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CONTENTS.

The present boom in California oil, unlike some other booms we have seen, has something solid to rest upon. A good deal of drilling and prospecting for oil is going on in Southern California, and much of the work has been successful. The production of oil is increasing steadily, and promises to be an important element in the mineral output of the State. An interesting point is that the California oil seems to be especially adapted for use as a fuel-oil; and this is of great importance where coal is scarce and commands a high price. The oil production is not only valuable in itself, but will be a great help in the establishment and extension of manufacturing industries on the Pacific Coast.

We are informed that the United States Supreme Court has denied the petition of the Carborundum Company for a writ of certiorari to review the decision of the Circuit Court of Appeals in the suit between that company and the Electric Smelting and Aluminum Company. This refusal to reopen the case removes all question as to the finality of the decision of the Circuit Court of Appeals; and the case may be regarded as now settled. The decision of that court established the validity of the Cowles electric furnace patents and the claim that the process used in the manufacture of carborundum infringes on those patents in certain points. A full statement of the decision and the opinion of the court in this case will be found in the "Engineering and Mining Journal," June 9th, 1900, page 676.

The telegraph reports that the Trans-Missouri Freight Association, at a meeting held in Denver, decided to raise rates on ores to the point which prevailed three years ago. At that time the association made important reductions in rates on low-grade ores, and they have been in force ever since, to the great benefit of many mines and of the smelters. If the present action is adhered to, there will be a very strong protest, especially from Colorado, where the low rates have been most acceptable. It is possible that the increase may not be maintained. To reduce business and cut off a large traffic which at least pays a small profit, seems to be a very narrow policy, which must injure the railroads in the end, far more than any temporary increase can help them. We hope that better councils will prevail.

Montana is to have the longest electric railroad in the world, if a project just brought out succeeds; and the road will be built if it is true, as reported, that the Great Northern Railroad, has agreed to take it up. The proposed line is from Billings to Great Falls, some 200 miles, and the plan is to operate it entirely by electric power, which is to be supplied from generating stations on the Missouri and Yellowstone rivers. The road would have a considerable traffic in coal, ores and other heavy freights, and would be the first line with such traffic to be worked by electricity. The plan is perfectly feasible and seems to present advantages, especially where large water powers are available, as in Montana. The only question is the financial one. The line, if built, will benefit several important mining districts.

A feature of the industrial situation just now seems to be the organization of new steel companies for the avowed purpose of competing with the big consolidations formed within the past two years. The American Steel and Wire Company seems to be the chief object of attack, and several concerns have already been launched for the purpose of making wire and wire products.

Such action was to be expected, and the only wonder is that it has not come sooner. Whether the new companies actually intend to try the competition, or whether they are simply scheming to be bought ought, they are likely to give the big combines some trouble. At more than one period in the past the organization of new companies of this kind has been an industry very profitable for the promoters—but hardly for the other party. It must be said, however, that the situation invites such undertakings.

We give considerable space on another page to the report of the Alaska Treadwell Gold Mining Company, not only because the company's operations are on a large scale, but because the report is a model in the very full and detailed information it gives to the stockholders. It shows just how and at what cost the company's operations have been carried on and what reasons there are for expecting them to succeed in the future as they have in the past. No stockholder can say that he is kept in ignorance of the condition of the property or the methods employed by its managers. We have reproduced also the map given in the report, because we consider it an excellent feature, which could be copied with advantage by many other companies. It is a graphic report of the condition of the mine; and a comparison of two or more years will show just what changes have occurred. The use of such a diagram shows at

a glance much that the reader wants to know, and does it better than the printed description which supplements it.

The English papers record a good many expressions of indignation on the part of British manufacturers over the probability that most of the orders for the new material needed for repairing the South African railroads will be placed in the United States. This is probable, since the material is needed at short notice, and American makers can supply it as wanted and at lower prices than the English. If the contracts are placed in Great Britain they can be filled only after long delay. Under the circumstances it is perfectly natural that the orders should come here. We are inclined to think, however, that the British indignation is rather assumed as a precautionary measure to prevent the placing of the orders abroad.

Later advices show that the show of feeling has had some effect, since it is announced that most of the material needed for the railroads will be supplied by English firms; though some cars have been ordered from the United States. The mining companies are ordering their new machinery chiefly in this country.

Pressing inquiries for coal continue to come from abroad, especially from France and Italy, though German buyers are also represented. Just how much business has actually resulted it is hard to say, but the amount of sales must be very considerable. One proof of this is that time charters—that is, charters for several voyages, or for a fixed period of time—have begun to be made for carrying coal. This has had the effect of bringing more vessels to this side, and ocean rates are slightly easier; while these time charters are usually made at a lower rate than those for single voyages. At the latest rates which have been received, it is possible to put Clearfield, New River or Pocahontas coal at Marseilles or Genoa at from $6.75 to $7 a ton, or only 25 to 50 cents above the cost of a corresponding grade of Welsh coal at Cardiff. As the freight from that port to the Mediterranean is from $2 to $2.50 a ton, the advantage American coal has in price can readily be seen. To German ports the difference is less, but is still appreciable. We may add that Russia promises to be a buyer of some importance in our markets.

It has been a somewhat singular fact that, in spite of the great increase in the price of tin and the well-known fact that the alluvial workings in the Malay Peninsula can be greatly extended, the supply of Straits tin has not increased. A recent report from the Resident-General at the Straits Settlements to the British Colonial Office explains this fact by the scarcity of Chinese labor. The native Malay is not a miner nor a laborer; in fact, he is averse to work of any kind, and tin mining has fallen almost entirely into the hands of the Chinese. For some reason, however, the Chinese have ceased going to the Straits, though wages have risen and the Colonial Government has offered a premium to the steamship companies for all immigrants brought in. The Malay Peninsula is one of the few countries where Chinese labor is welcomed, but just now they are persistently holding back from the country, for what reason cannot be ascertained. The Government has made an effort to obtain laborers from Southern India, but with very little success. Meantime the production of tin is decreasing, and it is uncertain when or where the desired labor can be secured.

THE LOCATION OF BLAST FURNACES.

On another page we give an abstract from advance proofs of the report on the iron and steel industries which has been prepared by the Bureau of Statistics of the Treasury Department. We hope to comment more fully on this report hereafter, and may say that we agree with many of its conclusions. On one point, however, we must take issue. The report says that the "tendency, the world over, is for the furnace to seek out the iron-ore mine and leave the colliery."

It is true that the nation which possesses supplies of both fuel and ore has a great advantage over those that have only one of these requisites; but beyond that point the facts seem to point to a conclusion directly opposite to that above given. Thus the iron-ore mines of the Lake Superior Region supply the raw material for nearly 80 per cent. of the pig iron made in the United States; but we do not find any tendency to remove the furnaces to Minnesota. On the contrary, the building of new furnaces in recent years has been entirely in the neighborhood or within easy access of the coal mines and coke ovens of Pennsylvania, Ohio and West Virginia. The nearest location of a large blast furnace plant to the Lake Superior mines is at Chicago, and the admitted disadvantage of that plant in distance from the coal mines is only balanced by its situation at a distributing point central to extensive markets.

In the South the ironmakers have the advantage of coal and iron ore in close proximity; but elsewhere there is the same position which we have already noted. The furnaces which were built many years ago near the mines of New Jersey and Eastern Pennsylvania, with very few exceptions, were abandoned years ago, because they could not compete with those of the Pittsburg District and the Mahoning and Shenango Valleys, which bring their ore from 1,000 miles away, but are close to their fuel supplies.

If we make some foreign comparisons also, we find the same results. Thus Spain is the largest iron ore producer in Europe, but the pig iron output is insignificant and does not increase. Spanish ores go to England and Germany; but there is no apparent disposition to build blast furnaces near the mines.

Such comparisons might be extended much further, but the examples cited are sufficient. We believe that the general tendency now is, as it has been for a long time past, to carry the ore to the fuel, rather than the fuel to the ore. Furnaces are built and will continue to be built near their fuel supply.

The nation which controls both fuel and ore has the advantage; but lacking that, the nation owning abundant fuel supplies and little ore leads that which has ore without fuel.

ANOTHER SIDE-LINE-END-LINE DECISION.

On October 8th the United States Circuit Court of Appeals rendered at San Francisco a decision in the case of the St. Louis Mining and Milling Company vs. The Montana Mining Company, Limited (appealed from the United States District Court of Montana), which contains incidentally a ruling upon one of those questions arising under the United States mining law, which have not yet been settled by the Supreme Court.

I say "incidentally," because the immediate issue involved in the case was the amount of damages awarded in the Montana court to the complainant (the St. Louis Company), which, considering that sum insufficient, appealed for a new trial. The decision of the Circuit Court of Appeals is reported to have affirmed the judgment of the court below, and must have been, therefore, a defeat for the appellants. Yet, from personal knowledge of the ground and the preceding litigation, I can say confidently that the portion of the decision of the Circuit Court of Appeals, quoted below, was as favorable to the appellants as it could have expected or claimed; so that the decision affirming the judgment below must have turned on questions of calculated damages, etc., not involving the construction of moot points in the mining law.

Not having received as yet either the pleadings in the case or the full text of the decision, I cannot say how the question contemplated in the deliverance quoted below came before the court. The passage to which I refer is the following:

"The question under present consideration is when a secondary or incidental vein crosses a common side line between two mining locations at an angle, and the apex of the vein is of such width that it is for a given distance partly within one claim and partly the other, to whom does such portion of the vein belong? This question does not appear to have been ever directly passed upon by the courts. A mining claim can have but two end lines, and, having been once established, they become the end lines for all veins found within the surface boundaries. This court has already determined that the line E. C. D. shown in the diagram introduced on the trial is a side line common to the two claims, and, therefore, it cannot be considered the end line of the Drum Lummon vein. If, then, in construction of law the vein in the 25 ft. in controversy must be either upon the one location or the other, and if the senior location has priority of title, it would follow that the right of lateral pursuit would remain with the senior locator within a plane parallel to the end line of the senior claim and up to the point of departure of the apex; or, in this case, the foot-wall. Inasmuch as neither statute nor authority permits a division of the crossing portion of the vein, and the weight of authority favors the senior locator, the entire vein must be considered as apexing under the senior location until it has wholly passed beyond its side line."

The principle here laid down is, perhaps, strictly speaking new; but it unquestionably follows as a corollary, the decisions already made by the United Supreme Court. For the case stated is simply a modification of the problem of a "divided apex"; and, since it is now established that, when a side-line divides an apex longitudinally, the whole of the apex belongs to the senior locator, no one can be surprised that the same rule is asserted for an oblique division of the apex.

In one other respect, this decision apparently does not go as far as the Supreme Court has gone. Namely, it cuts off the right of the senior locator by a line "parallel to" his end-line, and drawn through the point of the final "departure of the apex" from the senior location. In other words, it does not project the actual end-line of the senior location, so as to give to the senior locator the right, upon a crossing lode, to more than the extent of its apex within his location could justify. In this particular, the decision is just; and I hope it will be accepted by the tribunal at Washington, whenever the question gets there—the opposite decision of June, 1898, in the Walrath-Champion case to the contrary notwithstanding. For in that case, as I am informed, the particular point here involved was not specially insisted upon in argument, and did not involve any valuable ground in controversy. (See for my discussion of it the "Engineering and Mining Journal" for August 20th, 1898; also Mr. Symington's letter, September 10th, and my reply September 24th, of the same year). It is generally admitted, by bench and bar alike, that the Supreme Court will have to ignore, modify or reverse, sooner

or later, some of its recent deliverances in mining law; and that one (uttered through Justice McKenna, whose lack of experience in mining cases had been often frankly avowed from the bench in California) appears to be eminently adapted for such treatment. At all events, the Circuit Court of Appeals at San Francisco has apparently had the courage to disregard it. R. W. R.

NEW PUBLICATIONS.

"Mexican Custom House Tariff." English Translation from the Official Edition. Translated and revised by J. P. Taylor. Mexico; F. P. Hoeck & Company. Pages, 184.

This translation of the Mexican tariff law, revised and brought up to date, will be found not only convenient, but necessary, to all who have business with the Republic. It includes the text of the law, with explanatory notes; rules for the application of the law and the procedure of the custom house; and a full index. An appendix gives equivalent weights and measures.

"Statistical Year-Book of Canada for 1899." Issued by the Department of Agriculture. Ottawa; Government Printing Bureau. Pages, 625.

This is the fifteenth yearly issue of this useful hand-book, which gives, chiefly in tabular form, the statistics of the trade of the Dominion of Canada, its population, social conditions, mines, agriculture, manufactures and other industries. A brief historical introduction gives the leading points of Canadian history. The summaries are generally compact and well-arranged, and a large amount of information is given in a small compass.

"New Zealand Mines Statement, 1900." James McGowan, Minister of Mines. Wellington, N. Z.; Government Printer. Pages, 266; with maps and illustrations.

This report shows a very encouraging degree of progress in the New Zealand mining industry. Besides the general report of the Minister of Mines, it includes special reports on gold-mining; on the gold dredging industry; and on the coal mines. Besides the general statistics there are many interesting particulars given about different districts and mines. The information presented will be of service to investors in New Zealand mines, as well as to those who are directly engaged in developing the mineral resources of the colony. The report includes a number of illustrations of different mines and mills, besides maps.

"Victoria. Annual Report of the Secretary of Mines and Water Supply for the Year 1899." J. Travis, Acting Secretary. Melbourne, Victoria; Government Printer. Pages, 80; with maps and plates.

This report contains the statistics of the Colony of Victoria for 1899, with the reports of the Government geologist, the mine inspectors and of the road constructors who are engaged in building roads and trails into the remoter mining districts. There are also a number of special reports on new devices for mining and milling, with accounts of some new mining plants. Many of these are illustrated and contain matter of interest to those engaged in working the mines of the colony. The report shows that the results of the year 1899 were very satisfactory, as they were in nearly all the Australasian colonies. The value of the gold output was £3,418,000, or greater than for any year since 1876, while the coal production was 262,380 tons, the largest ever reported. Small quantities of tin, quicksilver ores and infusorial earth were mined, while the production of the clay industries and the stone quarries was considerable.

"Transactions of the Australasian Institute of Mining Engineers. Volume VI." Edited by A. S. Kenyon, Secretary. Melbourne, Victoria; published by the Institute. Pages, 248; illustrated.

This volume contains, besides the proceedings and discussions at the Institute meetings, a number of papers by members. These include Safety Appliances and Precautions in Mines, by J. R. Godfrey; Contracts, by W. H. Ferguson; Dry Crushing, by N. F. White; Contouring on Mining Properties with the Aid of the Tacheometer, by H. P. Seale; Diamond Mines and Alluvial Deposits, South Africa, by P. R. Day; Manufacture of Sulphuric Acid and Its Use in Metallurgy, by W. H. Mawdsley; Mine Stores, by F. Danvers Power; Electricity in Mining, by E. F. J. Holcombe-Hewlett. Nearly all these papers are illustrated, some of them profusely, and the topics treated present much variety. The discussions on the papers are given as well as the papers themselves. They show the active interest taken by members of the Institute. The volume contains some substantial additions to mining literature.

"Iowa Geological Survey, Volume X. Annual Report, 1899, with Accompanying Papers." Samuel Calvin, State Geologist; H. F. Bain, Assistant. Des Moines, Iowa; Published for the Survey. Pages, 666; with maps and plates.

The Iowa Geological Survey has done much good work during the years of its existence, and its publications have been made in a form which makes them very serviceable to the people of the State. Besides the general statistics of the geology of the State, it has completed and published some excellent monographs on different sections, in which especial attention is paid to the economic geology. These are usually published in separate form, though they are also included in the annual reports. The present volume, besides giving an account of the progress made in 1899, sums up the mineral production for the year, the value of which was $10,101,507; of which coal furnished $6,137,576; clay, $2,500,000; stone, $809,924; gypsum, $600,000; lead and zinc, $50,542; iron ore, $3,465.

Besides the general report, this volume includes a paper on the "Fossil Fauna of the Kinderhook Beds of Burlington," and special reports on the geology of Lyon, Sioux, Osceola, Dickinson, Hardin, Worth and Dubuque counties. It is accompanied by maps and numerous illustrations. The people of Iowa ought to appreciate the work which the Survey is doing and to recognize the services which its examinations are doing for the State.

"The Journal of the Iron and Steel Institute." Volume LVII., being No. 1 for 1900. Edited by Bennett H. Brough, Secretary. London, England; E. & F. N. Spon, Limited, and New York; Spon & Chamberlain. Pages, 518; illustrated. Price, $6.

The "Proceedings" of the Iron and Steel Institute as published always contains much valuable material in the discussions no less than in the papers read, and the present volume is no exception to the rule. It includes papers on the "Use of Fluid Metal in the Open-hearth Furnace," by J. Riley, and on the "Open-hearth Continuous Steel Process," by B. Talbot; these papers having been discussed together. There are also papers on the "Equalization of the Varying Temperatures of Hot Blast," by L. F. Gjers and J. H. Harrison; on the "Manganese Ores of Brazil," by H. K. Scott; on the "Solution Theory of Iron and Steel," by H. von Juptner; on the "Manufacture and Application of Water Gas," by C. Dellwik; besides others of minor importance. An especially valuable paper is that on a "Blowing Engine Worked by Blast Furnace Gas," by A. Greiner, which is the most thorough analysis yet published of results obtained by the use of waste gases which has yet appeared.

A valuable part of the volume is found in the "Notes on the Progress of the Home and Foreign Iron and Steel Industries." This part, the excellence of which is due to the labors of the Secretary and his assistants, is a summary of current literature, and includes condensed abstracts of a large number of articles appearing in scientific publications and the proceedings of technical societies. It indicates the character and substance of the articles, with such references as will enable the reader to obtain them in full should he desire to do so.

"Elements of Mineralogy, Crystallography and Blowpipe Analysis." By Alfred J. Moses and Charles Lathrop Parsons. New Edition, Revised and Enlarged. New York; the D. Van Nostrand Company. Pages, 414; illustrated. Price, $2.

This text-book, the first edition of which appeared in 1883, takes up mineralogy, crystallography and qualitative blowpipe analysis from a practical standpoint, and includes a description of all the commoner useful minerals, including crystalline forms, with the tests for their determination, and brief statements of their uses in the arts. The book is for students in mining schools, or for prospectors in the field, rather than for mineralogists. Consequently it occupies a position between books covering all minerals and qualitative blowpipe work in detail, such as Dana's "Text-Book of Mineralogy" and Endlich's "Qualitative Blowpipe Analysis," on the one hand, and the purely practical handbooks of qualitative and quantitative works like Fletcher's "Assaying with the Blowpipe," on the other. The book thus has a special, if narrow field entirely its own, and as an aid for persons seeking a knowledge of the commoner minerals of economic importance it leaves little to be desired. In the present edition, Part I, on crystallography, has been entirely rewritten to conform to the accepted classification, and 100 figures added. Part II, on blowpipe analysis, has been revised, new figures drawn, and a discussion of the use of the spectroscope added; Part III, descriptive mineralogy, includes 40 pages as an introduction to the study of minerals in thin sections and the crystallographic descriptions and economic discussions have been rewritten; Part IV, determinative mineralogy, has been entirely revised and simplified.

Of these various changes it is hard to say which adds most to the value of the book. The treatise on crystallography is to be commended for the clear and concise treatment of what may be a puzzling study. The descriptions of blow-pipe apparatus and determinations in Part II are those approved by laboratory practice, though it might have been well to give more importance to tests and methods which may be used by the prospector or student in the field. The descriptions of minerals in Part III are concise, but generally sufficiently minute, and the economic notes contain references to the latest developments in metallurgy. Worthy of particular praise is the determinative table at the end of the book; it does not pretend to give more than the minerals likely to interest the prospector or mining engineer, but its arrangement and the general scheme of tests given are admirable.

BOOKS RECEIVED.

"Petroleum in California." By Lionel V. Redpath. Los Angeles, Cal.; L. V. Redpath. Pages, 134; illustrated. Price, $1.

"Grundlage der Getrieblehre. Eine Geometric der Bewegung." I Heft. By Johann Toka. Berlin, Germany; Rudolf Mewes. Pages, 36; with 6 plates.

"Poor's Manual of the Railroads of the United States, 1900." Thirty-third Annual Number. New York; H. V. & H. W. Poor. Pages, 1,536. Price, $10.

"Geologie et Mineralogie Appliques. Les Mineraux Utiles et Leur Gisements." By Henri Chapentier. Paris, France; Veuve Ch. Dunod. Pages, 644; illustrated. Price (in New York), $4.25.

"Mathematical Drawing and Measuring Instruments." By William Ford Stanley. Seventh Edition. London; E. & F. N. Spon, and New York; Spon & Chamberlain. Pages, 360; illustrated. Price (in New York), $1.75.

"The History and Growth of the United States Census." Prepared for the Senate Committee on the Census by Carroll D. Wright, assisted by William C. Hunt. Washington; Government Printing Office. Pages, 968.

"Technische Thermodynamik. Erster Band, Fundamentalsatze der Thermodynamik. Lehre von der Giesen." By Dr. Gustav Zenuer. Leipsig, Germany; Arthur Felix. Pages, 436; with 65 illustrations. Price (in New York), $4.75.

"Theory and Calculation of Alternating-Current Phenomena." Third Edition, Revised and Enlarged. By Charles Proteus Steinmetz, assisted by Ernst J. Berg. New York; "Electrical World and Engineer," Incorporated. Pages, 524; illustrated. Price, $4.

CORRESPONDENCE.

We invite correspondence upon matters of interest to the industries of mining and metallurgy. Communications should invariably be accompanied with the name and address of the writer. Initials will only be published when so requested.

Letters should be addressed to the MANAGING EDITOR.

We do not hold ourselves responsible for the opinions expressed by correspondents.

Filter Pumps.

Sir: Allow me to be one of the hundred to tell your correspondent—page 463, October 20th—what filter pump he is looking for.

The simple contrivance of Bunsen, illustrated and described in every edition of Fresenius, will do better work and pull harder than most others. It depends on gravity and is easily made in a few moments by anyone possessing two bottles, a pinch cock and a few feet of rubber tubing. Too many chemists pass it by in reading Fresenius as being old-fashioned and in consequence of little account. Try it.

Thorn Smith,
Chemist and Assayer,
Ducktown, Sulphur, Copper and Iron Company.

Isabella, Tenn., October 22d, 1900.

The Works of the Smelting Corporation.

Sir: In your editorial not referring to my article on the "Smelting Corporation," you describe me as a consulting chemist to the company. This statement is not correct, as, although my partner, Dr. O. J. Steinhart, and myself have been engaged for a considerable time in experiments in connection with the electrolytic extraction of zinc from the oxide produced by the comporation, we are in no way connected with the company's business as described in my article. The company kindly gave me permission to describe their works for your "Journal," not as your representative but as one who had had the opportunity of going over them and seeing the work which is being carried on there.

While writing to you I might point out that the statement as to the calcination of the ore and "revision of the chemical theory of the process" also requires correction.

In "The Mineral Industry," Volume VI., Page 670, a description of the process as worked by the original Burnham Syndicate contains the following statement: "In this process the calcined ore is mixed with about 25 per cent. of salt-cake before withdrawal from the furnace" (i. e., calcining furnace).

A comparison of the description referred to above with my paper will show that no essential alteration has been made in the "chemistry of the process."

I should be much obliged if you would insert this correction at your earliest opportunity. Julius L. F. Vogel.

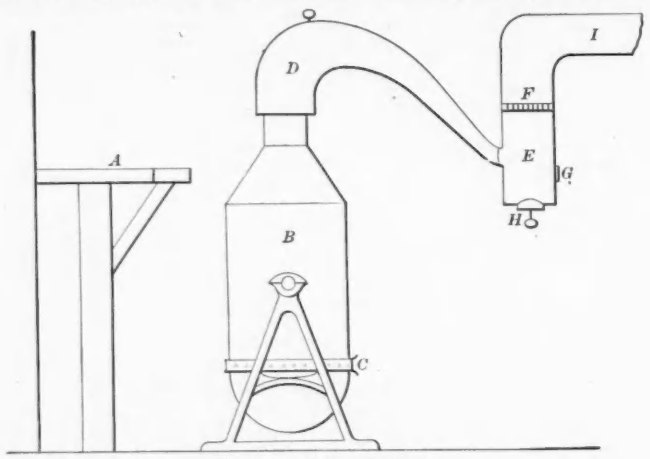
London, Oct. 11, 1900.

(We think that Mr. Vogel's letter is addressed more to the form than the actual meaning of the editorial to which he refers, which was published in the "Engineering and Mining Journal" September 29th last, page 362. He says he is not consulting chemist to the Corporation, and he is doubtless technically correct; but as a matter of fact he has worked practically in the capacity of consulting chemist to the Corporation and to Mr. Fry for two or three years. Mr. Vogel further says that calcining is not a new thing and that we are wrong in saying that the "chemistry of the process" has been revised; but the reference to this matter was intended to go back much further than the instance he quotes. References to Ellershausen's, Angel's and Fry's patents of 5 to 15 years ago will show that calcining was not an essential and that the soda was considered a reducing agent for the lead sulphide. The process is a much older one than Mr. Vogel admits.—Editor E. & M. J.)

Treating Zinc Crusts.

Sir: The accompanying rough sketch is an idea for extracting zinc from the crusts formed by desilverizing by the Parkes process. Whether the idea is new or not, I do not know.

In the sketch A is the charging floor, B is the furnace, which turns on an axis, or trunnions, and is lined with clay; C is the blast box; D is the distilling tube, and E the condenser; F is a grating through which



Treating Zinc Crusts.

superfluous fume passes to the conduit, I, and is conducted away; G is a peep-hole through which the color of the fume may be observed; H is a valve or gate for removing zinc oxide from the condenser.

The vessel is charged alternately with coke and crust, and when a sufficient quantity has been put in, the distilling tube is lowered into place and well luted, and the blast turned on.

The lead, which goes first, melts and falls below the tuyeres; the zinc passes through the distilling tube and is collected in the condenser; other fumes passing through the grating to an ordinary conduit. When, by looking through the hole, G, the flame is seen to be free of zinc vapor, the lead may be tapped out into molds, the tube lifted, the vessel turned down and the blast shut off. After scraping out drosses that remain, the vessel is then ready for another charge. Criticism is invited. J. H. Rodda.

Concepcion del Oro, Mex., Sept. 21, 1900.

COAL EXPORTS OF GREAT BRITAIN.

The exports of coal, coke and briquettes from Great Britain during the nine months ending September 30th are given by the Board of Trade returns as below, in long tons:

	1898.	1899.	1900.
Russia	1,694,725	2,902,202	2,712,714
Sweden and Norway	2,451,761	3,438,662	3,381,629
Denmark	1,356,798	1,525,937	1,536,669
Germany	3,374,769	3,793,166	4,423,454
Holland	643,580	871,615	1,439,143
France	3,923,304	4,977,958	6,268,444
Portugal, Azores and Madeira	543,482	583,279	548,866
Spain and Canaries	1,288,111	1,673,375	1,898,806
Italy	3,502,409	4,248,854	4,006,826
Turkey	365,708	384,994	262,970
Egypt	1,457,297	1,550,227	1,474,574
Brazil	759,153	780,002	612,247
Gibraltar	292,322	232,534	238,978
Malta	336,856	326,148	359,199
British East Indies	510,973	747,381	454,002
Other countries	3,754,624	4,470,225	4,814,402
Total	26,255,872	32,506,559	34,332,923

The increase this year over last was moderate, being 1,826,364 tons, or 5.7 per cent.; as compared with 1898 the gain was 8,077,051 tons, or 30.8 per cent. The course of the exports is well shown in the table. The great rise in values is shown by the fact that the average price per ton given for the exports this year is $3.95 per ton; in 1899 it was $2.50, and in 1898 only $2.37 a ton.

In addition to these exports there was sent abroad this year for the use of steamers engaged in foreign trade a total of 8,753,829 tons of coal, which compares with 9,135,485 tons last year, and 8,260,544 tons in 1898.

BRITISH IRON ORE IMPORTS.—Imports of iron ore into Great Britain for the nine months ending September 30th, were 4,901,434 long tons, whereof 4,296,625 tons, or 87.7 per cent., were from Spain. The total in 1899 was 5,460,478 tons, showing a decrease of 559,044 tons, or 10.2 per cent., this year.

THE SIMPLON TUNNEL.—The London "Engineer" says that the penetration in the Simplon Tunnel at the end of June had reached 18,456 ft., and the entirely completed portion was 10,500 ft. long. The temperature of the rock at a distance of 7,194 ft. from the southern end was 92° F., while 10,464 ft. from the northern end it was 80°. It is calculated that at the center of the tunnel the heat due to the thickness of the superincumbent rock will be 109°, which would be insufferable to the workmen but for abundant ventilation with cooler air. At the end of August the aggregate penetration was 20,231 ft. The number of workmen employed is 3,000 on the Swiss side, and 2,500 on the Italian side.

CEMENT IN RUSSIA.—An exchange says that there are in Russia at present 36 cement factories, a considerable number of which will be found in Poland. In 21 factories 3,500,000 tons were produced during 1899, and in respect of the other 15 no statistics are to hand. The maximum power of production may be put down at nearly 5,500,000 tons. The oldest cement factory was founded in 1856, and comparatively few others were established during the 30 years following that date. The great majority were opened in the course of the last 10 years. Since 1897 exceptional activity has been shown in the calling into existence of cement works. Portland cement is manufactured by most of the Russian works, as only four devote themselves to the production of Roman cement.

MINERAL IMPORTS AND EXPORTS OF SPAIN.—Imports of fuel into Spain for the 8 months ending August 31st, included 1,094,938 metric tons of coal and 132,584 tons of coke. Imports of metals included 3,092 tons pig iron, 4,564 tons wrought iron, 34,749 tons steel and 1,814 tons tin-plates. Exports of minerals are reported by the "Revista Minera" as below, in metric tons:

	1899.	1900.	Changes.	Per ct.
Iron ore	5,834,683	5,390,306	D. 444,377	7.6
Copper ore	666,641	692,032	I. 25,391	3.7
Zinc ore	60,464	40,062	D. 20,402	33.7
Lead ore	6,998	2,528	D. 4,470	63.9
Salt	250,760	149,110	D. 101,650	40.5

Exports of metals were 17,536 tons pig iron (27,202 tons, 1899); 17,504 tons copper (17,863 tons, 1899); and 103,420 tons lead, against 107,770 tons last year.

COAL IN SPITZBERGEN.—As a result of the examination by explorers of the rich coal mines in the Arctic Islands, several companies have been formed in Norway, and expeditions have been sent to the Island of Spitzbergen. One expedition, led by the engineer Nilson, was very successful, and has opened some mines on the Ice Fiord which are to be worked next year. They brought back a small quantity of what is said to be excellent coal. The coal strata are above the sea level, and three of them are from 6 to 9 ft. thick. Furnace coal, it is said, is found in Green Harbor, at the entry of the Ice Fiord. The strata are described as so rich that they can supply the whole demand of northern Norway for an unlimited period. The facilities for export are, on the whole, very good; but the coal must be transported by lighters to the ships, and the piers must be removed every winter to prevent their destruction by the ice.

THE DONALD IRON ORE MINE, VIRGINIA.

Written for the Engineering and Mining Journal by Charles Catlett.

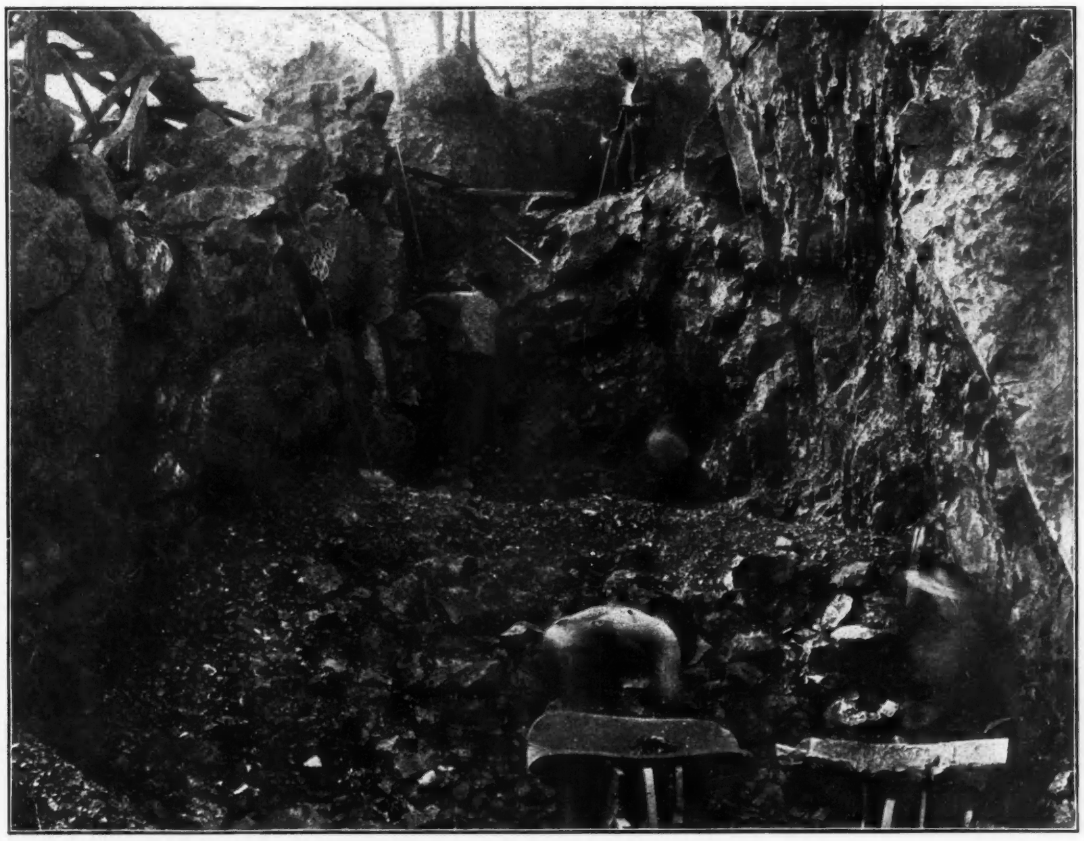
Through Virginia and further south, the most conspicuous ores in the Potsdam formation are found in the soft clays and decomposed shales lying immediately above the upper member of the Potsdam sandstone, which, in this section, is quartzitic and a mass of worm borings. In the quartzites which lie below this upper layer of highly fossiliferous rock a second deposit is not uncommonly found, which, where seen by the writer from a point near the line of the Chesapeake & Ohio Railroad in Augusta County, Virginia, to Embreville, Tennessee, has always the same characteristics. The ore is of a dark, rich, liver color, with a waxy texture, quite brittle, and is always high in phosphorus. It is found filling the cracks and fissures in this sandstone, with all of the characteristics of a regular fissure vein, cutting across the bedding, and at times with well-defined walls; at others, it passes by a gradual change from pure ore into highly ferruginous quartzite. While at any single point it may in this way cut across the bedding, its general direction must conform to the direction of the measures, otherwise we cannot account for its continual occurrence in exactly the same geological horizon over a distance of several hundred miles. As a rule, this ore occurs in veins too thin to make it profitable handling; but near Vesuvius Station, on the line of the Norfolk & Western Railroad, it has long attracted attention, and as at present worked promises a very remarkable development.

The ore appears to be a typical one for making steel by the basic Bessemer process, and was so described by Jacob Reese, who claimed to be the inventor of that process. At the time when that process promised to be extensively developed in this country, the Carnegie interest made an effort to secure large quantities of this ore, and the property was examined by the late Mr. H. M. Curry, who took samples from which the following analyses were made:

	No. 1.	No. 2.
Metallic iron	55.00	57.00
Phosphorus	1.42	1.44
Silica	3.07	2.00

The vein appears almost vertical at this point, and outcrops on the top of the ridge about 600 ft. above the valley beneath, to which the vein can be traced. As at present developed near the top of the ridge, there is a face of from 75 to 100 ft., and a width, at the bottom of the open cut, of about 20 to 25 ft. of solid, dark-brown, liver-colored ore. The walls are well defined, and over considerable distances quite smooth, with a waving surface such as is not uncommon in the walls of the red fossil ore beds. No washing is required, the ore being simply quarried out and run down the mountain in a chute, and then hauled about 1½ miles to the Norfolk & Western Railroad. The ore is quite brittle, and the richest and purest portion, which carries the largest amount of phosphorus apparently in combination with the iron, is especially fragile, so that quite a large per cent. of small ore is produced. The average of furnace shipments during the past year, including strippings, has been: Metallic iron, 51 per cent.; silica, 12 per cent.; phosphorus, 1.15 per cent.; while a recent shipment of some 400 or 500 tons shows the remarkably high result for this section of: Metallic iron, 58.80; manganese, 0.32; phosphorus, 1.458; silica, 2.10; alumina, 1.50.

The property is leased to C. R. Baird, of Philadelphia, who is represented in this section by T. L. Woodruff & Co., who have shown remarkable energy in pushing the development of the property. The present output by wagons averages about 75 tons a day, the weak points being the chute and wagon haul. An incline and tramway are now being put in, and it is expected that the output will shortly reach 200 tons a day. The entire output has formerly been used as a part of the mixture at the West Roanoke Furnace, but with the increased output it is proposed to manufacture basic Bessemer pig for export. The accompanying pictures explain themselves.



1.—Donald Mine, Virginia. Opening at Top of Mountain.

THE PRODUCTION OF CYANIDES IN GAS WORKS.*

By Dr. Bueb.

It has long since been recognized that illuminating gas contains cyanogen, as well as sulphuretted hydrogen and ammonia. Nevertheless, all that was done was to extract from the gas that portion of the cyanogen which was deposited as blue in the purifying material.

Cyanogen was actually found in the gas as hydrocyanic or prussic acid (HCN) in the free state. Washing this prussic acid, by means of water, with the ammonia of the gas, does not, however, allow of its extraction in the form of readily soluble ammonium cyanide; for the carbonic acid, which is always in excess in gas, immediately decomposes the ammonium cyanide produced into ammonium carbonate and free prussic acid. This reaction accounts for the ammoniacal liquor of gas works being free from ammonium cyanide.

On the other hand, the ammonical liquor always contains another compound of cyanogen—ammonium sulphocyanide—which salt is formed in the washers by chemical reactions between the hydrocyanic acid, the ammonia, and the sulphuretted hydrogen present in the gas. Only a small portion, however, of the cyanogen is thus combined; the greater part does not enter into combination, and is carried forward by the gas into the purifying plant.

Only there does chemical combination of the cyanogen take place. In the purifiers the cyanogen combines, on the one hand, with the oxide of iron of the purifying material and with the ammonia which is still present in small quantities in the gas, and forms therewith insoluble ferrocyanides; and, on the other hand, it combines with sulphur compounds present in the gas, with which it forms sulphocyanides, that gradually accumulate in the purifying material. The absorption of the cyanogen in the purifiers is not, however, complete. There remains a more or less considerable percentage in the purified gas; so that, in works where cyanogen is not specially extracted, an appreciable amount is actually always to be found in the gas as distributed to the consumers.

When a demand arose for cyanide commercially—chiefly from its use in the treatment of gold ores—researches were made in gas works with the object of recovering as much as possible of the cyanogen which is not retained by the purifying material. To do this, it was necessary to find special methods for extracting the cyanogen elsewhere than in the purifiers. The procedure to be followed was pointed out in the old patents of Knoblauch and of Rowland. These two processes aimed chiefly at the formation of a soluble ferrocyanide; and at some works

*Abstract of paper read at the International Gas Congress in Paris.

in England the method was practically applied. The economical results were not, however, such as to warrant an extension.

Meantime, I was successful in devising, at the Dessau Gas Works, belonging to the German Continental Gas Company, another method of extracting cyanogen from illuminating gas. It was a far simpler method. The principle of the process is the elimination of cyanogen by the aid of the ammonia present in the gas, by intimate contact with a concentrated solution of an iron salt, and the formation thus of an insoluble double salt. Practically, the process is carried out in the following manner: The gas, immediately after it leaves the Pelouze & Audouin condenser, is passed into a special mechanical washer of the Standard pattern. This apparatus comprises four or five separate compartments, which are traversed by the gas in the reverse direction to that taken by the solution of the iron salt. The chemical reaction which takes place is as follows: The last compartment of the washer is filled with a freshly prepared concentrated solution of sulphate of iron water. After 6 to 10 hours, during which the gas is passing through, the sulphate of iron is completely converted into an equivalent quantity of sulphide of iron; and the filtrate no longer contains iron, but consists essentially of a solution of sulphate of ammonia. When this reaction is completed, the mixture in the compartment in question contains only traces of cyanogen. The contents of this compartment then pass into the next compartment, in which another change takes place. The ammonia and the cyanogen of the gas form with the sulphide of iron an insoluble double salt of ferrocyanide and ammonium, while the sulphuretted hydrogen again becomes free, and is partly carried by the gas out of the washer and partly left in the product of the reaction as sulphide of ammonia. This reaction continues in the remaining compartments up to the last one, by which the gas enters the washer, where it is complete.

The effect of the cyanogen and ammonia on the sulphide of iron, which is formed in the first instance, becomes apparent in the color of the liquid in which the reaction occurs. In the first compartment (in which is the solution of sulphate of iron), the liquid is deep black; in the following compartments, proceeding toward the gas inlet, this hue gradually gets lighter; in the last compartment it becomes yellowish green.

The product, as it leaves the washer, is a liquid mud, which is either sold in that condition or subjected on the works to another change. This mud or sludge, as it leaves the cyanide washer, contains cyanogen in amount equivalent to about 20 per cent. of yellow prussiate; while the ammonia present in it varies between 6 and 8 per cent. The ammonia which has not been utilized in the absorption of cyanogen passes through the cyanide washer, and should be absorbed as hitherto by the special ammonia washer. Clearly this process lightens the work of the ammonia washers.

It may be added that the absorption of cyanogen, according to the above method, need not take place at a fixed low temperature. On the contrary, the reaction occurs with even greater vigor with gas which has not been cooled. Consequently, in planning new installations it is well to put the water or tubular condensers on the outlet of the cyanogen washer, and to connect the latter to the outlet of the Pelouze tar-extractor.

The sludge is boiled until the uncombined or free ammonia is distilled off; the distillate is condensed in a condenser to ammoniacal liquor containing 5 to 6 per cent. of ammonia, or it is mixed with the works' ammoniacal liquor. The sludge which remains in the still then consists only of a mixture of an insoluble double salt of ammonium cyanide and a solution of sulphate of ammonia. It is transferred to a filter press. The liquid expressed is merely a 10 per cent. solution of sulphate of ammonia, which is suitably evaporated to make sulphate of ammonia fit for the market. The cake which remains in the press contains about 30 per cent. of prussian blue, and 44 per cent. of yellow prussiate; and it is salable in that condition.

Sulphate of iron is the only chemical product required for the application of this process; and, as it is readily obtainable everywhere, the process becomes peculiarly simple. For every 100 lbs. of prussian blue recovered, 200 lbs. of sulphate of iron are needed. The apparatus requires from one to two hours' time per diem, according to the gas passed through it on filling, emptying and recharging the compartments of the washer. The yield obtained by the process depends primarily on the quality of the coal employed, and secondarily on the temperature of the carbonization.

Experience shows that English coals contain the most cyanogen. For instance, at one works where only English coals are carbonized, the mean quality of cyanogen recovered by the sludge corresponds to 7.4 oz. of yellow prussiate per 1,000 cu. ft. of gas. Another plant, where a mixture of English and Upper Silesian coal is employed, shows a yield of 6 oz. per 1,000 cu. ft. A plant where only Silesian coal is carbonized obtains about 4.2 oz. Coal from the Saar Basin gives a yield of from 4 to 5 oz. per 1,000 cu. ft.; while coal from the north of France gives 4 to 5 oz., and that from the east about 4 oz. In general, it may be taken that the minimum production on a gas works will be 3.5 oz., and the maximum 8 oz. per 1,000 cu. ft. of gas.

The direct advantages offered by the process are the simple extraction at little cost of the whole of the cyanogen in a form which is very valuable. Apart from these, there is something to be said as to the great indirect advantage which it affords to gas works. One of the indirect advantages of this process of extraction by means of a liquid is that it materially assists the purifiers in the removal of sulphuretted hydrogen. This is due to the fact that, previously, the iron in the purifying material (oxide) was of use quite as much for the production of blue, while now, as cyanogen is no longer present in the gas which enters the purifiers, the iron is entirely available for the retention of sulphuretted hydrogen from the gas. It has been proved at various gas works that the purifiers have been considerably relieved after this process has been introduced.

The removal of the cyanogen from gas is distinctly beneficial so far as health is concerned, and also lessens the corrosion of pipes, meters, etc. The German companies which have introduced the process find this, in addition to the financial gain they have secured.

ANCIENT GOLD MINES IN AFRICA.

The "Manica Mining Journal," published at Macequece, East Africa, refers as follows to traces recently found of ancient workings for gold in the Mozambique country: "A fresh discovery confirms the claim we have heretofore made—that the gold industry was found already established by the Semitic races, and by the first Portuguese discoverers, and had been pursued energetically by them.

"On the left banks of the Muza River a fort has been found built on the plain, but close to the mountains, which was evidently destined for the protection of a considerable number of people occupied in the large workings that we now find extended for a radius of some miles around. This fort was built in quadrangular form, with sides 450 ft. in length. The face furthest from the river is built with shales, cemented together, and about 9 ft. in height, by 3 ft. in width, having a double bastion at each angle, so as to flank the front and side faces.

"The face near the river is built with clayey sand, mixed with stones and in its middle is constructed a third bastion, destined for the flanking of this face, which is not protected by the two bastions on the front. The walls of both faces have two descriptions of loop-holes, one being at a height of 4 ft. from the ground, and the other at a height of 1 ft., the loop-holes being 6 ft. apart. On the flanks of the bastions is an embrasure intended for the use of small guns. Both round the fort and in the river itself are large works, and the size of the building shows that a large garrison must have been maintained there.

"The use of firearms for the defense shows that the building must have been built by the Portuguese, and we have heard that some excavations will shortly be made there in order, if possible, to discover further evidence as to the period at which the fort was built."

THE INFLUENCE OF ALUMINUM ON THE CARBON IN CAST IRON.*

By Godfrey Melland and Harry W. Waldron.

In the present research the authors have endeavored (1) to determine the amount of aluminum which is necessary to produce the maximum separation of graphite in a white iron as free as possible from silicon and other impurities; (2) by casting every melting both in sand and chill moulds, to ascertain the effect produced by slow and rapid cooling upon the mode of existence of the carbon in the metal with varying amounts of aluminum from 0.02 per cent. up to 12 per cent.

The writers describe the method of making the alloys, the metal selected as a basis for the experiments being a white Swedish charcoal pig iron, and after describing the loss of aluminum, the method of casting, and giving analysis of the pig iron used, refer to the effect of aluminum on the total carbon. The addition of aluminum in amounts less than 2 per cent. has no effect upon the total carbon of the metal. Beyond 2 per cent., however, there is a rapid decrease in the amount of carbon contained in the metal.

