June 9, 1925. 1,540,858

J. L. PITCHER

BRUSH

Filed Aug. 14, 1923

Fig. 2

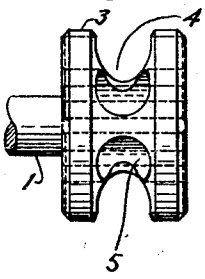


Fig. 3

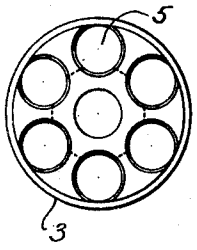


Fig. 1

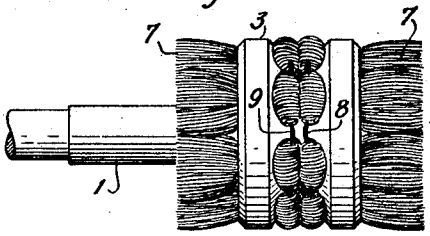


Fig. 5

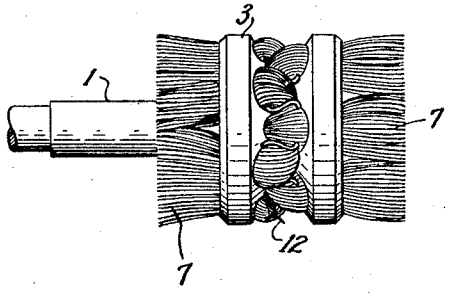


Fig. 6

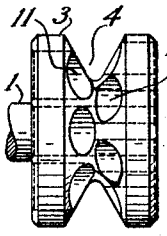


Fig. 7

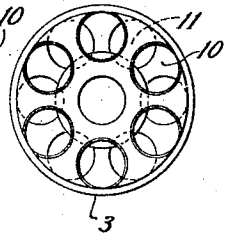


Fig. 8

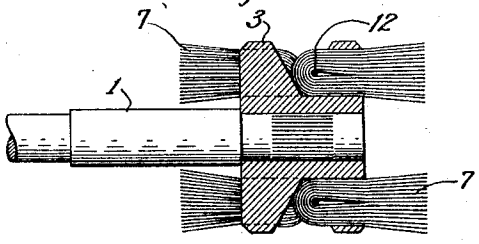


Fig. 4

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by Atty

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UNITED STATES PATENT OFFICE.

JAMES L. PITCHER, OF BROOKLYN, NEW YORK, ASSIGNOR TO AMERICAN TELEPHONE AND TELEGRAPH COMPANY, A CORPORATION OF NEW YORK.

BRUSH.

Application filed August 14, 1923. Serial No. 657,416.

To all whom it may concern:

Be it known that I, JAMES L. PITCHER, residing at Brooklyn, in the county of Kings and State of New York, have invented certain Improvements in Brushes, of which the following is a specification.

This invention relates to brushes, and more particularly to a double-faced brush which is adapted to be attached to the end of a rotating spindle.

The object of the invention is to provide an improved construction for holding the brush material in position in a very secure and permanent manner.

The principal feature of the invention resides in a cylindrical brush head having a groove around its circumference and longitudinal holes for the brush material extending into this groove from both ends.

Double-faced brushes employing this construction are particularly adapted for cleaning the contact surfaces of heat coils on telephone central office protectors, the brush material in this case comprising strands of suitable iron or steel wire.

A more comprehensive idea of the invention will be obtained from the following description and the annexed drawings, Figure 1 of which represents an assembled brush embodying the features of the invention, Figs. 2 and 3 are views of the brush head of the invention showing the position of the binding holes, Fig. 4 shows the brush attached to the end of a flexible shaft driven by a motor or other source of power, Fig. 5 is a modification of the brush of Fig. 1 in which the binding holes in one end of the brush pole are staggered, that is, out of alignment, with respect to the holes in the other end, Figs. 6 and 7 are views of the brush head of Fig. 5 showing the staggered position of the binding holes and Fig. 8 is a longitudinal cross-section of the brush of Fig. 5 which shows the method of binding the brush strands in the groove.

Referring to the drawings: 1 is a spindle adapted to be attached to suitable driving means such as the flexible shaft 2 (Fig. 4). The brush head 3 is rigidly attached to one end of the spindle 1 and is provided with a groove 4 extending around its circumference. Holes 5, Fig. 3, are drilled in one end of the brush head 3 substantially parallel to the spindle 1 and extend into the groove 4, and similar holes are drilled in the other end of the brush head which also extend into the groove 4. A plurality of strands 7 of a suitable brush material such as iron or steel wire are doubled back on themselves and drawn in through the holes 5 into the groove 4, where they are bound in position by binding wires 8 and 9, which are threaded through the groups of strands in rotation around the circumference of the groove as shown, the ends of the binding wires being then joined together by twisting and soldering or in any other suitable manner. If necessary, the brush strands can, after binding, be trimmed down to any desired length. The foregoing described construction can, of course, be used in any brush structure where a double-faced rotary brush is required, and the brush strands can be of any suitable material. A modification of the foregoing construction, as regards the holes for the brush material, is shown by Figs. 5, 6, 7 and 8. In this modified construction, holes 10, Figs. 6 and 7, are drilled in one end of the brush head 3 substantially parallel to the spindle 1 and extend into the groove 4. Similar holes 11 are drilled in the other end of the brush head which also extend into groove 4. In this case, however, the holes in one end of the brush head are staggered, that is, out of alignment, with respect to the holes in the other end, as shown in Fig. 6, thus permitting the looped portions of the brush material in one end of the brush head to extend past those in the other end so that a single binding wire can be threaded through each loop in turn around the circumference of the groove.

What is claimed is:

1. In a rotary brush, a cylindrical brush head having a groove around its circumference at right angles to the axis thereof, longitudinal openings in each end of said brush head extending into said groove and parallel to the axis of said brush head, brush material in said openings extending into said groove, and means for binding said brush strands together in said groove.

2. In combination, a source of power, a flexible shaft driven thereby, and a double-faced brush attached to one end of said shaft, said brush comprising a cylindrical brush head having a groove around its circumference, longitudinal openings extending into said groove from the opposite ends of said

brush head, and brush material in said openings extending into said groove.

3. In a rotary brush, a cylindrical brush head having a groove around its circumference at right angles to the axis thereof and longitudinal openings extending into said groove from each end, said openings containing brush material extending outwardly from each end of said head.

4. In a rotary brush, a cylindrical brush head arranged with a groove around the circumference of said brush head, and having longitudinal openings extending into said groove from each end of said brush head, and brush material in said openings joined together in said groove by binding means.

5. In a rotary brush, a cylindrical brush head provided with a groove around the circumference of said brush head at right angles to the axis thereof and with longitudinal openings parallel to each other extending into said groove from each end, brush material in said openings, and binding means for the brush material.

6. In a rotary brush, a cylindrical brush head having a groove around its circumference and longitudinal openings extending therein from each end of said brush head, brush material in said openings, and extending outwardly from each end of said head and means for binding said brush material in said groove.

7. In a rotary brush, a cylindrical brush head having a groove around its circumference at right angles to the axis of said head and having openings extending into said groove from each end of said head, looped strands of brush material extending into said groove through said openings, and a binding wire threaded through said looped brush material.

In testimony whereof, I have signed my name to this specification this 9th day of August, 1923.

JAMES L. PITCHER.