

No. 730,732.

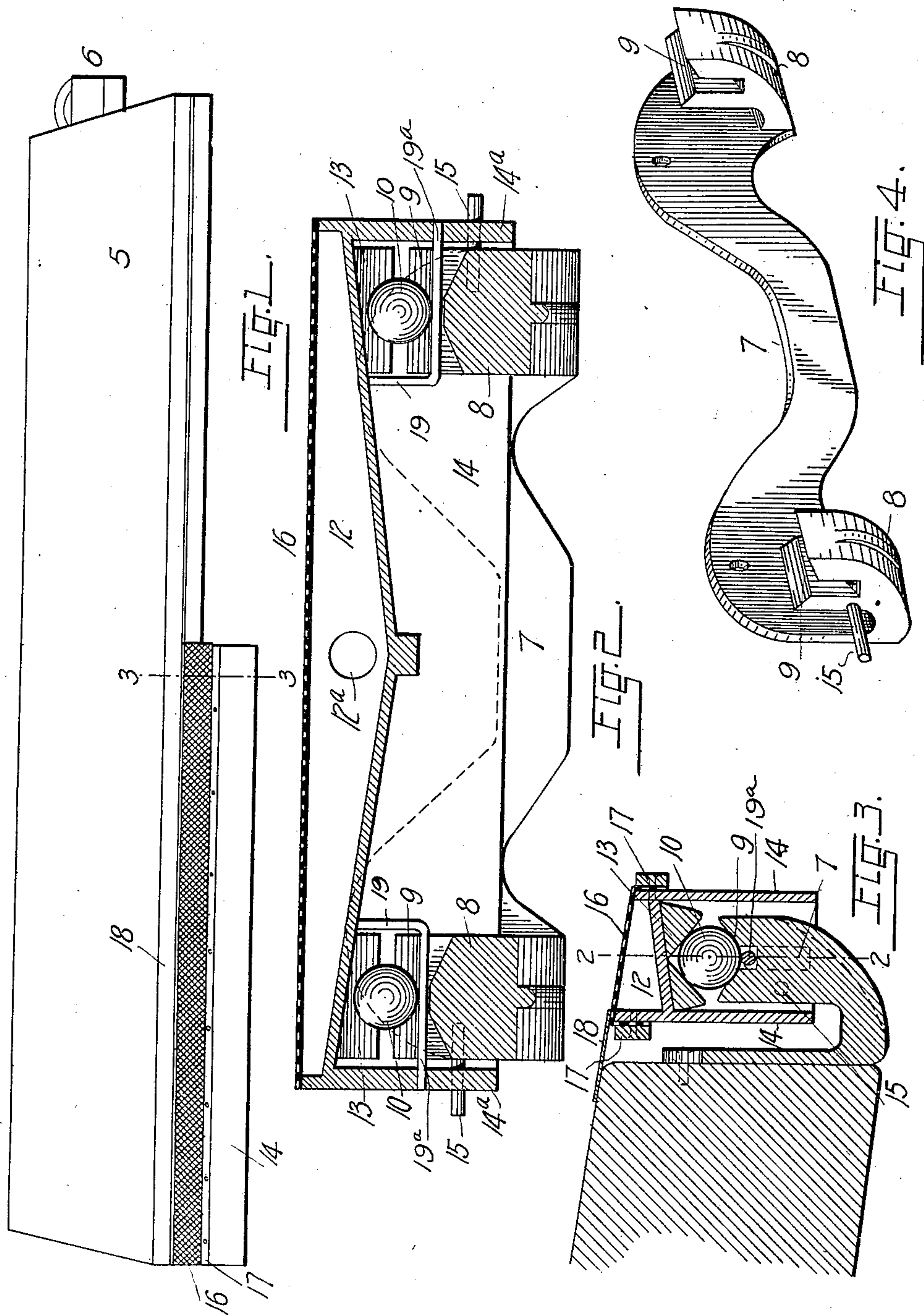
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C. T. ARKINS.

SLIMER ATTACHMENT FOR CONCENTRATING TABLES.

APPLICATION FILED SEPT. 27, 1902.

NO MODEL.



WITNESSES:  
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# UNITED STATES PATENT OFFICE.

CHARLES T. ARKINS, OF DENVER, COLORADO.

## SLIMER ATTACHMENT FOR CONCENTRATING-TABLES.

SPECIFICATION forming part of Letters Patent No. 730,732, dated June 9, 1903.

Application filed September 27, 1902. Serial No. 125,101. (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 Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Slime 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 slime attachments for concentrating-tables of the class set forth in my previous application, Serial No. 85,146, filed December 9, 1901, allowed July 7, 1902.

My object is to increase the saving of the mineral values in connection with this class of concentrators; and to this end the invention consists of the features, arrangements, and combinations hereinafter described and claimed, all of which will be fully understood by reference to the accompanying drawings, in which is illustrated an embodiment thereof.

