Mountain, about three quarters of a mile from Idaho Springs.

We gather the following notes from the *Iris* of the 15th inst.: FAIRMOUNT.—Work is progressing satisfactorily on the main shaft and in the Philadelphia tunnel. The tunnel has been driven 47 feet on the present contract, making 132 feet in all, which is timbered solid in a thoroughly workman-

like manner. Forty-two feet have been added to the depth of the shaft, which is now 167 feet deep, and shows a good body of ore. Twenty-five men are now at work on three shifts.

**QUARTERMASTER.**—There is now a shaft down 55 feet, which has exposed a vein 18 inches wide, consisting of galena, gray copper, and pyrites of iron.

**ORIENTAL.**—The Oriental lode, Chicago Creek, shows 15 inches of mineral at a depth of 18 feet.

**MAYFLOWER.**—The winze sunk from the tunnel level has been connected with the surface, and hoisting-works are erecting at the mouth of the shaft thus formed, which is between 50 and 60 feet above the tunnel level, affording ample room for dump, while the ore will be conveyed in chutes direct to the dressing-floors.

**RED ELEPHANT.**—The Georgetown Courier says A force of 140 men is employed, and the daily product averages about 30 tons, including all grades. The Cleary adit is pushed from the sixth-level winze to the Boulder Nest shaft, which will be intersected about 400 feet from the surface; and as soon as the connections are made, all of the lower part of the mine will be worked through the adit and all of the water will be sent out of it.

**OSHKOSH.**—This property is located on Columbian Mountain, at the head of Silver Creek, and is owned by the Oshkosh Mining Company, of Bangor, Me. Three shafts have been sunk on the vein, aggregating about 70 feet in depth, one wall only being apparent, that being the north or hanging one, upon which is a vein of quartz two feet in thickness, that is impregnated with galena and assays from 37 to 1100 ounces per ton in silver. The work at present going forward is at sinking another shaft from the surface, a 50-foot contract having been let a few days ago.

**BURLEIGH.**—The Colorado Miner says: Work is being prosecuted in the New Era and Ivers Phillips lodes, in this tunnel. The New Era is leased, and the lessees are stopping 50 feet east of the tunnel on from six inches to a foot of mixed ore, consisting principally of galena with some iron pyrites. This runs about 30 ounces of silver per ton, and 50 per cent lead.

#### CUSTER COUNTY.

From the Silver Cliff Miner of recent dates we extract the following notes:

The Horn-Silver mine has been sold for \$50,000.

The West Leviathan mine is 85 feet deep, and shows galena, pyrites of copper and gray copper. The pay-streak is 9 inches. They have a 25 horse-power engine for hoisting purposes, and a shaft-house 20 x 40, owned by the Leviathan Mining Company.

On the Daniel lode, at a depth of 18 feet, a vein of 8 inches of galena and carbonates was struck which assays 16 ounces to the ton.

#### GILPIN COUNTY.

**ROLLINS G. AND S. Co.**—The Register-Call says of the property of this company:

The Perigo has been developed almost its entire length by shafts varying in depth from 12 to 210 feet. Since commencing operations last February, the superintendent has placed a Woodbury engine, boiler and hoister over the shaft east of the deep shaft, which is inclosed in a substantial frame building 35 x 70; has also retimbered the shaft, and has attained a depth of 90 feet, the crevice-matter being 6 feet wide, no south wall having yet been encountered. The mineral in the east end of the shaft is 30 inches in width, and in its general characteristics resembles that found at a similar depth in the Gummel mine, in Eureka District. The ore being raised is piled up awaiting treatment. South of this shaft, nearer Gamble Gulch, a cross-cut is being run to strike the Baker lode, which is a parallel vein with that of the Perigo, but situated north. The cross-cut is in about 50 feet, and in a possible distance of 340 feet will strike the Baker and Perigo lodes 300 feet below the surface. The property extends 3000 feet west of the Baker shaft. In connection with the property is a four-terraced mill building 116 x 80 feet, supplied with 12 stamps, amalgamating-pans, etc.

**WYANDOTTE.**—This company, which owns a group of mines on Leavenworth Mountain, Russell District, has sunk the main shaft on the Wyandotte lode to the depth of 340 feet. It is driving a level west at a point 222 feet below the surface, 150 feet.

**CYCLOPS.**—The shaft is now 150 feet in depth, a level east having been driven to connect with No. 2 shaft, which at the point of connection is 150 feet below the surface, the latter shaft being 235 feet below the surface. The 203-foot levels east and west are run as rapidly as means and men will permit, the former being 50 feet in length and the latter 80 feet. The westerly level will be continued on under the top of the crest of the mountain, which it strikes at a depth of 250 feet. Stopping has been commenced above the level, both east and west of No. 2 shaft, showing 6 to 8 inches of ore, and the east stope on the average of about 6 inches. The level running west from the bottom of the Wilson & Cross shaft, with that from No. 2 shaft, when completed, will open up for stoping some 1000 fathoms of stoping-ground, in a length of 450 feet.

#### LAKE COUNTY.

**AMIE.**—Leadville Herald: The large ore-body found in the Amie, near the Climax line, is more extensive than at first supposed. There seems to be an immense deposit of very high-grade ore, being partly on the Climax and partly on the Amie.

**BIG PITTSBURG.**—Leadville Democrat: In the Keene shaft, a depth of nearly 200 feet has been reached. The bottom being in water and broken contact-matter, the first greatly retards the work, and the contact is not sufficiently solid to follow.

The Leadville Herald says: A new shaft has been started on the Joe Bates claim, belonging to the Big Pittsburg combination, by Mr. George Daly, who recently assumed the management of the mines. The old Bates shaft is in bad condition, besides being inconvenient for working the ore-body recently developed. The new shaft is located 250 feet northeast from the former one, and has already reached a depth of twenty feet. The shaft is to be divided into two compartments, one of which is to be 4 by 4½ feet in size, and the other 3½ by 4½ feet. A new engine is being put up over the shaft on the Stray Horse claim, also belonging to this combination. In the McCormick shaft of this company, the drift is extending toward the ore-body just struck in the Hibernia claim, being the next property adjoining.

**CATALPA.**—The Leadville Herald says: A large, fine engine has now been put up, substantial buildings erected, the mine thoroughly timbered, and extensive drifts run. The main level running north at a depth of 205 feet extends about 80 feet. It has for a long distance been in good ore, and the side drifts running both ways are also in ore. The mine is being blocked out in a systematic shape. The daily production of ore is now from two to twelve tons.

**CHRYSOLITE.**—Leadville Democrat: The Chrysolite made two valuable strikes during last week. The first in the new second level east from the Roberts shaft, of twelve feet of ore, and the other in the north drift from the west level, of three feet of ore. Through the latter appears a handsome streak of chloro-bromide of silver running as high as seventy per cent of silver to the ton. From the second station in the shaft, \$30,000 was taken out.

The Leadville Herald of the 14th inst. says: The works at the Chrysolite are progressing as usual. Two connections are now made with the Little Chief workings. The main connection is by a drift running due east from the Roberts shaft at a depth of one hundred and thirty-four feet, that being the first station. This connects with the north drift of the No. 3 shaft on the Little Chief, and through this connecting drift a large body of fine ore is found. A drift running south on the line between the two claims is being run.

**CLIMAX.**—Leadville Herald: From the first of April to the tenth of May, the Climax Company sold ore to the amount of over \$82,000 net. Of this amount, over two thirds were produced during the last half of that term, thus showing the vast increase in the richness of the ore now coming from the mine. The large

yield for the past few weeks is creating a new interest in the center of Fryer Hill. The new shaft is 145 feet deep, and a drift to the northwest, to cut the rich ore-bodies now being worked, has been extended 20 feet. The small engine put up at this shaft broke down a few days ago, and the windlass is again used. The mineral is taken out of the southwest shaft by the use of a whim. The Climax ore has been, for a few weeks, the richest mined in the camp. On what is known as the contract claim of the Climax, which is separate and distinct from that owned by the Climax Mining Company, work is to be started at once. Work has been suspended upon it for several weeks; but owing to the rich developments lately made on the Climax and Amie mines, adjoining it, active work is to be again resumed.

**COLORADO PRINCE.**—The Leadville Herald says: The new mill is running full force and crushing ore well. It is not yet determined how well the gold in the ore can be amalgamated. The success of this mill will be of the greatest benefit to the South Evans District, and will also be of inestimable value to Leadville. The mill itself is a perfect success as far as the machinery is concerned, and works admirably.

**DENVER CITY.**—The Leadville Herald says: The work of enlarging the shaft is completed, and sinking will be at once resumed. On the large new shaft to the north, the machinery is in place. On the Shamus O'Brien, drifting is continued, and on the quadrilateral the shaft is still sinking.

**EVENING STAR.**—The Leadville Herald says: All three of the shafts are worked. The new north shaft near the Niles-Augustus mine has been in good mineral for some time, and drifts are being run therefrom. The ore produced from this shaft is above five tons daily. The main shaft shipments amount to about ten tons per day. On the east, some 400 feet above the main shaft, the large new compartment-shaft reached the contact a few weeks ago and a drift is running to connect with the other workings.

The Democrat says: The Morning and Evening Star mines have been connected by a cross-drift running between the respective workings. A strong current of air now circulates through the mines, going down the Morning Star shaft and out of the Evening Star. The draught is so strong as to require regulating.

**HIRBERNIA.**—The Leadville Herald says: The shaft was sunk a long time ago, and has reached a depth of 173 feet. From the landing, at a depth of 148 feet, a drift has been run northeast a distance of 20 feet, at which point it strikes the Robert E. Lee line and then turns to the north for a short distance. Just after leaving the point of intersection, and where the workings of the two mines have been connected, a raise on the ore-body has been made. Three sets of timbers have here been put in, and the top of the ore has not yet been reached. The ore-body here shows fully twenty-five feet in thickness, and all of extremely rich quality. From this point, the Hibernia has a strip of ground twenty-five feet in width and fifty in length, running between the Lee and Matchless. How extensive this ore-body just found in the Hibernia may prove, is of course not yet developed. Its richness may be inferred from the fact that large blocks are taken out that are full of chlorides of silver, and can be whittled with a knife like a piece of lead, and, instead of being lead, as was the case in the Lee, are pure chlorides of silver ore.

**IRON MINE.**—The Leadville Herald says: Great improvements are here in progress. The large new shaft-house over the south incline, in progress of construction at the time of the last visit, has been completed. The ore-house has not yet been begun, and the old ore-platforms are still used. About 100 tons of ore were yesterday piled upon these platforms, and wagons were then loading for the smelters. The daily shipments of ore from this mine now amount to about 150 tons. Work on the north main incline is being rapidly pushed, and, when that is completed, the ore output will be much larger. The employees at the mine now number about 600.

**LITTLE CHIEF.**—The Leadville Herald of the 14th inst. says: The first station is being put in the Daly shaft of the Little Chief mine, at a depth of 150 feet. In excavating for this station, yesterday, a fine body of galena ore was uncovered. An assay from this returned 179 ounces of silver to the ton, and the lead is of high percentage.

The same paper of the 15th says: The output of ore from this mine has been unusually large for some days past. The No. 7 shaft is turning out some rich chloride ore. The money to pay the present month's regular \$100,000 dividend is already earned.

**NORTH STAR.**—The Leadville Herald says: At a depth of 300 feet, the drill had passed through a body of iron and mixed carbonates. The drill then became stuck in the hole, and the greatest difficulty has been experienced in removing it.

**LITTLE PITTSBURG.**—The Leadville Democrat of the 14th says: When the mine was at its worst and the rumors of its played-out bodies thickest, every thing around, even the employes, showed the effect of the panic, until it seemed as if the days of the Little Pittsburg were numbered. Now, from every working shaft shipping-ore is hoisted, while the stacks of low grade are largely added to. The grade shipped is constantly improving, some of it giving a large return—as good as ever found in the mine. The work of prospecting is prosecuted and extended ahead of all mining. To the south of the old workings, the indications are of the most favorable character, disclosing mineral in streaks of from six inches to three feet throughout. So well does this end show up that Superintendent Herrick has determined upon a different course of development; and as soon as suitable arrangements can be made, he will begin sinking a large prospecting and working shaft on the extreme south end of the New Discovery claim on Stray Horse Gulch. It is his intention, to sink 300 feet and then connect by a longitudinal level through the claim with the old workings. A shaft of that depth would explore all of the south end, while the level would be in the nature of a prospecting tunnel and open up all the intermediate country. The ventilation will be perfect, so that if mineral is found, it can be mined without limit. To the north, within thirty days all exploitation will be in full headway, and in from sixty to ninety days Mr. Herrick believes that the ore-bodies of that end will be reached and the expectations of the stockholders realized.

**ROBERT E. LEE.**—The average of ore-shipments from the Lee for nearly one half-year has been very close to forty tons a day. What it is worth can only be surmised, but certainly they are tremendous figures.

**O'DONAVAN ROSSA.**—The Leadville Herald says: It is located on the southwest end of Carbonate Hill, below the May Queen, and south from the Carbonate mine. The shaft upon it is now sinking by contract, and has reached a depth of seventy-five feet. In the past few feet, the character of the rock has greatly changed, has become softer and gives good promise. The rock above is lime, similar to that found in the Glass-Pendery consolidation.

**PARK MINES.**—The Leadville Herald says: The incline running east from the shaft on the Park mine has struck a good body of ore. The shaft on this property is on the east side of Adelaide Park, and the drift or incline is running directly toward the Brece iron mine.

