

(No Model.)

W. J. TANNER.
APPARATUS FOR WASHING AND SEPARATING GOLD AND SILVER
FROM THEIR ORES.

No. 460,722.

Patented Oct. 6, 1891.

Fig. 1.

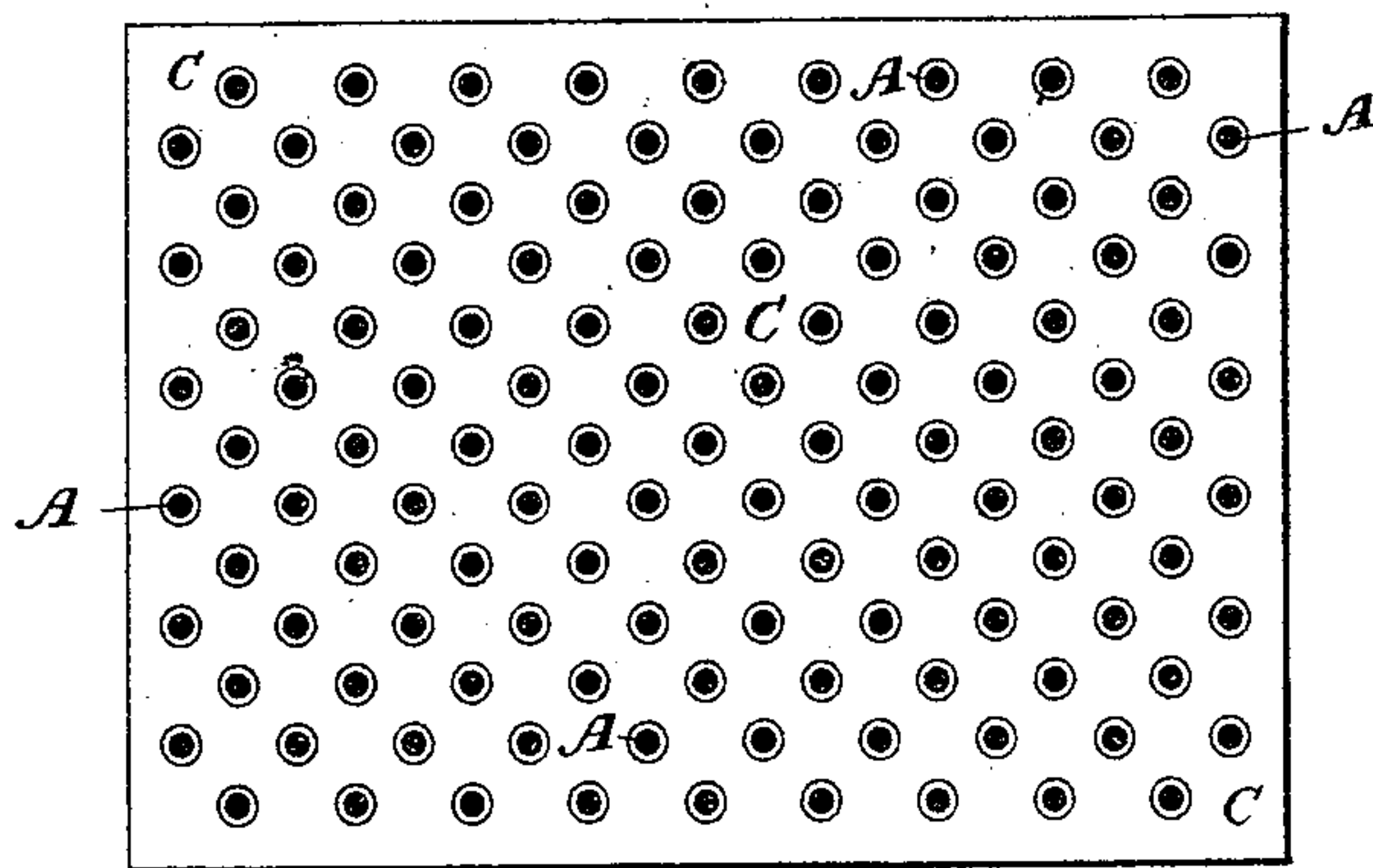
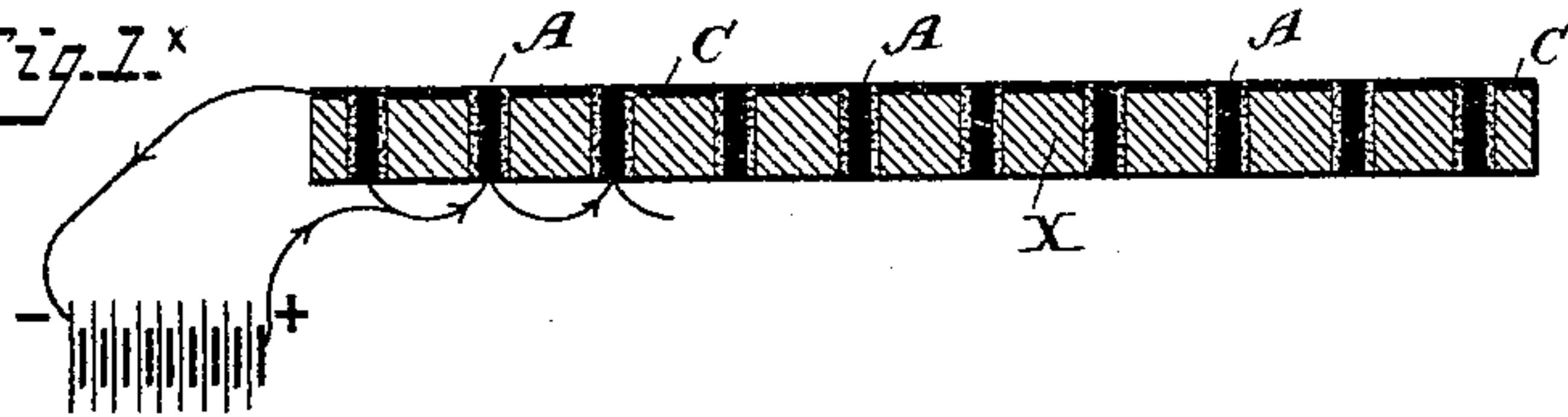


