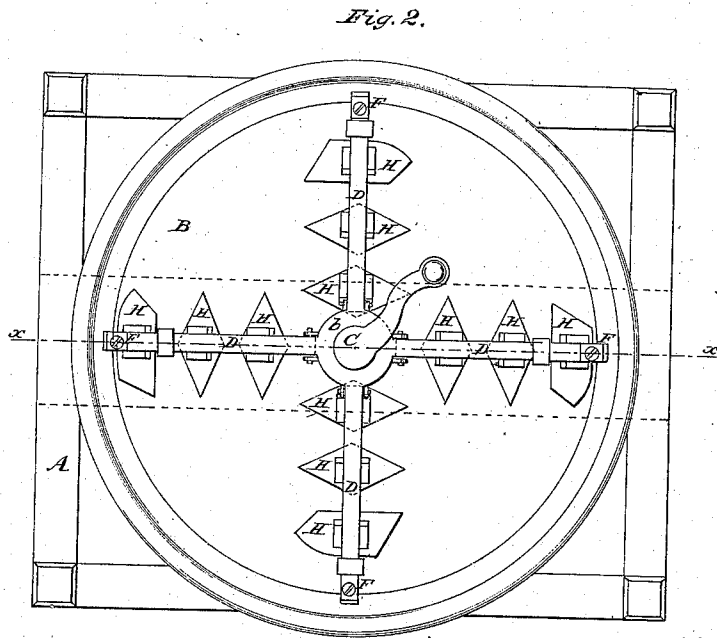
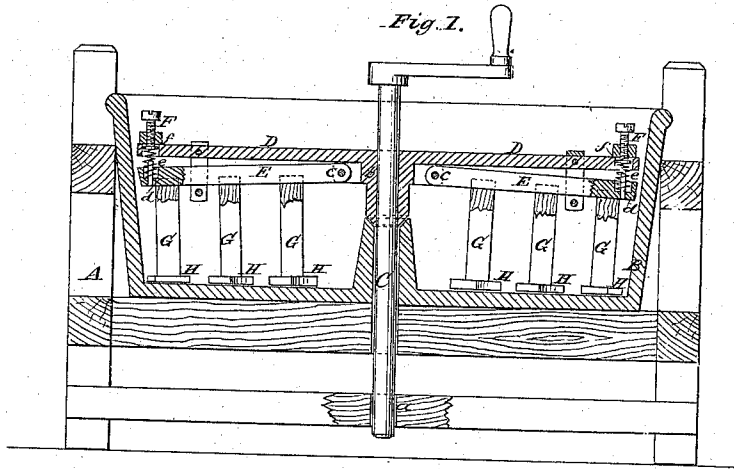


M. B. DODGE.
MACHINE FOR AMALGAMATING.

No. 42,568.

Patented May 3, 1864.



WITNESSES:

M. M. Kingston
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INVENTOR:

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UNITED STATES PATENT OFFICE.

M. B. DODGE, OF BLACK HAWK POINT, COLORADO.

IMPROVEMENT IN MACHINES FOR AMALGAMATING.

Specification forming part of Letters Patent No. 42,568, dated May 3, 1864.

To all whom it may concern:

Be it known that I, M. B. DODGE, of Black Hawk Point, in the county of Gilpin and Territory of Colorado, have invented a new and useful Improvement in Machines for Amalgamating the Precious Metals and Separating them from the Ore; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a vertical central section of an amalgamating device having my improvement applied to it; Fig. 2, a plan or top view of the same.

Similar letters of reference indicate corresponding parts in the two figures.

This invention relates to a novel arrangement of the rotary shoes of the machine, whereby the outer ones, which are subjected to the most wear, in consequence of having the greatest speed, may always be adjusted so as to run in contact with the bottom of the pan, and the wear thereby compensated for. In the ordinary amalgamating-machines the outer shoes, in consequence of being subjected to more wear than the inner ones, soon become comparatively useless, and thereby render the machine much less efficient than it otherwise would be.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents a framing, which may be of rectangular or other suitable form; and B is a pan, which is fitted permanently in the framing A. C is a shaft which passes vertically and centrally through the pan B, and is stepped in the lower part of the framing A, as shown at *a*. On this shaft C there are placed horizontal radial arms D, four, more or less, said arms all projecting from a hub, *b*, keyed firmly on the shaft. The arms D extend nearly to the side of the pan B, and underneath each arm D there is a bar, E, the inner ends of which are connected by joints *e* to the hub *b*. The

outer ends of the bars E have each a vertical pin, *d*, fitted in them; around which spiral springs *e* are placed. These springs *e* extend upward into recesses *f* in the under sides of the arms D, and have screws F bearing upon them, as shown clearly in Fig. 1. To the bars E there are secured a series of uprights, G, each one of which has a shoe, H, attached to its lower end. These shoes are designed to run in contact with the bottom of the pan B as the shaft G is rotated, and serve to bring the particles of quicksilver in contact with the particles of gold contained in the ore, the latter with a proper amount of quicksilver being placed in the pan B.

In the ordinary amalgamating-machines the uprights G are attached directly to the arms D, and it will be seen that the shoes H at the outer part of the arms, in consequence of having a more rapid motion than those at their inner parts, will be subjected to more wear, and, as they become worn, will become inefficient, in consequence of not being capable of being pressed or adjusted downward to compensate for the wear.

By my improvement it will be seen that this end is attained, for by turning the screws F the springs *e* may be compressed, so as to press or force down the outer ends of the arms D, and said springs will constantly keep the outermost shoes down to their work.

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

The employment or use, in an amalgamating-machine, of adjustable shoes attached to or connected with supplemental bars or arms, which are arranged with springs and with the main or principal rotating arms, to operate in the manner substantially as and for the purpose herein set forth.

M. B. DODGE.

Witnesses:

M. M. LIVINGSTON,
HENRY MORN.