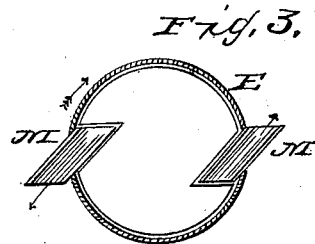
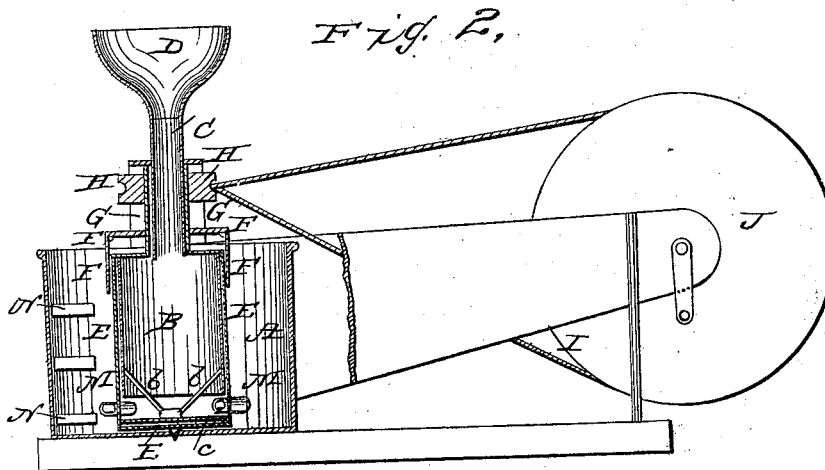
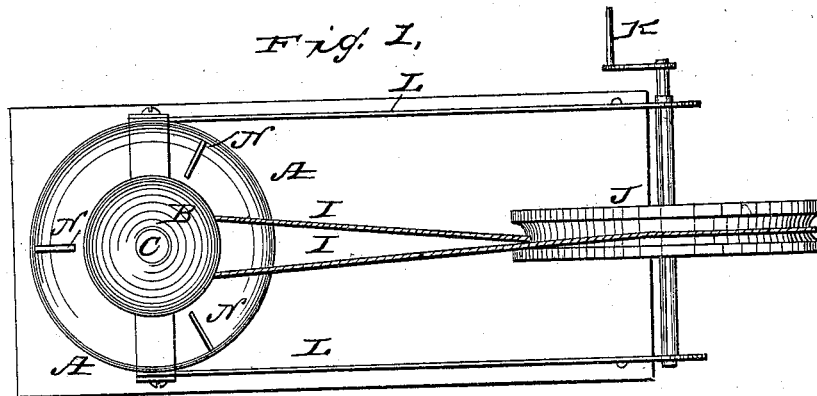


T. TRIPP.
Amalgamator.

No. 54,074.

Patented April 17, 1866.



WITNESSES:
J. M. Herald
J. H. L. Doolen

INVENTOR:
Thomas Tripp
by Coburn May

UNITED STATES PATENT OFFICE.

THOMAS TRIPP, OF CHICAGO, ILLINOIS, ASSIGNOR TO HIMSELF, GEO. S. CURTIS, E. G. L. FAXON, AND HENRY S. DODGE.

IMPROVED AMALGAMATOR.

Specification forming part of Letters Patent No. 54,074, dated April 17, 1866.

To all whom it may concern:

Be it known that I, THOMAS TRIPP, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Amalgamators; and I do hereby make known and declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings and the letters and figures marked thereon, which form part of this specification.

The nature of my said invention consists in a novel mode of submerging the pulverized or disintegrated ores beneath the bath of molten lead or mercury in the amalgamator; and also in a novel arrangement for thoroughly dispersing and diffusing the ores throughout the amalgamating-bath.

To enable those skilled in the art to understand how to construct and use my invention, I will proceed to describe the same with particularity, making reference in so doing to the aforesaid drawings, in which—

Figure 1 represents a plan or top view of my invention; Fig. 2, a vertical central section of the same; and Fig. 3, a detached view, in section, at the line *x*, in Fig. 2.

Similar letters of reference in the different figures denote the same parts of my invention.

A represents the circular vessel for containing the amalgamating-bath, and B a stationary vertical tube or vessel, supported and arranged as hereinafter described, into which the pulverized ores are fed through the tube C and funnel D, substantially as shown. The said vessel B, which holds the ores, is arranged within a revolving vessel or cylinder marked E, which is supported upon a suitable bearing, as shown in the bottom of the vessel A. The cylinder B does not extend down to the bottom of the vessel or cylinder E, being supported within the same by the arms *b*, attached to the plate *c*, which has a pivot-bearing in the bottom of the cylinder E, so as to allow said cylinder E to revolve while the vessel B upon the plate *c* remains stationary, suitable arrangements above being made to prevent its revolution with the cylinder E. Motion is imparted to said cylinder E by means of the drive-wheel J and cord I passing around the pulley H, as shown. Said pulley being rigidly fixed upon the sleeve G, which revolves upon the

central tube C, and said sleeve G being rigidly attached to a larger sleeve, F, fitting closely, yet removably, upon the upper end of the said cylinder E, it is evident that the revolution of the wheel J will revolve the cylindrical vessel E.

In the walls of the revolving cylinder E, near the bottom and just beneath the lower end of the stationary cylinder B, are arranged one or more tubes, M, as shown, whose diameter is nearly equal to the space which intervenes between the lower end of the vessel B and the bottom plate, *c*, the inner ends of such tubes extending inward beneath the vertical walls of said stationary vessel B, while the outer ends project into the bath in the amalgamator. Thus by first filling the chamber B with the ores and afterward putting the amalgamating-bath into the vessel A, and then imparting a rapid revolving motion to the cylinder E in proper direction, the ores at the bottom of the vessel B are rapidly scooped in by the said tubes M and discharged out at the outer ends thereof into the amalgamating-bath, through which the ores and baser metals rise to the surface, while the gold and silver are retained therein. It is ascertained by actual experiment, however, that when the pulverized ores are discharged into and beneath the bath, whether by this machine or any other, small quantities of the ores immediately conglomerate into globular masses, which are incrustated and incased with a thin coating of the bath, and in this form rise to the surface without having been subjected to the action of the bath to any practical purpose. Hence the operation of any amalgamating apparatus must be very imperfect and unsatisfactory unless some means be devised for counteracting the aforesaid tendency of the ores to conglomerate. In this machine I attach, for this purpose, to the walls of the amalgamating-vessel strips N, arranged as shown and projecting radially inward. As the rotatory motion of the cylinder E gives a corresponding motion to the contents of the amalgamating-vessel, the direction in which the said masses of ores rise to the surface of the bath is in an oblique course, and hence they will meet in their ascent with the said slats or breakers, which will break and disperse said globules and diffuse the ores thoroughly through the bath. It is obvious that the mode

of destroying or breaking the said conglomerated masses may be varied, and may be done by moving arms or agitators in the bath or by suitable stationary devices adapted to the difference in construction of the various machines or amalgamators to which they may be applied.

Having described the nature and construction of my invention, I will now specify what I claim and desire to secure by Letters Patent:

1. The arrangement of a stationary cylinder or tube, B, within a revolving cylinder, E, substantially as and for the purposes specified.

2. In combination with the above, the employment of one or more tubes, M, arranged substantially as and for the purposes described.

3. The arrangement of the stationary plate c beneath the discharge-pipes M, for the purpose of preventing a rotating motion of the ores below the tube or cylinder B, substantially as herein shown.

THOMAS TRIPP.

Witnesses:

W. E. MARRS,
L. L. COBURN.