No. 813,048. PATENTED FEB. 20, 1906.

L. LEVETT.

ANODE.

APPLICATION FILED MAY 9, 1905.

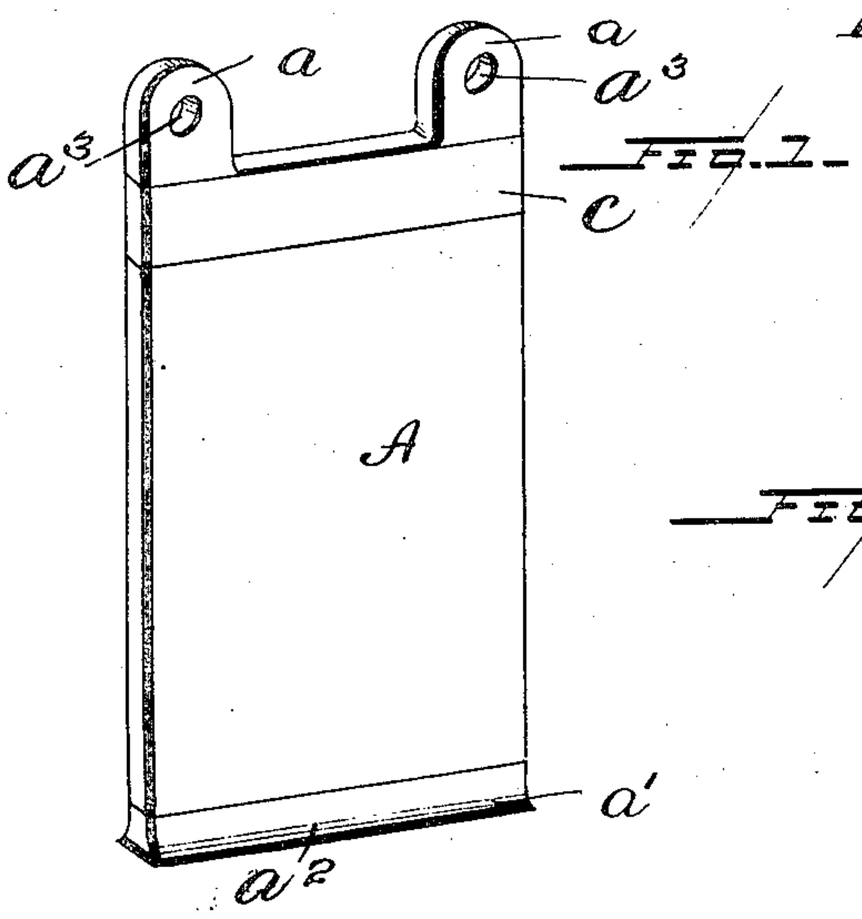

FIG. 1.

