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L. C. BUCKLEY

APPARATUS FOR SHAPING INSULATORS

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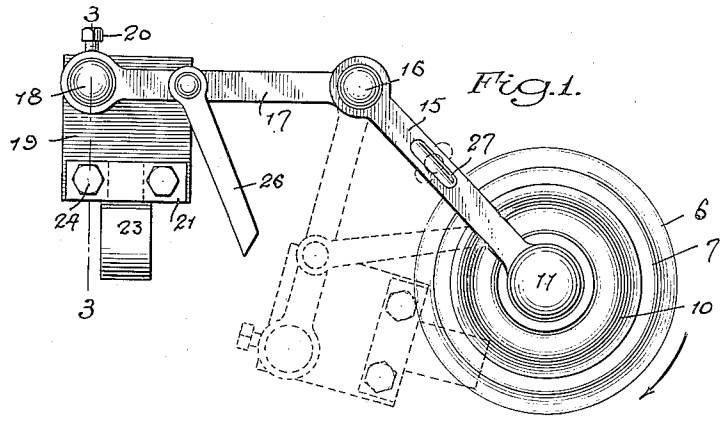


Fig. 1.

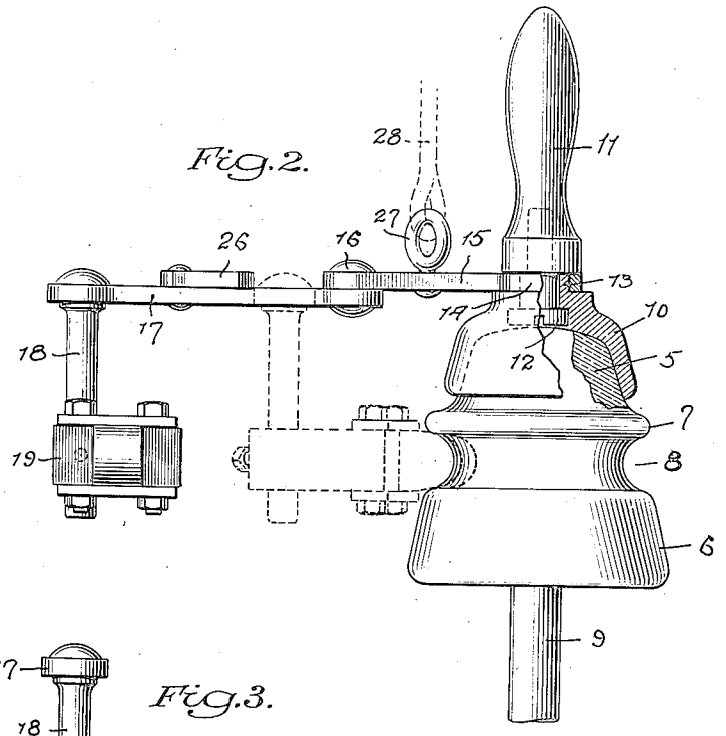


Fig. 2.

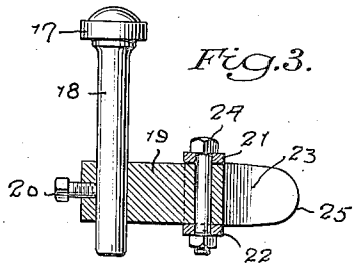


Fig. 3.

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LORENZO C. BUCKLEY, OF LISBON, OHIO, ASSIGNOR TO THE R. THOMAS & SONS CO., OF EAST LIVERPOOL, OHIO, A CORPORATION OF OHIO.

APPARATUS FOR SHAPING INSULATORS.

Application filed December 14, 1922. Serial No. 606,915.

To all whom it may concern:

Be it known that I, LORENZO C. BUCKLEY, a citizen of the United States of America, residing at Lisbon, in the county of Columbiana and State of Ohio, have invented certain new and useful Improvements in Apparatus for Shaping Insulators, of which the following is a specification.

My invention relates to the shaping of insulators, and particularly insulators of the pin type. The object of my invention is to facilitate the shaping operation and to provide a simple and easily manipulated shaping tool by which uniformity of operation is assured.

In the accompanying drawings—

Fig. 1 is a plan view of a tool in which my invention is embodied in one form;

Fig. 2 is a broken side elevation thereof; and

Fig. 3 is a section on the line 3—3, Fig. 1.

The invention may be applied to insulators of different shapes, but for illustration, I have used a pin type insulator of a construction commonly used for carrying telegraph or telephone wires. This insulator is of general conical shape and comprises a head 5, a skirt 6, annular rib 7, and a tie wire groove 8 between the rib 7 and skirt 6. According to the present invention a preliminary general shape is imparted to the insulator in a mold, following which it is submitted to the action of the present finishing tool. During the finishing operation, the insulator is mounted upon a rotary spindle 9 which imparts a rapid rotation to the pre-formed blank during the operation of the finishing tool.

