June 18, 1929. F. W. FRASER 1,717,554

PLUG POLISHING DEVICE

Filed Jan. 21, 1926

Fig. 1.

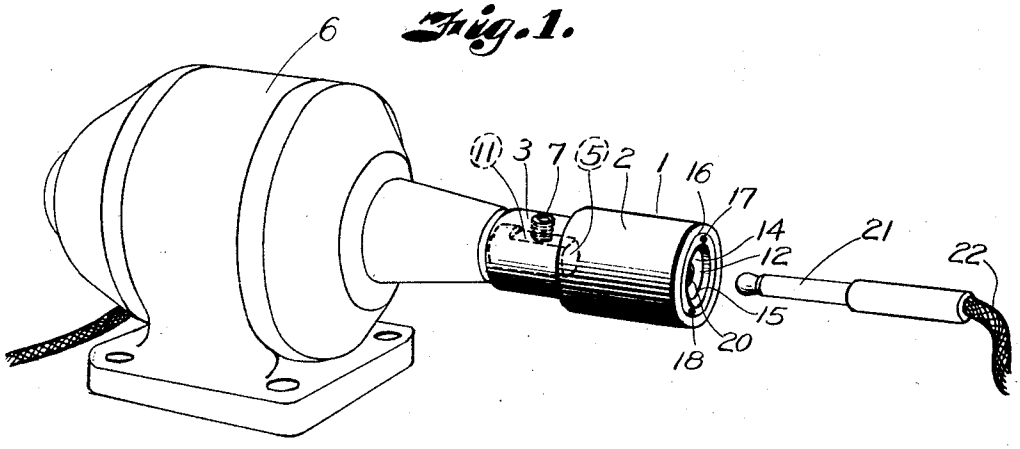


Fig. 2.

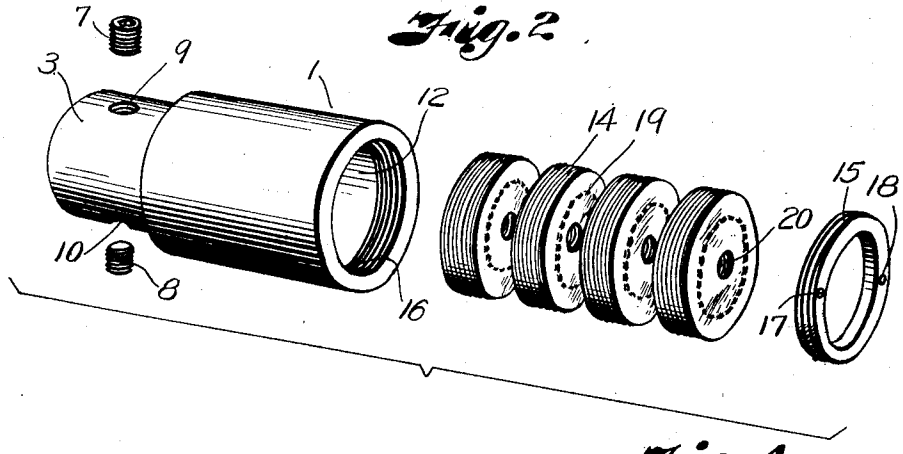


Fig. 3

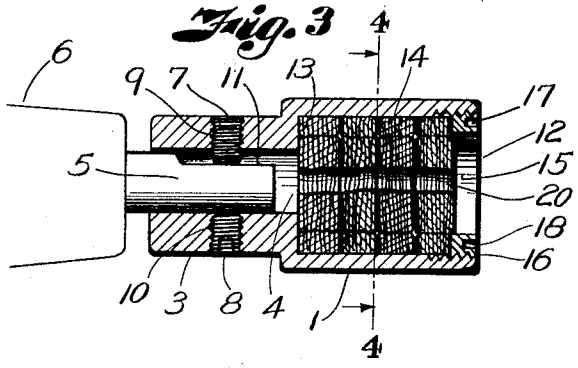
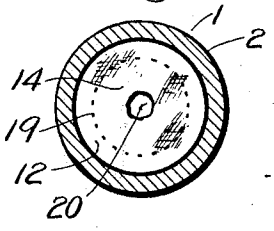


Fig. 4



INVENTOR
Fred W. Fraser
BY
Arthur C. Brown
ATTORNEY

Patented June 18, 1929. 1,717,554

UNITED STATES PATENT OFFICE.

FRED W. FRASER, OF KANSAS CITY, MISSOURI, ASSIGNOR OF THIRTY-TWO PER CENT TO DIXIE E. TILLER, FIVE AND ONE-HALF PER CENT TO CHARLES A. SMITH, AND TWENTY-FIVE PER CENT TO RICHARD N. WAKEFIELD, ALL OF KANSAS CITY, MISSOURI.