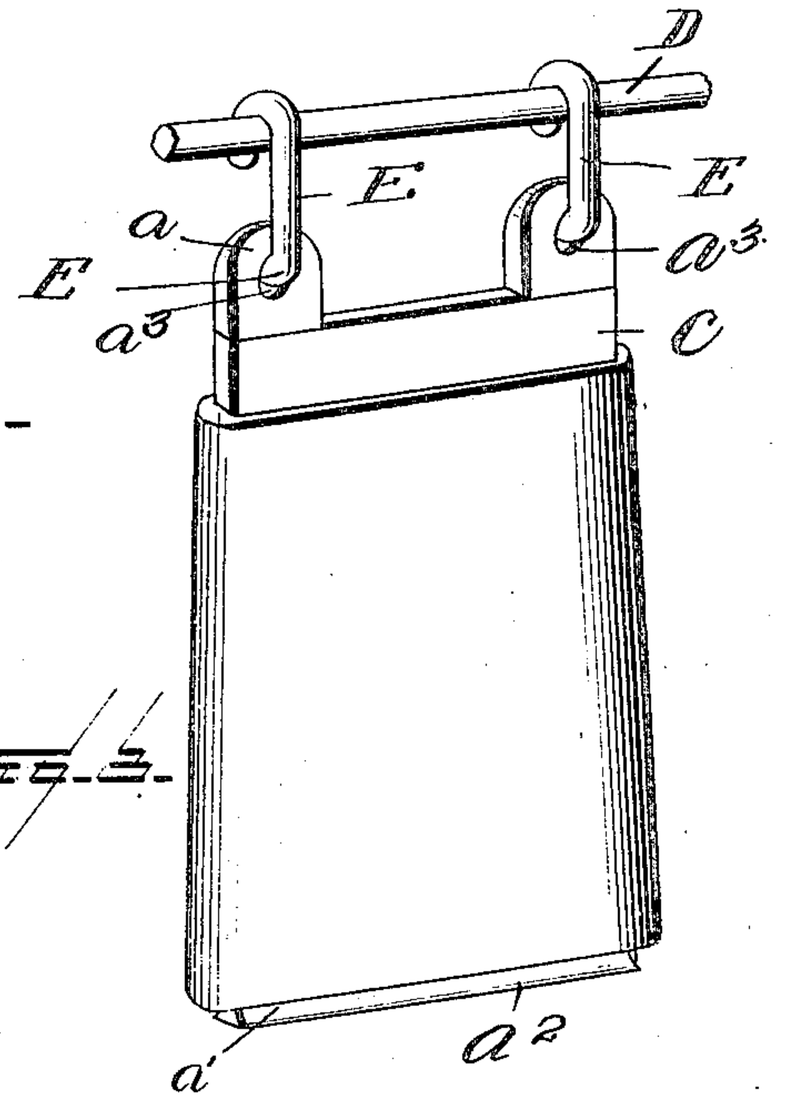

FIG. 3.

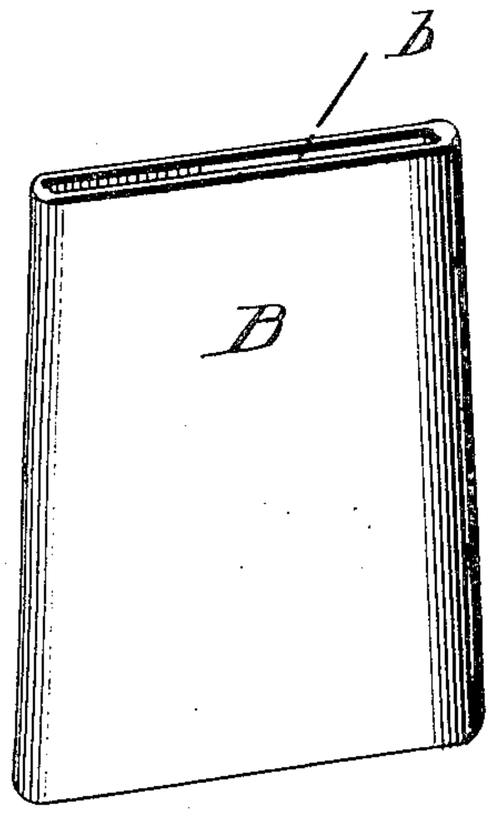

FIG. 2.

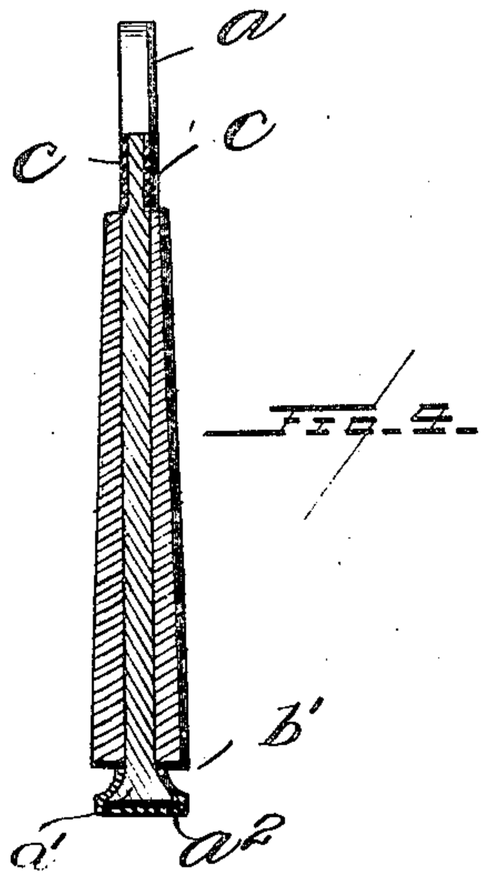

FIG. 4.

WITNESSES:

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No. 813,048. Specification of Letters Patent. Patented Feb. 20, 1906.

Application filed May 9, 1905. Serial No. 259,521.

To all whom it may concern:

Be it known that I, LOUIS LEVETT, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Anodes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to new and useful improvements in the class of anodes used in electroplating.

