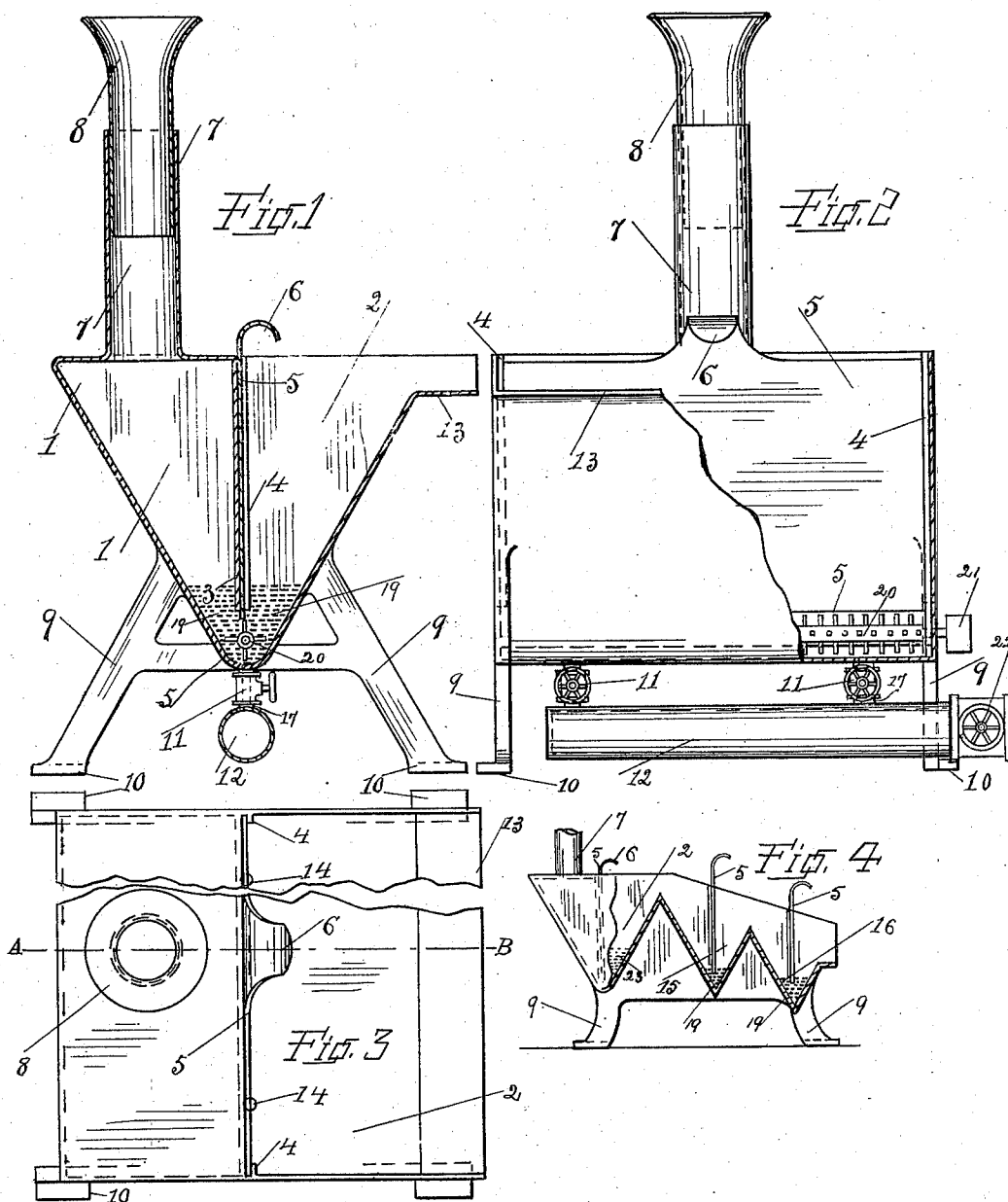


(No Model.)

W. & J. A. SNEE.
MINERAL SEPARATOR.

No. 577,630.

Patented Feb. 23, 1897.



WITNESSES:
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UNITED STATES PATENT OFFICE.

WILLIAM SNEE AND JOHN A. SNEE, OF WEST ELIZABETH, PENNSYLVANIA.

MINERAL-SEPARATOR.

SPECIFICATION forming part of Letters Patent No. 577,630, dated February 23, 1897.

Application filed March 30, 1896. Serial No. 585,518. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM SNEE and JOHN A. SNEE, citizens of the United States, residing at West Elizabeth, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Mineral-Separators; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

Our invention relates to improvements in separators; and the object thereof is to provide a means whereby the gold may be obtained from the waste material or washings that pass over the plates, flumes, sluice-boxes, or any means now in use. With our improved method of separating the rust or float-gold from the refuse a saving of at least fifty per cent. is obtained. The mercury which is lost in the usual process is also saved.

A description of the method and operation of the device will be fully shown and described in the accompanying drawings and specification, in which—

Figure 1 is a sectional view through my improved separator on the line A B, Fig. 3, as shown. Fig. 2 is a front view with a portion of the same broken away and shown in section. Fig. 3 is a plan view of the same. Fig. 4 is a variation in the construction thereof.

To put our invention into practice, we provide a tank or box of any suitable shape, but preferably of the angular form shown. A partition-wall 3 extends down part way through the middle to form the compartments 1 and 2. A flange 4 is formed on each wall of the compartment 2 to form guides for the adjustable door 5. A flange or lip 13 is formed at the overflow-point. An adjustable tube 8, with a hopper formed upon its upper portion, is loosely fitted within the tubular portion 7. At the bottom of the tank or box are openings having the pipes 17 connected thereto and provided with the valves 11. A tube 12 is connected to the said pipes and having a valve 22 connected thereto, and located within the bottom of the tank or box is the agitator 20, having bearings formed in the sides of the tank or box. One end of the

said shaft has connected thereto the pulley 21, to which power may be applied for operating the agitator.

19 indicates mercury, of which a suitable amount is placed within the bottom of the tank or box. The water containing the refuse being under pressure is forced down the tubes 8 and 7 into the compartment 1, through the mercury 19, and into the compartment 2. The water containing the foreign matter rises up and flows off over the flange or lip 13. It will be noted that the water containing the gold being forced through the mercury the gold cannot escape, and as the specific gravity of gold is more than mercury it passes through opening into the tube 12. By closing the valves 11 and opening the valve 22 the deposit of gold may be readily removed. The adjustable door 5 may be raised or lowered, as desired.

In reference to Fig. 4 the variation may be made so as to form several tanks or boxes, so that the first one, 2, may contain acid 23 to take up the lead, the second one, 15, to contain mercury, and the third one, 16, may also contain mercury. We do not confine ourselves solely to this particular construction of the separator, as various modifications may be made to pass the refuse through the mercury.

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

The separator comprising the tank or receptacle having two compartments, one provided with a hopper-like tube fitted into its upper end and the other compartment provided with an overflow-outlet and with a sliding door arranged against the subdividing-partition of the tank or receptacle, the agitator arranged in said tank, just below or under the said sliding door, pipes connected to the bottom of said tank and provided with valves, and a tube connected to said pipes and also provided with a valve, substantially as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

WILLIAM SNEE.
JOHN A. SNEE.

Witnesses:

RICHARD S. HARRISON,
H. J. LEVIS.