

(No Model.)

L. BAUDENDISTLE.  
AMALGAMATING APPARATUS.

No. 591,943.

Patented Oct. 19, 1897.

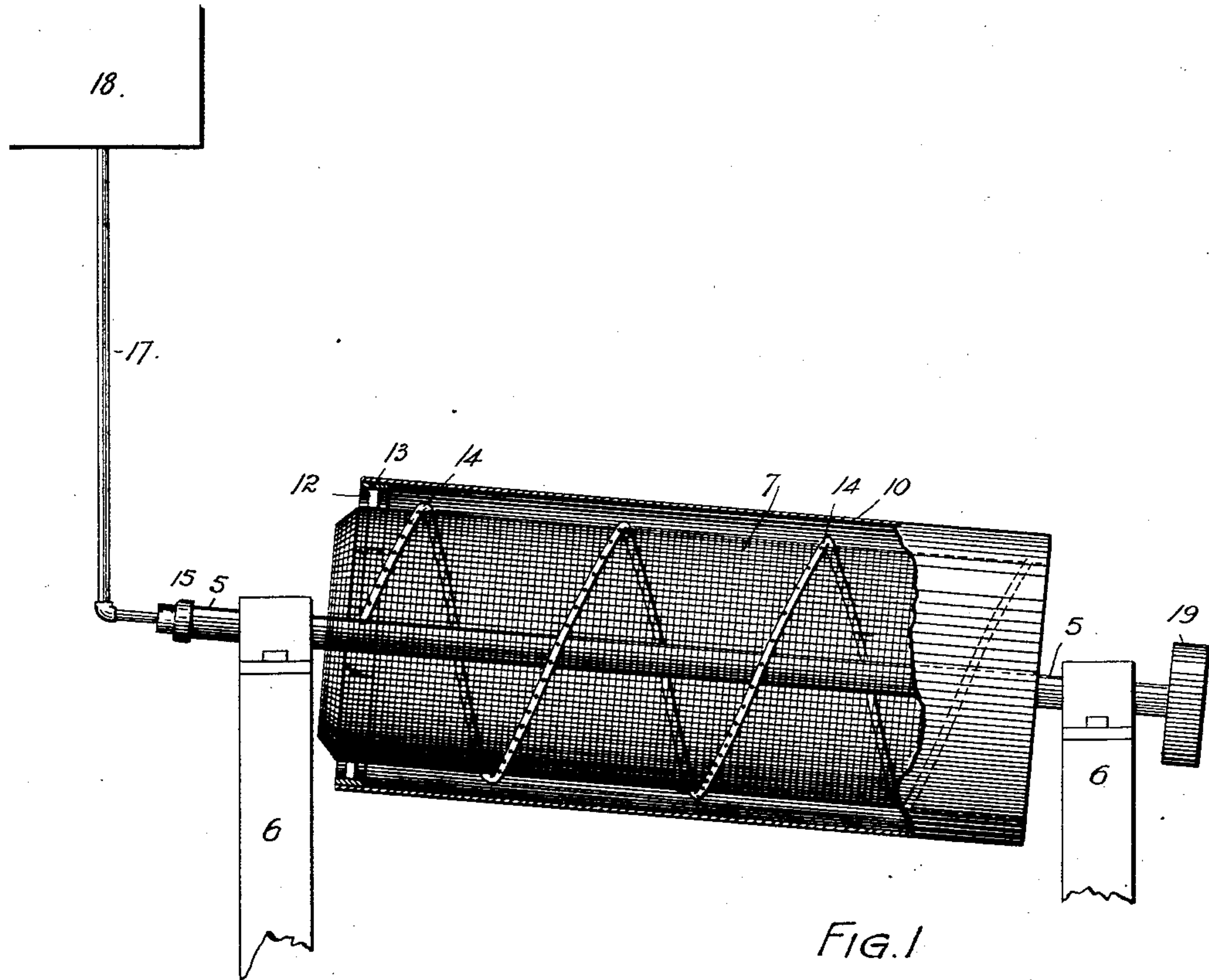


FIG. 1.