#### PARK COUNTY.

A correspondent of the Denver Tribune, writing from Alma, says: The London mine at the head of Mosquito has just opened, by a cross-cut from the lower tunnel, a body of carbonates two to six feet in thickness, the ore being rich in silver and lead, and running from \$20 to \$200 in gold. At the head of the tunnel, another vein has been opened, exposing a width of from six to ten feet of free-milling gold quartz. The upper tunnel of this mine has cut both veins, the lead vein of smelting-ore having a thickness of from four to six feet.

The superintendent of the Boss mine, Pennsylvania Gulch, says that the double shift which he is working is beginning to tell upon the openings, and the tunnel on the mine is between 35 to 40 feet in already. The vein of iron carbonate ore has been considerably broken up and near the surface; but where work is now going on, it has assumed a much more solid appearance, and seems to be running to a regular position between walls of porphyry and quartzite. There are about

five feet of ore in the thickness of the vein, and it is pitching into the hill more than at first. The amount of galena in the ore is also increasing.

SAN JUAN COUNTRY.

From the Lake City *Silver World*:  
Three shafts are working on the Salamanca Tunnel, now in 78 feet. The tunnel is not on the vein, but in the country-rock alongside. The vein will be cross-cut Monday. Points already touched here and there show that the quartz is full of brittle and ruby silver, both very handsome.

The Lode Star shaft has reached a depth of 35 feet, and is pushed down as rapidly as three shifts can sink. Last Monday, a rich body of ruby silver was struck, assaying 500 ounces to the ton.

The Golden Crown, at the foot of Red Mountain, has been opened 18 feet. The vein has been cross-cut 15 feet, and but one wall found yet. The ore is hematite iron, and is showing up better than ever, and settles the question of iron for fluxing purposes.

In the Caple lode, an open cut and tunnel have been run in along the vein, and are now ten feet under cover. The vein is about a foot wide, with mineral scattered through the quartz.

The Dolores *News* of the 8th inst. says:  
In the Newman mine, there are three levels run, at present, and a fourth was begun on last Thursday. The upper level, run at a depth of 160 feet, is well timbered, showing between the lagging large bodies of valuable carbonates. The vein-matter is found in and among lime or porphyry, showing galena, black and yellow, soft and hard carbonates, with green stain of carbonates of copper. It is about twenty feet from the floor of the upper level to the floor of the present center or middle level. The middle level has reached a depth of 180 feet, and exposes a quantity of yellow chloride ore. The lower level is in a depth of 160 feet, through porphyry and lime.

SUMMIT COUNTY.

From the Kokomo *Times* of the 8th inst. we take the following:  
ROBINSON CON.—The Robinson Consolidated Mining Company has cleared the snow on a direct line from its mines to the Dickson smelter, which has never yet been in running order, and, having purchased the machinery of these works, will immediately remove it to the Robinson mines. The purpose of the company is to have the whole in working order at its mines within a few weeks.

WHITE QUAIL.—Monday, while some workmen were prospecting a new tunnel on the Elk Mountain mine, the White Quail, a solid formation of five feet of galena and sulphurets, running two hundred and fifty-two ounces, was reached. Specimens of the ore show the galena to be very fine-grained, while the sulphurets are of a darkish-blue color and very rich.

TIGER.—The development of the lode consists of a shaft about 63 feet in depth, with a drift north 25 feet and another south of the same length. From a short distance above the base of the shaft, mineral is found which extends each way with the drifts or adits, and has a thickness of 4 feet. The ore is genuine carbonates and galena.

DAKOTA.

STANDEY.—The Rochford *Miner* says: We are now pleased to chronicle the fact that all obstacles have been overcome, and the eve of starting the mill is upon us. The mill has 60 stamps, with a capacity of reducing 4000 tons of ore a month. It is a substantial structure, with all the modern improvements. Its location is well chosen in the valley of the Little Rapid Creek, some 600 feet below the croppings of the mine. The ore is dumped into the roof, passing through the improved Blake crushers to the bins, thence by Tullock's automatic feeders to the batteries, when it passes out in impalpable powder to mingle with the waters of the stream, depositing its free gold on the amalgam coppers and plates.

GREAT EASTERN.—The Black Hills *Herald* of the 5th inst. says: The Great Eastern cleaned up to-day. The tunnel has attained a length of 160 feet without reaching wall-rock, and the ore all of the way of uniform richness, giving this mine an immense body of low-grade, easily-worked ore. A tunnel is running on a lower level, starting into the hill about 200 feet from the ledge, and is in quartz which prospects all the way through it in a distinct ledge from the Flora Belle.

SILVER PLUME.—According to the Black Hills *News*, this mine, owned by a Montreal corporation, has a tunnel now in over 100 feet, and well timbered, and will tap the ledge in 300 feet more, when connection may be had by a shaft from the surface, sunk on the ledge.

MONTANA.

We condense from the Butte *Miner* of the 11th inst., as follows:  
ALICE.—This mine produces about 50 tons of ore per day, of average grade. No effort is made to select it, as every pound of that now extracted pays well for milling. The main shaft is down 50 feet from the 500-foot level, and thirteen square sets have been placed in position. The rock is hard, rendering two hammers necessary for each drill. The water is well under control.

GRAY ROCK.—A new ledge has been found in each of the cross-cuts running east and west from the face of the main level at a point 225 feet west of the 70-foot shaft.

COLUSA.—Work is progressing in the level running east and west from the bottom of the 160-foot shaft. The east drift has reached a length of 200 feet without showing any material change. Some rich copper pockets are occasionally met with, but no permanent improvement is likely until a greater depth is attained.

LA PLATA.—This mine is actively developing in the level which runs west from the main or 80-foot shaft. The ore product averages fifteen tons daily, of a free-milling character.

NEVADA.

BRISTOL ITEMS.—We quote from the Pioche *Record* of May 8th: In the new bonanza in the Mendha, of the Hillside Company, at Highland, every shaft and drift is in ore, and developments are hurried forward. The underground working force has been largely increased, and teams put on capable of hauling to the furnace from 20 to 25 tons per day. The lessees of the Midnight mine, at Blind Mountain, have made arrangements to have their ore reduced at the Hillside furnace. About 20 or 30 tons will be shipped for reduction which will average about \$200 per ton. A large amount of mill machinery for the Bristol S. M. Co. is expected here from the terminus daily; also three car-loads of machinery in connection with the roasters are en route from San Francisco. The Hillside water-jacket is still in successful operation, reducing from 40 to 45 tons of ore, and turning out bullion to the amount of 150 bars per day. The artesian well-borer of the Bristol Company is making headway more rapidly. It is driven over 100 feet with 40 feet of water.

THE COMSTOCK.—The Gold Hill *News* of May 12th says of the outlook: Sierra Nevada is likely to make a development as soon as workings can be pushed on the 2400 level far enough north to allow cross-cuts to explore the lode under where it carried milling-ore in fair quantities on the 2300 level. This was about 1000 feet north of the incline. To-day, the north drift, 2400 level, has its face 680 feet from the incline, 83 feet having been made in that direction since May 1st. With the prospects on the 2500-level of Union all are familiar. The greatest forward movement of the week has been the resumption of sinking in the Union sump preparatory to pushing connections from that shaft. Another important connection has been started—that between winzes No. 1 and No. 2 on the 2500 level. All these workings look toward opening up the 2500 level of Union.

The water question in the middle mines is evidently a serious one. The stream which flows into the 2200 level of Savage is a living one; otherwise, it would have been exhausted long ago. The raising of its influx to the Suro Tunnel level devolves mostly now upon the Hale & Norcross pumps, since Savage has enough in its incline for its own pumps to handle. Chollar has plenty to do to take care of its own water and that from the 2400 level of Savage. There is a

prospect, however, of exhausting both these latter in-flows; consequently, of soon resuming operations on the 2400 level.

UTAH.

ONTARIO.—From the Salt Lake *Herald* we learn that the completion of repairs on the Ontario mill has been delayed beyond expectation. It is now thought that the mill will start up on the 17th, in which event the run will be a long and steady one, while the precious production will be greater, as the capacity for reducing the ore has been enlarged. Dead-work is still in progress in the mine, and will be for a few days after the mill starts up, as there is now so much ore in the ore-houses that until room has been made no more can be taken out of the mine. At that time, however, every thing will resume its accustomed liveliness and industry.

The Park County *Mining Record* says of this mine: There are now 4000 tons of ore in the ore-houses at the mine and mill that will average \$125, making half a million in round numbers. Drawings are being made for a Cornish plunger, with a capacity of 2000 gallons per minute.

PARLEY'S PARK.—The same paper says the Parley's Park shaft is going on finely. The shaft is down a distance of over 280 feet, and is going down at the rate of three feet per day. A new plunge-bucket has been telegraphed for, which will keep the shaft clear of water until a depth of 600 feet has been attained, which is the amount contracted for.

FAIRVIEW.—The Park County *Mining Record* of the 8th says: The Fairview incline is down over 150 feet. The vein is eighteen inches and widening, sampling \$18 to \$20, and improving lately. On Wednesday, a narrow seam of high-grade ore came in, and has been improving with every foot. The vein has a very healthy appearance. The quartzite horse has nearly disappeared, and the prospect ahead is brilliant.

EMPIRE.—The same paper says of this mine: On May 2d, the vein on the 300 level of the Empire was reached, but, before much progress could be made toward cross-cutting it, water came in so rapidly that the miners were driven back and the drift flooded. A perfect deluge poured down the shaft to the 400 station, covering the floor to the depth of fifteen inches. The pumps were started and the tank kept at work, but it took forty-eight hours to clear it. The 200 and 300 drifts were immediately bulkheaded, and are now nearly full of water. The pumping at the 300 station is draining the water from the 200 level, proving the vein continuous, even if it had not been cut into.

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 350 Tons Best Quality Hard Coal; Office of Sergeant-at-Arms, State House, Boston.....	May 22, 1880.
For Building a Town House in Walpole; Thomas W. Silloway, Architect, 71 Green street, Boston.....	" 22, "
For the Construction of a Sewer; Office Board of Public Works, Grand Rapids, Mich.....	" 22, "
For Laying New and Repairing Old Walks in the Parks; Department of Public Parks, 36 Union Square, New York City.....	" 22, "
For Cleaning the Streets, etc., etc.; Office of the Board of Health, southeast corner Sixth and Sansom streets, Philadelphia, Pa.....	" 22, "
For Furnishing Supplies for Light-Houses and Light-Vessels; Office of the Light-House Board, Washington, D. C.....	" 24, "
For Wire Work and Oil Cloth; O. H. Irish, Treasury Department, Bureau of Engraving and Printing, Washington, D. C.....	" 25, "
For Erecting a Laundry Building at Charity Hospital, Blackwell's Island; See <i>City Record</i> .....	" 25, "
For Provisions; United States Navy Pay Office, Philadelphia, Pa.....	" 25, "
For the Carpentry and Brick Masonry of an Opera House and Commercial Block; J. T. Fanning, Architect, 961 Elm street, Manchester, N. H.....	" 26, "
For Building and Grading One and a Half Miles of Road; Court House, Plymouth, Mass.....	" 27, "
For Erecting a County Clerk's Office; Archimedes Russell, Architect, No. 10 Learned Building, Syracuse, N. Y.....	" 27, "
For Material and Workmanship Required for the Construction of the New Cook County Court-House; E. F. C. Klokke, Clerk, Michigan street, Chicago, Ill.....	" 30, "
For Iron Work; Office of Supervising Architect, Treasury Department, Washington, D. C.....	June 1, "
For Wire Fencing (Canadian Pacific RR.); F. Braun, Secretary, Department of Railways and Canals, Ottawa, Canada.....	" 1, "
For Coal Shed and Trestle; D. Pottinger, Chief Superintendent, Railway Offices, Moncton, N. B.....	" 1, "
For Quartermaster's Stores; Quartermaster's Department, Jeffersonville, Ind.....	" 2, "
For Furnishing Rations and Ship Chandlery for Revenue Vessels; E. A. Merritt, Custom House, Collector's Office, New York City.....	" 2, "
For Dredging in Boston Upper Harbor, Commonwealth of Mass.; Harbor and Land Commissioner's Office, Boston.....	" 3, "
For the Construction of Two Lift Locks and Other Works on the Greenville Canal; F. Braun, Secretary Department of Railways and Canals, Ottawa, Canada.....	" 3, "
For Furnishing Labor and Material for Pipe Laying; Building Committee of the Northern Hospital, Winnebago, Wis.....	" 3, "
For Lock-Gates for the Lachine Canal; F. Braun, Secretary, Department of Railways and Canals, Ottawa, Canada.....	" 3, "
For Lock-Gates for the Welland Canal; F. Braun, Secretary, Department of Railways and Canals, Ottawa, Canada.....	" 3, "
For the Work of Construction on Extension of the Vicksburg, Shreveport & P. RR.; Office of General Manager V., S. & P. RR. Monroe, La.....	" 5, "
For Indian Supplies and Transportation; R. E. Trowbridge, Department of the Interior, Office of Indian Affairs, Washington.....	" 7, "
For Fuel, Forage, and Straw; Depot Quartermaster's Office, corner of Houston and Greene streets, New York City.....	" 10, "
For Fuel, Forage, Straw, Stationery, etc.; Jeffersonville Depot of the Quartermaster's Department, Jeffersonville, Ind.....	" 10, "
For Rations; United States Marine Corps, Quartermaster's Office, Washington, D. C.....	" 10, "
For Fuel, Forage, etc.; Assistant Quartermaster's Office, United States Army, No. 1139 Girard street, Philadelphia, Pa.....	" 10, "
For Trucking Government Stores; Depot Quartermaster's Office, Houston and Greene streets, New York City.....	" 10, "
For Erecting a Stone Jail at Lebanon; A. B. Marshall, Secretary Building Committee, Lebanon, Ky.....	" 15, "
For the Construction of Swing and Stationary Bridges; F. Braun, Secretary, Department of Railways and Canals, Ottawa, Canada.....	" 15, "
For Supplying Wood and Coal to the U. S. Marines, U. S. Marine Corps; Quartermaster's Office, Washington, D. C.....	" 15, "
For the Work of Construction of the Tampa Peace Creek and St. John's River Railroad (200 miles) in Florida; Daniel L. Boone, Secretary, Room 22, Boone Block, 133 La Salle street, Chicago, Ill.....	" 15, "
For Steam Communication round the Island of Jamaica; British Consulate, No. 17 Broadway, New York City.....	" 21, "
For Swing and Stationary Bridges; F. Braun, Secretary, Department of Railways and Canals, Ottawa, Canada.....	" 21, "
For Material for Use of the Government Printing Office; Join D. Defrees, Public Printer, Washington, D. C.....	" 30, "
For Stores for Grand Trunk Railroad Company; Joseph Hickson, General Manager, Montreal, Canada.....	July 1, "
For Rolling Stock; F. Braun, Secretary, Department of Railways and Canals, Ottawa, Canada.....	" 1, "
For Lighting the City of Guayaquil; R. & C. Degener, No. 50 Wall street, New York City.....	" 31, "
For Competitive Designs for the Provincial Parliament and Departmental Buildings; Department of Public Works, Toronto, Ontario.....	August 1, "