PLUG-POLISHING DEVICE.

Application filed January 21, 1926. Serial No. 82,770.

My invention relates to polishing and buffing devices and more particularly to a device of this character for polishing plugs of the type commonly employed in a telephone switchboard, the principal object of the invention being to provide a convenient means for efficiently polishing such plugs to remove corrosion or other undesirable non-conductive coating which may form thereon and interfere with proper flow of current through the switch.

It is a further object of the invention to incorporate my improvements in a motor driven unit, which is easily portable to facilitate its use at a plurality of stations of a telephone exchange or wherever switchboards are used.

In accomplishing these and other objects of the invention I have provided improved details of structure, the preferred forms of which are illustrated in the accompanying drawings wherein:—

Fig. 1 is a perspective view of a plug polisher constructed in accordance with my invention, illustrating a plug about to be inserted therein for polishing.

Fig. 2 is a detail perspective view of the polishing head, the component parts of which are shown in spaced relation.

Fig. 3 is a longitudinal, sectional view through the head, particularly illustrating the polishing disks.

Fig. 4 is a cross sectional view through the head on the line 4—4, Fig. 3.

Referring more in detail to the drawings, 1 designates the polishing head, comprising a barrel 2 provided at one end with a reduced sleeve extension 3 having a central bore 4 of a diameter to the receive the armature shaft 5 of a motor 6 when the head is applied to the shaft, and provided with set screws 7 and 8 which are threaded through diametrically opposite openings 9 and 10 in the extension, to engage the shaft and lock the head thereto. The shaft 5 is preferably provided with a flattened portion 11 against which the end of one of the screws may contact to provide anchorage for the head.

The bore 12 of the barrel 2 is concentric with, but of greater diameter than the bore 4 of the extension 3, forming a shoulder 13 at the base of the main bore, constituting a stop for the polishing disks 14 which may be removably located within said bore and held in place and against rotation by a compression ring 15 externally threaded to be received in the internally threaded throat 16 at the forward end of the bore. The ring 15 is preferably provided with diametrically opposite recesses 17 and 18 for receiving a spanner wrench (not shown) by which the ring may be readily screwed into place against the polishing disks, or removed to free the disks when the same are to be replaced.

The polishing disks 14 are of a diameter to be received snugly within the bore; each disk being preferably composed of a plurality of plies of cotton fabric or other polishing material stitched together as at 19 and provided with a central aperture 20 of slightly less diameter than the plug to be polished.

In the drawings I have shown the device to be polished as consisting of an ordinary switchboard plug 21 on its cord 22.

In assembling the device, constructed as described, a sufficient number of disks 14 are slipped into the bore of the barrel to substantially fill it. The compressive keeper ring is then screwed into place to compress the disks against the shoulder and lock them to the head. The head is then slipped upon the motor shaft and the set screws tightened against the shaft to lock the head thereto. A powdered detergent material is then inserted in the apertures of the disks and the device is ready for use. The motor may be placed upon the switchboard table convenient to the plugs and the motor operated to rotate the head. A plug is then pushed into the apertures of the disks which, rotating with the motor shaft, rub the surface of the plug and remove any corrosion or foreign matter from its surface, so that when the plug is withdrawn, its original, polished and conductive surface has been restored.

This operation is repeated with the other plugs at that position and the outfit then carried to the next position, and so on until all of the plugs at the exchange or other place where the switchboards are employed have been restored to serviceable condition by the polishing described.

When continued rubbing has worn the disks so that they do not properly contact the plugs, they may be restored to effective dimension by projection of the disks into the

bore of the barrel by threading the ring 17 into the bore, and when the disks have become so worn as to be incapable of further reduction in interior diameter by the compression ring they may be replaced by new disks.

There is an advantage in employing a plurality of multi-ply disks in that the powdered detergent will enter between the disks and between the plugs and be retained for an extended period.

What I claim and desire to secure by Letters-Patent is:—

1. A polishing device comprising a rotatable head having a central bore, polishing disks assembled in the bore, each disk comprising plies joined by a ring of stitching concentric with the disk and spaced from the rim and axis of the disk, said disks having concentric apertures providing a tube-like channel for receiving the article to be polished, and means arranged within the bore for retaining the disks in the bore.

2. In a polishing device, a polishing head having a central bore, compressible polishing disks within the bore, having aligning article-receiving apertures, a ring threaded into the bore to retain the disks in position and under compression, and means for rotating the head.

3. A polishing device comprising a rotatable head having a central bore, polishing disks assembled in the bore, each comprising a plurality of plies of fabric having concentric apertures whereby the assembled disks provide a tube-like polishing member, and a compression ring threaded into the end of the bore to retain the disks in position.

In testimony whereof I affix my signature.

FRED W. FRASER.