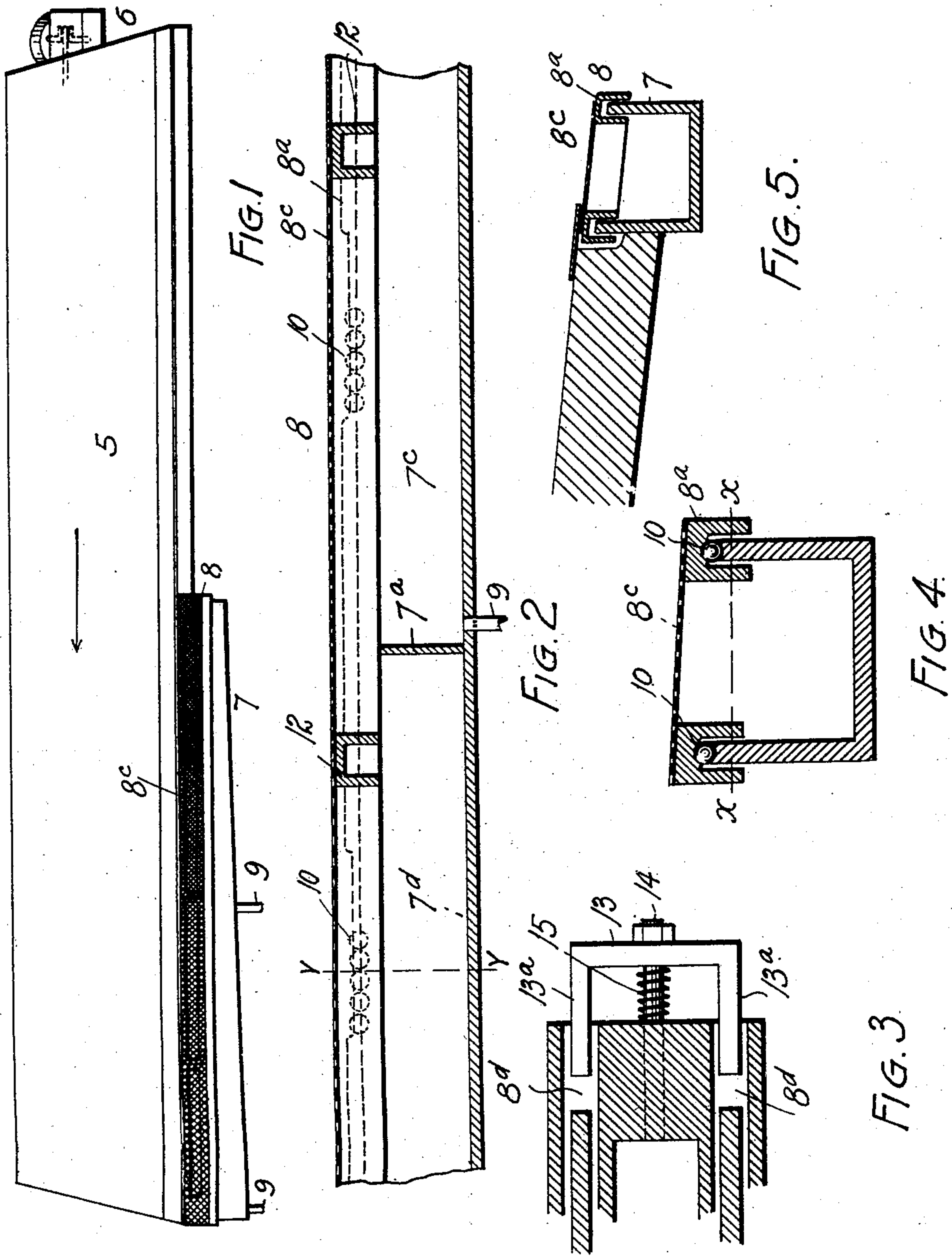


C. T. ARKINS.

SLIMER ATTACHMENT FOR CONCENTRATING TABLES.

APPLICATION FILED DEC. 9, 1901.

NO MODEL.



Witnesses:
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UNITED STATES PATENT OFFICE.

CHARLES T. ARKINS, OF ROWENA, COLORADO.

SLIMER ATTACHMENT FOR CONCENTRATING-TABLES.

SPECIFICATION forming part of Letters Patent No. 719,409, dated January 27, 1903.

Application filed December 9, 1901. Serial No. 85,146. (No model.)

To all whom it may concern:

Be it known that I, CHARLES T. ARKINS, a citizen of the United States of America, residing at Rowena, in the county of Boulder and State of Colorado, have invented certain new and useful Improvements in Slimer Attachments for Concentrating-Tables; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in slimer attachments for concentrating-tables, my object being to save the exceedingly fine or floured mineral particles held in suspension by the water, and therefore under ordinary circumstances escaping with the gangue.

The invention will now be described in detail, reference being made to the accompanying drawings, in which is illustrated an embodiment thereof.

In the drawings, Figure 1 is a side elevation of a concentrating-table equipped with my improvements. Fig. 2 is a longitudinal section taken through the slime-saving attachments, the parts being shown on a larger scale. Fig. 3 is a horizontal section taken through the front end of the device on the line *x x*, Fig. 4. Fig. 4 is a section taken on the line *y y*, Fig. 2. Fig. 5 is a cross-section taken through my improved device and the lower edge of the concentrating-table to which it is attached.

