

M. B. Dodge.

Ore Amalgamator.

N^o 46,646.

Patented Mar. 7, 1865.

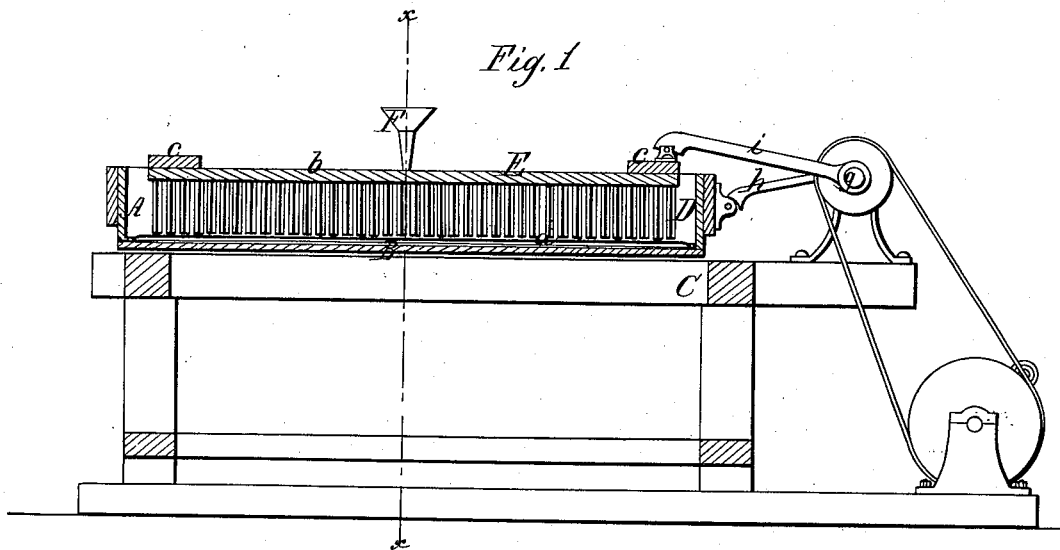
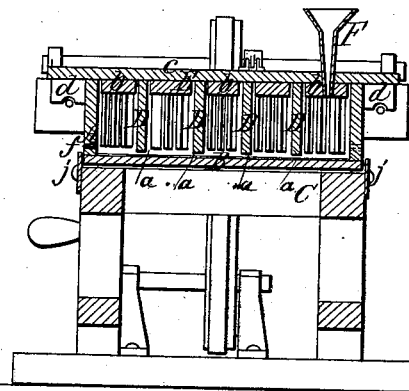


Fig. 2



Witnesses

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IMPROVED APPARATUS FOR GATHERING QUICKSILVER.

Specification forming part of Letters Patent No. 46,645, dated March 7, 1865.

To all whom it may concern:

Be it known that I, M. B. DODGE, of the city, county, and State of New York, have invented a new and Improved Machine for Gathering Quicksilver; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a longitudinal vertical section of this invention. Fig. 2 is a transverse vertical section of the same, the line *x* *x*, Fig. 1, indicating the plane of section.

Similar letters of reference indicate corresponding parts.

The water running off from amalgamators contains a large quantity of quicksilver mixed with the rock in a fine spray, and this quantity of quicksilver has hitherto been considered a mere waste. The object of this present invention is to collect this quicksilver and bring it to such a state that it can be used again and again.

The invention consists in a vat provided with an amalgamated bottom and with a series of slats which do not extend close down to the bottom of the vat, in combination with or without an agitator, in such a manner that the water let into the vat at one side has to pass through all the spaces left between the slats and bottom before it is allowed to discharge through apertures in the opposite side of said vat, and during its passage under the slats the quicksilver is compelled to come in contact with the amalgamated surface of the bottom, and thereby it is caused to gather, so that it can be readily scooped out and used again and again in the amalgamating process or for other purposes. By the use of an agitator moving between the slats and by imparting to the vat a reciprocating motion the process of gathering the quicksilver can be materially facilitated.

A represents a vat made of wood or any other suitable material, and provided with a bottom, B, of copper or other metal which can be amalgamated. Said vat is supported by a frame, C, and it is provided with a series of slats, D, which are inserted in a longitudinal

or in any other desirable direction, and which are arranged in such a manner that they can be readily removed whenever it may be desirable. Said slats do not extend clear down to the bottom of the vat, leaving narrow channels *a*, as clearly shown in the drawings, and the spaces between the slats are occupied by the agitator E, which consists of a series of diamond-shaped pins, of wood or any other suitable material, inserted in longitudinal bars *b*, which are secured to cross-bars *c*, as clearly shown in Fig. 2 of the drawings. Said cross-bars extend beyond the sides of the vat, and they rest upon slides *d*, which are supported by guide-rods *e*. I do not wish to confine myself to this particular construction of the agitator, for it is obvious that the same can be changed in many different ways without materially altering the result.

F is a spout or funnel, through which the water, rock, and quicksilver are introduced into the vat A. This spout is inserted into one of the longitudinal bars *b* of the agitator, close to one side of the vat, and in the opposite side of said vat are a series of apertures, *f*, through which the water and rock discharge. While passing through the several channels *a* under the slats the quicksilver is brought in close contact with the amalgamated surface of the bottom B, and thereby it is caused to gather, so that it can be readily scooped up after the water has run off.

The process is facilitated by imparting to the vat and to the agitator a reciprocating motion in opposite directions, which is effected by means of a revolving shaft, *g*, with two or more cranks or eccentrics placed in opposite directions. One or more of these eccentrics connect by a rod or rods, *h*, with the vat, and one or more by a rod or rods, *i*, with the agitator. These connecting-rods are so arranged that they can be readily unhooked whenever it is desired to stop the motion of either the vat or the agitator or of both. The vat moves between guide-strips *j*, rising from the sides of the frame C.

By the action of this machine all the quicksilver, or nearly so, contained in the water running off from amalgamators can be gathered and saved, and little hand labor is re-

quired in its operations, so that a considerable profit arises from its use.

I claim as new and desire to secure by Letters Patent—

1. The slats D, inserted into the vat A so as to have channels *a* between their lower edges and the bottom of the vat, in combination with an amalgamated bottom, B, and with or without an agitator, E, constructed and op-

erating substantially as and for the purpose set forth.

2. Imparting to the vat A and to the agitator E a reciprocating motion in opposite directions, as and for the purpose specified.

M. B. DODGE.

Witnesses:

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