In the quickly-cooled specimens the aluminum effects practically no separation of graphite when less than 0.23 per cent. Above this there is a rapid decrease, until with 0.527 aluminum the graphite reaches its maximum amount of 3 per cent. This amount of graphite remains fairly constant up to 1.78 per cent. of aluminum, after which there is a gradual decrease until, with 11.8 per cent. of aluminum, the metal contains even less graphite than the original pig iron.

In the case of the slowly-cooled specimens the amount of graphite liberated is somewhat irregular where the added aluminum is low.

When the amount of aluminum exceeds 0.3 per cent. and its effect of accentuating the critical point for graphite separation begins to be more marked, we do not meet with any more irregularities. With the aluminum from 0.23 to 1.78 per cent. the slowly-cooled specimens are uniformly gray, and all contain about 3 per cent. of graphite. With larger amounts of aluminum the graphite diminishes, but more slowly than in the rapidly-cooled metal, until with 11.8 per cent. there remains only 0.2 per cent. of graphite, and the rate of cooling has absolutely no effect.

In no case is the whole of the carbon separated as graphite either in the quickly or the slowly cooled specimens, about 0.9 per cent. of carbon being generally retained in the combined form. In this respect the action of aluminum is much less powerful than silicon, as high silicon cast iron frequently contains no combined carbon. With regard to the effect produced by traces, however, the aluminum is much more powerful.

Iron with 0.527 per cent. of aluminum contains about 3 per cent. of graphite, whether cooled slowly or rapidly, and this amount is not greatly increased by any further addition of aluminum. The rapidly-cooled specimens, even when entirely gray, differ considerably in appearance from the corresponding slowly-cooled specimens on account of the extreme fineness of their grain.

A few compression tests were made with the object of ascertaining the softening effect produced by the addition of varying amounts of aluminum. It was found that the presence of 0.25 per cent. of aluminum reduced the resistance to crushing nearly 60 per cent. The metal, in fact, has the properties of a good soft foundry iron, and further additions of aluminum up to 3.8 per cent. do not increase the softness of the metal. The test-pieces were all slowly cooled with the exception of one, which was cast in an iron mold. Although this specimen did not show the slightest sign of whiteness, the thin layer of white produced by chilling having been turned off before testing, and contained in fact, almost exactly the same amount of graphite as the slowly-cooled specimen, it withstood a pressure of no less than 77 tons to the square inch; the compressive strength of the metal was increased by 35 per cent. by rapid cooling. The appearance of the specimen after fracture did not suggest that this increase in rigidity was effected at the expense of the toughness.

*Abstract of paper read before the British Iron and Steel Institute at the Paris meeting, September, 1900.

A VIEW OF THE IRON AND STEEL TRADE.

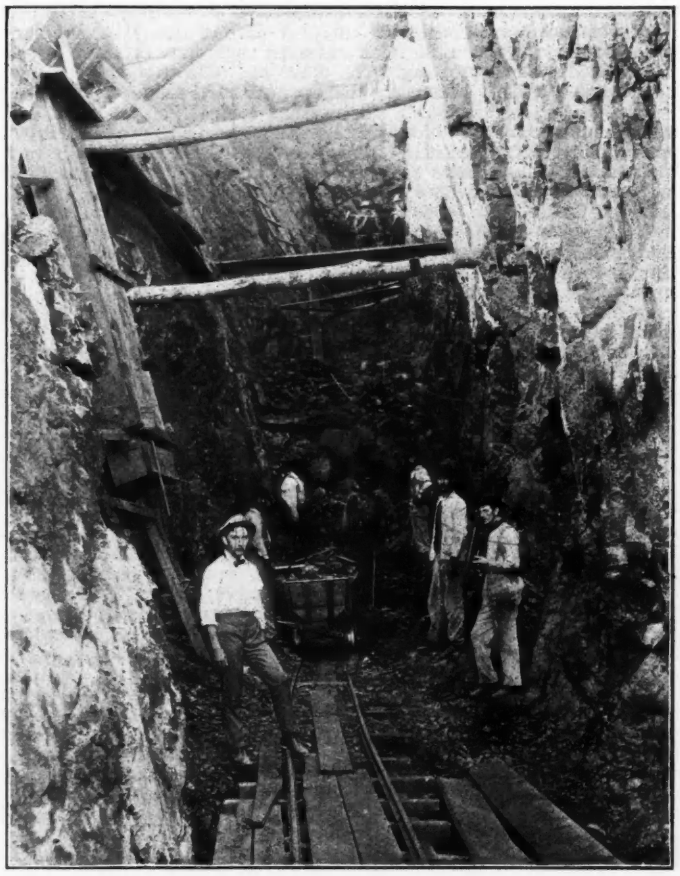
Condensed for the Engineering and Mining Journal by Walden Fawcett.

An elaborate monograph dealing with the iron and steel trade of the United States has just been issued by the Treasury Department Bureau of Statistics. Commenting upon the production of iron ore and coal in all countries in 1899, it is stated: "The meaning of these figures is clear; they indicate that the leadership in the production of those raw materials, on which the production of iron and steel depends, has not only temporarily but permanently passed from the eastern to the western shores of the Atlantic Ocean. Nearly one-third of the world's output of iron ore entering into commercial account is now produced in the United States. This fact alone, unsupported by the existence of coal supplies on which Europe is now beginning to draw, might not imply permanent ascendancy on the part of American iron-making materials, but with coal measures twelve times greater in area than those of western Europe it is plain that, on the basis of these two agents of development, primacy in the materials of iron and steel production has in all probability for the coming century passed to the United States. This view of the world's iron-ore situation receives acceptance elsewhere than at home."

The view is taken that from present prospects Germany, no less so than Great Britain, is destined to work out her future within the limits that industry in each case much succeed or fail on its own basis. It is not necessary therefore at this point to ascertain whether the actual cost of producing a ton of iron and steel in the United States is less than in both Great Britain and in Germany; it is enough to know that the United States is now, and for a long time to come will continue to be, so much richer in productive resources of raw materials than her rivals. Without any doubt her position as a self-sufficing nation in supplying herself with the requisites of iron and steel production is doubly assured, while her rivals are both drawing their iron ores in growing proportions from more distant foreign mines and from domestic mines which entail progressively higher expenses of development.

It is claimed that we are still at the beginning of our resources, both in the quality of ore mined per annum within our borders and in the economy of methods of accumulating materials at the centers of iron and steel manufacture.

The statistical position of Great Britain as an iron-ore producer and consumer appears to be as follows: The maximum in domestic production was reached as long ago as 1882. That year 18,031,957 tons were mined. From that year forward dependence was increasingly placed on foreign supplies. By 1893 the domestic production had declined to 11,203,476 tons. Since that year there has been a gradual increase in the domestic ore supply, the figures for 1897 being 13,787,878 tons, and for 1898, 14,176,938 tons. As far back as 1870 the annual



2.—Donald Mine, Va., Level No. 2.

3.—Donald Mine, Va., Ore Chute.

of increased cost of bringing together raw materials, to say nothing about the disadvantages in manufacture which arise from such a handicap in accumulation of raw materials from more distant places and deeper deposits than America will have to resort to within the next 50 or 100 years. Whether increased attention to productive economies in European iron and steel centers, a larger utilization of the by-products of iron making, and the reduction of ocean freights on ore, coal, and iron products will together in the long run outweigh the natural advantages enjoyed by the United States still remains to be seen. At any rate these two European competitors are quite similarly situated in respect to their ore supplies by having to depend on foreign sources for an increasing proportion and by having reached a point of diminishing return per additional unit of capital and labor employed in the development of their national resources in coal and iron as compared with the United States.

The analysis of the iron-ore situation is made essentially from the standpoint of competitive efficiency of the three leading ore-producing nations on the basis of the comparative cost of accumulating the materials of iron and steel manufacture. For, in the final analysis, this element in the cost of production must determine the comparative strength of the position of any nation in the world market. The expenses of distribution of finished products tends everywhere much more readily to a common level among nations. Disadvantages may be neutralized by national subsidies in favor of distributive agencies in order to remove any handicap in the race for markets. But even such expedients must be charged up against the assets of the particular industries for whose products a market is thus sought and maintained. In comparing the iron and steel industry in several different nations, yield of her home mines was 14,370,655 tons. While her capacity to recover her former statistical position of domestic production has been proved, it is nevertheless true, taking into account the present requirements for furnace consumption, that Great Britain is much less favorably situated in this respect than she was thirty years ago. As a consumer of iron ores Great Britain has now to depend on foreign supplies for between one-fourth and one-third of the annual requirements of her own iron and steel industries.

A fact of primary import in both present and prospective development of the iron and steel industry in the United States, is, it is pointed out, that of a wider scope and a freer adaptation to the conditions of maximum economy in the accumulation of the requisite materials of manufacture. Being self-sufficing and liberally supplied with both iron ore and coal, the iron industry is therefore free within the national limits to seek that location which, all things considered, admits of the lowest cost of production. For example, the tendency the world over, among iron industries, is for the furnace to seek the iron-ore mine and to leave the colliery. A nation, such as Great Britain, a fourth or more of whose ore is brought from abroad, or a nation whose position is like that of Germany, dependent on foreign supplies of coal and ore to a considerable extent, is not capable of availing itself of such an economic tendency as fully as one whose domestic supply of all iron-making materials is more than adequate for its demands. To some extent such adaptation will occur within each and every iron-making nation with considerable domestic ore supplies; but the production of no other nation is so completely at liberty to accommodate itself to the lines of largest economy as in the United States.

Taking up the question of the maintenance of prices, it is stated

"that the progress of domestic manufactures of iron and steel goods may be handicapped by the sale of iron and steel in their unmanufactured state at so much lower a price to foreigners than to domestic consumers as to keep the American competitor out of foreign markets generally. The natural limit to such a policy of maintaining a higher level of prices for these materials at home than abroad is found in the restriction of domestic consumption and in the import duty. If restriction of consumption at home does not operate to prevent the short-sighted policy of discrimination against domestic development of manufacturing industries, the other contingency is more or less sure to arise, namely, the demand for a reduction of the tariff on unfinished iron and steel, in order to equalize the opportunity of makers of finished products in foreign markets. To this policy the domestic consumer is usually ready to lend himself, thus making a powerful combination of interests to set limits to the rise of domestic prices of iron and steel materials."

Of the two policies open to iron and steel makers the farsighted one, of keeping the domestic and foreign markets as near as possible on a par in the price of these materials of manufacture, is declared to be by far the wiser one to follow, both in the interest of a steadier course of prices, which means steadier consumption, and on account of the competition of manufacturers of finished goods with foreign manufacturers in neutral markets all over the world.

The other policy of maintaining prices to manufacturers at the highest level at home leaves little margin for experiment in seeking new markets abroad and restricts the application of iron and steel to additional uses at home. The depressing effects of an agitation for tariff revision to remedy this inequality are sure to cause a far greater business loss, not only to the country as a whole, but to the producers of iron and steel themselves, than is to be gained by selling at low prices abroad, which they cannot help, and at high prices at home, which they can help. Nor can the home-market price be sustained beyond certain limits by export sales. Certain American manufacturers of steel materials tried this policy up to April, 1900. It resulted in a very positive shrinkage in domestic consumption at the then high rates.

In the long run it seems inevitable that prices the world over should tend toward a common level, subject to the differences due to cost of transportation and import duties. Any considerable and prolonged difference in costs of production will sooner or later eliminate the most expensive producers from the arena of competition for the world's trade unless such differences in cost are equalized by duties on imports or premiums on exports. If we go by the experience of the past in transportation, we have to recognize this equalizing tendency to reduction of freight rates in ocean trade.

In the light of this class of facts and in view of trade policies more recently recognized, such as reciprocity, shipping subsidies, and the revision of treaties on less exclusive bases, it is evident, too, that the consuming interests in modern nations are receiving far more consideration than formerly, both on the part of producers and in public policy. It is now recognized in economic policy, both private and public, that the cultivation of the consuming capacity of peoples is the only sure means of developing markets. This principle must govern the iron and steel producers of America in their foreign policy; in their domestic policy, under consolidation of allied industries domestic prices may rule much higher than those abroad. If steel rails, for example, sell at Pittsburg for $35 per ton for months in succession for home consumption, while the foreign consumer is purchasing them for $22 to $24 per ton, the domestic market is sure to order no more than it is obliged to have for the time being. In the long run such a policy is short-sighted, because it puts an embargo on the expansion of investments in enterprises requiring iron and steel. It arrests constructive projects at home, while it stimulates construction abroad. Demands for home purposes are elastic, and may shrink to a half or a third of their normal proportions under a highly divergent level of home and foreign prices. The policy of producers may, therefore, be such as to make or unmake the demands for iron and steel for internal development; and the measure of the domestic demand, beyond immediate needs, is determined by the difference between the level of foreign and domestic prices. There can be little doubt that American steel and iron industries, under existing consolidations, are in a position to develop internal consumption by lower prices or to restrict such development by the highest prices that their protected position will allow them to exact. But there are limits to this policy of three kinds: (1) The springs of domestic demand may be dried up by the policy of highest possible prices; (2) the disproportionately high prices compared with cost of production may readily result in competition of idle surplus capital in the effort to get part of the real or supposed abnormal profits; and (3) the restrictive policy of unnecessarily high prices to domestic consumers in contrast with foreign prices for American goods may always have recourse to a reduction of import duties on iron and steel products generally.

The entrance of the United States into the world market as a leading producer of iron and steel for foreign account raises the question of the policy of producers toward foreign and domestic consumers. It may be taken for granted that domestic consumers will not be content indefinitely to pay a much higher price than foreign consumers pay for similar products of iron and steel. Yet the problem of finding and keeping foreign markets for surplus products under existing conditions of production renders such a policy necessary. The progress of consolidation of iron and steel industries at home has put American producers in a position to work out this problem with more success than ever before. At the same time it has changed the relation of the home market to foreign trade. The American consumer is interested in knowing how the development of the foreign trade is likely to affect his position.

When new markets are to be opened abroad the governing factor, which must be made the basis of prices to consumers, is the capacity to undersell competitors regardless of the level of prices at home. The policy of many governments has been to subsidize production or distribution in some way or other, so as to enable the producer to reach the consumer in distant lands without too great a loss or risk in the initial outlay. The capital outlay being large and the income low for the first few years, the risks of changing prices, of uncertain credit, and of the cost of marketing, give the whole policy of opening foreign markets as a highly experimental character. The elements of commercial expense in distribution between producers and foreign consumers are not only higher, but they are harder to ascertain in advance than in the case of domestic distribution. Hence commercial expansion, arising from the necessity of disposing of a national surplus abroad, has always made it necessary for domestic producers to adjust their trade to two-price standards—the world-market level of prices, determined primarily by international competition, and the domestic standard of prices, determined mainly by the development of internal demand. The higher profit, presumably to the producer, is made in the home market when such market is guaranteed to any extent by an import duty, but when national production exceeds domestic consumption and producers compete so as to bring down prices, the industry in question must either contract its output or expand its markets. It is a principle of industrial enterprise that it persists as long as it is found profitable. It can not command foreign markets without departing from the one-price policy. The cost of domestic distribution per unit of product is less than that of distribution to foreign consumers, yet international competition frequently requires the trade to sell to the foreign consumer at a much lower price than that which the domestic consumer pays. Where the world-market level of prices to consumers is so low as to make trade in its initial stages unprofitable, two policies have been followed. For the sake of a greater prospective prosperity, governments have by various ways contracted to cover part of the risks of opening and developing foreign-trade relations until such time as these projects could be made self-supporting. The other policy is to guarantee to the producer the certainty of a home market as a basis from which to build up a foreign trade, depending on internal competition to effect a reduction in the cost of production and transportation to consumers. The former policy is Continental; the latter is distinctly American in its history and development. The tendencies of these two policies in the long run are divergent. The policy of premiums, bounties and subsidies to foreign trade tends to delay economies of production and distribution in domestic markets, to increase the difference between prices to domestic and foreign consumers, and to restrain domestic consumption, as in the case of beet sugar in Europe; while, on the contrary, the tendency of the policy which reserves the home market to domestic producers for profitable development is to reduce prices to domestic consumers by developing the volume of consumption.

The bounty or premium policy puts the premium on export trade, whereas the "home-market" policy puts the premium on the development of domestic consumption. As the volume of domestic consumption increases, the profit per unit of product decreases and the cost of production and distribution declines; under this pressure to increase consumption by lowering prices without decreasing the rate of profit to the producer, the American producer has finally reached a level of cost of production in iron and steel which enables him to enter the world market on at least even terms with other nations. Economies of distribution in our foreign trade still remain to be developed, as economies in production have already been developed beyond those of other nations. Any gain in that direction will still further strengthen the position of the American producer among foreign competitors. As foreign competition abroad reduces the prices of iron and steel there, the reaction in the foreign trade on the home trade should tend to lower prices at home, the more so as the ratio of foreign to domestic demand increases.

This seems to be the position of the American export trade in iron and steel at the present time. The difference in prices at home and abroad tends to equal the difference in cost of transportation. Subsidies and premiums on exports only add slightly to the difference to be overcome. The position of the American producer is potentially the stronger, as compared with the foreign competitor, because the former has relied on reduction in cost of production rather than on advantages in expenses of distribution to get and keep foreign markets.

The turning of the tide of the American iron and steel trade outward toward Europe, Asia, Africa and Australasia marks the end of an old and the beginning of a new regime, not alone in our relation to the world market, but also in the economic organization of this industry at home. Hitherto the assumed higher cost of production has been regarded as sufficient to shut out the American ironmaster from competition in the foreign market. The higher cost of production was usually attributed to higher money cost of labor, and the higher cost of labor was regarded as the result of a higher standard of living in the domestic life of the American citizen. But no fact has been better established in statistical enquiry than that this entrance of American iron and steel products into foreign trade has occurred side by side with the rise of wages of labor and the fall in the cost of production. These two tendencies may not always be causally related, but a third factor has to be assumed to explain the success of the United States in the world's iron and steel trade. This factor is to be found in the reduction of the entire process of iron and steel production, from the mine to the consumer, to machine methods on a large scale. No other single factor has equaled this one in bringing about this result. This reduction in cost applies to transportation, both of materials and products, to production in all its phases, and to commercial disposition of the product under continuous control of the producer.

These economies have come with the reorganization of the iron and steel industries into larger aggregations of capital and centralized control of materials and markets.

The main question is whether this particular form of industrial organization has in it the capacity to perpetuate or imperil the high level of popular prosperity which it is the policy of the nation to perpetuate in the general condition of household life. Such industrial organizations may be well calculated to win markets; can they also serve their part in the social economy to prevent the recurrence of such phenomena as unemployment and the social collapse that comes therewith? For the truth is now more than ever apparent that the high degree of centralization in the iron and steel industry and trade has located in these

organizations the economic responsibility for popular prosperity so far as they are a function of the nation's industrial and commercial life. Hitherto, under the regime of small industries, that responsibility was divided; now it is sufficiently centralized to make evasion practically impossible. And it is not enough that they guarantee the positive results of commercial and industrial progress; it is also required of them to prevent the wasteful economic blunders which have marred the popular life in the past by recurrent seasons of suspense and suffering.

The test of the social utility of these aggregates of capital, in what are known as iron and steel trusts, will come not so much in their capacity to kill off smaller concerns less economically organized, and operated as to their ability to avert the periodical recurrence of industrial depressions and financial speculations. These latter organizations, after all is said and done, must act as great balance wheels, as governors of the speed of development and as means of maintaining the equilibrium between demand and supply. Their managers must have the courage to grapple with the problem of giving stability to prices, just as the shipping public demands that railway management must, first of all, maintain stability in rates as the basal factor in enabling shippers to compete for markets. Prices may vary as rates may vary, but every considerable unsettling of their level throws past calculations of competing ability out of account. Future contracts give place to "hand-to-mouth" methods of trade whenever prices become so variant as to regularly unsettle values from one extreme to another. The organization of syndicates in Germany, and of "trusts" in the United States has, more than ever before in the history of industrial progress, put prices in the control of producers.

The Treasury Department investigators sum up as follows: "We may briefly summarize the relative features of strength in the position of the three leading rivals in the world's iron and steel trade as follows: The restless demand for improved methods and machines, which intelligent workmen have readily applied to this industry, has put America where she is—the foremost producer of iron and steel. The technological training of men and masters in iron-working processes has enabled Germany to rise as the worthy competitor of both Great Britain and the United States. No other single feature of German development has done so much to bring her trade to the front rank of excellence and value. The position of Great Britain is what it is to-day and what it was in the past because of her commercial genius. Prolonged leadership in trade has, however, made her lax and caused her to lose the art of quick adaptation to changed conditions of competition. In the lessons which each of these powers is seeking to learn from the others these three characteristic factors contain the secrets of the century's progress in the iron and steel trade—the invention of machinery and methods, the education of the worker, and the cultivation of the consumer. Permanent national prosperity lies along these paths."

THE LAKE ERIE & OHIO RIVER SHIP CANAL.

Written for the Engineering and Mining Journal by William B. Phillips.

The seemingly well-authenticated report that the Carnegie Steel Company will load steel at Conneaut for direct trans-oceanic shipment, via the Welland Ship Canal and the St. Lawrence River, lends fresh interest to the efforts that were made to bring the Lake Erie & Ohio River Ship Canal to the fore. Whether the experimental shipment of steel from Conneaut to Europe is to be the precursor of regular business or not—and only the future can determine this—it is significant. Public interest in the ship canal from Pittsburg to Lake Erie has been allowed to lapse during the last two or three years for reasons that it is not necessary to discuss now. It is understood that an effort will be made at the next meeting of Congress to secure a national charter for it, a matter which has not been attended to as yet.

Perhaps a brief historical review of what has been done may not be out of place at this time. Passing over the first steps that were taken, the report of the consulting board of engineers to the Provisional Committee was made February 18th, 1896. The Provisional Committee was composed originally of 37 members, representing the chief commercial interests at Pittsburg and along the line of the canal. After considering several routes the engineers—Messrs. Henry L. Abbot, Lewis M. Haupt and N. H. Hutton—recommended the following: From the Davis Island Dam, 5.25 miles below the Smithfield Street bridge, Pittsburg, to the slack water of the Beaver River, 23.26 miles; thence up the Beaver and Mahoning rivers by a slack-water system of pools and dams 46.26 miles to Niles; thence by canal 8.74 miles to the plateau, 900 ft. above tide; thence 31.35 miles across this summit; thence descending to the level of the lake in a distance of 12.55 miles. From Pittsburg Harbor to Lake Erie by this route is 122.16 miles, and the total lockage is 548 ft. The report pointed out that the shortest air-line distance from the Ohio River to Lake Erie was 84.3 miles, so that the route recommended for the canal was but 17 per cent. longer. The dimensions recommended were: Depth, 15.5 ft.; bottom width, 102 ft., and top width, 156.25 ft. The estimated expense of construction was as follows:

Ohio River section, 23.26 miles	$8,139,379
Beaver and Mahoning rivers, 46.26 miles	8,092,762
Musquito Creek, Summit and Lake Erie, 52.64 miles	10,689,242
Feeder, reservoirs, etc.	3,033,713
Adding 10 per cent. for contingencies	2,955,509
Total	$32,950,605

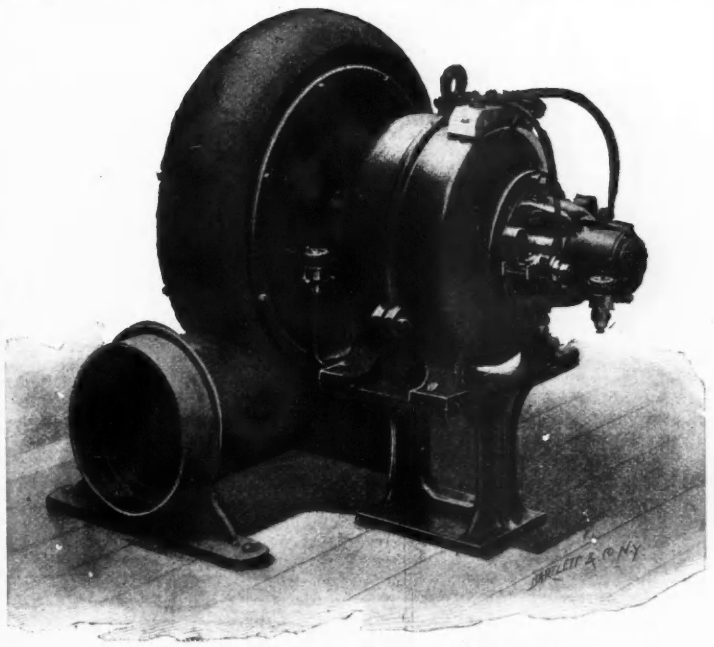
These figures included the cost of electric lighting. The estimated earnings of the canal for the transportation of coal, coke and iron ore were placed at $3,169,049 per annum, the cost of maintenance and operation was taken at $250,000, so that the net annual revenue would be $2,919,049, or 8.9 per cent. on the estimated capital.

As before remarked, it is not necessary to enter into any discussion of the forces that counteracted the efforts in favor of building the canal. Perhaps the chief among these was the completion of the Pittsburg, Bessemer & Lake Erie Railway, referred to as the Carnegie road, running from Pittsburg to Conneaut, one of the best equipped roads for handling heavy freight traffic in the entire country. The terminal facilities of this road leave hardly anything to be desired, the heavy rails, heavy engines, steel cars, etc., were designed especially for a large and heavy freight business. The influences behind the construction of this road and that have maintained it in its high degree of efficiency will certainly have to be met by the special friends of the canal. These influences are not of one kind, but of many. It was not the actual construction of the Pittsburg, Bessemer & Lake Erie Railway that is to be charged with the moribund condition of the canal project, but the general feeling among large shippers that there is no urgent reason for the building of the canal. This feeling is not confined to the actual shippers, whether into or out of Pittsburg, but is also shared by the builders of lake craft, the vessels now engaged in the iron-ore traffic. Whatever may be the engineering difficulties in the way—and they can be surmounted by engineering skill backed with almost unlimited capital—the fact remains that there is considerable apathy among those who would control the possible traffic in the canal. The Pittsburg Chamber of Commerce spent upward of $40,000 on the surveys and reports for the canal, but is not pushing the matter now, nor has it done so for the last two or three years.

A DIRECT-CONNECTED ELECTRIC EXHAUST FAN.

The accompanying illustration shows an interesting adaptation of electric apparatus. It consists of a centrifugal fan or exhaust blower driven by a direct-connected motor, for which service, by reason of the identity of motion of the driving and driven elements of the combination, the electric motor is peculiarly adapted. The constant resistance to the rotation of the fan wheel is overcome by a constant torque acting on the armature.

The fan may be designated as a right-hand bottom horizontal discharge exhauster and is composed of a rotating blast wheel and a stationary casing. This casing consists of a circular discharge mouth piece cast integral with the circumferential rim, to which is bolted the two side plates. In the plate nearer the motor is provided the opening for the motor shaft, while in the other is located the circular air inlet. A distinction is usually made between blowers and exhausters, the latter having but one inlet, and former having one on either side.



DIRECT CONNECTED ELECTRIC EXHAUSTER.

The blast wheel is built up of steel plate blades with backwardly curved tips, bolted to spider arms carried on a cast-iron thumb. The dimensions of these blades, as well as of the inlet and discharge openings, have been proportioned, after careful experimenting, so as to afford maximum efficiency. The air enters the fan in a direction parallel to the shaft, passes outward along the blades with an increasing acceleration due to the centrifugal force, and is discharged radially from the tips with a velocity substantially equal to the peripheral velocity of the wheel. The pressure developed by a given fan varies as the square of the velocity, while the power expended varies as the cube thereof. The volume delivered is approximately proportional to the number of revolutions. Hence the loss entailed by using too small a fan and speeding it up to secure a given output is entirely obvious.

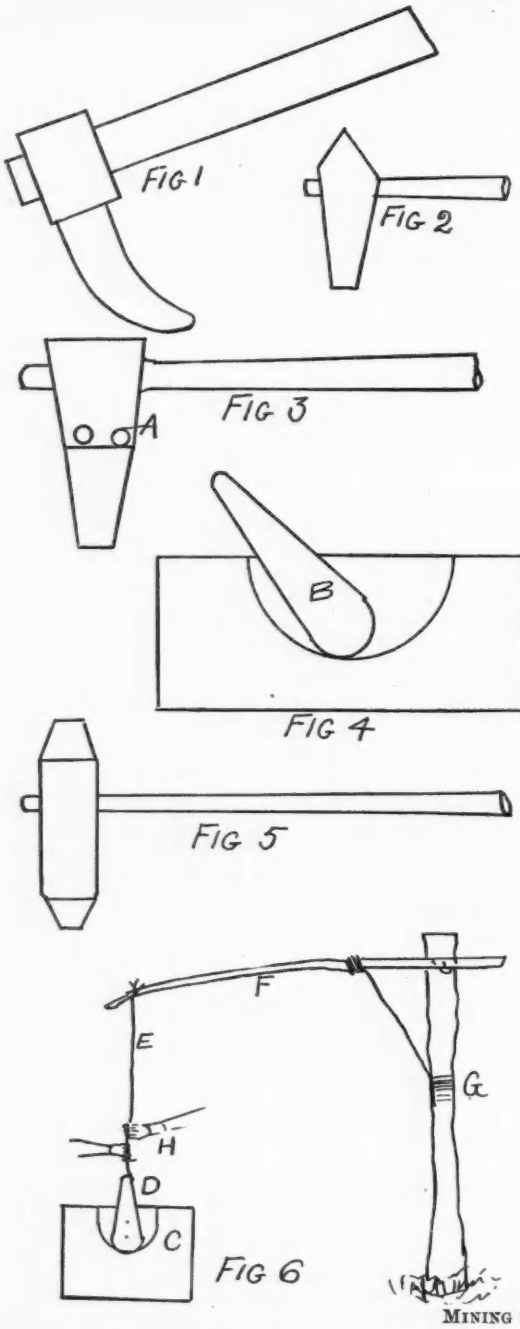
The motive power of the fan shown herewith is a Lundell motor manufactured by the Sprague Electric Company, and is of the general enclosed type. A cast-iron base supports the motor at the proper height. The fan itself is a product of the works of the Buffalo Forge Company, of Buffalo, N. Y. It will be understood, of course, that the details of construction may be such as to allow the attachment of any standard motor. These fans are constructed by the Buffalo Forge Company in sizes up to No. 11B, which requires 50 H. P., when developing 6 oz. pressure at 1,100 revolutions per minute.

COAL IN QUEENSLAND.—An important discovery of coal is reported in Queensland. The coal-beds outcrop along the Dawson and Mackenzie rivers, and apparently they extend over a large area. The coal is anthracite, or semi-anthracite, having a high proportion of fixed carbon.

MINING TOOLS IN THE PHILIPPINES.

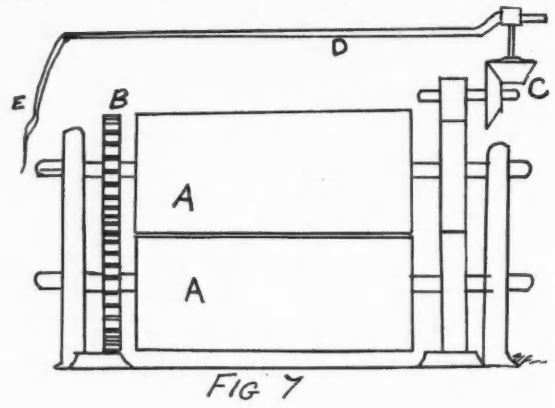
Written for the Engineering and Mining Journal by George D. Rice.

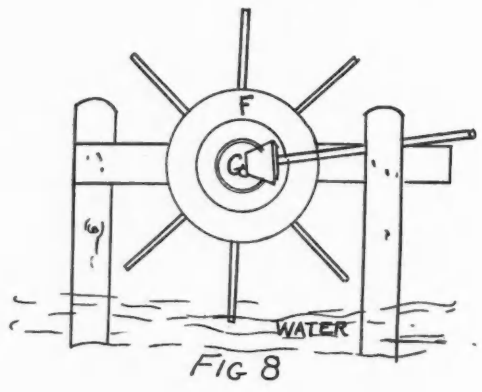
As the present equipment of mines is very crude, the chance for the sale of mining tools and appliances in the Philippines is increasing rapidly. The formation and introduction of the new mining laws are having much to do with the advancement of mining schemes which have been standing idle for some time, and there is activity all along the line. The request for all descriptions of mining tools throughout the islands, as well as the demand for mining machinery, is notable. Tool and machinery houses which have been established in Manila, Iloilo and several of the principal points in the islands, are having all of the business that they can possibly handle. The trouble is that they are not supplied with enough tools or machinery of any kind, and the best

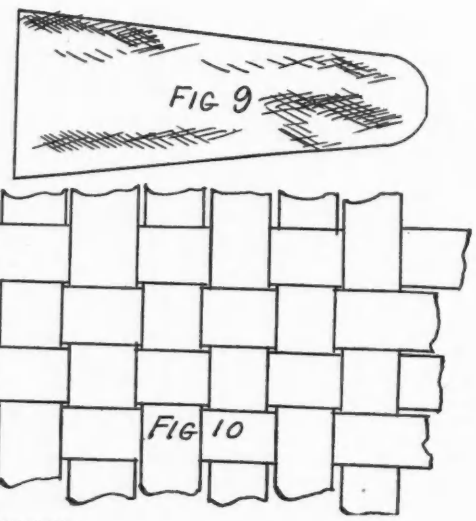


made very strong indeed, and serves the purpose well. A stout handle is put in, and a pick of fairly good efficiency results.

All through the mountains of Cebu, Mindanao, Panay and one or two other islands, there are immense collections of loose rock broken from the main rock of the hills by earthquakes and other eruptions. The miners have discovered deposits of gold and silver in these broken rocks, and it pays them frequently to handle this rock. The native miners take a position near the loose rock which has been separated from the solid rock and proceed to break the pieces with a hammer of the description shown in Fig. 2. Often women and boys are employed at the work, and frequently one sees the entire family of a native breaking stone. The broken stone is made uniform and is piled up and







Mining Tools in the Philippines.

that they can do is to offer the customer the chance to select what is in stock. The mining tools and machinery firms of the United States which have representatives here are said to be planning to put in proper assortments of tools and machinery for working the mines of the Philippines, but it will be some time before these new stocks arrive. In the meantime the miners are struggling along with what apparatus they can get or make. It may be interesting to observe a few drawings and note a few descriptions of the crude types of tools and mining devices used by the native miners, and also, at present, by many of the Americans and others who are seeking their fortunes in the Philippines. The discovery of coal of a fairly good quality in Mindanao has started prospectors to work there, and the collection of tools noticed by your correspondent would amuse an American miner who is used to ordering the tools he wants from firms dealing in the same. The style of pick used in all kinds of mining operations differs from the American pick in that it is heavier, stubbier, and has only one point, as in Fig. 1. This pick is forged from iron by native blacksmiths, who work over the tool for a day or more until they get it the desired pattern. It is sold to the city and town authorities for grading roads. During the process of breaking a careful watch is kept for indications of the precious metals, and all pieces containing "color" are placed on one side for future operations. In this way some of the miners do quite an extensive business.

There is considerable wood-working to be done about a Philippine mining section, and the style of axes employed is different from the American design. A native axe is shown in Fig. 3. This axe is very strong, and is seldom broken at the handle near the head, like American axes. The hole is made large so that a large handle can be used. The iron is lapped over and rivetted to make the hole. The cutting edge is reduced to smaller proportions than the head, as shown, so that it is possible to do effective splitting by driving the edge into a log and turning the handle to one side. The axe of the Philippines is about the only tool I saw in use among the miners that seemed effective. Americans are using these axes in preference to other kinds for the simple reason that one can drive the blade into wood and then split the piece without danger of breaking the axe handle.

In Fig. 4 is the type of stone bowl the natives use in the mining operations for reducing specimens to finer form. The bowl is usually a relic of past ages, for I saw many of them at various times and places, and I never saw a new one or any person in the operation of making one. The stone bowls bear the marks of great age. Evidently the forefathers of the present generation carved them, after months of tedious labor, with crude tools. The bowls serve the purpose well and cannot hardly be worn out. The piece, b, for the purpose of pounding the specimens, is also stone, but occasionally I have seen this of iron. The stone pieces are ground to powder, or to the fineness desired, in these bowls, and then the portions of metals contained in the materials are washed out and secured. Another form of hammer used at some of the native mines is shown in Fig. 5.

Although there are iron mines in the islands, there is a great scarcity of iron materials of all sorts. Recently some of the business houses of Manila and Iloilo have put in some stocks of bar iron, tool steel, etc. They are also carrying some spikes, bolts and other hardware needed by miners. Some of the supply stores are putting in lines of pumps and ventilating fans, for it is expected that the newly formed mining corporations with considerable capital back of them will proceed to work the mines of the Philippines on an extensive scale, and will shortly be in the market for mining machinery and tools of modern pattern.

What the Americans call a "jig" is shown in Fig. 6, and it is used by the native miners for assisting in the pounding of pieces of rock supposed to contain specimens of gold, silver or other metals. It consists in using the same sort of bowl and equipment as is shown in Fig. 4, except that the heavy piece of stone for pounding is lifted partly through the spring obtained from a bamboo pole, f. This pole is attached to an upright pole in the ground or a tree, and is braced as at g. Then a hempen cord is tied on at e and the lower end of this cord is wound about the handle or top of the stone piece at d. The hands grasp the cord at h and the up-and-down movement is rendered easy by the aid of the bamboo pole, f, which has enough spring in it to assist in lifting the weight of the stone, d. In this way a much larger and heavier stone can be used.

In Fig. 7 we show a form of rock-crushing device made in the islands. Much of the gold mining is done by breaking the rock and the quartz is then reduced to the necessary fineness by various means. Reference has already been made to the hand method, and in this process the machine used is usually made over from some of the old iron or steel rolls of cane-crushing machines. The insurgents burned several hundred sugar mills during the war, and the cane-crushing machinery remains standing and exposed to the elements. The mining engineers have rigged up the rolls and frames of these former cane-crushers for operating on the broken quartz of the gold mines. The rolls are marked a, a, and the gearing for turning, b. The framework is very solid. The whole thing is firm and does good service. It is operated by caribou power, two or more of these animals being attached to a beam, d, by means of a rope rigging at e. The animals walk slowly in a circle about the machine, carrying with them the beam, d. The latter is joined to the shaft which carries the beveled gearing at c, and this gearing turns the rolls for crushing.

In some places I noticed that the native miners had home-made water wheels in service, such, for example, as in Fig. 8. The natives have never seen a turbine or correctly made overshot wheel. The only reason that the form of wheel in Fig. 8 works well here is that the streams are exceedingly swift, as most of the water comes down from the mountains, and therefore the blades of the water-wheel are struck with great force and the wheel made to turn quickly and effectively. The wheel is made of hard wood, with a large hub, f, into which the propellers are fixed securely by mortising. The whole bears in a wood frame. Beveled gears are used at g, and usually these are laboriously cut from the so-called "bullett" wood of the islands, which is practically as hard as iron. I rode out on horseback to examine one of these wheels in midriver, and as soon as the current began to strike the sides of the horse he got frightened and permitted himself to be thrown.

The native miners also operate with a cylindrical affair made on the lines of the device shown in Fig. 9. This apparatus is constructed by plaiting and braiding split bamboo. The cylinder closes toward one end and the waters carrying off the washings of the mines are permitted to pass through this affair. The sands sink to the bottom and the metals adhere to little bamboo pieces arranged parallel inside, from whence they are regularly collected. In Fig. 10 is a sample of the split-bamboo work enlarged. It is made by braiding or weaving the pieces securely and regularly, thus forming a sort of matted fabric which is serviceable in many ways in the mining operations in the Philippines.

BELGIAN IRON PRODUCTION.—The output of the Belgian blast furnaces in September was: Foundry iron, 9,850; forge iron, 25,050; steel pig, 62,700; total, 97,600 metric tons. In 1899 the total was 100,400 tons, showing a decrease of 2,800 tons this year.

SHIPBUILDING ON THE GREAT LAKES.—The Cleveland "Marine Review" says: "Lake shipbuilders are now working on orders involving the completion before June next of 30 steel steam vessels and 4 steel tow barges, the aggregate capacity of which on 18 ft. draft will be 136,300 gross tons. All but two of the steam vessels are to be freighters. The exceptions are a car ferry and a steamer to be built at Collingwood, Ont., which is to carry both passengers and freight. The total of 34 ships includes 4 steam vessels and 2 barges, building for J. L. Crosthwaite of Buffalo, and A. B. Wolvin of Duluth (managers), that are to go to the Atlantic Coast, if possible, before the close of navigation this year. There are still 6 other vessels, all steamers, designed for Atlantic coast service, but they will not be finished until the early part of next season. All the new ships here referred to are of 3,000 to 7,000 gross tons capacity. No account is taken of small passenger steamers, tugs or similar small craft.

ABSTRACTS OF OFFICIAL REPORTS.

Alaska Treadwell Gold Mining Company, Alaska.

The very full report made by this company covers the year ending May 31st, 1900, showing continued activity at the great mine and mills on Douglas Island. We reproduce herewith the map showing present condition of the mine, partly for comparison with previous years and partly also to show how such a map may be made of great service in explaining a report. Other companies might well supplement their statements with a similar diagram.

The earnings and expenses for the year were as follows, the averages being based on 557,960 tons ore mined and milled:

	Total.	Per ton.
Bullion sold	$1,153,368	$2.0671
Store and miscellaneous profits	34,696	0.0622
Total receipts	$1,188,064	$2.1293
Mining ore	$278,194	$0.4986
Milling and concentrating	110,903	0.1988
Sulphuret expense	79,385	0.1423
Bullion charges	7,022	0.0126
Office and legal expenses	11,014	0.0197
Totals	$486,517	$0.8720
Less excess credit, general expenses	2,451	0.0044
Balance	$484,067	$0.8676
New construction	30,036	0.0538
Total costs	$514,103	$0.9214
Net working profit	$673,961	$1.2079

From the net earnings there were paid four dividends, amounting in all to $300,000, or 6 per cent. on the stock. The balance of $373,961, with $230,717 brought forward from previous year, made a total value of $604,678 at the close of the year. The total net working profit amounted to 13.48 per cent. on the stock.

Some details of the work done at the two stamp mills are shown in the table below:

	240-Stamp.	300-Stamp.
Total time run, days of 24 hours	312.40	270.24
Shoes worn out	500	600
Dies worn out	470	395
Stems broken and replaced	150	...
New cams put in	20	1
New cam shafts	6	...
Mortars broken	7	1
Ore crushed, tons	225,722	332,238
Sulphurets saved	3,898	5,927
Proportion of sulphurets to total ore	1:58	1:56
Ore crushed per stamp per day, tons	3.01	4.07

The 240-stamp mill was run 154 days by water power and 158 days by steam power. The 300-stamp mill, which started May 6th, 1899, was hung up for the winter from January 3d to March 21st, 1900. With the exception of time taken for clean-ups and one day (July 4th) holiday, all time lost was due to shortage of water power.

The wages paid were as follows, the company providing in addition board and lodging for all workmen except the Indian laborers: Machine drillers, $2.50 per day in summer and $3 in winter; machine helpers, $2.25; mine laborers (white), $2; amalgamators, $90 a month; feeders, $70; vannermen, $65 to $100; machinists and helpers, $2 to $6 per day; blacksmiths, $4; drill sharpeners, $3.50; blacksmiths' helpers, $2. Indian laborers receive $2 per day without board. Labor was scarce during the year.

The report of Superintendent J. P. Corbus says: "Exploration and development work for the year includes 1,807 ft. drives, 465 ft. crosscuts, 1,103 ft. raises, 60 ft. pump station and 20 ft. sump; a total of 3,455 ft. Of this 50 ft. was on the adit level; 470 ft. on the 110-ft.; 1,297 ft. on the 220-ft.; 1,104 on the 330-ft., and 597 ft. on the 440-ft. On the adit level a 50-ft. crosscut was run, connecting No. 2 main shaft at surface with the adit tunnel, which greatly facilitates the transportation of ore from the shaft to the 240-stamp mill.

"On the 110-ft. level No. 1 East Drift was extended 137 ft. to our end line connecting with workings of 700 ft. Claim An intermediate drift, 75 ft. in length, was run above this No. 1 East Drift, and 195 ft. of raises were put in to connect with intermediate drift and also with No. 1 and No. 4 pits. Samples taken gave assay returns of $2.08 per ton. On the 220-ft. level No. 6 East Drift was run 177 ft., connecting with old No. 5 East, which has a connection with No. 1 Shaft of 700 ft. Claim; 525 ft. of intermediate drifts were run on this level, and 515 ft. of upraises for chutes. Assay returns from samples taken along No. 6 East Drift show that ore from this section of mine carries very good values. A pump station, 12 ft. by 15 ft. by 40 ft., was cut and a sump 10 ft. by 10 ft. by 20 ft. deep was sunk for Riedler pumping engine. On the 330-ft. level main crosscut was driven ahead 415 ft., and face is now into the slate footwall a distance of 25 ft. This cross-cut measures 442 ft. from No. 2 Main Shaft to face, or 492 ft. from end to end. On this level we find much the same condition of affairs as exists on the 440 ft. Level, the vein is about the same width as on upper levels but average value is less, owing to vein being mixed with slate and granite. There is a width of about 190 ft. on this level that will pay to stope. The 330-ft. Level is connected to the 220-ft. Level by a raise along footwall at end of main cross-cut, measuring 125 ft. There is also an intermediate drift on this level measuring 95 ft. in length, 120 ft. of upraises for chutes, and 349 ft. of drives. On the 440-ft. Level development work during year was 118 ft. along No. 4 East & West Drift, 301 ft. along No. 5 East & West, 105 ft. of upraises for ore chutes, and 73 ft. of a 7 ft. by 9 ft. raise to connect with 330-ft. Level. The ore developed by this work proves to be of a payable grade. There was no sinking done during the year. It is proposed to resume sinking at No. 2 Main Shaft early during the coming year.

"Exclusive of pits, the approximate total development in mine, May 15th, 1900, is as follows: Drives, 7,802 ft.; cross-cuts, 3,260 ft.; raises, 2,629 ft.; shafts, 778 ft.; total, 14,469 ft. The location of above is as follows: Adit Level, 910 ft.; 110-ft. Level, 4,394 ft.; 220-ft. Level, 6,110 ft.; 330-ft. Level, 1,217 ft.; 440-ft. Level, 1,060 ft.; No. 1 Shaft, 272 ft.; No. 2 Shaft, 506 ft.; total, 14,469 ft.

