

heavier stamp with its lower and faster drop and lower discharge, of which the shoe in some of the mills does not rise over the water at all, exerts by its quick up and down movement, I might say, a wave like motion of the water, and by this action keeping the finer and lighter particles of ore more afloat and more from the die before the crushing moment is reached. It is obvious that we gain by these conditions a less production of fine slimes, and a regular discharge. Another reason which urged me to adopt heavy stamps was, that in passing the oxidation zone of our mines we find the sulphurets increasing and the free gold decreasing, therefore mortar amalgamation does not play in our country, in many of the mines to be opened, so important a part as many might think; then undoubtedly the longest period of our mines' existence will be the one while mining unaltered ore.

I come now to the amalgamating table. For a better understanding of its construction and *modus operandi*, I show it also here in a larger sketch, by which you will observe, that as soon as the stream of the slimes leaves the feeding-board, it runs against an obstruction, which not only causes the fine, light particles of slime to stay more suspended in the water, but also helps drowning the float gold. The water runs now down and back partly underneath the feeding board over a copper plate. After it has overcome its momentum it flows forward again, and falls upon and runs over a second plate until it finds another obstruction, makes the same back and forward movement as before, and drops then in a little launder which is lined with amalgamated copper plates. For preventing a settling of the sands and minerals, a stirrer keeps the ore pulp in motion, which is discharged over the front side of the box, being somewhat lower than the back part. The slimes in their forward course repeat the same play as before until they are discharged from a launder into the sluices, whence they enter the hydraulic classifiers.

I think it is hardly necessary to comment on this table, as it is easily comprehended that through the frequent interruption which the current finds on its way over the table that the light fine slime particles are not given time to settle so tenaciously on the copper plates, as it is the case on those tables which we have usually in use here. The area of the copper plates on a table of the size shown in the plan—56 x 122 in., without frame, is $61\frac{1}{2}$ square feet, has therefore considerably more amalgamating area than our smooth tables, besides taking less space for placing them.