

March 13, 1934.

A. A. PAGE

1,950,862

BRUSH

Filed June 18, 1931

Fig. 1

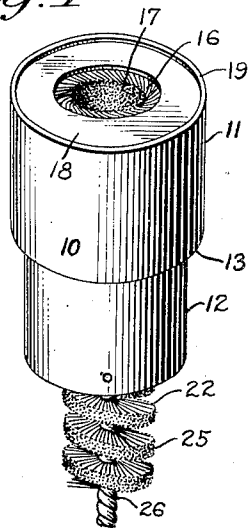


Fig. 4

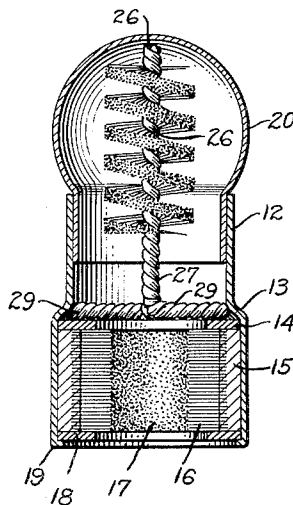


Fig. 2

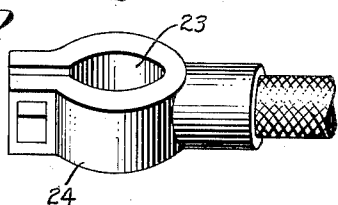


Fig. 5

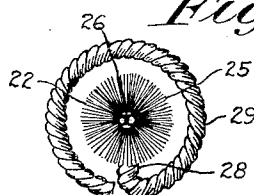


Fig. 3

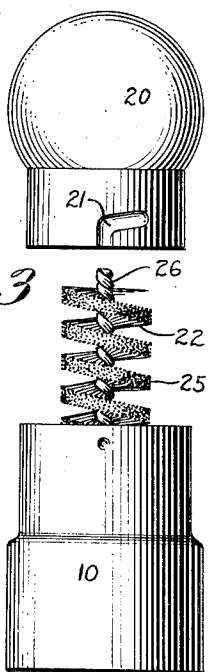


Fig. 6

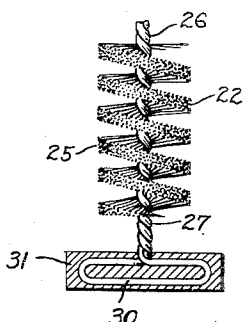
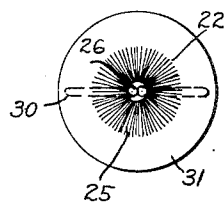


Fig. 7



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1,950,862

BRUSH

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Application June 18, 1931, Serial No. 545,180

5 Claims. (Cl. 15—106)

My present invention relates to improvements in brushes and more particularly to a double purpose brush adapted in one instance to be used for removing and cleaning accumulated coatings of sulfate, oxide of copper, dirt, dust and other foreign matter, from automobile battery binding posts, and in the other instance from the terminals, for attachment to the posts.

The invention further relates to improvements on that type of wire brushes for use upon battery posts shown and described in my Patent #1,838,958, dated December 29, 1931.

The purpose of the present invention is to combine with the tubular or female brush of the type disclosed in said application and used for cleaning battery posts, a spiral or male form of brush, mounted upon a single central core wherefrom the bristles are disposed radially so as to adapt it for cleaning internal cylindrical surfaces, as for instance that of a terminal so that the same can be easily and effectively attached to a battery binding post after the same has been cleaned by the tubular brush forming a part of my present double purpose brush.

A further object of the invention is to mount these two brushes within a single cylindrical holder of the general type disclosed in my previous patent application and to arrange the same so that the one will be operatively secured in one end of the holder while the other will be secured in, though projected from, the other end, and which when not in use may be enclosed within a detachable hollow cap, when attached to the brush holder. In this connection, it will be understood that when the tubular brush is to be used, the implement would be assembled as shown in Fig. 4, with the top cap attached and enclosing the internal brush, whereas if the internal brush is to be used, the said closure cap would be removed therefrom, the holder reversed to the position shown in Fig. 1, in position to be turned into the hole of the terminal in a way to clean the internal wall thereof.

Additional objects and advantages will become apparent from the consideration of the following detailed description taken in connection with the accompanying drawing forming a part of this specification. It is to be understood however, that the description and drawing are by way of illustrations only and that changes in certain features of construction, combination and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the accompanying claims

to which reference must be had for definition of the limitations of the invention.

