

There was a brisk demand for coal at the opening of the season, and large shipments were made during the first two months after navigation opened. Enquiry fell off somewhat in the summer, but autumn brought an average demand, which increased towards the close of the year, and, as the harbour remained free from ice, considerable shipments were made at both collieries in December, towards the close of which month, however, an unfortunate accident to the boilers at Victoria brought operations at that colliery to close.

Though prices generally were hardly so good as in the previous year, and increased royalty was levied on much of the coal sold, still the results have, as a whole, been satisfactory, admitting of a dividend of 10s. per share.

At Victoria mines the year's result has again, unfortunately, not come up to expectation. The Board have made no change in the management, which they hope may lead to better results this year.

The sale of the Bridgeport property was, as the shareholders are aware, carried through during 1892, but as the purchase money has not yet been fully paid, the Board do not recommend dealing with it until later.

There is as yet nothing further to report as to the proposed sale of the properties of the association."

New Hot-Blast Stoves.—Messrs. McClure & Amsler of Pittsburgh, have designed a hot-blast furnace which is a modification of the Massicks and Crooke's stove, and a number of this modified form of stove have been erected in the United States. The main object aimed at is to effect at the top of the stove a connection between the vertical flues and the stack flue, so constructed as to obviate the liability to fracture of the walls by expansion and contraction. This is effected by making the connecting passage in the form of an arch made separate from the crown of the stove, so that there is an intervening space instead of flues in the crown itself. In this pipe stove there is no combustion chamber beneath, but there is a small one at the end where the gas enters, is ignited, and passes into the oven through slots in the partition wall. There are thirty pipes in each section of the ovens as erected at the Grand river blast furnaces, Kentucky, each pipe having 65 square feet of heating surface. At Durham where these pipe stoves have been in use since 1876, it has been found that 100 pipes, or 6,500 feet of heating surface, will heat 16,000 cubic feet of air per minute, and that with regular running a temperature of 1000° F. can be maintained. At the Grand river, the double stoves, each with 3,900 square feet of heating surface, maintained the above mentioned temperature without difficulty during a run of ninety days, 8,300 cubic feet of air being blown per minute.

Keeping Open Haulage Roads.—Mr. W. H. Chambers* describes the methods adopted for removing the posts of coal along the main haulage roads at the Tankersley collieries. The coal is here worked on a modified long-wall system, leaving posts from 20 to 40 yards thick on each side of the main road. The shaft is 100 yards deep, and from it there is an incline about 1,000 yards long, with a travelling road parallel to it, and 10 to 12 yards of post between them. On either side of these roads posts 25 to 30 yards had been left. From the bottom of this incline levels have been driven some 800 yards or more, with posts in the main part of their lengths. There is also a second incline. In the main incline and levels there is a double line of rails with endless over-rope haulage. As the weight was coming on, owing to workings in another seam, and as the coal in this seam was becoming worked out, it was necessary to take some steps to keep these roads in good condition. Three methods were adopted. In the first of these, the low side posts were taken out from the far end, keeping the packing well up to the coal. A ripping of three feet supplied packing material. After about six months the top side was taken out in 40 yard pieces, and another ripping of 3 feet made out to supply packing. Steel bars were set where the roof required it and the work was done without stopping the haulage. In another level the top side was taken out first. In the main incline, 6 or 8 yards of coal on each side was first taken out, 3 feet of the roof ripped down, and a pack 4 yards wide put in. Then the other portion of the coal was worked out 25 yards behind in bank form. In the second incline, the whole of the coal was taken out at once in several places.

*Paper read before the National Association of Colliery Managers, Leeds, April 30, 1892; The Colliery Manager, vol. viii, pp. 86-87.

The Microscopic Examination of Coal.—J. Wiesner* states that the chief constituent of lignite is a substance which is brown, transparent, and is decolorised by chromic acid, leaving a residue which shows the reactions of cellulose. As, however, this does not withstand the action of chromic acid, it follows that lignite is completely decomposed by chromic acid, or rather by the mixture of potassium bichromate and sulphuric acid, which the author employed. The other kinds of fuel which were examined ranged from anthracite through coking coal to charcoal, lamp black and graphite. These all contained some of this substance, destructible in chromic acid, which was observed in lignite, though usually in very small quantities. Examined under the microscope in the form of a fine powder, the chromic acid solution in contact with the fuel becomes in the first place brown and finally green. The residue, even after having been treated for some weeks with fresh solution, shows no sign of any change. It behaves like amorphous carbon, and at the ordinary temperature is only attacked by chromic acid with extreme slowness. Anthracite consists in the main of the black material scarcely at all affected by a chromic acid solution. It also contains a transparent, deep-brown colored substance, which is slowly oxidised by chromic acid, but leaves no cellulose residue. Bituminous coal appears to be a mixture of lignite and anthracite leaving a small quantity of cellulose after the chromic acid treatment. Brown charcoal is completely decomposed by chromic acid, cellulose being readily observable. Black charcoal, on the other hand, is scarcely attacked.

