

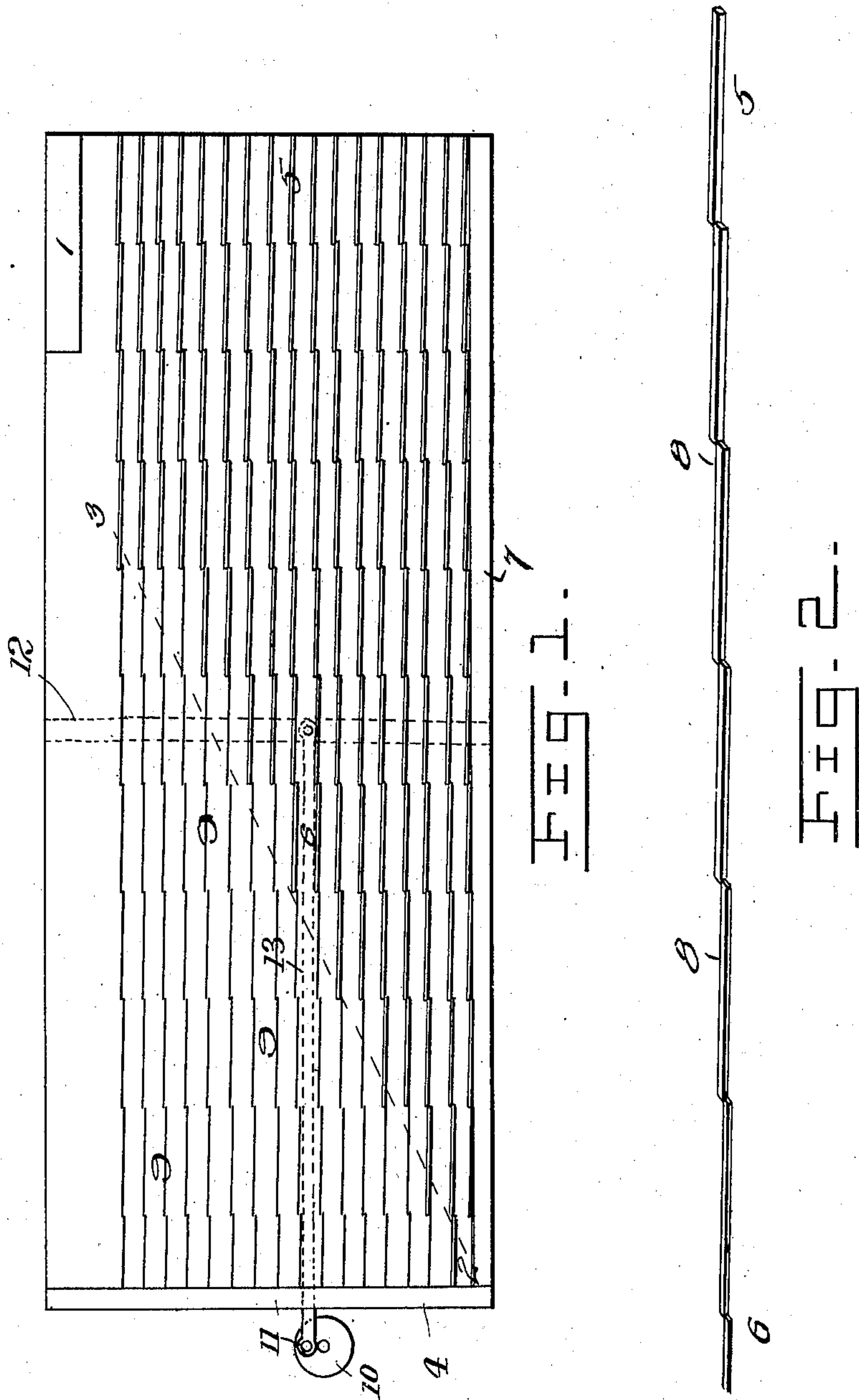
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RIFFLE FOR CONCENTRATING TABLES.

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963,582.

Patented July 5, 1910.



Witnesses

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ALBERT M. KEMP AND MERTON W. LOOMIS, OF DENVER, COLORADO, AND JOSEPH E. FITZWATER, OF ROSSVILLE, ILLINOIS.

RIFLE FOR CONCENTRATING-TABLES.

963,582.

Specification of Letters Patent.

Patented July 5, 1910.

