

## MINING.—Continued.

sliding-block is coupled to the piston-rod of the pump, and can be drawn back until the toggles assume a nearly vertical position (85 degrees) and force out the upper and lower cheeks. As a pressure of 500 atmospheres, corresponding to 50 tons on the piston, can be easily obtained in the pump, and as the force of the toggles, unlike that of a wedge, increases enormously as they approach the vertical position, an up and down force of from 200 and 300 tons can be very easily obtained. The friction is insignificant, being only that of the piston rod in the stuffing-box, and of the toggles on their bearings. When the apparatus is inserted in the hole ready for applying the pressure, its outer or pump end is slung by a chain from one of the timbers supporting the roof, or from the standard which has been previously used for the drill, so as to save it from being injured by falling when the coal comes down. After the front portion has been wedged off, it may be inserted deeper in the hole, and the operation repeated. Glycerine is by preference used for charging the pump, as it not only protects the working parts from rust, but also acts as a lubricant. The apparatus has been in use since September last at the Sandwell Park Colliery, near Birmingham, and at the Lilleshall Company's pit, Shifnal, and for a still longer period in several of the Westphalian collieries. It is now undergoing a special trial by the commission appointed to award a prize of 1000 ducats (£370) offered by the coal owners in the Ostrau Karwin district for the best substitute for explosives. Besides detailed drawings of the apparatus, the paper is illustrated by sketches of various methods of its application under different conditions, and of the manner in which the coal is brought down.—*Bulletin de la Société de l'Industrie Minière*, vol. I., 1887, p. 767, through *Proc. Inst. Civ. Eng.*

W. J. Nelson has sold part of his property at Brookfield to Messrs. Douglas & Wetherill, American gentlemen, for the sum of \$55,000.

The Malaga Mining company have another brick of gold, worth \$5,000, be result of ten days' crushing.

The dividends on the forty-nine dividend paying mining companies in the United States for eight months to Sept. 1 aggregated \$8,511,632.

**JOINT STOCK ENTERPRISE IN ENGLAND**—According to the *Investors' Guardian*, of London, the capital of the limited liability companies registered between January 1st and June 30th of the present year was £270,101,837, as compared with £83,665,036 in the first half year of 1887. The capital of the companies connected with mining was £38,388,000, as compared with £15,850,990 in the corresponding period of last year.

According to the *Petroleum Topic*, there is a large area of untested oil territory yet to be developed in Canada. The paying wells are confined to a belt of land from two to three miles in width and twenty five miles in length situated east of Sarnia, and extending nearly parallel with St. Clair River. The territory is divided into two districts, viz., Petroleum and oil Springs. The annual production of crude oil in Petroleum averages from 350,000 to 450,000 barrels, and the Oil Springs' production is placed at 150,000 to 200,000. The total quantity of refined oil for illuminating purposes manufactured annually from this crude is about 250,000 barrels. The capital invested is estimated at \$6,750,000 as follows. Cost of the wells exclusive of the value of the land, \$1,500,000; cost of engines, derricks and other machinery to run the wells, \$300,000; storage tanks, \$150,000; 50 miles of pipe line with forcing machinery, \$150,000; and the copper pipes, barrels, chemicals, etc., \$250,000. There are 3,200 oil wells in the District of Petroleum and Oil Springs, and the total value of the output of petroleum and products in Canada for the year 1887 is estimated at \$2,000,000.

**PROVINCE OF NEWFOUNDLAND**—The copper mining industry has been carried on with fitful success since 1861, but by the year 1879 the development had been considerable, the total value of copper and nickel ores exported up to that date being \$4,629,889.

The first copper mine was opened at Tilt Cove, 225 miles northwest from the city of St. John's. At the close of 1879 this mine had yielded 10,000 tons of copper ore, valued at \$1,572,154, and nickel ore of the value of \$32,740. The mine at Bett's Cove opened subsequently was, however, a greater producer, and in four or five years there were shipped from it 125,556 tons of ore valued at \$2,982,836.

In 1878 a new deposit was discovered at Little Bay, and with great facilities for working and mining has been carried on pretty steadily on an extensive scale since that time. At Tilt Cove the work languished, owing to the low price of copper, and finally ceased, but as an instance of how the recent advance in the price of metal has stimulated production and given a living value to defunct concerns, this mine, it is stated, was purchased at the beginning of this year for about \$400,000, and resold a few weeks afterward to the representatives of the French copper syndicate for \$68,000. There is now quite a strong force of miners at work, and in a recent examination of the property it is reported by the expert that the mass of pyrites has been cut at a right angle to the north wall 130 feet without finding the south wall. It has been opened from east to west 62 feet over all, and there is no appearance of an end of it in any direction. The whole mass is quite homogeneous; there is no mixture of any rock other than in any part of it. There is at present room for men enough to break 500 tons a month, and the height from the adit to the surface is about 100 feet. By the present system of working, the cost of putting the ore on board ship is estimated at \$2.50 per ton.—*Engineering and Mining Journal*.

## MOTT'S Homeopathic Cocoa

THOS. NICHOL, M.D., L.L.D., D.C.L. of Montreal, writing to us under recent date, says:—

"For over thirty years I have been drinking Mott's Cocoa, and have at various times used all the preparations of Cocoa in the market, but I have met with nothing equal to your preparation. Your

Homeopathic Prepared Cocoa, Especially, is superior to any I have seen for use by invalids."

**JOHN P. MOTT & CO.**  
34 Bedford Row.

**Quicksilver,  
Emery Wheels,  
Lacing Leather,  
AND  
Rubber & Leather Belting.**  
FULL STOCKS, SELLING LOW.

Headquarters in Nova Scotia for  
Gold Mining Supplies.

