Sept. 10, 1929. F. T. TAYLOR 1,727,736

APPARATUS FOR ELECTROLYTIC AND SIMILAR TREATMENTS

Filed Sept. 23, 1925

Fig. 1.

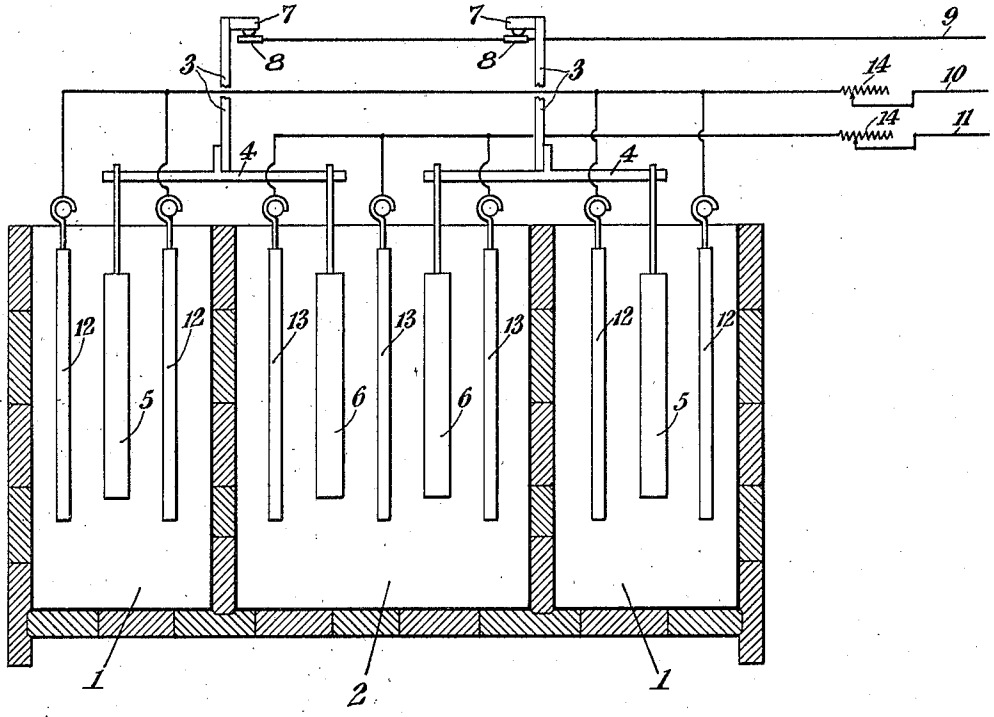
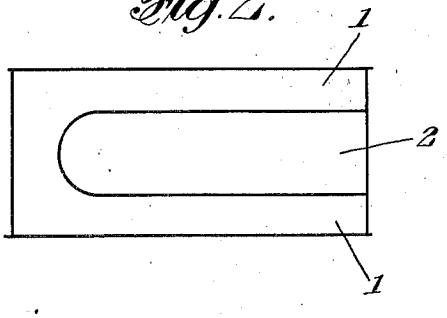


Fig. 2.



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UNITED STATES PATENT OFFICE.

FLOYD T. TAYLOR, OF MATAWAN, NEW JERSEY, ASSIGNOR, BY MESNE ASSIGNMENTS, TO HANSON-VAN WINKLE-MUNNING COMPANY, OF NEWARK, NEW JERSEY, A CORPORATION OF NEW JERSEY.

APPARATUS FOR ELECTROLYTIC AND SIMILAR TREATMENTS.

Application filed September 23, 1925. Serial No. 57,988.

The primary object of the invention is to enable different articles to be subjected to bath treatments by means of a common conveyor, under conditions such that the baths to which the respective articles are subjected when simultaneously carried by such conveyor, may differ as to their electrical, electro-chemical or chemical characteristics. For example, it may be desired to utilize a single conveyor to carry different articles to be electroplated, through baths at different current densities, or through baths differing as to their chemical or electro-chemical constituents, or both. The invention aims to provide an apparatus whereby a single conveyor may be employed to subject different articles simultaneously to such separate or different treatments.

Further objects and advantages of the invention will be in part obvious and in part specifically pointed out in the description hereinafter contained, which taken in connection with the accompanying drawings, discloses a preferred embodiment thereof; such embodiment, however, is to be considered as merely illustrative of its principles. In the drawings:—

Fig. 1 is a cross sectional view, partly diagrammatic, of an apparatus constructed in accordance with the invention;

Fig. 2 is a diagrammatic plan view of the tank forming a part of such apparatus.

