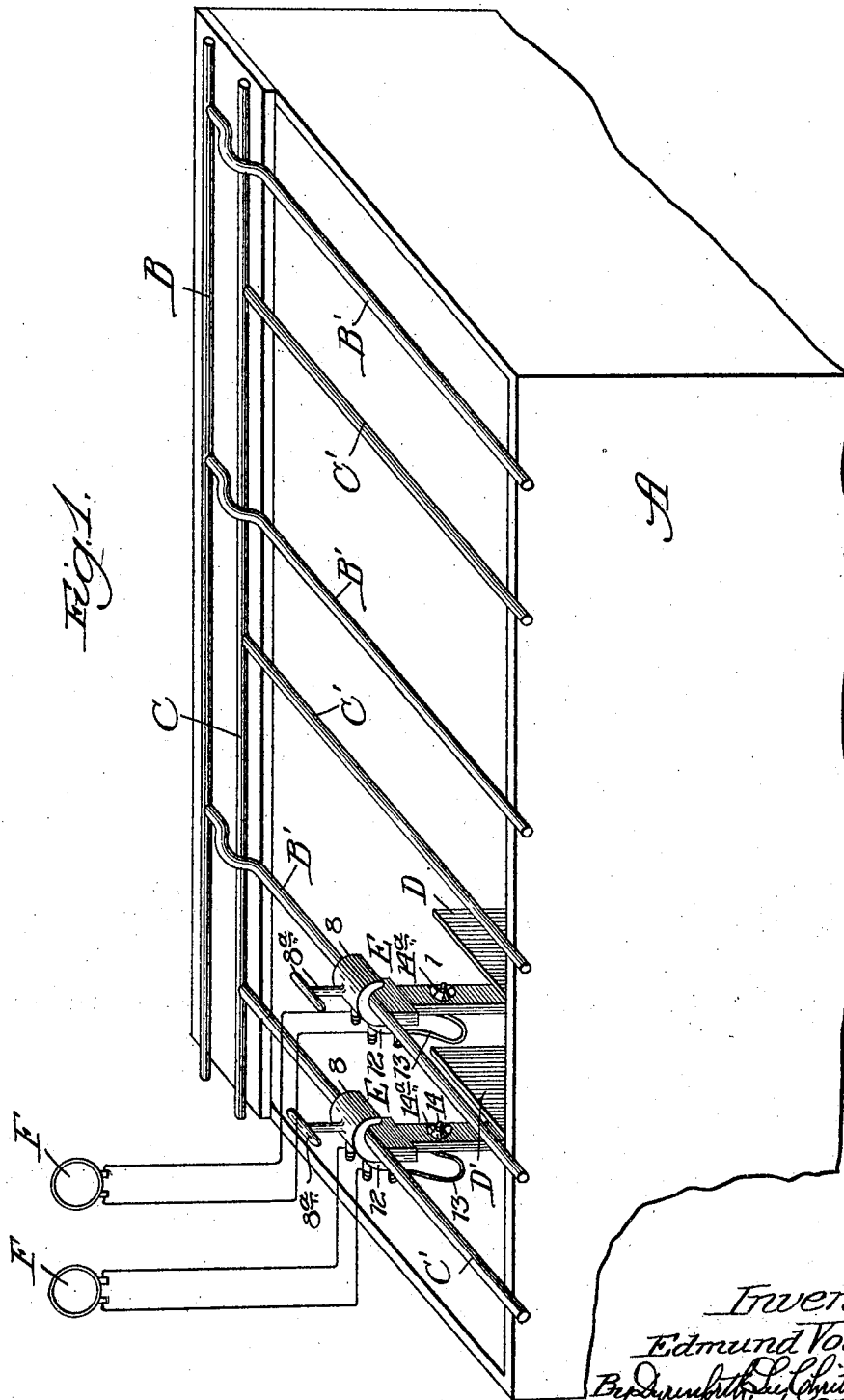


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APPLICATION FILED APR. 22, 1921.

1,412,909.

Patented Apr. 18, 1922.
2 SHEETS—SHEET 1.