## FINANCIAL.

## Gold and Silver Stocks.

NEW YORK, Friday Evening, May 21.

The market has been dull and almost without exception prices have declined. The fancies have been especially weak. It is expected that the new Mining Exchange will be opened for business next week, the delay having come from the inability to prepare the rooms for occupancy. It is generally believed that this Exchange, with a list of members largely experienced in mining matters, and possessing a great deal of energy, will have a very beneficial effect upon the mining market, and add greatly increased life thereto. This Board being backed by the Mining Trust Company, which will make loans upon the principal stocks, will make mining speculation much easier, and will also add to the bulk of the business. There was a good tone to the market at the close.

The Comstock shares have been only moderately active, and have shown considerable irregularity. California records sales of 1650 shares at \$2.65@ \$2.15. Consolidated Virginia has had a very fair business, the sales aggregating 5560 shares at \$3.35@ \$2.95. Sierra Nevada has been dealt in to the extent of 380 shares at \$14@ \$17. This is a much larger business than usually takes place in this stock in this market. Yellow Jacket records 25 shares at \$5¼. Best & Belcher, 10 shares at \$11¼. Consolidated Imperial has been quiet, and although at one time showing strength, has weakened. The sales aggregate 3650 shares at 38@ 30c. Union Consolidated has been dealt in to the extent of 100 shares at \$23¼@ \$22¼. Mexican, 50 shares at \$10¼.

The Bodie stocks have been quiet, and while the principal ones have been well maintained, the cheaper shares have generally been weak. The sales of Bodie have been very much smaller than for months, amounting to but 25 shares at \$7¼. Standard, although somewhat quiet, has been fairly maintained, the sales aggregating 1653 shares at \$27¼@ \$29¼. Bechtel has been very quiet, with sales of but 450 shares at \$1¼@ \$1.45. Bulwer, although quiet, has been gaining in strength; the sales amount to 900 shares at \$5½@ \$6.38. Goodshaw, with a moderate business, has been weak, the sales aggregating 3655 shares at 90@ 75c. May Belle only records 1000 shares at 20c. South Bodie, with a moderate business, was inclined to strength, but was weak to-day, the sales aggregating 3200 shares at 33@ 38c. South Bulwer, with a fair business, has been weak, the sales amounting to 3630 shares at \$1.40@ \$1.20. Tioga has been dealt in to the extent of 300 shares at \$1¼@ \$1.60.

The Tuscarora stocks have been quiet but strong. Belle Isle has attracted the most attention and risen to the greatest extent. The sales amount to 2170 shares at 40@ 55c. Grand Prize has been dealt in but to the extent of 100 shares at 95c. Independence, with dealings of 200 shares, sold at 60c. Martin White has been a little weak, the sales amounting to 200 shares at 60@ 55c. Tuscarora records 1500 shares at 18@ 17c.

The miscellaneous San Francisco stocks have been quiet and without any feature whatever. The sales have been as follows: Eureka, 125 shares at \$19; Caldonia (B. H.), 600 shares, at \$2¼; and Tip Top, 100 shares, at \$5¼.

The dealings in the stocks of our regular list have been as follows: Amie, with a very fair business, has been quite weak, the sales aggregating 3775 shares at \$1.80@ \$1.45. Caribou has been without a transaction. Climax has been quite active and very weak, the sales amounting to 12,917 shares at \$2.80@ \$2. Deadwood only records 100 shares at \$15. Excelsior has been more active than of late, and a shade weak, the sales aggregating 545 shares at \$16@ \$15. Findley has had a very fair business at weak prices, the sales aggregating 14,400 shares at 29@ 23c. Great Eastern has been quiet, as compared with recent weeks, and also weak. The sales amount to 21,800 shares at 74@ 61c. Green Mountain, with a very fair business, holds about the same position it has held for several weeks past. The sales amount to 5265 shares at \$3.45@ \$3.10. Homestake has been very quiet, the sales amounting to but 80 shares at \$32¼@ \$31¼. Horn-Silver is receiving a little more attention at prices a shade weak, the sales amounting

to 520 shares at \$17½@ \$17¼. Hukill, with quite an active business, has been weak. The sales aggregate 27,600 shares at \$2.20@ \$1.90. Leadville has been both quiet and weak, with sales of 3950 shares at \$2.35@ \$1.75. Little Chief has had a good business at improving prices, the sales amounting to 5775 shares at \$9@ \$10. Little Pittsburg, with a fair business, was for a time quite weak, but has since recovered. The sales aggregate 1640 shares, at \$5¾@ \$7. Moose has been active but very weak, the sales amounting to 10,580 shares, at \$1@ 80c. Ontario has received a little more attention, but has been very steady, the sales amounting to 355 shares, at \$32. La Plata has been very quiet but steady at \$4¼, with sales of 300 shares. Calaveras has been very active, and at the same time quite weak. The sales aggregate 74,500 shares at 94@ 63c. Central Arizona has made some violent fluctuations, for which it has been noted. The business in this stock has been very fair, with an upward tendency to prices. The sales aggregate 7860 shares at \$4@ \$7¼. The Quicksilver stocks have had a moderate business at lower prices. The sales of Preferred aggregate 2500 shares at \$58@ \$52½, and of Common 550 shares at \$10½@ \$9½. Rappahannock has been quiet and a shade weak, the sales amounting to 8400 shares at 29@ 27c. Shamrock has been quiet and fairly steady with sales of 23,510 shares at 80@ 98c. Silver Cliff has been very quiet and only fairly steady, the sales amounting to 1675 shares at \$4¼@ \$4. Sutor Tunnel, with a moderate business, was for a time inclined to strength, although since weakened. The sales aggregate 11,370 shares at \$2@ \$1¼.

The dealings in the fancies have been as follows: American Flag, 6300 shares at 50@ 41c.; Buckeye, 66,300 shares at 43@ 37c.; Dahlonega, 6900 shares at 13@ 10c.; Gold Placer, 23,000 shares at 73@ 64c.; Granville, 13,550 shares at 20@ 16c.; Lacrosse, 6600 shares at 40@ 31c.; and Lucerne, 7500 shares at 20@ 17c.

The failure of J. P. Paige, a broker at the Mining Exchange, caused a slight flurry during the week.

We have before us the prospectus of the Tiorgue Gold and Silver Mining Company, of Colorado. The company is organized under the laws of Illinois, and has a capital stock issued, fully paid, of \$1,000,000 in shares of \$10 each. Office in Chicago. The company has been working its mines since last October with an expenditure of \$5000, and stock is now offered for sale at \$2 per share. The prospectus contains a report from the president, from which we gather that the property of the company consists of certain almost unproven veins in Sugar Loaf District, Boulder County, and in Big Evans Gulch, Mosquito Range, near Leadville, Colo. The country-rock is described as "granite with a large outcrop of white spar or virgin quartz." On the dump are said to be 300 tons of concentrating ore which it is estimated will average \$40 per ton mill-run. In conclusion, this report "incidentally mentions the fact that there are parties backed by Eastern capitalists who are making arrangements to erect works for an improved process for the treatment of telluride ores, which, if successful, will revolutionize the expensive, awkward, and unscientific manner heretofore used in the treatment of our ores, and enhance the value of the company's property a thousand fold." (The Italics are ours.) The engineers' report contains nothing of interest.

The Tiorgue Company may be controlled by good men of sound financial and social standing, and the enterprise in itself may be a legitimate one, with fairly good undeveloped prospects; but the prospectus does not appear to us to give sufficient evidence and facts to warrant the public in paying at any such rate as \$200,000 for the property.

The meeting of the stockholders of the Leadville and Shamrock was held yesterday, and they decided to consolidate the two companies on the original basis of 1¼ shares to the Leadville and ¼ of a share to the Shamrock. The company has now a capital of \$4,000,000 in 400,000 shares of \$10 each. Chrysolite has passed its dividend.

The American Exchange says:

"As the summer month's approach, indications point to an increased interest in mining properties. A long, tedious and stormy winter is just about drawing to a close in the mountain regions, and renewed confidence is apparent in all exchanges received from the different mining sections. At Bodie, the situation is one of hope, and the predictions made by eminent scientists and practical mining men seem about to be verified. On the Comstock, the feeling is decidedly cheering, and the typical 'old timers' are confidently predicting a bonanza season. Outside district

are showing signs of life, and soon we may hope to hear good reports from Candelaria, Aurora, Homer, Lake, and many other sections of California and Nevada, while the preparations being made for development in Arizona, Colorado, Utah, and Montana continue to assume great proportions.

"On June 1st, the American Mining Exchange will throw open its doors to the speculative public, and, we have means of knowing, will commence business under very favorable auspices. In connection with the business being done by the New York Mining Exchange, a new impetus will be given to all matters connected with the two boards. Gradually, but surely, the public is being educated up to the idea that mining securities are as profitable and lasting in their character as are any other line of stock-dealing enterprises, and the fact is becoming patent that no more risks need be taken in handling mining stocks than in many other branches of business. People educated in a particular line of business, the details of which have become familiar to them by years of association, are naturally timid about new enterprises, and need to be assured that legitimate dealing will mark their management. This result can be attained only by honorable transactions, guided by strict rules of business dealing, and all should combine to frown down any mining scheme which can not stand the criticism of the intelligent masses."

According to the statement of William Brandreth, the General Superintendent of the Granville Gold Company, the company's property is now being worked, and there are prospects of returns to the stockholders at an early day. We hope that the expectations may be realized.

We hear unfavorable reports of the Bonanza Chief mine in Montana, that the ore turned suddenly into iron pyrites, carrying scarcely \$6 per ton, on reaching water-level at only 16 feet; that "a few tons of selected ore did run about \$40 per ton, but the next lot of ore sent to the same mill did not pay expenses, and the new mill of the company has just cleaned up a run of about twenty-five days, which produced, as they say, about \$3000—something over, I believe—and they claimed to have treated only about 275 tons during that time, while in reality, and according to their own statements and reports, 25 tons per day were treated during that time." The intrinsic value of the mine is stated by our correspondent to be very small, and he doubts if the mill can be kept running without loss.

THE ALTA-MONTANA Co.—We have received unfavorable reports concerning this property also. It is said that "stock or shares in the company have been given away in quantity for the most trifling services; in many instances, this paper has been forwarded to New York to be sold for any cash consideration it would fetch." \* \* \* "It is also rumored that the Alta, Montana stockholders have not a good title to the mines and other property now supposed to be in their possession."

It is evident that proposing investors should exercise caution in purchasing interests in these concerns; at the same time we shall be pleased to give space to further information from any responsible source concerning these properties which have already secured capital in the East.

Among the companies soliciting public attention is the Progressive Mining Company, formed for the purpose of mining iron and other minerals, accumulating and furnishing water for mining purposes, constructing and using mining machinery for mining purposes, and buying, selling, importing, exporting, and transporting ores, metals, and mineral substances. The company commenced operations on March 10th, and has four mines in Lehigh County, Pa., in operation. The stock is issued fully paid.

The following letter received by us is followed by an official reply:

NEW YORK, May 14, 1880.

EDITOR ENGINEERING AND MINING JOURNAL:  
DEAR SIR:—Some three months ago, the officers of the Stormont Silver Mining Company promised the stockholders a financial statement of its affairs. It was said to be in the hands of the printer in January. Of what use are distinguished professors in Columbia College as officers and trustees of a mining company unless they, with their associates, conduct its affairs in such a manner as to inspire the confidence of the stockholders? In behalf of 2000 shares, yours, etc.,  
A SHAREHOLDER.

