

No. 799,059.

PATENTED SEPT. 12, 1905.

J. JOHANSEN.
MINER'S WASHING PAN.
APPLICATION FILED APR. 30, 1904.

Fig. 1.

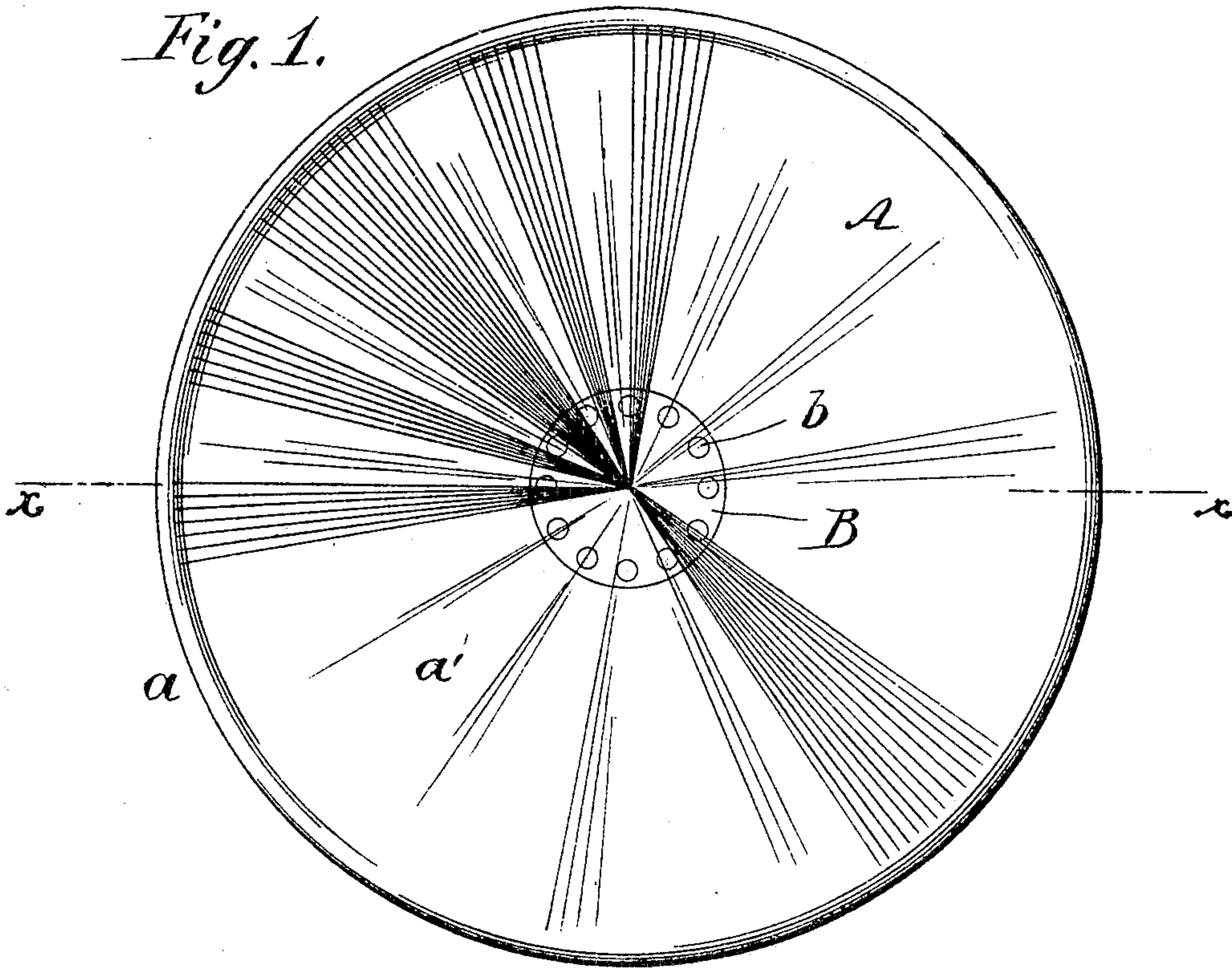
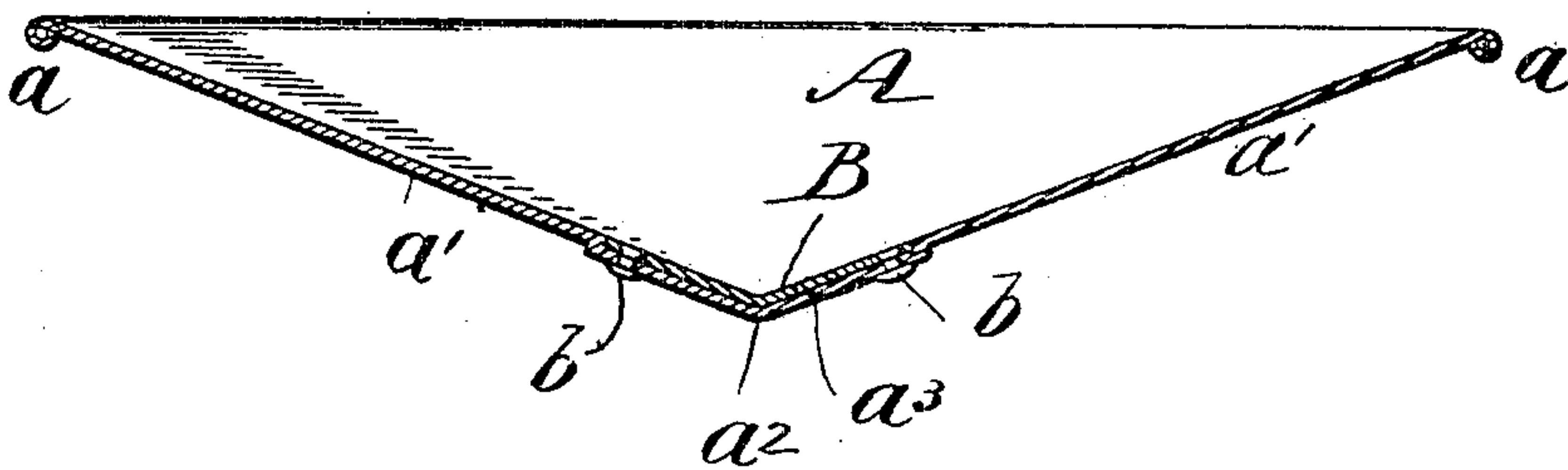


