No. 614,353. Patented Nov. 15, 1898.

H. C. F. STÖRMER.

APPARATUS FOR WASHING ALKALI AMALGAM.

(Application filed Feb. 7, 1898.)

(No Model.)

Fig. 2.

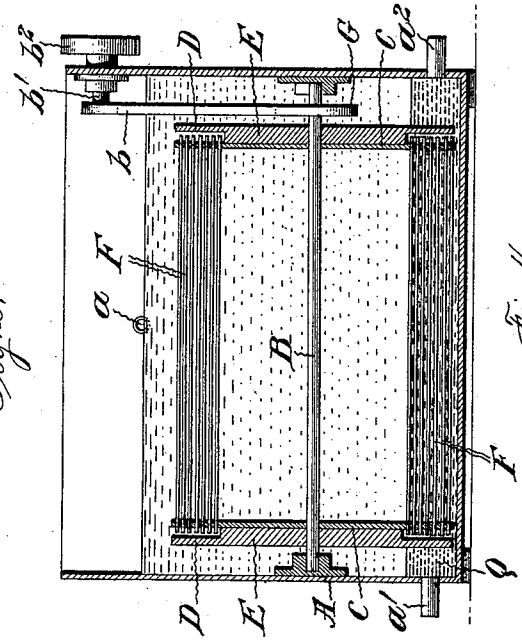


Fig. 4.

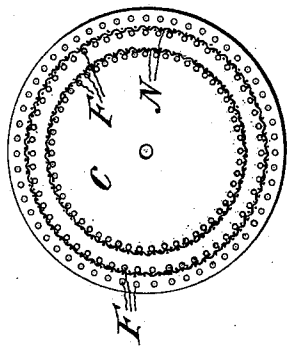


Fig. 1.

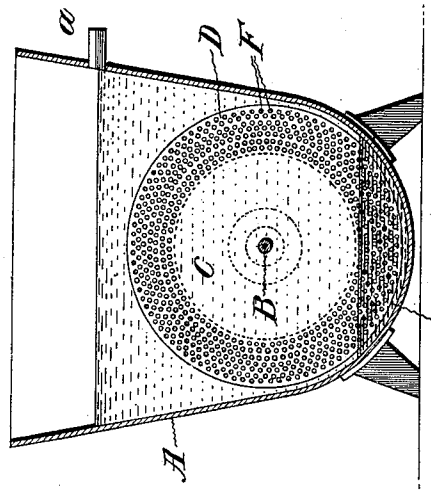
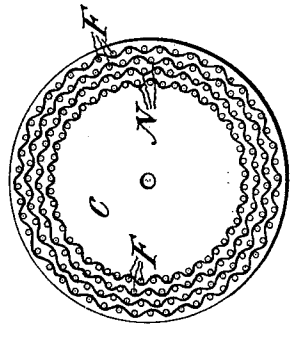


Fig. 3.



Witnesses:
B. S. Obed.
B. W. Sommers

Inventor:
Henrik Christian Fredrik Störmer.
By Munn & Co
Attorneys.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

HENRIK CHRISTIAN FREDRIK STÖRMER, OF CHRISTIANIA, NORWAY.

APPARATUS FOR WASHING ALKALI AMALGAM.

SPECIFICATION forming part of Letters Patent No. 614,353, dated November 15, 1898.

Application filed February 7, 1898. Serial No. 669,435. (No model.)

To all whom it may concern:

Be it known that I, HENRIK CHRISTIAN FREDRIK STÖRMER, a subject of the King of Sweden and Norway, residing at Christiania, Norway, have invented certain new and useful Improvements in Apparatus for Washing Alkali Amalgam; and I do hereby 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.

This invention has relation to apparatus for washing mercury amalgams—as, for instance, amalgams of metals of the alkalies with mercury obtained by well-known electrolytical processes; and it has for its object a construction whereby the efficiency of the apparatus is very materially increased, in that a greater proportion of the amalgam is presented to the action of the solvent than is the case in known apparatuses of this kind.

In the accompanying drawings, Figures 1 and 2 illustrate by a vertical cross-section and a like longitudinal section a preferred construction of apparatus; and Figs. 3 and 4 show cross-sections of the revoluble drum, with an open-mesh fabric between the rods.

A indicates a vessel whose bottom is concave, the arc of the circle described having its center at or about the center of rotation of the shaft B, revolubly mounted in suitable bearings secured to the inner face of the end walls of said vessel. On the shaft B are secured two disks E, in the proximate faces of which are formed annular edge offsets or recesses D, which, together with the plates C, secured to said inner faces of disks E or to their shaft B, form peripheral grooves.

The disks E have circular rows of perforations at that portion which laps over the aforesaid offsets or grooves into which project the ends of cylindrical bars F or bars of other form in cross-section, whereby a grated drum is formed whose periphery revolves close to the bottom of the vessel A.

The shaft B carries a driving-pulley belted by a belt b to a pulley on a short shaft b', that revolves in suitable bearings near the upper edge of one of the end walls of said vessel A and carries a pulley b^2, driven from any suitable prime motor.

The vessel A is further provided with two feed branches a a' and a discharge branch a^2. The branch a is or may be connected with a source of solvent-supply, as water, the branch a' with a source of amalgam-supply, and from branch a^2 the mercury freed from its cation is discharged.

It will readily be seen that when suitable quantities of amalgam and water are placed in or fed to vessel A and the drum is revolved the bars F will take up much greater quantities of such amalgam than is possible in known apparatuses and carry such amalgam in the form of thin layers into contact with the solvent, so that the washing is carried on much more expeditiously. The operation of washing may in this manner also be made a continuous one by continuously feeding a solvent to the last of the series of vessels and allowing it to continuously overflow through branch a to the next vessel, and so on through the series to the first, while the amalgam could be supplied to said first vessel through branch a' and periodically drawn off through branch a^2 to the next vessel, and so on to the last of the series of such, in which case the vessels would have to be arranged stepwise, or the location of the branches a' a^2 could be reversed, so that a' would constitute an overflow, in which case the amalgam will flow continuously from the first to the next, and so on to the last of the series of vessels.

The efficiency of the described apparatus—*i. e.*, the active surfaces thereof—may be greatly increased by inserting a cylinder of a more or less open-mesh metallic fabric N between two concentric rows of bars F, Fig. 4, or several such cylinders could be so inserted, or the metallic fabric could be threaded zig-zag fashion, as shown in Fig. 3.

Any suitable material is used in the construction of the amalgam-washer, the character of the material depending, of course, upon the character of the solvent used.

Having thus described my invention, what I claim as new therein, and desire to secure by Letters Patent, is—

1. Apparatus for washing amalgam, comprising a suitable vessel adapted to receive the amalgam and a solvent of its cation, a cylindrical drum revoluble therein and com-

posed of concentric rows of bars extending between two heads and a foraminous fabric interposed between the bars, substantially as described.

2. Apparatus for washing amalgam, comprising a suitable vessel adapted to receive the amalgam and a solvent of its cation, a drum composed of two heads, concentric rows of bars extending from head to head and a metallic open-mesh fabric threaded zigzag through the bars, substantially as described.

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

HENRIK CHRISTIAN FREDRIK STÖRMER.

Witnesses:
JON VAOLER,
THS. BERG.