MY DEAR SIR:—No statement has ever been made, not that the public are to be kept in ignorance of "Stormont" matters, but owing to the fact that other business, more necessary, has prevented. A statement to-day would only give the bullion receipts and monthly expenses, which are both heavy. Very respectfully,  
WILLIAM W. JOHNSON,  
Secretary.

P. S.—I have (to-day) returned from the mines, and can report the same as developing finely.  
W. W. J.

We are in receipt of prospectus of the Olsen mine, whose property is located in Tuolumne County, Cal. We make a few extracts:

"The property of the company consists of a mining location, 1500 feet long by 600 feet wide, 25 miles southwest of Sonora. Development work thus far consists principally of a main working-shaft, 116 feet deep, with several drifts and levels. The width of the vein is fully 10 feet. The ore taken from these workings has yielded from \$27 to \$96 per ton, averaging about \$45 per ton of gold and

silver. The ore in sight is estimated at 7000 tons, of a good milling grade, representing in gross value \$255,850, or net \$198,000. Hoisting-works, a 10-stamp mill, and other appliances will cost \$21,000. A 10-stamp mill can reduce 25 tons of ore per day. The above figures are based upon the report of Mr. Thomas Price, J. O. Brown, and Mr. J. W. Gaswiler, who have made equally favorable reports, which are embraced in the prospectus. The company proposes to make the necessary improvements at once, in order to open up and work the mine.

The official directory of this company is such as to inspire confidence, embracing such well-known names as the Hon. Milton S. Latham, President; D. F. Verdenal, Vice-President; Elisha Riggs, Treasurer; and Secretary, A. T. Beach, Esq.

#### QUOTATIONS OF UNLISTED MINING STOCKS.

Messrs. Trask & Francis, of No. 70 Broadway, under date of May 21st, 3 P.M., report the current quotations of unlisted stocks as follows:

	Bid.	Off'd.		Bid.	Off'd.
Bassick.....			Julian.....		
Breece.....	1.00	1.80	Little Chief.....	\$0.75	10%
Bull-Domingo..	\$5.75	6%	May Flower.....		
Briggs Con.....			Native Silver.....	\$1.50	
Bald Mountain..	.50	.60	New Phil'd'p'a..	1.00	
Cherokee.....	.95	1.00	O K & Winneb'o..	\$1	1%
Chrysolite.....	\$14.75	15%	Penobscot.....		1%
Carbonate.....			Plata Verde.....		2.00
Carbonate Hill..	.50	.60	Red Elephant.....		2.00
Dunderberg.....	\$2.75	2.90	Recker.....		
Empire Utah.....			Rollins.....		
Endowment.....			Sir Rod'k Dhu.....	1.00	
Elko Con.....			Standby.....	4.00	
Father de Smet..		\$17.00	Stormont.....	\$3.75	
Fresland.....	\$4.00	\$4.75	Spring Valley.....		6%
Harshaw.....		17.00	Silver Nugget.....		
Highland Chief..		17.00	Trinity.....		2.00
Homer.....			Van de Water G.....	2.00	
Horn-Silver.....	\$16.75	17.75	Robinson Con.....	\$5.75	6.00
Hortense.....		.90			

#### OFFICIAL LETTERS.

**Alta-Montana.**—The president of this company telegraphs under date of May 15th:

"The cross-cut is in 128 feet; 24 feet in ore. The face is looking splendid. No sign of hanging-wall."

**Bull-Domingo.**—A telegram received from this mine on the 21st inst. says:

"Whole face of Williams tunnel in ore. Smelters producing 8000 pounds of bullion daily."

**Big Pittsburg.**—In the Keene shaft, it is said that a depth of nearly 200 feet has been reached. The bottom being in water and broken contact matter, the first sufficiently retarding the work, and the contact is not sufficiently solid to follow. The Banker shaft, as the new one just started by Superintendent Daly has been called, is a couple of hundred feet west of the Keene, and is being built after the fashion of that which bears the said superintendent's name, on the Little Chief. It is 4x8, two compartments, Comstock style of timbering, and is down fifty feet already.

**Bulwer Consolidated.**—On the 9th inst., the south drift of this mine was in on the ledge 152 feet; the face in 2½ feet of good ore. The upraise was in 102 feet, carrying 2 feet of good milling ore in the face. In the Stonewall stope, the ledge was 3 feet in width, and the ore of good quality. The north drift from the Ralston vein was in from the tunnel 203 feet, with the character of the ledge unchanged.

**Boston Consolidated.**—Recent dispatches, which are said to be trustworthy, announce that a very important strike has been made in Boston Consolidated, and that ore is now being taken out of the 200-foot level worth \$5000 per ton. Since the strike, the stock has advanced in the San Francisco market over 100 per cent. The Boston Consolidated is located on Queen Bee Hill, over 1½ miles from the celebrated Standard mine. This new development, taken in connection with the recent strike in the Noonday and other mines in the southern part of the Bodie District, is strong proof of the great southern extent of this mineral belt, which has recently attracted so much attention from mining men.

**Central Arizona.**—It is said that the water difficulty which has been troubling this company for some time past has been settled. Prof. Thomas Price, who was sent by the officers of the company to investigate the insufficiency of the water supply, makes a report as follows:

"The plan to convey water to the mine will succeed and give all the water needed."

"There was at the time of my visit a stream of fully fifty miner's inches, which is equal to a delivery of 750,000 gallons per 24 hours, 350,000 being sufficient for all demands of your mill."

**Copper Knob.**—The new hoisting-works of this company, it is said, are about ready to start up. About \$20,000 worth of ore is now on the dumps. At a meeting of stockholders, to be held June 7th, the capital stock of the company will be increased from \$300,000 to \$500,000.

**Caribou.**—This company proposes to increase its capital stock as per notice given in our advertising

columns. The object of this increase is to acquire the No Name, Spencer, and Columbia mines. It is said that this combination of properties can be worked through the Caribou main shaft, and the lessened expenses of mining and management, with the increase of ore and bullion product, will more than compensate for the proposed increase of stock. The company will then virtually control all the prominent mines on Caribou Hill on the east.

**Carbonate Hill.**—The superintendent of this mine reports the main shaft down 276 feet. Drifting from this shaft will soon begin, for the purpose of discovering the rich ore-body which underlies the Little Giant.

**Cronell.**—A letter from the superintendent of this mine, dated May 18th, says:

"Am doing nothing in south shaft. Plenty of good ore in sight, but no place for it when raised, as bars and dump are full. Am putting timber in main shaft. Main shaft down 42 feet, and have struck water. Kimball Hill prospects good. Plenty of rich ore there, easy of access. Have over 80 tons from Kimball Hill shaft on dump. Quartz shows plenty of free gold."

**Chrysolite.**—From Mr. Keyes's regular weekly letter from this mine, dated Leadville, Colo., May 10th, we make the following interesting extracts:

"Carboniferous shaft V, 170 feet north of the Roberts, on Section B 34-35, is now down about 18 feet. The Roberts shaft is still in hard iron—the inflow of water renders progress slow. There has been a general improvement in all the ore-faces during the past week. The east drift and cross-cuts from the Roberts second level could scarcely be better. A heavy streak of black carbonate ore, flecked with patches of green chloro-bromide of silver, fills nearly one half of the face east."

"The first cross drift north from the west drift 2 level is to-day one half in heavy sand carbonate. The main level west shows some sand-streaks and stained vein-matter. The south side of the main level shows good ore throughout. The sand carbonate streak still continues west and north on G 33. The underhand stope on F 31 shows a huge body of sand ore pitching below the level and widening both to the east and west. This, next to the Roberts shaft ore-body, is the finest in the mine. The Eva west ore-body is still rising and is four feet thick. The sand stope on B 29 continues as fine as ever. All recent settlements for ore show an increased value. We did no hauling yesterday. We shipped to-day 134 tons to smelters. Total, 898 tons, May 1st to 10th."

A dispatch dated May 20th notes a shipment of 340 tons on that day.

**Caledonia.**—Recent reports from Central City, Dak., state, that in the winze drift running south, good ore was coming in on all sides, and the stopes were yielding as usual. The ore-body in the discovery-shaft still maintained its size. The mill was crushing at the rate of three tons per stamp every twenty-four hours. A scarcity of water interfered with crushing at one time, but that difficulty has been successfully overcome.

**Dunkin.**—Telegraphic advices from this mine state that 120 tons of ore have been taken out for the month of May, which runs \$48.57. This company recently made a strike in the level running north from No. 3 shaft. It is three feet in thickness. A drift has been run in on it over fifteen feet, and is still in ore. The ore assays 216 ounces in silver to the ton.

**Hukill.**—There are now nearly 1500 tons of ore on the surface awaiting shipment. About two tons of first-class ore are taken from the mine daily. About 35 men are now employed in the mine in every capacity. The surface improvements consist of an engine-house, 83x28, an ore-house, 18x40, with blacksmith shop on the dump. The assay, business, and other offices are located in the old Whale mill. The engine is 35 horse-power and the hoisting apparatus the neatest and most perfect. This consists of a cage on which the cars are run, these holding a ton each.

**Iron Silver.**—The general manager, Mr. Keyes, writing from this mine under date of the 10th inst., states that 1057 tons of ore had been received and paid for, for the month up to that date, yielding a total of \$31,224. All the stopes are looking and yielding exceedingly well. On the Bullseye, we are cleaning out the north drift; at the south incline, we have driven 20 feet and have 1 foot of ore in the face; the second incline south has been timbered for 25 feet, and shows six feet of ore. Lime: We have drifted northeast 20 feet, and have two feet of ore on the face. Stone: We have drifted 10 feet, and have 6 feet of ore in the face. Rock: We have sunk the incline 20 feet, and 8 feet of ore in the face. Dome: Have been timbering all the week. The snow-storm has rendered the hauling very difficult; we hauled nothing yesterday. The dumps and drifts are full of ore. We shipped iron, 32 tons; total, 839 tons. Rock, 46 tons; total, 277 tons. Grand total, 1116 tons.

**Lucerne.**—Good progress is making in sinking the shaft. It is down about 34 feet in eighteen inches of top quartz, carrying mineral of a better quality than

heretofore encountered. The walls are becoming harder and better defined as the shaft descends.

**Little Chief.**—The general manager, writing under date of the 10th inst., reports that the total amount of ore received for the month amounted to 5012 tons, which yielded \$24,292. Generally speaking, the ore-bodies are looking better than at the time of the last report. The second east cross-cut from main drift north from shaft No. 4 has greatly improved. Shaft No. 8 developments improve as we go north. We shipped yesterday and to-day 252 tons. Mr. George Daly, the newly-appointed superintendent, under date of the 19th inst., reports: "Shipments on Monday, 232 tons; Tuesday, 188 tons; to-day (19th), about 175 tons. Mine looking well at all points. Total for three days, 595 tons." Up to May 17th, this mine had produced over 2000 tons of ore.

**Little Pittsburg.**—A dispatch from the superintendent of this mine dated the 19th inst., says:

"Shipped 155 tons, settled for 170 tons, unsettled 89 tons, remitted to company's office in New York \$6100, for week ending May 15th. New Discovery looking well, not much change in No. 6 Pittsburg. Getting ore under old works at No. 4 Pittsburg."

**Moose.**—The superintendent writes under recent date that they are still working in the limestone under the porphyry. The limestone is of very rich and excellent quality. We are still getting some excellent ore in the northeast corner of the Sagor stope. The mill run by a little over a five-ton lot was 310 ounces to the ton.

**Robinson Consolidated.**—The general manager, writing under recent date, says that the ore shipments are comparatively small, owing to the bad condition of the roads. The strike made in No. 2 north continues to show up very rich ore in all the cross-cuttings in the ore-body. The ore continues in the winze, being driven at the face of the cross-cut. The roads are in such a frightful condition that all hauling has been stopped. During this heavy thaw, the mine has made about 120,000 gallons water daily, which we have handled without difficulty thus far; it interferes with nothing but driving the main incline. No. 4 south cross-cut carries a heavy face of fine ore. I think this cut will show the ore-body to be over 125 feet in width. George B. Roberts shaft advanced 35 feet for the week; ore on roasters, 220 tons; ore on dumps, 1000 tons; ore shipped to Leadville, 10½ tons; number of men employed, 80.

**Robert E. Lee.**—A large amount of ore is accumulated, and is constantly hauled to the reduction-works. The leaching-works are in full blast, and are treating about twenty tons daily of low-grade mineral.

**Red Elephant.**—This company employs 140 men, producing, on an average, 30 tons of ore per day, of all grades. On the 12th inst., the company shipped 5 tons second-class ore, assaying 115 ounces; 39 tons of lower-grade ore averaging 26 ounces.

**Ore-Knob Copper Company.**—The directors have just issued their report to the stockholders, from which we learn that the undivided profits for the year, on the 1st of April of the present year, amounted to \$222,000, after deducting \$230,125, paid in dividends.

**Trinity.**—The superintendent reports that recent heavy snow-storms have interfered with work on the partially-completed ditch. It is expected that the flumes and ditch will be ready for use by June 1st. One hundred and forty Chinamen are employed in construction.

**Tariff.**—A recent letter from the superintendent reports that the tunnel was in 242 feet, and has cut another lode three feet wide. The west drift was in 115 feet, the vein ranging from two to four incl. s solid mineral, carrying considerable concentrating ore, and sprinkled with ruby silver and gray copper. The east drift was in 138 feet, and cutting good ore. The shaft was down 62 feet from the second level in a good mineral streak. Owing to defective machinery and an overflow of water in the shaft, work had been delayed. The east and west drifts were being rapidly pushed preparatory to stopping.