Devices for Preventing Over-winding.—A. Kast observes that of the hundred and one cases in which the winding-rope or chain broke in the kingdom of Saxony between the years 1884-1891, it was proved that no less than twenty were due to over-winding. In consequence it was ordered in 1890 that at those Saxon mines where men are continually being hoisted or lowered in cages, some safety device should be introduced by which, in case of over-winding, the steam would be automatically shut off and the cage brought to a standstill. Automatic signals were also suggested, and the author describes two newly devised mechanical arrangements for throwing the engine out of gear in case of over-winding, steam being shut off and the brake applied.

Canadian Oil Shipments.—We give in the following table the shipments of crude, refined and crude equivalent leaving Petrolia, Ont., for the first 4 months of 1893, compared with the shipments for the corresponding period of 1892:—

	1892		1893	
	Crude.	Ref'd. Crude. Equiv.	Crude.	Ref'd. Crude. Equiv.
January	17,441	24,751	23,671	28,834
February	14,577	18,073	22,905	19,809
March	16,570	19,469	17,891	22,405
April	12,542	15,145	16,131	16,532

**Monatshfte fur Chemie*, vol. xiii, pp. 371-410.

†*Oesterreichische Zeitschrift fur Berg und Huttenwesen*, vol. xl, pp. 407-411, with illustrations.

The Science and Art of Mining

Published Fortnightly. Price 3d.

Has the Largest Circulation of any Mining Journal in the United Kingdom.

Specially Interesting to all Persons Connected with Mines.

The Publishers will send a Specimen Copy to any Miner on receipt of Post Card.

Publishers:

THOS. WALL & SONS, 27 Walgate, Wigan, England.

Editor: C. M. PERCY, Wigan School of Mines.

Geological Survey of Canada.

Annual Report, 1888-89,

VOL. IV.

With Accompanying Geological Maps, Plans of Mine Workings, and other Illustrations; also a Complete Alphabetical Index.

NOW PUBLISHED AND ON SALE.

PRICE, COMPLETE, TWO DOLLARS.

Part A.—Summary Reports of Operations 1888 and 1889, by the Director. Price 10 cents.

Part B.—West Kootanie District, B.C., by Dr. G. M. Dawson. Price 25 cents.

Part D.—The Yukon and Mackenzie Basins, with maps, by R. G. McConnell. Price 25 cents.

Part E.—Lake Agassiz in Manitoba, by Warren Upham. Price 25 cents.

Part F.—The Sudbury Mining District, by Robert Bell, B.A., Sc., LL.D.†

Part K.—Mineral Resources, Quebec, by Dr. R. W. Ells. Price 25 cents.

Part N.—Surface Geology, New Brunswick, by R. Chalmers. Price 30 cents.

Part R.—Chemical Contributions, by G. Christian Hoffmann. Price 25 cents.

Part S (a).—Mining and Mineral Statistics, 1888, by H. P. Brumell. Out of print.

Part S (b).—Mineral Statistics and Mines, 1889, by E. D. Ingall and H. P. Brumell. Price 25 cents.

Part T.—Annotated List of Minerals occurring in Canada, by G. Christian Hoffmann. Price 25 cents.

Note.—These and all other Publications of the Survey, if not out of print, may be purchased from or ordered through

W. FOSTER BROWN & Co., Montreal.

DURIE & SON, Ottawa, Ont.

WILLIAMSON & Co., Toronto, Ont.

MCGREGOR & KNIGHT, Halifax, N.S.

J. A. McMILLAN, St. John, N.B.

J. N. HIBBEN & Co., Victoria, B.C.

R. D. RICHARDSON, Winnipeg, Man.

MOIR & MILLS, Port Arthur, Ont.

THOMPSON BROS., Calgary, Alta.

THOMPSON BROS., Vancouver, B.C.

EDWARD STANFORD, 26 and 27 Cockspur Street, Charing Cross, London.

SAMPSON, LOW & Co., 188 Fleet Street, London.

F. A. BROCKHAUS, Leipzig.

B. WESTERMANN & Co., 838 Broadway N.Y.

or on application to

DR. JOHN THORBURN,

Librarian,

Geological Survey, Ottawa.

N.B.—Catalogue and Price List can be obtained from any of the above.

FORSTER'S PATENT ROCK BREAKER,

King of Road Makers. For Macadam.

Properly cubed. No gear wheels to break. Product 10 to 200 tons per day, according to size. Over 1550 in use. For Coarse and Fine Crushing. Does the work of any other breaker with one-third the power and one-half the expense for keeping in repair. Mounted on iron trucks. Only manufacturers. No import duties from the United States. Correspondence solicited.

TOTTEN & HOGG FOUNDRY CO.

23rd St. and Railroad Avenue, PITTSBURG.

F. CIRKEL, MINING : ENGINEER.

(Graduate, Academy of Mines, Axchen, Germany.)

Reports on Mica Deposits, Asbestos, Phosphate

78 QUEEN STREET, OTTAWA.