"The ore mined and sent to mill May 16th, 1899, to May 15th, 1900, was 557,960 tons. The estimate of ore in sight and available for mill May 15th, 1900, is as follows: Adit and 110-ft. levels, 1,514,408 tons; 220-ft. level, 2,115,708 tons; 330-ft. level, 226,849 tons; 440-ft. level, 274,675 tons; total, 4,131,640 tons. On the 330 and 440 levels account is taken only of ore developed to the ends of drifts east and west. With each additional foot of drift run on these levels the ore reserves increase very largely.

"On May 12th, a slide containing over 100,000 tons of quartz and slate came into No. 3 and 4 pits from footwall. This will not interfere with mining operations, and carries sufficient value to warrant milling entire quantity.

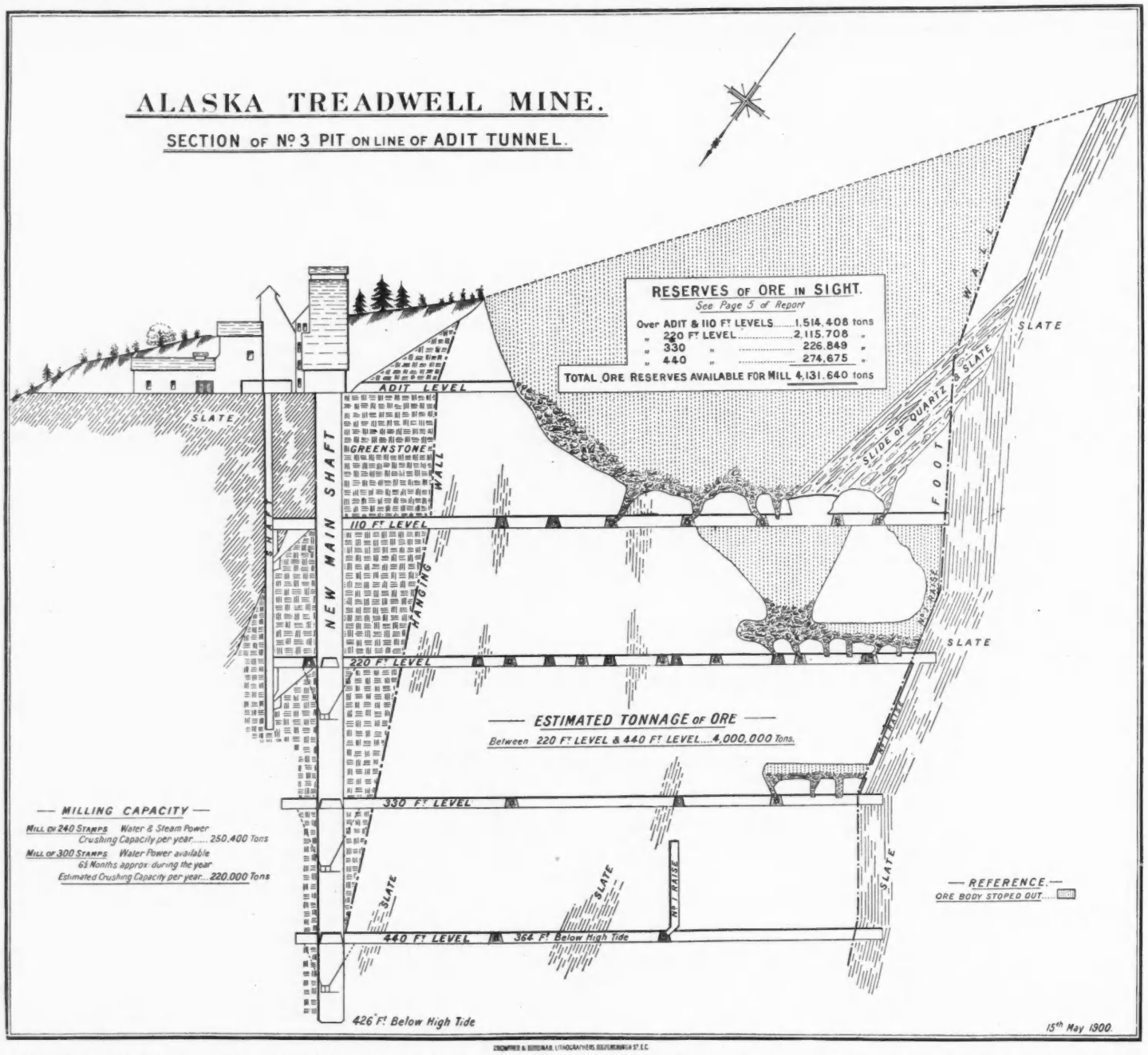
"The total run for year at the 240-Stamp Mill was 312 days 9 hours 41 minutes, during which time 225,722 tons of ore were crushed, the duty per stamp per 24 hours being 3.01 tons, as against a run of 353 days 2 hours 50 minutes and a duty of 2.95 tons per stamp for previous year. The large loss of running time at this mill was due to the following causes: Holidays, 2 days; shortage of battery water, 2 days; shortage of rock due to scarcity of laborers in mine, 42½ days; broken water-wheel shafts, 1½ days; clean-ups, 2½ days; various other causes, such as repairs to batteries, changing from water-power to steam-power and vice versa, splicing ropes, etc., 2⅛ days; total lost time for the year, 52⅝ days. On May 15th inst., after a run of over 15 years, this mill was closed down for extensive repairs, it being the intention to renew the ore bins, ore-bin foundations, battery foundation and battery framework throughout. No work will be done on the mill building, as that still remains in good condition. Timber for reconstruction work is Washington fir, and was purchased and framed at Seattle, Washington. To complete first section (40 stamps) will require until about July 15th. Half of the mill should be finished and dropping on ore by August 15th, and the full mill of 240 stamps should be running not later than October 1st, 1900.

"An excellent record was made at the 300-Stamp Mill during last year both as to running time and crushing capacity. The runing time was 270 days 5 hours 45 minutes, the amount of ore crushed was 332,238 tons, or a duty of 4.07 tons per stamp per 24 hours. Last winter was an exceptionally short and mild one, consequently the water season for this mill was much longer than usual. Under ordinary conditions, I believe it will not be possible to run this mill by water power for more than 7½ months per year, or say the mill has a capacity of 285,000 tons per year.

"The total amount of ore crushed at both mills last year was 557,960 tons. The yield of sulphurets amounted to 9,825 tons, all of which was shipped by barges and steamers to Tacoma for treatment by Tacoma Smelting Company. The total cost of shipping and treating sulphurets last year was $79,385, or $8.10 per ton. This high rate was due principally to the fact that parties who contracted to carry our concentrates in bulk from the mine to Tacoma failed to place at our disposal a sufficient number of barges to properly care for our product; consequently we were forced at times to ship by other means at an increased rate of freight, besides having to stand the additional cost of sacking the sulphurets so shipped. Given proper shipping facilities, our sulphurets should be shipped in bulk, and treated at a cost not to exceed $7 per ton.

"During year extra wearing parts for Comet crushers were added to hoisting and crushing plant; also some extra parts were added to 300 Mill. The Riedler Pumping Engine, 3½ in. by 4 15/16 in. by 14 in., purchased prior to May 15th, 1899, is now being installed in mine on the 220-ft. Level, near Main Shaft No. 1. At 240-stamp Mill a new Heine patent safety boiler of 202 H. P. was installed, making fourth of this type of boiler now in use at this plant.

"In order to load sulphurets in bulk on to barges cheaply it was found necessary to repair old wharf as well as to build an addition thereto. The addition we built measures 31 ft. in width by 251 ft. in length, and has a railroad trestle and swinging bridge constructed upon it of sufficient height above floor of wharf to admit of the dumping of sulphurets into barges from specially constructed side-dumping cars at any except the very highest stages of the tide. The trestle on this wharf connects with our main railroad or tramway, giving direct connection to our own



mills as well as those of the Alaska Mexican and Alaska United companies. Our wharf now has a face 400 ft. in length which gives us sufficient room to accommodate two vessels at wharf at same time.

"Last summer a dam was built at the small lake at head of Fish Creek which was discovered in 1898. This lake now holds something over 5,000,000 cu. ft. of water. On March 16th last a snow and landslide occurred, carrying away nearly 400 ft. of Fish Creek flume. Fortunately a quantity of lumber was near at hand on the ditch line for use in just such an emergency, consequently good time has been made in effecting repairs. This slide in nowise affected running time at the mill, as we were getting sufficient water for power purposes from other sources. The foundry has been running full time during the year and has proven a valuable addition to our plant."

MINERAL COLLECTORS' AND PROSPECTORS' COLUMN.

(We shall be pleased to receive specimens of ores and minerals, and to describe and classify them, as far as possible. We shall be pleased to receive descriptions of minerals and correspondence relating to them. Photographs of unusual specimens, crystals, nuggets and the like will be reproduced whenever possible. Specimens should be of moderate size and should be sent prepaid. We cannot undertake to return them. If analyses are wanted we will turn specimens over to a competent assayer, should our correspondent instruct us to do so and send the necessary money.—Editor E. & M. J.)

220.—Blowpipe Apparatus.—The prospector as well as the beginner in mineralogy usually wants an outfit that is simple, portable and cheap. Cumbrous appliances are for the lecture room or laboratory, while finely finished and therefore expensive apparatus will not give more accurate results than can be obtained by cheaper outfits. Thus. the Black blowpipe, costing 25 cents, will give excellent results in competent hands and for general use is as good as the Plattner blowpipe costing $2 or over. For a Black blowpipe a short piece of rubber tubing—1 in. long or so—will make a good mouthpiece. The tips used are of brass and cost but 10 cents apiece. A platinum tip is just as liable to be lost and costs several times as much. To prevent tips from being lost when not in use, they should be kept corked up inside the tube. It is advisable to have several tips with two sizes of openings.

Of all blowpipe lamps, Plattner's is probably the best, but it is also expensive, and the fuel needed, rape-seed or walnut oil, is not always procurable. Again, the wick is often placed so far from the edge of the lamp as to interfere with good work when using the reducing flame. Fletcher's tin tallow lamp is handy and cheap and will give good service. It is made in this country by the Buffalo Dental Manufacturing Company, of Buffalo, N. Y., and can be had from all dealers in assayer's supplies. This lamp uses almost any solid fat, tallow, lard or even bits of candles. The grease must be kept melted by directing the flame of the lamp on it occasionally, and for hard fats the wick should be soft to allow the fat to rise readily. Care should be taken not to use fat containing salt, as this will color the flame yellow and make tests for some elements impossible. A prospector may melt tallow in some dish containing enough salt to spoil the fat for blowpipe work.

Various substances are used to support the sample before the blowpipe flame. The best is charcoal. It should be of soft wood well burnt. Dealers in assayer's supplies will furnish it sawed up in narrow strips. These strips being selected material will give better results than ordinary lumps and are more handy and portable. A higher priced charcoal is prepared in strips from charcoal dust. It burns freely and its use is not recommended for ordinary work.

For grinding specimens an agate mortar may be used, but it is expensive and unnecessary. A flat piece of steel 1½ in. square with an iron ring (a piece of gas pipe 1½ in. long) to keep fragments from flying, and a hammer will do for preliminary crushing. For finer crushing a ½-pint iron mortar will answer very well, while a 3-in. wedgewood mortar will answer for crushing and mixing fluxes, for pulverizing slag from soda reductions, and can be used for pulverizing the softer minerals and ores.

For making tests of fusibility before the blow-pipe, or for observing flame colorations, a pair of platinum-tipped forceps is of advantage, and, for delicate work, necessary. For rough work, however, a pair of iron forceps, costing, perhaps, 15 cents, will answer well enough.

For ignition tubes, glass free from lead is used. Tubing of about 3/16 in. diameter will be found a good size. The tubing should be cut into the handiest lengths for transportation. Tubes should be 3 to 3½ in. long when used. The tubing can be easily cut up with a sharp 3-cornered file. For testing reactions with the fluxes, platinum wire of about 24 gauge is used. It is convenient, but not necessary, to have several pieces of wire. A piece of wire 3 or 4 in. long may be quickly fused into one end of a short piece of glass tubing, which will serve as a handle. A better handle is had by holding the wire between the points of a right-line pen. In this way both ends of the wire can be used, and a suitable right-line pen costs but little.

Four wide-mouthed bottles for borax, soda and salt of phosphorus are needed. Acids are hardly part of a blow-pipe outfit, but are of such value in determining volatile constituents that the prospector will do well to carry strong hydrochloric and nitric acids with a few small test tubes. Other reagents are useful, particularly cobalt nitrate, hydrochloric acid and potassium cyanide. For reducing silver ore bone-ash for cupels is necessary, and it is well to have on hand pure lead, zinc and tin. The actual amount of each reagent is small; of some of those mentioned but a mere trifle will be used in making many tests. For qualitative work 2 oz. of borax, soda, bone-ash and hydrochloric acid will last months. In the same proportion, 1 oz. of salt of phosphorus, zinc, tin or lead, and ½ oz. of potassium cyanide will be enough.

The dry reagents can be sent by mail, and hence are obtainable in any part of the country.

A good pocket lens is, of course, a necessary part of the mineralogist's or prospector's outfit. For making tests of hardness, a piece of quartz, a steel knife blade and a piece of calcite will ordinarily suffice. Tests of specific gravity will ordinarily be limited to observing whether or not a mineral is noticeably heavy.

221.—Supposed Corundum.—L. J.—The samples of rock contain small crystals of a pinkish mineral that is probably not corundum. The crystals are not easily determinable, as their outlines are not sharp, but they are garnets. They weather rather easily and approach in composition the lime-iron garnet andradite.

223.—Lime Schist.—C. G. M.—The "quartzite and slate" is probably a much altered impure limestone. The white portion is a mixture of quartz and crystalline calcite; the dark is mostly chlorite. The color is due to iron, not copper.

QUESTIONS AND ANSWERS.

(Queries should relate to matters within our special province, such as mining, metallurgy, chemistry, geology, etc.; preference will be given to topics which seem to be of interest to others besides the inquirer. We cannot give professional advice, which should be obtained from a consulting expert. Nor can we give advice about mining companies or mining stock. Brief replies to questions will be welcomed from correspondents. While names will not be published, all inquirers must send their names and addresses. Preference will, of course, always be given to questions submitted by subscribers.—Editor E. & M. J.)

Wood Charcoal and its By-products.—Can you tell me the amount of cooling water required to condense the by-products formed in manufacturing one cord of wood into charcoal? Is there a practical book dealing with the saving of these by-products?—J. M. P.

Answer.—The quantity of water required will depend on the nature of the apparatus used. There are different forms of this in use. Generally speaking, a moderate quantity of water can be made to answer, as it can be used over and over again.

You will find an account of the methods of saving by-products in charcoal-making in Wagner's "Chemical Technology," English edition; the price is $7.50.

Kaolin.—I write you in regard to kaolin, which is white and cuts easily with a pocket knife like chalk. I want to know its value and where I would likely find some party as a purchaser if the material is all right, and also about what is the market price.—J. W. B.

Answer.—The white color and softness are not the only tests for kaolin. You would have to get an analysis of your white clay, and also some physical tests as to quality, fineness, etc. These tests are quite as important as the analyses. Without them it will be impossible to say what it is worth. Good kaolin finds a market with the makers of china, and some kinds of white clay are sold to the paper-makers. Kaolin sells at present from $8 a ton, delivered, upward, according to quality. The chinamakers are at Trenton, N. J., and East Liverpool, O., chiefly.

Walker-Carter Amalgamating Process.—Please give an account in the "Engineering and Mining Journal" of the Walker-Carter method for extracting gold from roasted ore by impregnation with mercury vapor.—J. G. A.

Answer.—The Walker-Carter process of using vaporized quicksilver to amalgamate the gold attracted some attention about 15 years ago. Some metallurgists had confidence in it—among them the late E. N. Riotte—and were anxious to give it a trial. A small plant was put up at a mine in Idaho, another, we believe, in Georgia, and one in Marmora, Ont. These plans were failures, and the process dropped out of sight. It was never, we believe, tried again on anything like a commercial scale. It would hardly be profitable use of space to repeat in the "Engineering and Mining Journal" a full description of the plant. One of its chief defects was that the vapor of mercury escapes and salivated the workmen.

Treatment of Copper Schists at Mansfeld, Germany.—Can you give me any information about the process used to extract copper in the Permian deposits of the Mansfeld District, Germany?—G. A. T.

Answer.—An outline of the method followed in treating the "kupferschiefer," or copper shales, found at Mansfeld, is as follows, the processes being given in regular order:

1. Burning the schist in heaps for the purpose of removing a portion of the sulphur, together with water and bitumen, and to reduce the material to a mechanical condition suitable for smelting.
2. Smelting the burnt schist with slag and fluorspar in blast furnaces; products, coarse metal or "Rohstein" and slags; the latter being sometimes molded into blocks for building purposes.
3. Burning the coarse-metal in kilns for the purpose of eliminating sulphur, oxidizing the iron and producing sulphuric acid.
4. Concentration of the copper in the roasted coarse-metal by fusion in reverberatory furnaces; products, fine-metal or "Spurstein," containing 74 to 75 per cent. of copper, with silver, and rich slag sent back to operation 2.
5. Grinding the fine-metal.
6. Roasting the ground fine-metal; the chief portion of the copper is thus transformed into cupric oxide, while the silver is converted into a soluble sulphate of silver.
7. Dissolving out the sulphate of silver with warm water and precipitating cement-silver from the solution by means of metallic copper.
8. Mixing the residues from this lixiviation with coal-dust and melting and refining in a reverberatory furnace; products, refined copper and slags.
9. Treatment of slags, resulting from operation 8, for copper of second quality.

These processes are fully described in Phillips' "Elements of Metallurgy," Third Edition, pages 464-475.

PATENTS RELATING TO MINING AND METALLURGY.

UNITED STATES.

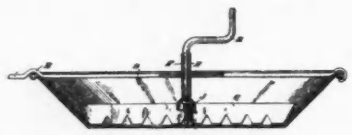
The following is a list of the patents relating to mining and metallurgy and kindred subjects, issued by the United States Patent Office. A copy of the specifications of any of these will be mailed by the Scientific Publishing Company upon receipt of 25 cents.

Week Ending October 9th.

659,200. FUEL-FEEDING ATTACHMENT. Thomas Asencio, New York, N. Y., assignor to Alfred P. Boller, same place. An attachment for steam boiler and other furnaces comprising a rotary motor and a rotary pulverizer and blower arranged to be actuated by the motor, the said motor, pulverizer and blower having a common shaft and being so correlated in capacity and operation that an attachment of a given capacity will furnish the necessary and uniform amount of fuel elements required for any particular furnace.

659,236. PROCESS OF MAKING SULPHURIC ACID. Albert C. Johnson, Baltimore, Md. A process of producing sulphuric acid consisting in causing a series of electric sparks within a chamber containing vaporous sulphuric-acid gas, and introducing oxyhydrogen gas, which is exploded by the electric sparks, whereby the acid-laden particles of moisture may be precipitated.

659,237. MINERS' SEPARATING PAN. Anders J. Ketelsen, Chicago, Ill. In combination with a suitable separator receptacle, a detachable separator adapted to be supported from the top of the receptacle,



659,287.

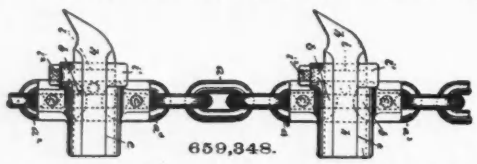
comprising a supporting-bar having hook portions adapted to engage the edges of the receptacle, a tubular bearing on said supporting bar, magnetic-separator blades rotably mounted in said tubular bearing, and means for operating the blades.

659,270. HYDRAULIC AIR-COMPRESSING APPARATUS. William O. Webber, Brookline, Mass., assignor to Walter C. Carr, New York, N. Y. The combination with a water passage, of a submerged air chamber located adjacent thereto and having a substantially unobstructed upper face, an air-inlet pipe to said chamber of less diameter than the chamber and extending at an angle thereto, to a point above the water level, whereby a free flow of water over said upper surface of the chamber is permitted, and a series of air-outlet pipes discharging into said water passage.

659,331. FLASH POWDER. August Weiss, Strasburg, Germany. A flash powder for use in taking photographs by artificial light, consisting of a mixture of powdered aluminum and powdered perchlorate of potassium.

659,338; 659,339 and 659,340. PROCESS OF EXTRACTING ZINC AND COPPER FROM THEIR ORES. Caleb G. Collins, New York, N. Y., assignor to Calvin Amory Stevens, same place. The process consists in exposing the comminuted ore to the action of a solution of sodium sulphate containing sodium bisulphate, sodium chloride and hydrochloric acid (salt-cake and niter-cake solution) in proportion to the contained copper and zinc, but sufficient in strength to dissolve only copper and zinc therefrom; and subsequently recovering these metals from the solution.

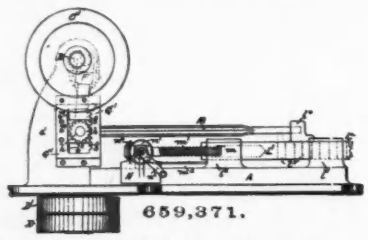
659,348. CUTTING-CHAIN FOR MINING-MACHINES. Henry H. Mercer, Claremont, N. H., assignor to the Sullivan Machinery Company,



659,348.

same place, and Chicago, Ill. A cable chain composed of welded links, a block engaging said chain and detachably secured thereto, and a cutter carried by said block.

659,371. MACHINE FOR SHARPENING ROCK DRILLS, ETC. Walter E. Kimber, Johannesburg, South African Republic. A machine for sharpening rock drills, rock-drilling machine bits and the like;



659,371.

constructed with a sharpening tool or die corresponding to the cutting face of the drill, said sharpening die being sunk on a curved surface or formed with a rounded or curved working face adapted to roll or rotate over the cutting face of the drill or tool to be sharpened.

659,380. MEANS FOR APPLYING FLUID METALS. William H. Smyth, Berkeley, Cal. A soldering machine comprising a bath of solder and traveling mechanism therein whereby, through their relative travel, solder is applied to objects.

659,437. PIPE-MAKING APPARATUS. Albert S. Dixon, Los Angeles, Cal., assignor to the Asphalt Paper Pipe Company, same place. Apparatus comprising a power-driven mandrel; a receptacle for a thin saturating material; a receptacle for a thick coating material; a sheet-supporting device between the receptacles; means for heating the contents of the receptacles; two sheet-depressing devices, one for each of said receptacles; means for raising and lowering said devices, respectively; a paper-roll to feed a sheet of paper into one of the receptacles; means for holding the coated sheet forcibly against the mandrel; and means for feeding wire between the convolutions of the paper while the same is being wound upon the mandrel.

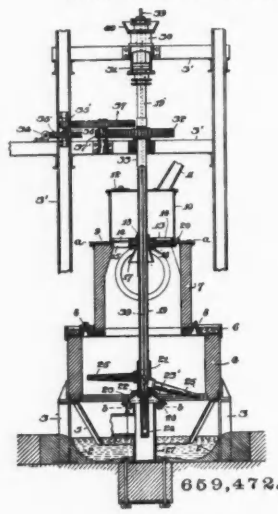
659,447. PREPARATION OF CARBIDE OF CALCIUM. Marc P. E. Letang, Paris, France. A prepared carbide of calcium consisting of carbide of calcium having a protective coating composed of a mixture of glucose, or its equivalent, and an inert powder, such as carbonate of lime, capable of dissolving or liquefying the lime when produced from the decomposition of the carbide.

659,472. GAS PRODUCER. Simon A. Fraser, New Glasgow, Canada, assignor of one half to Benjamin Talbot, Pencoyd, Pa. A substantially cylindrical producer body or combustion chamber, in combination with a revoluble stirrer having arms which revolve at different elevations in said combustion chamber, and mechanism for revolving said stirrer when said arms are at different elevations.

659,489. DREDGE. Ralph R. Osgood, Lansingburg, N. Y. The combination with a dipper handle; stops located near its opposite ends, and means for raising and supporting said handle; of a handle enclosing and reinforcing sleeve reciprocatory between said stops.

659,502. MOVABLE COAL OR ORE-HANDLING AND STORAGE DEVICE. Robert D. White, Percy S. Hildreth and Alfred Liebmann, New York, N. Y. The combination with a barge or float, of a permanent trestle or framework upon and connected to the same, a platform and track carried by the said framework or trestle, a boom or arm extending out at one end beyond the float or barge, a conveyor supported by the platform and overhead track, a means for operating the said conveyor, and a loading and unloading device connected to the trestle at the end opposite to the boom and projecting beyond the barge.

659,582. PHOSPHATE-ROCK DRIER. Orville Coody, Mount Pleasant, Tenn. The combination of a chamber having a furnace in the lower portion thereof, one or more hollow shafts rotably mounted in said chamber above the furnace, means for rotating said shaft or shafts,



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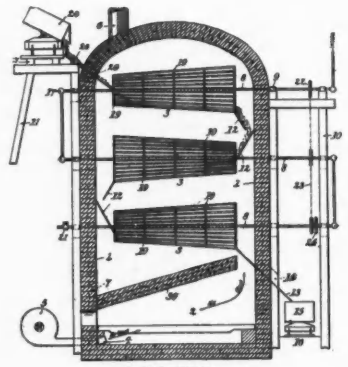


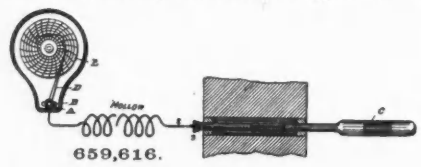
659,582.

a water-supply pipe connecting said shafts with a source of water supply, a frusto-conoidal screen, fixed to each shaft, constructed of pipes in communication with the hollow shaft, whereby a circulation of water may be maintained throughout the screen structure, and for feeding phosphate rock into the small end of the screen.

659,586. HOISTING MECHANISM FOR WELL TUBING. William Heckart, Bradner, Ohio. In combination with the elevating rope and actuating mechanism therefor, a lifting device disposed to deflect the elevating rope from a normal position, whereby the object attached thereto is elevated a short distance.

659,602. RECUPERATIVE FURNACE. Frederick Bredel, Milwaukee, Wis. A recuperator made up of superimposed recuperator blocks, having vertical and transverse passageways through same, key blocks engaging said recuperator blocks and side supporting strips interlocking with said key blocks and interposed with the latter between the rows of recuperator blocks.

659,616. RECORDING AIR PYROMETER. William H. Bristol, Hoboken, N. J., and Edgar H. Bristol, Naugatuck, Conn., assignors to the Bristol Company, Waterbury, Conn., and New York, N. Y. An indicating or recording device for air pyrometers comprising two



659,616.

tubes coiled in the same direction, of which the first tube is rigidly held at one end and has its other end attached to the adjacent end of the second tube; said tubes being thereby caused to turn axially in opposite directions by barometric or thermometric changes, an indicating or recording arm and an operative connection between the free end of the second tube and said indicating or recording arm.

659,632. EXCAVATOR. Olaf Hetlesaeter, Chicago, Ill. The combination of a bucket arm supported intermediate of its extremities and composed of a plurality of members, two of which are pivotally connected to a third member; said third member affording means for varying the configuration of said arm; and means for operating said arm, attached thereto on opposite sides of the point of support thereof.

GREAT BRITAIN.

The following is a list of patents published by the British Patent Office on subjects connected with mining and metallurgy.

Week Ending September 8th, 1900.

16,738 of 1899. SALT EXTRACTION. G. N. Vis, Basle, Switzerland. Improvements in the process of extracting salt from brine in evaporating pans.

17,057 of 1899. ZINC-LEAD ORE TREATMENT. G. de Bechi, Paris, France. Process for smelting zinc-lead ores in a cupola furnace with common salt, whereby the zinc is driven off and the lead reduced.

11,166 of 1900. IRON-HYDROGEN ALLOY. G. W. Gesner, New York, U. S. A. Improvements in the method of making an alloy of iron and hydrogen, in the form of scales, for the protection of iron surfaces.

12,312 of 1900. METALLURGICAL FURNACE. Siemens & Halske, Berlin, Germany. A furnace and process for reducing metals from their oxides by heating with calcium carbide.

12,661 of 1900. CONVEYOR BELT. The Robins Conveyor Belt Company, New York, U. S. A. An improvement in the inventor's conveying belts which discharge over idle pulleys.

PERSONAL.

Mr. N. P. Dooley has returned from Paris to Ne La Mar, Nev.

Mr. D. G. Linares recently returned from Mexico to Victor, Colo.

Mr. Henry Gardner has returned to Bisbee, Ariz., after a year's absence in Alaska.

Mr. Thomas J. Hurley of New York has been inspecting the Sivena Mine near Guanajuato, Mex.

Mr. G. R. Horner, of New York, is in Leadville, Colo., looking after his interests on the gold belt.

Mr. Jas. Colquhoun, manager of the Arizona Copper Company, recently returned from Scotland to Clifton, Ariz.

Mr. J. C. Weathers, a mining engineer from Glasgow, Scotland, was to arrive in Tombstone, Ariz., on October 25th.

Mr. Chas. Laughlin has resigned the superintendency of the Sumpter, Ore., smelter, and goes to Mexico December 1st.

Mr. Willard A. Fuller has resigned as blast furnace manager of the Maryland Steel Company at Sparrow's Point, Md.

Mr. O. J. Larson, of Calumet, Mich., has been in Salt Lake City making frequent trips into Utah's leading mining camps.

Mr. William L. Honnold, mining engineer of San Francisco, has returned from Alaska, and is now on his way to London.

Mr. C. D. Akers has been re-elected superintendent Hidden Treasure Gravel Mining Company, Placer County, California.

Mr. Henry S. MacKay, of Boston, has been making an examination of the Golden Key Mine on Burro Creek, Mojave County, Ariz.

Mr. F. W. Wegner, superintendent Hoosier Mining Company, of Dewey, Idaho, is to remain in Spokane, Wash., till March 1st, 1901.

Mr. R. W. Huie, secretary and treasurer of the Cornelia Copper Company, whose properties are in Pima County, Ariz., was in Los Angeles recently.

Mr. John Frederick Allan, general manager of the Mexican Gold and Silver Recovery Company, recently returned to Mexico City from New York.

Superintendent Henley, of the Ibex Company, Leadville, Colo., has gone to Chihuahua, Mex., to look after mining interests. He will be absent several weeks.

Superintendent Cameron, of the Small Hopes property in Leadville, Colo., leaves soon for South Africa in the interest of well-known mining operators.

Prof. Dye, of Nevada State University, will be instructor of the Virginia City Mining Engineering Class, and will reside at the Comstock Lode for several months to supervise the work.

Mr. John E. Dubois, of Dubois, Pa., who is identified with the P. A. H. Franklin syndicate, was in Salt Lake recently. Mr. Dubois is interested in Utah dividend paying mines.

Mr. W. R. Grant, formerly of Salt Lake City, who has been with the Colorado Iron Works of Denver, is now in charge of the milling plant of the Greenwood Mining Company of Glendale, Mont.

Mr. H. D. C. Richards, of New York, has gone to Humboldt County, Cal., this week, to look after the Orleans Bar properties and incidentally to give some attention to drift mines in Amador County.

Mr. W. J. Casey, president of the Union Gas Engine Company, of San Francisco, Cal., is on his way to the East on a business trip. He will attend the anual meeting of the Western Gas Association at Denver.

Mr. Herbert Lang, who spent the summer in the East, on his way back to California had reached El Paso, Texas, when he was taken down with typhoid fever. The latest reports of his condition are favorable.

If any of our readers can send us any information about Thomas McKim, who was for a number of years engaged in mining in Arizona and in Sonora, Mex., they will confer a great favor upon his family. Mr. McKim, it is believed, died in Arizona somewhat over a year ago.

Mr. J. W. Worthington, one of the developers of the Birmingham District, who was for years at the head of the mining firm of J. W. Worthington & Company, has been appointed manager of the Sloss-Sheffield Steel and Iron Company's plants in the Sheffield and Florence District, Ala.

Mr. Spencer Miller, chief engineer of the Cableway Department of the Lidgerwood Manufacturing Company, New York City, has returned from Europe after a 4 months' absence. It is understood that his latest invention, the marine cableway for coaling ships at sea, will be taken up by several of the navies of Europe.

Mr. R. S. Warner, president; W. E. Taylor, vice-president and general manager; A. W. Thompson, vice-president, and J. Rigby, of the legal department of the Republic Iron and Steel Company, were in the Birmingham District last week inspecting the 2 large rolling mills, collieries, ore mines, furnace plant and coke ovens.

Mr. W. T. Smyth, superintendent of the Buttonwood Colliery of the Parrish Coal Company, has accepted a position as general superintendent for the St. Clair Coal Company in Schuylkill County, Pa. His position at the Buttonwood will be filled by Mr. Thos. R. Evans of Plymouth, superintendent of the Parrish Colliery.

Mr. J. C. Cromwell, of the Garrett-Cromwell Engineering Company, Cleveland, O., recently returned from Europe, bringing with him an order for the construction of a plate mill, blooming mill and a large bar mill for the Sociedad de Altos Hornos, of Bilbao, Spain, also for a combined wire rod and merchant bar mill for England, and for the engineering work for a rolling mill in France.

Information is wanted of Henry James Kirkman, formerly of Swansea, Wales, who left that place for New York in January, 1899, for the purpose of disposing of a patent for extracting gold from the ore. He was last heard from in New York in May, 1899. Anyone knowing of his whereabouts, or having other information, will confer a favor upon his relatives by sending the information to this office.

OBITUARY.

John A. Trefts, of Farrar & Trefts, boiler and engine builders, of Buffalo, N. Y., died at his home in that place October 12th, from paralysis. Mr. Trefts was born in Wurtemburg, Germany, in 1823, and came to this country at the age of 8. He became apprenticed to an iron firm in Pittsburg and learned the trade of iron molder, and up to within a few years of his death was recognized among iron men as one of the most expert foundrymen. In early years of his life Mr. Trefts became superintendent for one of the large iron foundries of Pittsburg, and then in the early 60's, when the excitement broke out on Oil Creek, he was among the first to invest. With the late William Parker, John Cornwall and other well-known pioneer oil producers, Mr. Trefts became extensively engaged in the producing business. He is said to have invented the first set of drilling jars used in drilling oil wells, and thereafter made many improvements in methods of drilling. In the late 60's Mr. Trefts went into partnership with his brother-in-law, Mr. C. M. Farrar, and established an engine and boiler works in Buffalo.

SOCIETIES AND TECHNICAL SCHOOLS.

The Massachusetts Institute of Technology.—This institution has established a special course in electro-chemistry which aims "to provide the education requisite for the investigation of the many new problems which the development of novel processes is certain to bring forth, and also to impart the professional skill requisite for the installation, testing and operation of apparatus and machinery by which electrical energy is applied in chemical, metallurgical and allied processes."

Harvard University.—The Mining Department is a branch of the Lawrence Scientific School, of which Prof. Nathaniel S. Shaler is Dean, and is in charge of Henry Lloyd Smythe, Harvard, '83, Professor of Mining, with George S. Raymer, '78, as Instructor of Mining. Mr. Raymer, who has had 17 years of practical experience, is now equipping the laboratory in the old Carey Athletic Building on Holmes Field, to be known as the Simpkins Metallurgical Laboratory in memory of the late John Simpkins, '83. The portion of the building used by the crew is to be a complete laboratory for metallurgical chemistry. The cage formerly used by the mine is being turned into one ore dressing department and will include a 10-stamp mill, the foundations for which are in place. Also Hartz jigs, cullom jigs, hydraulic sizers, grinding mill, bumping table, frue vanners, slime-belts, buddles, amalgamating pan, settler, rotary pump, clean-up pan, and automatic sampler.

In a new wing east of the old cage will be the smelting works, consisting of a lead and a copper stack furnace, reverberatory furnace, revolving roasting cylinder, smelting and gas furnaces, Root blower and assaying furnaces. In the south part of the new wing will also be an assaying office containing muffle and crucible furnaces and apparatus for assaying and analyzing ores and minerals.

The ore for treatment will be placed in bins and drawn in a small car to the height of a grizzly, and dumped. What ore goes through is taken to coarse rolls, and what is too coarse is treated in a crusher and then goes to the coarse rolls. After leaving the coarse rolls the ore is taken by a belt elevator to a sampling machine and is then delivered to another elevator. If a free milling or stamping ore it goes to the stamp bins, thence to the feeder and stamp mill. When stamped it passes through the screens of the battery over silver-plated amalgamated plates, and the tails go to concentrating tables. Among these tables are Wilfley and Gilpin tables, buddle and slime belts, also an amalgamating pan. The tailings are dumped into a tank.

If the ore is base ore, it is elevated from the sampling machine to a series of 4 revolving screens. What does not go through the first screen is returned to the flue rolls and reground. From the screens the ore is jigged, the refuse going to a grinding mill, then by an elevator to a hydraulic sizer, thence to the concentrating tables, following the same course as the free gold ores. The valuable constituents extracted by the jigs go to the smelting works, where they are roasted to oxidize the sulphites, and smelted, giving finished products in gold, silver, lead or copper, according to the ores.

The power for the plant is furnished by 3 15-H. P. electric motors, driving 2 line shafts, and the water used will be pumped over and over again to avoid waste.

INDUSTRIAL NOTES.

The Union Talc Company of New York has been incorporated with a capital of $1,000,000. Directors: Wm. A. Dinsmore, G. Herbert Taylor and Geo. B. Hanford of New York.

Articles of incorporation were filed recently under New Jersey laws of the International Iron and Steel Company, with a capital of $3,000,000. The incorporators are Wm. E. Higston, Charles H. Tuttle and N. M. Collins.

The Morgan Engineering Company, of Alliance, O., reports a heavy foreign demand for large cranes. A very large crane was shipped recently to France and another is going to Copenhagen, Denmark. Two were recently shipped to Cuba and another goes to Japan. A very large order has been received from Montana.

The Buffalo Forge Company, of Buffalo, N. Y., states that in spite of the disturbing influences of election times, the books of the company show an increasing activity along its various lines. Owing to press of work in the firm's engine department, for instance, it has been compelled to run night and day to keep up with orders.

The Wisconsin Graphite Company, of Pittsburg, Pa., was organized in that city recently by Messrs. Howard R. Swearer, John R. Snodgrass, W. W. Pipes, Edw. D. Steinman and Fred J. Shaler, for the sale of Wisconsin graphite made by the Portage County Graphite and Mineral Paint Manufacturing Company, of Stevens Point, Wis. The product of the Wisconsin Company is specially suitable for making crucibles, foundry facings, lubricating, painting and many other purposes.

The Baldwin Locomotive Works, of Philadelphia, Pa., is finishing an order for 10 locomotives for South Africa. The engines are for the English Government and will take the place of locomotives destroyed by the Boers. The contract for the work has been in force 2 or 3 months and delivery will be made the latter

The Mammoth Electric Company has been received saying that the Baldwin Works had been notified to be in readiness to furnish locomotives for quick delivery in South Arica.

The Mammoth Electric Company has been organized at Hanford, Cal., with a capital of $5,000,000, fully subscribed. The place of business will be Hanford. The officers are as follows: Alex. Guthrie, of Balfour, Guthrie & Company, president; J. Shaw Robertson, vice-president; E. Kauntze, secretary; Bank of Hanford, treasurer; Hugh McCalmont, of England, is one of the heaviest stockholders. The object of the company is to erect a plant for the development of electric power on the San Joaquin River, 180 miles from San Francisco. The company, it is stated, has sold all power to be developed to San Francisco parties, and a line will be built to San Francisco. J. S. Eastwood, engineer of the San Joaquin Electric Power Company, has been elected civil and hydraulic engineer, and O. M. Lacey, of Hanford, electric engineer.

Contracts have just been placed by F. D. Mack of New York City for machinery for a number of mining plants. For the Missouri Zinc Fields Company, of Webb City, Mo., Mr. Mack has purchased two 200-H. P. Corliss engines from the E. P. Allis Company. Also two 120-kw. Westinghouse generators, 3 sets of Allis crushing rolls, a number of 9 by 15 Blake crushers, a 1,000,000-gal. Cornish pump and 2 300-H. P. Sterling boilers. This mill will have a daily capacity of 240 tons of ore. An exact duplicate of this

equipment has also been purchased by Mr. Mack for a new plant which is being erected at Aurora, Wis., for the Boston & Aurora Zinc Company. A plant which is to have a capacity of 120 tons per day is to be built at Joplin, Mo., for the Devonshire Mining Company, which will contain principally Allis machinery and equipment.

TRADE CATALOGUES.

The Joseph Dixon Crucible Company of Jersey City, N. J., sends out illustrated circulars setting forth the merits of Dixon's silica-graphite paint as a protective coating for steel and iron work. This paint is recommended for railway bridges and viaducts, furnace plants and ore docks.

An electric locomotive of simple and novel design for use about shops, foundries and mills is shown in catalogue No. 0010, issued by the C. W. Hunt Company, of New York City. This locomotive, the company states, is equipped with storage batteries of large capacity, requires no trolley wires and will work around curves of 12-ft. radius. Its weight is 5 tons and on a level track it will haul a load of 50 tons.

Catalogue No. 1, sent out by the Raymond Brothers Impact Pulverizer Company, of Chicago, Ill., tells about Raymond automatic pulverizers, vacuum separators, momentum separators and crushers. The catalogue states that the Raymond dustless process does not require heavy and expensive foundations, for the pulverizer and separator can be erected on any ordinary floor. The machines, it is said, will reduce and separate phosphate rock, ocher, limestone, graphite, mica, talc, gypsum, fire clay, slate, salt, borax, bauxite and iron turnings. In the pulverizers the mineral is reduced by coming in contact with rapidly revolving beater blades set angling, and the pulverized material is discharged into the vacuum separator, where the coarser particles fall back and are reground. The "Hero" rotary crusher is stated to be a cheap and well-constructed machine for reducing cement rock and clinker, phosphate rock, old bricks, coal, shale, gypsum and bauxite.

A well printed and finely illustrated pamphlet of 74 pages is issued by the Farrel Foundry and Machine Company, of Ansonia, Conn., and Earle C. Bacon, of New York City. The catalogue describes ore and rock crushing machinery, revolving screens, elevators and conveyors, and complete crushing plants. The Farrel crushers are shown in a variety of styles and sizes from the hand-power laboratory crusher, with opening 3 by 1½ in. and weighing 100 lbs., to the special size with 36 by 21-in. opening, and weighing 55,750 lbs. A sectional crusher is also shown with no part weighing over 350 lbs. for easy transportation over mountain roads. Bacon's Cornish rolls are stated to be for coarse crushing, the Bacon high-speed "special" rolls for fine crushing, and the "Giant" crushing rolls for coarse crushing of such materials as salt, coke, soft coal, clay, sandstone, asphalt, limestone and phosphate rock. For plaster and soft rock there is an improvement on the pot crusher. Cuts show plants where the crushers and rolls described are in use, including the New Jersey Zinc Company's plant at Franklin, N. J., the mill of the Asbestos and Asbestic Company, of Danville, P. Q., and the great shaft house of the Calumet & Hecla Company at Calumet, Mich., stated to be the largest crushing plant in the world.

MACHINERY AND SUPPLIES WANTED.

If any one wanting machinery or supplies of any kind will notify the "Engineering and Mining Journal" what he needs he will be put in communication with the best manufacturers of the same.

We also offer our services to foreign correspondents who desire to purchase American goods of any kind, and shall be pleased to furnish them information, catalogues, etc.

All these services are rendered gratuitously in the interest of our subscribers and advertisers; the proprietors of the "Engineering and Mining Journal" are not brokers or exporters, and have no pecuniary interest in buying and selling goods of any kind.

GENERAL MINING NEWS.

ARIZONA.

Arizona, Eastern & Montana Company.—The stockholders of this company, which was promoted by the notorious H. B. Clifford, seem to be in considerable trouble. It appears, from circulars sent out by a committee, that the 2 most valuable assets of the company, the Turquoise Mines in Cochise County, and the Lone Pine Mines in Yavapai County, are in danger of being lost to the company. A pretended conveyance, it is asserted, was made of the Turquoise Mines by a son of R. C. Flower, the promoter of the Spenazuma fake, and a corporation was organized in the office of another son of R. C. Flower, known as the Lone Pine Mining Company. It further appears that by deeds recorded about one year ago the mines were conveyed to the Arizona, Eastern & Montana Company by Mrs. Clifford and others, but that there was recently recorded a deed of the same date as the deeds to the company by which the sum of $60,000 was attempted to be charged on the Lone Pine, with the provision that if this sum were not paid, Mrs. Clifford might take possession of the property again. The legal firm of Logan, Demond & Harvey, of New York City, states that it represents those stockholders who are trying to protect the company's rights and interests, and asks for information about any sales of stock, or any statements regarding the company's title to the Lone Pine property made by Henry B. Clifford or R. C. Flower, or agents of either man.

Mohave County.

White Hills Mining and Milling Company.—William Weston of Colorado Springs, Colo., who is manager of this company, operating mines and a 40-stamp mill near Kingman, Arizona, thinks that all doubt in regard to the rich chloride-silver ores not extending to any considerable depth in that district is removed. He is sinking a shaft to 600 ft., and while work is going on below the 200-ft. point without stoping, 17,000 oz. of silver have lately been taken out from the shaft alone.

CALIFORNIA.

Producers' Oil Storage and Transportation Company—This association of oil producers has been organized in Bakersfield. C. A. Canfield is president, W. E Knowles first vice-president, H. A. Blodgett second vice-president, W. C. Price treasurer, and B. F. Brooks secretary. The association is said to control over 8,000 acres and two-thirds of the present output of that district. The object of the company is to facilitate the sale of oil of the small producers, men with 50-barrel wells, in San Francisco. The association will regulate prices and shipments.

Amador County.

(From Our Special Correspondent.)

Peerless.—The shaft at this mine 2½ miles south from Jackson is down 500 ft. and prospects are good. Sinking has been slow recently on account of the hard rock.

Butte County.

(From Our Special Correspondent.)

Cortez.—This gold property at Red Point Hill, on McCabe's Creek, has been bonded for $20,000 to a local company, which is developing the mine.

Calaveras County.

(From Our Special Correspondent.)

Duchess.—These mines, 2 miles southeast from Vallecito, are being developed under the superintendency of G. H. Lewis. A wagon road has just been completed and a ditch about 4 miles long constructed. Flumes are being built and pipe laid preparatory to installing an air compressor to run the drills, etc. It is the intention of the management to run a 3,000-ft. tunnel to tap the vein at depth. A shaft is being sunk. In the upper tunnel rich ore has been opened.

El Dorado County.

(From Our Special Correspondent.)

Church.—This old mine, 2 miles southeast from El Dorado, which has been closed for 2 years, is to be reopened under bond. The 1,000-ft. shaft is being pumped out and the 10-stamp mill enlarged. There is a wide vein of low-grade ore. A new hoist will be installed.

Kern County.

(From Our Special Correspondent.)

Kenyon.—The mill at this mine, 1 mile northeast from Randsburg, is running steadily. Swartout & Jones have made 2 clean-ups, the first of 14 tons yielding 50 oz. of gold and the other of 29 tons about the same.

Nevada County.

(From Our Special Correspondent.)