Fig. 2.



WITNESSES:
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JOSEF JOHANSEN, OF PARAMARIBO, DUTCH GUIANA.

MINER'S WASHING-PAN.

No. 799,059.

Specification of Letters Patent.

Patented Sept. 12, 1905.

Application filed April 30, 1904. Serial No. 205,689.

To all whom it may concern:

Be it known that I, JOSEF JOHANSEN, a citizen of Dutch Guiana, and a resident of Paramaribo, Suriname, Dutch Guiana, have invented certain new and useful Improvements in Miners' Washing-Pans, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof, in which similar letters of reference indicate corresponding parts.

This invention relates to miners' washing-pans, such as are used for separating precious metals from sand, gravel, and similar substances in which such precious metals are found, and especially to that class of pans generally known among miners as "Mexican bateas."

Heretofore it was found that in the process of washing a mass of material to separate the gold from it, no matter how careful the operative was in the manipulation of the pan and of the materials, in spite of all he could do, some of the gold would escape with the sand or gravel or like substance from which the gold was being washed, and so be lost. Although the batea as it is in common use was constructed to minimize this loss, it has been found in practice to be very far from effective in preventing such loss.

The object of my present invention is to prevent the above-named loss of precious metal in the use of the washing-pans.

The nature of the invention will be fully understood from the following general description and the annexed drawings and will be subsequently pointed out in the claims.

In the accompanying drawings, which are hereby made a part of this specification, Figure 1 is a top view of a batea with my invention attached. Fig. 2 is a sectional view of the same, taken on the line *a a* of Fig. 1.

A designates the batea, which has rim *a* and conical sides *a'* converging to an apex *a''*. This vessel may be made of sheet-iron or of any other available material.

a''' designates a conical recess which is formed in the bottom of the vessel around the apex *a''*. In this recess is placed the conical copper disk B, so that its edges will be flush with the inner surface of the batea above the recess *c'''*. In this position it may be fastened by rivets *b* or in any other convenient and available way. This disk B and the rivets *b* should be made of copper as nearly pure as possible, and especially such specimens should be selected as contain no iron. The rivets

should expose as small heads as possible on the inner surface of the disk and should be dressed off so as to be flush with the inner surface of the disk B.

All the various parts are to be constructed and arranged substantially as illustrated in the drawings.

To use my invention, the inner surface of disk B is coated with quicksilver. This may be done in any common and well-known way, so that a sufficient amount of quicksilver adheres to the surface to act on the gold as hereinafter described. The batea is then charged with the mass containing gold. Water is then added and the water and mass in the batea manipulated in the common and well-known way. It will then be found that on account of its great specific gravity the gold will fall down on the sides and bottom of the batea. That portion of the gold which falls on the sides of the vessel will as the manipulation continues gradually creep down to the disk B until all the gold in the mass has reached this disk. The gold which at first fell on the disk and that which came down the inclined sides, all combining with the quicksilver on the surface of the disk, will form an amalgam which will adhere so firmly that none of it will fall off when the batea is emptied. So when the mass is thrown out all the gold will remain in the form of an amalgam. This amalgam may be removed in any common and well-known way, and afterward the quicksilver may be distilled out of it in the common way to obtain the gold. As often as the surface of the disk B is amalgamated the batea may be used again in the same way.

I do not strictly confine myself to the materials herein named, as zinc and other metals are capable of being amalgamated with a sufficient surface of quicksilver to act upon gold as hereinbefore described, and other precious metals may be obtained in the same way; nor do I confine myself strictly to the construction and arrangement hereinbefore set forth, as it is evident that I am entitled to such variations as are within the scope of my invention.

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

1. A washing-pan for extracting precious metals from foreign substances by manipulation, comprising a conical basin of sheet-iron, having a conical recess in the bottom thereof, a cup of copper, conforming to and fixed within said recess, and copper-headed rivets

fastening said plate therein, the inner surfaces of the body of the basin, the said plate, and the heads of said rivets being closely fitted and smoothly polished and on a common inclined plane, whereby the precious metal may be readily caused to move down said surface, accumulate on the said plate, and be there amalgamated, substantially as shown and described.

10 2. A washing-pan for extracting precious metals from foreign substances by manipulation, embodying an iron basin of conical contour and having a conical recess in the apex thereof, and a conical cup, composed of pure
15 copper, in the said recess and rivets of pure copper fastening the same therein, exposing a minimum of surface on the heads of said

rivets, the inner surfaces of the basin and conical cup, and the heads of said rivets being smoothly polished and on a common plane, so that the inner surface of said copper cup and the heads of said rivets will retain a uniform surface of quicksilver for amalgamating the said precious metal, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 10th day of February, 1904.

JOSEF JOHANSEN. [L. s.]

Witnesses:

A. W. S. TERBORG,
S. DE VRIES, Jr.