

mines will not continue for ever. The truth of this has this year been largely demonstrated.

Whatever the future may bring forth, it can be confidently stated that consumption is likely to remain eminently satisfactory, and that the prosperity of the last few years in the copper industry will continue for some time to come. *Engineering and Mining Journal.*

THE DIAMOND DRILL.

The Cheapest Known Method of Prospecting a Mining property.

The Rossland Miner says: Mr. H. M. Williams, who has been operating diamond drills for the past ten years, is in Rossland. He says that the contract price of diamond drill work is from \$2.50 to \$4 per foot against from \$20 to \$30 for drifting and from \$30 to \$50 per foot for shafting. A diamond drill outfit working two shifts ought to be able to run 500 feet in a month and at a cost not exceeding \$1 per foot.

The diamond drill is coming into increased use in Colorado and particularly in Leadville, where it is very successful in finding ore bodies. In the last two years it has been in use a great deal in the Bunker Hill and Sullivan, where about 4000 and 5000 feet have been bored. In the Slocan some very extensive and valuable work has been done with this form of drill. In Republic camp, where it could be used most successfully it has not been used because of the prejudice against it.

"What kind of diamonds do we use? The diamonds used are of the black variety which comes from Brazil. The size used is from a karat to a karat and a half. These

diamonds cost about \$33 a karat. For softer rock we use an inferior smoked or boart diamond, which is not quite as hard as the black diamonds. For still softer rock we can use the Montana sapphire, which is worth from \$1.50 to \$7 per karat. The black diamonds cannot be beaten for hardness and durability. They are not only used in drilling but also in sawing and turning stone and cutting millstones.

"What does a diamond drill plant cost? They vary in price. A hand plant can be purchased for about \$400, while power plants run from \$400 to \$5000. An excellent plant can be purchased for about \$1200. The boring capacity of these plants varies from 350 to 500 feet.

"What is claimed for the diamond drill is the cheapness with which mining property can be explored. The work only costs a tithe of what it does to make tunnels, shafts and upraises, and for this reason it should be much more used than it is. Once the pay shoots are located it is not much trouble to open them up. It costs much less to find out whether a mine is valuable or worthless by the diamond drill than by any other means."

Scarcity of iron causes singular trade conditions in San Francisco. Old mining camps have been scoured for old iron; machinery once costing large sums, dismantled and shipped to the bay; Cuban cannon balls have been imported; iron is on the way from Scotland; and pig-iron, once sold and shipped to Japan, is now being returned to California, costing, laid down, \$17 per ton.