

G. R. Evans,

Ore Washer.

No. 86,379.

Patented Feb. 2, 1869.

Fig: 1.

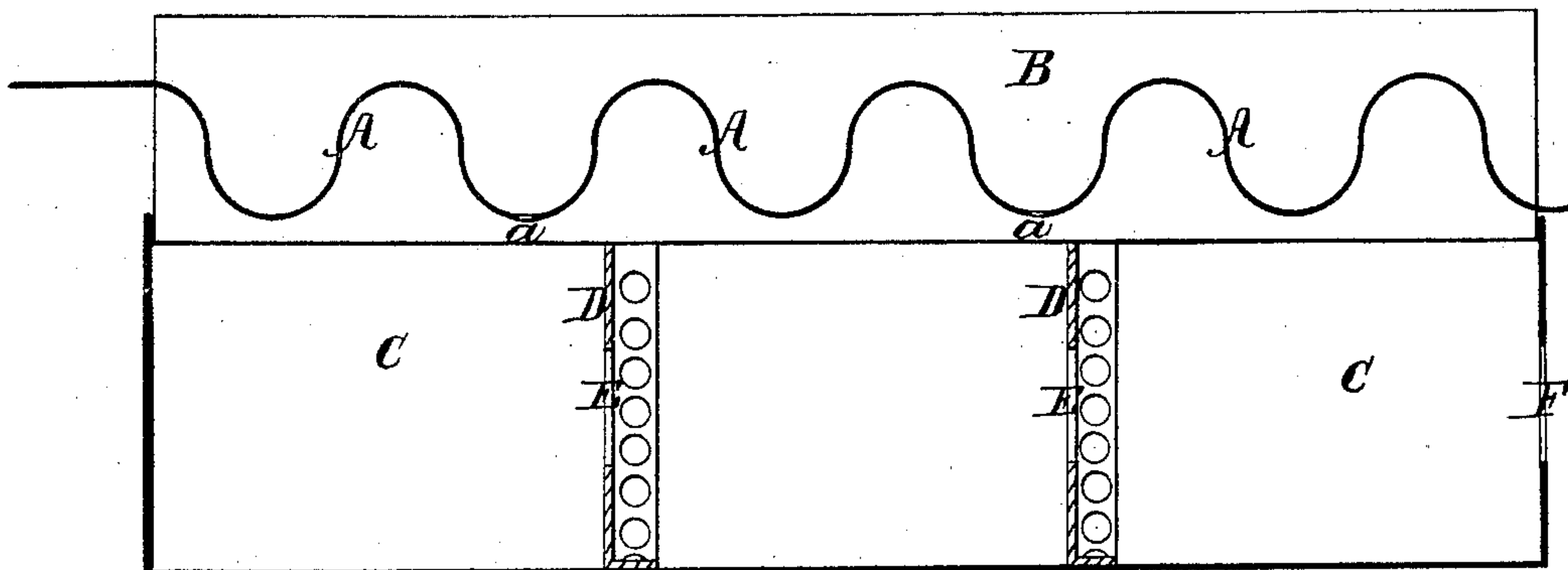
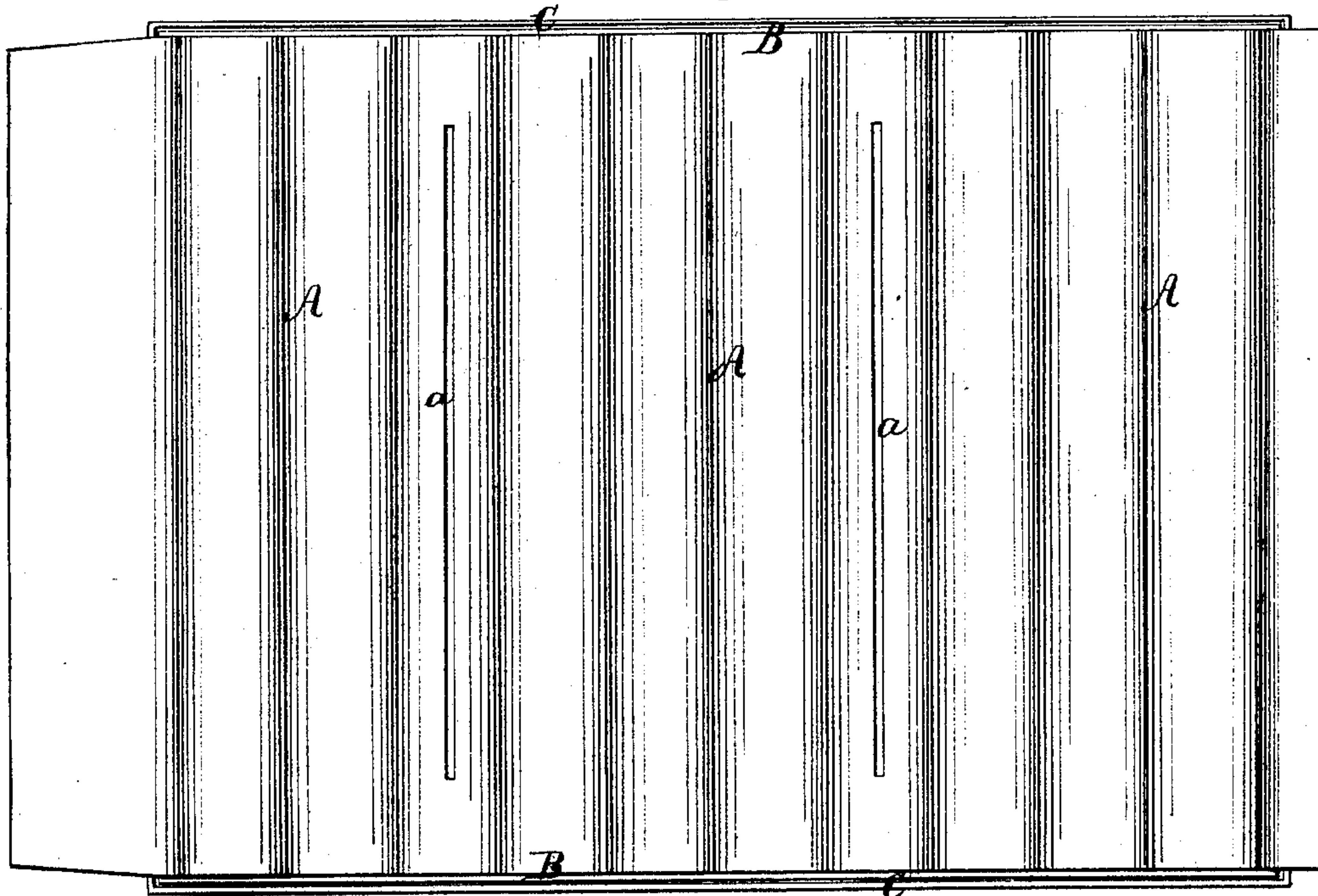