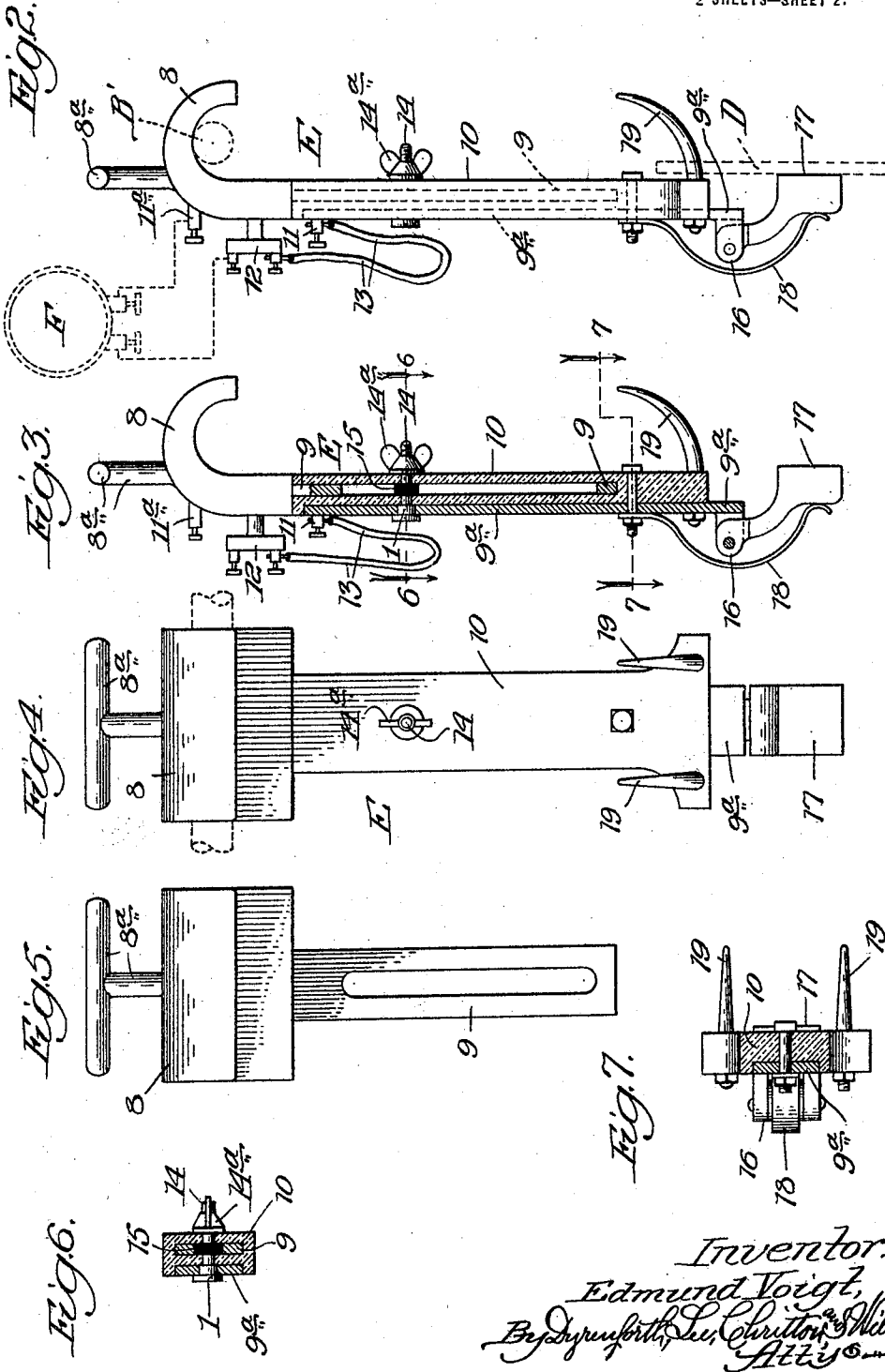
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Inventor:
Edmund Voigt,
By *Edmund Voigt, Jr., Christian & Miller, Attys.*

UNITED STATES PATENT OFFICE.

EDMUND VOIGT, OF CHICAGO, ILLINOIS.

ELECTROLYSIS SUSPENSION HOOK.

1,412,909.

Specification of Letters Patent. Patented Apr. 18, 1922.

Application filed April 22, 1921. Serial No. 462,510.

To all whom it may concern:

Be it known that I, EDMUND VOIGT, a citizen of the United States, residing at 1124 N. Dearborn Street, Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Electrolysis Suspension Hooks, of which the following is a specification.

My invention relates to improvements in the so-called "hook" for suspending in a tank-containing electrolyte, from conducting-rods supported to extend transversely across the tank, the cathode and anode.

Two main objects are accomplished by my improved construction of the hook, which enables the supply of current to be nicely regulated to the requirement of the work to be done, and the hook to be longitudinally adjusted to lengthen and shorten it for immersing the cathode and anode to varying depths in the electrolytic solution.

In the accompanying drawings, Figure 1 is a broken perspective view illustrating a tank for the solution, equipped for electrotyping, the equipment involving hooks of my improved construction; Figure 2 shows the hook in side elevation as suspended on a conductor-rod and connected with an ammeter, the latter and the rod and also a "case" (block forming the cathode) being shown in dotted representation; Figure 3 shows the hook as in Fig. 1, but partly in longitudinal section; Figure 4 is a view of the hook in front elevation; Figure 5 is a similar view of that part of the hook involving the metal hanger-head and longitudinally slotted stem extending from it, and Figures 6 and 7 are sections respectively on lines 6—6 and 7—7, Fig. 3.

