

A. L. NOLF.
Amalgamating Apparatus.

No. 153,840.

Patented Aug. 4, 1874.

Fig. 1.

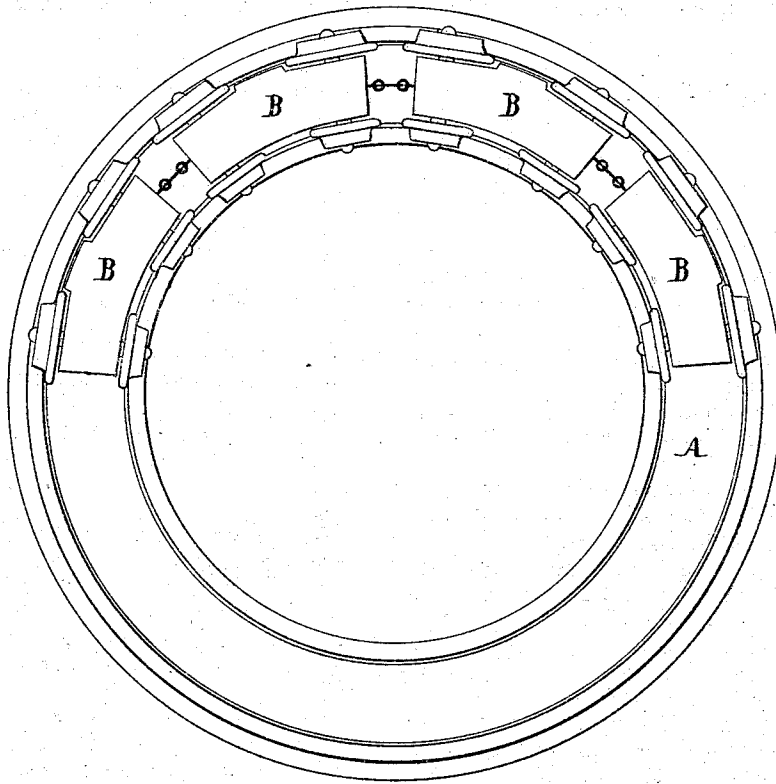
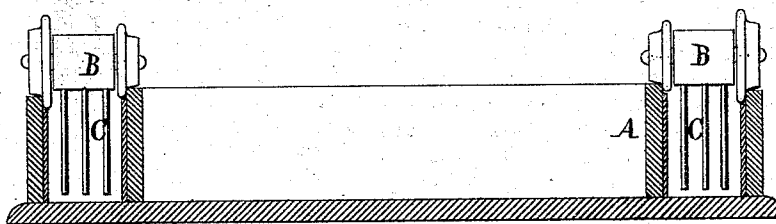


Fig. 2.



Witnesses.
Chas. Wablers.
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UNITED STATES PATENT OFFICE.

ANDREW L. NOLF, OF NEW YORK, N. Y.

IMPROVEMENT IN AMALGAMATING APPARATUS.

Specification forming part of Letters Patent No. **153,840**, dated August 4, 1874; application filed May 21, 1874.

To all whom it may concern:

Be it known that I, ANDREW L. NOLF, of the city, county, and State of New York, have invented a certain new and Improved Amalgamator, of which the following is a specification:

This invention is illustrated in the accompanying drawing, in which—

Figure 1 represents a plan or top view, and Fig. 2 is a transverse vertical section of the same.

Similar letters indicate corresponding parts.

This invention consists in the combination of a series of rolling agitators or cars with an amalgamating-trough, the edges of which form the track for said cars, while each car is provided with a rake extending down into the trough in such a manner that when the cars are caused to move on the edges of the trough the mass of ore and mercury contained therein is rapidly and thoroughly mixed, and a very large quantity of ore can be amalgamated with comparatively little trouble.

In the drawing, the letter A designates a trough, which is, by preference, made circular, and the edges of which form the track for a series of cars, B, which are propelled by a locomotive or any other suitable power.

If the trough A is made circular, its diameter ought to be at least three hundred yards; but it may be increased to any desired extent. Said trough may, however, be made oval, or it may be rectilinear, and in this last-named case its ends must be closed up, and the cars, instead of being propelled in one and the same direction, will move back and forth.

Said trough may be made of wood or of any other suitable material which will not be affected by mercury, and it must be of sufficient strength to support the train of cars.

Each car is provided with a rake, C, which extends down into the trough close to its bottom. When the cars are in motion these rakes sweep through the trough, and the pulverized ore and mercury which are placed in the trough are brought in intimate contact, so that the amalgamation is effected in a comparatively short time.

The rakes C are composed each of a series

of strong iron pins, which may be secured in the platforms of the cars, or otherwise attached to the same, or to trucks which support said platform.

With the cars may also be combined blocks of wood, which are connected to one or more of the cars, so that they drag in the ore and mercury contained in the trough, each block being loaded so that it will sink down into the mass and produce an agitation.

In cold weather, or in cold climates, the trough A may be kept warm by steam or otherwise.

By applying to one of the inner sides of my trough a strip of sheet-copper, and to the other a strip of iron, zinc, or other suitable metal, and connecting these strips with one or more electric batteries, the process of amalgamation may be promoted with certain classes of ore.

Suitable apertures in the outer side of the trough serve to draw off the finished amalgam and to remove the residuum.

By this apparatus very large quantities of ore can be subjected to the amalgamating process with comparatively little trouble and expense.

A magneto-electric machine may also be used in connection with the strips of copper, iron, or zinc placed in the trough; and since the cars carrying the rollers travel directly upon the top of the trough, the same can be removed with perfect ease and facility, and are not liable to disarrangement by the one being elevated above such.

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

A series of rolling agitators or cars having a depending rack, C, in combination with an amalgamating-trough, the edges of which form the tracks for the wheels of the agitators or cars, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand and seal.

A. L. NOLF. [L. S.]

Witnesses:

W. HAUFF,

E. F. KASTENHUBER.