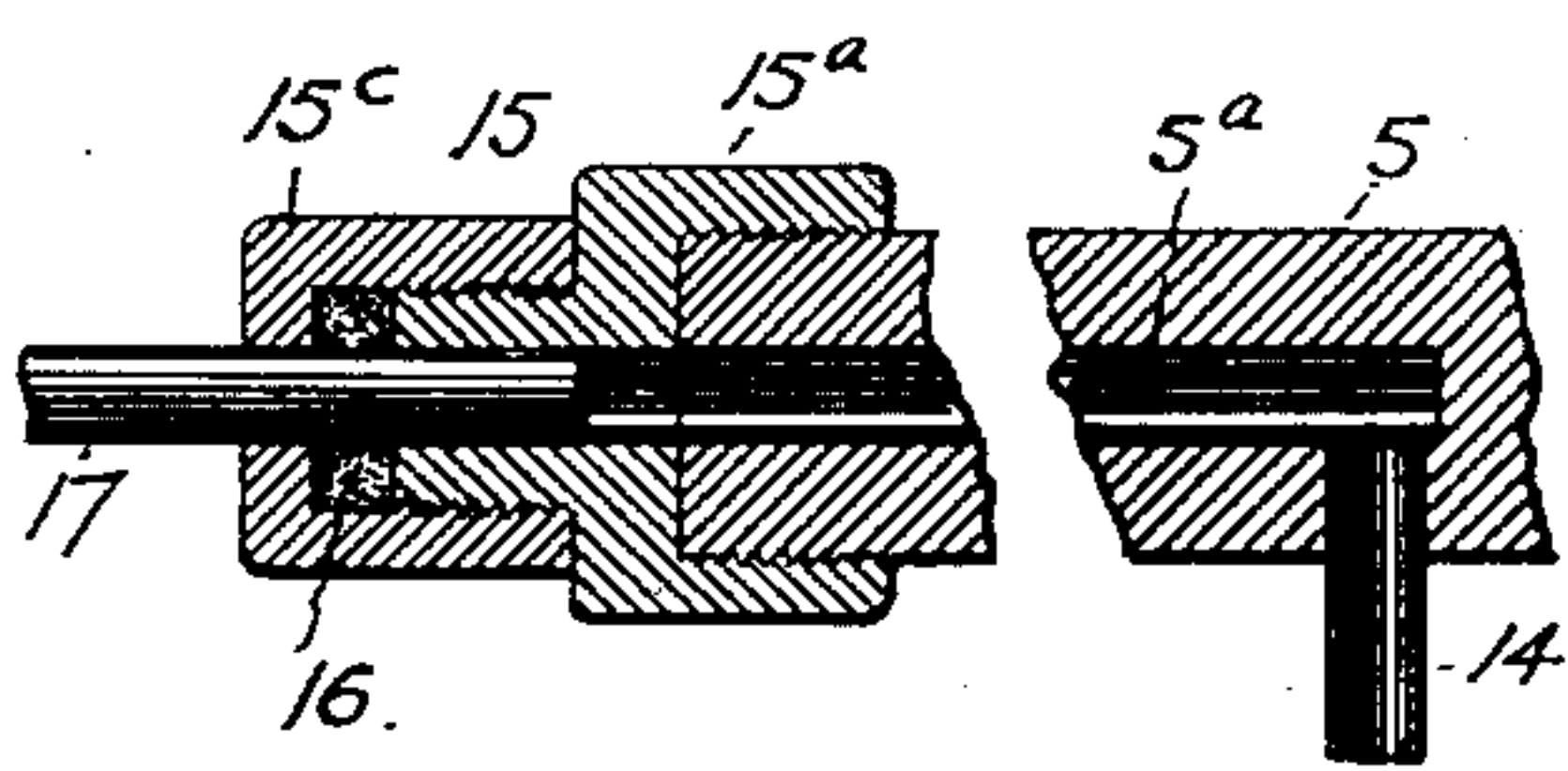


FIG. 2.