Champion.—The 40-stamp mill at this mine on Deer Creek is crushing steadily and the other 30 stamps, which have been idle for some tiime, are being renovated to start soon. The tailings plant consists of 30 tables 10 by 12 ft. and is now in running order and can handle the tailings from the 40-stamp mill. The tailings are worked by an elevator. Fred Zeitler is superintendent.

Delhi.—The old workings of this mine, 3½ miles west from Columbia Hill, have been cleaned out and the ledge uncovered. Gus Kartschoke is in charge.

Merrimac.—Operations are about to be resumed at this mine near Town Talk, 2 miles northeast from Grass Valley. Supplies are arriving. The property has been idle several years.

Placer County.

(From Our Special Correspondent.)

Mayflower.—The new tunnel in the upper lead of this mine, 1½ miles north of Forrest Hill, is now in 1,500 ft. At 2,000 ft. the pay gravel will probably be tapped. This tunnel is 150 ft. higher than the old one.

San Bernardino County.

(From Our Special Correspondent.)

Gold Mountain.—Arrangements have been made to increase the milling plant at this group of mines, 5 miles northeast from Bear Valley Lake and 40 miles east of Victor, to 100 stamps. A large force is at work. New claims have been located in this district and old ones are being reopened.

Shasta County.

Mountain Copper Company.—According to press dispatches this company's Iron Mountain Mine at Keswick is idle for the first time since operations began 7 years ago and 350 workmen are out on a strike. The company asks the miners to work 10 hours a day. The men say they will work 8. The wages paid are $2.75 for miners, machine men $2.85, muckers $2.50, timber men $3 and carpenters $3.25. The company declares it will not reduce to 8 hours.

Trinity Copper Company.—Thomas W. Lawson, of Boston, and associates have incorporated this company under the laws of New Jersey, with $6,000,000 capital in $25 shares. The company holds options on property in this county. The company has not yet organized its management. Besides Mr. Lawson, Allen Arnold, his business partner; Louis Auerbach, A. P. French, W. J. Riley and Homer Albers were the incorporators.

(From Our Special Correspondent.)

Roseman.—A strike of gold ore is reported to have been made recently on this property at the head of Stillwater Creek.

Old Colony.—This company has been incorporated to develop the Paige group of mines on Clear Creek, and has also bonded several other claims. The directors are: T. F. Brett, of Chicago; H. B. Twombly, of New York; E. W. Stifel, of Wheeling, W. Va.; W. R. A. Wilson,of Peoria, Ill.; G. H. Proctor, of New York; C. L. Paige, of San Francisco, and A. L. Sharpe, of New York.

Sierra County.

(From Our Special Correspondent.)

Argentine.—This claim, together with the Germania and Wide-Awake, on Alabama Hill, has been bonded by Alameda County parties and several men are running a tunnel to tap the channel along the ridge.

Plumbago.—The last monthly clean-up at this mine, 2½ miles south of Alleghany, was $40,000, out of which a $19,000 dividend was declared.

York.—At this mine at the mouth of Slug Canyon the tunnel is going ahead, also the shaft. About 200 tons of fine rock are on the dump, and as soon as the mill has been repaired crushing will begin. Six men are employed.

Tuolumne County.

(From Our Special Correspondent.)

Gold Hunter.—Development work is being pushed at this mine on the East Lode, 11 miles southeast from Sonora. Good ore is reported. A 10-stamp mill is on the property.

Longfellow.—The cyanide plant will be ready for business in a few days. Although ore is low grade, the last clean-up is reported large.

Shawmut-Eagle.—At these mines northwest from Jacksonville arrangements are being made to increase the milling capacity to 100 stamps, while other improvements are contemplated. A large force is employed.

Sunnyside.—The main tunnel, including the cross-cut, at this mine, 1 mile south from Marlow Diggings, is in over 300 ft. The 5-ft. ledge is all high-grade ore. Assays as high as $135 have been reported.

Worcester.—Work at this mine, ½ mile north from Tuttletown, has been resumed. The main shaft is down 85 ft. and will continue 100 ft deeper. A drift has been run on the 70 ft. about 140 ft., from which point an upraise to the surface has been commenced. The old workings consist of a series of shallow shafts.

COLORADO.

Rapson Coal Company.—This new company, comprising officers of the Curtis Coal Company, is opening a new mine near Rugby, on the Colorado & Southern road. The company has 640 acres of coal land, upon which work has been in progress but 6 weeks. Already from 50 to 75 tons a day of a bituminous coal are said to be produced.

Lake County—Leadville.

(From Our Special Correspondent.)

A. M. W.—The new zinc mill has started, and as soon as the machinery is all adjusted, will be treating 100 tons per day from the Wolftone and Adams. The ore is crushed in a Blake crusher and reduced to slime by 3 Huntington mills. A very clean lead product is obtained.

A. V. Mining Company.—Messrs. Sheedy & Kountz, of Denver, are at the head of this new company and are sinking a shaft at the foot of Harrison Ave., to tap the same shoots they are operating in the P. O. S., Weldon and other properties farther up the hill.

A. Y. & Minnie.—The lessees are producing 100 tons per day, which is handled by the mill. A fine concentrate running well in silver and lead is produced.

California Gulch Mining Company.—The new shaft is down 530 ft. and a fine pumping plant has been installed. Three new drifts in the lime have started to follow low-grade ore streaks. The shaft so far has cost $30,000.

Caribou Mining Company.—This company recently resumed work on the old Bison Shaft, which in former days was one of the biggest iron producers in the camp.

Cloud City Mining Company.—This new downtown concern is closing options on a number of lots preparatory to begin shaft sinking.

Diamond Mining Company.—The new shaft to cut the lower ore zones is down over 700 ft. and in formation like that found at equal depth in the Resurrection. A fine surface plant has been put in position and new pumps at all 3 stations. At the lower station, 555 ft., are 4 sinkers.

Doris Mining Company.—Manager Mamlock is pushing development through 2 drifts and steady shipments have begun from the oxidized ore body opened a few months ago.

Evelyn Mining Company.—The incorporators are Harry Lee, W. H. Bryant, Jas. Fletcher and Maurice Starne, who are sinking a new deep shaft on Carbonate Hill, south of the William Wallace, and are down nearly 250 ft. They anticipate catching the first contact at 750 to 800 ft., but will sink the new shaft to the lower ore bodies.

First National.—The new lessees have struck much water and found it necessary to put in heavier pumps.

Iron-Silver Mining Company.—About 300 tons of ore every 24 hours is now hoisted through the Moyer shaft, which will be shipped by rail very soon. The Stevens shaft is down over 650 ft., but will be sunk to 900 ft.

Leadville Pumping Association.—A new agreement has been drawn so that the new downtown companies are to become members of this association and pay their pro rata for pumping.

Little Bab.—This gold belt property in Big Evans is resuming operations. A fine plant of machinery is being put in.

Northern Mining Company.—Manager Newell will this week start the Northern Mine in the downtown section, which has been idle all summer. The shaft is 590 ft. deep and in a body of iron ore, the extension of the Coronado shoot.

Rubie Mining Company.—Sinking of the shaft on Iron Hill from the 500-ft. to 700-ft. has resulted in opening a splendid sulphide ore body carrying copper and a high silver average, undoubtedly the extension of the Louisville and Colorado No. 2 shoots. The ore body lies in the quartzite. Average samples run from 36 to 100 oz. silver, 3 to 4% copper and some lead.

Silver Standard.—This group in the western part of Iowa Gulch is likely to be worked very soon. Messrs. Priddy, Ewing and others, of Leadville, are the owners.

Small Hopes Mining Company.—Underground operations have continued since the big fire some 6 weeks ago and meantime work is pushed on the surface plant. Shipments are resumed through the R. A. M. shaft and 125 tons daily are hoisted from the sulphide workings at 1,100 ft.

Tarshish Mining Company.—This company, operating on the Seneca Reserve, is making a small production and will hold its first annual meeting November 4th.

Tiger.—This Sugar Loaf project, for years tied up by litigation, is to be worked by a leasing company headed by Jas. McNeece, which will sink a new shaft from surface. The old workings of the Tiger produced a large sum in the past.

Toledo Avenue Mining Company.—This new shaft on Carbonate Hill is down 225 ft. The property has one of the finest surface plants in the camp.

Valentine Mining Company.—The big pumps are handling the water without difficulty and a station is being cut.

Wolftone.—This shaft is about completed. It has been retimbered and enlarged for 1,000 ft., where another new pump is to be installed. A large pump is already in place at the 730-ft. The intention is to go 200 ft. below the present working level and begin exploration along the lower ore horizons.

Pitkin County.

Aspen.—This mine ships about 100 tons per day. The distric, as a whole, ships out about 5,000 tons of crude ore and 3,000 tons of concentrates per month. The concentrates run high in lead, probably from 30% to 60%.

Mollie Gibson & Argentum-Juniata.—This mill at Aspen, equipped with 7 Huntingtons, 28 vanners, with crushers and rolls, averages about 200 tons per day, concentrated from 6 to 12 tons to 1 ton. The Mollie Gibson ore is a silver-lead ore, while the Argentum-Juniata ore contains very little lead. Ores from both mines carry a considerable quantity of lime, which is largely lost in concentrating.

Smuggler.—The No. 1 mill at Aspen is handling about 165 tons per day, the product being about 45 tons of silver-lead concentrates; Smuggler mill No. 2 handles 100 tons per day, which are reduced to about 15 tons of concentrates.

San Juan County.

(From Our Special Correspondent.)

Big Five Mining Company.—This company, recently organized with $3,000,000 capital, has already acquired title to nearly 50 claims near Silverton, and will soon begin several big tunnels to cut the properties at depth.

Challenge Group.—The owners, with a small force, have resumed work at this point in Eureka Gulch.

Four Metals Mining Company.—This company has resumed work on the Lackawanna Mine, on Kendal Mountain, with a large force.

Grand View.—A 60-ft. cross-cut is being driven by Phillips & Fritz in Spencer Basin. The vein will be cut within the next few feet.

Polar Star.—This property, on Engineer Mountain, near Silverton, which was supposed to have been worked out as early as 1866, has been leased to Wm. Kearns, who has men busy on development with good indications.

Pride of the West.—The daily output averages 1½ carloads of crude ore from the mine and the same amount of concentrates from the mill.

Red Mountain Mining Company.—Work on this company's properties in Prospect Basin and on Lost Mountain will cease shortly for the winter. Diamond drills will be installed early in the spring and work resumed on a larger scale than ever.

Silver Card.—The vein is cut in a 400-ft. tunnel and drifting has begun in both directions. Good ore is broken down.

Silver Queen.—Fifteen miners are employed on this Silverton mine at present and supplies are being laid in for winter. The ore mined will be stored until spring.

Sunlight Mining and Milling Company.—This Silverton company is working the Evening Star group in Mastodon Gulch. The force is being increased as rapidly as miners can be obtained. The vein is 5 ft. wide and after a little sorting is shipped to the smelters.

Summit County.

Pride Mining Company.—President Crawford is in New York trying to close a deal whereby a New York company will gain control of the stock of the Pride Company, owning 5 claims at Montezuma. There are now 30 men at work in the company's mines.

Teller County—Cripple Creek.

(From Our Special Correspondent.)

Cripple Creek Ore Production.—The output from the district for September shows a slight decrease, as a number of the large mines have been installing heavy plants of machinery. The big mines generally are reported in fine condition, and an increased output may be expected. The tonnage report is as follows: 7,414 tons of smelting ore, valued at $518,980; 27,772 tons of milling ore, valued at $694,300, making a total of 35,186 tons, valued at $1,213,280.

Arno Gold Mining Company.—This company at Anaconda will soon install a hoisting plant. At a depth of 65 ft. cross-cuts will be run to cut the veins that are thought to cross the property. It is thought that the Mary McKinney workings will drain off the water.

Elkton Consolidated Gold Mining Company.—The work of installing the new machinery at the Elkton is pushed. Repairs have been completed on the shaft and as soon as the machinery is in the mine will be ready for heavy production. It is stated by President Bernard that that after November 15th an output of $200,000 per month can be maintained. The 800-ft. level is showing up very well and some shipments have recently been made that will run as high as 20 oz. per ton in gold.

Ingham Consolidated Gold Mining Company.—At the regular annual meeting in Council Bluffs, Ia., on October 16th, directors were chosen as follows: L. E. Curtis, W. E. Frenaye, H. C. Hall, K. R. Babbitt and F. M. McMahon. There are 8 sets of lessees working very satisfactorily on Ingham property.

Little Puck Gold Mining Company.—This company has granted to E. S. Karns an 18 months' lease, stipulating for 50 shifts of work and 25% royalties, on the South 300 ft. of the Ocean Wave Claim, and a similar lease to John Connor on the North 300 ft.

Lucky Guss.—It is reported that this mine, which adjoins other properties of Mr. Stratton, has been purchased by him from an English syndicate for $100,000. The mine is now successfully worked by lessees, and is well equipped with machinery.

Strattons Independence.—The output for September was 4,200 tons of the average value of $60 per ton, making a total of about $250,000. The decrease in the value of the ore is accounted for by the large amount of development work on low-grade ore. One or two days were lost during the month.

GEORGIA.

Habersham County.

Asbestos Discovery.—A discovery of a large body of short fiber asbestos is reported in this county at a point near Clarkesville and about 5 miles from the mines of the Sall Mountain Asbestos Company. The ledge crops out on the slope of a hill near Santee Creek in the Upper Santee Valley. The fiber is reported to be as good as that of the mines worked by the Sall Mountain Company and to be adapted for making non-conductive coverings for steam pipes, and similar purposes. The fine flour resulting from grinding the rock and separating the fibers is said to be suitable for a filler for fire-proof paints. What work has been done on the property is stated to show a width of 300 ft. of the altered actinolite rock lying between serpentine. W. A. Matheson, of Toccoa, controls the property.

IDAHO.

Boise County.

Lincoln.—On this claim on Willow Creek a shaft is down 120 ft. Small quantities of ore have been shipped to the Leviathan Mill for treatment. Two veins are reported cross cut, one 12 ft. wide and one 4 ft. wide. The property is bonded to Bloomfield & Carter.

Checkmate.—This mine at Pearl is working 3 shifts.

Shoshone County.

Great Eastern Mining Company.—This company, with $1,000,000 capital stock in $1 shares, has been incorporated at Wallace. The directors are John C. Furst, Charles Solberg, John Carlson, Matt Baumgartner, W. S. Enslow and John M. Haley. The property consists of a group of claims a short distance below the Standard Mine, but on the opposite side of Canyon Creek. For several years the owners have been running a long tunnel to cut the ledge. Besides the directors, the incorporators include John A. Peterson, C. G. Peterson, G. Peterson, Andrew Peterson, H. Anderson, John Jernberg, Frank Moser and Charles Erickson, all of whom were owners in the property.

Washington County.

Mineral.—Work on the mines and smelter at Mineral is going on. The camp is just over the State line from Huntington, Ore. A. J. Cook has charge of the mines and mill.

KANSAS.

Cherokee County.

The Prime Western Smelter Company, which operates a zinc smelter at Gas City, Kan., has placed orders for machinery and material for another block of furnaces and roast kilns. This increase in the plant will add 50% to its present capacity.

The smelter is owned by Messrs. L. T. McRae and J. A. Daly.

Leavenworth County.

Coal Miners' Wages.—The wages of miners in the Leavenworth District have been settled by a board of arbitration. The men are to get 84c. per ton run-of-mine for mining and work but 8 hours a day. The wages last year were 75c. Since the strike began fully 175 men have left the district to work in other places.

MICHIGAN.

Copper—Houghton County.

Calumet & Hecla.—This company has laid off 25 power drills from its exploration on the Osceola amygdaloid workings with a force variously estimated at from 150 to 300 men. It is announced by the management that the decrease in force is only temporary, but no time is fixed for the return of the men laid off.

Champion.—At this mine, an off-shoot of the Copper Range Company. E shaft, the first one located, is down beyond the 3d level and hoisting by skip is in progress. The 4 shafts on the property are now at the following depths: B, 235 ft.; C, 216 ft.; D, 225 ft., and E, 343 ft. In all 1,010 ft. of shafts and 1,190 ft. of drifts have been opened on the property, a total of 2,200 ft. The management has ordered a steel shaft and rock house for D shaft from the Wisconsin Bridge and Iron Works and head frames for B and C shafts from the same concern, all of which will be erected during the fall and winter. Two heads in the Atlantic Mill at Redridge are to start up on Champion rock just as soon as they are released from the Baltic by the completion of the Baltic mill. These 2 shafts will be equipped with hoisting facilities for a depth of 1,500 ft. The Copper Range road is now being graded to the shafts of the Champion and it will soon be in position to handle its machinery and equipment.

Trimountain.—This is one of the Fay properties and is in charge of Superintendent Chyno-

weth. No. 1 shaft is sinking to the 3d level. At the 1st level drifts have been run 900 ft; No. 2 shaft will be down to the 2d level by November 1st. No. 3 shaft is just getting down to the ledge.

(From Our Special Correspondent.)

Arcadian.—This company is erecting a shaft house and engine house at each of its new shafts on the Mesnard epidote.

Calumet & Hecla.—The work of repairing No. 2 shaft, in which the fire of last May originated, has advanced to the 15th level.

Isle Royale.—The cylinder for the foundation of the third head has reached bed-rock and the cylinder for the first head is being filled with concrete. Surface improvements are being hurried. The steel shaft and rock-house at No. 1 is nearly completed. The foundation for the new machine shops is in place and construction on the building will begin at once. The framework for shaft and rock-house at No. 2 is up.

Osceola Consolidated.—Work on the addition to this company's new mill is progressing rapidly. The mason work, it is expected, will be completed by December 1st. The addition will contain 4 heads and will be 176 by 213 ft. in size, with a stamping capacity of about 5,000 tons of rock per day.

Copper—Ontonagon County.

(From Our Special Correspondent.)

Adventure Consolidated.—About 150 men and 16 drills are in use at this mine. During the past 2 months 1,385 ft. of drifting, which is equal to 8,000 fathoms of ground, has been done.

Mass Consolidated.—This company has awarded a contract to the Nordberg Manufacturing Company, of Milwaukee, for a 16,000,000-gal. pumping engine, which will be similar to that at the Arcadian Mill. The boiler house at the mill site is nearing completion. It will contain 2 Sterling water-tube boilers of 200 H. P. each.

Iron—Gogebic Range.

Colby.—This mine at Bessemer has closed down, throwing 300 men out of work.

Iron—Jogetic Range.

East Mine.—The machine shop and the building containing the dynamo running the underground haulage plant were recently burnt down at this mine east of Ironwood, owned by the Oliver Mining Company. The fire started from the explosion of an oil lamp. The damage was estimated at $35,000.

Iron—Marquette Range.

Imperial.—This mine and the Webster, which have been operated with combined forces of about 300 men the past year, have closed. Both are situated west of Michigan Mine and produce low-grade ores. The mines are worked by the Cleveland Cliffs Company.

Iron—Menominee Range.

Dunn.—This mine, at one time the largest in the Crystal Falls District, is likely to remain closed permanently. The old shaft caved in, owing to the reckless system of mining pursued, but Corrigan, McKinley & Company took a lease on the property last spring and started to sink a shaft 800 ft. to get at a small lens of ore left in the old workings. The shaft was sunk 125 ft., when orders came from Cleveland to stop, and work may never be resumed.

Monongahela.—This exploration under option to Frank Scadden of Crystal Falls has shut down. Indications are said to have been promising.

Bay County.

North American Chemical Company. — This company's new coal mine, 2 miles west of Bay City, is the best equipped coal mine in the county. One hundred and twenty-five tons of lump coal is mined every day.

Saginaw County.

Pittsburg Coal Mine Company.—This company, near Kochville, is getting things in shape for extensive operations. The coal is harder than much mined in that section of the State. The mine shaft is over 200 ft. deep and the company is working on what is termed the 3d vein of coal. The railroad track is graded to the mine ready for the rails to the Michigan Central Railroad.

MINNESOTA.

(From Our Special Correspondent.)

Iron mines are shipping slowly, and as contracts expire next week shipments are about over for the season. There has been complaint among vesselmen this week over delays by non-arrival of ore. This has been noticeable in ships chartered for the season, or to November 1st, at $1.25 a ton, some of which have lost a full trip this month. As the present rate is little more than half the contract price, the charterers save materially if they can hold vessels.

There is talk of double tracking the remaining link of 11 miles on the main line of the Duluth & Iron Range road that was left last season. The road finds that the new 50-ton ore cars are too high for many of the shafthouse pockets on its line and these will have to be rebuilt at considerable expense this winter. All the ore roads have let off many of train crews and are preparing for winter. The November ore movement will be smaller than usual.

Wages for common labor at mines and stripping contracts have advanced to $2 a day and there is abundant employment. The Eastern Minnesota road is finding men hard to get for its 50-mile cut-off to the central part of the range.

The Duluth & Iron Range road is widening its grade on the line between Duluth and Two Harbors and will probably add a second main track before long. The double track work from its Mesabi Junction point to the docks is completed. The road has received a large consignment of 56-ton steel cars and is putting them in service. Mining men do not like these cars, as their height makes steam shovel loading difficult, and railroad men say they are as severe on track as the heaviest locomotives on account of their short wheel base of 19 ft. and their high center of gravity.

The new No. 3 dock of the Duluth, Missabe & Northern is in use. The dock is 1,152 ft. long, 67 ft. high to the track deck, and 65 ft. wide. The height is necessary to accommodate the new steel ships, with high sides and deep holds. There are 192 pockets of 210 tons capacity each, giving a total storage capacity of 42,220 tons, and 6 ships can be loaded at one time. An approach to the dock 2,760 ft. long, built of timber with steed plate bridges across streets, used about 2,000,000,000 ft., most of it Washington fir. About half a million cubic yards of dredging has been done and there is now a depth of 22 ft.

Iron—Mesabi Range.

(From Our Special Correspondent.)

Biwabik Mining Company.—This mine has let up on shipments, but will make a total of about 920,000 tons for the year, about all of which has been mined since April 15th. There are 3 shovels in the ore and for a large part of the year there have been 5 in the stripping under the Drake & Stratton contract. During the summer one steam shovel in a 10-hour shift loaded 185 29-ton cars, or 5,625 gross tons, from the ore bed, the ore having been taken up with powder but otherwise remaining as the stripping left it. In one month 3 shovels, working single shift, shipped 205,000 tons of ore. The mine has been grading its shipments closer than ever, shipping 3 grades of Bessemer ore that differ by .005% in phosphorus. The mine is also shipping a little non-Bessemer.

Chisholm Iron Company.—This company has leased for 30 years at a 25c. royalty and an output of 50,000 tons annually after next year, the w. ½ of the ne. ¼ of section 28, T. 58, R. 20, adjoining the Clark Mine on the east and west of a tract recently taken by Corrigan, McKinney & Company. It has been explored by the Chisholm Company for some months. A large body of good ore has been found. A mine will be opened the coming winter.

Humphrey.—This tract near Virginia has been entered by Capt. Wassin, late of the Sauntry, and day and night work is under way. It is proposed to have a large output next year. The lease is at 20c. a ton and the ore will be handled by the Duluth & Iron Range road, which will run a track down there from its new line at the Union.

Mahoning Ore and Steel Company.—This company will scarcely reach the expected shipment of 1,000,000 tons this year, but will exceed 900,000 tons. The mine is in excellent shape for next year and is doing much development work. Mahoning No. 2 will be opened as a mine next year. This is a large deposit of good ore and must be worked either underground or by milling.

Minnesota Iron Company.—Fayal, Genoa and Elba mines have completed stockpile shipments and are loading all ore direct. Genoa has shipped 225,000 tons. Fayal has passed the 1,000,000 tons mark.

Sauntry.—This mine has reopened and is shipping a small lot of ore. The mine may be kept open till the close of navigation.

Syndicate Mining Company.—This company is exploring with a large crew near Mesaba station on the Duluth & Iron Range road.

The work under way at Mesaba for some time is dwindling, as the Minnesota Iron Company has stopped its explorations and pulled out its crews about the village. The options have been dropped, but it may be taken up again. The action is said to have been ordered from the headquarters of the Federal Steel Company. O. D. Kinney, who has also been exploring at Mesaba with several drills, has stopped.

The Eveleth mines are employing about 2,900 men now, more than at any time before. Of these Adams has 750, Fayal 800, Spruce 400, Auburn 300, Drake & Stratton 600.

Union Ore Company.—This company is shipping ore, and will send out as much as possible before the end of the season. The railway is completed, the track running over on the Oliver dump and switching back to the shaft and stock ground.

MONTANA.

(From Our Special Correspondent.)

Broadwater County.

Cooper.—At this gold property on Duck Creek the ore is being run through an arrastra at the mouth of the Canyon. The 5-stamp mill is hung up for the present.

Gold Dust.—This property, in the Park District, 6 miles above Hassel, has several sets of tributers at work under the supervision of Sam. G. Green, who is chief owner and is giving his personal attention to the property. The ore ships about $70 per ton in gold.

Little Annie.—This property, near the Gold Dust, belonging to Kanouse & Marks, of Townsend, will be worked under lease by Geo. Gerhett & Company. This mine has produced off and on for a number of years and has a good record.

New Era.—After being worked under lease for some years the machinery has been sold and moved to the Iron Age property near Winston. The New Era has produced for the lessees over $100,000, mostly gold. It is said the owners will place new machinery on the property.

Ohio.—John Keating, of Radersburg, is working several miners on this property. The ore is an iron-sulphide with a fair gold value. Shipments are made to the East Helena Smelter.

Vulture.—This property at the head of Eagle Creek, 7 miles above Hassel, is worked under $20,000 bond and 2 years' time by J. E. Kanouse, E. D. Vosburg, P. E. Hall and others, of Townsend, who have equipped the mine with machinery, built 2 miles of road; also mine buildings, and are preparing to sink the 120-ft. shaft an additional 100 ft. Five cars of ore from the shaft packed to the wagon road shipped 60%. lead and 60 oz. silver. The lead is in granite and the ore shoot where exposed in about 16 in. wide.

Woods Property.—This mine, on Eureka Creek, 6 miles above Hassel, is under bond and lease to Gov. Smith, of Helena, who has miners driving a tunnel, now in something over 200 ft. The ore is lead-silver and what has been shipped netted $40 per ton.

Fergus County.

New Mine Sapphire Syndicate.—This English company, with headquarters in London, is developing sapphire beds in this county. The mines have been worked 4 years and the present company was organized 2 years ago. The stones mined go to London. They are said to be of excellent color and hardness. The company employed 40 men at its mines this summer, and, it is said, took out more stones than in any other season. The sapphires are in a clay lead that has been worked down 125 ft. The stones are deposited all through the clay, which is mined as quartz might be.

Jefferson County.

(From Our Special Correspondent.)

Atlas.—Dailey Brothers, of Wickes, have the concentrator running. The first car of concentrates has gone to the Colorado smelter.

Eva May.—This property, 7 miles from Basin, worked by the Montana Mineral Land Development Company, has its concentrator in full operation. The concentrates, which contain a fair percentage in copper, are going to the Colorado smelter in Butte. It is said the mine is looking very promising. The Eastern stockholders are highly pleased with the outlook.

Grey Eagle.—Norval Stewart has secured this property on a lease and bond.

Little Nell.—Dr. Head, of Helena, who is the principal owner of this Lump Gulch property, is making arrangements to have it unwatered in view of operating it this winter. It is a strictly silver property and has a large tonnage of low-grade ore which might be handled at a profit.

Lewis & Clarke County.

(From Our Special Correspondent.)

Lee Mountain.—This property at Rimini is now in the possession of William Tatum, of Helena, who became some time ago the judgment creditor of the old company. It is said that arrangements are being made to open it for thorough exploration. Large bodies of low-grade ore are known to exist in the property, which, it is thought, will afford a fair profit through concentration.

Madison County.

Madisonian.—This mine at Virginia City has been closed temporarily because of the breaking of one of the pumps. Operations will be resumed with a full force as soon as the break has been repaired and the water pumped out of the lower levels. J. E. Trerise is superintendent.

Silver Bow County.

Arnold.—Mr. Gideon E. Blackburn, of Butte, states that the report that he has sold this mine is false. The property is under option to the company for $40,000. The same company has an option on the Ophir Mine at Butte, owned by Mr. Blackburn, for $150,000.

Anaconda Copper Company.—Work on the new smelter near Anaconda is being rushed. The plant will comprise 3 large buildings. The frame of the calciner building is up. The main smelter building will be 650 ft. long and 80 ft. high, and freight trains will run through it. The company is now using 50-ton ore cars almost exclusively. A temporary suspension of hoisting at the Anaconda shaft is reported, owing to a break in the shaft of the hoisting engine.

Parrot.—It is stated that almost a full force of men is again at work, but it is doubtful if the mine will run to its full capacity before the permanent plant is completed, which will be probably by January 1st. Work on the new steel buildings is going on rapidly. The new air compressor will not be finished for about 2 months. At present the mine is furnished with air from the Never Sweat. The mine was closed down 72 days. The actual property loss by the fire is said to have been pretty nearly covered by the insurance of $30,000, notwithstanding the first report that the loss to the plant would be no less than $100,000. The new plant will cost the company practically nothing, except the expense of placing it in position, as nearly all of the machinery comes from other mines of the Amalgamated. Before the fire the output of the mine was 500 tons per day, but the new plant, when completed, will have a capacity for handling twice that amount of ore.

(From Our Special Correspondent.)

Snohomish.—Reports on the operation of this property to date, filed with the United States Court by Receiver Harris, show a net profit of $101,000. F. Aug. Heinze has questioned the correctness of the last report submitted and a hearing is now being held by Judge Henry N. Black as Master in Chancery. E. C. Day and J. M. Denney appear as counsel for Heinze, and G. M. Sinclair appears for the receiver.

NEVADA.

Esmeralda County.

(From Our Special Correspondent.)

Golden Eagle.—Work is progressing at this mine at Silver Peake; the shaft is down 400 ft. The 9-ft. ledge is said to average about $20 per ton in gold. Two hundred tons are on the dump. H. W. Barton, of Big Pine, is owner. Report says that work has been commenced on the Blair Mines in the same vicinity.

NEW MEXICO.

Grant County.

Hanover District.—I. W. Bible, formerly of Colorado Springs, is developing 8 claims, some of which carry all the way from 5 to 40 oz. of silver. He is pushing the development and can produce more than his concentrator can handle. Mr. Bible also has a lease on some of the Southwest Coal and Iron Company's property, and is shipping about 5 car-loads a day to the Pueblo iron works. The iron runs 60% over the silica. Mr. Bible's copper and silver claims, it is said, are putting out 100 tons a day of concentrating ore, and are milling from 75 to 80 tons per day, making a good car-load of concentrates every 24 hours. The concentrator was put up by the El Paso mine, mill and smelter supply house. The capacity of the mill is about 75 to 80 tons per day. It has an 80-H. P. boiler and 60-H. P. engine, Blake crushers, and 4 large-sized Bartlett tables. In the Fierro District, 2 miles from Hanover, are the big iron mines belonging to the Colorado Fuel and Iron Company, of Pueblo. An immense crusher takes about 300 tons of iron a day, which goes to the furnaces at Pueblo. Fierro is quite a lively camp. This ore is of good quality, carrying a small per cent. of silica. Near this large iron deposit are veins of magnetic iron.

Santa Rita.—This company is doing development work on its 3-compartment shaft on the old Romero, now known as the Santa Rita Mine. The shaft is down 250 ft. Two large boilers are in position and the foundation for a larger hoist is being built. The camp will be supplied with water from the Booth Mine. Geo. Robinson, of Silver City, has the contract to lay the 4-in. pipe line. A new shaft house has been erected on the Hearst Mine and new machinery put in. The shaft is down 300 ft., and a number of miners are at work. The concentrating plant is in operation after having been closed down for necessary repairs.

Santa Fe County.

Ortiz Mining Company.—Five suits were recently filed against this company, of St. Louis, Mo., operating in southern Santa Fe County, by the Cerillos Supply Company and others to recover several thousand dollars alleged to be due for material and labor.

OREGON.

Lane County.

Black Butte.—At this quicksilver property a force of 70 men is reported at work, with a fine plant installed for handling the ore.

Musick.—This mine in Bohemia District is equipped with a 10-stamp mill and concentrators. The present owners have purchased 6 additional claims, making the holdings of the company altogether 13 claims. A tunnel has started on the west side of the mountain that will give a vertical depth of 1,000 ft. below the present workings that are situated on the east side of the mountain. A new strike was recently made in the sixth level at a depth of about 400 ft. from surface, showing 6 ft. of ore carrying gold, lead and copper.

PENNSYLVANIA.

Anthracite Coal.

Miners' Strike.—During the past week the situation at the mines has shown few changes. There have been several outbreaks of violence, but no great damage to property. The rioting has been confined mostly to attempts to keep men from working at the washeries about Wilkesbarre. In the Wyoming Region all the collieries continue shut down, with the exception of the West End at Meranaqua. In the Lehigh Region the Lehigh Coal and Navigation Company has its Panther Creek Valley mines in operation, though with reduced forces. The situation at other points in the Lehigh Region and the general condition of affairs in the Schuylkill Region show little change.

Following the lead of the Reading Company in the Schuylkill Region, the Delaware & Hudson, the Delaware, Lackawanna & Western, the Hillside Coal and Iron and the Lehigh & Wilkesbarre coal companies in the Wyoming Region, through their general superintendents, on October 23d, agreed upon an additional notice as to the 10% increase. The Lehigh & Wilkesbarre Coal Company notice says: "Referring to the notice posted October 1st, in addition to the reduction to $1.50 per keg for powder 2½% will be added to the price of car to make the advance of 10 per cent as proposed." The notices do not say how long the advance is to stand.

Officials of the United Mine Workers held a secret conference at Hazelton on October 24th to consider calling off the strike. It is openly asserted that the men generally are eager to return to work, that the United Mine Workers has so far contributed nothing to the support of the strikers, and that many will break away from the union unless they receive the aid promised them when the strike was ordered.

The only companies in the Hazelton Region which had not up to October 24th posted the notices advancing wages and reducing the price of powder are the Cross Creek Coal Company, G. B. Markle & Company, Dodson & Company and the Lehigh and Wilkesbarre Coal Company.

Audrenreid Coal Company.—This company has awarded a contract for the erection of a large modern washery at Girardville to H. K. Christ. Work will begin as soon as the Tresckow washery is completed.

Mount Pleasant.—It is stated that this colliery of the Fuller Coal Company at Scranton is to be transferred to the New York & Scranton Coal Company, a branch of the mining company of the Ontario & Western Railroad.

Williams Coal Company.—A judgment for $48,111 has been entered by Morgan B. Williams, of Wilkesbarre, against this company, and the colliery will be sold by the Sheriff. The mine has not been worked since last spring, due, it is said, to some hitch among the incorporators.

Bituminous Coal.

A syndicate, known as the Hamilton Coal Mining Company, of Philadelphia, has purchased the coal mines at Cragdell Station, on the Allegheny Valley Railroad, about 3 miles north of New Kensington. The company proposes to operate on an extensive scale, and by January 1st give employment to 250 men. Over 1,000 acres were included in the deal. R. A. Caldwell, of Tarentum, is local manager.

(From Our Special Correspondent.)

A body of coal has been discovered at Cragdale Station on the Allegheny Valley Railroad, said to equal Connellsville for coke.

The spring at the Redstone plant of the H. C. Frick Coke Company, at Brownfield, has not been affected by the long dry spell. The well produces 144,000 gal. of water, although it is only 28 ft. deep.

Joseph W. Barnes of Uniontown, Pa., has been acting as agent for some Uniontown parties and has been buying large tracts of coal land in Greene County, and is at present buying land in Harrison County. This country around Morgantown will be covered with a network of railroads in a short time. Richard Kenney, of McKeesport, is engineering a deal for the Cambria Iron Company for the purchase of extensive coal-fields in St. Clair Township, Westmoreland County. The consideration is $200 an acre.

Continental Coke Company.—No. 1 plant is being rushed to completion so that it can be making coke by January 1st. The seats and piers of one string of ovens are completed, and the shafts are being completed.

Donohoe Coke Company.—This company has a new plant approaching completion on the Crabtree branch in Westmoreland County, 1 mile from the Alexandria coke works, where 300 ovens will be built, 120 of which are in operation now. A $50,000 coal washer is used. Houses for 100 families have been completed, and a village established. The plant will be supplied with water from its own reservoir. The capacity of the plant is 1,000 tons daily. William A. Wilson is general manager, and John P. Donohoe superintendent.

Griffin.—This plant of the Bessemer Coke Company in the Klondike district in Southern Fayette County has shipped its first coke.

Berks County.

Federal Graphite Company.—Boston and Philadelphia capital is reported invested in this company, which owns a mine located in Pikeland. The company has a capitalization of 100,000 shares of preferred stock and 100,000 of common. Of the 100,000 shares of preferred, 80,000 were issued at $5 per share, and the common stock was given to subscribers as a bonus, share for share. William Grange, of Philadelphia, is president, and E. W. Cates, of Boston, is treasurer. The Boston directors are T. B. Casey and F. A. Schirmer. It is said that the property has been thoroughly equipped with machinery.

SOUTH DAKOTA.

Custer County.

(From Our Special Correspondent.)

New York.—C. A. Dow, of Sioux City, Ia., owner of this mine, west of Custer, has been at the mine and set miners at work. It is stated that the property will be worked by W. H. Sills, of New York City, who was in Custer County 3 weeks ago and examined a number of the mica mines.

University Company.—A shaft has been started by this company on a quartz ledge 10 ft. wide.

Grand Junction.—A new strike is reported in this old mine, 5 miles northwest of Custer. J. C. Spencer and C. Crary, of Custer, have the mine bonded, it being owned by St. Louis parties.

Lawrence County.

(From Our Special Correspondent.)

Cleopatra Mining Company.—This company has made its first shipment of bullion from the mine on Squaw Creek. The new cyanide plant, of 100 tons daily capacity, is more of a success than anticipated.

Detroit & Deadwood Reduction Company.—The current report that a deal had been made by the Montreal owners of the Alameda Group, whereby this company will, November 1st, begin working the properties, is confirmed.

Homestake Company.—The Spearfish ditch is to be completed by November 15th. The 1,200-ton cyanide plant will be ready for ore in 60 days and the 2 old stamp mills on the north side of the Lead Hill will be repaired and in shape to receive ore by the time the new water ditch is completed. The DeSmet and Caledonia mines are being retimbered where needed.

Imperial Mining Company.—This company is negotiating for a mill site in Deadwood for a 100-ton cyanide and chlorinating plant. The company has recently been organized to work the American Express and other mines in Sheeptail Gulch. Pittsburg, Pa., men are putting up the money.

Portland Mining Company.—The first run has been made by this company in the new 50-ton cyanide plant at the old Baltimore & Deadwood stamp mill, at Gayville. Ore is brought over the Elkhorn narrow gauge road from the company's mines at Portland.

Pennington County.

(From Our Special Correspondent.)

Black Hills Copper Company.—South of the British-American company is a group of claims owned by this company, of Benton Harbor, Mich. A steam hoist is in operation. A building 36 by 50 has been erected. An incline shaft has been sunk 130 ft. on a vein of gold and copper ore. George M. Thresher, of Benton Harbor, is general manager.

British-American Gold and Copper Company.—This company has headquarters at Detroit, Mich. A shaft has started on property south of the Copper Cliff. Assays of $4 gold and 2% copper are reported at the surface of the vein. J. M. Sweeney, of Detroit, is general manager.

Copper Cliff Mining Company.—Three Michigan companies are working on the copper belt west of Hornblende Camp, 6 miles from Rochford. At the North, the Copper Cliff Company, of Ironwood, Mich., has opened up a good ledge of copper sulphide. F. C. Chamberlain is president of the company; B. Frank Brazee, vice-president; Herman F. Jones, treasurer; Chas. H. Umphry, secretary, all of Ironwood.

Mary Bell.—W. L. Kerney, of Council Bluffs, L. M. Kerney and G. P. Billups, of Rochford, have a steam drill at work a mile west of Rochford. There are 12 claims in the group. The same parties are opening up a group of claims east of the Cochran Mine. A shaft is down 60 ft. on a 12-ft. vein.

UTAH.

(From Our Special Correspondent.)

Bullion and Ore Shipments.—During the week ending October 20th there were sent forward from the different smelteries 26 cars, or 1,105,594 lbs., lead-silver bullion; 5 cars, or 248,717 lbs., copper bullion. In the same week there were shipped from the different camps 132 cars, or 6,229,070 lbs., lead, silver and gold ore and concentrate products and 7 cars, or 366,510 lbs. copper ore that were consigned to smelteries outside of Utah.

Marketing Cyaniding Products.—At present the bulk of the cyaniding products consigned to Salt Lake are marketed by Griffiths & Knight. There is talk of establishing a custom refinery for cyaniding products at Salt Lake by the principal owners of the Sacramento Mine.

Box Elder County.

(From Our Special Correspondent.)

Ashbrook.—Under direction of Superintendent J. P. Turner exploration is progressing. A tunnel is being driven to cut the vein 500 ft. on its dip. A large tonnage of milling ore is exposed.

Century.—In Park Valley more mining than usual is under way for this season. At the Century, Manager White has started a tunnel to cut the ledge 125 ft. below upper workings. The new cyaniding mill gives satisfaction.

Planetary.—After a close down of over a year the mine is again worked, with John Snell in charge.

Juab County.

(From Our Special Correspondent.)

Tintic Shipments.—For the week ending October 19th there were billed out from the 3 railroad points of the district 93 cars of ore, 2 cars of concentrates and 2 bars of bullion, which were contributed as follows: Centennial-Eureka, 46 cars; Gemini, 11 cars; Grand Central, 10 cars; Carissa, 6 cars; Eureka Hill, 5 cars ore, 2 cars concentrates; Mammoth, 5 cars ore, 2 bars bullion; Godiva, 3 cars; Bullion-Beck, 2 cars; May Day, 2 cars; Joe Bowers, Showers Consolidated and Star Consolidated, each 1 car ore.

Ajax.—On October 15th the annual meeting was held in Salt Lake City, resulting in the selection of the following officers and directors: Thomas Weir, president; George A. Lowe, vice-president; C. K. McCormick, treasurer; H. M. Ryan, W. H. Dickson, Samuel Newhouse and Frank Knox; all directors. Exploration has been satisfactory.

May Day vs. Yankee Consolidated.—The matter of trespass, of the Yankee mining ore from May Day territory, will be amicably adjusted, notwithstanding the reported newspaper friction. To-day representatives of each company are on the ground investigating conditions.

Ridge & Valley vs. Gemini.—The Gemini has consented to an underground survey by Ridge & Valley, to determine the amount of ore, if any, that has been extracted beyond Gemini boundary and it is said a settlement will be made without a law suit.

Piute County.

(From Our Special Correspondent.)

Glen Erie.—A car of 30% copper rock, carrying $15 in gold and silver per ton, was marketed this week in Salt Lake. Milan Packard is pushing exploration. The tunnel, in 300 ft., has opened a rich 5-in. pay seam in a 4-ft. vein.

Sevier Consolidated Gold Mining, Milling and Prospecting Company.—Incorporation articles were filed October 16th; principal office at Ogden; capitalization, $50,000 in $100 shares. Officers and directors are: Frank B. Parker, president; A. A. Wenger, vice-president; H. H. Lawrence, secretary-treasurer; Thomas Arbor and M. D. Heath complete the directorate. The realty consists of the Sevier extension, Pointer, Erie and Erie Extension lode claims.

Salt Lake County.

(From Our Special Correspondent.)

Alamo.—John T. Hodson while East bonded this group, one of the conditions being the expenditure of several thousand dollars in exploration under his direction. Some ore is exposed in the tunnel, which is in 300 ft.

United States.—Managing Director A. F. Holden visited the mines this week for the first time in over 2 months. About 100 men are employed. The scheme of concentrating the cherty pyritic products is a failure, as the gold and silver values are not saved.

Summit County.

(From Our Special Correspondent.)

Park City Shipments.—In the week ending October 20th the total smelter products marketed through the Mackintosh smelter was 2,475,130 lbs., which represents the shipments from the camp, and was made up as follows: Silver King crude, 710,250 lbs., concentrates 294,640 lbs.; Daly-West crude, 470,050 lbs., concentrates, 429,590 lbs.; Ontario crude, 306,520 lbs.; Anchor concentrates, 205,240 lbs.; Barnes lease concentrates, 49,840 lbs.

Tooele County.

(From Our Special Correspondent.)

Consolidated Mercur.—On October 16th the statement of the September yield was given out. It affirms that 28,908 tons were mined and milled, at a cost of $1.42 for mining—including opening new ground—and $1.44 for milling, or $2.86 per ton. Gold yield was $165,178, from which total month's expenses of $82,692 leave the net yield of $82,486. The battery during the month was maintained at about $6.50 per ton and the recovery was a little above $5.50 per ton.

Geyser-Marion.—Property of the company is under attachment by sheriff for $15,000, the creditors having pooled their accounts. Shareowners seem to be disinclined to come to the rescue.

WASHINGTON.

Stevens County.

Hoodoo Hydraulic Gold Mining Company.—According to a local paper, this company had 2 grants steadily working on its ground near the head of the Palouse River from March 10th to October 7th. It is stated that pay gravel is from 1 ft. to 9 ft. thick and is covered by about 25 ft. of clay. Richard Price, of Spokane, is superintendent.

WEST VIRGINIA.

Fairmont Coal and Mining Company.—This company was organized at Pittsburg October 29th, by operators representing 39 mining plants. The output of the combination is 10,000,000 tons annually, and the capital invested by the several companies is said to be about $10,000,000. The object of the consolidation is to facilitate the placing of large quantities of coal in markets already established and seek a better foothold in the seaboard markets of Maryland and in Central Pennsylvania. The officers elected are: C. W. Watson, president; John A. Clark, vice-president; George De Bolt, secretary, and M. L. Hutchinson, treasurer. The companies interested are the Montana Coal and Coke Company, operating 13 mines; the Monongah Coal and Coke Company, 5 mines; the Clark Coal Company, 5 mines, and the Hutchinson Coal and Coke Company, 6 mines. Ten other individual mines are in the company.

Wetzel County.

(From Our Special Correspondent.)

J. V. Thompson, of Uniontown, Pa., has closed a deal with 3 English operators regarding 30,000 acres of land in this county. Thompson agrees to sell 22,000 acres at $45 an acre to the Englishmen. Some of the land sold at $65 per acre. It is located between Waynesburg and Wheeling, near Garret Station on the Baltimore & Ohio Railroad. The Englishmen will haul the coal to tidewater and ship it abroad.

WYOMING.

Laramie County.

Sunrise.—This iron mine near Hartville is being worked by the Colorado Fuel and Iron Company. The daily shipments are reported to be 65 cars, or over 2,000 tons. The mine is operated with steam shovels and other machinery. It shows a working face of ore 100 ft. high, and the cost of mining and loading is reported as less than 15c. per ton. A local paper says that extensive preparations are being made to open up another iron deposit in the Sunrise Park. A tunnel will be run through the mountain on the southeast range of the park, which will be ½ mile long, passing through the Republic and Douglas mines, and coming out at the Good Fortune.

