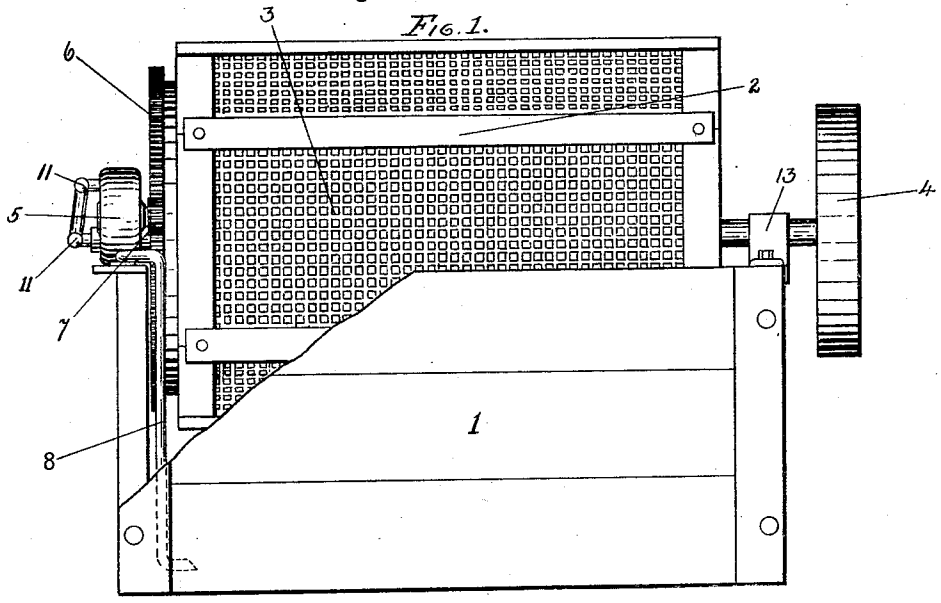
June 9, 1925. 1,541,454

W. W. WELLS

ELECTROPLATING MACHINE

Original Filed Jan. 21, 1922

FIG. 1.



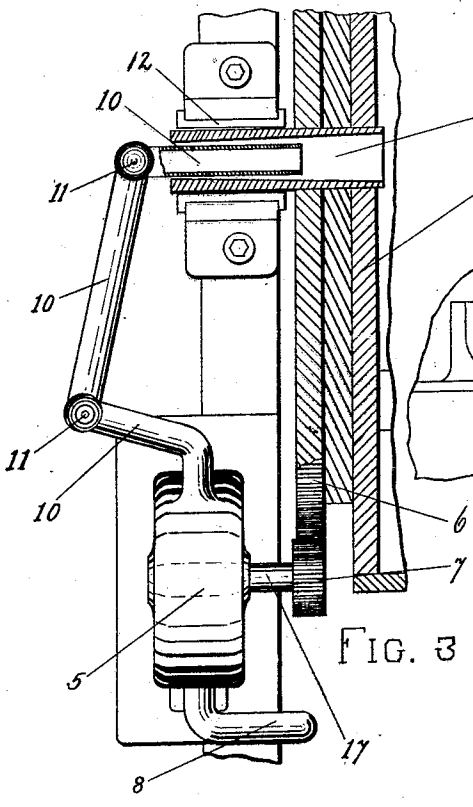


FIG. 3

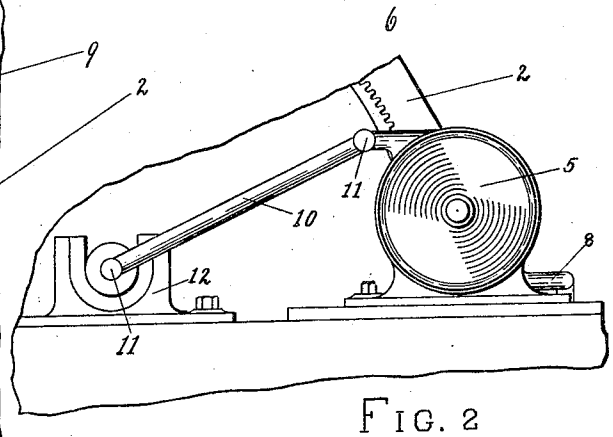


FIG. 2

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Patented June 9, 1925. 1,541,454

UNITED STATES PATENT OFFICE.