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To all whom it may concern:

Be it known that we, (1) ALBERT M. KEMP, (2) MERTON W. LOOMIS, and (3) JOSEPH E. FITZWATER, citizens of the United States, residing at (1 2) Denver, in the county of Denver and State of Colorado, and (3) Rossville, Vermilion county, Illinois, have invented certain new and useful Improvements in Rifles for Concentrating-Tables, of which the following is a specification.

Our invention relates to tables for ore-concentrators, and more particularly to the form and arrangement of the riffles of such tables, and has for its object to provide a more efficient surface for separating the gangue and concentrates. We attain this object by the construction shown in the accompanying drawing, in which:—

Figure 1 is a plan view of the top of a concentrator table built in accordance with our invention and Fig. 2 is a perspective of one of the riffle-bars, shown detached from the table.

1 is the pulp-box, located at the head of the table, 4 the discharge end for the concentrates and 7 the side at which the gangue is discharged.

The riffles 5—6, are arranged substantially parallel to each other and to the sides of the table; each riffle comprising a series of sections 8, 8, gradually decreasing in depth from the head of the table to a diagonal line 2, 3, and having their ends slightly overlapping laterally, as shown in the drawings. By this construction, shoulders, having their faces normal to the longitudinal riffles, are formed by the overlapping ends of the sections, which shoulders assist materially in propelling the material toward the concentrates discharge end of the table. From the head of the table to the diagonal line 2, 3, these sections are preferably composed of wood. Between this line and the foot of the table, the sections are preferably of metal of slight and uniform thickness, such as strips of hoop-iron; but are still secured to the table in substantially parallel rows, and with laterally-overlapping ends, as shown at 9, 9.

Our table may be used with any desired form of driving mechanism; such, for example, as that shown in our Patent No. 900,285, dated Oct. 6, 1908; or the riffles may be attached to existing forms of tables. In

Fig. 1, we have illustrated the means for reciprocating the table as consisting of a driving pulley 10, carrying eccentrically a crank pin 11, which is connected to a cross bar 12 of the table, by a connecting rod 13.

We are aware that continuous riffles of gradually decreasing thickness have been used; as have also riffle-bars arranged in zigzag lines, and bars capped with a metallic strip. Our arrangement is, however, exceedingly rapid and efficient in operation and effects a better separation of the different grades of concentrates than other constructions with which we are familiar.

What we claim is:—

1. A concentrator-table having riffles comprising contacting, laterally-overlapping sections the forward ends of which form shoulders having their faces normal to the longitudinal direction of the riffles; and means to reciprocate said table substantially as described.

2. A concentrator-table having riffles comprising contacting, laterally-overlapping sections decreasing in thickness from the head of the table toward the foot thereof the forward ends of said sections forming shoulders having their faces normal to the longitudinal direction of the riffles, and means to reciprocate said table substantially as described.

3. A concentrator-table having a plurality of riffles extending throughout its length, said riffles comprising contacting, laterally-overlapping sections the forward ends of which form shoulders having their faces normal to the longitudinal direction of the riffles; and means to reciprocate said table substantially as described.

4. A concentrator-table having a plurality of riffles extending throughout its length, said riffles comprising a series of contacting, laterally-overlapping sections decreasing in thickness from the head of the table toward the foot thereof the forward ends of said sections forming shoulders having their faces normal to the longitudinal direction of the riffles; and means to reciprocate said table substantially as described.

5. A riffle for concentrator-tables comprising laterally-overlapping sections; some of said sections decreasing uniformly in thickness and others thereof being of substantially uniform thickness the forward ends of said sections forming shoulders having

their faces normal to the longitudinal direction of the riffles; and means to reciprocate said table substantially as described.

6. A riffle for concentrator-tables comprising a series of laterally-overlapping, vertically-tapering sections and a series of laterally-overlapping metallic sections of uniform thickness the forward ends of said sections forming shoulders having their faces normal to the longitudinal direction of the riffles; and means to reciprocate said table substantially as described.

7. A concentrator-table provided with a parallel series of riffles extending throughout its length, each of said riffles comprising laterally-overlapping sections decreasing in thickness from the head of the table toward

the foot thereof and laterally-overlapping sections of substantially uniform thickness; the number of said last named sections decreasing from one side of the table toward the other side thereof; and means to reciprocate said table substantially as described.

In testimony whereof we have affixed our signatures, in presence of witnesses.

ALBERT M. KEMP.
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JOSEPH E. FITZWATER.

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