FOREIGN MINING NEWS.

AUSTRALASIA.

New Zealand.

The Mines Department reports that exports of gold in August were 23,774 oz. crude. For the eight months ending August 31st the exports were 242,755 oz. crude, against 257,500 oz. in 1899; a decrease of 14,745 oz., or 5.7%. The total this year was equal to 220,859 oz. fine, or $4,565,162.

Exports of silver in August were 22,755 oz., a decrease of 2,474 oz., or 9.8%, from last year.

(From Our Special Correspondent.)

During the 4 weeks ending September 17th the published returns of the Otago dredges total 7,390 oz., or a weekly average per dredge of 49 oz. A large number of good returns have been obtained, notably by the Electric, Junction Electric, Cromwell, Hartley & Riley, Clyde and Perseverance dredges. The published returns of Otago dredges for the current year amount to 45,273 oz.

Hauraki Goldfield.—During the 4 weeks ending September 27th the output amounted to £49,262 ($246,310), a slight increase on the previous month. The principal producers were: Waihi, with £26,713 ($133,565) from 8,481 tons; New Zealand Crown, with £5,774 ($28,870) from 2,940 tons; Waitekauri, with £5,024 ($25,120) from 2,148 tons; New Zealand Talisman, with £2,273 ($11,365) from 950 tons.

Thames-Hauraki.—This company has stopped mining and announced its intention of ceasing to pump on December 31. This is a severe blow to the Thames goldfield, as it means that the testing of the low levels is postponed indefinitely. The company's action has provoked great indignation, the company having obtained a subsidy from the New Zealand Government of £25,000 ($125,000) toward the pumping plant, and so far having done very little to justify the bounty.

Waihi Company.—This Hauraki company's return of £26,713 for 4 weeks is a record, but will probably be exceeded next month, as the additional 100 head of stamps will be at work soon. The company has been fortunate in striking another new reef, 10 ft. thick and assaying well, in the cross-cut from No. 5 level. This level has still to go many hundred feet before reaching the boundary, so that there is good chance of its intersecting other lodes.

Waihi Grand Junction Company.—This company, with the assistance of a pump borrowed from the Waihi Company, has pumped the water out of its main shaft down to the point where it was flooded. A new pump barrel is being put in.

West Coast Goldfield.—The Progress Mine's return for July was £7,054 ($35,270) from 4,467 tons; for August, £7,053 ($35,265) from 4,147 tons.

Victoria.

The Mines Department reports the gold output of Victoria for August at 69,197 oz. crude. For the eight months ending August 31st the total was 509,265 oz.; in 1899 it was 547,625 oz., showing a decrease of 38,360 oz., or 7.0%, this year. The dividends paid by public companies for the eight months of 1900 amounted to £307,293.

CANADA.

British Columbia—Boundary District.

(From Our Special Correspondent.)

The B. C. Mine is now sending out 100 tons daily.

On October 17th the Miner-Graves mines increased their daily output from 300 to 600 tons, the Granby Company, which is reducing the ore, having on October 13th blown in a second 300-ton furnace at its smelter at Grand Forks. These mines have ore enough blocked out to allow of shipments increasing to 1,000 tons a day.

Ore Shipments.—The total quantity of ore shipped from the district to October 16th is about 43,000 tons. Shipments to July 1st aggregated about 10,000 tons, and approximate monthly totals since have been: July, 7,000 tons; August, 12,000 tons; September, 14,000 tons. Shipments for October will, it is estimated, reach about 17,000 tons from the mines in Greenwood Camp known as the Miner-Graves group (including the Old Ironsides, Victoria and Knob Hill) and the B. C. Mine in Summit Camp. There will probably be some other small shipments from several properties upon which less development work has as yet been done.

Mother Lode.—A start is made at shipping ore from the British Columbia Copper Company's Mother Lode Mine to its smelter near Greenwood. Plant for the smelter and additional machinery for the mine are being installed. It is probable that within 2 or 3 months the smelter will be at work.

British Columbia—West Kootenay District.

(From Our Special Correspondent.)

The present condition of the Portland property is stated on excellent authority to be promising. The ore is in quartz and contains iron pyrites and copper with free gold, and picked samples have assayed as high as 1½ oz.

Rossland Ore Shipments.—The ore shipments from Rossland mines for the 9 months and 19 days ending October 19th amounted to 160,000 tons valued at $2,560,000 gross, and within 12,000 tons of the total shipments from the same mines for the whole of 1899.

Center Star.—The shaft at this Rossland mine is down to the 600-ft. level and a station is being cut. Development on the 300, 400 and 500-ft. levels continues. A machine and repair shop is being erected. The plant has been ordered from the Denver Engineering Works.

Giant.—The management of this Rossland mine is developing the north and south vein. The principal work heretofore was on the east and west vein. Small shipments continue to the Northport Smelter.

Homestake.—The drifting on the 300-ft. level at this Rossland mine for September amounted to 160 ft. Samuel Hall, of the Iron Mask, is superintendent.

Iron Mask.—The management of this Rossland mine has resumed shipments, which were suspended early in the year. The output amounts to about 100 tons weekly.

Le Roi.—Recent development on the 500-ft.

level has determined that the Josie dike does not permanently cut off the vein, as this has been found west of the dike and the drift is now beyond the fault.

Le Roi No. 2.—Ore shipments from the Josie have been temporarily discontinued owing to an accumulation of ore at the smelter.

Le Roi No. 3.—The foundations for the new 40-drill electric compressor is finished at the Nickel Plate. The middle vein has been opened up on the 300-ft. level and the ore is reported 16 ft. wide. The management is crosscutting the 400, 500 and 600-ft. levels.

New St. Elmo.—The south drift is in 270 ft. and the manager reports a face of fair grade ore. Work on the north crosscut continues. Only small stringers of ore have thus far been found in this crosscut.

Northport Smelter.—The two additional furnaces, having a total capacity of 750 tons daily, will not be completed before the end of the present year. The total capacity will then reach 1,450 tons daily. It is generally admitted that for several months the ore production will exceed the capacity of the local smelters.

Velvet.—A new vertical 3-compartment shaft 12 by 5 ft., from the surface to the 300-ft. level is to be sunk. The main shaft will be sunk to the 500-ft. level. The ore recently uncovered at the 300-ft. level is reported the best so far discovered. The extent of this discovery has not been made public.

War Eagle—A station is being cut on the 1,000-ft. level of this Rossland mine. Development work continues.

Nova Scotia—Guysboro County.

(From Our Special Correspondent.)

Blue Nose.—This mine at Goldenville has returned 340 oz. from 1,100 tons of ore for September. The company has recently acquired additional areas and is now reopening the old Wentworth pit and has just completed the installment of 10 additional stamps, giving it now a 30-stamp mill. They have also installed 3 Wilfley concentrators.

Hurricane Point.—A new lead of a very promising character has recently been uncovered at this mine.

Richardson.—This mine in Stormont District continues to make satisfactory returns. August, September and October returns show from 6,300 tons of ore 1,122 oz. of gold.

Nova Scotia—Halifax County.

(From Our Special Correspondent.)

John F. O'Leary has returned for 3 months' work some 1,033 oz. from 948 tons of ore. This is from a lead opened last spring in Harrigan Cove. A new modern 10-stamp mill is now contracted for to be erected at once on this valuable property.

Nova Scotia—Hants County.

(From Our Special Correspondent.)

Picton Development Company.—This company's mill has treated 47 tons of ore for Evan Thompson that gave the splendid yield of 758½ oz. This is from a new lead recently found by Mr. Thompson.

COAL TRADE REVIEW.

New York. Oct. 26.

Anthracite.

The hard coal trade during the past week has been very quiet. Mild weather and increasing evidences that the strike is not likely to last much longer have kept down prices and reduced demand to a minimum for this season of the year. The fear of a coal famine has practically vanished and dealers who held for the highest figures are now wishing they hadn't. At the same time, the mines will hardly get back to their normal activity in less than 2 weeks after the strike is called off and there is every reason to believe that coal will be higher this winter than last.

In the West business has been light. In Chicago territory buying has fallen off remarkably. There is reported to be enough coal there to last until into December and any shortages in lake receipts can be made up by all-rail shipments. At the head of the lakes many consumers have stocked up for the winter. Those who haven't will probably have to pay a higher price than usual for anthracite, or use bituminous.

In the East, as in the West, consumers are waiting for the strike to be called off. The principal shortages seem to be among the small yards at inland points and it is these that will probably be first supplied when mining starts again.

It is evident that the officials of the United Mine Workers must begin paying out relief money or order the strike called off soon. There seems very little reason for prolonging the strike. Most of the men have obtained more than they expected.

The fact that nothing is said about company stores or company doctors shows that these were not important issues, but applied only to a few companies. As for Markle & Company and the Susquehanna Coal Company, it is safe to say they will pay no attention to the action of the other companies. Officials of the United Mine Workers induced the Markle and Susquehanna employees to violate agreements that should have been binding. The companies naturally wonder if new agreements will be any better observed.

Free-burning anthracite is selling as follows, f. o. b. New York Harbor ports: Broken, $4.85; stove, $5; nut, $5; pea, $4; buckwheat, $3.

Bituminous.

The demand for the better grades of coal in the Atlantic seaboard bituminous trade continues heavy, but the supply of such coals at the shipping ports is still limited by shortages in car supply at the collieries. Snoal water port orders continue to take a large proportion of the coal shipped. As soon as this demand lets up there will be considerable relief in the pressure on producers. Each shoal water port consignee is after coal and each gets some, the total shipments aggregating a large amount. Regular consignees located at ports that are open all winter suffer in consequence. It is said that if cold weather and ice were to come suddenly it would find many shoal water port consignees with about half their winter supplies on hand.

The far East is calling for considerably more coal than it is getting. Along Long Island Sound there is a slight shortage yet, and consumers, to offset immediate demands, are putting away any sort of coal they can get. New York Harbor trade is fair, somewhat easier than it has been. All-rail consumers have settled down to taking as large a proportion of the better grades as exigencies allow them, filling up shortages with poorer grades.

Transportation from mines to tides is slow and irregular. Car supply at the collieries is less than 75% of the number called for and runs down to 50%. In the coastwise vessel market large vessels are in good supply, while small vessels are very scarce. Freight rates for large vessels are therefore easy, and for small vessels strong and advancing. We quote current rates from Philadelphia as follows: Providence, New Bedford and Fall River, 65c.; Boston, Salem and Portland, 80c.; Lynn, 90c.; Newburyport, 95c.; Portsmouth and Bath, 80c.; Bangor, $1; Dover, $1.25 and towages; Saco, $1.10 and towages; Gardiner, $1 and towages.

Clearfield coal is quoted at $2.50@$2.55 per ton f. o. b. New York Harbor ports.

Birmingham, Ala. Oct. 22.

(From Our Special Correspondent.)

The Alabama coal market is in excellent condition. A fairly good price obtained for the product and the demand is equal to the production. The Republic Iron and Steel Company recently started up its mines at Sayreton, near North Birmingham, after having been idle for several weeks. The coal washer at that place, recently constructed, has been put in operation and a good quality of coal is now being mined at that point. Over 100 miners are being given employment at the Sayreton mines.

The Cahaba Southern Mining Company, of which Col. T. H. Aldrich is president, has leased from the Executive Board of the University of Alabama 250 acres of good coal lands in Bibb County, adjacent to 800 acres leased heretofore. The company will pay 6c. a ton royalty for the 250 acres just leased.

The Central Coal Company has been incorporated in this State by R. H. Pearson, L. G. Bowers and G. P. Moore, and a large tract of coal lands in the upper part of Jefferson County has been purchased from S. Roman. The property has been developed. The new concern will further develop the lands and add considerable to the coal production in this State.

Chicago. Oct. 23.

(From Our Special Correspondent.)

Anthracite Coal.—As might have been expected, the demand for anthracite coal is again slow, after weeks of remarkable activity, due to the scare. The buying, both wholesale and retail, is now only moderate. The quantity of hard coal in and about the city is not large, and chestnut coal is very scarce, and Chicago will therefore have to depend mostly on rail coal, and in consequence the present prices are likely to hold; $6 is the price of the various sizes, $7 still being demanded by the retailers.

Bituminous coal is dull, the buying being small; the warm weather having been to blame. Manufacturing lines are receiving coal regularly on old contracts. Kentucky and West Virginia coal is in demand for domestic purposes. Prices on bituminous coals are off from circular, quotations being made to suit conditions.

Cleveland, O. Oct. 24.

(From Our Special Correspondent.)

It might almost be said to be between seasons in this territory with the coal dealers. There have been no sales made for next season's shipment on the lakes as yet, and there will not be for some time to come; conditions are such as to make the lake movement very light. In the first place, the prices at which the upper lake coal is to be sold for next season have not been fixed, the preliminary conference not even having been held or the date fixed. The conditions surrounding the movement on the lakes are perplexing and anything but satisfactory. The railroads are short of coal cars and the mines in this region are supplying a foreign demand, administering to the needs of the hard coal districts and at the same time giving liberally to the commercial trade in this vicinity, having but little coal for lake shipment. As a result many of the contracts which were made between shipper and upper lake dealers last spring cannot be filled this year. No serious results are expected, as there is now enough coal on those docks to meet the demands of the coming winter. The coal movement is so light that cargoes have been split during the last few days to make two loads out of one to keep some of the boats busy. The absence of anthracite coal for lake shipment is turning into the bituminous coal trade all of that tonnage, thereby flooding the market and weakening the rates. This week has seen the rate to the head of the lakes lowered to 25c., putting it on the same basis with the Lake Michigan rate, which was dropped the week before. Just now the vessel owners are hoping for an end of the strike to afford anthracite coal with which to bolster up the rates.

Pittsburg. Oct. 25.

(From Our Special Correspondent.)

Coal.—There is but little new in the coal trade of the Pittsburg District this week. The Pittsburg Coal Company is still suffering on account of the shortage of railroad cars. Prices remain unchanged except for the retail trade, there being a material advance to small consumers. A dispute over the rates for mining coal for Eastern shipment caused a strike at several mines of the Pittsburg Coal Company and the trouble has not yet been adjusted. The rains of the past two days have swelled the rivers and it is possible that some light craft may get out with small tows of coal this week. The Monongahela River Consolidated Coal and Coke Company still has over 30,000,000 bushels of coal loaded and ready to go out on the next rise.

Connellsville Coke.—There was a heavy decrease in production of coke in the region last week, but the shipments showed a small gain. Prices remain the same, $2 for standard furnace coke and $2.25@$2.50 for foundry. Outside producers continue to quote $1.50 for furnace and $1.75@$2 for foundry. Of the 20,762 ovens in the region 14,220 are active and 6,542 are idle. The production for the week was 146,131 tons, a decrease of 12,590 from the previous week. The shipments for the week were 7,584 cars, distributed as follows: To Pittsburg and river tipples, 2,664 cars; to points west of Pittsburg, 3,325 cars; to points east of Connellsville, 1,595 cars. This was an increase of 88 cars.

Shanghai, China. Sept. 19.

(Special Report of Wheelock & Co.)

Coal.—The market is very firm, especially Cardiff coal. Arrivals of all kinds of coal during the fortnight were 12,725 tons. Quotations per ton are as follows: Welsh Cardiff, 25 taels; Australian Wollongong, cargo ex-godown, 13 taels, and other sorts, 7.50@8.50 taels; Chinese Kaiping lump, 7.50@8.50 taels; dust, 5 taels, and mixed, 5.50@6 taels; Japan, all contracted for.

Kerosene Oil.—A small business has been done. In Devoes importers are asking 2.20 taels per case less 2%, while sales of spot cargo are being made at quotations below by native dealers.

Stocks are 1,049,500 cases American Devoes; 470,800 cases Russian Batum and 16,500 cases Sumatra Langkat; total, 1,536,800 cases. Quotations per case are as follows; American Devoes, 2.08 taels; Russian Anchor Chop, 2.00 taels; Star & Crescent Chop, Horse Chop and Ram Chop, 1.97½ taels, and bulk oil (2 tins), 1.86 taels. Sumatra Langkat (2 tins), 1.86 taels, and loose, 1.46 taels.

Foreign Coal Markets.

English advices show a firm market, with the general tendency of prices upward. Quotations at Cardiff are given below, all being f. o. b. at shipping port: Best Welsh steam coal, $6@$6.24; lower grades, $5.40@$6; dry coals, $5.64@$5.88; Monmouthshire semi-bituminous, $5.40@$5.64; steam coal smalls, $3,24@$3.48.

Freight rates from Cardiff are quoted as follows: Mediterranean ports, $2.20@$2.64; Port Said, $2.94; Rio Janeiro, $4.92; Buenos Aires, $5.04. Freights are firm and it is difficult to get tonnage when needed.

In France, as winter approaches, much complaint is made of the high price of coal for household use. In Paris as high as $14 to $16 a ton is asked. Current quotations for best steam coal, f. o. b. cars at mines in the Nord or Pas-de-Calais, are: Washed lump, $7 a metric

ton; ordinary lump, $6.80; nut, $6.50; run-of-mine $4.60@$4.75. Coal of second quality can be had for $4, run-of-mine.

In Germany there is nothing new in the situation. The complaints of manufacturers about the restriction of output by the syndicates seem to have little effect. Brokers at Hamburg and Bremen report difficulty in securing as much coal from England as they need.

We still continue to hear of contracts for foreign delivery. These include orders for France, Germany and Italy. The shipments for France include a cargo for steamship use at Havre. The shipments so far have been chiefly from Philadelphia and Baltimore. We do not hear of any exports of anthracite.

Charters from the United States are few just at present, owing to the high rates on immediate shipments and the uncertainty of rates on future deliveries. A charter for November sailing was booked this week from Baltimore to Genoa at 20s. ($4.80), which is 4s. (96c.) more than was paid earlier in the year.

SLATE TRADE REVIEW.

New York. Oct. 26.

The list of prices per square for No. 1 slate standard brand f. o. b. at quarries in car-load lots, is given below:

Size, inches	Monson or Bri'ville.	Bangor.	Bangor Ribbon.	Alb'n, or Jackson Bangor.	Chap'n Keys ne	Peach Bottom.	Sea Gr'n.	Unfad'g Green.	Red.
	$	$	$	$	$	$	$	$	$
24 x 14	6.50	3.50	3.00	3.00	....	5.10	2.90	....	.....
24 x 12	6.60	3.50	3.00	3.00	3.80	5.25	2.90	3.75	.....
22 x 12	6 60	3.50	3.25	3.00	....	5.25	2.90	3.75	.....
22 x 11	6.50	3.75	3.25	3.00	4.00	5.25	2.90	4.00	.....
20 x 12	6 90	3.75	.....	3 00	....	5.25	2.90	3.75	.....
20 x 11	6.80	....	....	3.25	....	5.25	2.90	....	.....
20 x 10	6 80	4.25	3.50	3.25	4.00	5.35	2.90	4.25	10.50
18 x 12	6.80	3.75	.....	3.00	.....	5.25	2.90	3.50	.....
18 x 11	7.00	....	....	....	.....	....	2.90	3.75	.....
18 x 10	7.00	4.25	3.50	3 25	4.00	5.35	2.90	4.00	10.59
18 x 9	7.00	4.50	3.50	3.25	4.00	5.35	2.90	4 25	10.50
16 x 12	6.80	3.75	....	3.00	....	....	2.85	3.50	....
16 x 10	7.00	4.25	3.50	3.25	4.00	5 25	2.85	4.00	10.50
16 x 9	7.00	4.25	.....	3 25	4 00	5.35	2.85	4.25	10.50
16 x 8	7.00	4 50	3.50	3.25	4.25	5.35	2.85	4.25	10.50
14 x 10	6 60	3.75	3.25	3.00	.....	5 25	2.70	3.75	10.50
14 x 9	6 50	....	....	....	.....	....	2.70	3 75	10.50
14 x 8	6.60	3.75	3.25	3.00	4.00	5.10	2.70	4.25	10.50
14 x 7	6.40	3.75	3 25	3 00	3.75	5.10	2.50	4.25	10.50
12 x 10	5.75	....	....	....	....	....	2.50	3.25	.....
12 x 9	5.60	....	.....	....	.....	....	2.50	3.25	.....
12 x 8	5.50	3.50	.....	2.85	.....	4 85	2.50	3.50	9.00
12 x 7	5.00	3.25	.....	2.85	3 25	4.85	2.25	3.50	9.00
12 x 6	4.80	3 25	.....	2.85	3 25	4.75	2.25	3 50	8.50

A square of slate is 100 sq. ft. as laid on the roof.

There is better buying of manufactured slate, but roofing slate is not selling as well as dealers had anticipated earlier in the year. Production has been affected by the higher cost of fuel delivered at quarry, owing to the continued strike of the anthracite coal miners.

Efforts are being made to work the Arkansas slate deposits.

The shipments of slate from Slatington and Walnutport, Pa., in the week ended October 18th were 5,353 squares of roofing slate; 731 cases school slates, and 545 crates blackboards.

IRON MARKET REVIEW.

NEW YORK, Oct. 26, 1900

Pig Iron Production and Furnaces in Blast.

Fuel used	Week ending Oct. 27, 1899. F'ces	Tons.	Oct. 26, 1900. F'ces	Tons.	From Jan., '99. Tons.	From Jan., '00. Tons.
An' racite & Coke.	241	277,700	182	215,550	10,678,765	11,504,238
Charcoal.	25	6,450	31	8,325	224,530	308,512
Totals..	266	284,150	213	223,875	10,903,295	11,812,750

Increased volume of business at current prices is the chief characteristic of the market this week. A large business is reported in foundry iron, and Southern furnace men have made concessions on certain grades, to put their prices more on a parity with Northern irons than they have been recently.

Steel billets are reported firmer and mills are rather holding back, believing that prices can be put up to $19 or so. Some sales have been made in Pittsburg this week at $18, which is $1 above recent quotations.

Nothing new can be reported about the rail market, except that no orders are coming from the West.

Export business is fair. A report comes from London that German steel is being offered there at low prices. The home trade in Germany has been falling off, but the steel makers have high prices of fuel to contend with, and are not likely to sell much steel at a loss.

Notes of the Week.

Russian manganese ore (50%) has been advanced from 26c. to 26¾c. per unit ($13.38 per long ton), delivered in wholesale lots in Philadelphia or Baltimore. The present rate of freight from Poti, Russia, to either of these ports is 20s. ($5). Demand is improving.

Birmingham, Ala. Oct. 22.
(From Our Special Correspondent.)

There have been no changes in the pig iron market conditions in this district during the last week. Furnacemen here say that the market is just holding its own—that is, there have been no declines of any mention to occur during the past week. The export shipments have fallen off a little, caused by a thought that cheaper rates might be allowed by the railroads. It is stated that a large firm of iron brokers obtained prices for a good lot from one of the larger manufacturing companies in this district during the past week and that prices were quoted for immediate delivery.

During the past week announcement was made that the new furnace at Ensley, the fifth in the plant at that place, had been repaired again and was ready for the torch. The furnace was but recently completed and was in operation only a few days when an explosion occurred about some of its pipes doing damage which resulted in necessitating the furnace to shut down. The company will manufacture sufficient iron at Ensley to supply the big steel plant and other iron using plant around Ensley and Bessemer. Ironaton Furnace, belonging to the Alabama Consolidated Coal and Iron Company, is almost ready for the torch.

There is some demand for finished iron in this district and the rolling mills are working hard. The strike of 50 and more skilled laborers at the Ensley steel plant, instituted because the superintendent of the plant refused to recognize the Union, has caused a slight depression in the production there. The Amalgamated Association of Iron, Steel and Tin Workers demands recognition, but the superintendent will only recognize individuals. It is not at all unlikely that the Amalgamated Association will keep out the men at the Bessemer mills, if the matter at Ensley is not settled in the near future. The latter strike was ordered Saturday. The demand for steel is not very brisk.

The following quotations are given for pig iron: No. 1 foundry, $12@$12.50; No. 2 foundry, $11.50@$12; No. 3 foundry, $10.50@$11; No. 4 foundry, $9.50@$10; gray forge, $9.50; No. 1 soft, $12@$12.50; No. 2 soft, $11.50@$12.

Buffalo. Oct. 24.
(Special Report of Rogers, Brown & Co.)

The monotony of recent events has been enlivened during the past week by several large buyers coming into the market and placing orders for stated future deliveries, in amounts ranging up to 5,000 tons each. These sales have developed some very low figures and apparently indicate that those who are buying figure that the market is lower now than it is likely to be. Inquiries for large amounts are quite general and may or may not materialize into actual business. Shipments from local furnaces appear to be a little heavier than the daily production, so that the stocks are drawn on to a slight extent. This would be very encouraging if it was general throughout all districts. We quote below on the cash basis f. o. b. cars Buffalo: No. 1 strong foundry coke iron, Lake Superior ore, $15.50; No. 2, $15; Southern soft No. 1, $15.25; No. 2, $14.75; Lake Superior charcoal, $18.50; coke malleable, $15.

Chicago. Oct. 23.
(From Our Special Correspondent.)

Pig Iron.—There has been larger buying of pig iron than last week. Orders for 1,000 tons are fairly frequent and those for smaller lots are numerous. Most of the business of the past two weeks has been taken by the Northern furnaces. Contracts are being made, running considerably into the coming year. Quotations are as follows: Lake Superior charcoal, $18@$18.50; local coke foundry, No. 1, $15@$15.50; No. 2, $14.50@$15; No. 3, $14@$14.50; local Scotch, No. 1, $15@$16; Ohio strong softeners, No. 1, $16@$16.50; Southern Coke, No. 1, $15@$15.35; No. 2, $14@$14.35; No. 3, $13.50@$14.10; Southern No. 1, soft, $15@$15.35; No. 2, soft, $14@$14.35; malleable Bessemer, $14.50@$15; standard Bessemer, $14.50@$15; foundry forge, $12.75@$13.25.

Cleveland, O. Oct 24.
(From Our Special Correspondent.)

Iron Ore.—All indications point to a closing of the ore carrying season immediately upon the completion of the contracts now held by the vessel-owners. From Lake Superior the end will come November 1st. From Escanaba some contracts will be in vogue up to November 15th, while others will run on through the season of navigation, expiring when the lakes or the ore piles freeze up. No wild ore, or practically none, is being shipped now from the head of the lakes, the maximum amount being a 5,000 ton cargo a week. All efforts at making sales for deliveries later than November 1st have failed. This is due, perhaps, to the great disparity in prices demanded by the ore producers and offered by the furnacemen. From Lake Michigan points wild ore is equally scarce. While the ore movement there will be prolonged it will be due to the prevalence of contracts, rather than a desire that more ore shall be shipped. No sales of ore have been made of late, but prices are being discussed, as upon them depend the freights for next year, and the price of pig iron. Aside from a general demand for a reduction of prices, there is no indication of the new scale. In the absence of any business, association prices must prevail. These give for basing purposes $5.50 on Bessemer and $4.25 on non-Bessemer. Mesabi ores are based on Biwabik at $4.25.

Pig Iron.—Lower prices have resulted in increased sales. The price of No. 1 foundry dropped this week to even $14 and of No. 2 to $13.50. At these values large blocks of pig iron have been disposed of. The sales cover shipments as late as April 1st next year, although most of them are for deliveries within the next two or three months. The sales of Bessemer have been so light as to make a market quotation impossible.

Finished Material.—The railroads are still hanging off on the price of steel rails, offering $22 against the demand of the producers of $26. Eastern mills producing plates being filled up to the limit of their capacity for the immediate future, and feel themselves in a position to demand a better price. Consequently they are asking 1.15 as a minimum. The smaller mills are still quoting 1.10, with 1.05 as a possibility for a good order. The demand for beams and channels is very light. There is a brisk demand for bars, with the supply limited because some of the mills report their capacity sold up for two months. Bars in consequence are quoted at 1.15@1.20c. Nothing is being done in billets.

Old Iron.—Dealers are still buying heavily of all grades, but are getting rid of it only in single car-load lots. Old rails are slightly in demand at $17, with a few inquiries for machine cast.

Philadelphia, Pa. Oct. 25.
(From Our Special Correspondent.)

Pig Iron.—The fact that a number of large consumers have opened up correspondence to the extent of making inquiries for iron and in a few cases making offers for winter requirements, started the talk that a reviving demand had set in. On closer inquiry this was found not to be the case, but simply a willingness of a few buyers to buy if prices suited. Very little iron has been sold and no change in prices can be found. There is more interest felt in foundry irons and buyers will soon show themselves.

Billets.—The rumored advances in billets has not led to new business, but resulted in the closing up of arrangements for deliveries that have been hanging fire for weeks.

Merchant Bars.—The bar iron industry is called flat by some mill agents because the business done is in small lots and the trade local. The manufacturers have not accumulated so far more than a good assortment of sizes and the store people are well filled up.

Sheets.—No further developments have taken place. The trade is for the present quiet and shaded quotations would be allowed on big orders.

Skelp.—The production is not rushed and capacity is in excess of demand, but all the mills have something to do.

Pipes and Tubes.—There is talk of a revised price list for November 1st.

Merchant Steel.—The agents representing manufacturers find large and small consumers disposed to let the future take care of itself and hence current business is of a hand-to-mouth character.

Plates.—No large orders have been booked. At the same time large lots of iron and steel plate are needed for later fall and winter. Buyers express the opinion that sharper competition will force prices lower.

Structural Material.—The mills are busy on good paying business and representatives who were recently gathered here expressed optimistic views as to the future. A current rumor here of the possible withdrawal of Carnegie from the structural steel agreement does not appear to be probable.

Steel Rails.—The agitation for the reduction of steel rails to $22 or $20 does not abate. There is no local news of additional orders and it is said the Pennsylvania order will not be sent to mills for a long time to come. The opinion

among our home people is that the weight of opposition to $26 will come from the West and that it is likely to lead to prices more in accord with cost.

Pittsburg. Oct. 24.

(From Our Special Correspondent.)

The feature of the iron and steel markets this week is the heavy demand for foundry and forge iron. There has been no increase in price, but the sales have exceeded any one week for some time. All orders placed are for delivery during the last quarter. Foundrymen, it seems, have been only buying for immediate requirements, but in anticipation of an advance are making contracts for future delivery. The sales of Bessemer pig iron this week were unusually light with prices a trifle firmer. Producers are not anxious to sell at the low rate that has ruled for the past few weeks. There is an indication of firmer or higher prices soon, and no great effort is being made by manufacturers to sell at the prevailing prices. The market for Bessemer steel billets has been remarkably quiet for several months and they were quoted as low as $17, but this week it is impossible to get billets at that price. One leading producer of steel bars is out of the market for the present. Bars are firm. The demand for plates is good, but there has been no change in prices. While the demand for sheets continues good, prices are a trifle lower this week. The condition of the blast furnaces in this district and in the valleys is about the same as last week. The furnace of the Shenango Furnace Company at Sharpsville, which has been idle for two weeks on account of labor troubles, was started again this morning. The strike which closed the furnace was due to the employment of negroes and not a dispute over wages. The places of the strikers have been filled and it is believed the trouble is at an end. The steel mills in this district are all busy and the orders on hand will keep them running steadily throughout the winter. The agricultural implement makers have placed some good contracts, as they expect the greatest trade in their history next spring. An unusually heavy demand for structural material is expected this fall, but the big contracts are not likely to be placed until some time next month. The price for structural material for next year has been fixed by the associated manufacturers and is considerably lower than last year. There will not likely be any change. At present the two leading producers in this district are turning out thousands of tons daily.

Pig Iron.—Not more than 700 tons of Bessemer pig were sold during the week. The price was $13.25@$13.50, Pittsburg. Fully 8,000 tons of foundry and gray forge iron were sold this week at about the same prices that have prevailed during the past two weeks. Some was sold at a little lower than the ruling rates. No. 2 foundry is quoted $13.50@$14 and gray forge at $12.50@$12.75, Pittsburg. Buyers seem to be placing their orders in anticipation of higher rates after the fall election.

Steel.—There is some evidence of a revival of the steel market. Bessemer steel billets, which have been quoted as low as $17 during the past few weeks, have advanced and $19 is named as the price to-day. One sale of 1,000 tons was made early this week at $18. Steel bars are somewhat firmer than last week and 1.20@1.25c. is quoted for immediate shipment. The minimum price for December delivery is 1.10c. Tank plates range in price from 1.10@1.15c.

Sheets.—The sheet market is not satisfactory. While the demand is good the prices are low. No. 28 gauge is quoted at 2.90@2.95c. and No. 27 at 2.80@2.85c. The price for galvanized sheets remains at 75% off, with a freight allowance of 15c.

Ferro-manganese.—There is no change in the price, the leading producer continuing to quote $75 for 80% domestic.

New York. Oct. 26.

Foreign trade shows a falling off to Continental ports. We note recent shipments to Cuba of $23,000 worth of steel rails and $14,000 worth of structural steel. Also shipments to Italy of $25,000 worth of pig iron, and $23,000 worth of old steel. The local market is steady but quiet.

Pig Iron.—Business is very light and no renewal of activity is to be expected for several weeks. We quote for Northern irons, tidewater delivery: No. 1 X foundry, $16.25@$17; No. 2 X, $15.25@$15.75; No. 2 plain, $14.75@$15.25; gray forge, $14@$14.50. For Southern irons on dock, New York, No. 1 foundry, $15.50@$15.75; No. 2, $14.50@$14.75; No. 3, $13.50@$13.75; No. 4, $13@$13.50; No. 1 soft, $15.50@$15.75; No. 2, $14.25@$14.50.

Bar Iron and Steel.—Prices are unchanged and the market is quiet. We quote common bars at 1.20@1.25c. for large lots on dock; refined bars, 1.35c.; soft steel bars, 1.20c.

Plates.—Demand has fallen off. We quote for large lots at tidewater. Tank, ¼-in. and heavier, 1.20@1.30c.; shell, 1.35c.; flange, 1.50c.; universals, 1.30c.

Steel Rails and Rail Fastenings.—The situation over standard sections shows no change. Buyers feel that the difference between the current price of billets and the quoted price of $26 for rails is altogether too large. Light rails are selling between $25@$30. Splice bars are 1.25@1.35c.; spikes, 1.45c.; fish plates, 1.25c.; bolts, 2.05@2.25c.

Structural Materials.—Demand is light. We continue to quote large lots at tidewater: Beams, 1.65c.; channels, 1.65c.; angles, 1.30c.; tees, 1.70c.; zees, 1.65c.

METAL MARKET.

New York. Oct. 26.

Gold and Silver.

Gold and Silver Exports and Imports

At all United States ports in September and year.

Metal.	September.		Year.	
	1899.	1900.	1899.	1900.
GOLD.				
Exports	$618,995	$794,962	$32,877,838	$52,574,745
Imports	2,593,894	3,977,359	34,268,421	36,104,916
Excess	I. $1,974,899	I. $3,182,397	I. $1,390,583	E.$16,469,829
SILVER.				
Exports	3,622,041	5,723,708	38,738,431	47,501,891
Imports	2,376,846	4,140,675	22,724,095	30,151,150
Excess	E. $1,245,195	E. $1,583,033	E.$16,014,336	E.$17,350,741

These figures include the exports and imports at all United States ports, and are furnished by the Bureau of Statistics of the Treasury Department.

Gold and Silver Exports and Imports, New York

For the week ending October 25th, 1900, and for years from January 1st, 1900, 1899, 1898, 1897.

Period.	Gold.		Silver.		Total Excess, Exp. or Imp.
	Exports.	Imports.	Exports.	Imports.	
We'k	$9,000	$2,957,164	$802,820	$33,977	I. $2,179,321
1900..	36,631,203	4,839,872	32,440,473	3,930,651	E. 60,301,153
1899..	11,646,120	13,129,051	23,683,040	3,038,220	E. 19,161,889
1898..	7,274,687	91,301,209	28,019,569	2,493,117	I. 61,500,170
1897..	48,137,851	13,295,666	33,108,527	1,967,055	E. 34,842,157

Exports of gold were to the West Indies; imports were from London and Paris. The silver exported went chiefly to London; that imported came from the West Indies and Central America.

The United States Assay Office in New York reports the total receipts of silver at 65,000 oz. for the week. Total since January 1st, 4,054,000 oz.

Average Prices of Silver per oz. Troy.

Month.	1900.		1899.		1898.	
	Lond'n Pence.	N. Y. Cents.	Lond'n Pence.	N. Y. Cents.	Lond'n Pence.	N. Y. Cents.
January...	27.30	59.30	27.42	59.36	26.29	56.77
February..	27.49	59 76	27.44	59.42	25.89	56.07
March.....	27.59	59.81	27.48	59.54	25.47	54.90
April.....	27.41	59.59	27.65	60.10	25.95	56.02
May.....	27.56	59.96	28.15	61.23	26.31	56.98
June.....	27.81	60.42	27.77	60.43	27.09	58.61
July.....	28.23	61.25	27.71	60.26	27.32	59.06
August....	28.13	61.14	27.62	60.00	27 48	59.54
September	28.85	62.63	27.15	58.89	28.05	60.68
October ..	.....	.....	26.70	57.98	27.90	60.42
November	.....	.....	27 02	58.67	27.93	60.60
December.	.....	.....	27.21	58.99	27.45	59.42
Year.....	.....	.....	27.44	59.58	2.76	58. 20

The New York prices are per fine ounce; the London quotation is per standard ounce, .925 fine.

Average Prices of Metals per lb., New York

Month.	COPPER.		TIN.		LEAD.		SPELTER.	
	1900.	1899.	1900.	1899.	1900.	1899.	1900.	1899.
Jan	15.58	14.26	27.07	22.48	4.68	4.18	4.65	5.34
Feb.....	15.78	17.02	30.58	24.20	4.675	4.49	4.64	6.28
March...	16.29	16.35	32.90	23.82	4.675	4.37	4.60	6.31
April....	16.76	17.13	30.90	24.98	4.675	4.31	4.71	6.67
May.....	16.34	17.20	29.37	25.76	4.181	4.44	4.53	6.88
June.....	15.75	16.89	30 50	25.85	3.901	4.43	4.29	5.98
July.....	15.97	17.10	33.10	29.63	4.030	4.52	4.28	5.82
August..	16.35	17.42	31.28	31.53	4.250	4.57	4.17	5.65
Sept.....	16.44	17.34	29.42	32.74	4.350	4.58	4.11	5.50
October..	.....	16.94	.....	31.99	.....	4.575	.....	5.32
Nov.....	.....	16.49	.....	28.51	.....	4.575	.....	4.64
Dec	.....	15.85	.....	25.88	.....	4.64	.....	4.66
Year.....	.....	16.67	.....	25.12	.....	4.47	.....	5.75

Commencing with March 17th, the prices given in the table for copper are the averages for electrolytic copper; this is the case for both 1899 and 1900. The average price for Lake copper for the year 1899 was 17.61c. For January, 1900, the average price of Lake copper was 16.33c.; for February, 16.08c.; for March, 16.55c.; for April, 16.94c.; for May, 16.55c.; for June, 16c.; for July, 16.16c.; for August, 16.58c.; for September, 16.69c.

Prices of Foreign Coins.

	Bid.	Asked.
Mexican dollars.....	$ .51	$ .52
Peruvian soles and Chilean pesos	.46	.47½
Victoria sovereigns.....	4.85	4.88
Twenty francs	3.85	3.88
Twenty marks.....	4.74	4.80
Spanish 25 pesetas.....	4.78	4.82

Financial Notes of the Week.

Business continues quiet and little or no change is to be looked for at present. Gold imports continue and this week shipments to the amount of $5,500,000 to New York are reported. The present indications are that the movement may continue for some time.

Under the impulse of buying by the India Council for rupee coinage in India, silver rapidly advanced to 30 3/16d. Since October 24th no pur-

Imports and Exports of Metals.

Port.	Week, Oct. 24.		Year 1900.	
	Expts.	Impts.	Expts.	Impts.
New York. (N. Y. Metal Exchange.)				
Aluminum.....long tons	.....	10	111	87
Antimony ore... " "	.....	100	.....	2,352
" regulus.. " "	.....	60	.....	1,670
Chrome ore..... " "	.....	.....	.....	1,500
Copper, fine..... " "	2,095	304	86,538	16,333
" matte.. " "	.....	14	3,471	246
" ore. .... " "	.....	.....	.....	43,882
" ash..... " "	.....	5	.....	98
Ferro-Chrome.. " "	.....	.....	.....	31
Ferro-mangan'se " "	.....	.....	.....	710
Iron ore .... " "	.....	.....	.....	17,526
" pig, bar, rod " "	601	100	15,012	6,075
" pipe..... " "	503	.....	12,012	157
" plates, sheets " "	118	.....	1,016	18
Lead..... " "	3,529	950	65,936	55,639
" ore.. ..... " "	.....	.....	.....	9,700
" dross ..... " "	.....	.....	.....	24
Manganese, ore. " "	.....	.....	.....	9,361
Metals, old, scrap " "	78	23	3,900	6,082
Composition... " "	199	.....	2,920	185
Nails. ..... " "	130	.....	16,770	.....
Nickel ..... " "	42	.....	2,016	108
" ore, matte " "	.....	.....	.....	5,393
Railr'd material. " "	159	65	5,241	3,583
Rails, old ..... " "	.....	.....	6,713	518
Spiegeleisen..... " "	.....	30	.....	3,377
Steel bars, plates " "	1,614	138	38,018	15,029
" rails..... " "	2,189	....	48,900	18
" wire..... " "	855	55	24,027	78
" not speci'd. " "	299	24	9,899	2,417
Tin ..... " "	.....	496	5	21,533
" and black plates" "	.....	493	.....	31,657
Zinc..... " "	.....	.....	675	386
" dross..... " "	.....	.....	679	50
" ashes, skim " "	.....	.....	968	20
" ore..... " "	.....	.....	11,668	.....
Baltimore. (Special Correspondence).				
Chrome ore.....long tons	.....	.....	.....	3,730
Copper, fine..... " "	934	241	33,218	4,123
" matte... " "	.....	.....	.....	.....
Ferro-manganese " "	.....	.....	.....	155
Iron pig, bar, etc. " "	.....	200	4,685	22,402
" ore..... " "	.....	16,387	.....	356,042
" pyrites..... " "	.....	.....	.....	33.755
Manganese ore.. " "	.....	148	.....	117,323
Metals, old & Rails" "	.....	.....	568	2
Nails ..... " "	46	.....	1,361	.....
Pipe, iron & steel " "	.....	.....	5,392	.....
Silicon ..... " "	.....	.....	.....	85
Spiegeleisen..... " "	.....	.....	.....	778
Steel, bars, etc.. " "	553	.....	36,219	3,773
" wire ..... " "	.....	10	897	133
" rails..... " "	1,800	....	68,792	.....
Tin..... " "	.....	.....	.....	295
" and blackplates" "	.....	119	.....	2,635
Philadelphia. (Week ending Oct. 19).				
Antimony ...long tons	.....	.....	.....	14
Chrome ore..... " "	.....	.....	.....	3,650
Copper, fine..... " "	20	.....	3,894	.....
" ore..... " "	.....	.....	.....	31,095
" pyrites.. " "	.....	100	.....	100
Iron, pig..... " "	.....	57	1,355	3,827
" ore..... " "	.....	7,500	13,120	241,720
" pyrites..... " "	.....	.....	.....	87,455
Manganese ore.. " "	.....	.....	.....	76,900
Spiegeleisen..... " "	.....	.....	.....	4,153
Tin ..... " "	.....	10	.....	588
" and black plates" "	.....	148	.....	2,426
Zinc..... " "	.....	.....	67	.....
" ore..... " "	.....	.....	4,307	.....

Total United States.

Articles.	August, 1900.		Year, 1900.	
	Expts.	Impts.	Expts.	Impts.
Antimony.....long tons	.....	148	.....	1,006
" ore..... " "	.....	23	.....	1,673
Copper, in all forms..... " "	13,861	9,177	115,726	42,610
Iron, pig & bar.. " "	31,598	4,796	125,644	54,666
" ore..... " "	10,344	86,450	20,767	637,302
Iron & steel plates " "	5,636	159	29,189	4,688
Iron & steel rails " "	34,021	1	261,279	989
" " wire " "	4,863	98	55,275	1,184
Lead, in all forms " "	9,619	10,264	56,103	65,274
Manganese ore and oxide..... " "	2	2,800	3	226,355
Nickel " & matte " "	266	.....	1,754	.....
Nails, cut..... " "	706	.....	7,781	.....
" wire..... " "	1,985	.....	21,956	.....
Quicksilver..... " "	11	.....	246	.....
Steel, billets, rods, etc..... " "	24,886	2,444	73,116	23,729
Tin..... " "	36	2,794	358	21,172
" & black plates " "	111	5,945	511	45,100
Zinc ..... " "	2,801	51	17,335	661
" ore ..... " "	1,529	.....	24,766	....

Import Duties on Metals.

The duties on metals under the present tariff law are as follows: Antimony, metal or regulus, ¾c. a lb. Lead, 1½c. a lb. on lead in ores; 2½c. per lb. on pigs, bars, etc.; 2½c. on sheet, pipe and manufactured forms. Nickel, 6c. per lb. Quicksilver, 7c. per lb. Spelter or zinc, 1½c. per lb. on pigs and bars, 2c. on sheets, etc. Copper, tin and platinum are free of duty.

chases have been made on this account, and today the market is dull, with but little inquiry.

The statement of the United States Treasury on Wednesday, October 24th, shows balances in excess of outstanding certificates as below, comparison being made with the statement of the corresponding day last week:

	Oct. 17.	Oct. 24.	Changes.
Gold	$87,912,919	$86,727,862	D.$1,185,057
Silver	6,079,402	5,568,304	D. 511,098
Legal tenders	13,454,673	12,738,094	D. 716,579
Treas. notes, etc.	66,731	78,966	I. 12,235
Totals	$107,513,725	$105,113,226	D $2,400,499

Treasury deposits with national banks amounted to $96,919,423, showing a decrease of $2,191,111 for the week.

The statement of the New York banks—including the 66 banks represented in the Clearing House for the week ending October 20th—gives the following totals, comparison being made with the corresponding weeks in 1899 and 1898:

	1898.	1899.	1900.
Loans and discounts	$657,011,300	$700,543,900	$797,849,200
Deposits	745,793,100	768,375,700	846,432,800
Circulation	15,515,600	15,727,400	30,431,300
Reserve:			
Specie	156,050,800	143,674,300	156,654,200
Legal tenders	53,809,800	49,860,700	57,901,700
Total reserve	$209,860,600	$193,535,000	$214,555,900
Legal requirements	186,418,275	192,093,925	211,608,200
Balance, surplus	$23,412,325	$1,441,075	$2,947,700

Changes for the week, this year, were an increase of $157,700 in circulation; decreases of $10,005,800 in loans and discounts, $15,155,900 in deposits, $3,605,000 in specie, $1,700,200 in legal tenders, and $1,516,225 in surplus reserve.

