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H. G. RICE

ANODE

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Fig. 1

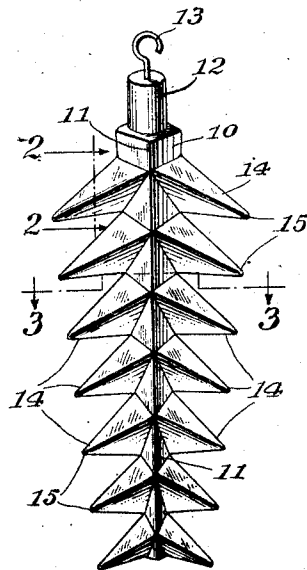
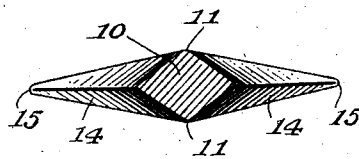


Fig. 2



Fig. 3



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ANODE.

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To all whom it may concern:

Be it known that I, HOWARD G. RICE, a citizen of the United States, and a resident of Waterbury, county of New Haven, and State of Connecticut, have invented certain new and useful Improvements in Anodes, of which the following is a specification.

This invention relates to electroplating apparatus, and more particularly to an improved form of anode for supplying metal to a plating bath.

One object of this invention is to provide an anode having a relatively large surface, said anode being so proportioned as to permit the metal thereof to dissolve evenly and rapidly with the production of the minimum amount of scrap.

A further object is to provide an anode of the above nature comprising a central core or body portion having a plurality of prongs or spurs projecting in opposite directions therefrom, and lying in a single plane.

A further object is to provide an anode of the above nature which will be simple, inexpensive to manufacture, compact in construction, ornamental in appearance, and very efficient and durable in use.

With these and other objects in view, there has been illustrated on the accompanying drawings one form in which the invention may be conveniently embodied in practice.

Fig. 1 represents a perspective view of the anode.

Fig. 2 is a sectional view of one of the prongs of the anode taken along the line 2—2 of Fig. 1.

Fig. 3 is a transverse sectional view of the anode taken along the broken line 3—3 of Fig. 1, looking in the direction of the arrows.

The present anode is an improvement over the invention disclosed in the prior Patent, No. 858,160 to Deloye, dated June 25, 1907.

Numerous unsuccessful attempts have been made in the past to design an anode which would have sufficient surface to rapidly supply metal to a plating bath, and which at the same time would not dissolve unevenly and cause parts of the anode to fall off and clog the plating bath.

By means of the present invention, the above and other objects have been secured,

and an anode has been produced having a central core and a plurality of projecting prongs, and adapted to provide a relatively large working surface to permit the anode to dissolve rapidly and uniformly.

Referring now to the drawings in which like reference numerals denote corresponding parts throughout the several views, the numeral 10 indicates the core or body portion of the anode, said core being tapered inwardly from top to bottom and being diamond-shaped in cross section, whereby the core will be provided with ribs 11 at its four corners.

In order to provide means for hanging the anode upon a bus bar or other conductive support, the core is provided at its top with a cylindrical section 12 having a hook 13 extending upwardly therefrom.

For the purpose of increasing the surface of the anode, the core 10 is provided with a plurality of laterally extending and downwardly inclined prongs 14. The prongs 14 are preferably diamond-shaped in cross section, and are tapered inwardly toward their outer ends 15 to provide a series of points, to facilitate the dissolving of the metal from the anode. As is clearly shown in Figs. 1 and 3 the prongs 14 extend from the core 10 in opposite directions and lie in a single plane perpendicular to the direction of the cathode.

In operation, the anode will be preferably positioned in the plating bath with the plane of its projecting prongs at right angles to a line between the anode core and the cathode. The position of the anode should preferably be reversed 180 degrees from time to time so as to insure a more even dissolving away of the metal.

One advantage of this invention is that the core and prongs as they dissolve in the plating bath will preserve the original general tapered shape, and will not be subject to weakening at intermediate points, as is the case in untapered flat anodes.

While there has been disclosed in this specification one form in which the invention may be embodied, it is to be understood that this form is shown for the purpose of illustration only, and that the invention is not to be limited to the specific disclosure but may be modified and embodied in various other forms without departing from its

spirit. In short, the invention includes all the modifications and embodiments coming within the scope of the following claims.

Having thus fully described the invention, what is claimed as new, and for which it is desired to secure Letters Patent, is:

1. In an anode for electroplating baths, a core of gradually diminishing size from top to bottom, said core being angular in cross section, a plurality of integral prongs projecting from said core in opposite directions, said prongs being angular in cross section and pointed at their extremities.

2. In an anode for electroplating baths, a core, said core being diamond-shaped in cross section, a plurality of integral prongs projecting from said core in opposite directions, said prongs lying in a single plane and being tapered and diamond-shaped in cross section.

3. In an anode for electroplating baths, a core of gradually diminishing size from top to bottom, said core being angular in cross section and having a plurality of integral prongs extending laterally and obliquely downwardly in opposite directions and lying in a single plane, said prongs being angular in cross section and having pointed extremities.

4. In an anode for electroplating baths, a core of gradually diminishing size from top to bottom, said core being angular in cross section and having a plurality of prongs extending laterally and obliquely downwardly in opposite directions in a single plane, said prongs being angular in cross section and having pointed extremities.

5. In an anode for electroplating baths, a core of gradually diminishing size from top to bottom, said core being angular in cross section and having a plurality of prongs extending laterally and obliquely downwardly, said prongs being angular in cross section, and having pointed tips.

6. In an anode for electroplating baths, a core adapted to hang vertically in a plating tank, a plurality of prongs projecting later-

ally from said core and lying in a single plane, said prongs overlapping one another and having sharp edges extending in the direction of the cathode, whereby a large surface area of metal will be exposed to the electrolyte to permit the anode to be rapidly dissolved.

7. In an anode for electroplating baths, a core adapted to hang vertically in a plating tank, two rows of laterally projecting pointed prongs connected to said core, said rows extending in opposite directions, said prongs lying in a single plane perpendicular to the direction of the cathode, said core and said prongs having sharp edges extending in the direction of the cathode whereby a large surface of metal will be exposed to the action of the electrolyte.

8. In an anode for electroplating baths, a core adapted to hang vertically in a plating tank, two rows of laterally projecting pointed prongs connected to said core, said rows extending in opposite directions and lying in a single plane perpendicular to the direction of the cathode, said core and said prongs being angular in cross section.

9. In an anode for electroplating baths, a core adapted to hang vertically in a plating tank, two rows of laterally projecting pointed prongs connected to said core, said rows extending in opposite directions and lying in a single plane perpendicular to the direction of the cathode, said core and said prongs being angular in cross section, said core being inwardly tapered from top to bottom, and said prongs diminishing in length and being inwardly tapered from said core to the tips of said prongs.

10. In an anode for electroplating baths, a vertical core, a plurality of integral prongs projecting from said core in opposite directions, each of said prongs having a sharp edge to facilitate the solution of the anode.

In testimony whereof, I have affixed my signature to this specification.

HOWARD GEO. RICE.