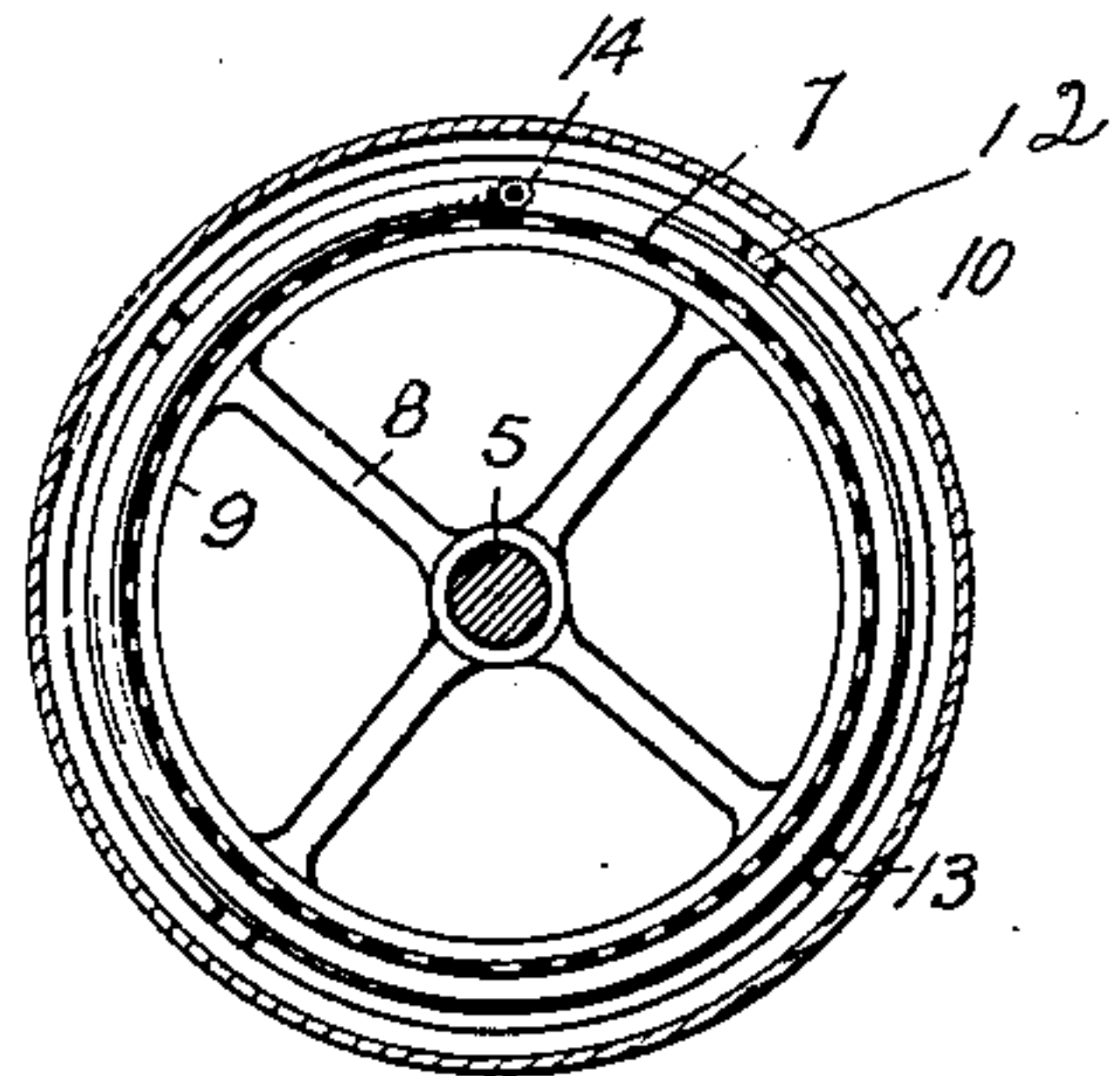


FIG. 3.

Witnesses  
J. J. Doleander  
Edith Hainsworth

Inventor  
L. Baudendistle  
By his Attorney *[Signature]*



# UNITED STATES PATENT OFFICE.

LAFAYETTE BAUDENDISTLE, OF DENVER, COLORADO.

## AMALGAMATING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 591,943, dated October 19, 1897.

Application filed February 9, 1897. Serial No. 622,665. (No model.)

*To all whom it may concern:*

Be it known that I, LAFAYETTE BAUDENDISTLE, a citizen of the United States of America, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Amalgamating Apparatus; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to an improved amalgamating apparatus; and it consists of the features hereinafter described and claimed, all of which will be fully understood by reference to the accompanying drawings, in which is illustrated an embodiment thereof.

