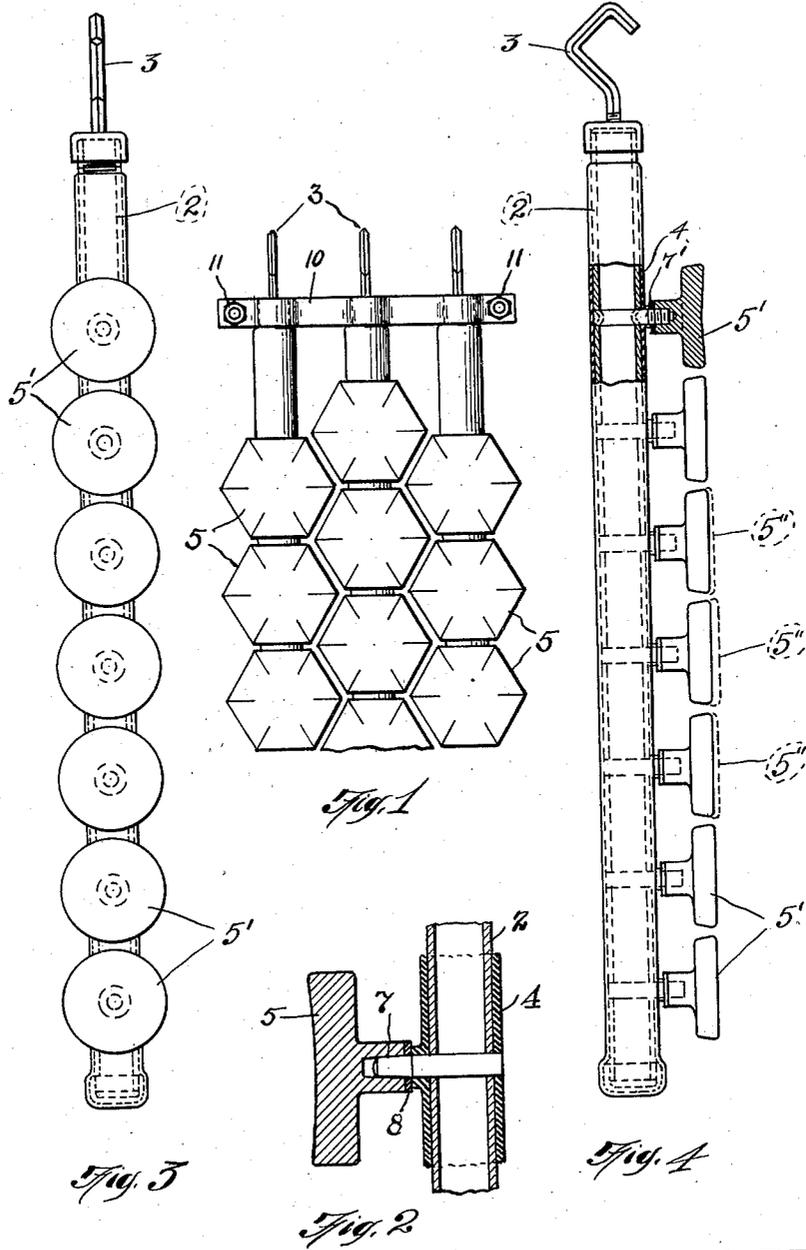


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ELECTRODEPOSITION ANODE

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2 Claims. (Cl. 204—4)

This invention relates to anodes; and it is among the objects of the invention to provide a construction in which with simple units the electrode surface may be built up accurately as extensively as desired for any particular bath conditions. Another object is the provision of a construction making possible a compensation at those locations where corrosion is more rapid. Other objects and advantages will appear as the description proceeds.

To the accomplishment of the foregoing and related ends, the invention, then, comprises the features hereinafter fully described, and particularly pointed out in the claims, the following description and the annexed drawing setting forth in detail certain illustrative embodiments of the invention, these being indicative however, of but a few of the various ways in which the principle of the invention may be employed.

In said annexed drawing:—

Fig. 1 is a front elevational view of anode construction in accordance with the invention; Fig. 2 is a vertical sectional detail; Fig. 3 is a front elevation of a modification; and Fig. 4 is a side elevation of the same, partly in section.

The device comprises assemblable units including conductive carriers having a non-corrodible surface, and the corrodible metal is provided thereon by attachment pieces easily secured. The carrier may conveniently be of rod or tubular form, straight or curved as may be preferred for any particular usage, and as illustrated may comprise a tube 2 of conducting metal, for instance advantageously aluminum, having a suitable suspending hook 3 to connect onto the bus bar at the top of the vat or tank. The inactive surface of the carrier 2 is a non-conducting or insulating covering. This may be in the form of a covering 4 of rubber, hard or soft, Bakelite, insulating varnish composition, etc., and may cover all of the carrier surface except the extreme upper portion which is not subject to immersion in the liquid bath. For the active metal or corrodible surfaces, I provide attachment-pieces 5, of a form to corrode properly and to set together to make up as extensive a surface as desired in any particular bath. These attachment-pieces or mushrooms are mounted upon the carrier by a conveniently manipulable joint, as a push or drive taper-joint onto studs 7 (Fig. 2), which may be fastened to the tubular member 2 by suitable means, welding, etc. A washer 8 of rubber or the like is desirably interposed back of the attachment-piece 5. By shaping the attachment-pieces with straight line edges or as polygons, the pieces fit together mosaic-wise to make up the extensive electrode surface. A hexagonal shape is particularly desirable. It is immaterial whether the edges of the electrode inserts touch each other or not, since the current-supply comes through the body of

the carrier 2 and distributes properly to each insert or face piece. The electrode units may be banked together by hanging a plurality of the carriers side by side on the bus bar, or a plurality of the carriers may be locked together as by clamp 10, 11 (Fig. 1).

The construction is applicable to corrodible or electro-deposition metals generally, where adjustment of extent and re-newability of surface is desired, and in practice is particularly advantageous with such metals as nickel, cadmium, brass, etc.

In many cases, there is a marked tendency for the metal of the plating bath to corrode away particularly actively in the central portion of a long electrode. With the present construction, where desired, thicker inserts, as indicated at 5', Fig. 4, may be employed at any zones of particularly exaggerated activity, and thereby an over-all uniformity of result may be obtained. The mushrooms of nickel or other corrodible metal may be made in any suitable manner, as worked metal or cast metal, and with a unit form of corrodible piece as here provided, suitably active products may be had by particularly conveniently casting. Instead of shaping the mushroom pieces with straight line edges, they may be less desirably shaped circular as at 5', Fig. 3, where the complete-facing feature of the invention is not desired. The pieces may be secured to the carrier pieces 7' by screw-thread joints, Fig. 4.

Other modes of applying the principle of the invention may be employed, change being made as regards the details described, provided the features stated in any of the following claims, or the equivalent of such, be employed.

I therefore particularly point out and distinctly claim as my invention:—

1. An electro-deposition anode, comprising supporting means including a plurality of inactive-surfaced conductive carriers, clamp bars tightenable on the same to hold them together in unit relation, and an active surface made up of closely placed hexagonal faced corrodible nickel pieces secured to the carriers by sockets frictionally seating on taper pins, the corrodible pieces in the middle portion of the active surface being of greater thickness than the other pieces.

2. An electro-deposition anode, comprising supporting means including a plurality of inactive-surfaced conductive carriers, clamp bars tightenable on the same to hold them together in unit relation, and an active surface made up of closely placed hexagonal faced corrodible metal pieces secured to the carriers by sockets frictionally seating on taper pins, the corrodible pieces in the middle portion of the active surface being of greater thickness than the other pieces.