

fore when I regulate that force so that it will act only on the specific lighter, but more voluminous, or more surface-offering gangue grains, so do we receive under all circumstances cleaner concentrates and also cleaner tailings. Charging these classified products on a Frue vanner we can expect better work from them.

But the concentrators shown here—an improvement on the Rittinger table—are quite a departure from the foregoing, they not only separate the gangue from the minerals quickly and cleanly, as soon as they are brought on the tables, but separate also the freed minerals from each other, as far as their specific gravity will allow it. The separation is fast and sharp, the quartz leaves the tables as soon as it is fed from the board and falls into compartment I., the second product, the blende, into compartment II. ; the third, the pyrites, go into compartment III. ; and the last in order, the galena, will occupy compartment IV. of a launder and boxes in front of the table. We learn by the little sketch that this concentrator does not discharge at the ends, as is the case with the Frue vanner, but sideways, to which it can be inclined at any desired angle. The classified pulp is fed diagonally upon a rubber belt which travels against the feed of the ore, and moves over two rollers situated on both ends, of which one of them furnishes the forward movement. It is resting on a table in which grooves are cut, and little streams of water forced through them forming thereby a cushion which hinders wear and tear of the belt. On account of this, the latter is always smooth and level, no sacking occurs, as with the Frue vanner after it is used for some time. This arrangement rests in a stout iron frame which is suspended on two arms on an iron rod, allowing any desired inclination. It receives about 150 percussions per minute by a cam and spring, situated at the opposite ends of the machine ; at the same time the belt travels nearly 165 inches, or $2\frac{3}{4}$ inches per second. By these motions the table is enabled to separate by specific gravity. This is different in the case of the Frue vanner, it receives lateral vibrations, and separation of the gangue and minerals takes place on both ends of the table, that is, the gangue is discharged on the lower, the mixed and heavier minerals, with a certain amount of gangue carried up to the higher end of the table or belt and there discharged. Should different minerals on above described table touch, or run together somewhat near the lines of their discharge these are caught, and kept extra for further treatment on the reserve