(No Model.)

H. C. WALKER & W. BACON.

GOLD SEPARATOR.

No. 288,520. Patented Nov. 13, 1883.

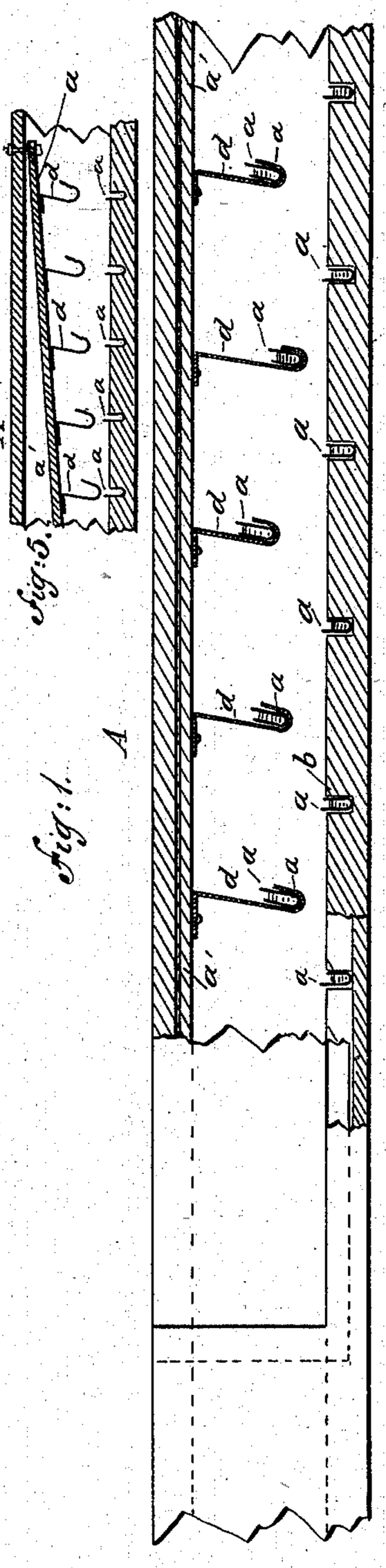

Fig: 1.

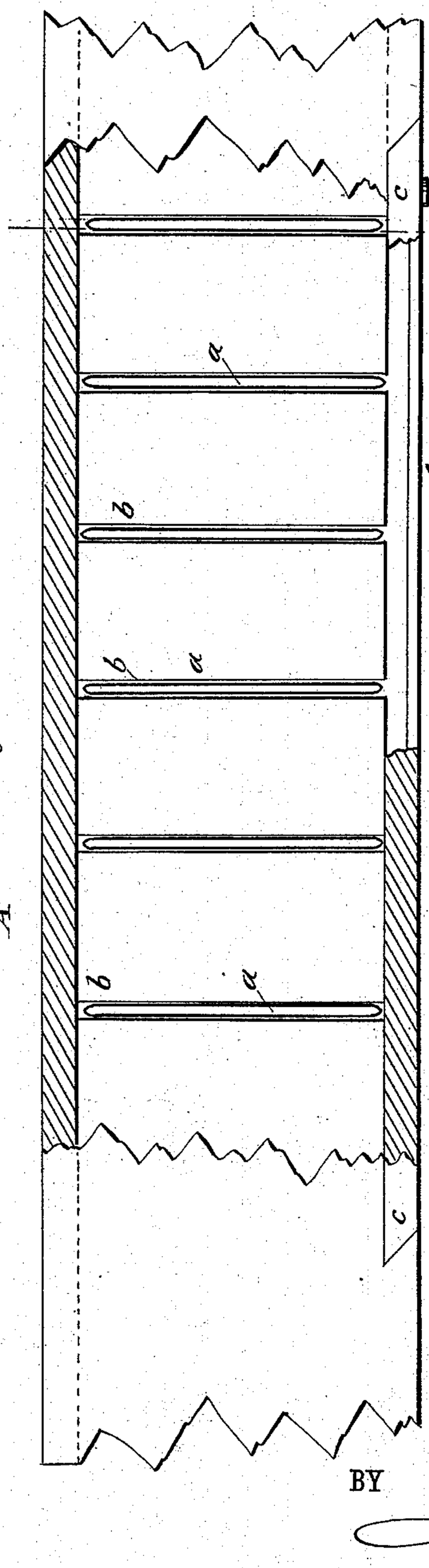

Fig: 2.