The same reference characters indicate the same parts in all the views.

Let the numeral 5 designate a transversely-inclined concentrating-table having a longitudinally-reciprocating movement or vibration, having a tendency to cause the material to travel longitudinally thereon from the head toward the tail or foot of the table or in the direction indicated by the arrow in Fig. 1. The operating device is conventionally designated by the numeral 6 and may be of ordinary or any suitable construction. To the lower edge of this table is secured my improved slime-saving attachment, which extends from the tail of the table a suitable

distance toward the head and consists of a launder 7, attached to the table and movable therewith, and a screening device 8, movably mounted on the launder in a position to receive the discharge from a portion of the lower edge of the table. The launder consists of a trough having a partition 7^a about midway thereof, forming the launder into two compartments 7^c and 7^d, respectively, whereby the slimes caught are separated into two grades. Connected with each compartment of the slime-trough is a conduit 9, through which the material caught may be discharged and conducted to any suitable receptacle. Mounted on top of the launder is a frame 8^a, to which is attached a screen 8^c of suitable mesh. The mesh of the screen above the compartment 7^c or that nearer the head of the table is preferably finer than that above the compartment 7^d. The screen-frame 8^a consists of two side pieces whose edges are grooved to receive the upper edges of the launder sides. This construction permits the screen to move freely on the launder and independently of the latter. To facilitate this movement, the upper edges of the launder sides are provided with ball-races, in which are located balls 10, forming bearings upon which rests the screen-frame. As shown in the drawings, the two sides of the screen-frame are connected by channel-pieces 12.

In order to limit the movement of the screening device on the launder or the launder under the screening device, a U-shaped bracket 13 is applied to the forward extremity of the screen-frame. A bolt 14 is made fast to the frame and protrudes forwardly therefrom, passing through an opening formed in the base of the bracket. A nut is screwed upon the threaded extremity of this bolt against the bracket. A coiled spring 15, mounted on the bolt, is interposed between the nut and the screen-frame of the bracket. The arms 13^a of the bracket project into the grooves 8^d of the sides of the screen-frame and into the path of the sides of the launder.

When the table is in operation, the launder 7 vibrates therewith; but the screening device has a tendency to remain relatively stationary, while the launder moves underneath it. The result is substantially the same as if the launder were stationary and the screening de-

vice moved, and the tendency of course is to prevent the clogging of the screen as the material from the table passes thereto.

The operation of tables of the class shown is well understood. The material to be treated is fed upon the upper edge of the table near its head. The wash-water delivered to the upper edge of the table flows downwardly or transversely to the forward travel of the material and carries the gangue over the lower edge of the table. The gangue discharged from the portion of the table nearer its head is practically devoid of metallic values. It is from the portion of the table near the tail or foot that the values are lost, and the object of my improvement is to catch these values. Hence it is not necessary that the device should extend the entire length of the table. The fine mineral values which otherwise would escape with the gangue pass through the screen and are caught in the launder below. The material caught in the compartment 7^c near the head of the table may be returned to the table for retreatment, while that caught in the compartment 7^d may be carried to another table for treatment or disposed of in any suitable manner.

Having thus described my invention, what I claim is—

1. The combination with a transversely-inclined concentrating-table having a longitudinal vibration, of a launder made fast to the lower edge of the table, and a screening device mounted thereon and relatively movable, substantially as described.

2. The combination with a transversely-inclined concentrating-table having a longitudinal vibration, of a launder made fast to the lower edge of the table, and a screening device mounted thereon and relatively movable, said device comprising a frame composed of side pieces connected by a screen of suitable mesh, the side pieces of the frame, being grooved to receive the upper edges of the launder sides.

3. The combination with a concentrating-table of the class described, of a launder made fast to the lower edge of the table, and a screening device mounted thereon and relatively movable, and means mounted on the screen-

ing device and adapted to engage the launder for limiting the independent movement of the two parts.

4. The combination with a concentrating-table of the class described, of a launder made fast to the lower edge of the table, a screening device mounted thereon and relatively movable, and means adjustably mounted on the screening device and adapted to engage the launder for limiting the independent movement of the two parts.

5. The combination with a transversely-inclined concentrating-table having a longitudinal vibratory movement, of a launder made fast to the lower edge of the table, a screening device movably mounted thereon, said device comprising a frame composed of side pieces connected by a screen of suitable mesh, the side pieces of the frame being grooved to receive the upper edges of the launder sides, and a U-shaped bracket mounted on one extremity of the screening device, the arms of the bracket projecting into the grooves of the sides of the said device for the purpose set forth.

6. The combination with a reciprocating concentrating-table of the class described, of a launder made fast to the lower edge of the table, a screening device movably mounted thereon, said device comprising a frame composed of side pieces connected by a screen of suitable mesh, the sides of the frame being grooved to receive the upper edges of the launder sides, a U-shaped bracket mounted on one extremity of the screening device, the arms of the bracket projecting into the grooves of the screen-frame sides, a bolt mounted on one extremity of the screening device and passing through an opening in the base of the U-shaped bracket, a nut applied to the extremity of the bolt to hold the bracket in place, and a spring coiled around the bolt and interposed between the base of the bracket and the screening device, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES T. ARKINS.

Witnesses:

DENA NELSON,

A. J. O'BRIEN.