In the drawings, Figure 1 is a side elevation of the apparatus, partly in section. Fig. 2 is a sectional detail, the parts being shown on a larger scale. Fig. 3 is a cross-section taken through the apparatus.

Similar reference-characters indicate corresponding parts in the views.

Let the numeral 5 designate a shaft whose extremities are journaled in suitable supports 6. On this shaft is mounted a cylindrical open-ended screen 7, by means of radial arms 8, which connect the shaft with circular bands 9, to which the screen is secured. Surrounding the screen 7, and suitably separated therefrom, is a cylindrical plate 10, whose inner surface is amalgamated or coated with mercury. This plate is connected with the screen by short arms 12, whose outer extremities are made fast to circular bands 13, to which the plate 10 is secured. Surrounding the screen and attached thereto in any suitable manner is a perforated pipe or conduit 14, whose orifices are all formed in its outer portion, so that a solution introduced into the conduit under pressure would be discharged upon the amalgamated or mercury-coated surface of the cylindrical plate 10. The conduit 14 (see Fig. 2) communicates with an opening 5<sup>a</sup> formed in one extremity of the shaft 5. To the hollow extremity of the shaft is applied a stuffing-box 15, composed of two members 15<sup>a</sup>

and 15<sup>c</sup>. The member 15<sup>a</sup> is screwed upon the shaft extremity. The member 15<sup>c</sup> is screwed upon the member 15<sup>a</sup> and carries the packing material 16. One extremity of a pipe 17 enters this stuffing-box and communicates with the opening 5<sup>a</sup> in the shaft 5. The pipe 17 leads from a receptacle 18, containing a weak solution of cyanid or some other suitable substance adapted to cleanse the mercury-coated surface of the cylindrical plate 10, whereby its sensitiveness is maintained unimpaired.

The machine is operated by connecting a pulley 19, fast on the shaft, with any suitable motor capable of imparting a rotary movement to the shaft and its attachments. The shaft 5 is slightly inclined, its stuffing-box extremity, or that which receives the solution, being the higher. This special construction is a matter of convenience, however, and not a necessity, since the solution may be introduced at either extremity of the shaft.

The material to be treated is fed into the upper extremity of the screen 7, which discharges the rocks and coarser gangue at its opposite extremity. The finer material passes through the screen, which may be of any suitable mesh. The finer material contains all the values which are caught by the mercury-coated surface of the plate 10. During the operation of the machine there is a continuous discharge from the pipe 14 of the cleansing solution contained in the tank 18. This solution keeps the plate clean and allows the values to collect without obstruction on the amalgamated surface of the plate 10.

The apparatus is specially designed for the treatment of placer material, though it must be understood that its use is not limited thereto.

Having thus described my invention, what I claim is—

1. In an amalgamating apparatus, the combination with the cylindrical plate, the inner screen and the shaft upon which the screen and plate are mounted, of a perforated pipe applied to the outer surface of the screen and connected with a suitable tank adapted to contain a cleansing solution.

2. In an amalgamating apparatus, the combination with a cylindrical plate, the inner concentric screen and the shaft upon which

the plate and screen are mounted, said shaft  
having a hollow portion, of a perforated pipe  
applied to the outer surface of the screen and  
communicating with the hollow portion of  
5 the shaft, a stuffing-box applied to the hol-  
low portion of the shaft, and a conduit con-  
nected with a suitable tank at one extremity  
and passing through the stuffing-box and  
communicating with the hollow portion of  
10 the shaft at the opposite extremity.

3. In an amalgamating apparatus, the com-  
bination with the cylindrical amalgamated  
plate, the inner concentric screen and the  
shaft upon which the plate and screen are

mounted, of a perforated pipe coiled around 15  
the outer surface of the screen and connected  
with one extremity of the shaft which is hol-  
low, a stuffing-box applied to the hollow ex-  
tremity of the shaft, and a suitable conduit 20  
between the hollow extremity of the shaft  
and a suitable tank, said conduit passing  
through the stuffing-box.

In testimony whereof I affix my signature  
in presence of two witnesses.

LAFAYETTE BAUDENDISTLE.

Witnesses:

G. J. ROLLANDET,  
EDITH HIMSWORTH.