**Yavapai.**—Reports from the Yavapai Mining and Milling Company, Arizona, are to the effect that the main tunnel is in 59 feet, having cut the second ledge. It is believed that a further advance of 25 feet will result in the discovery of a third ledge.

**Spring Valley.**—Work on the bottom gravels of the Spring Valley Hydraulic Gold Company is going on rapidly. One shaft is down 115 feet, and the other

GENERAL MINING STOCKS.

Dividend Paying Mines.

Table with columns: NAME AND LOCATION OF COMPANY, Feet on Vein, Capital Stock, SHARES (No., Par Val, Total repaid to date, Date and amount per share of last), DIVIDENDS (Total paid to date, Last Dividend), HIGHEST AND LOWEST PRICES PER SHARE AT WHICH SALES WERE MADE (May 15, May 17, May 18, May 19, May 20, May 21), and SALES.

Non-Dividend Mines.

Table with columns: NAME AND LOCATION OF COMPANY, Feet on Vein, Capital Stock, SHARES (No., Par Val, Total repaid to date, Date and amount per share of last), and HIGHEST AND LOWEST PRICES PER SHARE AT WHICH SALES WERE MADE (May 15, May 17, May 18, May 19, May 20, May 21), and SALES.

g. Gold. s. Silver. L. Lead. c. Cop. per. \* Non-Assessable. † Assessment paid. ‡ Ex dividend. Total shares sold during the week.

95 feet. General work is proceeding satisfactorily, and the superintendent promises an early clean-up.

**Sir Roderick Dhu.**—The diamond drill on the Sir Roderick Dhu is now in 260 feet toward the Deadwood workings, the ore at the drill point assaying \$9. The superintendent recommends that a shaft be sunk to strike the drill at this point.

**Silver Cliff.**—The directors have just issued their first annual report, which states that the new mill, which began running on January 26th, has crushed up to April 1st 1928 tons of ore, that has averaged \$34 per ton, and yielded, net, in bullion, \$49,880. "These figures fall somewhat below those which would have represented the net bullion product had not the construction of the new mill proved faulty. It was calculated that the mill would crush sixty to eighty tons of ore daily; but so far, it has been impossible to mill more than forty tons, owing to inadequate drying facilities. Alterations are now making, which, when completed, will increase the daily capacity seventy tons."

**Sacramento.**—The superintendent reports, under date of May 15th:

"October Shaft.—We have driven here to 4 feet, making total length of drift 15 feet. No change in its appearance. The vein is still of an open character, and comparatively easy for driving.

"Stopping.—As last reported, one of our stopes had to be temporarily suspended on account of water. We shall resume it in a few days. All stopes working are looking very well, and yielding a fair quantity of good ore. We have shipped twenty tons this week only, but the ore is of extra good quality. I enclose statement of smelter, showing the sum of \$12,637.56, of which \$12,000 was remitted to New York last week. Next week I hope to be able to remit a large sum, the result of two weeks' work.

"The snow is fast melting. I trust to report a dry state of affairs soon, as I am anxious to push operations in the Lark winze. Average assay of smelter for 56 tons, May 8th, 266% ounces to the ton."

**Standard Consolidated.**—The superintendent in his last letter reports the mills as running to their full capacity, and every thing at the mine working smoothly. Since his last report, he had shipped two bars valued at \$30,705, closing the April shipments, which amounted in all to \$158,645.

**DIVIDENDS.**

The La Plata Mining and Smelting Company, of Leadville, on the 20th inst. declared a dividend of 7½ cents per share, payable on Tuesday, June 1st. Transfer-books close on Tuesday, the 25th inst., and reopen Wednesday, June 2d. The statement of the financial condition of the company shows that the cash capital is \$100,000. The balance surplus on April 1st was \$46,043, and the net earnings for the month of March were \$15,490; total, \$161,533. The dividend of 7½ cents subtracted from this, leaves the surplus, April 1st, \$146, 533.

The Empire Gold Mining Company has declared a dividend of 5 cents per share; also an extra dividend of 12 cents per share, both payable on the 24th instant.

The Little Chief Mining Company has declared a monthly dividend (No. 4) of 1 per cent, amounting to \$100,000, out of the fourth months' earnings of the mine. The dividend is payable on May 25th.

The Great Eastern Gold Mining Company of the Black Hills, it is said, will declare its first dividend soon.

The Eureka Consolidated Mining Company declared a dividend of 50c. per share on the 17th inst.

The Fresno Enterprise Mining Company has declared a dividend of 25c. per share, payable immediately.

In San Francisco, the North Consolidated Virginia has announced a stock dividend.

Chrysolite, although passing its dividend, has gained strength. It has been fairly active. The sales aggregate 10,095 shares at \$13@15½.

**REVIEW OF THE SAN FRANCISCO MARKET.**

While the San Francisco market does not open to-day at the best prices of the week, the list generally shows considerable improvement on the prices prevailing a week ago. The highest recorded prices were reached on the 17th and 18th inst., the principal stocks showing an improvement of about one third. The quotations to-day, however, mark quite a reaction, yet still an improvement on our last. It appears to be the general impression among our Pacific coast contemporaries that the worst period has been reached, and that the time is not far distant when a recovery will set in all along the line, and also that a "dividend" era is dawning. The following is going the rounds of the press:

"The Sutro Tunnel Company has just entered into an arrangement (in Europe) by which they will receive \$150,000 independent of royalty, and advances made subse-

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

NAME OF COMPANY	CLOSING QUOTATIONS.						Open- ing. May 21.
	May 14.	May 15.	May 17.	May 18.	May 19.	May 20.	
Alpha.....	5¼	5¾	6¼	6¾	6¼	5¾	5¾
Alta.....	2¼	2½	2¾	3	2½	2¾	2¾
Argenta.....	3	3-10	3-10	3-10	3-10	3-10	3-10
Bechtel.....	1¾	1¾	1¾	1¾	1¾	1¾	1¾
Belcher.....	3¼	3½	3½	3½	3½	3	3
Belle Isle.....	1½	1½	1½	1½	1½	1½	1½
Belvidere.....	2¾	2¾	2¾	2¾	2¾	2¾	2¾
Best & Bel.....	8¼	10¼	11¾	12¾	10¾	11¾	11¼
Blackhawk.....	19-32	.....	.....	21-32	.....	21-32	.....
Bodie.....	7½	7½	7½	7½	7½	7	7
Boston Con.....	1¾	1¾	1¾	1¾	1¾	1¾	1¾
Bullion.....	3	3½	3½	3½	3½	3½	3½
Bulwer.....	6	6¾	6¾	6¾	6¾	6¾	6¾
California.....	2¾	2¾	2¾	2¾	2¾	2¾	2¾
Cal. B. H.....	.....	.....	.....	.....	.....	.....	.....
Chollar.....	2¾	4¼	4¼	4¾	3¼	4	4
Con. Imp.....	11-32	.....	13-32	15-32	11-32	13-32	13-32
Con. Pacific.....	3¼	3¼	3	3¼	2¾	3¼	2¾
Con. Va.....	3	3¼	3¾	3¼	3	3¼	3¼
Crown Pint.....	17½	2	2	2¼	1¾	2¼	2¼
Dudley.....	1¼	.....	.....	1¼	.....	.....	.....
Eureka Con.....	18¾	19	19	19	19	18¼	.....
Exchequer.....	2	2½	2½	2¾	2¼	2¾	2¾
Goodshaw.....	.....	.....	27-32	19-32	11-16	21-32	.....
Gould & Cur.....	3¾	4¾	5¼	5¼	4¾	5	5
Grand Prize.....	15-16	.....	1¾	1¾	1	11-16	.....
Hale & Nor.....	3¾	3¾	4¾	4¾	4	4¾	4¾
Hillside.....	1¼	.....	.....	.....	.....	1¼	.....
Indep'd'nee.....	.....	.....	.....	.....	¾	13-32	13-32
Jackson.....	3	.....	3	3	.....	.....	.....
Julia Con.....	11-16	.....	¾	27-32	13-16	13-16	13-16
Justice.....	15-16	.....	1¼	1¼	1¾	.....	1¾
Kentuck.....	.....	.....	.....	.....	.....	.....	.....
Lady Wash.....	11-32	.....	½	15-32	11-32	15-32	.....
Leads.....	.....	.....	.....	.....	.....	.....	.....
Leopard.....	.....	.....	5-16	¾	5-16	.....	.....
Leviathan.....	.....	.....	.....	.....	.....	.....	.....
Mammoth.....	3½	3¾	3¾	2	.....	2¾	2¾
Manhattan.....	.....	.....	.....	.....	1	20-32	.....
May Belle.....	.....	.....	.....	.....	.....	.....	.....
Mar. White.....	20-32	.....	19-32	19-32	.....	.....	.....
McClinton.....	13-32	.....	13-32	9-16	.....	.....	.....
Mexican.....	7¼	8¾	9½	10	8¾	10	8¾
Mono.....	5¼	5½	5	5¾	5¾	5½	5¼
Navajo.....	¾	.....	3-16	¾	.....	3-16	.....
North Belle.....	10¾	10¾	11¾	11¾	11¼	11¼	.....
N. Bonanza.....	5-16	.....	.....	.....	.....	1.50	.....
N. Standard.....	.....	.....	.....	.....	.....	.....	.....
Nooday.....	.....	4½	4½	4¼	4¼	4¾	.....
Ophir.....	8¾	9¼	10¾	11¾	9¾	10¾	10¾
Orig. K's'se.....	.....	.....	.....	.....	.....	.....	2.05
Overman.....	.....	2¼	.....	.....	1¾	2¾	.....
Potomac.....	2¾	3	2¾	3¼	3	3¼	.....
Ray & Ely.....	.....	.....	.....	5-16	5-16	5-16	.....
R. de Monte.....	.....	.....	.....	.....	¾	11-16	.....
Savage.....	3½	3¾	3¾	4¾	3¾	4¾	4¾
Scorpion.....	.....	.....	.....	.....	.....	.....	.....
Seg. Belcher.....	.....	.....	.....	.....	.....	8	.....
Sierra Nev.....	10¾	13¾	16½	16¾	13	15¾	15
Silver Hill.....	3-16	.....	13-16	1	13-16	13-16	13-16
Silver King.....	.....	.....	4	4	4¼	.....	.....
S. Bulwer.....	1¾	.....	1¾	1¾	1¾	1¾	.....
Summit.....	.....	.....	.....	.....	.....	.....	.....
Syndicate.....	1¾	.....	1¾	1¾	1¾	1¾	.....
Tioga.....	1¾	1¾	1¾	1¾	1¾	1¾	.....
Top.....	.....	6	5¾	6	5¾	6	.....
Trojan.....	.....	.....	.....	.....	.....	.....	.....
Tuscarora.....	.....	.....	.....	.....	.....	.....	.....
Union Con.....	18¾	20	21¾	21¾	17¾	19¾	18¾
Utah.....	.....	.....	.....	.....	.....	.....	.....
Wales.....	.....	3	.....	3	3¼	.....	.....
Yel. Jacket.....	5¼	5¾	6	7¼	6¾	7¼	7¼

quently by the Comstock Lode for the lateral tunnel. This sum is to be employed in putting a double track in the tunnel, so as to take out the low-grade ores of the Comstock Lode. A company is about to be formed for the purpose of erecting mills at the mouth of the tunnel, and to prospect the ledges cut and belonging to Sutro Tunnel Company. All expenses for prospecting, working, etc., will be borne by the new company and Sutro Company, who are largely interested, and will partake of a considerable portion of the net profits."

It is hinted that the ores from the leading Comstock mines are being graded below \$40 per ton, to evade the payment of the \$2 royalty to the Sutro tunnel.

The Virginia (Nev.) Enterprise says: "In the California mine, they have developed ore to the eastward of the old 1500-level stopes, which will mill \$30 per ton." There is no advantage to shareholders. Labor will get the price of extraction, and the balance will go to the mill men.

Consolidated Virginia opens at \$3¼, as against \$3 in our last. The drift connected with the north branch is 59 feet in length, leaving about 30 feet yet to go. The extraction of ore is again resumed in this mine.

According to the official figures, after adding the April products, the Consolidated Virginia Company had a surplus of \$245,274 in coin and 44,873 ounces un sold bullion, in the treasury, while the California Company had a coin surplus of \$48,207.

The Yellow Jacket shaft is down 3000 feet; after going 66 feet farther, it will reach Belcher's 3000 level. This stock opens to-day at \$7¼, an advance for the week of \$2 per share.

Considerable is anticipated from the developments to be made on the 2400 level of the Sierra Nevada mine. This stock opens at \$15 to-day, an advance of \$5 per share for the week.

Justice also shows quite an advance. At the annual

meeting of this company in San Francisco, on the 3d inst., the superintendent, in speaking of the argentiferous ore found in the mine, says:

"As this metal first presented itself on levels much higher in Justice than now found in a body in Alta, the presumption is; that on the Justice 1950 level the strata and bunches of rich ore found on the upper levels be concentrated and form a paying body. The Alta 1350 south drift is now only 30 feet from our north line, and in a very short time we shall be able to explore that level."