In the drawings, Figure 1 is a side elevation of a concentrating-table provided with my improved slime-saving attachment. Fig. 2 is a vertical longitudinal section taken on the line 2 2, Fig. 3, the parts being shown on a larger scale. Fig. 3 is a section taken on the line 3 3, Fig. 1, on a larger scale. Fig. 4 is a perspective view of a bracket forming a part of my improved device.

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 whose tendency is to carry the material thereon from the head or right-hand extremity of the table toward the left or tail thereof. A conventional operating device is shown in the drawings, connected with the head of the table and designated by the numeral 6.

My improved device is mounted on the lower or gangue-discharge edge of the table and extends from the foot or tail thereof toward the head of the table a suitable distance. It may, if desired, extend the entire

length of the table. The greater proportion of the loss of mineral values with the gangue is toward the tail of the table. Hence my improved device is shown in the drawings extending from the tail of the table about half its length.

To the lower edge of the table 5 is attached a bracket 7, provided with two laterally-extending lugs 8, one located at each extremity of the bracket. The upper extremity of each lug is grooved, as shown at 9, to form a race or seat for the ball-bearings 10. Mounted to reciprocate or vibrate on this bracket is a trough or receptacle 12, whose extremities are provided with depending lugs, grooved, as shown at 13, to engage the ball-bearings 10 from above. The receptacle 12 is provided with a depending housing 14, which surrounds the bracket and protects the ball-bearings and their engaging parts from contact with dirt or foreign matter, which otherwise might interfere with the proper working of the device. The trough 12 is loosely mounted on the bracket to permit an independent vibratory movement thereon as the table is actuated, as aforesaid. The bracket 7 is provided with a guide-pin 15 at each extremity. These pins pass through openings formed in the ends 14<sup>a</sup> of the trough-housing and support the trough, whereby the latter is prevented from turning on the bracket. The openings in the housing for the pins are of sufficient size to allow the trough perfect freedom of movement for the purpose of longitudinal vibration. The top of the trough is covered by mesh material, as wire-screen 16, which, as shown in the drawings, is secured in place by bending down its edges upon the sides of the trough and applying thereto cleats or strips 17, which are fastened to the trough by suitable devices. As shown in the drawings, the screen 16 is inclined to correspond with the inclination of the table, and the latter is provided with a plate 18, attached to its lower edge and overlapping the screen 16, whereby the discharge from the lower edge of the table passes to the screen.

From the foregoing description it will be understood that as the table is reciprocated longitudinally or in the direction of its length, as heretofore described, a longitudinal vibration will be imparted to the trough 12, which



rides on the ball-bearings 10 and is mounted on the bracket to permit independent vibration resulting from the movement of the table to which the bracket is attached. This movement of the trough agitates the material on the screen 16 and causes the fine mineral values to pass therethrough into the trough. The contents of the trough, whose bottom is hopper-shaped, may be drawn off through an opening 12<sup>a</sup> and returned to the table for retreatment or carried to another table, (not shown,) as may be desired.

The receptacle 12 is provided with rods 19, which extend downwardly from its bottom (see Fig. 2) in front of the ball-races and thence underneath the latter, as shown at 19<sup>a</sup>, occupying positions in the bottom of the grooves formed in the top of the lugs 8, the construction being such that the trough or receptacle is free to move on the bracket. These rods make it impossible for the balls 10 to escape from the ball-races.

Having thus described my invention, what I claim is—

1. The combination with a transversely-inclined concentrating-table having a vibratory movement, of a receptacle connected with the lower edge of the table and relatively movable, the said receptacle having a mesh covering to receive the discharge from the table.

2. The combination with a concentrating-table, of a bracket attached thereto, and a receptacle loosely mounted on the bracket and provided with a mesh covering arranged to receive the discharge from the table, the connection between the bracket and trough being such as to allow the receptacle an independent vibration imparted by the table's movement.

3. The combination with a vibratory concentrating-table, of a bracket attached there-

to, a trough loosely mounted on the bracket to permit independent vibration, and a ball-bearing connection between the trough and the bracket, substantially as described.

4. The combination with a vibratory concentrator, of a receptacle provided with a mesh covering, and arranged to receive the discharge from the table, said receptacle being mounted on the table and relatively movable.

5. The combination with a vibratory concentrating-table, of a bracket mounted thereon, a receptacle provided with a mesh covering, loosely mounted on the bracket, ball-bearings interposed between the engaging parts of the bracket and the receptacle, and a housing extending downwardly below the bearing parts and arranged to protect the latter, substantially as described.

6. The combination with a transversely-inclined, longitudinally-reciprocating concentrating-table, of a bracket attached to the lower edge of the table and provided with lugs at its extremities having ball seats or races formed in their upper extremities, a trough loosely mounted on said bracket and provided at its extremities with ball-bearing parts, ball interposed between the trough and bracket, to facilitate independent vibration, the said trough being covered with mesh material and arranged to receive the discharge from the lower edge of the table, the trough being also provided with a skirt or depending housing surrounding the ball-bearing parts, 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.