A. B. PAUL.

Ore Amalgamator.

No. 33,159. Patented Aug. 27, 1861.

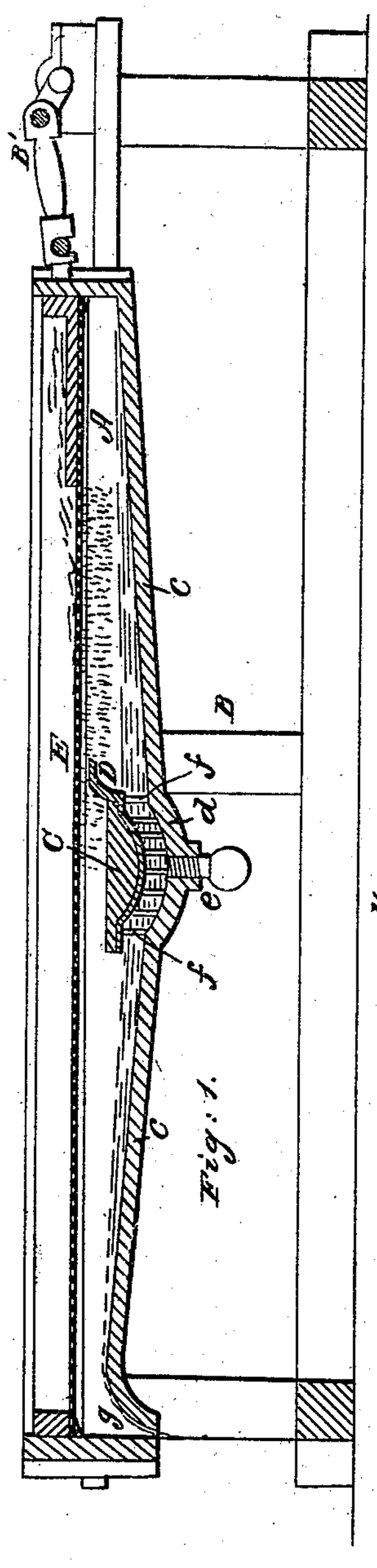

Fig: 1.

