ble, and brought a few samples of the rock away with him. He showed his samples to Arthur Noel, a miner from Montana, who had been hunting for the ledge for a year and a half. Taking Noel into partnership, the two went back and worked on the ledge to show it up, hammering out enough gold, by crude methods, to pay for their supplies. The present owners of the mine had some difficulty in buying it for $25,000—$50,000 being the price asked by the lucky discoverers. It is the intention to organize a limited liability company, and immediately go to work developing the mine. By bringing water from a point three quarters of a mile up the creek, 100 feet of head can be obtained, and of ample volume to drive a 20 stamp mill, though it is probable that a mill of 10 stamps will be used at the start. The mine is situated ten miles from Lillooet, as already stated, and Lillooet is within 46 miles of Lytton on the C. P. R. To get in machinery and supplies it will only be necessary to make a trail for a distance of about four miles.

This mine will be of direct benefit to Vancouver, as all the supplies will be drawn from there, and if it is one tenth as rich as present indications would suggest, it will be a large contributor to the wealth of the Province. It may be added that the vein is so clearly defined, and of such a uniform thickness, that there can be very little doubt of its permanence, and owing to its favorable position, some 1,800 feet from the creek, it could be profitably worked at $5 per ton. It is under contemplation to put in a dynamo and use the electric drill.

A Fine Gold Saving Machine.

A BRITISH COLUMBIAN'S INVENTION.

The working model of a fine gold saving machine has been constructed at the Albion Iron Works at Victoria, which may solve the puzzling problem of saving at a small cost the gold contained in black sand, the fine gold, sometimes invisible to the naked eye, which is constantly being lost in hydraulic propositions, and with some modification as an amalgamator and concentrator in stamp mills, increasing the capacity of a stamp mill four-fold—saving the free gold in the ore and throwing out the sulphurets contained in the tailings for further treatment freed from the lighter matrix. This machine, considering its capabilities, is very simple in construction. It can be made in any size from a hand machine for the prospector, with a weight of about 150 pounds, with the capacity for treating about ten to twelve tons per day, to that for hydraulic mining, weighing nearly a ton and a half, and which can draw the principal part of the gold from two thousand tons of the escaping tailings daily. These machines will be constructed in such a manner that they can be taken to pieces for transportation. A short description may be interesting to some of our readers.

The amalgamating portion of the machine consists of an outer cylinder, copper lined and having a depression beneath to contain a large quantity of mercury. Inside this cylinder revolves an inner cylinder made of many folds of corrugated copper running spirally to the centre, at one end of which is a discharge opening into an outer chamber in which are revolving a number of beaters; the sides of this chamber are also of corrugated copper. Between the folds of corrugated copper in the inner cylinder are placed vibrating plates of corrugated copper, and between these again are current diverters or vanes moving in opposite directions to each other, in such a way that they distribute the current or stream of tailings passing through the machine alternately on each side of the folds. As the folds in the entire inner cylinder are amalgamated on both sides, it will at once be perceived that the amalgamating powers of this machine are very great; while the corrugations in the machine not only prevent scouring but make the machine practically a revolving sluice box, having amalgamated copper riffles. Means are provided for quickly opening the machine, and it takes but a few minutes to extract or clean any or all of the plates. From the second chamber, where the beating or agitating paddles are placed, the tailings pass into the discharge, which, by easily arranged parts, throws out two separate grades of tailings, heavy and light. The heavy grade can be thrown out by proper attention to its gravity so as to contain but little of the waste, and can be saved for further treatment if found desirable. If the machine is designed to save the fine gold in the escaping tailings from hydraulic mines, a separate part, consisting of a grating, generally known as a "grizzly," but of improved design, is provided, having the bars extending around the sides and bottom, and leading to an under current placed below the bars. Means are taken to regulate the size of the tailings passing through the bars into the under current

This "grizzly" with the under current is generally placed in the line of sluice boxes at the discharge end, and conducts the sifted tailings, passing through it, into the hopper of the amalgamator already described, the boulders and coarser gravel being carried over the bars to the dump. The gold saved in this way is simply that which has refused to be retained in the riffles or under currents in the flume, and represents simply a saving of gold which would otherwise be lost. The capacity of one of these larger machines is between 300 and 400 tons of siftings per day, which would represent the finer tailings in from 1,500 to 2,000 tons of the tailings passing down in the flume. All the exposed and wearing parts of the corrugations in these larger machines are steel bound, preventing any wear on the copper itself.

A large size machine has over one thousand square feet of amalgamating surface, and carries on these plates and in the pockets about 500 pounds of mercury. One or more machines can be attached to the flume. The small power required to run the machine can easily be obtained from the head of water at the mine, from which point it can be transferred to the machine in the most convenient form.

Where large quantities of black sand are to be treated a machine about two-thirds the size of that intended for hydraulic mining will be made. The amalgamating portion of this machine is similar to that of the larger one. There will be attached to it, however, a set of steel rollers having interlocking teeth, and beneath these rollers is a cylinder with spirally arranged indentations on its surface. This roller rests in a bed having sharp but shallow indentations arranged horizontally across its surface. The black sand falling from the hopper above passes between the teeth of the revolving rollers, where it is made of an even size, and is carried down between revolving rollers and its bed (called the "pulverizer"), and falls into the amalgamator, ground into an impalpable powder. The cleaving affinity between the gold and the black sand having by this process been destroyed, no trouble will be experienced in saving the gold, however fine. The capacity of this machine will be from 60 to 75 tons per day, and very low grade sand can be profitably worked, as the running expense will be very light. For free milling ore and ore containing a percentage of free gold and some sulphurets, the machine will be of the size and description of that described for the treatment of black sand, save that extra care will be taken in the position of the pulverizing roller, so that any degree of fineness can be obtained. Some ores require coarser grinding than others. The