Fig: 2.



Witnesses;
Geo. H. Strong.
J. L. Boone

Inventor;
George R. Evans
Per Dwyer & Co Attys

United States Patent Office.

GEORGE R. EVANS, OF VIRGINIA CITY, NEVADA, ASSIGNOR TO HIMSELF AND JOHN WHITE, OF THE SAME PLACE.

Letters Patent No. 86,379, dated February 2, 1869.

IMPROVED APPARATUS FOR SAVING GOLD, AMALGAM, AND QUICKSILVER

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, GEORGE R. EVANS, of Virginia City, county of Storey, State of Nevada, have invented an Improved Apparatus for Saving Gold, Amalgam, and Quicksilver; and I do hereby declare the following description and accompanying drawings are sufficient to enable any person skilled in the art or science to which it most nearly appertains, to make and use my said invention or improvements without further invention or experiment.

The object of my invention is to provide an improved apparatus for saving gold, amalgam, and quicksilver, after the ore has been crushed and passed through the mill, and consists in running the tailings or residue from the mill over a copper plate, which is curved or fluted so as to form alternate circular troughs and riffles. The plate is set at an incline, each alternate groove or trough having a narrow longitudinal slot or opening running almost its entire length. Through these openings the gold and amalgam will fall into an amalgamated box beneath, which is so divided, by means of partitions, into compartments, that each slot or opening in the grooved plate above will be directly above the middle of each compartment. The partitions in the box have also a longitudinal section cut from the middle of each, through which the water and debris pass off to the outside, through a similar opening in the lower end of the box.

To more fully explain my invention reference is had to the accompanying drawings, forming a part of this specification, of which—

Figure 1 is a side sectional view of my invention.

Figure 2 is a plan.

Similar letters of reference in each of the figures indicate like parts.

A is a plate, made of copper or other metal capable of being amalgamated, and is curved or fluted, so as to form circular elevations and depressions, as shown, and has the side-pieces B B.

Each alternate depression or groove has a slot, *a*, running almost its entire length.

The plate is set at an incline, and the current of water which carries the tailings is received at the upper end. The instant it is received in the first trough, the gold, amalgam, and quicksilver, by their superior specific gravity, seek the bottom, and a portion is carried through into the first compartment of a box, C,

beneath. The current carries a portion along over the amalgamated surface of the plate, which arrests any fine particles which may have escaped the influence of the quicksilver, and hold it, while the sulphurets lodge in the grooves, where the accumulation of sand retains them. The tailings are thus passed along from one groove to the other, exposing the entire body to the amalgamated surface, the amalgam falling through into the box C.

The box C is divided into compartments by partitions D D, so that the opening *a*, in the bottom of the grooves, in the plate A, will be between the two partitions.

These partitions have a longitudinal portion cut out midway between the bottom and top of the box, forming openings E E.

The box is set at the same angle as the plate, and supports it.

The amalgam and quicksilver, after dropping through the opening *a*, fall to the bottom of the compartment, and lodge in the angle formed by the side and partition, gathering in a body, while the water and debris pass out through an opening, F, in the end of the box, similar to those in the partition.

By this means all the fine gold is brought in actual contact with the amalgamated surface of the corrugated copper plate, and either clings to it or falls through into the compartments below, from whence it cannot escape. The sulphurets are caught in the grooves or channels in the plate, while the debris is carried off by the action of the water.

This device may be extended to any length desired, so as to insure the thorough extraction of the metals.

Having thus described my invention,

What I claim, and desire to secure by Letters Patent, is—

The curved plate A, slotted at *a a*, together with the box C, having the partitions D D, with the slots E, E, and F, the whole constructed and operating substantially as herein described.

In witness whereof, I have hereunto set my hand and seal.

G. R. EVANS. [L. s.]

Witnesses:

GEO. H. STRONG,
J. L. BOONE.