J. WHITE.

Ore Amalgamator.

No. 29,837. Patented Aug. 28, 1860.

Fig. 1

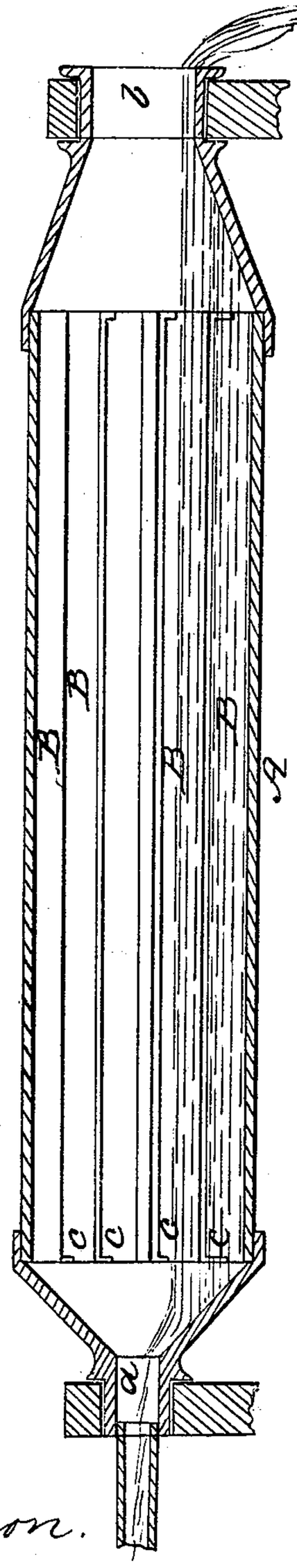
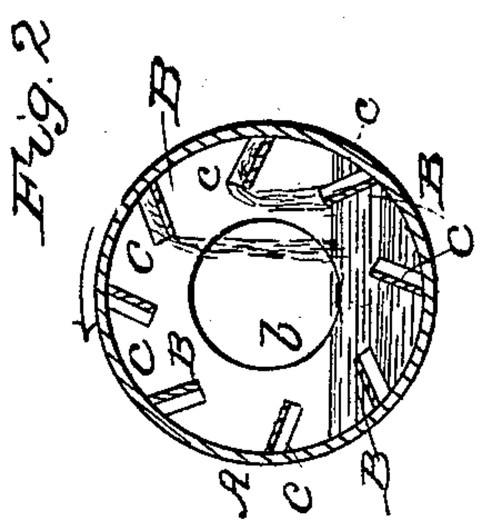


Fig. 2



Witnesses.
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Inventor
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UNITED STATES PATENT OFFICE.

JAMES WHITE, OF BANGOR, MAINE.

AMALGAMATOR.

Specification of Letters Patent No. 29,837, dated August 28, 1860.

To all whom it may concern:

Be it known that I, JAMES WHITE, of Bangor, in the county of Penobscot and State of Maine, have invented a new and Improved Amalgamator; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming a part of this specification, in which—

Figure 1 represents a longitudinal central section of my invention. Fig. 2 is a transverse vertical section of the same.

Similar letters of reference in both views indicate corresponding parts.

To enable those skilled in the art to make and use my invention I will proceed to describe it with reference to the drawing.

A represents a cylinder made of cast-iron or any other material suitable to hold quicksilver. I place buckets B, into the same, extending from one end to the other, and in an inclined or tangential position, as clearly shown in Fig. 2, and the ends of the cylinder are made tapering leaving on one side a small opening *a*, for the inlet, and on the other an opening *b*, twice as large as the opening *a*, for the discharge. The cylinder is supported at both ends by suitable bearings in a horizontal position, and by making the opening *b*, larger than the opening *a*, the liquid which enters through the latter opening will naturally discharge through the former. It is essential to have that end of the cylinder which leads to the discharge opening *b*, with a taper of considerable length for the purpose of more effectually preventing the quicksilver flying out as the cylinder is rotated.

The buckets B, are provided with hooks *c*, at the ends to prevent the quicksilver or other liquid taken up by the same, running off sidewise.

The operation is as follows:—The cylinder A, is filled with quicksilver to the height of the buckets B, or nearly so, and the "limpid tailings" are introduced through the opening *a*, by means of a suitable pipe as indicated in red outline in Fig. 1. By imparting a rotary motion to the cylinder in the direction of the arrow marked near it in Fig. 2, the buckets take up some portion of the quicksilver, and as the rotation of the cylinder proceeds they discharge their contents dumping them over a height nearly equal to the inside diameter of the cylinder into the liquid mass of the tailings so as to mix the latter thoroughly with the quicksilver and to bring every particle of gold in contact with the same. By thus having the buckets B, on the inner surface of the cylinder A, the latter is made to serve as the sluice and as the amalgamator at the same time.

Having thus described my invention I claim as new and desire to secure by Letters Patent.

The employment of a mercury tight cylinder provided with conical ends and with lifting buckets with hooks arranged longitudinally upon the inside of the cylinder as herein shown and described, so that while the quartz, dirt, and water are allowed to pass through the machine, the mercury will be hindered, and will be lifted from the bottom to the top of the machine and then discharged in showers upon and through the ore and other contents of the cylinder and thus by amalgamation effecting the separation of the gold from the quartz dirt and water all as set forth.

JAMES WHITE.

Witnesses:
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