

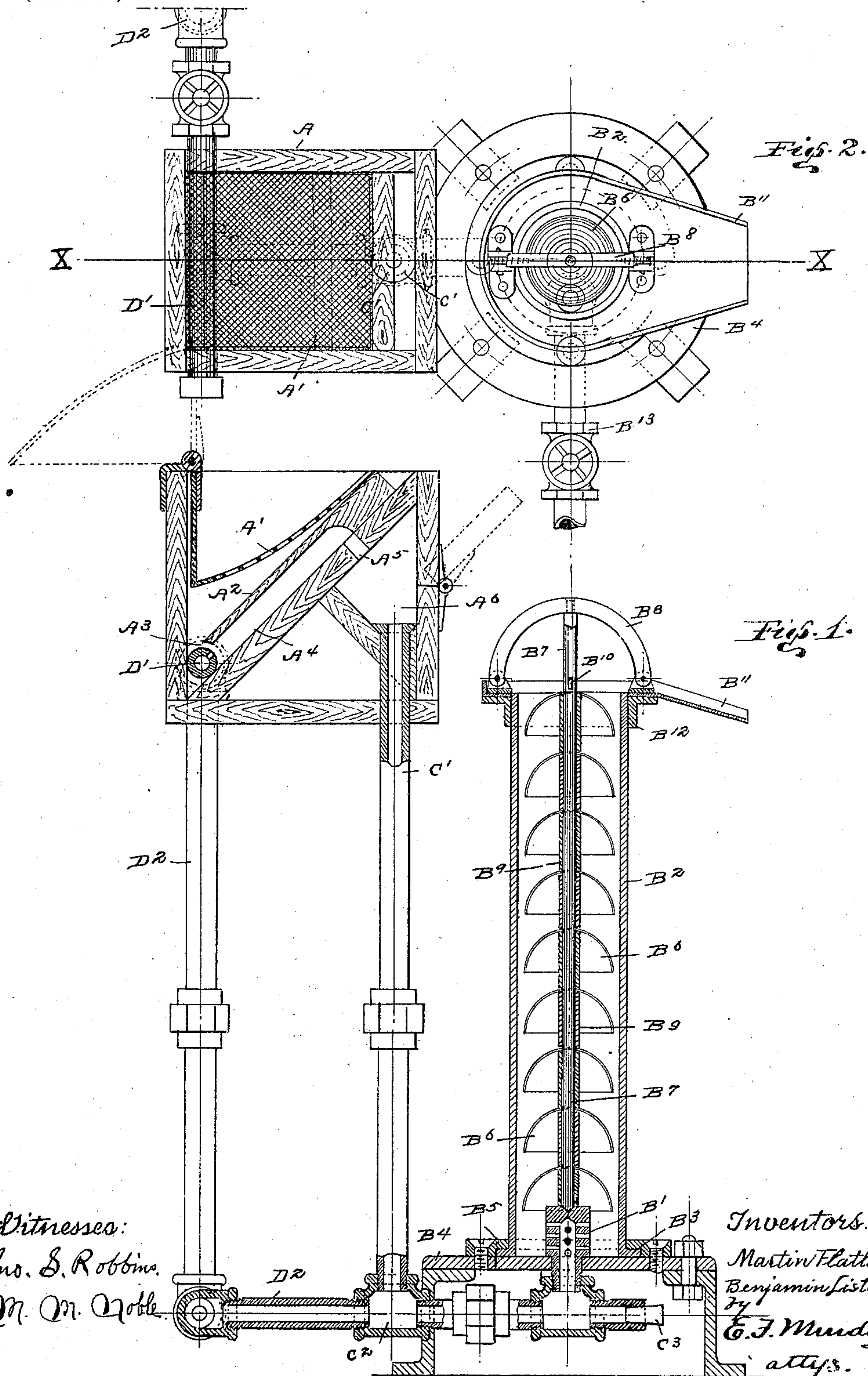
No. 687,875.

Patented Dec. 3, 1901.

M. FLATLAND & B. LISTER.
GOLD SAVER.

(Application filed Jan. 22, 1901.)

(No Model.)



UNITED STATES PATENT OFFICE.

MARTIN FLATLAND AND BENJAMIN LISTER, OF VALLEJO, CALIFORNIA.