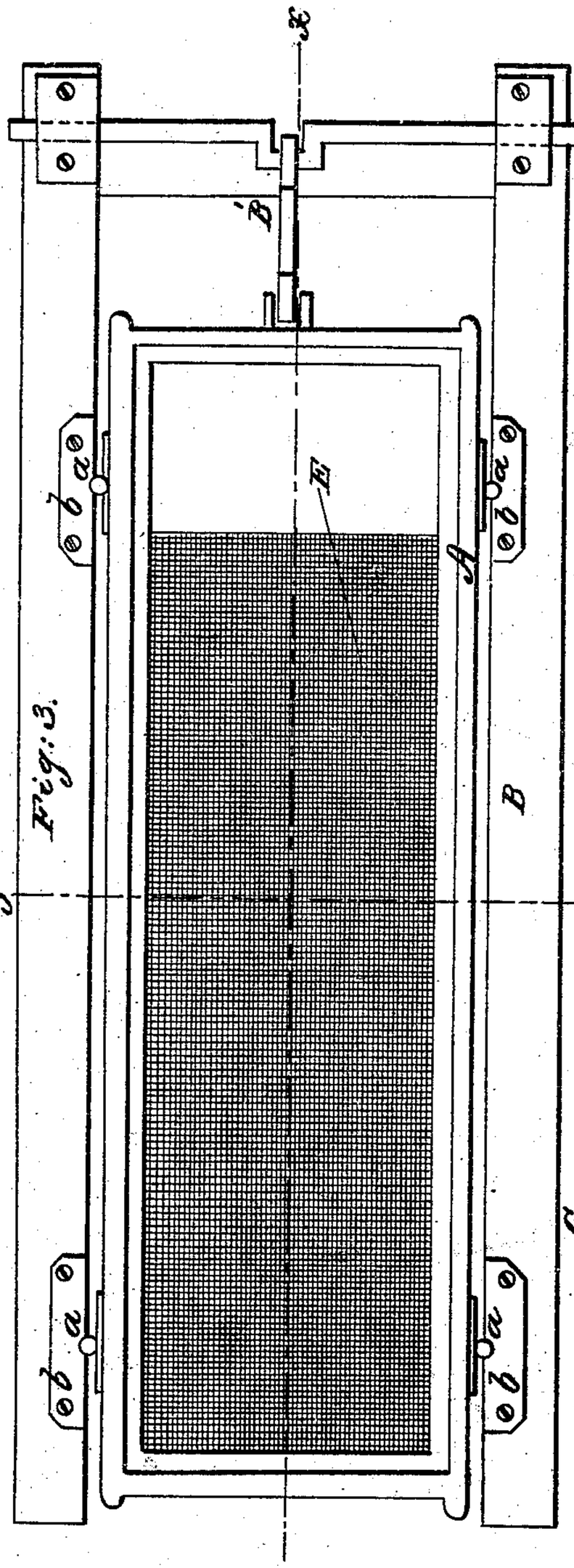

Fig: 3.

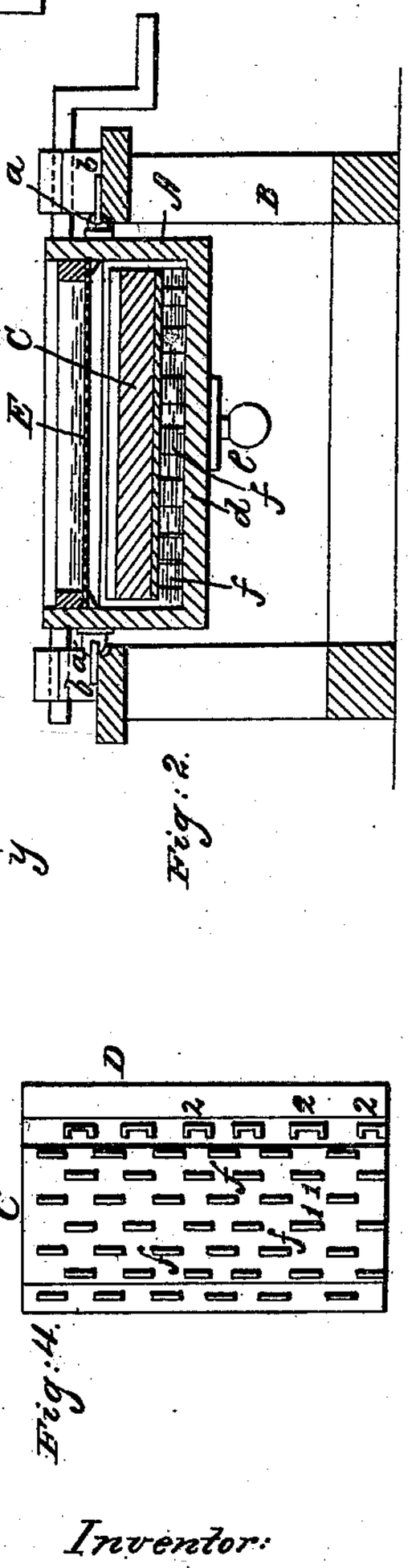

Fig: 2.

Fig: 4.

Witnesses.

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UNITED STATES PATENT OFFICE.

ALMARIN B. PAUL, OF NEVADA, CALIFORNIA.

IMPROVED AMALGAMATOR.

Specification forming part of Letters Patent No. **35,159**, dated August 27, 1861.

To all whom it may concern:

Be it known that I, ALMARIN B. PAUL, of Nevada, in the county of Nevada and State of California, have invented a new and Improved Machine for Amalgamating Gold and Silver; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a side sectional view of my invention, taken in the line *x x*, Fig. 3. Fig. 2 is a transverse vertical section of the same, taken in the line *y y*, Fig. 3. Fig. 3 is a plan or top view of the same. Fig. 4 is a detached inverted plan of a portion of the same.

