

(No Model.)

H. S. DAVIS.
ORE WASHER.

No. 464,431.

Patented Dec. 1, 1891.

Fig. 1.

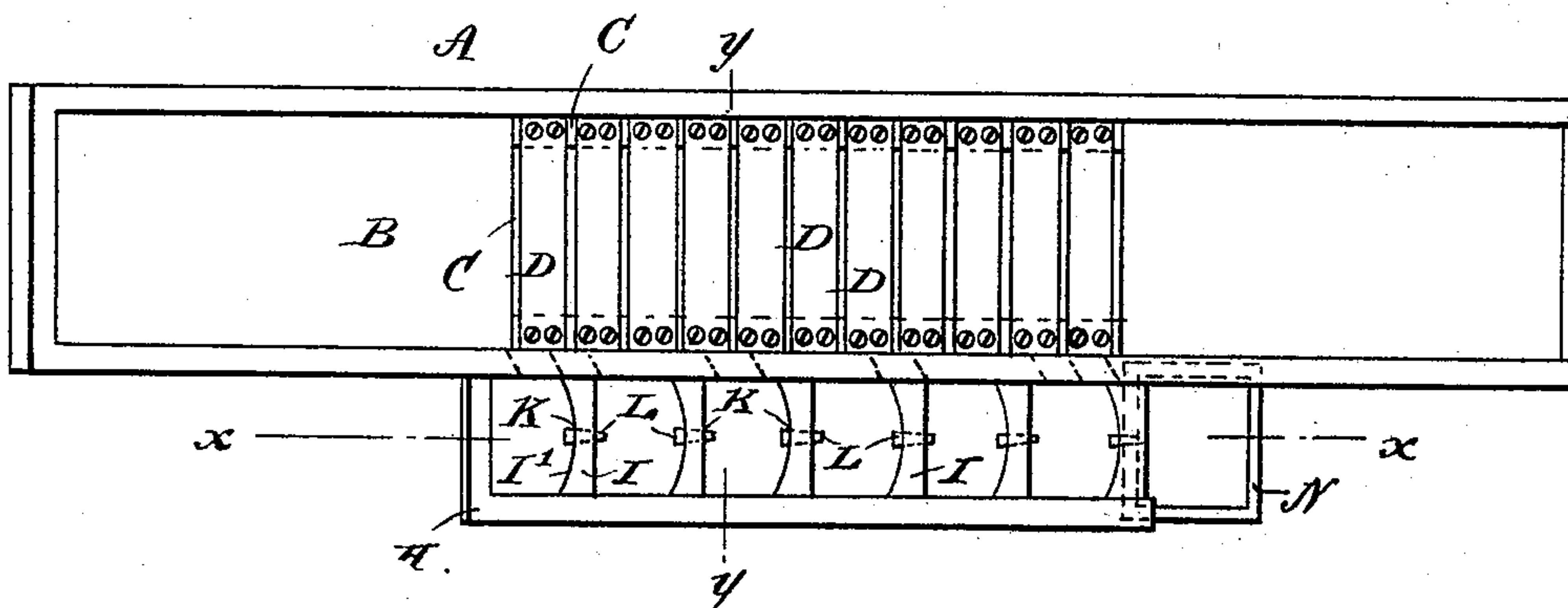


Fig. 2.

