No. 669,422. Patented Mar. 5. 1901.

O. MARIS.

AMALGAMATOR.

(Application filed June 4, 1900.)

(No Model.)

Fig. 1.

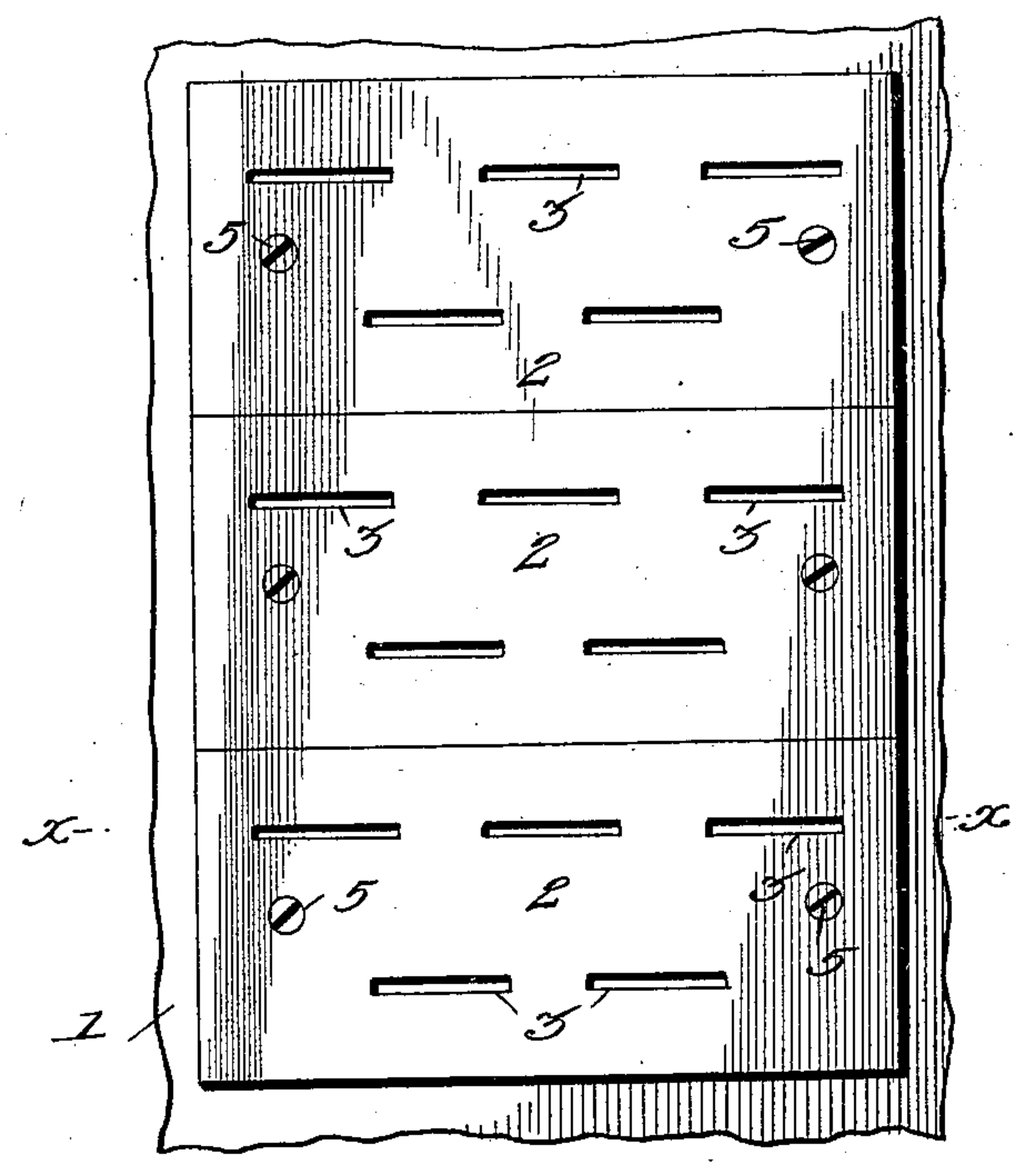


Fig. 2.

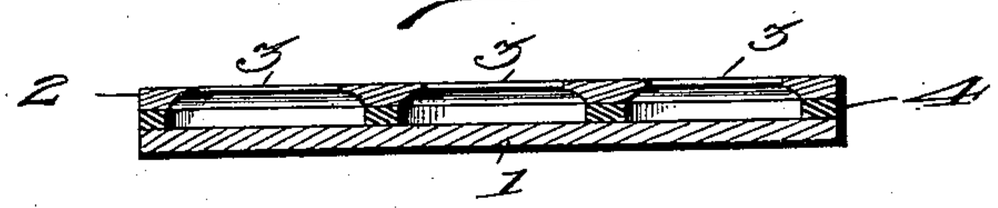
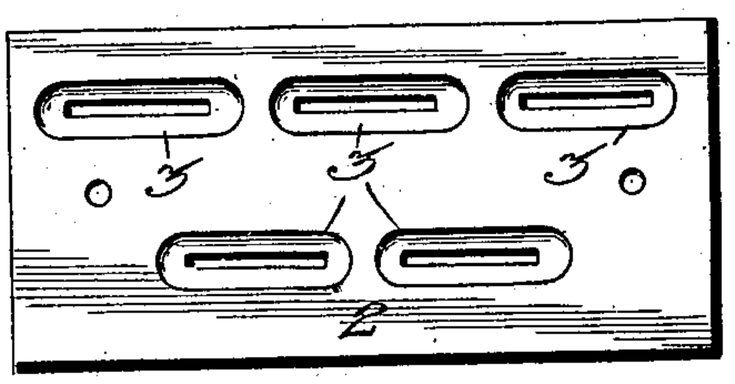


Fig. 3.



