Nov. 20, 1923. 1,474,460

E. M. BECK

ELECTROPLATING ANODE

Filed July 5, 1922

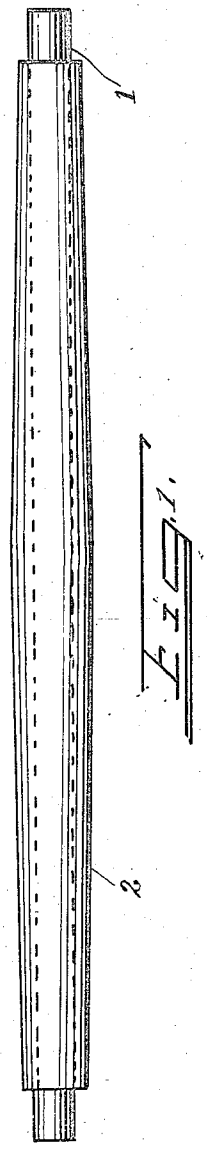


Fig. 1.

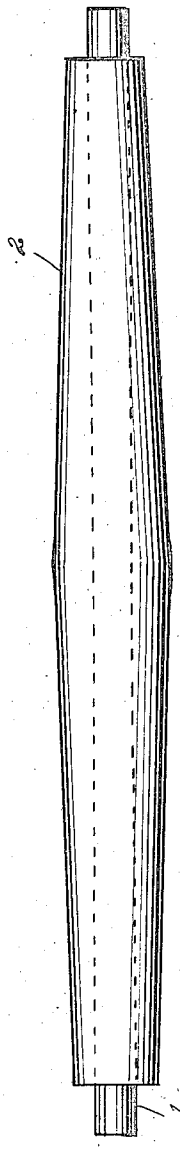


Fig. 3.

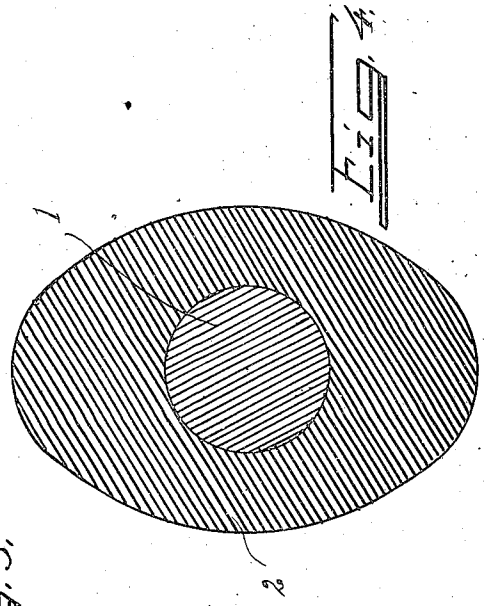


Fig. 4.

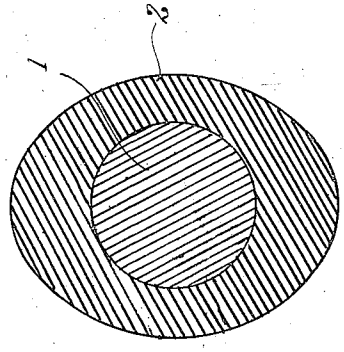


Fig. 2.

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UNITED STATES PATENT OFFICE.

EDWIN M. BECK, OF GREENSBURG, INDIANA.

ELECTROPLATING ANODE.

Application filed July 5, 1922. Serial No. 572,794.

To all whom it may concern:

Be it known that I, EDWIN M. BECK, a citizen of the United States, and resident of Greensburg, in the county of Decatur and State of Indiana, have invented certain new and useful Improvements in Electroplating Anodes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

The present invention relates to anodes for electroplating.

In present practice the anode employed in electroplating is constructed simply of a mass or bar of the plating metal. As this metal is dissolved during the plating process, the bar decreases in mass, and this decrease in certain instances is progressively more rapid from the ends towards the middle of the bar. It thus happens that at a certain period, where, however, the anode still contains a sufficient mass of metal in the aggregate, the bar by reason of the lack of surface, especially towards the middle of its length, becomes useless and must be discarded. On resale as junk moreover, the discarded metal is of very much depreciated value. The principal object of this invention therefore, is to provide in an electroplating anode an electrically conductive core of relatively inexpensive metal, and an enveloping sheath of the plating metal; virtually the entire amount of plating metal on the anode may thus be used, after which, if desired, the core may be recovered with plating metal.

A further object of this invention is to provide in an electroplating anode having a core and enveloping sheath of plating metal, as above set forth, an increased mass of plating metal intermediate the ends of the bar, the same preferably tapering towards said ends; the dissolution of the plating metal thus, while more rapid towards the middle of the bar, reaches the core practically at the same time thruout the length of the anode, permitting the efficient use of the anode until virtually all of the plating metal has been consumed.

In the drawings:—

Figure 1 is an elevation of an anode constructed in accordance with this invention viewed from the side of its smaller dimension.

Figure 2 is an elevation showing the broader dimension.

Figure 3 is an enlarged section of an anode taken at a point near the end.

Figure 4 is a middle section of the anode.

The numeral 1 indicates a cylindrical core constructed preferably of iron or steel. The core 1 is adapted to be secured by one or both of its ends in the positive terminal of the electroplating tank in the usual manner, so that the anode may be immersed in the electrolyte and must, of course, be electrically conductive. The core 1 is provided with an enveloping sheath or body 2 of any desired plating metal as for instance zinc, copper, etc. The body 2 may be, if desired, cylindrical in shape, but I prefer to construct the same of greater section toward the middle point 3 and tapering toward the ends. As shown in the drawings furthermore, the body 2 is of oval cross section. There is thus provided a large surface from which the plating metal may be dissolved by the electrolytic action during the plating process.

The nature and value of the present invention will be apparent from the foregoing description thereof. When an anode of such construction is used, the metal of the body 2 is dissolved into the electrolyte in the usual manner and this action, by reason of the diminishing cross section towards the ends of the body, terminates simultaneously thruout the length of the anode, and when virtually all of the plating metal has been consumed, thus preventing waste. When the plating metal has been entirely consumed the core 1 may be removed and the body 2 renewed thereon. It will thus be seen that in the foregoing construction I have provided a simple, efficient and economical anode for electroplating purposes.

Having thus fully described my invention what I claim as new and desire to secure by Letters Patent is:—

1. An anode for electroplating comprising a substantially cylindrical conductive core and an enveloping body of electroplating metal formed on said core and unitary therewith.

2. An anode for electroplating comprising a conductive core and an enveloping body of electroplating metal on said core, said body being of increased dimension intermediate its length and tapering toward the ends.

EDWIN M. BECK.