The superintendent presented his report, showing the tracing of the body of base ore in the mine from the 1300 to the 1650 foot level, but not containing a sufficient quantity to pay for extraction. All work was being done through the Alta shaft; which would make the expense of working the mine the ensuing year very light. The secretary's report showed receipts for the year amounting to \$355,076; expenditures, \$353,343, including \$68,765 of old indebtedness.

All work on the 1950 level of this mine was stopped on May 13th; cross cutting will be discontinued until the 1950 level is opened, which is now nearly ready.

The developments on the 2500 level of Union seem to be a very interesting point at present. This stock to-day is quoted at \$18¾, which is but a slight advance on the price recorded a week ago. On the 17th inst., however, \$21¼ was reached, declining on the 19th to \$17¼, and advancing to-day to the quotation noted.

**PHILADELPHIA MINING STOCKS.**

The subjoined table shows the opening, highest, lowest, and final sales of all the mining stocks dealt in at the Philadelphia Stock Exchange, and at the Philadelphia Mining Exchange, for the week ending the 20th inst.:

Stocks.	Open- ing.	Highest.	Low- est.	Final.	Sales Shares.
Argenta.....	\$0.40	\$0.40	\$0.30	\$0.40	25,330
Bechtel.....	1.40	1.50	1.40	1.40	2,400
Belle Isle.....	.40	.58	.35	.52	2,900
Buckeye.....	.38	.44	.37	.42	5,200
Bodie.....	6.50	6.75	6.50	6.50	120
Bodie Chief.....	.60	.65	.60	.65	1,500
Buena.....	.30	.35	.25	.25	30,300
California.....	2.05	2.15	2.00	2.15	400
Con. Imperial.....	.28	.35	.28	.32	3,400
Danless.....	.15	.15	.10	.10	9,200
Dahlonega.....	.11	.12	.11	.12	1,200
Findley.....	.27	.27	.22	.23	3,900
Gold Placer.....	.67	.69	.66	.68	2,100
Great Eastern.....	.69	.72	.61	.62	2,400
Granville.....	.19	.20	.17	.18	4,400
Hukill.....	2.00	2.12	1.95	2.12	1,600
Independence.....	.45	.55	.45	.52	2,600
Iowa Gulch.....	.25	.35	.25	.25	44,300
Leadville.....	2.05	2.05	2.00	2.00	1,100
Lucerne.....	.19	.19	.....	.19	200
Moose.....	.96	1.00	.88	.89	1,400
Orion.....	1.50	1.50	1.25	1.25	325
So. Hill.....	1.45	1.60	1.45	1.55	1,600
Shamrock.....	.89	.89	.77	.83	3,800
Sutro Tunnel.....	1.70	1.70	.....	1.70	500
Tomestone.....	4.00	4.50	4.00	4.50	190
Total sales.....	.....	.....	.....	.....	142,965

**Gas Stocks.**

NEW YORK, Friday Evening, May 21.

A slight decline is noticeable in the leading gas stocks; otherwise, there is no other special feature to note.

**Western Gas Association.**—INDIANAPOLIS, IND., May 13. —The Western Gas Association, in session in this city, elected the following officers: President, the Hon. Thomas Butterworth, Rockford, Ill.; First Vice-President, John Fullager, Cincinnati, Ohio; Second Vice-President, J. C. Zabriskie, St. Louis, Mo.; Secretary and Treasurer, Lee A. Hall, St. Louis, Mo. There will be an excursion of the Association around the Belt Road to-morrow, and a display of the water-works resources.

The following list of companies in New York and vicinity is corrected weekly by GEORGE H. PRENTISS, Broker and Dealer in Gas Stocks, No. 19 Broad Street, New York. Quotations are based on the equivalent of \$100.

COMPANIES IN NEW YORK AND VICINITY.	Capital Stock.	Par.	Rate per ann.	DIVIDENDS.		QUOTATION	
				Am. of last.	Date of last.	Bid.	As'd.
Mutual, N. Y.....	5,000,000	\$100	P. ct.	1½	July, '79	74	80
" Bonds.....	900,000	1,000	6	3½	Feb., '80	100	104
N. York ".....	4,000,000	.....	8	4	May, '79	102	105
Metrop. ".....	2,500,000	100	10	3½	Feb., '80	137	.....
" Certifs.....	1,000,000	.....	7	3¼	Feb., '80	100	.....
Harlem ".....	1,850,000	.....	6	3	Feb., '78	70	7
Manhat. ".....	4,000,000	50	.....	5	June, '79	103	105
Brooklyn, Bkln.....	2,000,000	50	15	5	Nov., '79	125	130
Nassau.....	1,000,000	25	.....	3½	Jan., '80	55	60
" Certifs.....	700,000	1,000	7	3½	Nov., '79	85	100
People's.....	1,000,000	100	.....	3½	Jan., '78	33	39
" Bonds.....	250,000	1,000	7	3½	Jan., '80	75	85
" Certifs.....	375,000	.....	7	3½	Nov., '79	90	100
Metrop. ".....	1,000,000	100	.....	5	Jan., '80	65	80
" Certifs.....	1,000,000	50	8	1½	Feb., '80	70	72½
W'msb'g.....	1,000,000	.....	7	3½	Jan., '80	95	100
Citizens.....	1,200,000	20	.....	2½	Feb., '80	67	70
" Bonds.....	315,000	1,000	.....	3½	Oct., '79	100	105
" Certifs.....	750,000	20	10	7½	Jan., '80	150	165
J. C. N. J.....	2,000,000	100	12	5	Jan., '80	155	165
Municipal, N. Y.....	2,000,000	100	7	3½	Nov., '79	105	110
" Bonds.....	750,000	100	7	3½	Nov., '79	105	110
Fult'n Municipal.....	1,500,000	100	.....	.....	.....	90	95

COAL STOCKS.

Table of Coal Stocks with columns for Name of Company, Capital Stock, Shares, Par Val., Last Dividend, Rate per Ann., and Quotations for Philadelphia and New York stocks from May 15 to May 21. Includes companies like Am. Coal Co., Buck Mt. Coal, etc.

Of New Jersey Central, 172,200 shares have changed hands, opening at \$69 3/4, and, sharing in the general decline, sells to-day as low as \$62 3/4. The total transactions aggregate 915,029 shares, including sales of 1680 shares of Chesapeake & Ohio at \$15 @ \$17, 400 shares of Consolidated Coal at \$32 1/2, and 200 shares of Maryland Coal at \$19.

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 20th inst., are given in the following tables. The Philadelphia quotations will have a \* affixed. The Baltimore quotations are indicated thus †.

Table of Miscellaneous Stocks and Quotations with columns for Stocks, Par Value, High'st, Lowest, Closing, and Sales Shares. Includes St. L. & N. O. R.R. Co., Cambria Iron Co., etc.

BOSTON MINING STOCKS.

Table of Boston Mining Stocks with columns for Name of Company, Shares, Par, and Quotations for May 14, 15, 17, 18, 19, 20. Includes Allouez, Atlantic, Atlas, Aztec, Blue Hill, Brunswick, etc.

Table of Bonds with columns for Bonds, Price, When Due, Int. est. When Due, High'st, Lowest, and Amount. Includes D. L. & W., 7s, conv; M. & E., 1st con., 7s; N. J. C., 1st mtg. new; etc.

Copper and Silver Stocks.

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

Boston, May 20.

Copper stocks continue to droop under the steady decline of ingot copper and the pressure to sell on the part of weak holders, and there does not seem to be any effort made to sustain prices, even of the favorites, while in the low-priced mines there is absolutely nothing doing.

Calumet & Hecla, on very small sales, has steadily declined from \$229 to \$219 1/2, and closes weak at \$219 1/2 sales.

Sales of Copper Falls at \$6. This afternoon, on a better demand for the stock, it advanced to \$7, which was bid.

Franklin continues to be more largely dealt in than any other stock on the list. It opened quite firm at \$13 @ \$13 3/4; but, on free offering, the price was not sustained, and it declined to \$11 1/4, which was the lowest point, since which it rallied to \$12 and closed at \$11 1/2 bid, \$12 1/2 asked.

Quincy opened at \$24 1/2, declined to \$23 1/2, and closed at \$23 bid.

Osceola sold at \$32, a decline of \$2 1/2 from last sale. Pewabic advanced early in the week to \$16 1/2, since which it has steadily declined to \$13 3/4, which was the asking price at the close.

Atlantic declined from \$15 1/4 to \$14. Allouez, on the new basis of 80,000 shares, sold at \$3 1/2 @ \$2, which was bid.

Huron fairly steady at \$3 3/4 @ \$4 1/4. Ridge sold at \$3 1/2 @ \$4.

Blue Hill, very little doing in this stock, sales at \$4 1/4 @ \$5 1/2, buyer 60.

National steady at \$1 3/4 @ \$2, closing \$1 3/4 bid. Mesnard sold at \$1.

Brunswick Antimony opened at \$25, advanced to \$26 1/2, and declined to \$20, closing \$20 bid, \$25 asked, thus maintaining its character for wide fluctuations.

SILVER STOCKS.

Of the silver stocks, Catalpa is most dealt in, and was very steady at \$1 1/4 to \$1 1/2, until to-day, when it advanced to

\$2 1/2, and closes quite firm at \$2 @ \$2 1/2. Sales about 10,000 shares.

Waukeag Silver sold at \$4.

Duncan Silver sold at \$2 @ \$2 1/4.

International Silver sold at \$3.

Silver Islet was quite firm early in the week at \$14 @ \$14 1/4, but declined to \$13, which was closing bid.

Coal Stocks.

NEW YORK, Friday Evening, May 21.

The market for coal stocks, during the current week, has been but a repetition of that of the preceding week, being extremely active and characterized by heavy declines. The week opened with an active market and prices declining; on Wednesday, there was noticeable an advance of from 1/4 to 2 per cent; to-day, however, there has been a sharp reaction, caused by the announcement of the suspension of the Philadelphia & Reading Coal and Iron Company, many of whose obligations, it is said, are indorsed by the Philadelphia & Reading R.R. The stock of the latter company has been particularly active during the past week, the sales in this market amounting to 104,163 shares, selling at \$48 1/4, the highest price of the week, yesterday, and dropping to 30 1/4 to-day; the closing sale was made at \$31 1/4.

Delaware, Lackawanna & Western has been very active, with transactions aggregating 410,584 shares. The price has fluctuated between \$80 1/4 and \$75 1/2, closing to-day at \$76 1/2.

The sales of Delaware & Hudson amount to 25,555 shares at \$78 3/4 @ \$70.

THE BULLION MARKET.

NEW YORK, Friday Evening, May 21.

We are again obliged to report a nominal market and with very little change for the last fortnight. It can scarcely be expected to advance materially, unless the India Exchange should change for the better, but of this there is no prospect at present.

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

Table showing Daily Range of Silver in London and New York, per oz, with columns for Date, Pence, and Cents for both locations.

BULLION SHIPMENTS.

We give below a statement showing the latest published

bullion shipments, in addition to those announced in our issue of May 15th:

May	Shipper	Location	Value
6.	Ophir	Nev.	\$19,306
6.	Christy	Utah	10,140
7.	Belmont, Penobscot & Whip-poorwill	Mont.	18,000
7.	Hillside	Nev.	4,500
7.	Grand Prize	"	23,388
7.	Eureka, passing	"	803
7.	Paradise Valley	"	3,182
8.	Christy	Utah	2,085
8.	Old Telegraph, 2 cars; Stormont, 4 bars	"	11,420
8.	Union Consol.	Nev.	60,523
8.	Richmond	"	22,628
8.	Nevada City	Cal.	3,500
8.	Paradise Valley	Nev.	2,700
8.	Eureka, passing	"	2,501
9.	"	"	633
10.	"	"	1,000
10.	Crown Point	"	3,594
10.	Barbee & Walker	Utah	3,905
10.	Stewart	"	16,000
11.	Central City	Colo.	12,400
11.	Leeds	Utah	5,610
11.	Richmond	Nev.	17,977
11.	Eureka, passing	"	1,069
11.	Bidwell	Cal.	4,670
11.	Paradise	Nev.	4,000
12.	Stewart No. 1	Utah	1,000
12.	Brooks, 2 cars	"	3,800
12.	Horn-Silver	"	34,000
12.	Eureka, passing	Nev.	926
12.	Christy	Utah	2,000
12.	Barbee & Walker	"	1,971
12.	Horn-Silver	"	6,000
12.	Crowell	N. C.	375
12.	Sacramento	Colo.	12,000
12.	California	"	2,960
12.	Alta-Montana	Mont.	7,400
12.	Nevada City	Cal.	6,000
13.	Eureka, passing	Nev.	3,859
13.	Brooks, 1 car	Utah	1,850
13.	Stormont	"	1,971
13.	Inez	Cal.	384
14.	Great Eastern	Dak.	9,500
14.	Brooks, 1 car	Utah	1,930
14.	Old Telegraph	"	1,100
14.	Horn-Silver, 4 cars	"	9,600
14.	Stormont, 4 bars	"	8,222
15.	Little Pittsburg	Colo.	6,100
18.	Caribou	"	6,750

ARIZONA.  
The shipments of bullion from the Tombstone District during the eight days ending the 7th inst., amount to \$55,000.

The Contention, Tombstone, ships sufficient ore to its mill to produce weekly from \$10,000 to \$15,000.

