

while the machine is in operation. The bottom of the box is inclined PLATINUM. at an angle of about 15° . It is eight feet wide and the bottom is Occurrence. covered by stout bass mats, which are held in place by stout pieces of wood about 3 inches deep, which are kept in their places by wedges, and act as riffles. The sands drop through the grating into a transverse shallow trough, then over a table some 18 feet long and furnished with wooden riffles and one or two more troughs. At the bottom of the table the sands drop into a wooden chute which is at such a height above the ground that these sands can be carried by the stream of water to a low dump, some 100 yards away from the machine.

It is evident that any coarse pieces of platinum or nuggets which are the most liable to be stolen, will be retained in the padlocked section of the table, while most of the finer platinum sands are also caught in the mats; the lower table is said to catch very little, but this however is no proof that the tailings are clean, for all the arrangements now in use are obviously unsuitable for catching flour platinum. The machine referred to above can treat about 100 tons in 12 hours, the volume of water required being from 5 to 10 times that of the gravel. The clean-up of the different appliances usually takes place every 12 hours at 5 p.m. and 5 a.m. The sands resulting from the clean-up are then further concentrated in another very simple sluice, consisting of an upper portion in the shape of a box lined with sheet iron and a lower portion which consists of a narrow box about 15 feet long which is laid with well washed peats forming shallow riffles. The sands are thrown in small quantities into the box and then worked about with a hoe or a narrow shovel in a carefully regulated current of water; the bulk of the platinum is retained in the box, the rest being caught in the riffles and most of the lighter material is carried away. The rich concentrates thus obtained, seem to consist of crude platinum, chromite and a few of the heavier minerals. They are finally cleaned on a small flat table or wash-board. This consists of two tables separated by a drop of two inches. Above the upper one is a small box which delivers a regular shallow stream of water over the whole breadth of the table, the force of the current being just sufficient to move the average-size particles of platinum. The breadth of the board is about 3 feet. The concentrated sands from the sluice are thrown on the upper table and are continually pushed upward against the current by means of a little wooden hoe. On this table the concentration is finished; the sands are worked with the hoe until fairly clean and are then allowed to be carried by the stream of water to the lower table, where the washing is completed. The clean platinum sands are then collected off both tables and stirred up with suffi-