H. PIETSCH.

Ore Amalgamator.

No. 34,072. Patented Jan. 7, 1862.

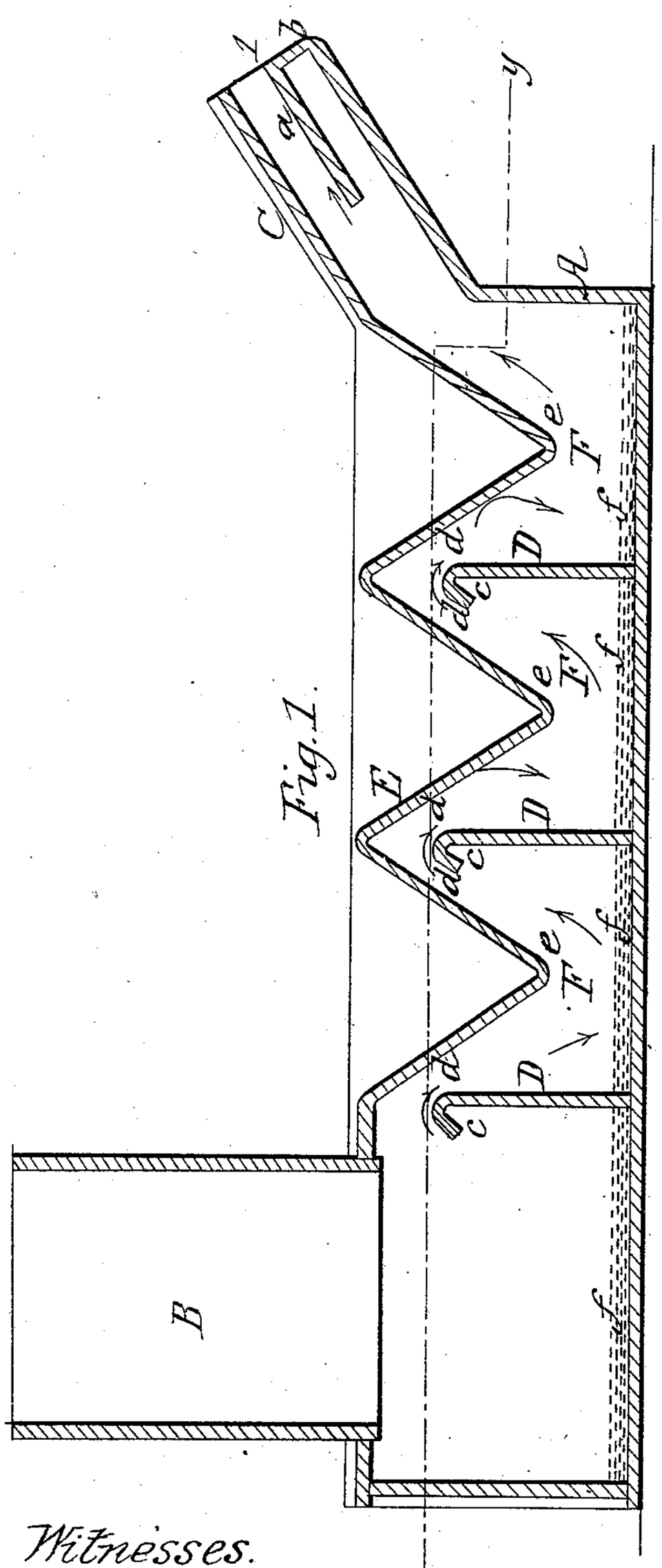

Fig. 1.