CALIFORNIA.  
Following is the product of two California mines for March:

Mine	Bullion	Expenses
Phumas Eureka	\$48,680	\$23,865
Sierra Buttes	31,004	27,728
<b>Total</b>	<b>\$79,684</b>	<b>\$51,593</b>

Both of the above claims are worked by English capital. The clean-up of the Original Amador mine for March was \$3000.

The Standard mine and mill has shipped in all up to May 9th, 205 bars of gold bullion, each of an average value of \$15,000.

The Phumas National of May 8th says that the Green Mountain mill last week cleaned up \$8 for a run of 300 twenty days with 32 stamps. The run paid about \$10 per ton, and there is a mountain of the same kind in sight in the mine. The Green Mountain is giving strong evidences of being one of the largest quartz mines in the State.

COLORADO.  
The Idaho Springs Iris says that, during April, 122 cars of ore were shipped from that point. This exceeds the Georgetown shipments, and is equal to that of Black Hawk. Most of the April shipments were from the Freeland and Hukill mines.

A mill-run of five tons of Moose ore averaged 310 ounces to the ton.

The Sacramento mine shipped 20 tons of ore for the week ending May 15th.

From May 1st to 10th, the Climax netted from smelters for ore sales over \$82,000. The mine produces in ore \$5000 daily.

The Robert E. Lee has for six months past shipped nearly forty tons of ore daily.

The Catalpa, Leadville, will produce over 400 tons for the present month, an increase of 50 per cent.

About 20 tons of high-grade ore are taken from the Bassick mine per day.

The Chambers Smelting Company, on the 12th, purchased 1000 tons of Bull-Downing ore, lying on the dumps, which it will at once concentrate and reduce to bullion.

The Argo Sampling Works, Boulder, Colo., bought, during the month of April, about 100 tons of ore from Boulder mines, for which the manager paid about \$17,000.

DAKOTA.  
The Black Hills Times of the 8th inst. says: The clean-up from the Pierson and Great Eastern mills from Great Eastern ore was most satisfactory. The mills ran fifteen days, and crushed 1450 tons of ore, and the result was 470 ounces of bullion, worth \$30 an ounce, nearly \$6.50 per ton.

The bullion product of the Homestake mine, Dakota, for the first half of May, amounts to 2951 ounces, against 2347 ounces for the same period in April. The bullion is worth about \$17 per ounce. The first clean-up of the month yields little more than one third of the whole month's product.

UTAH.  
The Ontario has on hand 4000 tons of ore, estimated at \$125 per ton, or a total in value of \$500,000. The mill started on the 13th.

During the month of April, the Stormont Company shipped nineteen bars of silver from Silver Reef, valued at \$38,105.55.

The Horn-Silver, Frisco, had on hand, on the 15th, 1100 tons of base bullion. For the week, the shipments were 500 tons.

Our regular Salt Lake correspondent, under date of May 15th, says:

"The Utah bullion shipments for the week ending May 15th, inclusive, aggregate \$115,386.57."

NEVADA.

Comstock Shipments.—The shipments for April are:

Mines	Gold	Silver	Total
Union Consolidated	\$61,125	\$91,166	\$152,291
Ophir	8,688	10,347	19,036
California	33,412	26,592	60,004
Con. Virginia	95,480	78,161	173,642
<b>Totals</b>	<b>\$198,707</b>	<b>\$206,267</b>	<b>\$404,974</b>

The totals of the shipments of the north end mines for the year are:

Union Consolidated	\$012,406
Sierra Nevada	46,380
Ophir	157,062
California	351,389
Consolidated Virginia	821,061
<b>Total</b>	<b>\$2,288,308</b>

The Star mine produced \$19,132 bullion in April. The Grand Prize mine yielded \$36,445 during April, less \$4964 exp. charges and discount.

The Hillside (Nevada) furnace is reducing from 40 to 50 tons, and turning out 150 bars of bullion daily.

The shipments from the Northern Belle mine for April aggregated \$94,156.

METALS.

NEW YORK, Friday Evening, May 21.

The metal market still maintains its demoralized condition, with a continued drooping in prices, and little doing, excepting in a jobbing business, which is large. There is an unquestionable consumptive demand, which, if the production were not so large, would soon bring about a healthier state of affairs. There is probably more consumption going on than is generally supposed, and it is likely in the near future that stocks in the hands of consumers, especially in some articles, will suddenly be found very short, in which case we shall again have rapidly inflated prices, and its natural sequence.

Copper.—About 300,000 to 400,000 lbs. Lake have changed hands, the bulk of it at 18c., but some small lots were parted with at 17½@17¾, the market closing firm at 17¾@18c. bid. Included in the above was a lot of 50,000 lbs. sold to-day at 18c. The mining companies are keeping out of the market, trying to oblige the manufacturers to pay higher prices. By some, however, it is thought that, as it is estimated there is enough copper in the hands of consumers to last two months, the price may touch 15@16c. per lb. before the mining companies get control of the market. By cable yesterday, Chili Bars were quoted in London at £55.

Our English advices by mail up to the 7th inst. give us statistics to April 30th, of copper and tin:

STATISTICS OF COPPER—JANUARY TO APRIL, AS PER CUSTOM RETURNS.

	—Jan. 1 to April 30—		
	1880.	1879.	1878.
Imports	Tons.	Tons.	Tons.
{ Pure in pyrites	6,098	4,323	5,081
{ " precipitate	6,495	5,142	3,980
{ " ore	4,611	3,550	3,620
{ " regulus	2,595	2,809	2,186
{ Bars, cakes, etc.	14,861	16,544	13,833
<b>Total</b>	<b>34,660</b>	<b>32,368</b>	<b>28,700</b>

Raw (English)	4,508	5,271	7,133
Sheets	5,107	4,603	3,665
Yellow metal @ 60 per cent.	3,041	3,293	3,209
Brass @ 70 per cent.	720	802	1,324
<b>Total</b>	<b>13,376</b>	<b>13,969</b>	<b>15,331</b>
Foreign	5,434	4,560	4,435
<b>Total</b>	<b>18,810</b>	<b>18,429</b>	<b>19,766</b>

	—April only—		
	1880.	1879.	1878.
Imports	Tons.	Tons.	Tons.
{ Pure in pyrites	1,495	1,015	1,297
{ " precipitate	1,934	1,188	977
{ " ore	897	707	903
{ " regulus	1,592	918	737
{ Bars, cakes, etc.	4,287	4,847	4,847
<b>Total</b>	<b>10,115</b>	<b>8,675</b>	<b>8,734</b>

Raw (English)	652	1,376	1,530
Sheets	1,401	1,140	685
Yellow metal @ 60 per cent.	840	969	803
Brass @ 70 per cent.	253	241	326
<b>Total</b>	<b>3,146</b>	<b>3,726</b>	<b>3,354</b>
Foreign	911	890	1,068
<b>Total</b>	<b>4,057</b>	<b>4,616</b>	<b>4,422</b>

	1880.	1879.	1878.
Imports (all descriptions)	97,071	87,572	91,728
Exports	44,575	42,282	36,333
{ English	17,837	12,791	14,157
{ Foreign	26,738	29,491	22,176
<b>Total</b>	<b>62,412</b>	<b>55,001</b>	<b>50,490</b>

	1880.	1879.	1878.
Chartered.—Jan. 1 to April 30	18,287	15,066	15,069
Chartered.—April only	4,900	3,784	2,636
			4,439

	—Jan. 1 to Dec. 31—		
	1879.	1878.	1877.
Imports (all descriptions)	Tons.	Tons.	Tons.
Exports	97,071	87,572	91,728
{ English	44,575	42,282	36,333
{ Foreign	17,837	12,791	14,157
<b>Total</b>	<b>62,412</b>	<b>55,001</b>	<b>50,490</b>

May 3.—Bars opened with sellers at £58 cash, closing at first change at £59 cash; at second change there were a few cash sellers at £58½.

May 4.—£58½, usual terms.

May 5.—Ranged between £58¼ and £57¼, with an unsettled market.

May 6.—Closed with G. O. Bs. at from £57 to £57½, with buyers at the lowest figure.

May 7.—A few cash transactions were reported at from £57½@£58. The latest quotations were English irregular, Tough Cake £62@64, Select Ingot £63@£65, India Sheets £67@£69, Y. M. Sheets 5½@d @5½@d. per lb. Australian quotations nominal. As we go to press, we receive advices dated 10th and 11th inst., by which we learn that the metal market on the 10th inst. was in a very disorganized state and prices had a continually downward tendency. Sellers were not very plentiful at the decline; but there is such a feeling of depression prevailing in the trade that values are easily influenced toward a fall, and many operators seemed inclined to open a "bear account," in anticipation of a lower range of values.

Chili bars have nearly lost the whole of the rise which took place since last autumn, and now rule at about the same figures as on September 1st, 1879, or within 40s. per ton of the lowest price on record. Neither purchases nor sales can be easily effected, and transactions since 7th inst. do not amount to more than 600@700 tons, business having been done down to £55 cash, £56½ three months.

At the Swansea Ticketing on the 11th inst., 1089 tons ore, averaging 13¾ per cent produce, sell at an average price of 11s. 8¼d. per unit.

Chili bars were a shade steadier at £55 cash and short prompt, small sales being made up to £55½ same terms, at which the market closed rather buyers than sellers.

Tin.—From our London advices up to May 11th, we learn on May 3d this metal appreciated suddenly to 84¼s. cash, and receded to 83s. cash. May 4th, sales were effected chiefly from 81¼s. to 81s. May 5th, moderate sales at from 80s. to 80¼s. cash. May 6th, about 100 tons were disposed of at 77½s., one month, the price afterward recovering to 78½s. cash. May 7th, 78½s. @ 78½s. cash, and early June delivery, closing with buyers at 78½s. ordinary, 14 days prompt. May 10th, Banca sales of £0-200 slabs were announced for the 20th inst. There was a sharp fall, and the market closed at 76s., 76¼s. cash. May 11th, a further decline in value, opening at 76s. cash, it fell to 75s.

STATISTICS OF TIN, JANUARY TO APRIL—AS PER CUSTOMS RETURN.

	Imports.			April only.		
	1880.	1879.	1878.	1880.	1879.	1878.
Foreign	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Foreign	7,638	6,549	6,169	1,245	2,128	1,528
Exports						
Foreign	3,566	1,880	2,175	1,026	315	274
English	1,544	1,690	1,893	318	388	593
<b>Total</b>	<b>5,110</b>	<b>3,570</b>	<b>4,068</b>	<b>1,344</b>	<b>703</b>	<b>867</b>

	Exports.		
	Jan. 1 to Dec. 31.	1879.	1878.
English	Tons.	Tons.	Tons.
English	6,218	6,210	6,110
Foreign	8,844	6,620	4,659
<b>Total</b>	<b>15,062</b>	<b>12,830</b>	<b>10,769</b>

STATISTICS OF FOREIGN TIN—LONDON AND HOLLAND.

	—April 1 to 30—	
	Imports.	Deliveries.
Australian and Straits	Tons.	Tons.
Australian and Straits	748	1,118
Banca (ex sale)	364	London.
Billiton	369	278
Australian	200	Holland.
<b>Total</b>	<b>1,117</b>	<b>1,760</b>

	Stocks.	
	April 30.	March 31.
Australian and Straits	Tons.	Tons.
Australian and Straits	7,880	8,250
Banca (ex sale)	1,200	1,564
Billiton	1,806	1,807
Australian	200	200
<b>Total</b>	<b>11,176</b>	<b>11,819</b>

Approximate quantity afloat	1,100	1,600
Straits	40	200
Billiton	1,600	1,200
<b>Total</b>	<b>13,196</b>	<b>14,619</b>

Australian and Straits	£82½	£58½
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	1880.	1879.	1878.
Sales of Banca by Trading Co.	1,992	1,339	1,231
Imports Billiton	917	1,443	1,607
" Straits	415	2,383	1,333
" Australian	4,008	3,002	3,516
<b>Total brought to market</b>	<b>6,432</b>	<b>8,167</b>	<b>7,677</b>
Actual deliveries of Foreign	6,812	6,715	6,341
In transit, Straits and Foreign	3,371	1,522	1,287

	Imports.	
	Approximate	Shipments.
April	Tons.	Tons.
{ Australian	743	275
{ Straits	5	40
<b>Total</b>	<b>748</b>	<b>315</b>



becomes more clearly defined. These causes account for the abnormally small demand.

The labor question is attracting no attention whatever, at the present time.

Mr. John H. Jones, accountant, furnishes the following figures, showing the shipments by the several interests during the first four months of this year and of 1879:

	Tons. 1880.	Tons. 1879.
Philadelphia & Reading.....	1,698,288	2,007,737
Lehigh Valley.....	1,236,272	1,188,413
C. R. R. of N. J.....	1,018,044	1,119,033
D. L. & W. R. R.....	1,082,108	1,016,647
D. & H. C. Co.....	898,118	764,731
Pennsylvania RR. Co.....	444,524	434,190
Pennsylvania Coal Co.....	326,176	397,847
"Eric" interest.....	120,924	99,578
	6,824,398	7,028,180

The stock of coal on hand on April 30th was 748,494 tons, as against 637,486 tons at the same date last year.

