

MINING.—Continued.

ple of this irregularity. It has often occurred in the history of the mine that there was none or scarcely any ore in sight, and it has often looked as though the mine must of necessity be shut down, and it has only been by the most careful and painstaking prospecting or dead work that it has been possible to keep up the production of the mine. Very frequently large bodies of ore will almost completely run out, and there will be visible in the face of the works only a slight coloration in the vein matter, which indicates that there is any ore left in that particular place, and by following out this little spring of ore very carefully it may lead into a large deposit. As a result of this, the workings of the mine are necessarily very irregular, and it requires the greatest skill on the part of the engineer in charge of the works to keep up a regular and steady output of ore. Many times in the past history of the mine, the prospecting work has not been carried on on a sufficient scale, and this largely accounts for some of the irregularities of the production of the mine in former times. I have noticed a steady improvement in the carrying out of this prospecting work, which of itself is necessarily very expensive, and requires the greatest judgment on the part of the person in charge of the work. —*Engineering and Mining Journal*.

ELECTRICAL PROCESS.—Nevada papers are exultant over the reported discovery of an electrical method for the saving of floured quicksilver. The effective husbanding of quicksilver means a much cheaper working of silver ores, and gives value to ores whose low grade has hitherto condemned them as worthless. Throughout the State there are immense quantities of these ores thrown aside as worthless. From these tailings, it is claimed, the new process will now extract a paying yield. A mill in Dayton alone has enough of these tailings to keep it profitably employed for ten years to come.

ALUMINIUM ALLOYS.—Just now aluminium compounds and alloys are being thoroughly investigated by mechanical engineers. One of the most remarkable results obtained is from aluminium and wrought iron. When wrought iron contains but a fraction of a per cent of aluminium the melting point of the iron suddenly falls about 600 degrees Fahrenheit, and the iron becomes so malleable that it can be cast nearly as easily as Scotch pig iron. The most remarkable feature is that the iron does not apparently lose its characteristic properties, and the castings can be forged as well as any ordinary wrought iron.

NEW CARTRIDGE FOR COAL MINES.—The new safety cartridge for use in coal mines, as a substitute for gunpowder, continues to be satisfactory in its operation in the German mines where it has been introduced. Its action, as now more definitely reported, depends upon the rapid liberation in the bore hole of a large quantity of hydrogen gas, the pressure resulting from which forces the rock or coal asunder. The hydrogen is liberated by means of the action of sulphuric acid upon very finely divided metallic zinc, and for this purpose there is employed the bluish gray powder that forms in the condensers of zinc distillation furnaces, and which consists of a metallic zinc, that has not been condensed to the liquid form, but results as a powder or as a more or less spongy mass; a small amount of oxide is mixed with it, but it is practically metallic zinc. The cartridge itself consists of a glass cylinder, narrowing to a neck, and contracted also at a point below the neck, so that the cylinder is divided into two portions, communicating through the contraction, the latter being so placed that the two parts of the cylinder are to one another in cubic capacity as one to four, the smaller part being near the neck. The lower or large division is filled with sulphuric acid of commerce with an equal volume of water; the contraction is then closed with a stopper of rubber or cork, and in this condition is taken by the miner. The hole being bored in the coal, and well clayed over internally, the upper part of the glass cylinder is charged with zinc powder, an iron rod is laid in, and this, when struck with a hammer, causes the acid to run in among the zinc powder with the desired result.

The following in regard to the Mining prospects of Newfoundland we clip from the St. John's Mercury:—"It is hopeful to note, amid prevailing depression, that our mining prospects are brightening. The lead and silver mines in Placentia Bay have been purchased by a company of mining capitalists at a high price, and active operations have commenced. The ore is said to be among the richest yet obtained in any country; and there are indications of extensive deposits; but of course only time will determine their extent and value. There must, however, be something very substantial when a company of cautious Scotchmen put their thousands into the undertaking. Over 300 miners are employed at Little Bay copper mine, the whole population there being over 1,800. Instead of exporting the ore as formerly, arrangements have been made for smelting; and the necessary furnaces, machinery, etc., have been erected. The able and energetic manager, Mr. White, anticipates very satisfactory results from the new departure now taken. The cost of export will be greatly reduced when only pure copper will be shipped. A report has been recently received of the discovery of an extensive deposit of copper ore about four miles from Little Bay mine. It is described as 25 feet wide and a quarter of a mile in extent.

Quicksilver near Nikitofka station, Russia, on the Kursk-Kharkoff Railway, is now being worked by a company.

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