

Mining.

OTTAWA VALLEY PHOSPHATES.

THERE are at present eight phosphate mines carrying on active operations in the neighborhood of the Lievre river. They are situated at a distance of from nine to twenty-three miles north of the village of Buckingham, and are known as the Emerald mines (American company), the Little Rapids mine (Canadian owner), Battle Lake mine (Anglo-Canadian Phosphate Company), McLaren's mine (Canadian owner), the North Star mine (American company), High Rock mine (English company), Union mine (American company), High Falls mine (Anglo-Canadian Phos. Co.). Between 400 and 500 men in all are employed at these mines. Machinery of some kind is used at most of them, and air compressors are employed at the High Rock, Little Rapids, and North Star mines.

Besides these mines several other phosphate localities on the Lievre have been worked at various times, and with varied success.

The deepest mine on the river, the North Star, has already sunk to the distance of almost 450 feet from the surface. The second deepest is Battle Lake mine, which has reached almost 250 feet in an inclined shaft.

The Anglo-Canadian Phosphate Company, the owners of the Battle Lake and High Falls mines, are also working on a large scale a mine in North Burgess, five miles from Perth, and known as the Otty Lake mine. It is one of the very best phosphate mines in Canada. An air compressor, capable of working seven steam drills, has been put up and proves very serviceable in working the rich phosphate veins on the property. The output of phosphate in 1886 was 18,968 tons, as against 23,849 tons in 1885, and 20,747 tons in 1884. This falling off in product was largely due to the low price offered for Canada phosphate, and is only temporary.

The phosphate is shipped down the Lievre in scows in the summer time and loaded at Buckingham on cars for Montreal, whence it is shipped to the various markets in Great Britain and Europe.

The quality of the phosphate is very good, some shipments averaging over 85 per cent. phosphate of lime. One shipment from the North Star mine averaged 86.48 per cent.

AMERICAN IRON ORES.

MARKED INCREASE IN THE PRODUCTION OF THE METAL—GREAT DRAIN ON THE ORE DEPOSITS.

WASHINGTON, Feb. 20th, 1887.—Major John W. Powell, Director of the Geological Survey, has furnished the following for publication:

The great increase in the production of pig iron from 4,529,869 short tons in 1885 to 5,600,000 short tons during the year 1886 has led to much inquiry as to the source of the ores which made this increase possible, for it is a well known fact that even the ordinary production is a drain upon the ore deposits sufficient to exhaust the present sources of actual supply in a short period—perhaps in thirty years, more probably in much less time. The Government has given sufficient attention to the general geology of the country, however, to afford a good grasp on the distribution of the iron ores, and the geologists have also defined the character of the ores so well as to direct the explorers accurately to the profitable fields.

The statement was made last year by me that within thirty years the necessary exploration for new iron ore mines would exceed that of Great Britain, where every available deposit is being traced to the furthest extent. The years 1885 and 1886 have shown the justice of this prediction in the development of

new fields to support the increased production. The new Gogebic district, which produced 1,022 tons in 1884, increased to 111,661 tons in 1885, and increased this four fold in 1886, has been the scene of unparalleled developments, and the same is true of the Vermilion district of Minnesota.

The confidence with which capital has been invested in these new claims is due to the advice of the geologists to extend the mines in this direction. That the new mines are the result and not the cause of the increased production of iron and steel is shown by the increased imports of Spanish ores during the last year as the result of higher prices. This shows that the remedy for prospective exhaustion is still further exploration for the mines to which the geologist points in various parts of the country. Many of the large deposits have been neglected as not suitable for making steel by the ordinary acid process, and in others the percentage of iron is not attractive. But much attention will undoubtedly be given to these ores within the next few years. This tendency is seen at one locality in Tennessee by the increase from 70,757 long tons in 1884 to 94,319 long tons in 1885, and even the siliceous ores at Cornwall, Pa., show increased use.

A PITTSBURG (Pa.) natural gas company, the largest one in the country, supplies over 400 manufactories and over 7,000 dwellings with the entire amount of fuel consumed.

ARKANSAS is not keeping pace with some of her Southern sisters in the matter of iron development, but she is developing a product which is equally, if not more, valuable. Her coal deposits are vast, rivaling those of any State except Pennsylvania, while the quality is excellent, the coal being a semi anthracite, containing an unusual amount of fixed carbon. The coal resources of the State have been neglected in the race after riches in the shape of iron and other minerals, but are now being estimated at their proper value and development begun in a large number of places. The districts bearing coal in paying quantities are estimated at 7,680,000 acres or 12,000 square miles. New discoveries are being made every day, and the time is not far distant when Arkansas will easily and cheaply supply the wants of the trans-mississippi section.—*Industrial Gazette*.

PROBABLY no application of science is developing more rapidly than photography. Among recent appliances is a detective camera in the form of a watch, with a charm to hold a supply of miniature of dry-plates, and a telescopic camera in which distant objects are brought near by telescopic aid and photographed.

A NEW use has been found for the goose. An enterprising firm in St. Thomas, Ont., known as the St. Thomas Featherbone Company, take goose quills, strip them of the feathers, split them into narrow strips, spin these and bind them and weave them so as to form soft, elastic and enduring ribs for corsets and dressmaking purposes. They in addition manufacture corsets, with these ribs as the foundation. It is claimed by the manufacturers that these ribs are unsurpassed for the purpose mentioned and that, although the process of manufacture is comparatively new, they are coming into use very largely in the United States and Canada. In any case the goose quill, discarded on the invention of the steel pen, is again becoming a remarkable article.

OREGON wheat growers have long received so little for their product that many have become discouraged and are abandoning this business for other branches of farming. It is quite probable that if low prices of wheat continue that the State will cease to grow any for export. California wheat growing has been largely reduced by the greater profit made from putting the land into vineyards. In Oregon the substitute for wheat will probably be stock-growing. Winters are so mild that cattle and sheep browse all the year, or at most need feeding only a week or two. The decline in wheat growing is directly attributable to the extortions of the transportation companies. In enforcing their Shylock rule of taking all that the product will bear, they have lately done more than seizing their legal pound of flesh, and have been drawing blood. Wages are as high in Oregon and California as in Eastern States, the popular prejudice against the Chinese preventing the supply of cheap labor on the Pacific coast that formerly enabled it to compete with Eastern-grown products.—*Manufacturers' Gazette*.