Similar letters of reference indicate corresponding parts in the several figures.

This invention consists in the employment or use of a reciprocating box provided with a double inclined bottom having an amalgamated surface and a chamber at the inner ends of the two inclines, which also has an amalgamated surface; and using, in connection with the above, a series of pendent amalgamated plates, or plates having amalgamated surfaces, which are secured to an amalgamated surface and project down over the chamber at the inner ends of the two inclines which form the bottom of the table or box, all being arranged and used with a sieve or screen, to operate as hereinafter described.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A is an oblong box, the sides of which have slotted projections *a* attached, which are fitted on guides or plates *b*, attached horizontally to a frame, B. The box A has a reciprocating movement communicated to it by means of a crank and connecting-rod, B′, or other suitable device. The box A has a double inclined bottom formed by two inclines, *c c*, projecting downward from their outer to their inner ends, the inner ends being connected to a concave or chamber, *d*, as shown clearly in Fig. 1. The upper surfaces of the inclines *c c* and chamber *d* are mercurialized or amalgamated, and if a wooden box be used amalgamated plates are attached to the upper surfaces of the inclines and chamber *d*. The chamber *d* is provided with a plug or cock, *e*, and within the box, directly over the chamber, there is placed a traverse-piece, C, the under side of which has an amalgamated surface, from which a series of amalgamated plates, *f*, project in quincunx form, as shown in Fig. 4. These plates *f* may be of a straight flat piece, as indicated at 1 in Fig. 4, or they may be bent in trilateral form, as shown at 2 in said figure. The under side of the traverse-piece C may be of convex form corresponding inversely to the chamber *d*, as shown in Fig. 1, or it may have a plane surface. The former would perhaps be preferable. One side of the traverse-piece C has a curved back or side, D, which projects upward and backward, as shown clearly in Fig. 1, and extends the whole width of the traverse-piece, as shown in Fig. 4.

E is a sieve or screen which is fitted in the upper part of the box A, and may extend the whole length of the latter or over a portion only. In the drawings, Figs. 1 and 3, it is represented as extending the full length of the box.

At the end of the incline *c*, at the front end of the box A, there is a discharge opening or slot, *g*.

The pulp is admitted on the back end of the screen, the latter preventing the coarse foreign substances from passing through, the pulp passing down through the screen and coming in contact with the amalgamated surface of the bottom of the box. The reciprocating movement of the box soon precipitates the heavier substances, and gold being the heaviest substance, it quickly reaches the mercurialized or amalgamated surface and is amalgamated, the amalgam tending toward the center of the bottom or to chamber *d*, in which it settles, said chamber being charged with quicksilver. The amalgamated pendants *f* cause a thorough contact of the débris or pulp with the amalgamated surfaces—that is to say, in consequence of the quincunx position the débris or pulp, as it passes through the box, has every particle brought in contact with an amalgamated surface, and the gold which the débris contains is thereby caught, amalgamated, and retained. It will be understood that the traverse-piece C has not an independent movement. It moves only with the box, and it may be secured in proper position by buttons or

other means. The curved back or side D of the traverse-piece C serves to prevent the clogging or choking of the box. It produces a reaction or agitation of the pulp as the latter passes through the box. This back or side also has an amalgamated surface. The plug or cock *e* admits of the quicksilver being withdrawn from the chamber *d*, when required, and also admits of the cleansing of the machine.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The reciprocating box A, provided with a double inclined bottom, *c c*, and chamber *d*, having amalgamated surfaces, in connection with a traverse-piece, C, having a curved back or side, and pendants *f*, with amalgamated surfaces, the latter being arranged in quincunx form, substantially as and for the purpose set forth.

2. In combination with the reciprocating box A and traverse-piece C, the screen E, extending the whole length of the box or over a portion thereof, for the purpose specified.

ALMARIN B. PAUL.

Witnesses:

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