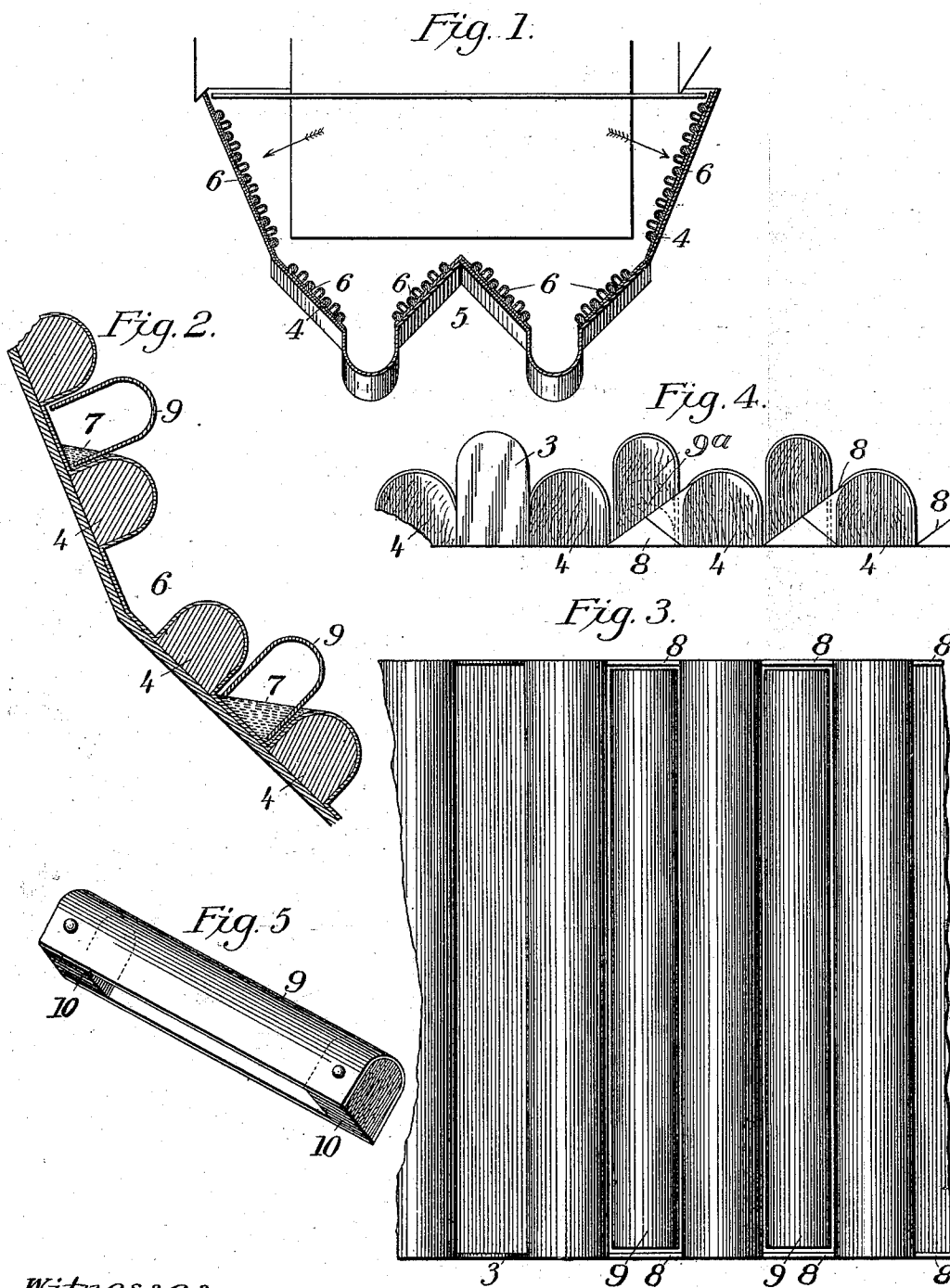


(No Model.)