WILLIAM WATSON WELLS, OF TORONTO, ONTARIO, CANADA.

ELECTROPLATING MACHINE.

Application filed January 21, 1922, Serial No. 530,840. Renewed September 2, 1924.

To all whom it may concern:

Be it known that I, WILLIAM WATSON WELLS, of the city of Toronto, in the county of York, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Electroplating Machines, of which the following is the specification.

My invention relates to improvements in electroplating machines, and the object of the invention is to devise means for keeping the electrolyte in circulation and thus cause the articles placed therein for plating to be more uniformly and heavily plated than would otherwise be the case.

My invention consists of a circulating device constructed and arranged substantially as hereinafter more particularly described and illustrated in the accompanying drawing in which:

Fig. 1 represents a front elevation of an electroplating device constructed according to my invention.

Fig. 2 is a plan view of the device showing the drum axle and part of the drum, and

Fig. 3 is a side elevation of the device.

Like characters of reference indicate corresponding parts in the different views.

1 is the electroplating tank. 2 is the drum adapted to contain the articles to be plated. 3 is a perforated insulated sheeting of which the drum is constructed to allow the electrolyte access to the articles to be plated.

4 is a belt pulley for revolving the drum. 5 is the pump for circulating the electrolyte. 6 is a gear wheel attached to the drum 2. 7 is the pinion on the pump shaft 17 meshing with the gear 6. 8 is an inlet pipe for the pump, extending from bottom of the tank 1 to the pump 5. 9 is the hollow axle of the drum having an inwardly tapered interior to prevent the electrolyte from running out of the drum. 10 is the outlet pipe of the pump 5. 11 are universal ball joints in the pipe 10 allowing its free end to be inserted into the interior of the axle 9. 12 and 13 are open bearings rotatably supporting the drum 2 and allowing it to be removed from the tank.

The operation of the device is as follows:

When the electroplating machine is in operation with the drum 2 revolving, the gear wheel 6 meshing with the pinion 7 drives the pump 5, thus lifting the electrolyte from the bottom of the tank 1 and pumping it through the hollow axle 9, from thence into the drum 2 and pouring it over articles contained therein.

From the above description it will be seen that I have devised a simple and effective means of circulating that part of the electrolyte, which lying unagitated in the bottom of the tank, and has become heavy in suspended metal conveying it through the hollow drum axle into the drum and into contact with the articles contained therein, thus insuring a more uniform and heavier deposition of the metal therein.

Although a rotary pump is shown in my drawings it will be readily seen that a plunger pump, steam siphon or compressed air circulating systems can be installed in place of the same.

What I claim as my invention is:

1. In an electroplating machine, the combination with the tank containing the electrolyte and the rotatable perforated drum containing the articles to be plated, of means for drawing off from the tank that portion of the electrolyte richest in metal and circulating it through the drum.

2. In an electroplating machine, the combination with the tank containing the electrolyte, and a perforated drum having one axle thereof hollow, said drum rotatably mounted in the tank, of a pump, an inlet pipe for the pump extending down into the tank and an outlet pipe from the pump extending into the hollow axle of the drum.

3. In an electroplating machine, the combination with the tank containing the electrolyte, and a drum having one axle thereof hollow, said drum rotatably mounted in the tank, of a pump, an inlet pipe for the pump extending down into the tank, an outlet pipe from the pump extending into the hollow axle of the drum and means for permitting the withdrawal of the outlet pipe from the hollow axle of the drum.

4. In an electroplating machine, the combination with the tank containing the electrolyte, and a drum having one axle thereof hollow, the interior of said axle tapering inwardly, said drum rotatably mounted in the

tank, of a pump, an inlet pipe for the pump extending down into the tank, an outlet pipe from the pump extending into the hollow axle of the drum and means for permitting the withdrawal of the outlet pipe from the hollow axle of the drum.

5. In an electroplating machine, the combination with the tank, of a drum, axles on the drum rotatably mounted in the tank, one of the axles being hollow and means for introducing the electrolyte through the hollow axle.

WILLIAM WATSON WELLS.