

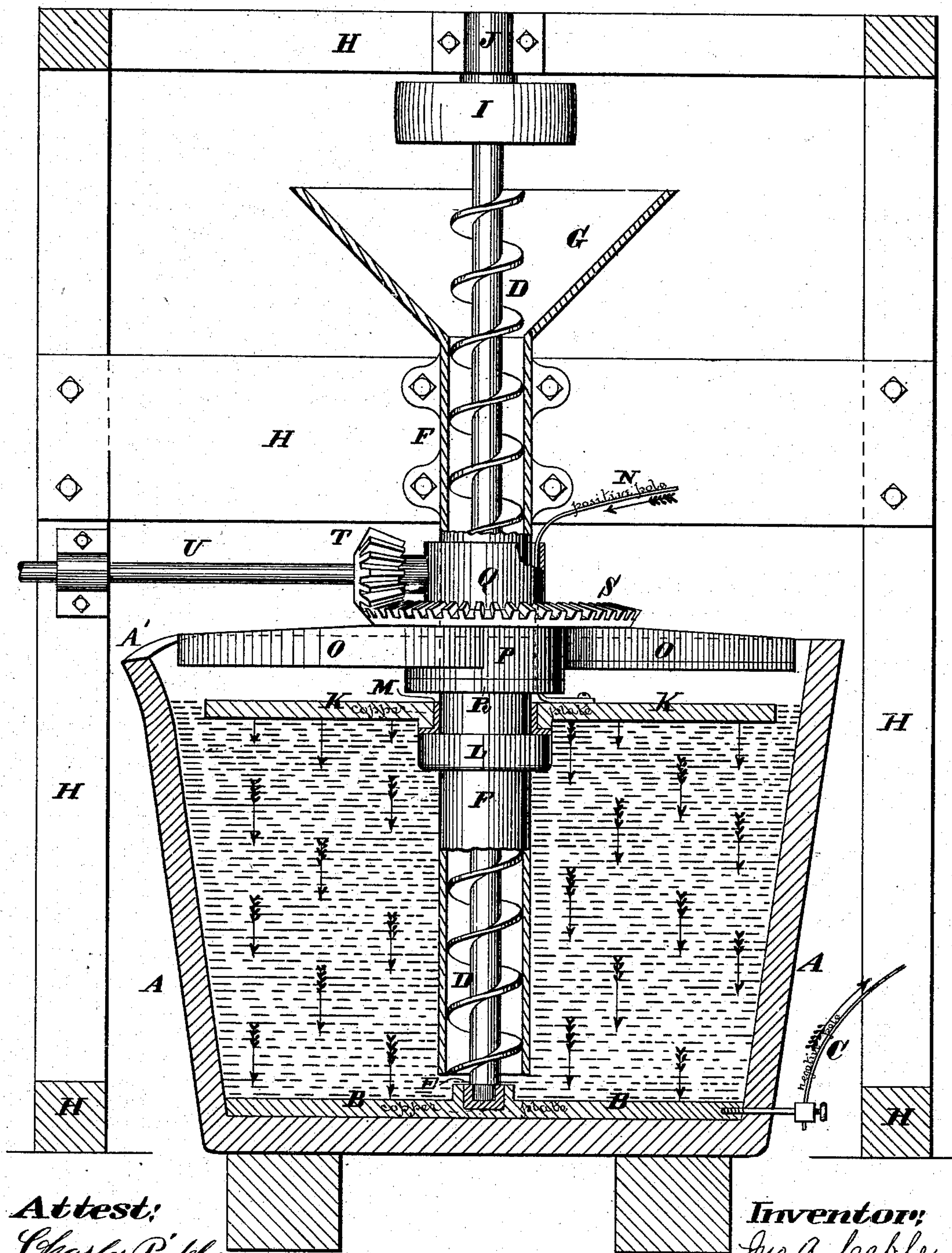
(No Model.)

J. A. CABLE.

APPARATUS FOR SEPARATING GOLD.

No. 274,083.

Patented Mar. 13, 1883.



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UNITED STATES PATENT OFFICE.

JOHN A. CABLE, OF ST. LOUIS, MISSOURI.

APPARATUS FOR SEPARATING GOLD.

SPECIFICATION forming part of Letters Patent No. 274,083, dated March 13, 1883.

Application filed October 14, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. CABLE, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Apparatus for Separating Gold, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, forming part of this specification, which is a vertical section of the apparatus.

My invention consists in the mechanical construction of the device shown, which will be fully described and claimed hereinafter.

Referring to the drawing, A represents a crucible or other suitable vessel for holding the liquid, and is so supported that a fire can be placed beneath it to keep the lead in a molten condition.

In the bottom of the vessel is a copper plate, B, with which the negative wire C of a battery connects. Stepped into this plate is the lower end of a screw-conveyer, D, the point of bearing being insulated, as shown at E.

Surrounding the conveyer is a tube, F, open at the lower end, and having a hopper, G, on its upper end, and is supported by a suitable frame, H. The conveyer-shaft has a driving-pulley, I, and its upper end is journaled in a box, J, secured to the frame H.

K represents a copper plate supported by the tube F, by means of a collar, L, secured to the tube, or by other suitable means. The point of contact of the plate and tube is insulated, as at M. The positive wire N of the battery connects with this plate K, as shown.

O represents arms or rakes secured by their inner ends to a ring or hub, P, journaled upon and supported by a collar, Q, secured to the tube F. The lower end of the collar Q is turned outward, forming a flange, R, upon which the hub P rests and has its support. The office of these arms is to rake the base matter which rises to the top of the vessel to the spout A', where it is discharged. Accordingly the arms would have the proper curves so as to force this refuse matter outward, and they are driven by any suitable means. I have shown a bevel-wheel, S, secured thereto and engaged by a similar wheel, T, on a drive-shaft, U, to which suitable power is applied.

The operation is as follows: Power being applied to the conveyer, the pulverized mate-

rial is placed in the hopper and carried by the conveyer to the bottom of the vessel, where it escapes into the melted lead, and the refuse matter, being lighter than the lead, will ascend therein, carrying more or less gold with it. The electric circuit is now connected, which will cause currents to pass from the positive to the negative plate through the lead bath, as shown by the arrows, which will assist the bath of lead to precipitate the gold, that is rising with the refuse matter, upon the lower plate, to which it will adhere, and thus be saved. The refuse matter, continuing to rise, will pass between the upper plate and the walls of the vessel, and be raked by the arms O to the spout of the vessel, where it will be discharged.

As a substitute for melted lead I may employ a bath of mercury; but as mercury cannot be heated advantageously I prefer the melted lead.

I am aware that electrical appliances have been used in connection with an amalgamating-chamber containing mercury, so as to obtain the solidification of or prevent the disintegration of the mercury. Such, therefore, I do not claim, broadly.

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

1. The combination of a suitable bath of melted lead, cylinder F, extending to near the bottom, having hopper G, copper plates B and K at the bottom and top of the bath, respectively, electric wires C and N, scrapers O, and suitable means for rotating the scrapers, as set forth.

2. The separator herein described, consisting of vessel A, to contain melted lead, copper plate B at bottom, wire C, connected to negative pole, tube F, copper plate K, wire N, connected to positive pole, collar L, insulator M, between collar and plate K, conveyer-shaft D, within the tube, insulator E, beneath and secured in the plate B, hub P, having scrapers O, collar Q R for supporting the hub, bevel-gears S T, drive-shaft U, and pulley I for driving conveyer, the whole mounted in a suitable frame, as set forth.

JOHN A. CABLE.

Witnesses:

SAML. KNIGHT,
GEO. H. KNIGHT.