Buffalo Hump, in Idaho, or Republic, in Washington where the methods applied must be for conditions largely novel. The engineer in a newly opened camp, therefore, must first study the actual conditions as far as his time permits, and the methods then applied must of necessity (whatever his previous experience) be largely tentative, and be introduced with the expectation of modification, or perhaps entire replacement by other ones, as the true nature and requirements of the district develop."

Other notable articles are "Limonite Ores of Pennsylvania," by T. C. Hopkins, Ph.D.; "Copper Mining in Northern Wisconsin," by Kirby Thomas, and a paper on experimental ore testing works, by Prof. Arthur Lakes.

MODERN MACHINERY.

"Transportation of Lake Superior Ores" is the title of the leading article, by Waldon Fawcett. Mr. Fawcett, after stating that fully 75 per cent. of the iron ore continued in the United States is derived from the mines in the neighbourhood of Lake Superior, proceeds to describe the methods employed in handling and transporting this product.

"It would be extremely difficult to say," he remarks, "which phase of these transportation plans is the most interesting. Beginning with the shovelling of the ore aboard cars by steam shovels, which will fill a twenty-five ton car in anywhere from two to four minutes, every move in the great carrying enterprise is a revelation. When the mines are situated at a distance from the lake, the ore is laden first on trains each made up of from 38 to 44 cars, which follow each other at intervals of half an hour and thus a single line can, by working to the limit of its capacity, transport upward of a million tons of ore per month. At the point of transference from rail to vessel the trains are run out upon one of the four tracks which traverse the top of the trestle-like structure which constitutes the loading dock. The ore is then allowed to escape through doors in the bottom of the cars directly into the bins or pockets of which the ore dock is made up. In all there are 21 docks built at five different ports, with pockets capable of storing approximately 850,000 tons of ore at one time. The vessels, of which there are several hundred, the larger boats costing from $250,000 to $350,000, make the journey down the lakes of nearly a thousand miles at an average speed of thirteen miles per hour, and upwards of 20,000 tons of ore has on occasions been towed on barges moved by one engine. The rate for carrying ore is $1.25 per ton, and 26c. for trimming and unloading. When the vessels are unloaded a small percentage of the aggregate ore receipts is removed from the vessel holds by means of "whirlers" or revolving derricks, which swing an iron bucket from the hold to the car to be loaded. This method is, of course, serviceable only where it is desired to transfer the ore from vessels directly to railroad cars. The machinery most generally employed for cargo handling is what is known as the bridge tramway system of hoisting and conveying machinery. This permits the transference of ore either directly to the railroad cars, which are to transfer it to the furnaces, or to the stock or storage piles at the rear of the docks. The apparatus consists primarily of an elevated bridge or tramway, which spans the dumping ground and also the railroad tracks upon which are the cars which it is desired to load. A trolley travels on this bridge and to it, in turn, is attached a bucket capable of holding about one and a half tons of iron ore. These large buckets are lowered through the hatches of the vessel and loaded by gangs of men. The bucket is hoisted and conveyed along the bridge simultaneously, and such is the rapidity of its operation that it is possible for a bucket to make a trip from a vessel to the extreme end of the bridge and return, a distance of 600 feet, in less than a minute. By the employment of this machinery it is possible to unload, 5,000 or 6,000 tons of ore from a vessel in a space of ten or twelve hours. The railroads which carry the ore from the unloading ports to the furnaces are in every respect fully the equals of the remarkable lines in the upper lake regions. They are equipped with steel gondola and steel hopper cars of a capacity of 40 and 50 tons each, respectively, and these are drawn by some of the most powerful locomotives in service in America. At some of the ports on Lake Erie there are yard facilities for upward of 500 cars, and as much as 25,000 tons of ore has been shipped by rail in a single day from one port."

In conclusion Mr. Fawcett remarks: "The season of 1900 is affording an excellent opportunity to fully test the capacity of the transportation interests of the iron ore trade. Unless all indications fail, more than 20,000,000 tons of ore will be moved during the season, and even with dock improvements costing hundreds of thousands of dollars, and a fleet of a score and a half of new vessels costing upward of $10,000,000, the transportation men are still engaged upon the biggest problem which has yet been presented to them."

THE MONTH'S MINING.

SHOAL BAY.

(From Our Own Correspondent.)

THERE has been a dearth of news in this district during the last two months, though work has been steadily prosecuted on the B.C. Exploration Co.'s property in the Estero Basin, Frederick Arm. Here a four-drill compressor with sixty horsepower boiler has recently been installed, and a working tunnel which should cross-cut the lead at a depth of two hundred feet below their former work is at present being driven.

The Sunset, another promising copper property in Discovery Passage, is being developed, the results of the work done so far being such that the owners are now commencing work on a lower level or working tunnel which will give them a depth of one hundred and fifty feet on the lead. The ore in this property is a high-grade bornite, carrying fair values in both gold and silver. Beyond this nothing of note is being done in this district with the exception of assessment work on some of the prospects.

KAMLOOPS.

(From Our Own Correspondent.)

The attention that is being paid to this district by Eastern investors is steadily improving the mining outlook. Since my last notes were written a good deal of substantial progress has been made. Mr. W. J. Irving's property on Shuswap Lake has been sold to a Toronto syndicate. The showing on this property is a massive ledge of pyrrhotite about 40