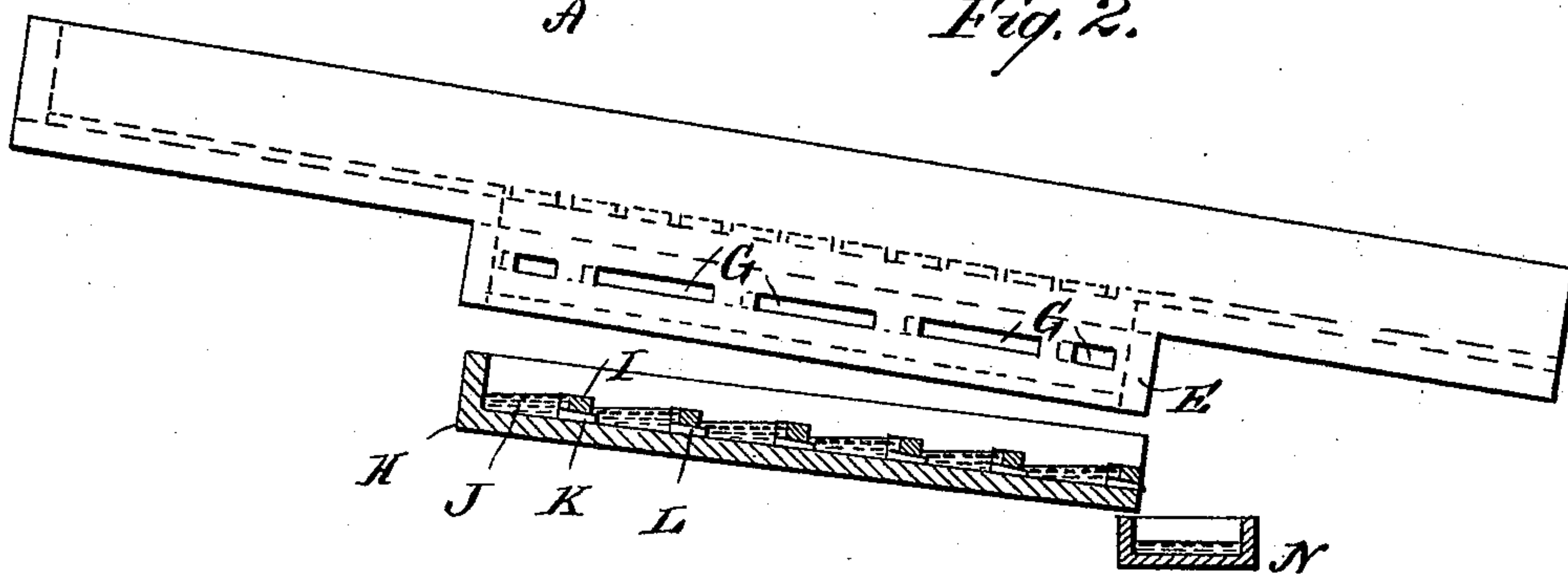
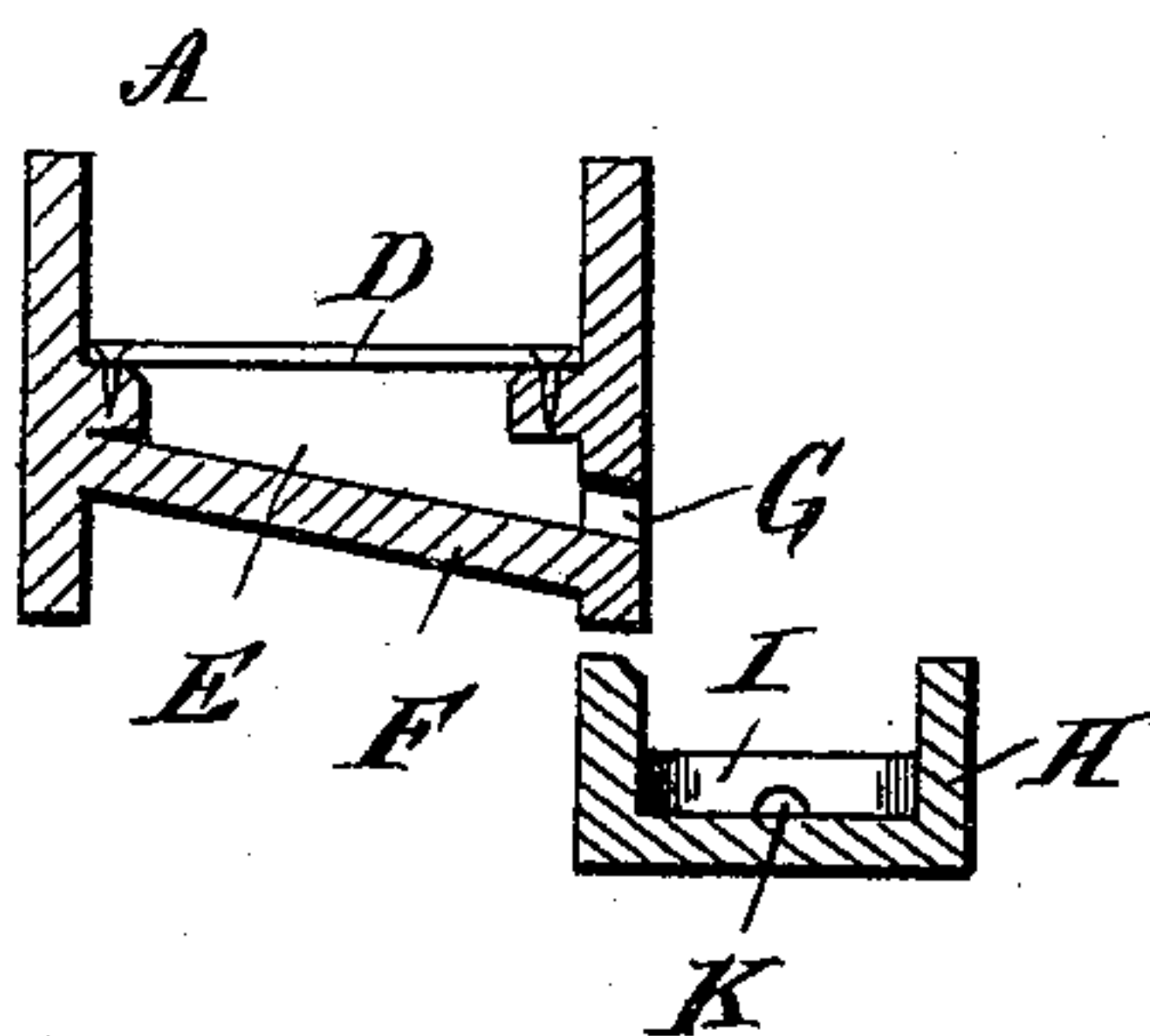


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

HOMER S. DAVIS, OF STILLWATER, MONTANA.