**Metals & General Hardware.**  
**H. H. FULLER & CO.**  
HALIFAX, N. S.



**St. Lawrence Canal.**  
**NOTICE TO CONTRACTORS.**

Sealed Tenders, addressed to the undersigned and endorsed "Tender for the St. Lawrence Canal," will be received at this office until the arrival of the eastern and western mails on **Tuesday the 24th day of September next**, for the construction of two locks and the deepening and enlargement of the upper entrance of the Galop Canal. And the deepening and enlargement of the summit level of the Cornwall Canal. The construction of a new lock at each of the three interior locks situated on the Cornwall Canal between the town of Cornwall and Maple Grove; the deepening and widening the channel way of the Canal; construction of bridges &c.

A map of each of the localities together with plans and specifications of the respective works, can be seen on and after **Tuesday the 11th day of September next**, at this office for all the works, and for the respective works at the following mentioned places.

For the works at Galop, at the lock-keeper's House, Galop. For deepening the summit level of the Cornwall Canal, at Dickson's Landing; and for the new locks &c., at the lock-station Nos. 18, 19, and 20, at the Town of Cornwall. Printed forms of tender can be obtained for the respective works at the places mentioned.

In the case of firms there must be attached the actual signatures of the full name, the nature of the occupation and residence of each member of the same and, further, a bank deposit receipt for the sum of \$6,000 must accompany the tender for the Galop Canal Works, and a bank deposit receipt for the sum of \$2,000 for each section of the works on the summit level of the Cornwall Canal, and for each of the lock sections on the Cornwall Canal a bank deposit receipt for the sum of \$1,000.

The respective deposit receipts—cheques will not be accepted—must be endorsed over to the Minister of Railways and Canals, and will be forfeited if the party tendering declines entering into contract for the work at the rates and on the terms stated in the offer submitted. The deposit receipts thus sent in will be returned to the respective parties whose tenders are not accepted.

This Department, however, does not bind itself to accept the lowest or any tender.  
By Order,  
A. P. BRADLEY,  
Secretary.  
Department of Railways and Canals,  
Ottawa, 8th August, 1888.

## Mine, Mill & Factory Managers

Whether in Halifax or in the Country,  
Your attention is respectfully called to the fact that

**AARON SINFIELD,**  
Mason and Builder,

has had over thirty years experience in and has made a special study of, all kinds of Furnace Work, so as to reduce to a minimum the expenditure of coal and time, and to make the process of "firing up" as expeditious as possible. "Expert" advice given, and all kinds of Jobbing promptly executed in a thorough, mechanical style at lowest possible rates.

Address—7 GOTTINGEN ST., CITY

**F. W. OHRISTIE,**  
Member of the American Institute of Mining Engineers.

Gold Mining Properties Examined,  
Reported on, and Titles Searched  
Information for Investors in Nova Scotia Gold Mines. Estimates obtained for Air Drills and Air Compressors for Mines and Quarries, and Steam Drills for Railroad Contracts.  
Reference Commissioner of Mines for Nova Scotia  
Address Letter or Telegram, BEDFORD STATION, HALIFAX, CO., NOVA SCOTIA

**City Foundry & Machine Works.**

**W. & A. MOIR,**  
MECHANICAL ENGINEERS & MACHINISTS  
Corner Hurd's Lane and Barrington St.

Manufacturers of Mill and Mining Machinery, Marine and Stationary Engines, Shafting, Pulleys and Hangers. Repair work promptly attended to.  
ON HAND—Several New and Second-hand Engines



**Sault Ste. Marie Canal.**  
**NOTICE TO CONTRACTORS**

SEALED TENDERS, addressed to the undersigned, and endorsed "Tenders for the Sault Ste. Marie Canal," will be received at this office until the arrival of the eastern and western mails on **TUESDAY, the 23rd day of October, next**, for the formation and construction of a Canal on the Canadian side of the river, through the Island of St. Mary.

The works will be let in two sections, one of which will embrace the formation of the Canal through the island; the construction of locks, etc. The other, the deepening and widening of the channel-way at both ends of the canal, construction of piers, etc.

A map of the locality, together with plans and specifications of the works, can be seen at this office on and after **TUESDAY, the 9th day of October, next**, where printed forms of tender can also be obtained. A like class of information, relative to the works, can be seen at the office of the Local Officer in the Town of Sault Ste. Marie, Ont.

Intending contractors are requested to bear in mind that tenders will not be considered unless made strictly in accordance with the printed forms and be accompanied by a letter stating that the person or persons tendering have carefully examined the locality and the nature of the material found in the trial pits.

In the case of firms, there must be attached the actual signatures of the full name, the nature of the occupation and residence of each member of the same; and further, a BANK DEPOSIT RECEIPT for the sum of \$20,000 must accompany the tender for the canal and locks, and a BANK DEPOSIT RECEIPT for the sum of \$7,500 must accompany the tender for the deepening and widening of the channel-ways at both ends, piers, etc.

The respective deposit receipts—cheques will not be accepted—must be endorsed over to the Minister of Railways and Canals, and will be forfeited if the party tendering declines entering into contract for the works, at the rates and on the terms stated in the offer submitted.

The deposit receipt thus sent in will be returned to the respective parties whose tenders are not accepted.

This Department does not, however, bind itself to accept the lowest or any tender.  
By order,  
A. P. BRADLEY,  
Secretary.  
Department of Railways and Canals,  
Ottawa, 8th August, 1888.