

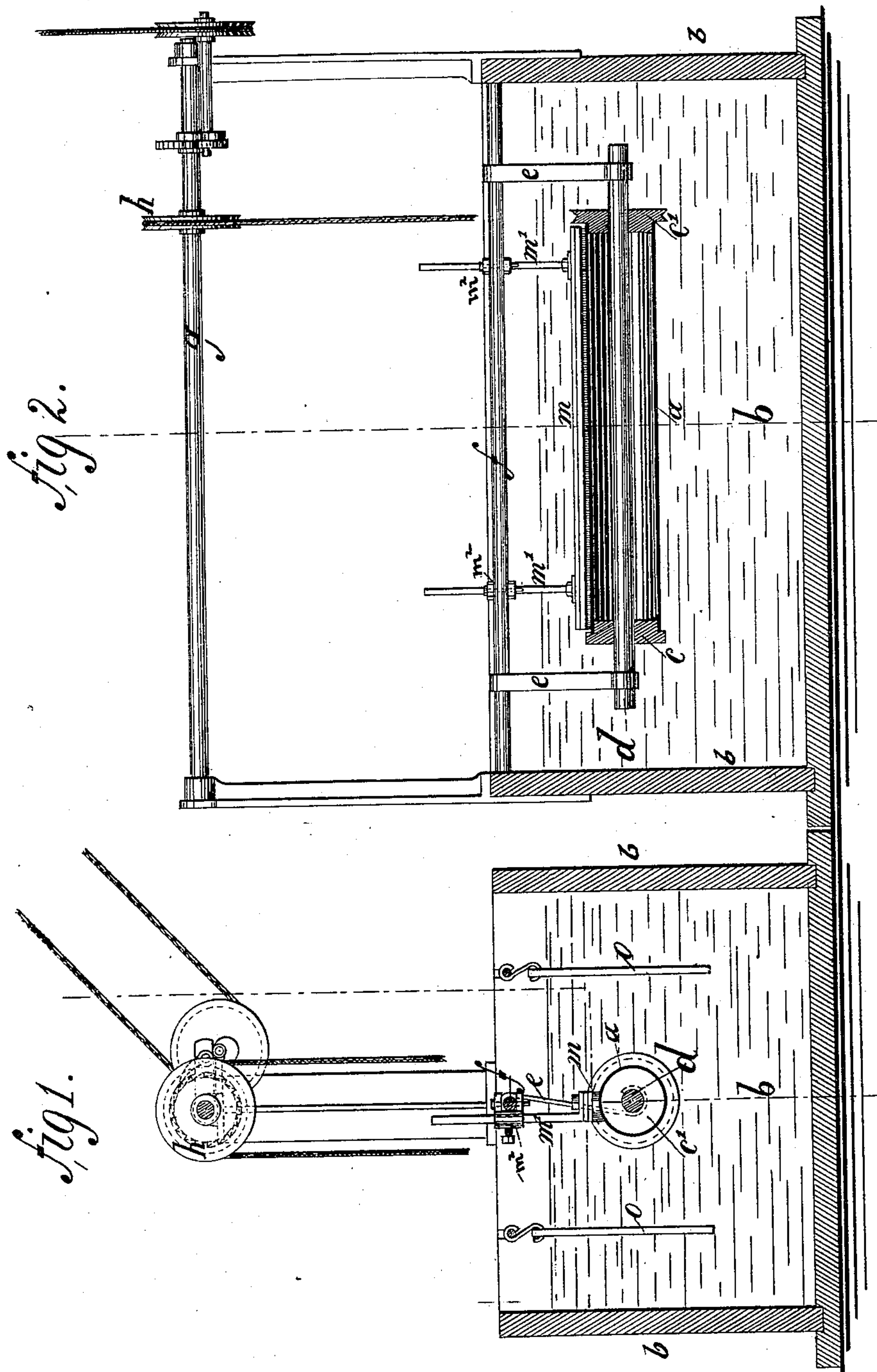
(No Model.)