Inventor.

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UNITED STATES PATENT OFFICE.

OMER MARIS, OF RUSSIAVILLE, INDIANA.

AMALGAMATOR.

SPECIFICATION forming part of Letters Patent No. 669,422, dated March 5, 1901.

Application filed June 4, 1900. Serial No. 19,019. (No model.)

To all whom it may concern:

Be it known that I, OMER MARIS, a citizen of the United States, residing at Russiaville, in the county of Howard and State of Indiana, have invented new and useful Improvements in Amalgamators, of which the following is a specification.

This invention relates to new and useful improvements in amalgamators; and its primary object is to provide a device of this character having a separator-plate of simple construction and which will obviate the necessity of screening or sizing, as in machines of this character heretofore constructed.

The further object is to provide means whereby the gold will be promptly separated from the material within an amalgamator and will not be exposed to erosion and the resulting percentage of loss that is common with the use of an ordinary separating-plate.

Further objects are to provide means whereby platinum or other desirable metal may be saved from the material within the amalgamator, and to so construct the plate that the same may be readily taken apart for cleaning.

To these ends the invention consists of a base-plate adapted to be secured within a sluice of ordinary construction and having a working plate fastened to the upper surface thereof in any suitable manner. This plate contains transversely-arranged slots, which are cut away at their inner edges, and a layer of rubber or other suitable material is placed between the base and working plate and is provided with slots adapted to register with the inner edges of the slots within said working plate.

The invention also consists in the further novel construction and combination of parts hereinafter more fully described and claimed, and illustrated in the accompanying drawings, showing the preferred form of my invention, and in which—

Figure 1 is a plan view of a portion of a sluice with the separator-plates therein. Fig. 2 is a section on line *x x*, Fig. 1; and Fig. 3 is a bottom plan view of the slotted or working plate.

Referring to said figures by numerals of reference, 1 is a base-plate, of suitable material, secured to a sluice of any desired construction. A working plate 2 is secured above the base and provided with a parallel series of transversely-extending slots 3, arranged alternately, as shown in Fig. 1. The inner edges of these slots are cut away, as shown in Fig. 2, forming inclined walls, which converge toward the upper surface of the plate. A layer of rubber or other suitable material 4 is arranged between the plates 1 and 2 and is secured in such position preferably by means of bolts 5, which extend therethrough and through the plates near each side thereof, said bolts being secured in position in any suitable manner, as by means of nuts. Slots are formed within the layer 4, which register with the lower edges of the slots 3, and said slots, together with the base 1, form chambers for the reception of mercury, which will be securely retained therein and prevented from becoming accidentally displaced by means of the inclined walls of the slots 3.

In operation the pockets in the plate are filled with mercury, and the gold-bearing material, whether it be the sludge or pulp from a quartz-mill or the sand, gravel, or other material worked in placer-mining, is carried over and brought into contact with the plate by any of the usual methods, and the gold that it carries in the free state finds lodgment in the slots and sinks through the mercury to the bottom of the chambers formed within the plate.

As shown in Fig. 3, the lower edges of the slots 3 are somewhat oval in form. Because of the tendency of mercury to assume a globular form, I have found that this form is practically necessary.

This device is also applicable to rockers or other separators which require the sluice-bed to be in motion; but in such case the slots will be shorter than those employed in stationary sluices in order to prevent the mercury from becoming dislodged as the result of the momentum imparted thereto.

If desired, circular holes may be employed instead of slots, as herein described, although the slots afford greater opportunity for intercepting the particles of gold.

In the foregoing description I have shown the preferred form of my invention; but I do not limit myself thereto, as I am aware that modifications may be made therein without

departing from the spirit or sacrificing the advantages thereof, and I therefore reserve the right to make such changes and alterations as fairly fall within the scope of my invention.

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

A sluice for amalgamators, &c., having a series of parallel, transversely-extending plates secured thereon, each of said plates comprising a working plate having longitudinally-extending, parallel, alternately-arranged, overlapping slots therein, rounded ends to the slots, a base-plate, slotted, flexible material between the base and the working plate, bolts engaging the parts of each sluice-plate and adapted to bind the same together, and concave walls to the slots in the working plate converging toward the upper surface thereof, the lower edges of said walls registering with the edges of the slots within the flexible material.

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

OMER MARIS.

Witnesses:
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W. H. SHEPARD.