

(No Model.)

E. EMERSON.

CATHODE FOR AN ELECTRO DEPOSITING APPARATUS.

No. 395,773.

Patented Jan. 8, 1889.

Fig. 1.

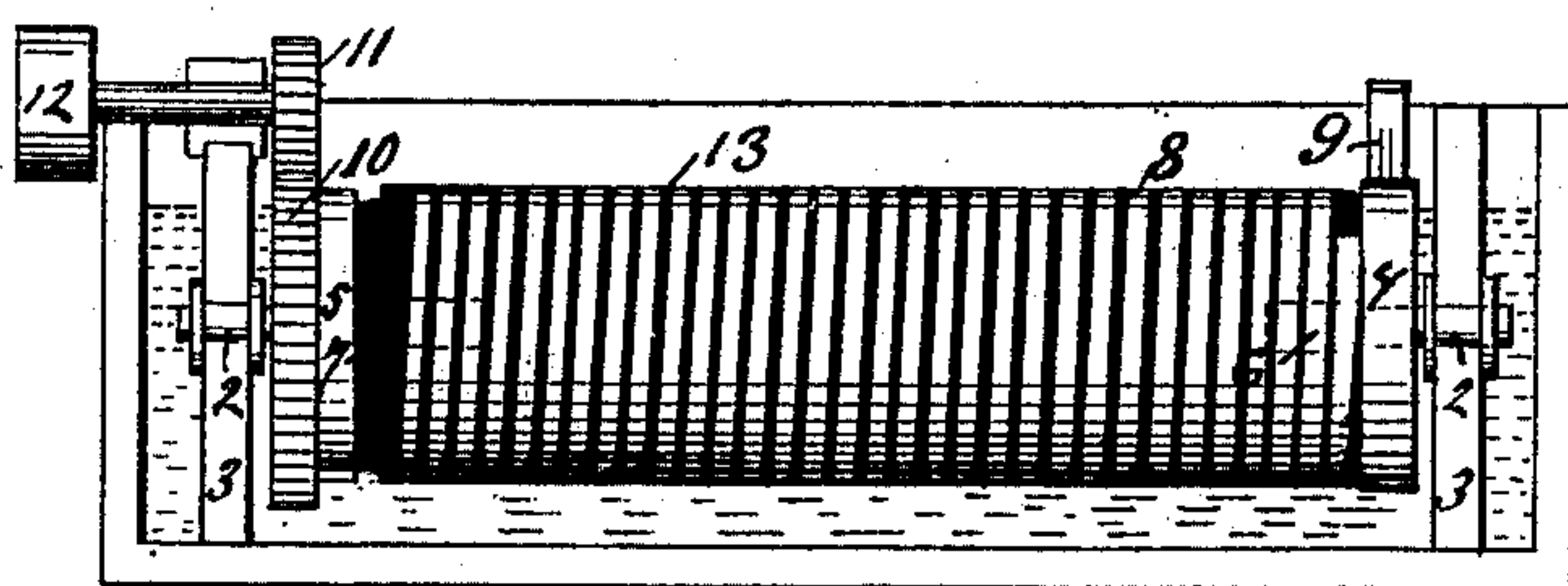
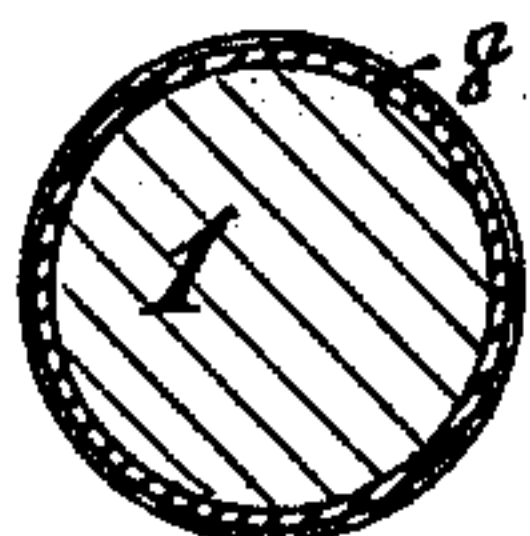


Fig. 2.



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CATHODE FOR AN ELECTRO-DEPOSITING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 395,773, dated January 8, 1889.

Application filed March 19, 1888. Serial No. 267,668. (No model.)

To all whom it may concern:

Be it known that I, ELISHA EMERSON, of Providence, Providence county, Rhode Island, have invented a Cathode for an Electro-Depositing Apparatus, of which the following is a specification.

The object of this invention is to produce bars of copper by electro-deposition of a length and quality that will render them marketable without further treatment.

The invention consists of a rotary cylindrical cathode, coated so as to prevent cohesion of the deposit and divided by a spiral line or band of insulation, so as to form one long narrow depositing-surface.

In the accompanying drawings, Figure 1 represents a longitudinal section through the depositing-vat, and Fig. 2 a cross-section through the cathode and cathode-support.

The cathode-support consists of a wooden cylinder, 1, removably mounted on bearings 2, supported in the removable partitions 3. The heads 4 and 5 have studs 6 and 7 projecting into cylindrical openings in the ends of the cylinder, and they are in turn supported on the bearing-studs 2. The head 4 is in continuous electric connection both with cathode 8 and the sliding brush 9, the latter being one pole of the machine. The head 5 carries a gear-wheel, 10, driven by gear 11 and pulley 12.

The cathode consists of a thin smooth metal cylinder, 8, covering the convex surface of the wooden support 1; or it may be made of a

spirally-wound strip of sheet metal, leaving insulating-spaces between the turns. In the former case I form the insulating-strip by covering the cathode with a spiral strip of flexible insulating material, leaving just enough of the cathode exposed to make the deposited strip of the required width. Before immersing the cathode it should be prepared with graphite or other suitable material, to prevent cohesion of the deposit. The anodes may be hung on either side of the cylinder, and may be of curved form, so as to more readily approximate the shape of the cylinder and thereby reduce the resistance. The cathode should be slowly rotated during the process of deposition, and after the deposit has been built up to the desired thickness it should be stripped from the cathode by taking hold of one end and peeling it off. The cylinder may then be prepared for another deposit. By this means I am enabled to produce bars of pure dense copper of almost any desired length.

Having thus described my invention, what I claim as new is—

In an electro-depositing apparatus, a cylindrical rotary cathode divided by a spiral line or band of insulation, so as to form one long strip of depositing-surface.

ELISHA EMERSON.

Witnesses:

CHAS. H. EMERSON,
FOSTER N. GUNNISON.