E. S. BENNETT.
AMALGAMATOR.

No. 547,239.

Patented Oct. 1, 1895.



Witnesses.
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UNITED STATES PATENT OFFICE.

ERASTUS S. BENNETT, OF DENVER, COLORADO.

AMALGAMATOR.

SPECIFICATION forming part of Letters Patent No. 547,239, dated October 1, 1895.

Application filed May 17, 1895. Serial No. 549,636. (No model.)

To all whom it may concern:

Be it known that I, ERASTUS S. BENNETT, 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 Amalgamators; 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 amalgamators, and is specially designed for use with the style of tank shown and described in a previous patent issued to me on the 13th day of March, 1894, being numbered 516,624. This tank is W-shaped in vertical transverse section and provided with corrugated amalgamated plates having the pockets, cells or depressions between the ribs closed at the ends. In these pockets or cells it is designed that there should be, and there is, in fact, always some free mercury which it is intended shall keep the adjacent ribs of the plate moist under the influence of the jarring, vibratory motion imparted to the machine during use, thus increasing the efficiency of the plates. It often happens that the machine is subjected to jars of sufficient magnitude to throw or slop this free mercury out of the cells in considerable quantities, thus suddenly depriving a cell of its free mercury without accomplishing any useful object. To obviate this sudden escape or slopping out of the free mercury from the cells, and at the same time form a hiding-place for the mineral or amalgam, where it is protected from the sand and gravel, is the object of my present invention.

To this end the improvement consists of the features hereinafter described and claimed.

In the accompanying drawings is illustrated an embodiment of the invention.

Of the drawings, Figure 1 is a vertical transverse section of the amalgamating-tank provided with my improvement. Fig. 2 is an enlarged fragmentary view of the same. Fig. 3 is a view looking in the direction indicated by the arrows in Fig. 1. Fig. 4 is an end or

edge view of the same. Fig. 5 is a perspective view in detail of one of my improved plates.

In the views, similar reference-characters indicating corresponding parts or elements, let the numeral 5 designate the tank provided with corrugated plates 6, having a backing or filling 4, and provided with pockets, cells, or depressions 7, closed at the ends, as shown at 8. Within these cells or pockets are placed in an inverted position the concavo-convex or trough-shaped auxiliary plates 9, which may be retained in position either by gravity or frictional contact. These plates, when in position, preferably extend above the corrugations, heads, or ridges on either side, and thus form a check for the mineral or amalgam passing down the sides of the tank, being thus directed into the cell beneath, since there is sufficient room around plates 9 to allow the amalgam and mineral to pass into the cells. The depth or height of plates 9 may, however, be the same or less than the heads on each side, as shown by dotted lines, and designated 9^a in Fig. 4.

The ends of plates 9 are closed to prevent the sand from entering at the ends of the cells. The ends of these plates are preferably composed of wooden blocks, as shown at 10 in Fig. 5. They may, however, consist of any other suitable material, as sheet metal. This form is shown at 3 in Fig. 4.

It will thus be seen that when plates 9 are in position the free mercury in cells 7 can only escape by passing out around the sides or ends of plates 9, which prevent the escape of this mercury in greater quantities than may be desirable or necessary in order to keep the amalgamated plates in proper condition.

Having thus described my invention, what I claim is—

1. The combination in an amalgamator provided with corrugated plates having the depressions closed at the ends, of the inverted trough-shaped auxiliary retaining plates located in said depressions, substantially as and for the purpose set forth.

2. The combination in an amalgamating tank, of the corrugated plates having their depressions closed, or partially closed, at the

ends forming pockets or cells, of the inverted
trough-shaped auxiliary retaining plates
closed at the ends and located in said cells or
pockets, substantially as and for the purpose
5 set forth.

3. The combination in an amalgamator provided with corrugated plates, of the inverted
trough-shaped auxiliary retaining plates lo-

cated in the depressions of the corrugated
plates, substantially as described. 10

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

ERASTUS S. BENNETT.

Witnesses:

JULIUS BROWN,
C. F. SCHOFIELD.