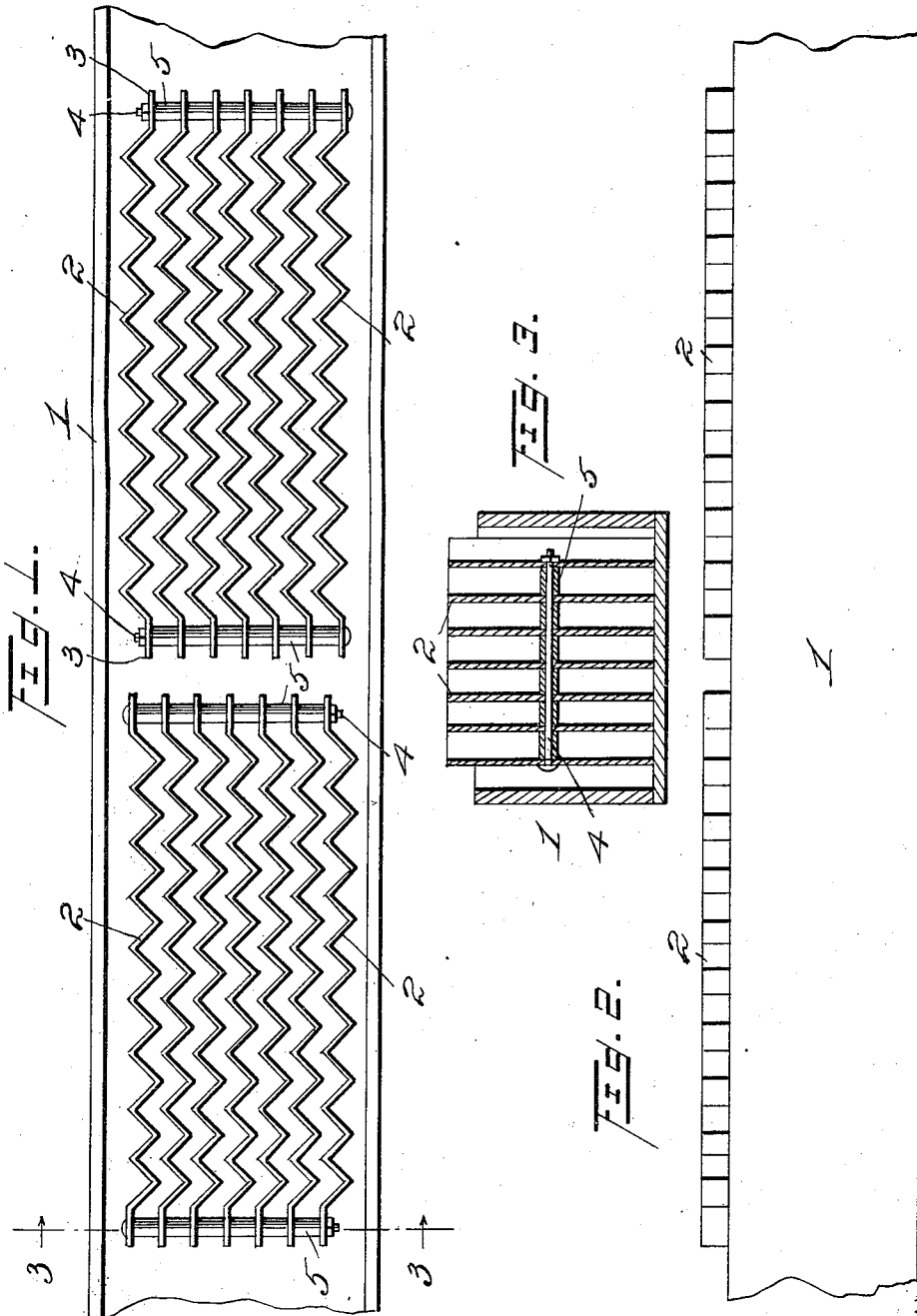


R. L. ROYSE.
 AMALGAMATOR RIFFLE.
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1,013,066.

Patented Dec. 26, 1911.



Witnesses

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ROBERT L. ROYSE, OF MARTINSVILLE, INDIANA.

AMALGAMATOR-RIFFLE.

1,013,066.

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To all whom it may concern:

Be it known that I, ROBERT L. ROYSE, a citizen of the United States, residing at Martinsville, in the county of Morgan and State of Indiana, have invented certain new and useful Improvements in Amalgamator-Riffles, of which the following is a specification.

This invention relates to amalgamator riffles, and one of the principal objects of the invention is to provide a series of zigzag mercury-coated riffle plates designed to be placed in a sluicibox to catch small particles of gold, or other values amenable to amalgamation, as the water or slime passes from the amalgamator and is led off through the sluicibox to the refuse or tailings dump.

Another object of the invention is to divide up the current of slime as it passes through the sluicibox into a number of small currents which are compelled to take a zigzag course so that all the slime or water is brought into contact with one or the other of the plates as it passes through the sluicibox, thus attracting all the values to the mercury-coated plates.

Still another object of the invention is to provide simple and cheaply constructed zigzag riffle plates which can be readily removed from and replaced in the sluicibox and which will save a large percentage of the floating values which in great part have heretofore been run off with the tailings.

These and other objects may be attained by means of the construction illustrated in the accompanying drawings, in which,

Figure 1 is a plan view of a portion of a sluicibox containing amalgamator riffles made in accordance with this invention; Fig. 2 is a side elevation of the same; Fig. 3 is a transverse section on the line 3—3 of Fig. 1 looking in the direction indicated by the arrows.

Referring to the drawings, the numeral 1 designates a sluicibox which may be of the usual or any suitable construction. Placed within the sluicibox is a series of riffle plates, which series is connected together by bolts and spacing collars, as will be now described. The plates 2 are of zig-

zag form as shown, and at the end of each plate is a straight flange or foot 3. Each of these plates is coated with mercury and in order that the plates may be held the required distance apart, a bolt 4 is passed through alining perforations in the foot 3 at a point near the center of its width and between each pair of plates is a collar or sleeve 5, which holds the plates the required distance apart. It will be obvious that any number of these plates may be utilized and that the plates may be of any required length. However, it is deemed expedient to make the plates of such length that they can be readily handled or removed from the sluicibox, and thus any number of series of plates may be placed in the box, one after the other, in longitudinal series, in order to insure contact of every portion of the water or slime as it passes toward the discharge end of the sluicibox.

Upon reference to Fig. 3 of the drawing, it will be seen that the riffles extend slightly above the upper edge of the sluicibox to prevent splashing or running over of the slime.

From the foregoing it will be obvious that this invention is exceedingly useful in all classes of placer or free milling plants, and that the cost of production and maintenance is very slight when compared with the saving of values by its use.

I claim:—

In combination, a sluice, an amalgamating element resting upon the bottom thereof, and comprising a series of longitudinally disposed, upstanding parallel plates corrugated to form zig-zag channels longitudinally of the sluice, said plates extending above the normal liquid level in the sluice, and means for fastening and holding said plates in spaced relation and adapting the same for removal and re-setting.

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

ROBERT L. ROYSE.

Witnesses:

PERRY BROFORD,
JOHN H. BROOKMAN.