The following table shows the specie holdings of the leading banks of the world at the latest dates covered by their reports. The amounts are reduced to dollars, and comparison is made with the holdings at the corresponding date last year:

	1899.		1900.	
Banks.	Gold.	Silver.	Gold.	Silver.
N.Y. Ass'd.	$143,674,300	.....	$156,654,200	.....
England	164,524,100	.....	167,367,455	.....
France	379,001,570	$234,884,240	456,404,265	$223,334,660
Germany	120,430,000	62,040,000	124,465,000	64,115,000
Spain	67,635,000	68,275,000	68,445,000	83,345,000
Aus.-Hun.	153,650,000	52,465,000	189,315,000	48,880,000
Neth'l'ds	13,780,000	29,215,000	24,350,000	27,500,000
Belgium	14,395,000	7,200,000	13,805,000	6,905,000
Italy	77,650,000	7,180,000	77,060,000	8,370,000
Russia	445,065,000	23,385,000	356,150,000	32,060,000

The returns of the Associated Banks of New York are of date October 20th, and the others are of date October 19th, as reported by the "Commercial and Financial Chronicle" cable. The New York banks do not report silver separately, but the specie carried is chiefly gold coin. The Bank of England reports gold only.

Shipments of silver from London to the East for the year up to October 11th, 1900, are reported by Messrs. Pixley & Abell's circular as follows:

	1899.	1900.	Changes.
India	£4,177,025	£4,794,807	I. £617,782
China	1,058,163	1,763,466	I. 705,303
The Straits	226,508	683,316	I. 456,808
Totals	£5,461,696	£7,241,589	I. £1,779,893

Arrivals for the week, this year, were £222,800 in bar silver from New York, £10,000 from Chile and £4,000 from Australia; total, £236,800. Shipments were £202,400 in bar silver to Bombay, £86,500 to Shanghai, £32,600 in coin and £7,000 in bar silver to Hong Kong; total, £328,500.

Indian exchange shows little variation. The Council bills offered in London brought 15.94d. per rupee. The demand for silver is increasing, and it is believed that a large quantity will be still taken for Indian account.

The foreign merchandise trade of Great Britain for the nine months ending September 30th is given by the Board of Trade returns as below:

	1899.	1900.
Imports	£356,019,390	£379,187,642
Exports	243,014,492	266,514,753
Excess, imports	£113,004,898	£112,672,889

The increase in imports was £23,168,252, or 6.5%; in exports, £23,500,261, or 9.7%; leaving a decrease of £332,009, or 0.3% in the excess of imports. The gold and silver movement for the nine months was as follows:

Gold:	Imports.	Exports.		Excess.
1900	£20,918,483	£10,685,853	Imp.	£10,262,630
1899	26,230,409	15,251,960	Imp.	11,008,449
Silver:				
1900	9,424,698	9,614,875	Exp.	190,177
1899	9,796,703	10,802,857	Exp.	1,006,154

The United States furnished 85.5% of the total silver imported this year, against 67% last year.

Other Metals.

Daily Prices of Metals in New York.

October.	Sterling Exchang.	Silver. Fine oz. Cts.	Silver. London. Pence.	Copper. Lake, cts. ₱ lb.	Copper. Electrolytic ₱ lb.	Copper. London £ ₱ ton.	Tin, cts. ₱ lb.	Lead cts. ₱ lb.	Spelter. N. Y. cts. ₱ lb.	Spelter. St. L. cts. ₱ lb.
20	4.84¼	64¼	29¾	16½ @16⅝	16¼ @16⅜	....	28	4.32½ @4.37½	4.15	4.00
22	4.84¼	64½	29⅞	16½ @16⅝	16¼ @16⅜	72⅛	28¼	4.32½ @4.37½	4.15	4.00
23	4.83¾	65	30⅛	16½ @16⅝	16¼ @16⅜	72⅜	28¼	4.32½ @4.37½	4.15	4.02½
24	4.83¾	65	30 1/16	16½ @16⅝	16¼ @16⅜	71⅞	28	4.32½ @4.37½	4.15	4.02½
25	4.83⅛	64⅛	30	16½ @16⅝	16¼ @16⅜	72	28⅛	4.32½ @4.37½	4.20	4.05
26	4.83¾	64¼	29 15/16	16½ @16⅝	16¼ @16⅜	72¼	28⅛	4.32½ @4.37½	4.20	4.05

London quotations are per long ton (2,240 lbs.) standard copper, which is now the equivalent of the former g. m. b's. The New York quotations for electrolytic copper are for cakes, ingots or wirebars; the price of electrolytic cathodes is usually 0.25c. lower than these figures.

Copper.—The market continues quiet but firm. There appears to be a little more business doing in this country, but our cables report very few transactions abroad. Manufacturers over here are very busy. Orders are being placed for finished material both for early and distant deliveries. We quote Lake copper at 16½@16⅝c.; electrolytic in cakes, wirebars and ingots at 16¼@16⅜c.; in cathodes at 16@16⅛c.; casting copper at 16¼c.

The London market for standard copper, which closed last week at £71 10s. for spot, £72 2s. 6d. for 3 months, opened on Monday at 10s. higher. It fluctuated but little and the closing quotations are cabled as £72 5s. for spot and £72 17s. 6d. for three months.

Refined and manufactured sorts we quote: English tough, £75 10s.@£76; best selected, £77 15s.@£78 5s.; strong sheets, £83@£84; India sheets, £82; yellow metal, 6¾d.

Imports of copper into Great Britain for the nine months ending September 30th are reported as below, in long tons:

	1899.	1900.
Ore	82,668	82,898
Matte and precipitate	62,754	64,552
Fine copper	45,096	55,411
Equivalent fine copper	84,740	95,977
Exports of copper	52,646	44,332
Balance retained	32,094	51,645

The increase in imports, rated in fine copper, was 11,237 tons, or 13.2%; in the balance retained, 19,551 tons, or 61.1%. Of the imports this year the United States furnished 1,158 tons ore, 6,281 tons matte and 22,578 tons fine copper.

Tin.—The market has fluctuated considerably in sympathy with the London prices, but business has not been of large volume. We quote spot at 28⅛c., November and December deliveries at 27¾c.

The London market, which closed last week at £127 10s. for spot, £122 15s. for 3 months, opened £2 higher at £129 10s.; on Wednesday it declined to £128, and on Thursday to £127. It closes at £128 for spot, £124 10s. for three months.

Imports and exports of tin in Great Britain for the nine months ending September 30th are reported as below, in long tons:

	1899.	1900.
Straits	13,445	17,178
Australasia	2,220	2,080
Other countries	3,438	3,831
Total imports	19,103	23,089
Exports	17,839	18,660
Balance retained	1,264	4,429

The increase in imports was 3,986 tons, or 20.9%; and in exports 821 tons, or 4.8%, this year.

Lead.—There is a fair business doing at last prices. We quote New York at 4.32½@4.37½c., St. Louis at 4.25@4.32½c.

The foreign market for Spanish lead is somewhat lower, this description selling at £17 10s., English lead 2s. 6d. higher.

Imports of lead into Great Britain for the nine months ending September 30th are reported as below, in long tons:

	1899.	1900.
Spain	71,041	64,957
United States	24,269	29,562
Australasia	44,320	38,775
Other countries	8,243	10,407
Totals	147,873	143,701

The total shows a decrease this year of 4,172 tons, or 2.8%. The lead credited to the United States is chiefly Mexican lead refined here in bond.

Spelter.—A good business is reported. Consumers, generally, are not well supplied, and our information tends to show that the production of spelter has somewhat decreased. We quote St. Louis at 4.05c., New York at 4.20c.

European cables report good ordinaries at £19 2s. 6d., specials at 5s. higher.

Imports of spelter or metallic zinc into Great Britain for the nine months ending September 30th were 53,732 long tons, against 53,209 tons in 1899; showing an increase of 523 tons, or 0.9%, this year.

Antimony.—There is no change. We quote Cookson's at 10c.; Halletts at 9¼c.; U. S. Star at 9¼c.

Nickel.—The price continues firm at 50@60c. per lb., according to size and terms of order.

Platinum.—Consumption continues good and prices are strong. For ingot platinum in large quantities $18.20 per Troy oz. is quoted in New York. In London a recent quotation gives 75s. per ounce, unmanufactured, and 77s. 6d.@80s. for crucibles, etc. This is very nearly on a parity with New York prices.

Chemical ware (crucibles and dishes), best hammered metal from store in large quantities, is worth 72c. per gram.

Quicksilver.—The New York quotation continues unchanged at $51 per flask for large lots, with $52.50@$54 asked for small quantities. San Francisco prices are lower, $48 being named on local deliveries, and $43.50@$44 on export orders. The London price is £9 2s. 6d. per flask, with the same price named from second hands.

Quicksilver receipts at San Francisco in September were 1,352 flasks. For the nine months ending September 30th the receipts were 15,257 flasks, against 17,204 in 1899, and 17,591 in 1898. These figures give only the quantity sent to San Francisco and do not include shipments made from the mines overland or directly to consumers. Shipments from San Francisco by water for the nine months were: Siberia, 7 flasks; Australia, 100; China, 1,000; Central America, 1,214; Mexico, 3,441; British Columbia, 11; total exports, 5,773 flasks. In addition, 5 flasks were shipped to Puget Sound and 20 to New York, bringing the total up to 5,798 flasks, against 8,732 in 1899; a decrease of 2,934 flasks, or 33.4%, this year.

Imports of quicksilver into Great Britain for the nine months ending September 30th were 402,278 lbs. (3,812,184 lbs. in 1899); exports were 1,236,874 lbs. (1,698,271 lbs. in 1899); showing an excess of exports of 834,596 lbs., against an excess of imports of 2,113,913 lbs. last year.

Minor Metals and Alloys.—Wholesale prices, f. o. b. works, are as follows:

Aluminum.	Per lb.		Per lb.
No. 1, 99% ingots	33@37c.	Ferro-Titanium (20%)	$1.00
No. 2, 90% ingots	31@34c.	Ferro-Tungsten (37%)	35c.
Rolled sheets	42c. up	Magnesium	$2.75@3
Alum.-bronze	20@23c.	Manganese (over 99%)	$1.05
Nickel-alum	33@39c.	Mangan'e Cop. (20% Mn)	32c.
Bismuth	$2.25	Mangan'e Cop. (30% Mn)	38c.
Chromium (over 99%)	1.00	Molybdenum (Best)	$1.45
Copper, red oxide	55c.	Phosphorus	50c.
Ferro-Molyb'um (50%)	$1.00	American	70c.
Ferro-Titanium (10%)	90c.	Tungsten (Best)	92c.

Variations in prices depend chiefly on the size of the order.

LATE NEWS.

On the evening of October 25th a statement was given out for publication by President Mitchell, of the United Mine Workers, addressed to the miners and mine workers of the anthracite region, the substance of which is as follows:

"After carefully canvassing the entire strike situation, we, your officers, district and national, have concluded that your victory is so nearly complete that no good end can be served by continuing the strike longer. The contest has been in progress for 39 days and the companies employing you have, with few exceptions, signified their willingness to pay the scale of wages formulated by the Scranton convention of October 12th and 13th. We are aware that some disappointment and dissatisfaction has been caused by the failure of the operators in districts 1 and 7 to separate the reduction in the price of powder from the advance in wages, but after careful inquiry we are satisfied that each mine employee will actually receive an advance of 10% on the wages formerly paid. In the Schuylkill and Lehigh regions the largest companies have agreed that the sliding scale should be suspended; and that wages should remain stationary at 10% advance until April 1st, 1901. . . .

"As there are some few companies who have neither posted, notified, nor signified in any other manner, their willingness to pay the 10% advance in wages and suspend the sliding scale, we would advise that unless the men employed by such companies receive notice before Monday that the advance will be paid, they remain away from the mines and continue on strike until the companies employing them agree to the conditions offered by the other companies, and the employees of the companies who have offered the advance of 10% and abolished the sliding scale are hereby authorized to resume work Monday morning, October 29th, and to be prepared, if called upon, to contribute a reasonable amount of their earnings for the maintenance of those who may be compelled to continue on strike."

CHEMICALS AND MINERALS.

(For further prices of chemicals, minerals and rare elements, see page 510.)

New York. Oct 26.

Heavy Chemicals.—Free offerings by second-hands have weakened prices, though makers' quotations are unchanged as they are sold some time ahead. Second-hand sales of domestic alkali were made at 64@67½c. per 100 lbs. f. o. b. works, and of domestic high test caustic soda at $1.70@$1.75 per 100 lbs. f. o. b. works. Some 1901-1902 contracts for high test caustic soda were booked at $1.75@$1.80 f. o. b. works. Second-hand sales of bicarb. soda, ordinary domestic, are reported at 75@87½c. per 100 lbs. f. o. b. works, but to-day holders ask $1.12½. Sal soda domestic has been sold by some makers at 50@60c. per 100 lbs. f. o. b. works, but to-day they ask 60@70c. Bleaching powder sold at $1.35@$1.60 per 100 lbs., according to test and holder, but at the close prices are firmer. Yellow prussiate of potash has been forced down by competition to 15½@16c. per lb. for immediate delivery and 14¼@14½c. for future contracts. Chlorate of potash, domestic, is obtainable at $8.25@$8.50 per 100 lbs., which is a 12½c. decline from last week. Foreign chlorate of potash is also easier.

We quote per 100 lbs. as follows: Domestic soda ash in bulk is worth 2¼c. per 100 lbs. less than quotations below:

Articles.	Domestic.		Foreign.
	F.o.b. Works.	In New York.	In New York.
Alkali, 58%.	75@80	.....	.....
" 48%.	80@85	.....	.....
Caustic Soda, high test....	$1.75@$1.90	.....	.....
powd. 60%	.....	2.75@3.00	.....
70@74%.	.....	2.85@3.25	.....
98%.	.....	3 25@3.56	3.75@4.00
Sal Soda	60@70	.....	65@67½
"conc.	1.45@1.75	.....	1.75
Bicarb. Soda..	1.25@1.37½	.....	1.75@2.25
" " extra	3.25@3.50	.....	.....
Bleach Pdr., Eng. prime..	.....	.....	1.75@2.00
other brands.	.....	.....	1.50@1.75
Chl. Pot cryst	.....	8.25@8.37½	9.25@9.50
" powd.	.....	8.37½@8.50	9.50@9.75

Acids.—Improved deliveries on contract. Next year's business talked of, but no orders of consequence yet booked. Blue vitriol sold at $5, though makers continue to ask quotations below. Tartaric acid suffers from competition among makers; crystals sold at 30@30½c. per lb., and powdered at 31@31½c., less the usual discounts.

Quotations as below are for large lots delivered in New York and vicinity, per 100 lbs. unless otherwise specified.

Acetic, No.8 in lbs....	$1.62½	Nitric, 36°	$3.87½
Blue Vitriol. ...	5.12½@5.25	Nitric, 38°.....	4.12½
Aqua Fortis, 36°	3 62½	Nitric, 40°.....	4.37
Aqua Fortis, 38°	3 87½	Nitric, 42°.....	4.75
Aqua Fortis, 40°	4.12½	Oxalic	.5.75@6.00
Aqua Fortis, 42°.....	4.50	Sulphuric, 66°...	1.20
Muriatic, 18°.	1.20	Sulphuric, 60° .	1.05
Muriatic, 20°.	1.35	" bulk 50° ton....	14.00
Muriatic 22°.....	1.50		

Brimstone.—Business shows some improvement. Spot is scarce, as "Powhatan's" cargo of 1,500 tons, which arrived this week, is under contract to consumers. The uncertainty of the acceptance by the Sicilian miners of the Anglo-Sicilian Sulphur Company's newly proposed agreement, resulted in sales of best seconds for November-December shipment early this week at $19.90 per ton. At the close, however, the price advanced to $20. Shipments in January and forward are quoted at $20.50. Resales of spot are quoted at $23, but nearby arrivals can be had at $22. Best thirds are about $2 per ton less. The imports of brimstone into Great Britain in the 9 months ending September 30th amounted to 18,133 long tons, against 16,508 tons in the same time last year.

Pyrites.—Contract deliveries are regular, and prices are practically unchanged.

The imports of pyrites into Great Britain in the 9 months ending September 30th amounted to 553,143 long tons, against 517,476 tons last year; an increase of 35,667 tons. We quote: Mineral City, Va., lump ore (basis 42%), $4.75 per long ton and fines $4.20. Charlemont, Mass., lump, $5.50, and fines $5. Spanish pyrites, 12@14c. as to percentage of sulphur contents, delivered ex-ship New York and other Aalantic ports. Spanish pyrites contain from 46@51% of sulphur; American from 42@44%.

Fertilizing Chemicals.—Large business done in the leading ammoniates. Sulphate of ammonia, gas liquor, for shipment is quoted at $2.80@$2.85 per 100 lbs., and spot at $2.75@$2.77½; high-grade Western blood, $2.25 per unit f. o. b. Chicago, and $2.35 for soft New York; high grade tankage, $2 and 10c. per unit, f. o. b. Chicago for 9 and 20%; Calcutta bone meal, $23@$24 per ton for regular, and $21 for poorer grades; domestic steamed ground bone, $18.50@$19.50 per ton.

Potash salts are quoted in large lots as follows: Muriate of potash, $1.83@$1.86½ per 100 lbs.; sulphate of potash, 90@98%, $2.05½@$2.08½; double manure salt, 48@53%, $1.06@$1.08½; Kainit (25% sulphate of potash), $9.05@$9.55 per long ton; sylvinit (35@37% potash), 38½@41½c. per unit.

Nitrate of Soda.—Since our last issue a meeting has been held in Chile, of producers, and a cablegram on October 23d states that the official committee has declared a combination now in force. This announcement has had a tendency to advance prices on the west coast of South America, and consequently the market in New York is firmer. Details of the combination have not yet been received, but it is understood to be based on a restricted production. The demand for nitrate of soda, especially from fertilizer manufacturers, has improved. We quote $1.82½ per 100 lbs. for all positions. The San Jorge Nitrate Company, Limited, paid an interim dividend of 2½% (48c. per share) for the half-year ended June 30th, 1900, on October 25th. The Salar del Carmen Nitrate Syndicate, Limited, paid an interim dividend of 4s. per share on October 17th.

Phosphates.—Quiet. A charter of 515 tons from Pensacola to Nantes, France, has been booked at 22s. 6d., sailing in December.

Phosphates	Per Ton F. o. b.	C i. f. Un'd Kingdom or European Ports.	
		Unit.	Long ton.
*Fla. hard rock (77@80%)	$7.50@8.00	8½@8¾d	$13.26@13.66
*Fla. land pebble (68@73%)	4.35	7⅛@7¾d	10 50@10.85
*Fla Peace River (58@63%)	.....	.....	.....
†Tenn. rock 78%, export.	3.50@4.00	7⅛@7¼d	11.70@12.09
†Tenn.....78% domestic.	3.00@3.30	.....	.....
†Tenn.....75% "	2.75@3.00	.....	.....
†Tenn.....72% "	2.25@2.65	.....	.....
‡So. Car. rock, crude....	4.00	.....	.....
§So. Car. rock, dried.....	4.50	6¾d	8.10
Algerian, rock...(63@70%	.....	7@7⅛d	9.38@10.05
Algerian, rock...(58@63%)	.....	6¾@7¼d	8.10@8.70

* Fernandina. † Mt. Pleasant. ‡ At mines. § On vessels, Ashley River.

Liverpool. Oct. 17.

(Special Report of Joseph P. Brunner & Co.)

Manufacturers report a good demand for chemicals over 1901 for home consumption, while the export trade continues quiet on spot.

Soda ash is firm at the recent advance. Nearest spot range for tierces is about as follows: Leblanc ash, 48%, £5@£5 5s.; 58%, £5 10s.@£5 15s. per ton net cash. Ammonia ash, 48%, £4 5s.@£4 10s.; 58%, £4 10s.@£4 15s. per ton net cash. Bags, 5s. per ton under price for tierces. Soda crystals are in request and £3 7s. 6d. per ton, less 5%, is now generally quoted for barrels, or 7s. less for bags, with special terms for a few favored markets. Caustic soda is in steady demand, but the bulk of the business is for 1901 requirements. Quotations for prompt and forward delivery are as follows: 60%, £9 5s.; 70%, £10 5s.; 74%, £10 15s.@£10 17s. 6d.; 76%, £11 5s. @£11 10s. per ton net cash.

Bleaching powder is only in moderate export demand, but home consumers are reported to be placing their contracts pretty freely for next year. On spot hardwood is steady at £6 5s.@£6 10s. per ton net cash, as to market.

Chlorate of potash is rather dull at 3¾d. per lb. net cash.

Bicarb. soda is quiet but steady at £6 15s. per ton, less 2½% for the finest quality in 1 cwt. kegs, with usual allowances for larger packages, also special terms for certain favored markets.

Sulphate of ammonia has improved and is now quoted at £11 2s. 6d.@£11 5s. per ton, less 2½% for good gray 24@25% in double bags f. o. b. here, while sellers are rather holding aloof in the expectation of a further advance.

Nitrate of soda is unchanged on spot, prices ranging from £8 7s. 6d.@£8 12s. 6d. per ton, less 2½% for double bags f. o. b. here as to quality. Shipments on the way are firmer, however, owing to the report that the combination is almost practically settled.

Messina, Sicily. Oct. 1.

(Special Report of Emil Fog & Sons.)

Brimstone.—Although shipments have been active and the statistical position has improved under the influence of free offerings by the Anglo-Sicilian Sulphur Company, prices have receded. Evidently this company's object is to depress values in order to facilitate the negotiation of the proposed nine-year contract which so far is not meeting favor with mine owners. The present state of things is not considered to be of long duration, whether the new contract be signed or not; there appears to be little doubt that the Anglo-Sicilian Company will avail itself of the prorogation clause for another term of five years under the existing agreement. In either case a rally is likely to follow and the advance will then be even sharper than the decline has been, especially if supported by brisk demand from abroad. We quote, per long ton, f. o. b. as follows: Refined block sulphur (100%), 77s. ($19.25); best unmixed seconds, 75s. ($18.75); best thirds, 66s. 6d. ($16.63). Freight room is scarce. Ballasts to New York are quoted at 10s. ($2.50), and to Baltic ports at 20s. ($5).

MINING STOCKS.

Complete quotations will be found on pages 507 and 508 of mining stocks listed and dealt in at:

Boston.	Philadelphia.	Montreal.
Colo. Springs.	Salt Lake.	London.
Denver.	San Francisco.	Mexico.
New York.	Spokane.	Paris.
	Toronto.	

New York. Oct. 26.

Further advances have been made in the copper group, and although some good-sized transactions are reported it is not believed that outsiders are doing much of the buying. Amalgamated was active, selling at $92⅜ on Saturday last, and advancing to $94¼ on Monday of this week; on Wednesday sales were made at $91, or 2 points higher than the same day last week. Anaconda also showed larger trading, advancing to $47½, and on Wednesday closing at $46, or fractionally higher than last week. British Columbia was stronger, selling at $12⅞, while holders at the close ask $13. Union, of North Carolina, moved up to $3⅛@$3¼, but trading is limited to inside operations.

Sales of Alice, of Montana, were made at 52@50c., and of Deadwood Terra, of South Dakota, at 50c. Quicksilver preferred, of California, made sales at $7.75, while Brunswick was hammered down to 8¾c., at which sales were reported.

Of the Colorado shares, Portland, of Cripple Creek, sold at $3.30; Isabella at 90c.; Jack Pot, 56@58c.; Anaconda, 45c.; Pinnacle, 17@18c.; Cripple Creek Consolidated, 13c.; Pharmacist, 12c., and Alamo, 12½c. Sales were also made of Little Chief, of Leadville, at 17c., and Catalpa at 12c.

In the Comstock section Ophir brought 95@98c.; Mexican, 44c.; Savage, 30c.; Chollar, 26@20c.; Crown Point, 17@14c., and Bullion, 12c. (3c. assessment just levied).

Standard Oil broke its record on Wednesday at $591, which is fully 8 points higher than the previous record price.

Auction sales were 10,000 shares Ford Gold Mining Company and 100 shares Amador Construction Company, of California, at $300 for the lot; also 50,000 shares New St. Elmo Gold and Copper Mining Company at $500 for lot.

Boston. Oct. 24.

(From Our Special Correspondent.)

A broader and more active market has been the rule this week, with many advances in prices. It is everywhere said that the "public is coming in." To me, however, it looks like an inside market yet. The bait of strong bull market is being spread liberally before said public, but bites are not very frequent; however, they may increase in number a little later. The only favorable sign in this direction has been an increase in trading in the low-priced coppers, which indicates some interest on the part of small speculators.

The blind pool groups was especially lively. Amalgamated sold at $92½ to-day, and one broker offered 1% to call the stock at $110 till December 1st. Boston & Montana was quoted at $320; Parrot, $46½; Arcadian, $19. In the dividend-payers Calumet & Hecla sold at $775; Tamarack, $260; Quincy, $153; Osceola, $73. The small coppers were quite active, generally with advances in quotations.

Attention was concentrated chiefly on the coppers, and less was done in the gold stocks. In the general list Dominion Coal was quoted at $41 and New England Gas and Coke at $14. United States Oil was $15 and Agricultural Chemical was higher at $26½.

The talk to-day is about Lawson's new Trinity Copper Company. It is a Shasta County property in California and is, of course, capitalized at somewhere from 10 to 15 times its cost. The wonder is that people will pay any attention to Lawson's predictions, but there are plenty who do listen to them. Many have short memories, and there are many more who will listen to anyone who makes noise enough.

Colorado Springs. Oct. 20.

(From Our Special Correspondent.)

The mining stock markets have been without feature this week. There is, upon the whole, an upward tendency. The gains this week ranged from fractional advances to ten points. The higher range of prices tempted very little selling.

A change is coming over the local stock markets, which have for the past decade been dominated by Cripple Creek to the exclusion of every other mining district in the State. They are widening their scope so as to take in the best things of half a dozen good gold camps of Colorado, Wyoming, Arizona and New Mexico. This means that within a year the names of the heavy shipping mines of these States and Territories will be as familiar to the traders on Colorado markets as are the great mines of Cripple Creek to-day.

In closing, a reference should be made to the heavy dividends paid out this week by the big Cripple Creek companies. Portland paid $180,000; Gold King, $28,105; both quarterly; Gold Coin, $20,000, and Consolidated Mines, $10,000, both monthly; total for the week, $238,105.

Los Angeles, Cal. Oct. 20.

(From Our Special Correspondent.)

The Los Angeles Oil Exchange was organized in 1899 in consequence of the great development during recent years of the petroleum industry in California; it is composed of a large body of young and energetic business men, including many oil producers and others having interests in oil companies. Primarily devoted to the dealing in oil stocks, it was believed that an oil exchange based on careful business methods and conservative policy might aid materially in disseminating reliable information regarding our oil interests, thereby attracting capital and be a means of establishing values for oil securities and petroleum in the market which would be accepted as reliable.

Listed and Unlisted Stocks.—Among its listed stocks are only those of producing companies which from investigations are believed to be worthy of confidence. Trading in certain prospect stocks is permitted, but without responsibility for them in any way on the part of the exchange, on the theory that this may prove a means of providing working capital for development and at prices which such stocks command they may prove an investment which good judgment or good luck may transfer to the producing class.

A clearing house is established in connection with the exchange. It greatly facilitates its business and that of its members and safeguards their interests.

Visitors to Los Angeles will be made welcome at the rooms of the Exchange, No. 115 South Broadway, where daily open sessions are held at 10 a. m. The officers of the Exchange are: W. L. Hardison, president; C. A. Johnson, vice-president; L. Blankenhorn, treasurer; R. W. Poindexter, secretary.

Salt Lake City. Oct. 20.

(From Our Special Correspondent.)

Trading in Utah mining shares continues uninteresting, the bears having things much their own way, with not more than half a dozen exceptions. In the absence of new ore uncoverings the brokers appear to think the only way to stir up business is to pound particular shares down. All told for the week there are 107,000 shares reported sold, which brought $51,396.

Ajax is again somewhat stronger, with improved demand. Bullion-Beck affords a pleasant surprise and the shares are higher and in greater favor, owing to ore conditions in Muldoon ground. The District Court has decided the Beck-Cunningham suit in favor of Cunningham. Centennial-Eureka pays the $50,000 quarterly dividend to-day. Consolidated Mercur has declared a dividend of 11c. a share, or $110,000 in all, for August and September, payable November 1st, transfer books close October 20th. In spite of an apparent effort to boost these shares they rule below par. Daisy is still quoted, but everybody who is in wants to get out and no one desires to get in. The move for the Daisy West Dip consolidation appears to have fizzled. Grand Central received more attention than common and has quietly moved up. Nothing new is heard of the Grand Central-Mammoth suit. Mammoth to-day declared a $20,000 dividend, payable November 1st, books to close October 25th.

There is considerable of a demand for Swansea just under $4. South Swansea did quite a little business and closes a few points under last week. Utah has declared a dividend of 2c., or $2,000. Valeo has levied a .05c. assessment, which it is said will more than meet outstanding obligations.

San Francisco. Oct. 20.

(From Our Special Correspondent.)

The little excitement, which ran the prices of certain stocks up last week, has pretty well subsided. This week the market has been quiet, though prices are generally higher than for some time past. Toward the close, however, there was a decrease all around, the nominal cause being some rumored new assessments.

Some prices noted are: Consolidated California & Virginia, $1.25; Ophir, 89@90c.; Gould & Curry, 81@82c.; Confidence, 75c.; Hale & Norcross, 42c.; Silver Hill, 38c.; Sierra Nevada, 35c. Standard Consolidated was a little lower and was quoted at $3.60.

The Oil Exchange continues active, and many sales are reported. Some quotations noted are: Oil City Petroleum, $35; Kern River, $20; San Joaquin, $8.25; Home, $4.65; Sterling, $3; Twenty-eight, $2; McKittrick, 70c.; Reed Crude, 50c. With one slight reaction prices have been firm, and the tendency has been upward.

A big delegation has gone up to Virginia City to take part in the celebration of the introduction of electric power in Comstock mines and mills by the Truckee River General Electric Company, which took place yesterday, October 19th. The celebration program included the reception of the visitors at the depot in Virginia City, a banquet, a procession to the Gould & Curry mill, formal ceremonies and speeches over the turning on of the electrical power, and a grand ball in the evening. All the business houses in Virginia City were decorated and there was a general holiday on the lode.

London, England. Oct. 9.

(From Our Special Correspondent.)

The mining stock market has been very dull again all week in all sections, and in the absence of real business, speculators and the newspapers have been circulating rumors of trivial importance in order to knock up a little activity. The energies of the public are, however, centered on the general election, and until it is over it is useless to expect any revival.

The South African market has been quite devoid of feature this week, but the West Australian section has occupied more attention, owing to the continued struggle between Mr. Whitaker Wright and Mr. Kaufman. During the past few weeks I have mentioned that Mr. Kaufman has been making desperate attempts to obtain a share in the control of the Ivanhoe Company. This week matters have come to a head by a partial yielding on the part of Mr. Whitaker Wright, and two of Mr. Kaufman's supporters or nominees have been elected to the board. These two new directors are Mr. Govett and Mr. Touch, the first a stock broker and the second an accountant, and it is obvious that they are not to be considered as mining directors, but as exponents of some particular speculative policy. The ramifications of intrigue in the West Australian market are extraordinary. No stock broker's house dealing in shares in the West Australian section could exist for a day unless it had some secret agent among the miners and metallurgists at the mines. Any new find or new move in policy in West Australia is privately known in London a few hours after, and the directors and shareholders of the companies do not hear of it for days, weeks or even months afterward. The market is therefore not a mining market, but a gambling market, and the legitimate miner is filled with disgust.

A prospectus of the Conder Claims, Limited, is being circulated privately by Messrs. Heatley, of London. The object of this company is to acquire the Conder claims at Slocan, British Columbia, but as no independent report is given of the property, it is only the personal friends of Messrs. Heatley that are likely to subscribe. The same firm recently floated the Bosun claims in the same district, but we do not hear anything of them nowadays. Another American company that is advertising itself at present is the Consolidated Gold Mines of California, Limited, which owns the Amoskeag and Banner properties and several others as well on Table Mountain, Butte County, California. The company has gone through several reconstructions and is now heavily weighted with capital. There is a 40-stamp mill and it is claimed that the cost of operation is not more than $2 per ton. The ore is stated to be quite free milling and to average $6 and $7 per ton, but in spite of many years' work the results so far are nothing great to boast of.

Paris. Oct. 14.

(From Our Special Correspondent.)

The mining stock market continues slow and speculators are largely indifferent. The quotations, however, remain higher than might be expected.

The metallurgical shares are on the balance, with a prospect for a downward reaction. The situation is not altogether promising, and lower prices will not comport with the higher costs for raw material and fuel.

Copper continues high and the copper shares are accordingly in demand. The new dividend on Rio Tinto, just announced, shows how large the earnings have been. The Boleo Company, I am informed, is making some important improvements at its mines, and is moreover accumulating a large surplus for future contingencies.

Le Nickel shares are still high, in view of the demand for the metal. The Canadian mines, whose competition was so much dreaded a year or two ago, have not been able to put New Caledonia out of the market. It seems that there is room for all and Le Nickel may prosper accordingly.

The attempts to put life into the market for the South African gold stocks have been a failure so far. The stocks remain dead and quotations are altogether nominal, since there are no buyers and hardly any sellers. Those who have held their shares up to the present are keeping them a little longer, to await developments; while the prices fixed in London are too high to tempt speculators.

There is talk of a great reception to President Kruger when he arrives in Europe. I do not see the use of a demonstration which can only serve to make hard feelings, and cannot in any way change the accomplished fact.

It is a curious fact that very few of the holders of shares here seem to think that Mr. Kruger's treasure has been taken from their mines. If they realized this there might be a different feeling.

There is still much trouble among the smaller class of investors over the dismal results of the various enterprises in connection with the Exposition, in which they invested so largely. These investments threaten almost total loss. Further, there are still a very large number of admissions to the Exposition still unsold; and the speculators who bought these tickets six months ago are now trying to sell them at any price they can get.

We are already receiving some coal from America. I hear of a cargo of 4,500 tons being unloaded at Havre, with another of 5,000 tons expected. The Societe Chargeurs Reunis, of Havre, has also received a cargo of 4,000 tons for use on its steamers. The latest rumor here is that the Russian Government has contracted for 500,000 tons from Nova Scotia, to supply the coal depot which it has established at Odessa.

The coal question is really a most pressing one with us. Besides the scarcity for manufacturing purposes, coal for household use has risen to an unprecedented price. In Paris there will be much suffering during the coming winter if coal remains practically a luxury, as the current prices make it.

Azote.

DIVIDENDS.

Name of Company.	Latest Dividend. Date.	Per share.	Total.	Total to date.
Adams, Colo.	Nov. 15	$ .05	$7,500	$701,000
†Ala. Con. Coal & Ir. pf.	Nov. 20	1.75	42,000	173,250
†Alaska-Mex., Alaska	Oct. 29	.10	18,000	501,031
†Alaska-Treadwell	Oct. 29	.37½	75,000	4,520,000
†Amalgamated C.	Oct. 29	2.00	1,500,000	7,500,000
†Am. Car & F'd'y, com	Nov. 1	.50	.....	.....
†Am. Car & F'd'y, pf.	Nov. 1	1.75	.....	.....
§Am. Steel Casti'g. com	Oct. 31	3.00	64,290	450,030
†Am. Steel Hoop, pf.	Oct. 31	1.75	245,000	1,225,000
†Am. Tin Plate, pf.	Oct. 31	1.75	403,150	2,070,687
Anaconda Cop., Mont.	Oct. 27	2.00	2,400,000	16,950,000
Boston & Mont. Con.	Nov. 20	15.00	2,250,000	20,750,000
*Buffalo Hump. Idaho	Nov. 1	.10	25,000	250,000
Cambria Steel, Pa.	Nov. 15	.50	160,000	1,600,000
*Cariboo-McKin'y, B.C	Oct. 31	.01½	18,750	478,087
†Central Oil	Nov. 1	.37½	22,519	.....
Columbia Lead. Mo.	Oct. 25	.05	2,425	14,550
Con. Mercur, Utah	Nov. 1	.11	110,000	1,591,000
Hecla Con., Mont.	Oct. 25	.05	15,000	2,205,000
*Mammoth, Utah.	Nov. 1	.05	20,000	1,790,000
†National Salt, pf.	Nov. 1	1.75	87,500	525,000
†National Tube, com.	Nov. 15	1.50	600,000	1,200,000
†Phoenix Iron, pf., Pa.	Oct. 31	1.75	.....	.....
†Penna. Coal	Nov. 1	2.00	20,000	19,700,000
*Parrot, Mont	Oct. 29	1.50	344,775	4,393,825
Tenn. C. I. & R.R., com.	Nov. 1	2.00	451,072	1,553,210
Tenn C. I. & R. R., pf.	Nov. 1	2.00	4 960	243,040
Utah, Utah	Oct. 25	.02	2,000	181,000
Warwick Iron & St.	Nov. 10	2.00	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....

* Monthly. † Quarterly. § Semi-annual.

ASSESSMENTS.

Name of Company.	Location.	No	Delinq.	Sale.	Amt.
Belcher	Nev.	66	Nov. 13	Dec. 4	.10
Ben Butler	Utah	6	Nov. 16	Dec. 6	.00¼
Benton Con.	Cal.	.	Nov. 5	.....	.20
Bingham Placer	Utah	...	Oct. 16	Nov. 17	.10
Bullion	Nev.	57	Nov. 15	Dec. 5	.03
California Borax	Cal	...	Nov. 19	.....	.75
Con. Cal. & Va.	Nev.	16	Dec. 10	Dec. 10	.25
Challenge, Con.	Nev.	30	Nov. 20	Dec. 11	.10
Dutch	Utah	2	Oct. 1	Nov. 1	.00½
El Carmen.	Mex.	.	Nov. 5	.....	.03½
Eureka Con. Drift.	Cal.	...	Nov. 13	.....	.01
Fish Springs	Utah	...	Oct. 15	Nov. 3	.01
Goleta, Con	Cal.	2	Oct. 25	Nov. 24	.15
Gould & Curry	Nev.	92	Nov. 8	Nov. 29	.15
Grape Vine Canyon	Cal	3	Oct. 23	Nov. 14	.07
Highland	Utah	4	Oct. 12	Nov. 2	.01
Jefferson	Utah	1	Nov. 20	Dec. 10	.00⅓
Joe Bowers Ext.	Utah	9	Oct. 26	Nov. 15	.01
Lone Star Oil	Cal.	...	Oct. 27	.....	.00½
Mariana Marsicano	Cal.	24	Oct. 23	Nov. 12	.02
Mariposa Com'l & Mg.	Cal.	18	Oct 10	Nov. 8	10.00
Mayflower	Utah	2	Oct. 24	Nov. 15	.0½
Mazeppa	Cal.	2	Nov. 17	.....	.02
Meteor	Utah	..	Oct. 19	Nov. 21	.00½
Nevada	Nev.	.	Sept. 17	Nov. 8	.00½
North Bonanza	Nev.	12	Nov. 1	Nov. 15	.15
Old Colony & Eureka	Utah	1	Nov. 13	Nov. 29	.00¼
Phœnix Silver	Utah	...	Nov. 13	Dec. 13	.00½
Potosi	Nev.	57	Nov. 22	Decc 12	.10
Reward	Cal	...	Nov. 9	.....	.02½
Ridge & Valley.	Utah	1	Nov. 3	Nov. 19	.01
Scorpion	Nev.	8	Oct. 26	Nov. 19	.03
Seg. Belcher & Mides.	Nev.	26	Nov. 7	Nov. 27	03
Shower Con	Utah	2	Oct. 1	Nov. 1	.02
Sierra Nevada	Nev.	120	Nov 20	Dec. 10	.15
Shoebridge Bonanza	Utah	5	Oct. 15	Nov. 6	.008
Sonora	Cal.	...	Oct. 3	Nov. 13	.01
South Bingham	Utah	2	Nov. 1	Nov. 30	.01
Star	Utah	...	Nov. 7	Nov. 28	.02
Tetro	Utah	15	Oct, 17	Nov. 10	.01
Utah Con.	Nev.	34	Oct. 9	Oct. 30	.15
Valeo	Utah	4	Nov. 22	Dec. 15	.20
Wandering Jew.	Utah	5	Nov. 17	Dec. 5	.00½
Yellow Jacket	Nev.	...	Nov. 6	Dec. 19	.10

ANNUAL MEETINGS.

Name of Co.	Locat'n.	Date.	Place of Meeting.
Ala. & Ga. Iron.	Ga.	Nov. 7	71 Broadway, N. Y.
*Dexter	Nev.	Nov. 15	Salt Lake City, Utah
*Holmes	Nev.	Dec. 19	San Francisco, Cal.
*Ludwig Copper.	Nev.	Nov. 7	Gold Hill, Nev.
Tarshish	Colo	Nov. 4	Leadville, Colo.
*Tuscarora	Nev.	Nov. 15	Salt Lake City, Utah

*Special meeting.

STOCK QUOTATIONS.

NEW YORK.

Name of Company.	Location.	Par val.	Oct. 19. H.	Oct. 19. L.	Oct. 20. H.	Oct. 20. L.	Oct. 22. H.	Oct. 22. L.	Oct. 23. H.	Oct. 23. L.	Oct. 24. H.	Oct. 24. L.	Oct. 25. H.	Oct. 25. L.	Sales.
Adams	Colo.	10													
Alamo	Colo.	1									12.50				1,000
Alice	Mont.	25			.50		.52				.50				2,500
†Amalgamated C	Mont.	100	92.00	91.50	92.63	92.38	93.13	92.50	92.00	91.75	92.00	91.25	91.75	91.50	11,500
Anaconda, c.	Mont.	25	47.50	44.00	47.00	46.13	47.50	46.75	46.63	46.13	46.88	46.00	45.50		22,225
Anaconda Gold	Colo.	5								.45					500
Argentum-Jun.	Colo.	2	.28				.29								1,500
Best & Belcher	Nev.	3			.33										200
British Col. Cop.	B. C.	5	12.50	12.38	12.50	12.38	13.00	12.75	13.00	12.75	13.65	13.50	14.25	14.00	700
Brunswick Cons.	Cal.	1					.09	.08¾							20
Bullion	Nev	1					.12								300
Catalpa	Colo.	10							.12						200
Chollar	Nev	3					.26				.20				800
Comstock T.	Nev	100													
" bonds	Nev.	100	.04⅛												2,000
Con. Cal. & Va.	Nev	2½	1.35												300
Creede & C. C.	Colo.	1	.13												500
Cripple Cr. Con	Colo.	1					.13								500
Crown Point	Nev	3					.17				.14				900
Deadwood	S.Dak	25							.50						500
Elkton	Colo.	1							.02½						1,000
Golden Age	Colo.	1													300
Golden Fleece	Colo.	1			.23										
Gould & Curry	Nev	3													
Hale & Norcross	Nev	3													
Hart	Colo.	1													
Homestake	S.Dak	100													
Horn Silver	Utah	20													
Iron Silver	Colo.	20													
Isabella	Colo.	1							.90						200
Jack Pot	Colo.	1					.55		.58						800
Leadville	Colo.	10													
Little Chief	Colo.	1					.17		.17						
Mexican	Nev	3	.50		.40				.41						700
Mollie Gibson	Colo.	5							.26						900
Moulton	Colo.	1													300
Mt. Rosa	Colo.	1													
Occidental	Nev	3													
Ontario	Utah	100													
Ophir	Nev	3	1.10	1.05	.82		.98	.95			.86				1,000
Pharmacist	Colo.	1					.12				.12				2,000
Phoenix	Ariz.	1							.14	.12					1,200
Pinnacle	Colo.	1			.17½		.17		.18						2,500
Plymouth	Cal.	10													
Portland	Colo.	1							3.30						100
Potosi	Nev	3	.25		.24										
Quicksilver pf.	Cal.	100					7.75				7.75				300
Savage	Nev	2½							.30						500
Sierra Nevada	Nev	3													
Small Hopes	Colo.	20													
Standard Con	Cal.	10	576	573											
Syndicate	Cal.	1	.08												800
Tenn. Copper	Tenn.	25	16.50	15.50	16.00	14.50	16.00	14.50	16.00	15.50	16.00	15.50	16.50	15.50	
Union Con	Nev	2½													
Union Copper	N. C.	10	2.88	2.75	3.25	3.00	3.38	3.13	3.38	3.13	3.38	3.13	3.25	3.00	800
Yellow Jacket	Nev	3													

COAL AND INDUSTRIAL STOCKS.

Name of Company.	Location.	Par val.	Oct. 19. H.	Oct. 19. L.	Oct. 20. H.	Oct. 20. L.	Oct. 22. H.	Oct. 22. L.	Oct. 23. H.	Oct. 23. L.	Oct. 24. H.	Oct. 24. L.	Oct. 25. H.	Oct. 25. L.	Sales.
Am. Sm. & Ref.		$100	43¼	43	42⅞	42¼	42⅛	41⅛	41¾	41	42	41	41¾		16,075
" " " " pf		100	91¾	91½	91⅞	91½	92	91	91	90⅝	91¾	91	92		5,831
Am. S. & W. Con		100	35	34⅞	35⅞	34⅝	37¼	36	36¾	35¼	36⅝	35⅝	35⅝		107819
" " " pf'r n		100	75⅝	74¾	75⅞	75	76⅝	75¾	76¼	75½	76	75½	74¾		11,048
Col. Fuel & I.	Colo.	100	37½	36⅝	38¾	37¼	40⅛	39	39⅞	38¾	40⅛	39¾	39⅝		22,680
Col. & H. C. & I.	"	100					16⅜	16	16⅛	16	17⅞	16⅞			2,040
Federal Steel		100	37¼	36⅛	39¾	38⅝	40⅞	39	40¼	39	40⅛	39	39⅛		96,609
" " pf.		100	67⅜	66⅛	68⅜	67¼	69⅜	68⅜	68¾	67¾	69½	68	69		13,660
Fleming'n C. & C	W.Va.	100	24	20	30	20	30	20	30	20	30	20	30	21	
National Lead		100	19¼		19⅛		20⅛	19⅞	20¾	20	20¾	20½	20⅛		3,020
" " pf.		100	93¼		94	93	98	95	99	97	97⅝	97			806
National Salt		100	36	32¼	36¾										45
" " pf.		100							70		71⅛				250
National Tube		100	50⅛	49⅛	52	50¾	55	53¼	54¾	54	55⅞	54	55¼		44,403
" " pf.			94⅞	94⅛	95⅛	95	97¾	95	98⅜	97⅛			98¼		8,171
Republic I. & S.		100	12⅝	12⅜	12¾	12⅛	15⅛	14	15	14½	14⅝	14⅛	15⅞		19,469
" " pf.		100	54		54		57	55	57¾	56¾	57¼	57	57½		7,402
Sloss-Shef		100			18	17⅛	17¾				18½	17⅛			200
" " pf.		100	63⅛	63			64⅛	63½	65	64	65				1,600
Stan. Oil of N. J.		100	576	573	580	575	580	575	585	580	595	590	608	602	150
Tenn C., I.&R.R.		100	57¾	57	59	57½	61	58	60	58½	59½	58⅝	59¾		40,910
Va. Coal & C.		100	5	3⅛	5	3⅛	7	5	8	7	9	7½			200

Total sales, 462,703.

