

AVOIDABLE LOSSES.

Mills in This District Each Lose \$500 a Day.

All losses in mining are not unavoidable, observes the able mining editor of the San Francisco Chronicle, but there are avoidable losses which usually figure in paying mines where a percentage of the mineral contained in the material treated escapes the processes in use. Of late years much of the ingenuity of mine managers has been directed to devising means of arresting this waste.

It has been demonstrated through a series of carefully made assays that two-fifths of one per cent of the copper contained in the ore passed through the mills of the Calumet and Hecla mine of Michigan escapes in the tailings. The loss amounts to only eight pounds of copper to each ton of ore worked, but it aggregates \$1,500,000 a year at the present price of copper. Another mine in the same district saves less than 1 2-10 per cent refined copper at the mill, while 40 per cent of the copper actually contained in the stamp rock escapes. The problem which the managers of these mines are endeavoring to solve is the preventing of such losses. If it is solved, it will make a material addition to the earning of the corporations. As it now stands, the loss is classed among those that are avoidable.

Most of the extravagant waste in the earlier treatment of the ores of the Comstock lode was avoidable. The bed of the Carson river is full of material containing wealth untold which ought never to have been allowed to escape. Perhaps some day an intelligent effort will be made to recover it.

It is estimated that the slimes of a few quartz mills operating in the Sumpter district in Oregon carry off at least \$500 worth of gold per day which flows into the Powder river. This is all avoidable loss. It is estimated that 25 per cent of the actual contents of the ore of one of the most productive gold mines in the district passes off in tailings. Now the energies of the mine owners are being directed to prevent it and to recover what is already gone into the bed of the river.

In California there are innumerable examples of avoidable losses in mining which are gradually coming to light with a closer study of the economies of mining. For example, from \$2 to \$3 of the assay contents per ton of one of the largest gold quartz mines in the southern part of the state has been steadily passing out of the mill into the tailings. It has been carefully computed that 1,000,000 tons of tailings have accumulated from past operations in the mill waste. A cyanide plant capable of treating 300 tons per day has been installed, which yields a net profit of \$1 per ton per day from the treatment of the mill waste. It is intended to increase the capacity of the plant to 1000 tons per day, and as the mine turns out about 800 tons of ore every twenty-four hours, it will take many years to work off the big pile, which will yield a revenue more reliable than the direct product of the vein, for that fluctuates as all ore bodies do, while the mill loss remains unchanged.

A Grass Valley quartz mine was operated for forty-five years before any successful method of stopping the losses due to the escape of gold in the mill slimes was discovered. Then an ingenious inventor evolved an appliance which returned him a revenue of about \$5000 a month after paying the company a royalty. This was all obtained from material that had been previously allowed to run off as waste and become irrevocably lost in the beds of the adjacent water courses. For nearly half a century an avoidable loss of from \$6000 to \$10,000 a year had been permitted to go in this one mine alone.

What has been the total loss of the operated quartz mines in California during the period of their operation from a similar avoidable cause would make an interesting computation for some patient investigator.

In unwatering the copper mines at Copperopolis it has been discovered that all the rails and the workmen's tools left in the works when abandoned over thirty years ago have, through a well known chemical process, been since transmuted into copper. The incident proves that there is an avoidable loss in every gallon of the drainage of these mines that is allowed to escape without being subjected to a very simple treatment which was discovered after these mines were closed down and which when applied to the drainage of the big copper mines of Montana proved a large source of revenue to the owner. In future it is more than likely that much of the profit of mining in California will come from processes applied to prevent avoidable losses of the mineral contained in the ores worked.—American Mining News.

Modern Hospital Apparatus.

Drs. Tape and Pearce have received for the operating room of their hospital the most modern and approved appliances known to the profession. The leading idea of up-to-date surgery is cleanliness, to do away with disease germs. With this in view, the operating chair, unlike the old upholstered concerns, is made entirely of enameled iron and glass. It can, of course, be adjusted in many positions. The "drainage" is also very near perfection, the blood being conducted in gutters to one basin. There are all the convenient accessories to this center piece.

Lead Cut on Gold Bug-Grizzley.

J. J. Hennessy, of the Gold Bug-Grizzley, was in town Monday and reports that on July 1, they cut the lead on that property, when in 150 feet in a tunnel, giving a depth of 80 feet. The vein at this depth is between seven and eight feet without the foot wall in sight. The values are perfectly satisfactory to Mr. Hennessy. It is his present intention to drift some 200 feet on the lead, hoping to get into a good ore body by this process.

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