minute which are the conditions under which it is run. The slimer seems to be of simple and durable construction and is guaranteed by the makers to run 5 years without repairs other than the replacement of the canvas belt, which lasts from 6 to 18 months according to the character of the ore, water, and other conditions under which it is run, and is inexpensive to replace.

It is claimed that the concentrator weighs 1400 pounds, requires ½ horse-power and, with a large capacity, makes a saving of values on Colorado ores varying from 75.0 to 97.0% with an average of about 80.0%.

II. C b. End-Shake Vanners.

§ 1260. THE AKENS AND EVANS SLIMER[13] (see Fig. 764), made by the Colorado Iron Works, has a belt of canvas mounted on a shaking frame to which endwise or longitudinal reciprocations are imparted as to a Triumph vanner. At the feed end of the belt is a triangular feed box (1) which makes a triangular depression (2) in the surface of the canvas across nearly its whole width.

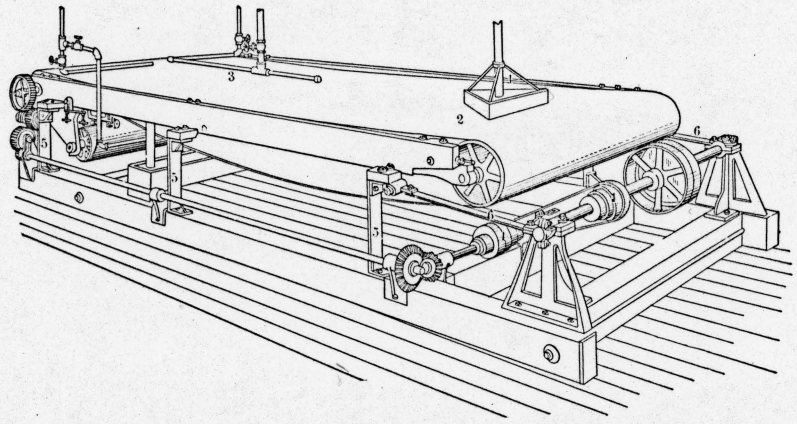

FIG. 764. — THE AKENS AND EVANS SLIME CONCENTRATOR.

The apex of this triangular depression is a little less than half-way from the feed-end roller to the discharge-end roller. Beneath the belt are suitable frame pieces of wood covered with linoleum over which the canvas slides to maintain the lines of this depression; and to maintain also a line extending from the apex to the discharge roller, which is slightly elevated so that the wash water and slimes are washed off the belt into launders at the sides. The belt runs over drums which are regulated as in a vanner. The feed, when it is introduced into the depression in the belt, enters a quiet pool of water maintained by the triangular depression. This allows the concentrates to settle. As the belt moves on it comes into the region where it is acted upon by the wash water supplied from a pipe (3) along the ridge or elevated medial line. In this way the tailings are washed into launders at the sides, while the concentrates, adhering to the belt, are carried over the discharge-end roller and washed off into a concentrates tank beneath the table. Adjustments by means of step pulleys (4) are provided for varying the speed of travel of the belt, which should be from 26 to 56 inches per minute. The shaking frame is supported by means of hickory toggle springs (5) and moved by means of eccentrics (6). The floor space required is about 7 × 16 feet. This table has just been put upon the market and no data as to its capacity or durability are available.

Used in Vanadium Mines Co. mill near Cutter, Colo 1910

II. *C c. Vanners Gyrating in the Plane of the Belt.*

(See Ore Dressing, Vol. II., page 657.)

II. C d. Vanners with Tipping or Undulating Motion.

§ 1261. THE JOHNSTON VANNER.[41] — The chief difference between t Johnston vanner and the Frue vanner is in the fact that, instead of a horizont side shake, it has an undulating motion imparted to the shaking frame, whi is designed to prevent the sands from piling up against the edges of the be This vanner is shown without the belt in Fig. 765. The shaking frame (

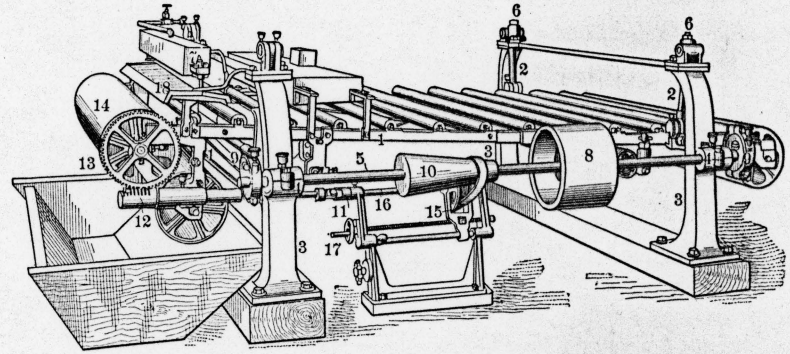

FIG. 765. — FRAME OF JOHNSTON VANNER.

instead of being supported from below, is suspended by four non-parallel su pension links (2), one at each corner, which, when attached to the stationa frame, are about 3½ inches farther apart than the lower ends which are a tached to the shaking frame.

The stationary frame consists of wooden base-frame timbers. On the ba frame are mounted four hollow cast-iron corner posts (3) which are braced w struts. The upper ends of these posts are the supports for the links (2) which the shaking frame is suspended. They also form, on one side of t machine, the supports for the journal boxes (4) of the main driving shaft and, at the head end, for the water box (7). The two links at the rear end of the vanner are so arranged as to permit of raising or lowering the shaking frame through nuts (6). The shaking frame, which carries the five drums, is made of channel irons and rods and is so arranged that it can be made square by lengthening or shortening the diagonal tension rod provided for that purpose. The effect of supporting this frame by the links, as described above, is to impart to the table a motion which tends to toss the grains nearest the edges of the belt back toward the center in a manner somewhat analogous to the action of the Ferraris screen.

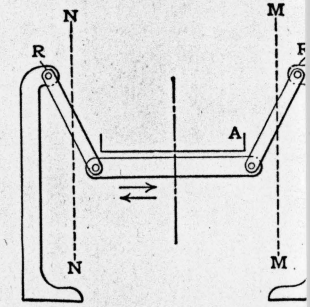

FIG. 766. — EXAGGERAT DIAGRAM SHOWING JOI STON VANNER MOTION

This may be more apparent from the exaggerated Fig. 766. The vanner belt with its upturned edges is there represented as resting upon the shaking frame which is suspended from the corner posts by non-parallel lin The figure is a cross-section, through two links, across the belt. Now if the sh

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Ore Dressing

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