BOSTON, MASS.†

Name of Company.	Par val.	Shares issued.	Oct. 18. H.	Oct. 18. L.	Oct. 19. H.	Oct. 19. L.	Oct. 20. H.	Oct. 20. L.	Oct. 22. H.	Oct. 22. L.	Oct. 23. H.	Oct. 23. L.	Oct. 24. H.	Oct. 24. L.	Sales
Adventure Con.	$25	100,000	6.00		5.25	5.00	5.00				5.00				430
Aetna Con	5	100,000													
Allouez	25	80,000	1.88		2.13	2.00	2.25		2.25		2.25		2.25	2.13	1,920
Amal. Copper	100	750,000	89.75	88.75	91.50	88.75	93.00	92.25	94.63	93.50	93.63	92.00	93.75	91.50	3,420
Am. Z., L. & Sm.	25	60,000							9.00						15
AnacondaCopp'r	25	1,200,000			45.25		46.88		46.75		46.63		47.00	46.00	585
Arcadian, c.	25	150,000	19.00		20.00	18.88	20.50	20.00	20.50	19.50	18.75	18.00	19.00		2,520
Arnold	25	60,000	4.50	4.25	4.88	4.50	4.88	4.50	5.00	4.63			4.50		1,180
Atlantic, c.	25	40,000					25.00	24.00	25.50	25.00	25.50	25.00	25.00		540
Baltic, c.	25	100,000	22.50	22.00	23.00	22.50	23.75	23.00	25.00	23.50	23.75	20.50	24.00	22.88	1,954
Bingham, c. g.	10	190,000	12.25	12.00	12.50	12.25	12.75	12.50	12.75		12.75	12.50	12.63	12.50	2,802
Bonanza Dev.	10	300,000					1.00	.95	1.25	1.13	1.18	1.13			4,000
Boston, q.	10	100,000			3.00										100
Boston & Mont.	25	150,000	338	332	336	332	340	335	‡340	320	320	315	325	315	2,440
Breece	25	200,000			1.88	1.75									150
British Columbia	5	200,000			12.63	12.00							13.50	13.00	1,100
Butte & Bost., c.	10	200,000	63.00		66.50	62.50	69.00	66.50	69.00	67.50	67.00	65.75	67.50	66.50	2,971
Cal. & Hecla, c.	25	100,000	765	763	765		765		770	765	771	770	775		67
Centennial, c.	25	90,000	16.75	16.25	17.75	16.63	18.13	17.75	19.00	18.00	18.00	17.25	18.00	17.50	5,400
‡Cent'l-Eureka	25	100,000	19.63				20.00		20.25	19.75			19.88		335
Cochiti, g.	10	175,000	8.13		8.38	8.25	8.13	7.75	8.50	8.25	8.50	8.00	8.25	8.00	1,055
Copper Range	25	100,000			21.50		22.50	21.75	22.50	22.00	20.75		21.00		1,125
Dominion Coal	100	150,000	39.50		39.00		40.00	39.00	42.00	40.00	40.00		40.75	40.50	1,077
do, pref.	100	30,000	113⅛						114				114	113	71
Dunkin	25	200,000									.15				500
Elm River	12	100,000	4.00		4.25	4.00	4.25	4.00	4.25		4.25	4.00			2,630
Franklin, c.	25	100,600			15.00		15.25	14.75	15.75	14.75	15.25	15.00	15.50	15.00	2,011
I. Royal Con., c.	25	100,000	31.88	31.00	33.88	32.13	34.50	33.75	35.75	35.00	35.50	34.50	36.00	34.50	10,614
Mass Con.	25	100,000	9.75		9.88		9.88	9.50	9.50		10.00		9.75		250
Mayflower	25	100,000	1.50						2.25	1.75	2.50	2.00			1,510
Merced	15	100,000					6.00								225
Michigan	25	100,000			3.25		3.13	3.00	3.25	3.13	3.25	3.00			930
Mohawk, c	25	100,000	18.00	17.75	18.00	17.75	19.50	18.00	21.00	19.00	20.25	19.38			1,712
Mont. C. & C.	25	200,000			6.25		6.13								150
N.E. Gas & Coke	100	160,000	12.63	12.50	13.00		14.00	13.00					14.50	14.00	150
Old Colony	25	100,000					3.00		3.50	3.00	3.00				993
Old Dominion, c	25	150,000	21.50	20.75	22.25	21.50	22.50	22.00	23.00	22.25	22.00		22.50	22.00	6,404
Osceola, c.	25	93,000	71.25	70.25	72.00	71.00	74.00	72.50	74.50	73.00	73.00	72.50	73.50	72.75	2,118
Parrot, s c.	10	229,850	43.63	43.38	45.25	43.50	47.25	45.00	48.00	46.50	47.00	45.50	47.00	45.75	4,638
Pioneer	10	100,000					.20								
Quincy, c.	25	100,000	146		155	148	158	155	158		157	150	153	152	617
Rhode Island	25	100,000	4.00	3.75	4.00		3.75		3.75		4.00		4.00		425
Santa Fe, g. c.	10	250,000	6.50		7.00	6.75	7.13	7.00	7.50	7.00	7.25	7.00	7.25	7.00	1,905
Tamarack, c.	25	80,000	260	259	260	257			260	259	259	258	260	257	255
Trimountain	25	100,000	11.50	11.25	11.25	11.00	11.75	11.25	12.00	11.50	11.75	10.75	11.50		2,069
Union C. L.	25	80,000	1.50		1.75				2.00				2.00		230
UnitedStatesMg.	25	250,000			8.50		9.50	9.13	10.00		9.75		9.50	9.26	970
Utah Con., g. c.	5	300,000	31.00	30.50	32.28		33.50	32.50	34.50	33.00	33.00	32.25	33.75	31.50	12,582
Victor, g.	5	200,000													
Victoria	25	100,000	2.50	2.00			2.50		3.50	2.50	3.00		3.00		1,695
Washington	25	60,000							.50		.50		.50		500
White Knob	100	50,000													
Winona, c.	25	100,000	3.00		3.50	3.00	3.38	3.25	3.75	3.25	3.50	3.00			3,065
‡Wolverine, c.	25	60,000	41.50		42.00	40.50	42.38	42.00	43.00	42.88	43.00	42.00	42.88	42.00	1,452
Wyandot	25	100,000							1.50	1.00			1.25		270

† Official quotations Boston Stock Exchange. ‡Ex-Dividend. Total sales, 97,298 shares.

SALT LAKE CITY, UTAH.

Oct. 20

Stocks.	Shares.	Par val.	Bid.	Asked.	Stocks.	Shares.	Par val.	Bid.	Asked
Ajax	300,000	$10	$0.50½	$0.55	Horn Silver	400,000	$25	$1.15	$1.35
Alice	400,000	25	.40		Joe Bowers	400,000	1	.02¾	.03
Bullion-Beck & Ch.	100,000	10	4.00	5.00	Joe Bowers Ext	700,000	¼		.01
Centennial Eureka	200,000	25			Little Pittsburg	400,000	5		
Chloride Point	500,000	1			Lower Mammoth	150,000	1	.41	.42
Cons. Mercur	100,000	5	4.63	4.77½	Mammoth	400,000	5	2.21	2.22
Daisy	500,000	3	.01	.01⅝	May Day	400,000	¾	.28	.31
Dalton	500,000	5	.05⅜	.06⅞	Northern Light	400,000	5	.03	.06
Dalton & Lark	2,500,000	1	.04¼	.06¾	Ontario	150,000	100	5.50	
Daly	150,000	20	1.57	2.00	Sacramento	1,000,000	5	.33½	.34
Daly-West	150,000	20	19.80	20.00	Showers Cons.	400,000	5	.07	.14
Dexter	200,000	5	1.00	1.08	Silver King	150,000	20		
Eagle & Blue Bell	250,000	1	.53¾	.55	Star Consolidated	500,000	1	.51	.51⅞
Four Aces	250,000	1	.00½		Sunbeam	250,000	1	.38½	.40
Galena	100,000	10			Swansea	100,000	5	3.91	4.10
Geyser-Marion	300,000	5			South Swansea	150,000	1	1.10	1.13¾
Golden Eagle	250,000	1			Utah	100,000	1	.89	.91
Grand Central	250,000	1	5.90	6.05	Valeo	200,000	10	.17½	.20
Homestake			.01	.08	Yankee Consol'd	250,000	0.10	.17¼	.17⅝

TORONTO, ONT.

Name of Company.	Par val.	Oct. 13. B.	Oct. 13. A.	Oct. 15. B.	Oct. 15. A.	Oct. 16. B.	Oct. 16. A.	Oct. 17. B.	Oct. 17. A.	Oct. 18. B.	Oct. 18. A.	Oct. 19. B.	Oct. 19. A.	Sales
Ontario:														
Golden Star	1	.02¼	.02½	.02⅛	.02¾	.02⅛	.02¼	.01¾	.02			.02¼		8,000
Ham Reef	1	.03	.03⅛	.02⅞	.03	.02⅞	.03	.02⅝	.02¾			.02¾		38,800
Olive	1													
British Col.:														
Athabaska	1													
Big Three	1													
Cariboo M'k	1	.70	.77	.70	.80	.70½	.79	.60	.76			.75		
Crow's N. C.	25													
Dardanelles	1	.01	.02¼											
Deer Trail	1	.03⅛	.03¼	.03⅛	.03¼	.03⅛	.03¼	.02⅞	.03⅛			.03⅛		17,500
Eve Star	1	.05	.07	.04	.07	.04	.07	.04	.07			.07		
Fairview	1	.02¾	.03	.02¼	.03	.02⅛	.03	.02⅝	.03			.03		1,000
Iron Mask	1	.25	.35	.30	.32	.29	.34	.25	.32			.32		
Jim Blaine	1	.04	.08	.06	.09	.05	.09	.05	.09			.10		
Knob Hill	1	.45	.54	.38	.48	.44	.45½	.40	.45					
Mont Cristo	1													
Mont & Lon	0.24													
North Star	1	.91	.94	.90	.95	.90	.93	.92	.95			.95		
Payne	1	.91	.95	.93	.96			.91	.96¾			.95		
Princess M.	1	.02	.04	.02	.04	.02	.04	.02	.04			.04		
Rambler	1	.26¼	.26¾	.28¼	.29	.27	.28¼	.27	.28½			.27¼		7,000
Republic	1	.75	.77	.74½	.75¾	.73½	.74½	.74½	.75½			.76¾		2,500
Van Anda	1							.03¼						6,000
Virtue	1	.45	.49	.45	.50	.39	.48	.35	.45					
War Eagle	1	1.46	1.47½	1.41	1.44	1.29½	1.32	1.07	1.15					4,000
Waterloo	0.10	.03¼	.03⅜	.02¾	.03½	.02⅞	.03¼	.02¾	.03½					26,500
White Bear	1	.03⅝	.03¾	.03⅝		.03¼						.03		17,300
Winnipeg	1	.03	.03¾			.03	.04	.03¼				.03	.04	1,500
Develop Co.:														
B.C.G. Field	1			.03⅛	.03¼							.03⅛		6,200
Can. G. F. S.	0.10	.08	.08⅛	.08	.08¾	.08⅞	.09	.08⅜	.09			.08	.08⅝	19,500

Total shares sold, 155,800.

SPOKANE, WASH.

Name of Company.	Par val.	Week Oct. 19. B.	Week Oct. 19. A.	Week Oct. 19. Sales.	Name of Company.	Par val.	Week Oct. 19. B.	Week Oct. 19. A.	Week Oct. 19. Sales.
Crystal		.06	.02¾	10,000	Mountain Lion		.60	.35	
Deer Trail Con.	$1	.03⅛	.03	16,500	Princess Maud	0.10	.02¾	.02	4,000
Evening Star	1	.06½			Quilp	1	.25	.19	
Gold Ledge		.04½	.02½	13,000	Rambler Cariboo	0.25	.28	.25¾	8,000
Jim Blaine	1	.08	.04		Reservation		.07	.05¼	3,000
Lone Pine-Surp. Con.	1	.08⅝	.08	17,191	Sullivan		.16	.14	1,000
Morning Glory	0.10	.09¼	.08¼	29,000	Tom Thumb	1	.23½	.19	1,500

PHILADELPHIA, PA.§

Name of Company.	L'cation.	Par Val.	Oct. 18. H.	Oct. 18. L.	Oct. 19. H.	Oct. 19. L.	Oct. 20. H.	Oct. 20. L.	Oct. 22. H.	Oct. 22. L.	Oct. 23. H.	Oct. 23. L.	Oct. 24. H.	Oct. 24. L.	Sales
Am. Alkali		$50	2.38		2.38	2.25	2.38		2.88	2.38	3.00	2.75	2.88	2.75	12,198
Am. Cement		10	8.00		8.25	7.75			8.00		8.25	8.13	8.50	8.25	1,431
Bethlehem Iron	Pa.	50							56.50		56.50		56.50		67
Bethlehem Steel	"	50	15.38	15.13	15.50		16.00		16.00		16.00	15.75	16.00	15.75	1,127
Cambria Iron	"	50					44.63	44.50	44.63				45.00		55
Cambria Steel	"	50	15.50	15.25	15.63	15.50	16.25	15.75	16.75	16.25	16.75	16.50	16.63	16.50	13,080
Susq. I. & S.	"	10	2.38		2.25				2.38	2.25	2.50	2.38	2.50		2,090
United Gas I.	"	50	114	113⅛	114⅛	114¼	115	114⅛	115¾	114½	115½	115	117	115½	4,143

Total shares sold, 34,191. § Reported by Townsend, Whelen & Co., 309 Walnut St., Philadelphia. †Ex Dividend.

SAN FRANCISCO, CAL.

Name of Company.	Location.	Par value.	Oct. 18.	Oct. 19.	Oct. 20.	Oct. 22.	Oct. 23.	Oct. 24.
Belcher	Nev.	$3.00	.20	.17	.18	.18	.17	.15
Best & Belcher	"	3.00	.40	.36	.40	.30	.29	.27
Caledonia	"	3.00	.42	.41	.40	.40	.38	.33
Challenge Con	"	3.00	.20	.19	.19	.18	.16	.15
Chollar	"	3.00	.24	.23	.23	.20	.17	.15
Confidence	"	3.00	.75	.75	.75	.75	.70	.65
Con. California & Virginia	"	2.50	1.30	1.25	1.25	1.15	1.15	1.10
Crown Point	"	3.00	.15	.14	.14	.13	.12	.12
Gould & Curry	"	3.00	.83	.83	.83	.79	.78	.70
Hale & Norcross	"	3.00	.42	.38	.37	.32	.30	.27
Justice	"	2.00	.07	.06	.05	.04	.04	.04
Mexican	"	3.00	.48	.43	.45	.41	.40	.35
Occidental Con	"	3.00	.10	.09	.09	.09	.08	.08
Ophir	"	3.00	1.00	.87	.93	.90	.89	.86
Potosi	"	3.00	.21	.21	.20	.17	.15	.15
Savage	"	2.50	.33	.33	.33	.26	.25	.20
Sierra Nevada	"	3.00	.38	.32	.33	.29	.28	.26
Standard Con	Cal.	10.00	3.25	3.50	3.50	3.65	4.00	3.75
Union Con	Nev.	2.50	.28	.27	.27	.24	.24	.22
Utah Con	"	1.00	.14	.13	.13	.12	.11	.08
Yellow Jacket	"	3.00	.22	.20	.20	.19	.18	.17

CALIFORNIA OIL STOCKS.*

Name of Company.	No. of shares.	Par Val.	Oct. 4. H.	Oct. 4. L.	Oct. 5. H.	Oct. 5. L.	Oct. 6. H.	Oct. 6. L.	Oct. 8. H.	Oct. 8. L.	Oct. 9. H.	Oct. 9. L.	Oct. 10. H.	Oct. 10. L.	Sales.
Blue Goose	5,000	$100	8.00	6.00	6.50	5.00	5.50	2.50	5.00						3
Buckhorn	16,000	10.00	3.75	3.25	3.75	3.00	3.75		3.75	3.00					
Home	100,000	1.00	4.65	4.55	4.55	4.35	4.35	4.00	4.50	4.50					1,900
Homestake	10,000		14.00	12.50			13.00								
San Joaquin	100,000	1.00	8.60	7.75	8.00	7.63	8.00	7.75	7.75						200
Yukon	100,000	2.50			.63	.61	.65		.63	.60					

* California and Producers Oil Exchanges. Total sales, 2,108 shares.

STOCK QUOTATIONS

COLORADO SPRINGS, COLO.‡

Name of Company.	Par val.	Oct. 13. B.	Oct. 13. A.	Oct. 15. B.	Oct. 15. A.	Oct. 16. B.	Oct. 16. A.	Oct. 17. B.	Oct. 17. A.	Oct. 18. B.	Oct. 18. A.	Oct. 19. B.	Oct. 19. A.	Sales.
Acacia	$1	.38¼	.38⅜	.37⅞	.38	.37½	.38	.37⅝	.38	.38	.38¼	.38¼	.38⅝	16,000
Alamo	1	.12	.12¼	.12	.12⅜	.12	.12¼	.12	.12¼	.12	.12¼	.12	.12¼	1,000
Am. Con	1	.06¼	.06½	.06¼	.06½	.06	.06½	.06⅝	.06⅝	.06⅜	.07	.06½	.06⅞	2,000
Anaconda	1	.41	.44	.40	.42	.40½	.42	.42	.44	.42	.44	.43	......	9,000
Anchor	1	.02½	.03	.02⅜	......	.02½	.03	.02⅜	.02⅝	.02¼	.03	.02⅝	.03¼	......
Anchoria L	1	......	......	......	......	......	......	......	......	......	......	......	......	......
Antelope	1	.02½	......	.02½	.02¾	.02½	......	.02½	......	.02½	.02⅝	.02½	.02⅝	3,500
Aola	1	.05	.05¼	.05	.05½	.05	......	.05	.05½	.05	......	.05	.05⅝	2,000
Arcadian	1	.04½	......	.04½	.05	.04½	......	.04½	.05	.05	......	.05	.06	3,000
Arg'ntum J	1	.26¾	.27	.27	.27⅜	.27	.28	.26	.28	.27	.28	.27	.28	14,000
Banner	1	.03¼	......	.03¼	.03⅜	.03	......	.03⅝	.03¾	.03¼	......	.03½	......	2,000
Battle Mt.C	1	.24	......	.24	......	.24⅝	.25	.24½	.25	.25	.25½	.25	.27	4,000
Ben Hur	1	......	.08¾	......	.08¾	.08½	.08⅝	.08⅝	.08¾	.08¼	.08½	.08	.08½	2,000
Black Bell	1	.10	......	.10¼	.11½	.10⅛	......	.10	......	.10	......	.10	.12	4,000
Blue Bell	1	.14¼	.14¾	.14	.14⅝	.14⅞	......	.14⅞	.15	.14⅝	.14¾	.14	.14⅜	113,000
Bob Lee	1	.04⅛	.04¼	.04⅛	.04¼	.04¼	.04⅜	.04⅜	.04¾	.04¼	.04½	.04⅜	.04½	11,000
Buckhorn	1	.06½	06.5⅝	.06½	.06¾	.06⅜	.06¾	......	......	......	......	.06	......	3,000
Cadillac	1	.02	.02½	.02¼	.02½	.02⅛	.02½	.02⅛	.02½	.02¼	.02½	.02¼	.02½	1,000
Central C'n	1	.09¼	.09½	.09¼	.09½	.09⅞	.10	.09¾	.09⅞	.09⅜	.09½	.09⅜	.09½	98,000
Champion	1	.07⅜	......	.07	......	.07	.07¼	......	......	.07	.07½	.07	.07¼	9,000
Chicolo	1	.02⅜	.02½	.02½	.02⅝	.02½	.02¾	.02½	.02¾	.02½	.02⅝	.02½	.02⅝	6,000
C. K. & N.	1	.02⅜	.02⅝	.02¼	.02½	.02¼	......	.02⅝	......	.02⅜	.02½	.02½	.02⅝	2,000
C. C.Col'bia	1	.10⅜	.10¾	.10⅜	.10¾	.10⅜	.10½	.10¼	.10½	.10¾	.10⅞	.10⅞	.11	58,000
C. C. G. Ext	1	.17⅛	......	.17⅛	.17¼	.15⅞	.17	.16¾	.17¼	.17⅛	.17¼	.16⅞	.17¼	33,000
C. C. & Man	1	.10	.10⅜	.10¼	.10½	.10¼	.10½	.10¼	......	.02⅜	.02½	.10¼	.10½	23,500
Copper Mt.	1	.04	.04⅛	.04	.04¼	.04⅛	.04⅜	.04⅛	.04¼	.04⅛	.04½	.04⅛	. 4⅜	1,000
Creede & CC	1	......	......	......	......	.14½	.14⅝	.14¾	.15	......	.15	.14	.15	1,000
C. C. Con	1	.12	.12¼	.12½	.13	.12¾	.12⅞	.13	......	.13⅞	.14¼	.13¼	.14	4,500
Dante	1	.09¼	.09½	.09¼	.09⅜	.09⅜	.09⅜	.09½	.09⅝	.09⅝	.10	.09⅝	.10	5,500
Des Moines	1	.05½	.06	.05½	.06	.05⅜	.06	.05¾	.06	.06⅛	.06⅛	.05⅝	.06⅝	11,000
Eclipse	1	.09½	.09⅞	.09½	.10	.09⅜	.09¾	.09	.09⅝	.09¼	.09½	.09	.09½	5,000
Elkton Con	1	1.71½	......	1.75	1.75⅜	1.77¼	1.77½	1.77⅛	1.77⅜	1.78	1.79	1.78	1.78½	41,010
El Paso G.	1	.41	.42	.41	.41½	.41	.42	.41	.42	.41¼	.42	.41	.41¾	5,000
Enterprise	1	......	.19	......	.19	......	......	......	.19	......	.19	......	.18	1,000
F. Rawlings	1	.22	.26	.21	.26	.22	.25	.22⅛	......	.22	......	.22	.26	1,500
Findley	1	.15⅜	.15½	.15⅛	.15⅜	.15⅛	.15⅜	.15⅛	.15⅜	.15	.15½	.15	.15⅜	22,700
Garf. Conn.	1	.07	......	......	......	.07	......	......	......	.07	......	.07	......	......
Golden Fl.	1	.40	.24	......	......	......	.25	......	.25	......	.25	......	.25	......
Gold Hill	1	.03⅛	.03¼	.03⅛	.03¼	.03⅛	.03¼	.03	.03¼	.03	.03⅛	.03	.03⅛	18,500
Gold Sov'n.	1	.07⅝	.07¾	.07¾	......	.07⅝	.07¾	.07½	.07¾	.07⅝	.07¾	.07¾	.07⅞	11,000
Hayden	1	.01⅞	.02⅛	.01⅞	.02	.01⅞	.02	.01⅞	.02	.01⅞	.02	.01⅞	.02	......
Ida May	1	.25	.26½	.25	.26	.25	......	.25	.25½	.25	......	.26	.27	1,000
Indep'ndce	1	......	......	......	......	......	......	......	......	......	......	......	......	......
Ing. Con.	½	.18¾	.19¼	.19	.20	......	.19½	.19	.19½	.19⅜	.19⅞	.19¾	.20	5,500
Isabella	1	.87	.88	.88	.89	.88	.88½	.88½	.88¾	.89	.89⅛	.89	.89⅜	13,000
Jack Pot	1	.52	.53	.53½	.54½	.53½	.56	.57	.58	.55½	.57	.57½	.58½	13,100
Josephine	1	.01⅞	.02	......	......	.01⅞	.02	.01⅞	.02	.01¾	.02	......	......	4,000
Key West	1	.03	.03¼	.02⅞	.03⅛	.02⅞	.03¼	......	.03¼	.02¾	.03	.02⅞	.03⅛	3,000
Lexington	1	.13¾	.14	.13⅝	.14	.13⅝	.13¾	.13¾	.13⅞	.13⅝	.14	.13½	.13¾	18,000
Magnet R.	1	.03¾	.03⅞	.03¾	.03⅞	.03⅝	.03⅞	.03⅝	.03⅞	.03⅝	.03⅜	.03¾	.03⅞	......
Margaret	1	.02¼	......	......	......	......	.02½	.02¼	......	.02¼	.02½	.02¼	.02½	2,000
Margery	1	.02½	......	.03	......	.03	......	......	......	......	......	.02⅝	......	......
Matoa	1	.17½	.18	.17	.18	.17	.18	.17	.18	.17½	.17¾	.17	.17¾	4,750
Midway	1	.05¼	.05⅝	.05¼	.05¾	.05⅛	.05⅜	.05⅛	.05⅜	.05¼	.05½	.05¼	.05½	3,000
M. J. T.	1	.03¼	.03¾	.03¼	.03½	.03¼	.03½	.03¼	.03½	.03¼	.03½	.03¼	.03½	......
Mobile	1	.03¼	.03½	.03¼	.03½	.03¼	.03½	.03⅛	.03⅜	.03⅛	.03⅜	.03⅛	.03¼	5,000
Moll. Dwyer	1	.05⅜	.05½	.05½	.05⅝	.05½	.05⅝	.05½	.05⅝	.05½	.05⅝	.05½	.05⅝	53,300
Mollie Gib.	1	......	.26	......	.28	......	.26	......	.26	......	.26	.24	.25¼	......
Monarch	1	......	......	.09	.09⅜	.09	.09¼	.08¾	.09⅜	.09	.09¼	.08⅞	.09⅛	......
Montreal	1	.04	......	.04	.05⅛	.04	.05⅛	.04¼	.06	.04	.05	.04	.05⅛	......
Moon-A'c'r	1	.35	......	.35	......	.35	......	......	......	.30	......	.30	.38	200
Morning S.	1	.04	.04⅜	.04¼	.04½	.04¼	.04½	.04¼	.04½	.04¼	.04¾	.04¼	.04½	7,000
Mtn. Beauty	1	.07¾	.07⅞	.07⅞	.08	.07⅞	.08	.07¾	.07⅞	.07¾	.08	.07¾	.08	17,000
Mt. Rosa	1	.50	.56	......	......	.50	.55	.50	......	.55	......	.50	......	......
National	1	.08	.08¼	.07⅞	.08	.07⅞	.08	.08⅛	.08¼	.08¼	.08⅜	.08⅜	.08½	74,000
Nellie V.	1	.07⅞	.08	.07¾	.08	.07½	.07¾	.06¾	.07	.07⅛	.07¼	.07⅛	......	27,000
New Haven	1	.07⅞	.08	.07⅞	.08	.08	.08⅛	.08	.08⅛	.08	.08⅛	.08⅛	.08¼	34,000
Olive B'nch	1	.04¾	.05	.04¾	.04⅞	.04¾	.05¼	.04⅞	.05⅛	.04⅞	.05⅛	.04⅞	.05	7,000
Oriole	1	.04⅜	.04½	.04¼	.04½	.04¼	.04⅜	.04¼	.04⅝	.04⅛	.04⅝	.04¼	.04⅝	4,000
Orphan	1	.16	.17	.16⅜	.16⅜	.16½	.17	.16	.17	.16	.17	.16½	.17	......
Pelican	1	.02¼	......	.02½	......	.02⅝	......	.02⅝	......	.02⅝	.03	.02⅝	.02⅞	......
Pharmacist	1	.11¾	.12	.11⅞	.12	.11¾	.12	.11¾	.12¼	.11⅜	.11½	.11¾	.12	9,000
Pilgrim	1	.09	.10	.09	.10	.09	.10	.09	.10	......	.09¾	.09	.10	1,000
Pinnacle	1	.16½	......	.16½	......	.16½	.17¼	.16⅜	.17	.16	.16½	.16	......	5,000
Portland	1	3.25	3.35	3.30	3.35	3.30	3.36	3.25	3.35	3.25	3.35	3.25	3.40	......
Prince Alb.	1	.04¾	.05	.04⅞	.05	.05	.05⅛	.05	.05⅛	.04⅞	.05⅛	.04⅞	.05	17,000
Princess	1	.05¼	.05¾	.05¼	.05¾	.05¼	.05¾	......	.05¾	.05¼	.05¾	.05¼	.05¾	1,000
Progress	1	.05⅞	.06	.05¾	.06	.05⅞	.06	.05⅜	......	.05⅞	.06	.05⅞	.06	18,500
Pythias	1	.04½	.04¾	.04½	.04¾	.04½	.04¾	.04½	......	.04½	.04¾	.04⅝	.04¾	1,000
Republic	1	.06⅝	.06⅞	.06¾	.06⅞	.06¾	.06⅞	.06⅝	.06¾	.06⅝	.06½	.06½	.06¾	18,500
Rob't Burns	1	.05	.05¼	.05	.05¼	.05	.05¼	.05⅛	.05⅛	.05⅛	.05⅜	.05⅛	.05¼	9,500
Rose Maud.	1	.07½	.07⅞	.07½	.07⅞	.07⅝	.08	.07⅝	.07¾	.07½	.08	.07⅝	.08	5,000
Rose Nicol.	1	.10¾	......	.10½	......	.10¾	......	.10½	......	.10½	......	.10¼	.10¾	......
Sliver Gold	1	.01⅞	.02¼	.02⅛	.02¼	.02⅛	.02⅜	.02⅛	.02⅜	.02⅛	.02⅜	.02⅛	.02⅜	6,000
Specimen	1	......	......	......	......	......	......	......	......	......	......	......	......	......
Theresa	1	.06½	.06¾	.06⅛	.06¼	.06½	.06⅝	.06½	.06¾	.06¼	......	.06¼	.06½	2,000
Trachyte	1	.05½	.06⅝	.06	.07	.05¾	.06¼	......	......	......	.06¾	......	.07	......
Uncle Sam.	1	.04⅛	.04½	.04	.04⅜	.04⅛	.04½	.04⅛	.04½	.04⅛	.04½	.04⅛	.04½	......
Union	1	......	......	.09	......	......	......	.09	......	.11	.15	......	......	......
Va. M.	1	.09	.09⅞	.09	.10	......	.10	.09½	.10	......	.10	......	.10	......
Vindicator	1	1.20	1.30	1.25½	1.30	1.26	1.30	1.31	1.35	1.32	1.34	1.32	1.40	4,100
Work	1	.22¾	.23½	.23	.23½	.23⅜	.24	.24	.25	.24	.25	.24½	......	6,000
Zenobia	1	.12	.13	.12	.13	.12	.13	.12	.13	.12	.13	.12	.13	......

‡ Colorado Springs Mining Stock Exchange. Total sales, 936,850 shares.

MONTREAL, CANADA.*

Name of Company.	Par val.	Week, Oct. 22. H.	L.	Sales.	Name of Company.	Par val.	Week, Oct. 22. H.	L.	Sales.
Big Three	$1	.02	.01½	....	Montreal G. F.	$1	.03½	.02	....
California	1	.08	.04	....	Montreal-London	0.24	.10	.08	20,900
Can. Gold Fields	0.10	.09	.07½	2,000	Okanogan	......	......	......	....
Decca	1	......	......	....	Oregon	1	.18½	......	500
Deer Trail Con	1	.03¼	.02	6,000	Payne	1	.98	.85	....
Evening Star	1	.07½	.04	....	Rambler-Cariboo	1	.35	.20	....
Golden Star	1	.05	.01½	....	Republic Con.	1	.79	.72	2,000
Gold Hills Dev.	1	.03	.01	....	Slocan-Sovereign	1	.11	.06	2,300
Knob Hill	1	.50	.30	....	Virtue	1	.48	.39	10,000
Monte Christo	1	.03	......	....	War Eagle	1	1.30	.95	3,300

* Montreal Stock Exchange. Total sales, 47,000 shares.

MEXICO. Oct. 12.

Name of Company.	No. of shares.	Last div'd.	Prices. Op'g.	Cl'g.	Name of Company.	No. of shares.	Last div'd	Prices. Op'g.	Cl'g.
Durango:					Hidalgo:				
Barradon y Cab	2,400	....	$40	$30	Real del Monte	2,554	10.00	600	550
Candelaria de Pan	1,200	....	20	20	San Francisco Hc.	6,000	1.00	100	90
Capuzaya Guan	2,400	....	15	12	Soledad	960	5.00	270	230
Restauradora	10,000	....	10	20	Sorpresa	960	7.50	290	210
Guanajuato.					Union Hacienda	2,000	5.00	235	240
Angustias	2,400	5.00	120	115	Mexico:				
Cinco Senores y An.	2,000	15.00	270	260	Coronas	500	......	75	75
Guadalupe Hacie'a.	10,000	2.00	205	200	Esperanza y An	3,000	10.00	1,030	1,000
Trinidad, aviadora	2,000	....	6	7	Michoacan:				
do. aviada	400	....	7	10	Luz de Borda ava.	4,000	......	16	26
Zona Minera de Poz	2,400	....	6	8	S. Luis Potosi:				
Hidalgo:					Concep. y An	2,400	......	275	260
Amistad y Concord.	9,600	1.47	19	20	Zacatecas:				
Arevalo	720	....	200	200	Asturiana y An	2,500	10.00	90	120
Bartolome de Med	2,000	2.00	65	70	Cabezon	2,400	......	15	10
Carmen	1,100	7.75	200	150	C'delar de Pinos	2,500	......	250	220
Luz Ca Maravillas	800	....	120	100	Palma de Somb	2,400	......	40	30
Pabellon	800	27.89	20	10					

DENVER, COLO.‡

Name of Company.	Par val.	Oct. 13 B.	Oct. 13 A.	Oct. 15. B.	Oct. 15. A.	Oct. 16. B.	Oct. 16. A.	Oct. 17. B.	Oct. 17. A.	Oct. 18. B.	Oct. 18. A.	Oct. 19. B.	Oct. 19. A.	Sales.
Alamo	1	......	......	......	......	.12½	.12½	.12	......	.12	.12⅜	.12	.12⅜	9,000
Anaconda	1	......	......	......	......	......	......	......	......	......	......	......	......	....
Arg. J	5	......	......	.26¼	.27	......	......	......	......	......	......	......	......	....
Dictator	1	.01⅜	.02¼	.01¾	......	.02¼	.02⅜	.02¼	.02⅜	.02¼	.02½	.02¼	.02½	6,000
Elkton	1	1.71	......	......	......	1.77½	1.78	......	......	1.77	......	1.77¼	1.75	1,500
Findley	1	......	......	......	......	......	......	......	......	......	......	......	......	....
Ironclad	1	.05	......	.05⅜	.05⅝	......	.05¾	.05⅜	......	......	......	.05⅝	.05⅞	3,500
Isabella	1	......	......	.87½	.88½	.88	.89	.88½	......	......	.89½	.88⅝	.89	6,000
Magnet R'k	1	.03⅜	.04	.03⅝	.03⅞	.03⅝	.03⅞	.03⅝	.03⅞	.03⅝	.03⅞	......	......	....
New Haven	1	.07⅞	.08⅛	.07⅞	.08¼	.07⅞	.08¼	.08	.08¼	.07⅞	.08	.08	.08¼	....
New Zeal'd	1	......	......	.44	......	.47⅛	......	......	......	.44⅞	......	.55	......	....
Pharmacist	1	......	......	......	......	.11¾	.12⅜	.11⅝	.12½	......	......	.11¾	.12	2,000
Puritan	1	.008½	.009½	.008½	......	.008½	.009	.008½	.009½	.009	.009½	.009	.009½	84,000
Republic	1	.06⅝	.06⅞	.06⅝	.07	.06⅝	.06⅞	.06¾	.06⅞	......	.06¾	.06½	.06¾	12,000
Work	1	.22½	.23½	......	......	.23⅛	.23½	.23⅞	......	.24⅛	......	.24⅜	......	10,000

‡ Official Quotations Denver Stock Exchange. Total sales, 134,000 shares.

PARIS. Oct. 4.

Name of Company.	Country.	Product.	Capital Stock.	Par value.	Latest divs.	Prices. Opening.	Closing.
			Francs.	Fr.	Fr.	Fr.	Fr.
Acieries de Creusot	France	Steel mfrs.	27,000,000	2,000	85.00	1,795.00	1,770.00
" " Firminy	"	" "	3,000,000	500	175.00	3,700.00	3,675.00
" " Fives-Lille	"	" "	12,000,000	500	....	530.00	528.00
" " Huta-Bank	Russia	Iron & steel.	....	500	....	4,500.00	4,500.00
" " la Marine	France	Steel mfrs.	20,000,000	500	60.00	1,675.00	1,599.00
Anzin	"	Coal	....	....	260.00	6,725.00	6,700.00
Boleo	Lower Cal.	Copper	....	500	176.00	2,690.00	2,690.00
Briansk	Russia	Coal & iron.	....	500	....	758.75	758.75
Champ d'Or	S. Africa	Gold	3,375,000	25	3.75	39.50	38.25
Courrieres	France	Coal	600,000	300	90.00	2,949.00	2,850.00
Dombrowa	Russia	"	....	500	12.50	1,020.00	1,025.00
Donetz	"	Steel	....	....	....	880.00	880.00
Dynamite Centrale	France	Explosives.	....	500	22.50	437.00	437.00
Escombrera-Bleyberg	Spain	Lead	....	500	70.00	1,229.50	1,220.00
Fraser River	Brit. Col'mb.	Gold	250,000	25	....	9.00	9.00
Huanchaca	Bolivia	Silver	40,000,000	125	5.00	119.00	149.50
Laurium	Greece	Zinc & lead.	16,300,000	500	30.00	500.00	509.00
Malfidano	Italy	Zinc	12,500,000	500	50.00	1,173.00	1,144.00
Metaux, Cie. Fran. de	France	Metal d'lers.	25,000,000	500	10.00	526.00	530.00
Mokta-el-Hadid	Algeria	Iron	18,312,500	500	35.00	1,152.00	1,120.00
Napthe Baku	Russia	Petroleum	....	....	....	777.50	774.75
Napthe Nobel	"	"	....	....	....	622.50	605.00
" " parts	"	"	....	....	....	12,450.00	12,150.00
Nickel	N. Caled'nia	Nickel	10,000,000	250	17.50	510.00	505.00
Penarroya	Spain	Coal, etc.	....	500	100.00	2,785.00	2,625.00
Rebecca	Colo'do, U.S.	Gold	5,000,000	25	....	4.00	3.50
Salines de l'Est	France	Salt	....	500	5.00	212.00	220.00
Salines du Midi	"	"	....	500	25.00	910.00	915.00
Vielle Montagne	Belgium	Zinc	9,000,000	80	36.00	740.00	740.00

LONDON. Oct. 11.

Name of Company.	Country.	Authorized capital.	Par value. £ s. d.	Last dividend. Amt. s. d.	Date.	Quotations. Buyers £ s. d.	Sellers £ s. d.
Alaska Goldfields	Alaska	£300,000	1 0 0	2 1	Mar., 1899	16 3	18 9
Alaska-Mexican, g.	"	200,000	1 0 0	0 4.8	Aug., 1900	15 0	1 0 0
Alaska-Treadwell, g.	"	1,000,000	5 0 0	1 6	" "	4 15 0	5 5 0
Anaconda, c., s.	Montana	6,000,000	5 0 0	8 2	Oct., 1900	9 2 6	9 5 0
De Lamar, g., s.	Idaho	400,000	1 0 0	0 6	May, 1900	4 0	5 0
El Oro	Mexico	1,000,000	1 0 0	1 0	Aug., 1900	1 3 9	1 6 3
Golden Gate, g.	California	80,000	1 0 0	......	....	1 0	2 0
Grand Central, g., s.	Mexico	300,000	1 0 0	2 0	Jan., 1900	10 0	12 6
Hall Sm. & Mg., c., s.	British Col.	250,000	1 0 0	1 0	May, 1899	1 0	1 6
Le Roi, g.	" "	1,000,000	5 0 0	5 0	Nov., 1899	8 2 6	8 5 0
Lillie, g.	Colorado	250,000	1 0 0	2½	Apr., 1900	7 6	12 6
Montana, g., s.	Montana	660,000	1 0 0	6	Apr., 1899	3 0	3 6
Mountain Copper	California	1,250,000	5 0 0	9 0	Oct., 1900	5 10 0	5 15 0
Newfoundland, c.	Newfoundland	250,000	1 0 0	......	....	2 6	5 0
Palmarejo & Mexican, g.	Mexico	700,000	1 0 0	......	....	2 3	3 3
Stratton's Independence	Colorado	1,100,000	1 0 0	2 0	June, 1900	2 13 9	2 16 3
Copiapo, c.	Chile	200,000	2 0 0	4 0	July, 1900	3 17 6	4 2 6
Frontino & Bolivia, g.	Colombia	140,000	1 0 0	1 6	Oct., 1899	1 17 6	2 0 0
St. John del Rey, g.	Brazil	600,000	1 0 0	1 6	July, 1900	1 5 0	1 6 3
Utah Con., g. (Highl'nd Boy)	Utah	300,000	1 0 0	rts.	Mar., 1898	6 5 0	6 10 0
Velvet, g.	British Col'mbia	100,000	1 0 0	......	....	1 6 3	1 8 9
Ymir, g.	"	200,000	1 0 0	1 0	Nov., 1899	1 13 9	1 16 3
British Am. Corp.	"	1,500,000	1 0 0	2 0	Mar., 1900	17 3	17 9
Linares, l.	Spain	45,000	3 0 0	14 0	Sept. "	9 10 0	10 10 0
Mason & Barry, c., sul.	Portugal	420,000	2 0 0	10 0	May, 1900	3 17 6	4 2 6
Rio Tinto, c.	Spain	1,625,000	5 0 0	40 0	Nov., "	58 17 6	59 2 6
" " pref.	"	1,625,000	5 0 0	2 6	" "	6 2 6	6 7 6
Tharsis, c.	"	1,250,000	2 0 0	15 0	Apr., 1900	8 17 6	9 2 6
Assoc. Gold Mines.	W. Australia	500,000	1 0 0	1 6	Jan., 1900	3 5 0	3 7 6
Broken Hill Prop., s.	N. S. Wales	384,000	8 0	1 6	Nov., 1900	2 11 6	2 12 6
Great Boulder Prop.	W. Australia	175,000	2 0	6	Aug., 1900	1 18 9	1 19 3
Hannan's Brownhill, g.	"	140,000	1 0 0	7 6	Oct., 1900	4 16 3	4 18 9
Ivanhoe Gold Corp.	"	1,000,000	5 0 0	5 0	July, 1900	9 15 0	9 17 6
Kalgurlie, g.	"	120,000	1 0 0	rts.	Oct., 1899	5 10 0	5 12 6
Lake View Consols, g.	"	250,000	1 0 0	5 0	Aug., 1900	11 15 0	11 17 6
Mt. Lyell M. & R., l., c.	Tasmania	900,000	3 0 0	2 0	Oct., 1900	7 7 6	7 12 6
Mt. Morgan, g.	Queensland	1,000,000	1 0 0	7	Sept., 1900	5 1 3	5 3 9
Waihi, g.	New Zealand	320,000	1 0 0	2 6	Sept., 1900	10 18 9	11 1 3
Champion Reef, g.	Colar Fields	220,000	10 0	4 0	Sept., 1900	5 13 9	5 16 3
Mysore Gold, g.	"	250,300	10 0	4 0	July, 1900	5 18 9	6 1 3
Nundyroog, g.	"	242,000	1 0 0	2 0	" "	3 6 3	3 8 9
Ooregum, g.	"	145,000	1 0 0	3 6	Aug., 1900	3 16 3	3 18 9
" pref. g.	"	120,000	1 0 0	3 6	" "	4 16 3	4 18 9
British S. Africa, chartered	So. Africa	5,000,000	1 0 0	rts.	May, 1899	3 7 6	3 10 0
Cape Copper, c.	"	600,000	1 0 0	5 0	July, 1900	6 2 6	6 7 6
" pref.	"	150,000	2 0 0	5 0	" "	5 7 6	5 12 6
City & Suburban (New), g.	Transvaal	1,360,000	4 0 0	8 0	Aug., 1899	5 11 3	5 13 9
Con. Deep Level, g.	"	200,000	1 0 0	x all	June, 1898	1 2 6	1 7 6
Crown Reef, g.	"	120,000	1 0 0	18 0	Nov., 1899	15 5 0	15 15 0
De Beers Con., d.	Cape Colony	3,950,000	5 0 0	£1	Sept., 1899	28 5 0	28 10 0
Ferreira, g.	Transvaal	90,000	1 0 0	30 0	Aug., 1899	21 15 0	22 5 0
Geldenhuis Deep, g.	"	350,000	1 0 0	8 0	" "	10 0 0	10 10 0
Geldenhuis Est., g.	"	200,000	1 0 0	10 0	" "	6 15 0	6 17 6
Henry Nourse, g.	"	125,000	1 0 0	10 0	Apr., 1900	8 17 6	9 0 0
Jagersfontein, d.	Orange Fr. St.	1,000,000	5 0 0	6 0	Sept., 1900	16 12 6	16 17 6
Johannesburg Con. Invet.	So. Africa	2,750,000	1 0 0	2 0	Aug., 1899	2 1 3	2 2 6
Jubilee, g.	Transvaal	50,000	1 0 0	5 0	Sept., 1899	5 0 0	6 5 0
Langlaagte Estate, g.	"	470,000	1 0 0	3 0	Aug., 1899	3 10 0	6 12 6
May Con., g.	"	290,000	1 0 0	6 0	July, 1899	4 8 9	4 11 3
Meyer & Charlton, g.	"	100,000	1 0 0	8 0	June, 1899	5 7 6	5 12 6
Namaqua, c.	Cape Colony	200,000	2 0 0	12 0	Aug., 1899	4 17 6	5 0 0
Primrose (New), g.	Transvaal	300,000	1 0 0	6 0	" "	4 1 3	4 3 9
Rand Mines, g.	So. Africa	490,000	1 0 0	15 0	" "	41 6 3	41 8 9
Robinson, g.	Transvaal	2,750,000	5 0 0	8 0	....	9 0 0	9 5 0
Sheba, g.	"	1,100,000	1 0 0	0 6	July, 1898	1 1 3	1 3 9
Sim. & Jack Prop., g.	"	5,000,000	5 0 0	4 0	July, 1899	6 7 6	6 10 0
Wolhuter, g.	"	850,000	4 0 0	2 0	Feb., 1899	4 15 0	4 17 6

DIVIDENDS.

GOLD, SILVER, COPPER, ZINC, LEAD AND QUICKSILVER COMPANIES.