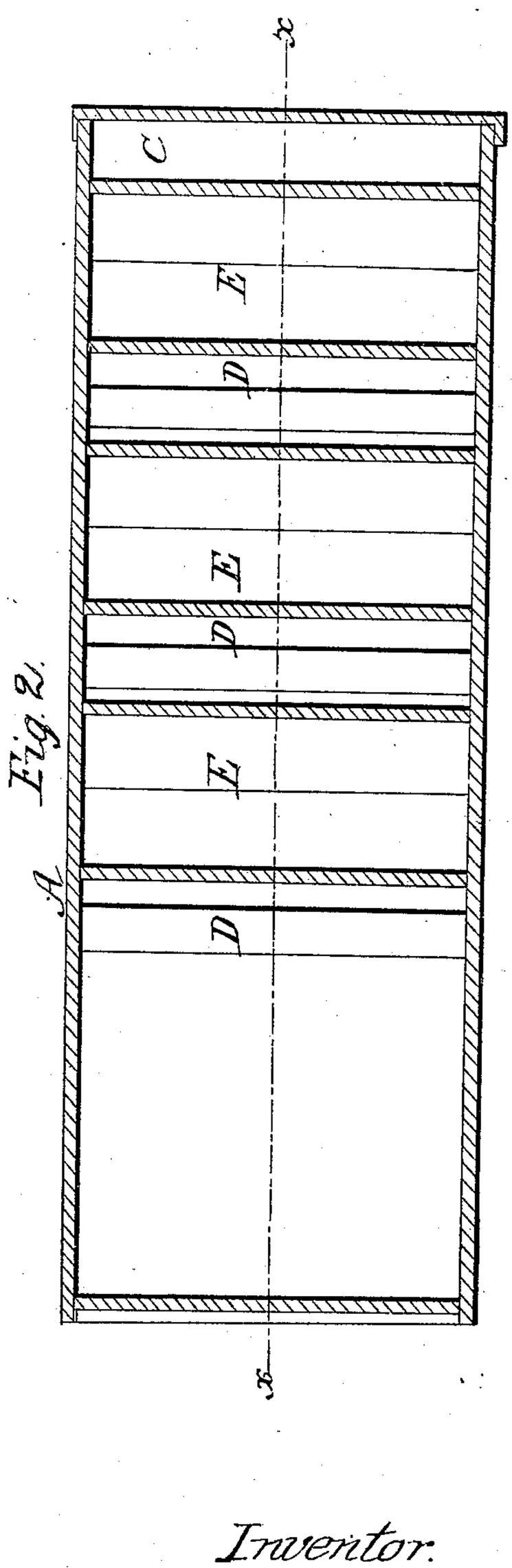

Fig. 2.

Witnesses.

James Laird.
Richardson Gawley

Inventor.

Herman Pietsch

UNITED STATES PATENT OFFICE.

HERMAN PIETSCH, OF NEW YORK, N. Y.

IMPROVED GOLD AND SILVER AMALGAMATOR.

Specification forming part of Letters Patent No. **34,072,** dated January 7, 1862.

To all whom it may concern:

Be it known that I, HERMAN PIETSCH, of the city, county, and State of New York, have invented a new and Improved Gold and Silver Amalgamator; 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 longitudinal vertical section of my invention, taken in the line *x x*, Fig. 2. Fig. 2 is a horizontal section of the same, taken in the line *y y*, Fig. 1.

Similar letters of reference indicate corresponding parts in both figures.

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

A represents a rectangular box, which may be of any suitable dimensions, and B is a vertical pipe, which communicates with the upper part of the box A at one end, as shown in Fig. 1. The pipe B is an induction-pipe, and at the opposite end there is an eduction-pipe C, which is somewhat inclined, as shown in Fig. 1. The pipe C near its outer end is divided by a central partition-plate *a*, which contracts the capacity of said pipe just one-half, the end of the lower part of the pipe being closed, as shown at *b*.

Within the box A there is placed a series of vertical partitions D, the upper parts of which are curved or bent over, as shown at *c*. (See more particularly Fig. 1.) The top E of the box A is of zigzag form, as shown clearly in Fig. 1, the top projecting down midway between the partitions D and extending upward some distance above them, spaces *d* being allowed between the top E and the upper ends of the partitions D. The lower angles *e* of the zigzags of the top E extend down about half the depth of the spaces between the partitions, as shown clearly in Fig. 1.

The operation is as follows: The pulp as it comes from the stamping or crushing mill passes into the pipe B, and is forced through the box A either by static pressure or any mechanical means. The spaces or compartments F between the partitions D are supplied with a requisite quantity of quicksilver *f*, and the pulp in passing through the box is deflected down by the zigzag top E upon the quicksilver, as indicated by the arrows. The pulp, it will be seen, is deflected downward in each compartment F, and consequently all the gold or silver in the pulp will be brought in contact with the quicksilver and amalgamated. The specific gravity of the amalgam being much greater than the pulp, the former will not be carried or forced out of the box A with the latter, and if any should pass up within the eduction-pipe C, it will be caught below the partition-plate *a*, and thereby prevented from escaping. The curved upper ends *c* of the partition D prevent the pulp passing directly over their upper ends and cause it to strike the zigzag top E.

The device is extremely simple and may be constructed at a very moderate cost. Metal would be the most preferable material of which to construct the box.

The induction-pipe is made higher than the eduction-orifice, so that the weight of the descending pulp will serve to force or impart speed and agitation to the contents of the box, and thereby also agitate the surface of the quicksilver and cause it the more readily to take up or separate the gold.

I do not claim, broadly, the employment or invention of partitions placed within a box for amalgamating purposes; but,

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

The construction of the amalgamator with an induction-pipe B higher than the eduction-orifice, a tight horizontal box A, hooked partitions D, zigzag top E, and inclined divided eduction-orifice C, all arranged as herein shown and described.

HERMAN PIETSCH.

Witnesses:

RICHARDSON GAWLEY,

JAMES LAIRD.