(No Model.)

T. H. MINTER.

SLIMER AND SETTLER.

No. 382,433. Patented May 8, 1888.

Fig. 1.

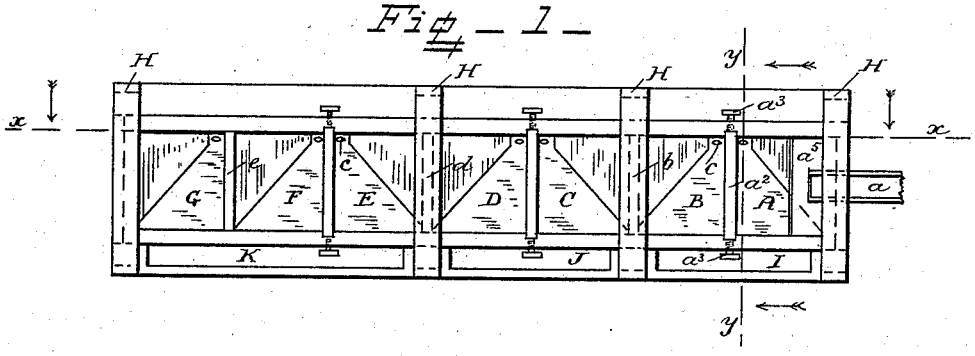


Fig. 2.

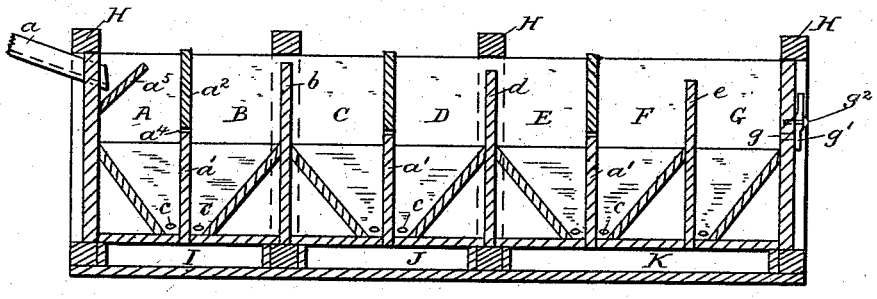


Fig. 3.

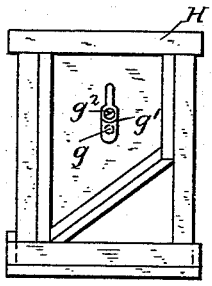
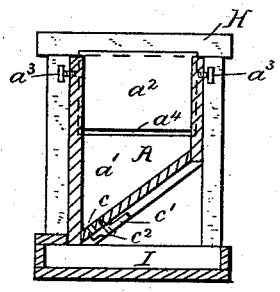


Fig. 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

THOMAS HENRY MINTER, OF WINFIELD, COLORADO.

SLIMER AND SETTLER.

SPECIFICATION forming part of Letters Patent No. 382,433, dated May 8, 1888.

Application filed April 11, 1887. Serial No. 234,418. (No model.)

To all whom it may concern:

Be it known that I, THOMAS HENRY MINTER, a citizen of the United States, residing at Winfield, in the county of Chaffee and State of Colorado, have invented certain new and useful Improvements in Ore-Settlers; and I hereby 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 letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to settlers for ores and mineral paints, and is more particularly intended for use in settling and saving chloride and sulphuret ores.

This invention consists in the novel construction and combination of the parts hereinafter fully described and claimed.

In the drawings, Figure 1 is a plan view, from above, of the settler. Fig. 2 is a longitudinal vertical section, taken on the line *x x* in Fig. 1. Fig. 3 is an end view of the settler, and Fig. 4 is a cross-section taken on the line *y y* in Fig. 1.

The settler is composed of a series of chambers, A, B, C, D, E, F, and G, through which the water holding mineral matter in suspension is allowed to flow. The water enters the first chamber, A, of the series through the trough *a*, strikes against the splash-board a^5, and flows gently over the edge of the same, so as not to stir up the mineral sediment at the bottom of the chamber. The last chamber, G, of the series is provided with the exit-opening *g*, which may be closed by the gate *g'*, pivoted at the outside of the chamber on the pin g^2. The opening *g* is situated about half-way up the chamber, and any other suitable form of gate may be used for closing it as well as the one shown.

H are frames which support the series of chambers at each end and at intermediate points.

I, J, and K are receptacles for mineral matter, situated between the frames and below the chambers A B, C D, and E F G, respectively.

A partition, *a'*, separates the chambers A and B, and the upper part of it, a^2, is made to slide in grooves in the sides of the chambers. Screws a^3, or other equivalent mechanical devices, are provided for holding the said upper part, so that a very narrow opening, a^4, is formed about half-way between the top and bottom of the adjacent chambers. A similar partition, *a'*, having a sliding upper part, separates the chambers C D and E F. Partitions *b*, *d*, and *e* separate the chambers B C, D E, and F G, respectively. Of these partitions, *b* is nearly of the full height of the chambers, *d* is a little lower than *b*, and *e* a little lower than *d*.

The bottoms of the chambers are made converging, and at the lowest point a hole, *c*, is provided, through which the sediment collected in each chamber may be allowed to flow out into the receptacle beneath it. Each hole *c* is provided with a gate, *c'*, for closing it, pivoted at the outside of the chamber on the pin c^2. These gates are like the gate *g'*, previously described; but any other suitable device may also be used for closing the said holes.

The operation of the settler is as follows: The heaviest portions of the mineral matter in the water collect at the bottom of chamber A, and the water and other lighter particles pass through the opening a^4 into chamber B. The opening a^4 being considerably below the level of the liquid in chambers A and B, no disturbance is made in the liquid by the flow of the same; but the solid matter in chamber A is partially drawn downward toward the bottom. The water and lighter portions of solid material flow over the top of partition *b* into the next adjacent chamber. Each chamber holds about sixty gallons. The remaining chambers operate like those previously described. When the sediment in any chamber rises nearly to the level of the openings a^4, the greater portion of it can be drawn off through the hole *c* at the bottom without disturbing or stopping the action of the apparatus. The action of the settler is therefore continuous. It is simple and cheap to construct and very effective in operation.

I do not confine myself to the use of five chambers, as shown, as the series can be formed of more or less than five, if desired.

What I claim is—

The combination of the horizontally-ar-

ranged ore-settling chambers provided with exit-openings at the bottom, the horizontal frames H, supporting said chambers upon a common base, the receptacles formed in the said base below the chambers, the partitions *b d e*, diminishing in height from front to rear, the alternating partitions *a'*, and the adjustable partitions a^2, arranged over said partitions, so as to form adjustable openings a^4, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

THOMAS HENRY MINTER.

Witnesses:
P. H. SYMONS,
JAMES BORDEN.