Number.	Name and Location of Company		Authorized Capital Stock.	Shares Issu'd No.	Par Val	Dividends. Paid, 1900.	Total to Date.	Latest. Date.	Amt.
1	Acacia, g.	Colo.	$1,500,000	1,500,000	$1	$30,000	$30,000	Sept.. 1900	.01
2	Adams, s.l.c.	Colo..	1,500,000	150,000	10	7,500	701,000	Nov.. 1900	.05
3	Etna Con..q.	Cal ..	500,000	100,000	5	30,000	225,000	April. 1900	.15
4	Alaska-Mexican, g.	Alask	1,000,000	180,000	5	72,000	501,037	Oct.. 1900	.10
5	Alaska-Treadwell, g.	Alask	5,000,000	200,000	25	300,000	4,520,000	Oct.. 1900	.37½
6	Alliance, g.	Colo..	500,000	450,000	1	.....	31,500	Dec.. 1899	.07
7	Amalgamated, c.	Mont.	75,000,000	750,000	100	6,000,000	7,500,000	Oct.. 1900	2.00
8	Amanda, g.	Colo..	1,000,000	1,000,000	1	10,000	10,000	June. 1900	.01
9	Amazon, g.	Colo..	600,000	600,000	1	102,000	121,882	May.. 1900	.10
10	American, g. s. c. l.	Colo..	3,000,000	300,000	10	.....	446,000	Dec.. 1899	.04
11	Amer. Sm & Ref.. pref..	U. S.	32,500,000	325,000	100	2,113,803	2,682,553	Oct.. 1900	1.75
12	Am. Zinc, Lead & Sm.	Mo..	2,500,000	60,000	25	60,000	180,000	Jan.. 1900	1.00
13	Anaconda, c.	Mont.	30,000,000	1,200,000	25	4,800,000	16,950,000	Oct.. 1900	2.00
14	Anchoria-Leland, g.	Colo..	600,000	600,000	1	.....	198,000	April. 1899	.03
15	Anglo-Mexican, g.	Mex..	2,001,625	400,230	5	.....	1,825,048	Dec.. 1899	.24
16	Apollo Con., g	Alask	1,000,000	100,000	10	70,000	210,000	Jan.. 1900	.07
17	Argonaut, g.	Cal..	2,000,000	200,000	10	70,000	490,000	May.. 1900	.05
18	Arizona, c.	Ariz..	3,190,550	.....	...	576,429	1,464,848	Sept.. 1900	.84
19	Associated, g.	Colo..	1,250,000	1,250,000	1	.....	84,000	Feb.. 1899	.01
20	Atlantic, c.	Mich.	1,000,000	40,000	25	80,000	860,000	Feb.. 1900	2.00
21	Bald Butte, g. s.	Mont.	250,000	250,000	1	67,500	837,148	Aug.. 1900	.03
22	Boston-Aurora, pref.	Mo..	800,000	32,000	25	37,120	66,160	May.. 1900	.50
23	Boston & California.	Cal ..	600,000	600,000	1	.....	72,000	June. 1899	.06
24	Boston & Colo. Smelting	Colo..	750,000	15,000	50	45,000	315,000	Oct.. 1900	.75
25	Boston Duenweg, z.	Mo..	1,000,000	40,000	10	24,000	56,900	June.. 1900	.10
26	Boston Get There, z.	Mo..	250,000	22,500	10	9,000	20,250	April. 1900	.10
27	Boston Gold-Copper Sm.	Colo..	1,000,000	1,000,000	1	25,000	25,000	Aug.. 1900	.02½
28	Boston-Little Circle, z.	Mo-K.	1,000,000	100,000	10	12,500	87,500	Mar.. 1900	.12½
29	Boston&Mont.Con.,c.s.g	Mont.	3,750,000	150,000	25	6,450,000	20,975,000	Nov.. 1900	15.00
30	Boston Phila., z. l.	Kas..	200,000	20,000	10	2,000	2,000	May . 1900	.10
31	Boston Providence, z., pf	Mo..	150,000	15,000	10	6,000	17,242	Aug.. 1900	.05
32	Boston, q.	Cal..	1,000,000	100,000	10	10,000	20,000	Jan.. 1900	.10
33	Boston Springfield, z.	Mo..	500,000	20,000	25	15,000	15,000	June. 1900	.25
34	Boston Sunflower, z.	Mo..	150,000	15,000	10	.....	4,500	Oct.. 1899	.30
35	Breece.	Colo..	5,000,000	200,000	25	20,000	90,000	Sept . 1900	.05
36	Buffalo Hump, g. s. l.	Idaho	3,000,000	250,000	10	250,000	250,000	Nov.. 1900	.10
37	Bullion-Beck & Champ.	Utah.	1,000,000	100,000	10	60,000	2,498,400	June. 1900	.10
38	Bunker Hill & Sullivan.	Idaho	3,000,000	300,000	10	210,000	1,011,090	Oct.. 1900	.07
39	Calumet & Hecla, c.	Mich.	2,500,000	100,000	25	5,000,000	71,850,000	Sept.. 1900	20.00
40	Cariboo-McKinney, g.	B.Col	1,250,000	1,250,000	1	86,500	478,087	Oct.. 1900	.01½
41	Centen'l-Eureka, g.s.l.c.	Utah.	5,000,000	100,000	25	267,700	2,417,700	Oct.. 1900	.50
42	Center Creek, l. z.	Mo..	1,000,000	100,000	10	10,000	10,000	Feb.. 1900	.10
43	Central Lead, l.	Mo..	1,000,000	10,000	100	55,000	192,000	Oct.. 1900	.50
44	Champion, g. s.	Cal..	340,000	34,000	10	.....	321,700	Nov.. 1899	.25
45	Cloverdale, z.	Mo..	1,000,000	100,000	10	60,000	80,000	July.. 1900	.20
46	Colonial, l.	Mo..	1,000,000	1,000,000	1	.....	10,000	Aug.. 1899	.01
47	Colorado Smelting.	Mont.	1,000,000	100,000	10	.....	1,945,000	Jan .. 1899	1.00
48	Columbia, l.	Mo..	500,000	48,500	10	14,550	14,550	Oct.. 1900	.05
49	Commonwealth, z., pref.	Mo ..	500,000	100,000	5	30,000	50,000	June. 1900	.05
50	Consolidated Gold Mines	Colo..	1,000,000	1 000,000	1	90,000	100,000	Oct.. 1900	.01
51	Con. Mercer Gold Mines.	Utah.	5,000,000	1,000,000	5	225,000	1,591,000	Nov.. 1900	.11
52	Consolidated, z. l., pf.	Mo..	400,000	400,000	1	8,000	8,000	Jan.. 1900	.20
53	Cordell, z. l.	Mo..	300,000	60,000	5	27,000	30,000	Sept.. 1900	.05
54	Cripple Creek Con., g.	Colo..	2,000,000	2,000,000	1	160,000	160,000	Mar.. 1900	.08
55	Croesus, g.	Cal..	1,000,000	190,000	5	64,000	113,100	Oct.. 1900	.10
56	Crowned King, g. s. l.	Ariz .	6,000,000	600,000	10	.....	242,760	May.. 1899	.02
57	Daly West, g.	Utah.	3,000,000	150,000	20	412,500	532,500	Oct.. 1900	.25
58	Deer Trail Con., g.	Wash	3,000,000	3,000,000	1	.....	55,000	Dec.. 1899	.00½
59	De Lamar, g. s.	Idaho	2,000,000	400,000	5	48,000	2,394,000	May . 1900	.12
60	Dixie, g.	Utah.	125,000	125,000	1	10,000	10,000	April. 1900	.02
61	Doe Run, l.	Mo...	1,500,000	1,000,000	100	50,000	402,073	Oct.. 1900	.50
62	Ducktown, c. i. sul. (ord)	Tenn.	374,009	7,480	50	.....	95,744	Dec.. 1899	9.60
63	Ducktown (founder).	Tenn.	1,000	200	5	.....	41,160	Dec.. 1899	162.00
64	Eldorado, g.	Cal...	1,000,000	100,000	10	.....	10,000	July.. 1899	.10
65	Elkton Con., g.	Colo..	3,000,000	2,500,000	1	183,750	904,461	Sept.. 1900	.03
66	Empire State-Idaho.	Idaho	1,000,000	98,514	10	295,541	613,579	Oct.. 1900	.30
67	Fanny Rawlings, g. s.	Colo..	1,000,000	1,000,000	1	.....	20,000	Aug.. 1899	.01
68	Favorite, g.	Colo..	1,200,000	1,200,000	1	48,000	48,000	April. 1900	.04
69	Florence, s.	Mont.	2,500,000	440,000	5	22,000	252,000	April. 1900	.05
70	Frisco Con., l. s.	Idaho	2,500,000	500,000	5	.....	920,000	Nov.. 1899	.25
71	Garfield Con., g.	Colo..	1,200,000	1,200,000	1	.....	34,000	May.. 1899	.01
72	Gemini.	Utah.	500,000	5,000	100	50,000	700,000	Aug.. 1900	10.00
73	Gold Belt, g.	Colo..	1,250,000	1,250,000	1	112,500	112,500	Aug.. 1900	.09
74	Gold Coin of Victor, g.	Colo..	1,000,000	1,000,000	1	200,000	560,000	Oct.. 1900	.02
75	Gold Deposit, g.	Colo..	500,000	500,000	1	10,000	10,000	Mar.. 1900	.02
76	Gold King, g.	Colo..	1,000,000	936,850	1	112,421	178,001	Oct.. 1900	.03
77	Golden Cycle, g.	Colo..	1,000,000	200,000	5	100,000	358,500	Oct.. 1900	.05
78	Golden Eagle, g.	Colo..	500,000	500,000	1	5,000	25,000	June. 1900	.01
79	Grand Central, g.	Utah.	250,000	250,000	1	.....	666,250	Sept.. 1899	.24
80	Grand Gulch.	Ariz..	250,000	240,000	1	9,600	9,600	April. 1900	.01
81	Grass Valley Expl.	Cal...	100,000	30,000	2	37,500	67,500	May.. 1900	.25
82	Greater Gold Belt, g.	Col ..	5,000,000	3,800,000	1	76,000	76,000	June.. 1900	.02
83	Gwin, g.	Cal .	1,000,000	100,000	10	30,000	111,500	Oct.. 1900	.10
84	Hall Mg. & Sm.	B.Col	1,250,000	250,000	5	.....	120,000	May.. 1899	.24
85	Hecla, s.	Idaho	1,000,000	1,000,000	1	20,000	20,000	July.. 1900	.02
86	Hecla Con., s. l.	Mont.	1,500,000	30,000	50	15,000	2,205,000	Oct.. 1900	.05
87	Hidden Treasure, g.	Cal...	360,000	36,000	10	28,800	457,452	Sept.. 1900	.10
88	Holy Terror, g.	S. D..	500,000	500,000	1	5,000	172,000	Jan.. 1900	.01
89	Home, g.	Colo..	50,000	50,000	1	100,000	100,000	July.. 1900	.50
90	Homestake, g.	S. D..	21,000,000	210,000	100	1,050,000	9,193,750	Oct.. 1900	.50
91	Horn-Silver, g. s. c.z.l.	Utah.	10,000,000	400,000	$25	$20,000	$5,279,000	June.. 1900	.05
92	Idaho, g.	Idaho	1,000,000	1,000,000	1	8,188	8,188	April. 1900	.01
93	Idaho, s. l.	B.Col	500,000	500,000	1	.....	292,000	Jan.. 1899	.05⅜
94	Independence Con.	Colo..	2,500,000	2,500,000	1	100,000	100,000	Aug.. 1900	.04
95	International, z.	Mo...	1,000,000	1,000,000	1	26,427	26,427	July.. 1900	.01
96	Iowa, g. s. l.	Colo..	1,666,667	1,666,667	1	39,334	136,834	June. 1900	.00⅜
97	Isabella, g.	Colo..	2,250,000	2,250,000	1	157,500	697,500	Sept.. 1900	.01
98	Jack Pot, g.	Colo..	1,250,000	1,250,000	1	.....	175,000	Dec.. 1899	.06
99	Jamison, g.	Cal ..	3,900,000	390,000	10	.....	50,700	April. 1899	.10
100	Klondike Bonanza, Ltd.	Klond	750,000	52,750	5	.....	12,000	Aug .. 1899	.24
101	La Fortuna, g.	Ariz..	250,000	250,000	1	252,500	895,000	Oct... 1900	.05
102	Lake City, g	Colo..	50,000	50,000	1	3,875	3,875	May . 1900	.01
103	Last Chance, s. l.	B.Col	500,000	500,000	1	.....	45,000	Apr .. 1899	.05
104	Last Dollar, g.	Colo..	1,500,000	1,500,000	1	60,000	90,000	July.. 1900	.02
105	Le Roi, g.	B.Col	5,000,000	200,000	5	.....	1,305,000	Nov .. 1899	1.20
106	Lillie, g.	Colo..	1,250,000	250,000	5	45,117	349,183	April. 1900	.05
107	Little Tiger, g.	Cal...	500,000	500,000	1	15,000	47,500	Feb.. 1900	.01½
108	Madison, g.	Colo..	1,250,000	1,050,000	1	35,000	35,000	June. 1900	.03½
109	Magnolia.	Colo..	1,250,000	1,109,000	1	187,000	187,000	July.. 1900	.17
110	Mammoth, g. s. c.	Utah	10,000,000	400,000	25	180,000	1,790,000	Oct... 1900	.05
111	Marion Con., g.	Colo..	5,000,000	500,000	10	.....	300,000	May.. 1899	.01
112	Mary McKinney, g.	Colo..	1,000,000	1,000,000	1	150,000	180,000	Oct... 1900	.03
113	Midget, g.	Colo..	1,000,000	1,000,000	1	15,000	15,000	May.. 1900	.15
114	Modoc, g. s.	Colo..	500,000	500,000	1	50,000	195,000	Oct... 1900	.01
115	Monarch, g.	Colo..	1,000,000	1,000,000	1	120,000	120,000	April. 1900	.12
116	Montana, Ltd., g. s.	Mont.	3,300,000	657,128	5	.....	453,700	April. 1899	.12
117	Montana Ore Purchas'g.	Mont.	2,500,000	80,000	25	160,000	1,520,000	May.. 1900	1.00
118	Morning Star Drift, g.	Cal...	240,000	2,400	100	7,200	854,400	Sept.. 1900	3.00
119	Morse, g.	Colo..	1,250,000	1,250,000	1	.....	215,650	May.. 1899	.12
120	Mountain, c.	Cal ..	6,250,000	250,000	25	1,200,000	2,373,750	Oct... 1900	2.16
121	Mt. Diablo, s.	Nev..	5,000,000	50,000	100	5,271	260,271	Jan .. 1900	.10
122	Mt. Rosa, g.	Colo..	1,000,000	1,000,000	1	.....	75,000	Dec.. 1899	.04
123	Mt. Shasta, g.	Cal...	100,000	20,000	5	.....	6,000	May.. 1899	.30
124	Moulton, g.	Mont.	2,000,000	400,000	5	.....	500,000	Oct... 1900	.05
125	Napa Con., q.	Cal ..	700,000	100,000	7	60,000	1,200,000	Oct... 1900	.10
126	National Lead, com.	U. S..	15,060,000	149,054	100	149,054	1,341,486	Mar.. 1900	1.00
127	National Lead, pf.	U. S .	15,000,000	149,040	100	782,460	10,318,460	Sept . 1900	1.75
128	New Idria, q.	Cal...	500,000	100,000	5	80,000	250,000	Oct... 1900	.20
129	N. J. & Mo., z.	Mo...	250,000	2,500	100	11,000	11,000	June.. 1900	2.00
130	New York, z.	Kas..	700,000	28,000	25	.....	6,500	Oct... 1899	.25
131	N.Y.& Hon Rosario, s.g.	C. A..	1,500,000	150,000	10	180,000	1,340,000	Oct... 1900	.20
132	North Star Mines.	Cal ..	5,000,000	250,000	10	.....	50,000	Nov.. 1899	.20
133	Old Colony Zinc & Sm.	Mo...	1,100,000	69,909	10	68,276	68,276	Oct... 1900	.25
134	Omega, g.	Colo..	1,500,000	1,212,550	1	18,188	18,188	June. 1900	.01½
135	Ontario, s. l.	Utah.	15,000,000	150,000	100	90,000	13,662,500	April. 1900	.30
136	Orphan Belle, g.	Colo..	1,000,000	1,000,000	1	.....	197,899	Dec.. 1899	.09
137	Original Empire, g.	Cal..	5,000,000	50,000	100	.....	530,000	Oct... 1899	1.00
138	Osceola, c.	Mich.	2,500,000	93,000	25	279,000	3,359,500	June. 1900	3.00
139	Parrot, c.	Mont.	2,300,000	229,850	10	1,379,100	4,393,825	Oct... 1900	1.50
140	Pennsylvania Con., g.	Cal..	5,150,000	51,500	100	25,750	161,325	May .. 1900	.10
141	Petro, g.	Utah.	1,000,000	200,000	5	.....	32,000	Oct... 1899	.02½
142	Pioneer, g.	Cal..	1,000,000	100,000	10	.....	62,500	Mar.. 1899	.12½
143	Plumas Eureka, g.	Cal ..	1,406,250	140,625	10	84,375	2,797,544	April. 1900	.60
144	Portland, g.	Colo..	3,000,000	3,000,000	1	750,000	3,307,080	Oct... 1900	.06
145	Queen Bess Propr., s. l.	B.Col	500,000	100,000	5	.....	25,000	July.. 1899	.12½
146	Quicksilver, pref.	Cal...	4,300,000	43,000	100	21,500	1,866,911	July.. 1900	.50
147	Quincy, c.	Mich.	2,500,000	100,000	25	900,000	11,970,000	Aug.. 1900	4.00
148	Rambler—Cariboo, s. l.	B.Col	1,250,000	1,250,000	1	33,750	105,000	Mar.. 1900	.01
149	Republic Con., g.	Wash	3,500,000	3,500,000	1	105,000	382,500	Mar.. 1900	.01
150	Reward, g.	Cal ..	1,000,000	100,000	10	.....	20,000	Aug . 1899	.20
151	Russell-Irwin, z.	Mo...	250,000	25,000	10	.....	15,000	Oct... 1899	.10
152	Sacramento, g.	Utah.	5,000,000	1,000,000	5	.....	138,000	Oct... 1899	.00½
153	St. Joseph, l.	Mo...	3,000,000	250,000	10	112,500	3,272,200	Sept. 1900	.15
154	Santa Rita, g.	Colo..	1,000,000	1,000,000	1	4,000	4,000	July.. 1900	.02
155	Silver King, g. s. l.	Utah.	3,000,000	150,000	20	750,000	3,200,000	Oct... 1900	.50
156	Small Hopes, s.	Colo..	5,000,000	250,000	20	.....	3,325,000	Feb.. 1899	.10
157	Smuggler, s. l. z.	Colo..	1,000,000	1,000,000	1	300,000	1,670,000	Oct... 1900	.03
158	South Swansea, s. l.	Utah.	150,000	150,000	1	.....	165,000	Oct... 1899	.05
159	Southern Boy, g.	Colo..	1,250,000	875,000	1	17,500	17,500	May . 1900	.02
160	Squaw Mountain, g.	Colo..	2,000,000	2,000,000	...	.....	10,000	Nov.. 1899	.00½
161	Standard Con., g. s.	Cal...	2,000,000	200,000	10	60,000	3,959,226	Aug.. 1900	.10
162	Standard, g.	Idaho	500,000	500,000	1	.....	1,745,000	April. 1899	.06
163	Stratton's Independ'ce.	Colo..	5,500,000	1,000,007	5	1,301,334	2,277,305	Aug.. 1900	.32
164	Swansea, s. l.	Utah.	500,000	100,000	5	60,000	256,500	Oct... 1900	.05
165	Tamarack, c.	Mich.	1,500,000	60,000	25	420,000	6,600,000	June. 1900	7.00
166	Tomboy, g.	Colo..	1,500,000	300,000	5	72,000	884,000	June. 1900	.24
167	Touraine, g.	Colo..	1,250,000	1,250,000	1	87,500	87,500	April. 1900	.07
168	Union, g.	Colo..	1,250,000	1,250,000	1	312,500	395,244	Sept.. 1900	.25
169	Union, z. l.	Kas..	500,000	500,000	1	15,000	15,000	Aug.. 1900	.01
170	United, z. l., pref.	Mo...	6,000,000	14,938	25	27,598	30,263	Oct... 1900	.50
171	United Verde, c.	Ariz..	3,000,000	300,000	10	1,650,000	2,512,500	Oct... 1900	.75
172	Utah, g.	Utah.	1,000,000	100,000	10	.....	179,000	Jan. . 1899	.02
173	Vindicator Con., g.	Colo..	1,500,000	1,065,000	1	187,625	492,125	Oct... 1900	.02½
174	War Eagle Con., g. s. c.	B.C..	2,000,000	1,750,000	1	52,500	545,250	Feb.. 1900	.01½
175	What Cheer, z.	Mo...	225,000	22,500	10	9,000	11,250	May.. 1900	.20
176	Wolverine, c.	Mich.	1,500,000	60,000	25	240,000	510,000	Oct.. 1900	2.00
177	Yellow Aster, g.	Cal...	1,000,000	100,000	10	130,000	439,416	Oct... 1900	.10
178	Ymir, g.	B.Col	1,000,000	125,000	5	.....	30,000	Nov.. 1899	.24

COAL, IRON AND OTHER COMPANIES.

Number.	Name and Location of Company.		Authorized Capital Stock.	Shares Issu'd No.	Par Val	Dividends. Paid, 1900.	Total to Date.	Latest. Date.	Amt.
1	Alabama Coal & Iron, pf	Ala...	$2,500,000	25,000	$100	$173,250	$173,250	Nov.. 1900	1.75
2	Am. Agricul. Chem., pf.	U. S..	20,000,000	170,000	100	1,020,000	1,530,000	Oct... 1900	3.00
3	American Cement.	Pa....	2,106,000	200,000	10	80,000	140,000	July.. 1900	.40
4	American Coal.	Md...	1,500,000	60,000	25	255,000	982,500	Sept.. 1900	1.00
5	Am. Fuel & Oil.	Cal...	100,000	100,000	1	9,000	12,000	Sept.. 1900	.01
6	Am. Steel Hoop, pf.	U. S..	14,000,000	140,000	100	980,000	1,225,000	Oct... 1900	1.75
7	Am. Steel & Wire, com.	U. S..	50,000,000	500,000	100	1,750,000	1,750,000	July.. 1900	1.75
8	Am. Steel & Wire, pf.	U. S..	40,000,000	400,000	100	2,800,000	5,600,000	Oct... 1900	1.75
9	Arizona Western Oil.	Cal...	100,000	100,000	1	1,000	1,000	Sept.. 1900	.01
10	Bethlehem Steel	Pa...	15,000 000	300,000	50	600,000	900,000	Sept.. 1900	.50
11	Buckhorn Oil.	Cal...	200,000	16,000	10	3,800	3,800	Mar.. 1900	.05
12	Burlington Oil.	Cal...	60,000	60,000	1	3,000	3,000	Oct... 1900	.01
13	Cambria Steel	Pa...	16,000,000	320,000	50	940,000	1,600,000	Nov.. 1900	.50
14	Colo. Fuel & Iron, pf.	Colo..	2,000,000	20,000	100	640,000	1,040,000	Oct... 1900	8.00
15	Consolidation Coal	Md...	10,250,000	102,500	100	205,000	5,921,650	Feb.. 1900	2.00
16	Empire Steel & Iron, pf.	U. S..	5,000,000	23,700	100	71,100	142,200	July.. 1900	1.50
17	Federal Steel, com.	U. S..	100000,000	464,843	100	1,743,161	1,743,161	Mar.. 1900	2.50
18	Federal Steel, pf.	U. S..	100000,000	532,610	100	5,059,794	6,657,654	Oct... 1900	1.75
19	General Chem., com.	U. S..	12,500,000	70,703	100	212,109	341,111	Sept.. 1900	1.00
20	General Chem., pf.	U. S..	12,500,000	81,264	100	365,688	519,959	Oct... 1900	1.50
21	Home Oil.	Cal...	100,000	100,000	1	173,000	173,000	Oct... 1900	.03
22	Jefferson&Clearf. C'l.cm	Pa...	1,500,000	15,000	100	30,000	30,000	Aug.. 1900	2.00
23	Jefferson&Clearf. C'l.pf.	Pa...	1,500,000	15,000	100	75,000	187,500	Aug.. 1900	2.50
24	Lehigh Coal & Nav.	Pa...	14,366,650	287,330	50	359,166	13,890,153	May.. 1900	1.25
25	Maryland Coal, pf.	Md...	$1,885,005	18,850	$100	$37,700	$584,319	June.. 1900	2.00
26	Monongahela R. Coal,pf	Pa....	10,00 1,000	200,000	50	350,000	350,000	July.. 1900	1.75
27	Montana Coal & Coke.	Mont.	5,000,000	200,000	25	120,000	120,000	Oct... 1900	.30
28	National Salt, com.	U. S..	7,000,000	70,000	100	140,000	140,000	Aug.. 1900	2.00
29	National Salt, pf.	U. S..	5,000,000	50,000	100	350,000	525,000	Nov.. 1900	1.75
30	National Steel, pf.	U. S..	27,000,000	270,000	100	1,417,500	2,835,000	Sept.. 1900	1.75
31	New Central Coal.	Md...	1,000,000	50,000	20	40,000	510,000	Nov.. 1900	.40
32	Oceanic Oil.	Cal...	100,000	100,000	1	1,000	1,000	Sept.. 1900	.01
33	Park Crude Oil.	Cal...	100,000	82,146	1	4,867	4,897	Sept.. 1900	.01
34	Pennsylvania Coal.	Pa....	5,000,000	100,000	50	800,000	19,700,000	Nov.. 1900	2.00
35	Pennsylvania Steel, pf.	Pa....	1,500,000	15,000	100	105,000	131,250	Oct... 1900	1.75
36	Pittsburg Coal., pf.	Pa....	32,000,000	320,000	100	2,240,000	2,240,000	Oct... 1900	1.75
37	Republic Iron & Steel,pf	U. S..	25,000,000	203,069	100	1,421,483	1,776,854	Oct... 1900	1.75
38	Rex Crude Oil.	Cal...	500,000	85,000	5	19,550	19,550	Sept.. 1900	.03
39	Sloss-Sheffield Ir.&St..pf	U. S..	10,000,000	67,000	100	351,750	351,750	Oct.. 1900	1.75
40	Standard Oil (since 1891)	U. S..	100000,000	975,000	100	37,050,000	79,375,000	Sept.. 1900	8.00
41	Susquehanna Ir. & Steel	Pa..	1,500,000	300,000	5	112,500	292,500	Oct... 1900	.07½
42	Tenn. Coal, I. &R.R..com	Tenn.	23,000,000	225,536	100	902,144	1,553,216	Nov.. 1900	2.00
43	Tenn. Coal, Ir. & R.R..pf	Tenn.	248,000	2,480	100	143.840	243,040	Nov.. 1900	2.00
44	Texas & Pacific Coal.	Tex..	2,000,000	20,000	100	120,000	605,000	Oct... 1900	1.50
45	United States Oil.	W.Va	2,500,000	100,000	25	275,000	575,000	Oct.. 1900	.50
46	Va.-Carolina Chem.,com	U. S..	42,000,000	90,000	100	180,000	540,000	Sept.. 1900	1.00
47	Va.-Carolina Chem.,pf..	U. S .	12,000,000	100,000	100	800,000	1,200,000	Oct... 1900	2.00
48	West Lake Oil.	Cal ..	500,000	500,000	1	45,000	45,000	Sept.. 1900	.01

This table is corrected up to October 24th. Correspondents are requested to forward changes or additions.

CHEMICALS, MINERALS, RARE ELEMENTS, ETC.—CURRENT PRICES.

	Cust. Meas.	Price.
Abrasives—		
Carborundum, f.o.b. Niagara Falls, Powd., F. FF. FFF	lb.	$0.10
Minute No. 1	"	.15
No. 15	"	1.00
Corundum, N. C.	"	.07@.10
Chester, Mass.	"	.04½@.05
Crushed Steel, f. o. b. Pittsburg	"	.05½
Emery, Turkish flour, in kegs	"	.03
Grains, in kegs	"	.04½@.05
Naxos flour, in kegs	"	.03
Grains, in kegs	"	.05
Chester flour, in kegs.	"	.03
Grains, in kegs	"	.04½@.05
Peekskill flour, in kegs	"	.01¾
Grains, in kegs.	"	.02½
Crude, ex-ship, N. Y.; Kuluk (Turkey)	lg. ton	22.00@24.00
Abbott (Turkey)	"	26.50@30.00
Naxos (Greek) h. gr.	"	32.00
Pumice Stone, Am. powd.	lb.	.01½@.02
Italian, powdered	"	.01½
Lump, per quality	"	.04@.40
Rottenstone, ground	"	.02½@.03
Lump, per quality	"	.05@.14
Rouge, per quality	"	.10@.30
Steel Emery, f.o.b. Pittsburg	"	.07
Acids—Acetic, 30% pure	100 lbs.	3.50
30% ch. pure	"	6.00
80% pure	"	7.50
Benzoic, English	oz.	.13
German	lb.	.45
Boracic, cryst.	"	.10½
Powdered	"	.11
Carbolic, crude, 60%	gal.	.27
Cryst. 37% drums	lb.	.23
Liquid, 95%	gal.	.45
Carbonic, liquid gas	lb.	.12½
Chromic, crude	"	.20
Chem. pure	"	.50
Hydrochloric, ch. pure.	"	.07
Hydrofluoric, 36%	"	.03
48%	"	.05
Best	"	.25
Nitric, chem. pure	"	.09
Sulphuric, chem. pure	"	.07
Sulphurous, liquid anhy.	"	.08
Tartaric, cryst.	"	.31½
Powder	"	.32
Alcohol—Grain	gal.	2.43
Refined wood, 95@97%	"	.75@.80
Purified	"	1.50
Alum—Lump	100 lbs.	1.75
Ground	"	1.85
Powdered	"	3.00
Chrome, com'l	"	2.75@3.00
Aluminum—Nitrate	lb.	1.50
Oxide, com'l, common	"	.06½
Best	"	.20
Pure	"	.80
Hydrated	100 lbs.	2.60
Sulphate, pure	"	1.50@1.75
Com'l	"	1.15@1.30
Ammonia—Aqua, 16°	lb.	.03
18°	"	.03¼
20°	"	.03¾
26°	"	.05½
Ammonium—		
Bromide, pure	"	.52@.53
Carbonate lump	"	.08¼@.08½
Powdered	"	.09¼@.09½
Muriate, gran.	"	.06½
Lump	"	.09¼
Nitrate, white, pure (99%)	"	.10½
Phosphate, com'l	"	.12
Chem. pure	"	.60
Antimony—Glass	"	.30@.40
Needle, lump	"	.05½@.06
Powdered, ordinary	"	.05¾
Best	"	.08½
Oxide, com'l white, 95%	"	.09½
Com'l white, 99%	"	.12
Com'l gray	"	.07
Sulphuret, com'l	"	.16
Arsenic—White	"	.04½@.04⅝
Red	"	.07¼@.07¾
Asphaltum—		
Ventura, Cal.	sh. ton	32.00
Cuban	lb.	.01½@.03½
Egyptian, crude	"	.05½@.06
Trinidad, refined	lg. ton	35.00
San Valentino (Italian).	"	15.00
Seyssel (French) mastic.	sh. ton	20.00
Gilsonite, Utah, ordinary	lb.	.03
Select	"	.03¾
Barium—Carbonate, Lump, 80@90%	sh. ton	25.00@27.50
92@98%	"	26.00@29.00
Powdered, 80@90%	lb.	.01¾@.02
Chloride, com'l	"	.02@.02¼
Chem. pure cryst	"	.05
Nitrate, powdered	"	.06
Oxide, com'l, hyd. cryst	"	.18
Hydrated, pure cryst.	"	.25
Pure, powd.	"	.27
Sulphate	"	.01
Barytes—		
Am. Cr., No. 1	sh. ton	9.00
Crude, No. 2	"	8.00
Crude, No. 3	"	7.75
German, gray	"	14.50
Snow white	"	17.50
Bauxite—Ga. mines: 1st grade	lg. ton.	5.00
Second grade	"	4.25@4.50
Ala., f.o.b., 1st grade	"	5.00
Second grade	"	4.25@4.50
Bismuth—Subnitrate	lb	1.75
Subcarbonate	"	1.95
Bitumen, "B"	"	.03½
"A"	"	.05
"A" and "B"	"	.04½
Bone Ash	"	02¾@.03½
Borax	lb.	$ .07¼@.07½
Calcined	"	.25
Bromine	"	.40
Cadmium—Metallic	"	1.40
Sulphate	100 lbs.	2.00@2.50
Calcium—Acetate, gray	"	1.55
" brown	"	1.10
Carbide, ton lots, f. o. b. Niagara Falls, N. Y.	sh. ton	75.00
Carbonate, ppt.	lb.	.05
Chloride, com'l	100 lbs.	.90
Best	"	1.00
Sulphite	lb.	.05
Cement—		
Portland, Am., 400 lbs.	bbl.	1.50@2.00
Belgium	"	1.95@2.20
English	"	2.45@2.55
German	"	2.30@2.70
"Rosendale," 300 lbs.	"	.95
Sand cement, 400 lbs.	"	1.55@1.95
Slag cement, imported.	"	1.65
Ceresine—		
Orange and Yellow	lb.	.11½
White	"	.13½
Chalk—Lump, bulk	sh. ton	2.15
Ppt. per quality	lb.	.04@.07
Chlorine—Liquid	"	.30
Water	"	.15
Chrome Ore—		
(50% ch.) ex-ship, N. Y.	lg. ton	22.00
Sand, f.o.b. Baltimore	"	33.00
Bricks, f.o.b., Pittsburg.	M	175.00
Clay, China—Am. com., ex-dock, N. Y.	lg ton	8.00
Am. best, ex-dock, N. Y.	"	9.00
English, common	"	12 00
Best grade	"	17 00
Fire Clay, ord.	sh. ton	4.00
Best	"	5.75
Slip Clay	"	5.00
Coal Tar Pitch	gal.	.08
Cobalt—Carbonate	lb.	1.75
Nitrate	"	1.50
Oxide—Black	"	2.26@2.36
Gray	"	2.28@2.40
Smalt, blue ordinary	"	.25
Best	"	.30
Copperas	100 lbs.	72½
Copper—Carbonate	lb.	.18
Chloride	"	.25
Nitrate, crystals	"	.35
Oxide, com'l	"	.19
Cream of Tartar—Crys.	"	.22¼@.22¾
Powdered	"	.23¼
Cryolite	"	.06½
Explosives—		
Blasting powder, A. 25 lb. keg		2.50
Blasting powder, B.	"	1.25
"Rackarock," A.	lb.	.25
"Rackarock," B.	"	.18
Judson R.R. powder	"	.10
Dynamite (20% nitro-glycerine)	"	.13
(30% nitro-glycerine)	"	.14
(40% nitro-glycerine)	"	.15
(50% nitro-glycerine)	"	.16½
(60% nitro-glycerine)	"	.18
(75% nitro-glycerine)	"	.21
Glycerine for nitro (32 2-10° Be.)	"	.14@.14½
Feldspar—Ground	sh. ton	8.00@9.00
Fluorspar—In bulk.		
Am. lump, 1st grade	"	12.40
2d grade	"	11.90
Gravel & crushed, 1st g	"	11.40
2d grade	"	10.90
Ground, 1st grade	"	15.90
Foreign, lump	"	8.00@12.00
Ground	"	11.50@14.00
Fuller's Earth—Lump.	100 lbs.	.75
Powdered	"	.85
Refined lump	"	1.25
Graphite—Am. f. o. b. Providence, R.I. lump.	sh. ton	8.00
Pulverized	"	30.00
German, lump	lb.	.01¼
Pulverized	"	.01½@.02
Ceylon, common	"	.03¾
Pulverized	"	.06@.10
Italian, pulv.	"	.01¼
Gypsum—Ground	sh. ton	8.00@8.50
Fertilizer	"	7.00
Rock	lg. ton	4.00
English and French	"	14.00@16.00
Infusorial Earth—Ground.		
American, best	"	20.00
French	"	37.50
German	"	40.00
Iodine—Crude	100 lbs.	2.45
Iron—Muriate	lb.	.05
Nitrate, com'l	"	.01½
True	"	.03½
Oxide, pure copperas col	"	.05@.10
Purple-brown	"	.02
Venetian red	"	.01@.01½
Scale	"	.01@.03
Kaolin—(See Clay, China).		
Kryolith—(See Cryolite.)		
Lead—Acetate, white	lb.	.07
Com'l, broken	"	.06½
Brown	"	.05½
Nitrate, com'l	"	.06½
" gran.	"	.8½
Lime—Com., ab. 250 lbs	bbl.	.60
Finishing	"	.70
Magnesite—Greece.		
Crude (95%)	lg. ton	7.00@7.50
Calcined	sh. ton	17.50
Bricks	M.	165.00
Am. Bricks, f.o.b. Pittsburg	"	175.00
Magnesium—		
Carbonate, light, fine pd	lb.	.03¾
Blocks	"	.06@.09
Chloride, com'l	"	.01¾
Fused	"	.20
Magnesium—		
Nitrate	lb.	$0.60
Sulphate	"	.01@.01¼
Manganese—Crude-pow'd 70@75% binoxide	"	.01¼@.01½
Crude, pow'd 75@85% binoxide	"	.01½@.02½
85@90% binoxide	"	.02½@.03¼
90@95% binoxide	"	.02¾@.05½
Carbonate	"	.16@.20
Chloride	"	.04
Ore, 50%, Foreign	unit	.26
Domestic	"	.30
Marble—Flour	sh. ton	5.50@6.00
Mercury—Bichloride	lb.	.74
Mica—N. Y. gr'nd, coarse	"	.04@.04½
Fine	"	.05@.06
Sheets, N. C., 2x4 in	"	.30
3x3 in	"	.80
3x4 in	"	1.50
4x4 in	"	2.00
6x6 in	"	3.00
Scrap, f.o.b., Dillsboro, N. C.	sh. ton.	25.00
Mineral Wool—		
Slag, ordinary	sh. ton	20.00
Selected	"	25.00
Rock, ordinary	"	32.00
Selected	"	40.00
Monazite—92%	"	140.00
Nickel—Oxide, No. 1	lb.	1.00
No. 2	"	.60
Sulphate	"	.20@.21
Oils—Black, reduced 29 gr.: 25@30 cold test	gal.	.09¾@.10¼
15, cold test	"	.10¾@.11¼
Zero	"	.11¾@.12¾
Summer	"	.09¼@.09¾
Cylinder, dark steam ref	"	.08¾@.10¾
Dark filtered	"	.11¾@.16¾
Light filtered	"	.14¾@.17¾
Extra cold test	"	.21¾@.26¾
Gasoline, 86°@90°	"	.16@.21
Naphtha, crude 68@72°	bbl.	9.55
"Stove"	gal.	.12
Linseed, domestic raw	"	.60@.63
Boiled	"	.65
Calcutta, raw	"	.76
Graphite, lubricating, Am. dry	lb.	.10
In oil	"	.12
Axle grease	"	.06½@.10
Wood grease	"	.05@.06
Ozokerite—Foreign	"	.12
Paints and Colors—		
Chrome green, common	"	.05
Pure	"	.20
Yellow, common	"	.10
Best	"	.25
Silica Graphite, thick	"	.12
Thinned	gal.	1.15
Lampblack, com'l	lb.	.03
Refined	"	.07
Litharge, Am. powd.	"	.05½@.06
English flake	"	.09½
Glassmakers, Foreign	"	.06½
Metallic, brown	sh. ton	19.00
Red	"	16.00
Ocher, Am. common	"	9.25@10.00
Best	"	21.25@25.00
Dutch, washed	lb.	.04¾
French, washed	"	.01¼@.02½
Orange mineral, Am.	"	.07¾@.08
Foreign, as to make	"	.08@.10½
Paris green, pure, bulk	"	.12
Red lead, American	"	.06½
Foreign	"	.08¼
Shellac, "D. C."	"	.25
Native	"	.15
Turpentine, spirits	gal.	.41½@.42
Ultramarine, best	lb.	.25
Vermilion, Amer. lead	"	14@.15
Quicksilver, bulk	"	.64
English, imported	"	.80
English, domestic	"	.74
White lead, Am., dry	"	.05¾
English	"	.06½@.08¾
Whiting, common	100 lbs.	.40
Gilders	"	.54
Zinc white, Am., ex. dry	lb.	.04¼@.04¾
American, red seal	"	.07¼@.07¾
Green seal	"	.07¾@.08
Foreign, red seal, dry	"	.06¼@.08¼
Green seal, dry	"	.06¾@.08⅝
Potash—Caustic, ord.	"	.04½@.05
Elect. (90%)	"	.06½
Potassium—		
Bicarbonate cryst.	"	.08¼
Powdered or gran.	"	.14
Bichromate, Am.	"	.08½
Scotch	"	.09
Carbonate, hydrated	"	.04½
Calcined	"	.04½
Chromate	"	.35
Cyanide (98@99%)	"	.29@.30
Iodide, bulk	"	2.30
Permanganate, pure cr.	"	.12½
Prussiate, yellow	"	.17¾@.18
Red	"	.37
Silicate	"	.06
Sulphide, com'l	"	.10
Quartz—(See Silica).		
Rosin—		
Com. strained (280 lbs.)	bbl.	1.55
Best strained	"	3.05
Medium	"	1.95
Salt—		
N Y com. fine	sh. ton	2.00
N. Y. agricultural	"	1.50
Saltpeter—		
Crude	100 lbs.	3.60
Refined	"	4.00
Silica—Best foreign	lg. ton	10 00@11.00
Ground quartz, ord.	sh. ton	6.00@8.00
Best	"	12,00@13.00
Lump quartz	"	2.50@4.00
Glass sand	"	2.75
Silver—		
Chloride	oz.	$0.65
Nitrate	"	.40
Oxide	"	.85@1.10
Slate—Ground, black	sh. ton	7.50@8.75
Ground, red and olive.	"	20.00
Sodium—Acetate, com'l.	lb.	.04¾
Bichromate	"	.06½
Chlorate, com'l	"	.08¾@.08⅞
Hyposulphite, Am.	100 lbs.	1.75
German	"	2.10@2.20
Nitrite, 96@98%	lb.	.08
Peroxide	"	.45
Phosphate	"	.02½
Prussiate	"	.14¼
Silicate, conc.	"	.05
com'l	"	.02¼
Sulphate, com'l	100 lbs.	.85
Gran., puri'd	lb.	.03
Sulphide	"	.01¾
Sulphite	"	.02½
Tungstate, com'l.	"	.35
Strontium—Nitrate	"	.06½@.06¾
Sulphur—Roll	100 lbs.	1.75
Flour	"	1.80
Flowers, sublimed	"	2.05
Talc—N. C., 1st grade	sh. ton	13.75
N. Y., Fibrous	"	8.00@9.00
French, best	100 lbs.	1.25
Italian, best	"	1.75
Tar—Regular	bbl.	2.20@2.25
Oil barrels	"	4.15@4.30
Tin—Bichloride	lb.	.09½@.10
Crystals	"	.24½
Muriate, 36°	"	.09
52°	"	.15
Oxide, white, ch. pure	"	.41
Uranium—Oxide	"	2.25@3.00
Zinc—Metallic, ch. pure	"	.07¼@.09½
Carbonate	"	.15
Chloride	"	.05
Dust	"	.07¾@.07¾
Sulphate	"	.02@.02¼

THE RARE ELEMENTS.

Prices given are at makers' works in Germany, unless otherwise noted.

	Cust. Meas.	Price.
Barium—Amalgam	grm.	$1.12
Electrol	"	5.71
Beryllium—Powder	"	5.95
Crystals	"	9.04
Nitrate (N Y.)	oz.	2.25
Boron—Amorphous, pure	grm.	.19
Crystals, pure	"	1.43
Nitrate (N. Y.)	lb.	1.50
Cadmium—Sticks	kg.	1.55
Sheets	"	2.83
Granulated	"	2 38
Powder	"	1.90
Calcium—Elect.	grm.	4.28
Cerium—Fused	"	2.02
Nitrate (N. Y.)	lb.	17.00
Chromium—Fused, Elect.	kg.	5.95
Pure powder 95%	"	1 79
Chem. pure cryst	grm.	.20
Cobalt—(98@99%)	kg.	6.66@8.33
Pure	"	30.94
Didymium—Powd.	grm.	3 81
Fused, Elect.	"	5.47
Nitrate (N. Y.)	lb.	60.00
Erbium	grm.	3.09
Nitrate (N. Y.)	lb.	62.00
Germanium—Powder	grm.	33.32
Fused	"	35.70
Glucinum—Powder	"	5.95
Crystals	"	9.04
Nitrate (N. Y.)	oz.	2.75
Indium	grm.	3.57
Iridium—Fused	"	1.07
Powder	"	.95
Lanthanum—Powder	"	4.28
Electrol, in balls	"	9.04
Nitrate (N. Y.)	oz.	3.50
Lithium	grm.	2.38
Nitrate (N. Y.)	oz.	.60
Magnesium—Ingot	kg.	6.19
In wire or ribbon	"	9.99
Powdered	"	5.95@7.14
Sheet	"	9.04
Molybdenum—Fused	grm.	.15
Powder, 95%	kg.	2.62
Niobium	grm.	3.81
Osmium	"	.94
Palladium—Wire	"	.86
Sponge	"	62
Potassium—In balls	kg.	17.85
Rhodium	grm.	2.38
Rubidium—Pure	"	4.76
Ruthenium—Powder	"	2.38
Rutile—Crude	kg.	.43
Selenium—Com'l powder	"	26 28
Sublimed powder	"	35.70
Sticks	"	28.56
Silicium—Com'l	"	28.56
Chem. pure crystals	"	59.50
Amorphous	"	27.36
Sodium (N. Y.)	lb.	.65
Strontium—Electrol	grm.	6.19
Tantalium—Pure	"	3.57
Tellurium—Ch. p. sticks.	kg.	107.00
Chem. pure powder	"	83.30
Thallium	"	26.18
Thorium—Nitrate 49@50% (N. Y.)	lb.	4.75
Titanium	kg.	47.60
Uranium	"	190.40
Nitrate (N. Y.)	oz.	.25
Wolfram—Fused, elect.	kg.	238.00
Powder, 95@98%	"	1.43
Chem. pure powder	"	6.43
Yttrium	grm.	3 33
Nitrate (N. Y.)	oz.	62.00
Zirconium—Com'l	kg.	119.00
Nitrate (N. Y.)	lb.	9.00

NOTE.—These quotations are for wholesale lots in New York unless otherwise specified, and are generally subject to the usual trade discounts. This table is revised up to Sept. 27. Readers of the ENGINEERING AND MINING JOURNAL are requested to report any corrections needed, or to suggest additions which they may consider advisable. See also Market Reviews.