GOLD-SAVER.

SPECIFICATION forming part of Letters Patent No. 687,875, dated December 3, 1901.

Application filed January 22, 1901. Serial No. 44,304. (No model.)

To all whom it may concern:

Be it known that we, MARTIN FLATLAND and BENJAMIN LISTER, residing at 715 Virginia street, in the city of Vallejo, county of Solano, and State of California, citizens of the United States, have invented certain new and useful Improvements in Gold-Savers; and we do hereby declare the following to be a full, clear, and exact description of said invention, such as will enable others skilled in the art to which it most nearly appertains to make, use, and practice the same.

This invention relates to improvements in amalgamators, and particularly to amalgamators for handling auriferous sands.

The object of this invention is to amalgamate fine particles or flour-gold, which ordinarily escapes in the overflow.

In the drawings, Figure 1 is a vertical cross-section on the line xx , Fig. 2, of an amalgamator constructed in accordance with this invention. Fig. 2 is a view in plan from above.

In the description with reference to the drawings the primary groups of mechanisms will be designated by a letter. The secondary mechanisms of these groups will be designated by the common letter strengthened by a numeral. The receiving-hopper will be distinguished by the letter A, the amalgamating-pile by the letter B, the connecting-pipes between the hopper and the amalgamating-pile by the letter C, and the water-supply pipes by the letter D.

In construction the invention consists of the hopper A, having the hinged screen A' therein, the incline A², extending nearly to the spray-pipe D', leaving the space A³ between, and the incline A⁴, parallel to A², having the opening A⁵ into the chamber A⁶. The chamber A⁶ delivers to the outlet-pipe C', connecting with the extension C², delivering into the spray-head B' in the bottom of the amalgamating-pile, which consists of an outer cylindrical shell B², open at the top and having the annular flange B³, by means of which it is secured upon the bed-plate B⁴ by the ring B⁵, screwed to the bed-plate.

The amalgamating apparatus consists of a series of hemispherical inverted plates B⁶, hung by means of a central perforation upon the rod B⁷, resting at the bottom in the recess in the top of the spray-head B' and held in position by a yoke B⁸ at the top of the pile. The series of amalgamating-plates are separated by a filler B⁹ between each, the whole series being clamped by a wedge-pin B¹⁰, driven through a hole in the central rod B⁷ above the top plate. The overflow of the amalgamator is accommodated by a tray B¹¹, secured to the annular flange B¹² around the top of the cylinder B², to which the yoke B⁸ is secured.

The operation of this invention is as follows: The sand is dumped into the hopper A upon the screen A', through which it falls upon the incline A², passes through the space A³, and is carried up the incline A⁴ by the flow from the spray-pipe through the opening A⁵ into the chamber A⁶. Passing into the pipe C', the pulp is given an augmented impetus by a head of water liberated behind it from the pipe D² into the extension C², causing it to spray with added force through the spray-head B'. The pulp in a highly-agitated state floats upward through the amalgamating-pile B in constant contact with the plates B⁶, with which the particles of gold affinitize. The overflow from the tray B¹¹ can be passed again through the machine if thought desirable.

A draw-off B¹³ is provided in the bottom of the pile B for removal of sediment of particles too heavy to float.

The pipe C² is readily cleaned by removal of the plug C³.

For convenience the screen A' is hinged and capable of being thrown into the position shown in dotted lines. This is also true of one side of the chamber A⁶.

Having thus described the invention, what is claimed is—

In an amalgamator, the combination of a hopper having a screen member therein, an inclined surface below the screen; an incline parallel with the before-mentioned incline,

leaving a space between connecting with the
chamber below the said inclines; an outlet
from said chamber emptying into the bottom
of an amalgamating-pile consisting of a series
5 of hemispherical plates mounted upon a cen-
tral shaft and surrounded by a cylindrical
shell open at the top, and having an inlet at
the bottom connected with said hopper; and
means for agitating the pulp passing from the

hopper to the amalgamating-pile; substan- 10
tially as described.

In testimony whereof we have hereunto set
our hands this 14th day of January, 1901.

MARTIN FLATLAND.
BENJAMIN LISTER.

Witnesses:

BALDWIN VALE,
JNO. A. BROWNE.