The object of my invention is to produce a device of this class which may be so suspended in the bath that the metal anode is entirely submerged therein, thereby presenting its entire surface to the electrolytic action.

With anodes as heretofore constructed it has been impossible to thus submerge the entire metal anode, because by so doing the perforated ears of the anode and their supporting-hooks would be exposed to the action of the solution, which would rapidly destroy the same, thus retarding and eventually entirely cutting off the electric current therefrom, and thereby terminating the process. The advantages of entirely submerging the metal anode are obvious and, briefly stated, are as follows: First, a larger surface is presented to the action of the bath, and, secondly, waste occasioned by the lack of immersion is obviated. Furthermore, in practice it has been found that during the process of plating an oxid is frequently produced and deposited upon the anode, forming a non-conductor and setting up a resistance to the electric current. In order to facilitate the removal of such oxid from the anode, I so construct the same that it will present a smooth surface from which such oxid may be readily removed by scraping or the like.

In order that my invention may be more thoroughly understood, I have illustrated the same in the accompanying drawings, a full and exact description thereof appearing in the annexed specification.

In the accompanying drawings, Figure 1 is a perspective view of my improved carbon plate or core. Fig. 2 is a perspective view of the metal anode. Fig. 3 is a perspective view of my improved device suspended from the rod. Fig. 4 is a vertical section through my improved device.

In the several views like letters of reference designate similar parts of my improved construction.

A in the drawings designates a carbon plate or core provided at its upper end with ears *a a* and at its lower end with the enlarged portion *a'* preferably covered with insulation a^2.

B is the metal anode of sheath-like construction, being provided with the longitudinally-extending opening *b* of sufficient size to permit said metal portion to be slipped onto said carbon plate or core, as shown in Figs. 3 and 4, the enlargement *a'* of said plate A forming a support therefor, as clearly shown in Fig. 4. Although said metal portion may be of any desirable shape, it is preferably tapered upward, the thickest portion bearing on the enlargement *a'*. With this construction it is obvious that the upper portion of the metal would be first destroyed, thus decreasing the area of the surface exposed to the electrolytic action; but in order to overcome this and maintain the desired area I utilize new sheaths by slipping them onto the carbon plate as the metal anode wears away.

It is obvious that metal sheaths could be made of varying sizes to be employed in compensating for the destruction of the metal, as above described.

C is a band of insulating material incasing the exposed portion of the carbon plate or core above the metal portion, by means of which construction it is apparent that the entire metal anode may be submerged in the bath without subjecting the carbon plate to the action thereof. In order that the metal portion may be readily slipped on and off the carbon plate or core, the insulating material is preferably embedded therein, but might be removable.

D is the supporting-rod, which is charged with electricity and from which the anode is suspended by hooks E E, engaging eyes a^3 a^3 in said ears *a a*.

Although I have shown and described the metal portion as comprising a single piece, I do not wish to limit myself to this construction, as it could be equally well made in two or more pieces and secured together by suitable means.

What I claim, and desire to secure by Letters Patent, is—

1. In a device of the class described, the combination with a core, of a removable metal portion constructed to fit onto and surround said core and means for retaining said

metal portion thereon, substantially as described.

2. In a device of the class described, the combination with a core, of a metal portion constructed to fit onto and surround said core, means for retaining said metal portion thereon and insulating material covering the exposed portions of said core, substantially as described.

3. In a device of the class described, the combination with a core provided at its lower end with an enlarged portion, of a metal portion constructed to fit onto and surround said core, said metal portion being supported by said enlarged portion of said core, substantially as described.

4. In a device of the class described, the combination with a core provided at its lower end with an enlarged portion, of a metal portion constructed to fit onto and surround said core, said metal portion being supported by said enlarged portion of said core and insulating material covering the exposed portions of said core, substantially as described.

5. In a device of the class described, the combination with a core provided at its lower end with an enlarged portion, of a metal portion constructed to fit onto and surround said core, said metal portion being tapered upwardly, the thickened end thereof resting upon the enlarged portion of said core, substantially as described.

6. In a device of the class described, the combination with a carbon plate provided at one end with ears and at its other end with an enlarged portion, of a metal portion constructed to fit onto and surround said carbon plate, said metal portion being tapered upwardly, the thickened end thereof resting upon the enlarged portion of said core, and insulating material covering the exposed portions of said carbon plate, substantially as described.

In testimony whereof I affix my signature in the presence of two witnesses.

LOUIS LEVETT.

Witnesses:

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A. S. LUDLOW.