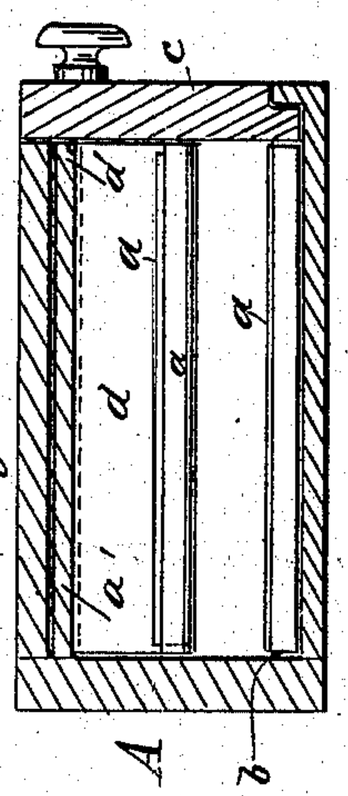

Fig: 3.

Fig: 4.

WITNESSES:

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HIRAM C. WALKER AND WILLIAM BACON, OF SILVER CLIFF, COLORADO.

GOLD-SEPARATOR.

SPECIFICATION forming part of Letters Patent No. 288,520, dated November 13, 1883.

Application filed August 7, 1883. (No model.)

To all whom it may concern:

Be it known that we, HIRAM C. WALKER and WILLIAM BACON, of Silver Cliff, in the county of Custer and State of Colorado, have invented a new and Improved Gold-Separator, of which the following is a full, clear, and exact description.

Our invention consists in improved means for saving flour or fine gold and other metals which would otherwise be carried off by the water or sand in mining operations.

The invention is intended to be applied to a sluiceway or box through which the water and sand are passed; and it consists in a series of metallic troughs which are set in the bottom of the sluiceway alternately, with similar troughs suspended from above by cleats or hangers, as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional side view of a sluiceway or box with our improved troughs. Fig. 2 is a sectional plan view of the same. Fig. 3 is a cross-section. Fig. 4 represents one of the metallic troughs; and Fig. 5 is a sectional view of the box, showing the hinged top as in use.

The sluice or box A may be the ordinary sluiceway for the tailings in mining operations, or it may be constructed especially for the purpose.

a a are the troughs or receptacles, which are made of sheet-copper, silver-plated, the strips of the metal being bent lengthwise to form the U-shaped troughs or receptacles, one edge being formed higher than the other, as shown. These troughs *a* are set in grooves *b*, that are formed transversely in the bottom of the box, parallel with each other and a proper distance apart, so that troughs are obtained at right angles to the current of the material passed through the box.

The top of the sluice-box, to which the hangers *d* are secured, is preferably made double—that is, so that a hinged or adjustable under portion, *a'*, as shown clearly in Fig. 5, may be allowed to conform itself to the current of water passing through the box; but the top of the box may be made solid and permanent, as in an ordinary sluice-box. We do not limit ourselves in this respect.

A portion of the side or bottom of the sluice A is made removable, as shown at *c*, so as to give access to the troughs *a*, in order that they may be removed and replaced. These troughs are to contain mercury.

d d are hangers attached to the top of the sluice A, and bent upward at their lower ends to receive the troughs *a*, which are similar to those placed in the bottom of the sluiceway. These latter are preferably placed alternately with those at the bottom, and may be of any number, as desired, and at any suitable distance apart.

By this construction and arrangement the current of sand and water passed through the sluice is forced to come alternately in contact with the upper and lower troughs, and the fine metal contained in the water and sand is brought intimately in contact with the mercury in the troughs. The troughs can be removed from time to time, in order that they may be filled with fresh mercury. In the absence of water the sand can be run or forced through the box in a dry state.

This device is simple, and overcomes the difficulties heretofore experienced by miners in saving the flour or fine gold or other metal.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. In a gold separator, a sluiceway having a series of mercury-troughs arranged on its bottom and a series of similar troughs suspended from its top, substantially as herein shown and described.

2. The combination, with the sluiceway or box A, of the sheet-metal troughs *a*, provided with mercury, fitted in grooves *b* in the bottom of the box, and of the hangers *d*, carrying similar troughs provided with mercury, substantially as shown and described.

3. In a gold-separator, the combination, with the sluiceway or box A, having mercury-troughs in its bottom, of the hinged top *a'*, having mercury-troughs suspended therefrom, substantially as herein shown and described.

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WILLIAM BACON.

Witnesses:
PAREN ENGLAND,
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