Since writing the above, it is announced that the Philadelphia and Reading Coal and Iron Company has gone to protest. It will probably be some time before a full statement of the affairs of the company will be made or before the extent of the failure can be realized. Mr. Gowen is not likely to have given up except under great pressure. This failure will probably destroy the ability of the railroad company to borrow for its necessities, and as it is so closely interwoven with the Coal and Iron Company and guarantees its indebtedness it is probable that both companies will have to go into the hands of a receiver, temporarily, at least. Should this be the case, it is the general belief that Mr. Gowen would be appointed the receiver, and if so, there would be no change in the policy of the companies; and with no indebtedness to pay immediately, it is thought that he would be more determined to secure a fair price for his coal, and better able to continue the arrangement which now exists among the companies. The general impression is, that the public will expect a break in the prices of coal and limit their orders for a short time to even a greater extent than they have done of late, but it is also believed that in a short time this failure must result to the benefit of the market, and that prices will be much firmer. It is stated that the several presidents of the large companies went to Philadelphia this afternoon to discuss the remedies necessary to maintain prices, secure public confidence, and once more start the wheels of trade. There are some who will argue that, if a company fails in so prosperous a year as this, all of the coal companies must be in a very bad shape. This failure was brought about by the accumulated indebtedness of years, and would probably have been averted could the company have carried its load until the end of the year.

The production of anthracite coal last week was 390,117 tons, as against 396,240 tons for the previous week, and 540,573 tons the corresponding week of 1879. The total production from January 1st to May 15th was 7,540,846 tons, as against 8,120,260 tons for the like period of last year, showing a decrease this year of 579,414 tons.

**Bituminous.**

This trade is quiet, and prices are weaker. The Clearfield region has very much increased its output, and the miners are now asking to be put to work again. The strike is, therefore, practically ended.

**PITTSBURG, May 20.**

COAL.—There is no change from the situation of last week. This industry is moving on very evenly, and has not been affected in the least by the late decline in the iron trade; consumers at the lower markets, upon which this industry mainly depends, are of that class—old established manufacturing works of all kinds, domestic or household, steamboat, and many other consumers—who are not easily influenced by any sudden rise or fall in the iron trade. Miners are not working in full force; the lower markets being well supplied, there is no call for it; besides, owing to the present low stage of the river, sufficient empty boats and barges have not returned to supply the miners with complete fleets. The wages of the miners are still 3½ cents per bushel, or 93 cents a ton. Quotations are continued in compliance with the steady rates at which coal is selling:

**PRICES AT PITTSBURG.**

Wholesale, on board, 56¢ cts. per bushel, \$1.59 per ton	
Retail, delivered, 86¢9 "	2.39 "
<b>AT CINCINNATI.</b>	
Wholesale, on board, 73¢ cts. per bushel, \$2.05 per ton	
Retail, delivered, 10 "	2.65 "
<b>AT LOUISVILLE.</b>	
Wholesale, on board, 73¢ cts. per bushel, \$2.05 per ton	
Retail, delivered, 10 "	2.65 "
<b>AT NEW ORLEANS.</b>	
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.—26¼ bushels make a ton of 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.—This industry is at last assuming more steadiness. The strike in the Connellsville region is practically at an end; with the exception of a discontented few, the men have seen that it is best for them to put up with a reduction and a lessening of force—the necessity for this movement on the part of the producer being now plain to them. Previous to the reduction, the men were getting thirty-five cents per wagon for mining, and eighty cents per oven for drawing. The wages are now thirty cents per wagon and seventy-five cents per oven.

At this writing, nearly all the works have resumed operations. H. C. Frick & Co. are at work with a decreased force. Some of the works are running only every other oven, and all of them are making "seventy-two-hour" coke. At a late meeting of the Connellsville Coke Association, it was decided to give the "seventy-two-hour" coke plan a full trial, and ascertain whether it would not strengthen the market. If it does not prove successful, a certain percentage of ovens will be blown out to equalize the supply and demand. Very little coke is being shipped, except on contract. The sidings are full of loaded cars. Notwithstanding the uninviting character of the outlook, those who have made recent investments are going ahead with their contemplated improvements. Mr. E. K. Hyndman, Superintendent of the Connellsville Coke and Coal Co., says they are going on to complete the erection of a hundred ovens and fifty dwellings. The Chicago Coke Co. is pushing its works rapidly forward. A branch road is being constructed from Youngwood to Latrobe, which will develop a hitherto unavailable portion of the coke field.

The daily production of coke, with the present number of miners at work, is estimated at 150 car-loads per day; with full force it will be increased to over 200 car-loads.

No change in prices from those of last week, which are as follows: \$2.50 to \$3 per ton of 2000 lbs. on board cars at the ovens.—American Manufacturer.

**New York.**

**Wholesale Prices of Anthracite Coal Delivered f. o. b. at Tide-Water Shipping Ports, per ton of 2240 lbs.**

	Lump.	Steamer.	Grate.	Egg.	Stove.	Chestnut.
<b>WYOMING COAL.</b>						
* Pittston at Newburg.....	4 00	4 00	3 85	3 85	3 95	3 90
Scranton at Hoboken.....	4 00	4 00	4 00	4 00	4 25	4 00
Lackawanna at Weehaw'k'n	3 90	4 00	4 00	4 00	4 25	4 00
Wilkes-Barre at Pt. Johnson	4 00	4 00	4 00	4 00	4 25	4 00
Plymouth R. A. at P. John.	4 00	4 00	4 00	4 50	4 00	4 00
<b>LEHIGH COAL.</b>						
Honey Brook at Port John.	5 00	4 25	4 25	4 25	4 00	4 00
Cross Creek at Port John.	5 00	5 00	4 35	4 25	4 25	4 00
Up. L. & Conn. R. Great Eliz'pt						
<b>SCHUYLKILL COAL.</b>						
At Elizabethport.						
Hard White Ash.....	5 00	5 00	4 25	4 25	4 25	4 00
Free-Burning White Ash.....			4 00	4 00	4 25	4 00
Schuykill Red Ash.....			4 20	4 40	4 00	4 00
Shamokin.....			4 10	4 35	4 00	4 00
Lorberry.....			4 50	4 60	4 00	4 00
Lykens Valley (Brookside).			5 25	5 25	4 25	4 60
At Port Richmond, Philadelphia, for shipment to points beyond Capes of the Delaware.						
Hard White Ash.....	4 65	4 65	3 90	3 90	3 90	3 65
Free-Burning White Ash.....			3 65	3 65	3 90	3 65
Schuykill Red Ash.....			3 85	4 00	3 65	3 65
Shamokin.....			3 75	4 00	3 65	3 65
Lorberry.....			4 00	4 00	4 25	3 75
Lykens Valley (Brookside).			4 75	4 75	4 75	4 25

\* Fifty cents per ton additional for delivery at New York.

**Wholesale Prices of Bituminous Coal.**

DOMESTIC GAS-COALS.		At the Shipping Ports.	Along-side at New York.
Per ton of 2240 lbs.			
Westmoreland and Penn.....	\$4.25		
At Greenwich, Philadelphia	\$5.50		
At S. Amboy.....	5.00		
Kanawha at Richmond.....	4.10		5.40
Murphy Run, West Va., at Baltimore.....	3.75		5.85
Fairmount, West Va., " " " " " "	3.75		5.70
Newburg Orrel, Md., " " " " " "	3.75		6.00
Cannelton & Peytona Cannel, West Va. ....			10.00
" Splint " at Richmond.....	6.00		7.00
" Gas Coal at Richmond.....	4.06		5.65
<b>MANUFACTURING AND STEAM COALS.</b>			
Cumberland at G'n & Alexandria.....	3.75		
Cumberland, at Baltimore.....	4.10		5.50
Cl'e'd 'Eureka' and 'Franklin.' ..			
At mines.....	1.50		
At Baltimore.....	4.25		5.50
At Philadelphia.....	4.25		
At South Amboy.....	5.25		

F. o. b.		FOREIGN GAS-COALS.	
		Sterling.	Am. cur'ney
Newcastle at Newcastle-on Tyne.....	7s.6d.	\$2 50@	\$3.50
Liv. House Orrel, at Liv.....	25s.		13.00
Ince Hall Cannel " " " " " "	35s.6d.		18.00
" Gas Cannel " " " " " "	25s.6d.	10 00@	10.53
Scotch Gas Cannel, at Glasgow, nominal.....	25s.		7.50
Bl'k House, at Cow Bay, N.S. Caledonia, at Pt. Caledonia.	1.60		
Glaee Bay at Glaee Bay.....	1.50		\$4 25
Lingan, at Lingan Bay.....	1.50		4.00
Intern'l Mines, at Sydney.....	1.60		
Pictou, Vale Mines, at Pictou	2.00		4.70

**Retail Prices.**

Per ton of 2000 lbs. Anthracite.			
	G. & Egg.	Stove.	Chest.
Pittston coal delivered.....	\$5.00	\$5.00	\$5.00
Lack. oal, delivered below 59th St.	5.00	5.00	5.00

**STATISTICS OF COAL PRODUCTION.**

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 May 15th, and years from January 1st:

Tons of 2240 lbs.	1880.		1879.	
	Week.	Year.	Week.	Year.
<b>Wyoming Region.</b>				
D. & H. Canal Co.....	45,802	1,110,953	66,005	1,029,585
D. L. & W. RR. Co.....	61,536	1,204,601	75,244	1,191,788
Penn. Coal Co.....	19,209	326,055	34,965	459,739
L. V. RR. Co.....	20,528	350,921	15,367	322,737
P. & N. Y. RR. Co.....	741	8,145	1,174	7,647
C. R. R. of N. J.....	26,448	536,193	33,766	630,818
Penn. Canal Co.....	9,479	66,567		
	183,743	3,604,335	227,121	3,637,914
<b>Lehigh Region.</b>				
L. V. RR. Co.....	52,160	1,041,549	84,788	1,026,625
C. R. R. of N. J.....	31,995	680,693	44,328	732,616
S. H. & W. B. RR.....		5,831		8,665
	84,555	1,728,073	129,116	1,767,906
<b>Schuykill Region.</b>				
P. & R. RR. Co.....	106,023	1,937,020	161,613	2,425,418
Shamokin & Lykens Val.....	15,583	254,855	21,958	270,388
	121,606	2,191,875	183,571	2,695,806
<b>Sullivan Region.</b>				
St Line & Sul. RR. Co.	613	16,563	765	18,634
<b>Total.....</b>	<b>390,117</b>	<b>7,540,846</b>	<b>540,573</b>	<b>8,120,260</b>
Increase.....				
Decrease.....	150,450	579,414		
Total same time in 1875.....			4,104,269	tons.
" " " " 1876.....			5,104,125	"
" " " " 1877.....			6,742,014	"
" " " " 1878.....			4,858,034	"
" " " " 1879.....			8,120,260	"

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.

Pictou Shipments.—There were 8647 tons of coal shipped from Pictou, N. S., during the week ending May 15th.

Receipts and Shipments of Coal at Chicago, Ill., for the week ending May 15th, and year from January 1st:

	Week.	Year.
Receipts.....	58,481	914,683
Shipments.....	7,264	221,714

Coals Cleared on the Canals of the State of New York for the week ending May 15th, and year from the opening of navigation:

Tons of 2000 lbs.	1880.		1879.	
	Week.	Year.	Week.	Year.
Anthracite.....	17,340	77,865	50,738	50,738
Bituminous.....	3,691	7,794	3,425	3,425
<b>Total amount cleared.....</b>	<b>21,031</b>	<b>85,659</b>	<b>54,163</b>	<b>54,163</b>

Delaware Railroad Report for the week, and years ending May 15th:

	1880.		1879.	
	Week.	Year.	Week.	Year.
Coal for shipment at Coal Port (Trenton).....	192	6,234	414	
Coal for shipment at South Amboy.....	5,256	142,601	170,253	
Coal for distribution.....	6,289	174,344	123,023	
Coal for company's use.....	1,343	37,665	31,686	

The increase in shipments of Cumberland coal over the Cumberland Branch and Cumberland and Pennsylvania railroads amounts to 203,075 tons, as compared with the corresponding period in 1879.

The Production of Bituminous Coal for the week ending May 15th was as follows:

Tons of 2000 lbs., unless otherwise designated.		
	Week.	Year.
<b>Cumberland Region, Md.</b>		
Tons of 2240 lbs.....	52,251	695,627
<b>Barclay Region, Pa.</b>		
Barclay RR., tons of 2240 lbs.....	8,919	169,617
<b>Broad Top Region, Pa.</b>		
Huntingdon & Broad Top RR.....	4,678	87,436
*East Broad Top.....	1,640	31,931
<b>Clearfield Region, Pa.</b>		
*Snow Shoe.....	649	28,359
*Tyrone and Clearfield.....	22,283	423,841
<b>Allegheny Region, Pa.</b>		
*Pennsylvania RR.....	7,678	142,444
<b>Pittsburg Region, Pa.</b>		
*West Penn RR.....	6,390	112,850
*Southwest Penn. RR.....	458	24,138
*Pen & Westmoreland gas-coal, Pa. RR.....	26,732	453,027
*Pennsylvania RR.....	11,784	199,138
*For the week ending May 14th.		

The Production of Coke for the week ending May 14th:

Tons of 2000 lbs.		
	Week.	Year.
Penn. R. R. (Allegheny Region).....	1,220	25,018
West Penn RR.....	301	35,575
Southwest Penn. RR.....	15,870	390,059
Penn. & Westmoreland Region, Pa. R.R.....	3,160	53,270
Pittsburg, Penn. RR.....	2,983	192,011
<b>Total.....</b>	<b>23,534</b>	<b>695,933</b>

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