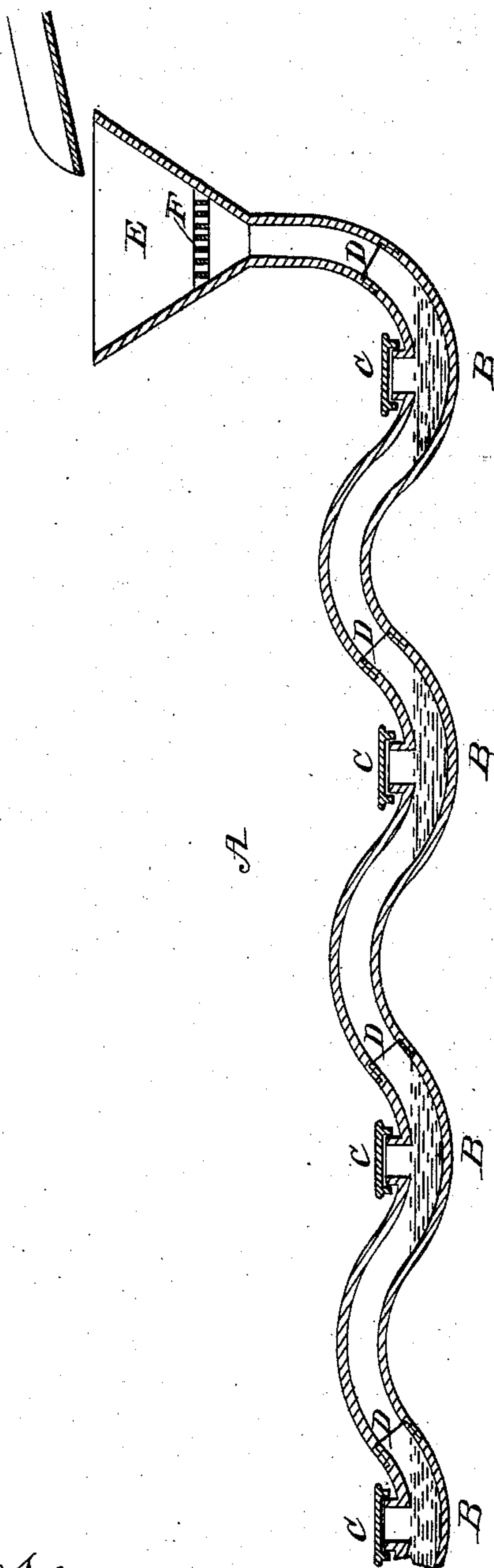


(No Model.)

A. R. HAMLIN.  
AMALGAMATOR.

No. 248,171.

Patented Oct. 11, 1881.



Witnesses;  
R. K. Crous  
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Inventor;  
Adrian R. Hamlin  
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his attys.

# UNITED STATES PATENT OFFICE.

ADRIAN R. HAMLIN, OF ALAMEDA, CALIFORNIA.

## AMALGAMATOR.

SPECIFICATION forming part of Letters Patent No. 248,171, dated October 11, 1881.

Application filed January 31, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, ADRIAN R. HAMLIN, of the city and county of Alameda, State of California, have invented an Improved Amalgamator; and I hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to a new and useful amalgamator; and it consists of a serpentine tube or pipe formed in sections of gradually-decreasing curvature properly joined and having a hopper, into which the pulp and water are fed, whereby pressure is obtained sufficient to force the wet pulp through the tube and through the mercury-baths in said tube.

The object of my invention is to provide an efficient amalgamator and one in which the access to the interior is easy, whereby the mercury-baths may be moved when required and the tube cleaned.

Referring to the accompanying drawing, the figure shows a vertical section of the device.

Let A represent a tube or pipe made of any practicable material, and bent in a series of upward and downward curves, as shown. This tube is composed of several sections joined together at points marked D, being points in the tube just before reaching the lowest parts where the quicksilver-baths are. The joint here may be made in any suitable manner which will allow the sections to be easily separated, though I prefer a bell-joint.

In the upper wall of the tube A, at its lowest point, (marked B,) are openings C, fitted with screw-caps. Through these openings I introduce the quicksilver and fill nearly full the lowest portions of the tube with the bath, as shown.

To the first section the hopper E is attached, said hopper being higher than any of the curves of the tube, whereby I am enabled to obtain sufficient pressure to force the pulp through the tube. The hopper has a screen, F. The pulp and water are discharged from any appropriate point upon the screen F within the hopper. By the head thus produced in the hopper sufficient pressure is produced to force

the pulp and water through the tube. It passes down to the first bath, through which it is forced, and up over the curve into the second bath. In being forced through the first bath and up the incline the quicksilver is also forced up a little, which will thus agitate it and produce a sort of churning motion back and forth, which will be beneficial in its action upon the pulp. The force of the incoming water and pulp will carry them over the curve and down into the second bath, where a similar action is had, the particles which have escaped the first bath being in the second likely to be retained.

As a modification of the shape of the tube shown, I can have a tube of the shape in which the bends or curves gradually lessen from the first to the end, whereby less force is required to convey the pulp from bath to bath. This form of tube I have found by experience to be very useful, requiring less force to drive the pulp through the tube. The quicksilver is less likely to be driven off in spray and keeps its place better. After the operation has been continued the required time I disjoint the tube A, which, by opening just before the baths, affords an opportunity to reach and remove them and also clean the tube.

I am aware that the use of serpentine tubes or pipes in the lowest parts of which mercury-baths are placed, through which the pulp is forced, is not new. I do not claim such, broadly; but

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

An amalgamator, A, serpentine in shape, in which the bends gradually lessen in altitude from the mouth to the end, and composed of sections with joints, as shown, and the hopper E, with its screen F, substantially as herein described.

In witness whereof I have hereunto set my hand.

A. R. HAMLIN.

Witnesses:

S. H. NOURSE,  
FRANK A. BROOKS.