D. APPLETON.

APPARATUS FOR ELECTROPLATING.

No. 313,569.

Patented Mar. 10, 1885.



WITNESSES:

Otto Risch.
Martin Petry.

INVENTOR

David Appleton

BY

Goepel & Paegemer

ATTORNEYS.

UNITED STATES PATENT OFFICE.

DAVID APPLETON, OF MANCHESTER, ENGLAND.

APPARATUS FOR ELECTROPLATING.

SPECIFICATION forming part of Letters Patent No. 313,569, dated March 10, 1885.

Application filed January 22, 1884. (No model.) Patented in England January 6, 1883, No. 88, and October 22, 1883, No. 5,011; in France January 30, 1883, No. 153,419; in Belgium January 31, 1883, No. 60,314, and in Germany February 9, 1883, No. 24,599.

To all whom it may concern:

Be it known that I, DAVID APPLETON, residing at Manchester, in the Kingdom of England, have invented certain new and useful
5 Improvements in Apparatus for Electroplating, (for which Letters Patent have heretofore been granted to me by the government of Great Britain, No. 5,011, dated October 22, 1883,) of which the following is a specification.

10 My invention relates to a new apparatus for electroplating the surface of rollers used in printing and embossing of cotton and other woven fabrics, and of paper and other materials.

15 It is well known that in electroplating, particularly when strong currents are used, bubbles of hydrogen gas will adhere to the surfaces to be plated, rendering the coating porous and defective. For printing-rollers such
20 imperfect surfaces are entirely unsuitable.

The object of my invention is to provide an apparatus for electroplating printing-rollers, by which a uniform layer of nickel is deposited on the printing-roller; and the invention
25 consists of the apparatus herein described for plating said rollers.

In the accompanying drawings, Figure 1 represents a vertical transverse section, and Fig. 2 a vertical longitudinal section, of my
30 improved apparatus for electroplating printing-rollers.

Similar letters of reference indicate corresponding parts.

35 *a* is an engraved hollow copper roller, which is suspended in a plating-bath, *b*. The ends of the roller are closed by means of stoppers *c c'*, which are mounted upon a shaft, *d*, that is preferably made of copper. The stoppers *c c'* may also be made of copper, or they may
40 be made of other material, so long as there is an electrical connection between the roller and the shaft. The shaft *d* is suspended by means of conductive links *ee* from the cathode-

bar *f*, which is in connection with a battery or with a dynamo-electric machine. A shaft, 45 *g*, is mounted on bearings of standards attached to the plating-tank. On this shaft *g* is mounted a pulley, *h*, which is connected by means of a cord or chain or other driving medium with the stopper *c'*, which is formed to act as a pulley or chain-wheel. The shaft *g* receives continuous or intermittent rotary motion by any
50 suitable means. I prefer, however, a slow continuous motion.

m is a brush, which bears longitudinally 55 against the roller *a*, and is adjustably connected by supporting-rods *m'* to clamp-sockets *m''* on the cathode-bar *f*. This brush bears against the revolving roller, removes any hydrogen-bubbles which may adhere to the surface of the roller, and causes a solid and homogeneous deposition of the metal thereon. 60 The anodes *o* are suspended in the bath, one on each side of the roller, and are connected with the proper pole of the battery or machine. 65

In place of the brush, any other mechanical means may be used by which the accumulation of gas-bubbles on the surface of the deposit may be prevented. 70

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

The combination of a plating-bath, means for suspending the hollow printing-roller from the cathode-bar, means for imparting rotary 75 motion to the roller, and a brush supported adjustably on the cathode-bar and arranged in contact with the revolving roller, substantially as specified.

In testimony whereof I have signed my name 80 to this specification in the presence of two subscribing witnesses.

DAVID APPLETON.

Witnesses:

DAVID FULTON,
ARTHUR LEDGER.