The illustrated apparatus is provided with two tank compartments 1 and 2, which are entirely separate from each other and may therefore contain baths of the same or different chemical composition, as desired. Each of such compartments, furthermore, may be sub-divided up into a series of baths through which articles to be treated will be successively passed, but as such successive treatments are well understood in the art, it is not deemed necessary to illustrate or describe the same in detail herein.

A common conveying mechanism, which will usually be of the endless type, is associated with the tank compartments 1 and 2, in such manner that articles to be passed through the bath or baths in compartment 1, as well as those of compartment 2, may be suspended from the conveyor and simultaneously passed through their respective baths. As shown diagrammatically in Fig. 1, the conveying mechanism may be provided with a suitable number of supporting members 3, having cross pieces 4 overlying the compartments 1 and 2 from which cross pieces suitable work holders 5 and 6 are respectively suspended in the baths of compartments 1 and 2. Suitable mechanical devices for moving the above described conveyor elements through the compartments, will be understood as employed, for example, as disclosed in the patent to W. F. Hall, No. 1,501,946, July 22, 1924, but as such devices are well known in the art, it is not deemed necessary to describe or illustrate the same herein.

Fig. 2 merely shows a plan view of one possible form of the tank compartments 1 and 2, wherein the compartment 2 is enclosed by compartment 1, except at the entrances and delivery ends of both compartments.

Where the apparatus is to be used for electrolytic treatments, the conveyor mechanism may be utilized to provide a common lead for one side of the circuits supplying the electrical energy to compartments 1 and 2. As shown, the supporting members 3 of the conveyor are provided with contactors 7 running along a conducting bar 8 which is connected to the negative lead 9 of the energizing circuit.

Separate positive leads 10 and 11 may also be employed, in circuit respectively with the anodes 12 of compartment 1, and the anodes 13 of compartment 2.

With an apparatus of the above nature the same conveyor mechanism may be employed to subject articles to the same or different bath treatments, in compartments 1 and 2, as desired, and by using the separate or divided leads 10 and 11, it is also possible to vary the electrical current density in the respective compartments, such leads being usually provided with suitable voltage regulators 14 for that purpose. Thus the apparatus becomes useful over a wide range of treatments under different electrical chemical or electro-chemical conditions.

While a specific embodiment of the inven-

tion has been described, it will be obvious that many changes may be made therein without departing from its principles as defined in the following claims.

I claim:

1. An apparatus for electrolytic and similar treatments, comprising separate tank compartments, together with a common conveying mechanism adapted to conduct different work holders respectively through substantially parallel paths, one of said paths leading through one of said compartments and another of said paths leading through another of said compartments, said conveying mechanism providing a circuit connection of one polarity for both compartments, and separate circuit connections of the other polarity leading to the respective compartments including means adapted to cause different potential drops in the respective compartments.

2. An apparatus for electrolytic and similar treatments, comprising separate tank compartments, together with a common conveying mechanism adapted to conduct work holders respectively through such compartments in substantially parallel paths and means for supplying electrical energy to said compartments comprising a common negative return connection therefor, and separate positive circuit leads therefor including means adapted to produce different potential drops from anode to cathode in the respective compartments.

3. An apparatus for electrolytic and similar treatments, comprising separate tank compartments, together with a common conveying mechanism adapted to conduct work holders respectively through such compartments, and means for supplying electrical energy to said compartments comprising divided positive leads respectively for different compartments having voltage regulators therein and parts associated with said conveying mechanism which form a common negative return for said compartments.

4. In a plating equipment, two plating tanks one of which is disposed within the limits of the other, a traveling conveyor above the tanks whose line of travel is directionally similar to the line of division between said tanks, and a work support moved by the conveyor and straddling the line of division between the tanks whereby a plurality of articles suspended from said support may be moved simultaneously with some of the articles passing through one tank and the remainder through the other tank.

5. In a plating equipment, a tank having the form of a U, a second tank embraced by the arms and bight portion of the first tank, a traveling conveyor above the tanks whose line of travel is directionally similar to the line of division between said tanks, and a work support moved by the conveyor and straddling the line of division between the tanks whereby a plurality of articles suspended from said support may be moved simultaneously with some passing through one tank and the remainder through the other tank.

In testimony that I claim the foregoing, I have hereunto set my hand this 16th day of September, 1925.

FLOYD T. TAYLOR.