

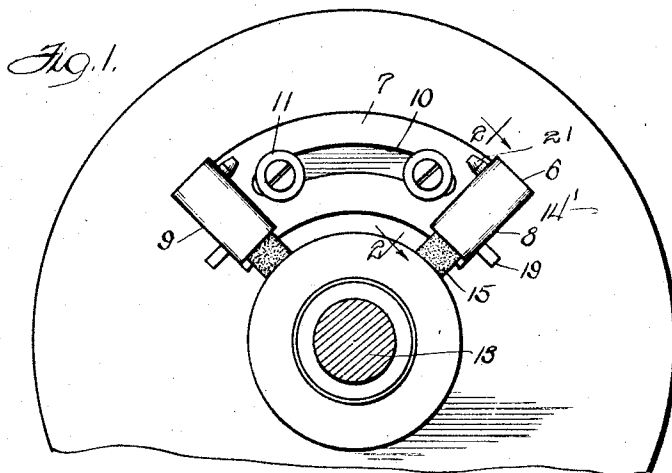
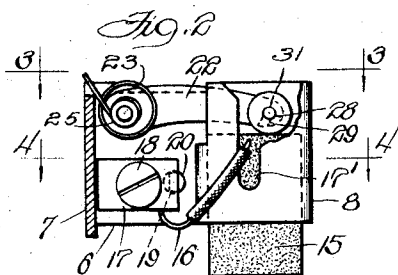
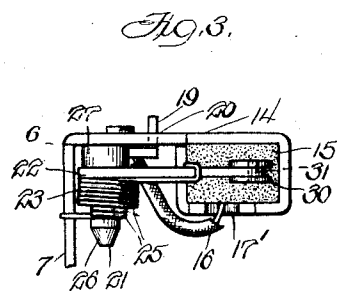
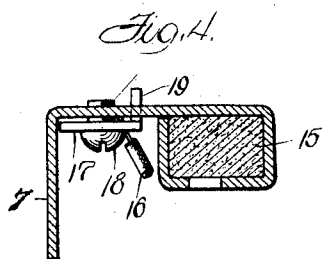
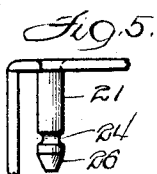
Jan. 18, 1927.

1,614,616

J. T. JANETTE

BRUSH HOLDER

Filed July 30, 1923



Witness:  
W. K. Wilson

Inventor:  
John T. Janette.  
By Glenn S. Noble, atty

## UNITED STATES PATENT OFFICE.

JOHN T. JANETTE, OF CHICAGO, ILLINOIS.

## BRUSH HOLDER.

Application filed July 30, 1923. Serial No. 654,675.

This invention relates to brush holders which are particularly adaptable for use in connection with repulsion induction motors although various features thereof may be adapted for general application. The objects of the present invention are to provide a new and improved brush holder which may be economically manufactured and which will be particularly efficient in operation; to provide a brush holder having rotatable pressure members for engagement with the brush; to provide novel fastening means for the fingers which press on the brushes; to provide a convenient method for fastening the brush connections; to provide a brush holder having its principal parts formed of stamped metal; and in general to provide such an improved construction as will be described more fully in the following description.

In the accompanying drawings illustrating this invention—

Figure 1 is a front view;

Figure 2 is a sectional view taken on the line 2—2 of Figure 1;

Figure 3 is a plan view taken on the line 3—3 of Figure 2;

Figure 4 is a sectional view taken on the line 4—4 of Figure 2; and

Figure 5 is a detail of one of the pins which support the pressure fingers.

In the particular form of the invention as shown in these drawings, the holder 6 has a curved back or plate 7 with the brush receiving elements 8 and 9 at either end thereof. The back 7 has a slot 10 for receiving the screws 11 to secure it to the frame of the motor 14', the arrangement being such that the brushes may be adjusted circumferentially with respect to the shaft 13. The ends of the back or plate 7 are bent outwardly to form arms 14 and then bent around to form the brush receiving tubes or holders 8 and 9, these parts being preferably stamped out of a single sheet of metal.

The tubular portions 8 and 9 are shown rectangular in cross section for receiving rectangular brushes but of course may be made in any desired shape. The brushes 15 which fit in the holders have the usual connections 16 for connecting them to the holding bracket, such connections being commonly designated as "pig tails". The tubes or holders 8 and 9 have slots 17' in the side thereof through which these "pig tails" may pass. The opposite ends of these "pig tails"

or connectors are held by means of clips 17 and screws 18. Each of these clips 17 has a tongue 19 which extends through holes 20 in the arms 14. These tongues not only serve to help hold the clips in position but are convenient for the assembler as he may press on the tongue to raise the clip so that the end of the "pig tail" may be slipped under the same in order to be tightened or held by the screws.

Pins 21 are riveted or otherwise secured to the arms 14 and furnish pivots or bearings for the fingers 22. The outer ends of these fingers are pressed downwardly by means of springs 23 which also serve to hold the fingers in position on the pins. This is accomplished by having grooves 24 adjacent to the ends of the pins and winding a portion of the spring into a small coil as shown at 25 which drops into this groove when the spring is forced upon the pin. The ends of the pins are preferably tapered as shown at 26 for convenience in passing the small coils over the same. A washer or spacer 27 is inserted between the finger 22 and the arm 14 in order to properly position the finger in respect to the brush.

Heretofore the ends of such fingers or levers have been made to rest directly on the ends of the brushes and after such devices have been used for sometime the ends of the fingers are apt to wear into the brushes, consequently the brushes are apt to be held obliquely or to stick in the holders instead of being pressed against the commutator. In order to overcome such objectional feature I provide an antifriction member at the end of the fingers for engagement with the brushes. This is conveniently accomplished by providing a bearing 28 at the end of the fingers, this bearing being at the bottom of a slot 29. A double roller or spool 30 has an integrally formed axle 31 which engages with the bearing 28 and this roller is secured in position by slightly closing the open part of the slot.

It will be readily seen that by means of this arrangement the antifriction roller 30 will press against the end of the brush 15 and as the brush becomes worn will roll over the end of the brush without any tendency to cramp or bind the same.

It will also be noted that when the "pig tail" reaches the bottom of the slot 17 the brush can move no further but must be renewed, therefore this furnishes a convenient

stop for a worn out brush. My improved holder may be made in various forms for different types of motors and therefore I do not wish to be limited to the exact construction shown and described, except as pointed out in the following claims in which—

I claim:

1. In a device of the character set forth, the combination of a pivot pin having a groove therein, an arm mounted on said pin, a coiled spring for engagement with said arm, one portion of the spring being of reduced diameter for engagement with the groove to hold the arm in position.

2. In a brush holder, the combination of a main frame portion, a supporting pin secured to said portion, an arm pivoted on said pin, a coiled spring for engagement with

the arm, one portion of the spring being reduced in diameter to engage with a reduced portion of the pin for holding the spring and arm in position.

3. The combination with an arm and a pivot pin, of a coiled spring for urging said arm in one direction, a portion of said spring being reduced in diameter and adapted to engage with a recess in the pin for holding the arm and spring in position.

4. In a brush holder, the combination of a holder portion, a brush in said holder portion having a "pig tail", a clip for engagement with the end of the "pig tail", said clip having a tongue projecting through a hole in the holder and a screw for fastening the clip to the holder.

JOHN T. JANETTE.