Fig. 1^x



Attest:

Count. A. Cooper.

H. C. Hanomann.

Wm. J. Tanner

Inventor.

By Foster & Freeman

Atty.

UNITED STATES PATENT OFFICE.

WILLIAM JOHN TANNER, OF LONDON, ENGLAND, ASSIGNOR TO THE ELECTRO-AMALGAMATOR COMPANY, OF NEW JERSEY.

APPARATUS FOR WASHING AND SEPARATING GOLD AND SILVER FROM THEIR ORES.

SPECIFICATION forming part of Letters Patent No. 460,722, dated October 6, 1891.

Original application filed September 24, 1884, Serial No. 143,823. Divided and this application filed October 3, 1885, Serial No. 178,928. (No model.) Patented in Victoria October 3, 1884, No. 3,857; in New South Wales January 12, 1885, No. 1,563, and in Queensland, February 16, 1885, No. 7.

To all whom it may concern:

Be it known that I, WILLIAM JOHN TANNER, a subject of the Queen of Great Britain, and a resident of London, county of Middlesex, England, have invented certain new and useful Improvements in Electrical Apparatus for Washing and Separating Gold and Silver from their Ores, (for which I have previously received a Victorian patent, dated October 3, 1884, No. 3,857; a Queensland patent, dated February 16, 1885, No. 7, and a New South Wales patent, dated January 12, 1885, No. 1,563,) of which the following is a specification, this being a division of my Patent No. 328,532, October 20, 1885.

It is well known that when amalgamated plates are used for collecting gold and silver from their ores the surfaces of these plates are liable to become tarnished or sickened by certain substances contained in the ores or in the current of water which is employed to carry the ore over the plates, and that in this condition they are unfitted for amalgamating the particles of gold and silver. To prevent this and to keep the surfaces of the amalgamated plates always bright and in a better condition for catching and amalgamating the particles of gold and silver are the objects of my invention, and I employ electricity in carrying it out.

My invention, which forms the subject of this application, which is a division of my original case, patented October 20, 1885, and numbered 328,532, consists in the use of an amalgamated plate or plates fastened to a wood backing. Holes are made in these plates, passing also through the wood backing. In the center of each hole is placed a pin or small rod of carbon or other conducting material, the diameter of the pin or rod being less than that of the hole in the amalgamated plates and its backing, and the space between the outside of the pin or rod and the inside of the hole is filled in with a non-conducting material. The ends of the

pieces are put in electrical connection with one another and with the positive pole of any source of electricity and the amalgamated plates with the negative pole of the same source. The anode may be in the form of pins or points of carbon or other conducting material. These pins or points are kept at the proper height above the surface of the amalgamated plates by being passed through the bars of a frame supported on the sides of the table on which the amalgamated plates are laid or fastened. The electrical connections are made in the same manner as in the previously-described arrangement.

I now proceed to describe fully the construction of apparatus, as shown in the drawings and employed for carrying my invention into effect.

Similar letters indicate like or corresponding parts in all the figures.

Figure 1 is a plan, and Fig. 1^x a longitudinal section, of amalgamated plate C, fastened to a wood backing X. Holes are made through the plate and the backing, in the center of which are placed the carbon pins or rods A, of smaller diameter than the holes, and kept from touching the sides of the holes by being surrounded by a layer of non-conducting material. The upper ends of the pins may or may not be flush with the surface of the amalgamated plate. The carbons A are electrically connected with one another on the under side of the backing and also with the positive pole of the source of electricity. The amalgamated plate is suitably connected with the negative pole of the same source.

Having now described the nature of my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, with an amalgamated plate having holes, of points or pins of conducting material forming part of the circuit arranged in said holes and insulated from the plate, substantially as described.

2. The combination, with an amalgamated plate fastened to a wood backing, with holes through said plate and backing, of points or pins of conducting material arranged in the
5 holes, but insulated from the plate and backing, the pins being connected electrically with one pole of a battery and the plate with the opposite pole, substantially as described.
In testimony whereof I have signed my

name to this specification in the presence of two subscribing witnesses.

WILLIAM JOHN TANNER.

Witnesses:

CHRIS BERKLEY HARRIS,
London, Notary Public.

G. F. WARREN,
Notary Public, London.