ORE-WASHER.

SPECIFICATION forming part of Letters Patent No. 464,431, dated December 1, 1891.

Application filed January 13, 1891. Serial No. 377,590. (No model.)

To all whom it may concern:

Be it known that I, HOMER S. DAVIS, of Stillwater, in the county of Yellowstone and State of Montana, have invented a new and Improved Ore-Washer, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved ore-washer which is simple and durable in construction, very effective in operation, and more especially adapted to separate precious metals from coarse and fine sand and to assimilate the metal with mercury to form an amalgam.

The invention consists of certain parts and details and combinations of the same, as will be hereinafter more fully described, and then pointed out in the claims.

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 plan view of the improvement. Fig. 2 is a sectional side elevation of the same on the line $x x$ of Fig. 1, and Fig. 3 is a transverse section of the same on the line $y y$ of Fig. 1.

The improved ore-washer is provided with an inclined sluiceway A, having in part of its bottom B a series of transversely-arranged slits C, formed by metallic plates D, having their tops in line with the upper surface of the bottom B. The precious-metal-bearing sand is passed with water in the usual manner onto the upper end of the sluiceway A to flow down the inclined bottom onto the plates D, so that the precious metal and the fine sand pass through the slits C into a box E, arranged below the said slits and fastened to the under side of the sluiceway A. The coarser material passes over the last or lowermost plate D onto the lower end of the inclined bottom B to be finally discharged with part of the water from the sluiceway. The box E is provided with a transversely-inclined bottom F, the lower side of which discharges the fine sand and gold through openings G, formed in the front side of the box E. The fine sand and gold pass from the discharge-openings G into an amalgamating-receptacle H, arranged in an inclined position at one side of the sluiceway A, as is plainly illustrated in the drawings. The amalgamating-

box H is provided with a series of transverse strips I, secured in the bottom of the box and having their upper edges formed concave, as is plainly illustrated at I' in Fig. 1. In each of the transverse strips I and in the middle thereof at the under side is formed an opening K, adapted to be closed by a plug L. Into the small compartments formed in the receptacle H by the transverse strips I is placed mercury J, the level of which in each compartment extends to the upper edge of the respective strip I. (See Fig. 2.) The lower end of the receptacle H is open, so as to discharge the sand and water to any desired place; but when it is desired to run off the amalgam a box N is provided, held on the lower end of the receptacle H to receive the amalgam, as hereinafter more fully described. The fine sand, precious metal, and water passing through the slits C into the box E, as previously described, finally pass through the discharge-openings G into the several compartments formed by the strips I in the receptacle H. The precious metal is taken up by the mercury J, while the sand and water flow downward and out through the lower end of the receptacle H. The receptacle H is somewhat less inclined than the sluiceway A, so that the precious metal has some time to settle in the mercury, as otherwise would not be the case. When this operation has been continued for a suitable length of time, the amalgam can be run off into the receptacle N at the lower end of the receptacle H by withdrawing successively the several plugs L, so that the amalgam from one receptacle can pass to the next following one, and so on, until it finally reaches the receptacle N. The amalgam is then further treated in the usual manner. The quantity of sand and water passing through the receptacle H is very small, so that the above-described process of cleaning the receptacle can be carried on at any time without stopping the feed of the material in the sluiceway.

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

1. In an ore-washer, an amalgamating-receptacle placed in an inclined position and provided with a series of transverse strips, each having an opening in its bottom, and

plugs fitted into the said openings to form with the said strips compartments for retaining mercury, substantially as shown and described.

- 5 2. In an ore-washer, the combination, with a sluiceway placed in an inclined position and provided in part of its bottom with transverse plates forming slits for the passage of fine sand and precious metals, of a box arranged
10 below the said plates to receive the discharge through the said slits, the said box being provided with a longitudinal and transversely-inclined bottom and openings formed in the sides at the lowermost side of the said in-

clined bottom, and a mercury-receptacle 15 placed in an inclined position at the front below the said box to receive the discharge from the said openings, the said receptacle being provided with transversely-arranged strips forming compartments, each strip hav- 20 ing an opening in its bottom, and a plug for closing the opening in each of the said strips, substantially as described.

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Witnesses:

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