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DEVICE FOR CONVEYING WIRES THROUGH CLEANING, PICKLING OR PLATING BATHS

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Fig. 1.

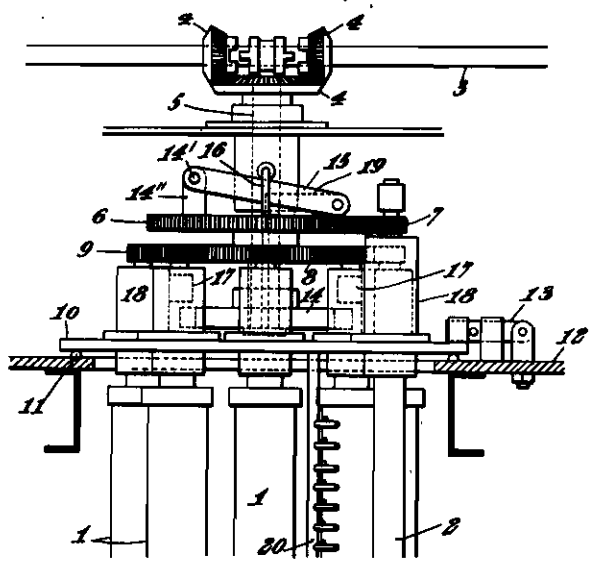


Fig. 2.

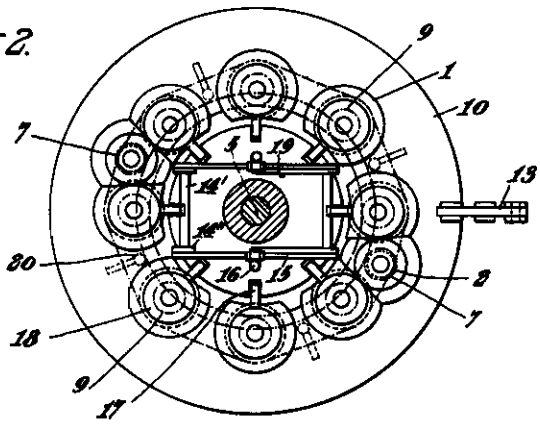
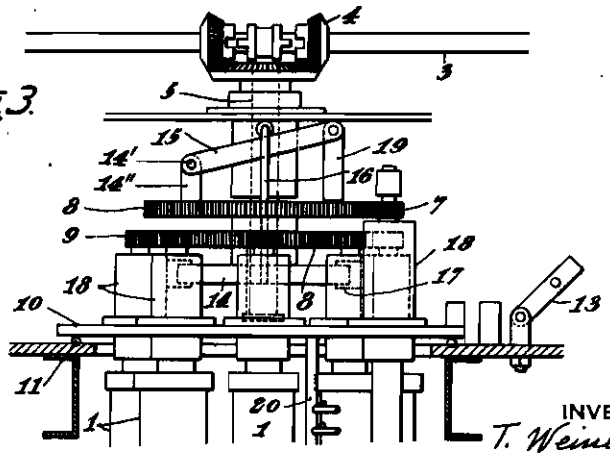


Fig. 3.



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ALIEN PROPERTY CUSTODIAN

DEVICE FOR CONVEYING WIRES THROUGH CLEANING, PICKLING OR PLATING BATHS

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The invention relates to a device for conveying wires through cleaning, pickling or plating baths.

It has been proposed for conveying wires in an even manner to use several rotatable rollers arranged in a circle in a bath which rollers while rotating in the same direction and with the same speed will accomplish the conveying of the wires through the baths. When such an arrangement of conveying rollers for plating wires is used, already one or more current admitting or contact rollers have been provided for and made to rotate at the same conditions as the conveying rollers. An endless chain or a spur wheel and pinions fast to the axes of the conveying and contact rollers are used for actuating said conveying or contact rollers. Rakes arranged on the conveying rollers and provided with combs corresponding to the number of windings of the wires serve for spacing of the wires.

The device according to the invention comprises a set consisting of conveying and contact rollers arranged in a circle each roller being rotatable about its axis for conveying the wires through the bath, the set itself being adapted to be held fast and further comprising an actuating device permitting to stop the rotation of the conveying and contact rollers about their axes and to rotate only the set of rollers itself about its own axis with a view of winding up the wires to be treated.

The subject of the invention is represented in the drawing by an embodiment as an example.

Fig. 1, shows a front view of the device during the conveying process,

Fig. 2, a plan view of the Fig. 1, and

Fig. 3, shows the front view of the device during the winding up.

The device comprises several sets of rollers whereof only one single shall be described. This set comprises eight conveying rollers 1, for instance made of glass which during the operation are immersed into a non-represented container and convey the wire to be galvanized and which is first to be scoured. These conveying rollers are rotated by means of a shaft 3, bevil wheels 4, a vertical shaft 5, spur wheel 8 and pinion 9 and besides there are provided two contact rollers 2 which while using the same operating mechanism are rotated by means of a spur wheel 6 and a pinion 7 in the same direction and with the same circumference speed as the conveying rollers 1. The axles of the conveying and contact rollers turn in bearings fast to the movable plate 10 which plate rests by means of balls 11 on a stationary plate 12.

In ordinary service (compare Fig. 1) plate 10 is prevented from rotating on its central axis by a pawl 13 hinged to plate 12, wherefore only the conveying and contact rollers 1 and 2 rotate on their axes said rollers conveying the helically wound up wire across the scouring respectively the galvanic bath.

With a view of winding the wire mechanically up to the conveying and contact rollers a coupling 14 is arranged slidably on the shaft 5 and by means of intermediate rods 16 is brought into engagement with the dogs 17 on the bearings 18 of the conveying and contact rollers when the levers 15 pivotally attached to pin 14' on a bracket 14'' fast to spur wheel 6 are lifted up. Then the final position of the thrown-in coupling 14 will be maintained by the stays 19 swung into position. When pawl 13 has been removed, plate 10 resting on balls 11 will rotate about the central axis of the set together with the conveying and contact rollers but without rotating these latter about their axes. When plate 10 rotates in this way with the non-rotated rollers the wires to be treated will be wound up helically upon the set and be guided by a simple contrivance not represented in the drawing by the rakes 20 provided for.

After the winding up of the wires to the set of rollers the coupling 14 will be lowered by lifting up lever 15 and pawl 13 will be engaged into plate 10 (compare Fig. 1) whereupon the conveying and contact rollers rotate about their axis and convey the wire to be treated still further.

In order to prevent, in the case where the described device is used for galvanizing wires, that these wires be provided with less plating on the side facing the conveying rollers than on the opposite side, the wire to be galvanized shall be conveyed through two bathes having the same composition and arranged one behind the other in such a manner that the wire after having passed the first bath is turned by a well known and therefore not represented contrivance and will have in the second bath that side turned to the outside which was turned to the inside in the first bath. By this arrangement also small mechanical surface defacts which may have occurred by a casual slipping of the wires over the conveying and contact rollers will be remouved by one and the same operation.

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