The tool comprises a metal cap 10 adapted to rest upon the head 5 of the insulator, and a handle 11, coaxial with the cap, for holding the cap in position. As here shown the cap and handle are detachably connected by a screw 12 passing through the neck 13 of the cap, which in turn is pivoted in the eye 14 at one end of the supporting arm 15. At its other end the latter is jointed at 16 to a second arm 17 carrying a stud 18. Vertically and angularly adjustable upon the latter is mounted the tool carrier 19, which is held in adjusted position in any suitable fashion, as by means of a set screw 20. Clamping plates 21 and 22 on the carrier detachably engage and hold the grooving tool 23, which is clamped by the bolts 24. The cutting end 25 of the tool may be formed as desired to appropriately shape the annular groove 8 of the insulator.

Fast on the arm 17 is a stop 26 adapted to engage the arm 15, and thus to halt the approach of the tool 23 toward the spindle 9, and thus to regulate the depth of the groove 8 formed by the tool. The depth of the groove 8 may be determined, not only by the position of the stop member 26, but also by the angular adjustment of the tool carrier 19 around the stud 18. It will be noted that the tool carrier is mounted eccentrically upon the stud 18.

Secured to the tool at any appropriate point, as for instance to the link 15, is a suspension eye 27 by which connection may be made to a counterweighted suspension cable 28, which tends to lift the tool above the insulator. The operative grasping the handle 11 in one hand presses the cap 10 down upon the head 5 of the insulator and swings the arm 17 toward the arm 15, thus bringing the tool 23 into engagement with the side of the insulator.

In operation, the pre-formed insulator blank is positioned on the rotary spindle 9. While the blank is rotated by the latter, the operative presses the cap 10 down upon the head of the insulator, thus not only forming the latter to the interior of the cap, but properly positioning the cutter 23 with respect thereto. The cutter is then swung against the side of the blank and forms the groove 8, the depth of the latter being predetermined by the limiting stop 26. The cutter is then swung outward to clear the rib 7 and the handle 11 released, whereupon the suspension 28 automatically lifts the tool to a convenient out-of-the-way position. The operative's hands are thus free to remove the finished blank from the spindle, deposit it in a suitable receptacle for firing, and to place upon the spindle 9 another blank upon which the operation is repeated.

It is obvious that caps 10 and tools 23 of various shapes may be utilized, and that the vertical spacing of the grooving tool 23 may be readily changed by moving it up or down on the stud 18. Any suitable stop arrangement may be provided other than that indicated to limit the approach of the arms 15 and 17.

Various modifications in details of construction and operation will readily occur

to those skilled in the art, which do not depart from the underlying thoughts which I claim as my invention.

I claim—

1. A shaping tool for pin type insulators, comprising a cap adapted to fit the head of a pre-formed insulator blank, and a lateral shaper pivoted with relation to the cap and adapted to bear against the side of the blank during its rotation.

2. A shaping tool for pin type insulators, comprising a cap adapted to fit the head of a pre-formed insulator blank, and a lateral shaper adapted to bear against the side of the blank during its rotation, and means for limiting the approach of the lateral shaper toward the blank.

3. A shaping tool for pin type insulators, comprising a pair of pivoted arms, a cap carried by one of said arms and adapted for positioning upon the head of an insulator blank, and a lateral shaper carried by the other of said arms and movable into engagement with the side of the blank during its rotation.

4. A shaping tool for pin type insulators, comprising a pair of pivoted arms, a cap carried by one of said arms and adapted for positioning upon the head of an insulator blank, and a lateral shaper carried by the other of said arms and movable into engagement with the side of the blank during its rotation, together with means limiting the approach of said arms toward each other.

5. A shaping tool for pin type insulators, comprising a pair of pivoted arms, a cap carried by one of said arms and adapted for positioning upon the head of an insulator blank, and a lateral shaper carried by the other of said arms and movable into engagement with the side of the blank during its rotation, together with means for adjusting the position of said lateral shaper on its supporting arm.

6. A shaping tool for pin type insulators, comprising a pair of pivoted arms, a cap carried by one of said arms and adapted for positioning upon the head of an insulator blank, and a lateral shaper carried by the other of said arms and movable into engagement with the side of the blank during its rotation, together with means for vertically and angularly adjusting the position of said lateral shaper on its supporting arm.

7. A shaping tool for pin type insulators, comprising a cap adapted to fit the head of a pre-formed insulator blank, and a lateral shaper adapted to bear against the side of the blank during its rotation, together with means for suspending the tool normally above working position.

In testimony whereof I have signed my name to this specification.

LORENZO C. BUCKLEY.