I have more especially designed my improved device for use as an electrotypers' case-hook; but it is equally useful, with the same advantages, as a suspension-hook for electroplating generally.

On the tank A (Fig. 1) are provided the usual current conductors B and C, which are included in an electric-generator circuit (not shown), and the conductors B' and C' extending across the tank respectively from B and C and on which are suspended the hooks, for carrying, immersed in the electrolytic solution, one the cathode, or "case" D and an adjacent one the anode D'.

The suspension-hook, which is designated as a whole in the drawings by the reference-letter E, has a metal head 8, of hook-like

form for hanging it on a rod B' or C', a handle 8^a extending upwardly from the head by means of which to manipulate the hook, and a slotted metal stem 9 extending from the head and encased in or covered by insulating material 10, which may be gutta-percha or any suitable composition; and a metal bar 9^a, forming an extensible and retractable section of the stem 9, is adjustably fastened against the rear face of the insulation 10. At 12 is represented on the head 8 a rheostat having one terminal connected by an insulated conducting-wire 13 with a binding-post at 11 on the bar 9^a and the other terminal connected through an ammeter, indicated at F, with a binding-post 11^a on the head 8 to lead current from the conductor B' through the rheostat and the adjustable section of the hook E to the cathode or "case" D.

For adjustably securing the bar 9^a in place, a bolt 14 passes through it and the insulation and through the slot in the stem 9 and a washer 15 therein, and carries on its threaded end a wing-nut 14^a. The bar 9^a terminates at its lower end in a pair of ears 16 carrying pivotally between them a depending shoe 17 to be yieldingly pressed into close contact with the face of the "case" D by a spring 18 rigidly fastened to the bar 9^a by a bolt through the latter and the solid lower end of the insulation.

For carrying the cathode or anode on a hook E it is hung, at holes provided therein, on a pair of horn-like hangers 19 extending forwardly on the lower end of the hook.

It is the practice in the electrotyping art to suspend a plurality of "cases" D in the solution to be electrotyped simultaneously, and these are liable to be of various sizes some presenting larger and some smaller surface-areas, and the amount of current required for the work varies with the extent of surface-area. Where an excessive amount of current is used, not only does waste thereof ensue but the electro-deposited shell contains blisters and tends to peel off, spoiling the work and requiring it to be done over. My improvement avoids these objections by enabling the quantity of current to be nicely regulated according to the requirement for each piece of work. Then by reason of these varying surface-areas, hooks of different lengths have to be provided for immersing the cathodes and also anodes of varying dimensions to the proper depth in the solu-

tion, thereby requiring a plurality of the hooks of different lengths to be provided, always ready at hand. The adjustability of my improved hook adapts it for the requisite immersion to any desired depth, by lengthening or shortening the hook upon loosening the bolt 14 to enable the bar 9^a and parts carried by it, including the insulation 10, to be lowered or raised, the wing-nut 14^a serving to fasten the parts in their adjusted relation.

I realize that considerable variation is possible in the details of construction herein shown and described, and I do not intend by illustrating a single specific or preferred embodiment of my invention to be limited thereto, it being my intention in the following claims to claim protection for all the novelty there may be in my invention as fully as the state of the art will permit.

I claim:

1. In combination with a suspension-hook of the character described, means thereon for regulating the supply of electric current thereto according to the surface area for electro-deposition on the cathode.

2. A suspension-hook of the character described, having a rheostat on its head electrically connected with an insulated current-conducting section of the hook.

3. A suspension-hook of the character described, having a current-conducting section adjustable longitudinally for lengthening and shortening it.

4. A suspension-hook of the character de-

scribed, comprising a metallic hanger-head having a stem and a current-conducting section electrically connected with and insulated from the stem and longitudinally adjustable thereon for lengthening and shortening the hook.

5. A suspension-hook of the character described, comprising a metallic hanger-head having a slotted stem encased in insulating material and a current-conducting section secured to the insulation by a bolt provided with means for tightening and releasing it and passing through the slot in said stem for adjusting said section with the insulation longitudinally of said stem to lengthen and shorten the hook.

6. A suspension-hook of the character described, comprising a metallic hanger-head having a stem and a current-conducting bar electrically connected with and insulated from the stem and lengthwise adjustable thereon for lengthening and shortening the hook, and a spring-pressed shoe pivotally supported on said bar.

7. A suspension-hook of the character described, comprising a metallic hanger-head having a stem encased in insulating material, a current-conducting bar secured to the insulation to be longitudinally adjustable on the stem for lengthening and shortening the hook, and a rheostat on said head having a current-conducting connection with the bar.

EDMUND VOIGT.