Like reference characters will be found to denote like or corresponding parts throughout the several figures of the accompanying drawing, in which

Fig. 1 shows a front perspective view of my improved brush with closure cap removed, and in position for an internal cleaning operation;

Fig. 2 is a perspective view of a terminal such as forms the end of a wire for attachment to a binding post;

Fig. 3 is a side elevation of the brush and holder shown in Fig. 1, in an inverted position and the covering cap for enclosing one of the brushes, above and in alignment therewith.

Fig. 4 is a central vertical section of the brushes, holder and closure cap, assembled;

Fig. 5 is a top plan view of the internal brush, shown in the preceding figures, detached;

Figs. 6 and 7 show a sectional elevation and top plan view respectively of the brush, and showing a modified form of means for securing it within the holder shown in the preceding figures.

Referring in detail to the characters of reference marked upon the drawing, 10 indicates a cylindrical holder which is preferably made of sheet metal of any suitable size. This holder, as shown, is formed in one piece, one end portion 11 being preferably of a larger diameter than the other end 12, there being an annular shoulder 13 formed upon the inside at the junction of the two said diameters of the holder.

A washer 14 is positioned in the larger end of the holder against the said shoulder and against it is placed the tubular back or bristle support 15 in a way to cause the said bristles 16 to be disposed inwardly and tangentially with respect to the center of the holder so as to form of said bristle ends a central cylindrical opening 17, within the lower or larger end of the holder, and which is of a diameter corresponding to that of commercial types of terminals upon which the brush is designed to operate. The lower or mouth end of this opening is preferably formed a little larger than the inner end, better to allow the brush to be quickly applied and removed from a binding post which is usually tapered slightly.

A somewhat similar washer 18 is positioned against the outer end of the said tubular brush back 15, and the lower annular edge portion of the larger end of the holder is rolled in, as at 19, upon the washer 18 to secure it and the

tubular brush in position and against turning within the holder.

The upper end portion of the implement includes a closure shell 20 that is adapted to fit the smaller end portion 12 of the holder and to be secured thereto as by means of a thread or joint 21 as shown in Fig. 3. When this shell is secured to the holder, it serves as a handle for the operation of the tubular brush portion of the implement, while the larger cylindrical portion serves as the handle for the manipulation of the implement when the shell is removed and the internal brush used.

The internal brush 22, which is used for cleaning out the hole 23 of terminal 24, see Fig. 2, is preferably made, as shown in the drawing, to include a spiral series of wire bristles 25 which are secured in that relation between two twisted wires 26 that extend centrally through the spiral series of bristles. The shank portion 27 of this brush is disposed out at a right angle, see 28, Fig. 5, and then bent around to form a ring 29 of a size to snugly engage the inner wall of the holder and the face of the washer 14 in a way to hold the brush against rotation independent of the holder. This produces a simple, practical and inexpensive form of internal brush, besides a simple means of securing it in the holder, yet in a way which will permit of its detachment and replacement should occasion require.

In Figs. 6 and 7 I have shown a somewhat similar construction of brush though the wires of the shank portion are disposed to form a loop 30 that is bedded or molded within a disk 31 of any suitable material, the annular edge of which is of a size to snugly fit into the lower end portion of the smaller end 12 of the holder, so as to be secured therein if desired, by a simple indentation or punch of the metal of the holder.

From the foregoing it will be apparent that I have produced a double ended brush. I have provided two distinct types of brushes in a single holder, one a tubular form of brush for cleaning external cylindrical surfaces, and the other an internal brush for cleaning inner walls of cylindrical surfaces and have mounted and provided the same with means whereby the said brushes may be entirely enclosed when not in use. The brushes are so arranged that total length of tool is reduced to a minimum, facilitating their use on batteries installed where clearances are limited. The same is designed to be inexpensively manufactured and adapted to be sold at a small price and especially to form a convenient and needed tool for an automobile or motor boat tool kit.

Having thus described my invention, what I

claim and desire to secure by Letters Patent is:

1. In a brush of the class described, the combination with a cylindrical holder, having an internal annular shoulder substantially mid-way of its length, a brush disposed central within and extending from one end of the holder and including a bristle supporting stem terminating at one end in an annular flexible supporting member seated against the inner wall of the holder, and means for securing said supporting member against said shoulder.

2. In a brush of the class described, the combination with a cylindrical holder having an internal annular shoulder substantially midway of its length, a brush disposed central within and extending from one end of the holder and including a bristle supporting stem terminating at one end in an annular supporting member that is seated against the inner annular shoulder of the holder, and means for securing said supporting member against said shoulder.

3. In a brush of the class described, the combination with a cylindrical holder having an internal annular shoulder substantially midway of its length, a brush disposed central within and extending from one end of the holder and including a bristle supporting stem terminating at one end in an annular removable flexible supporting member that is seated against the inner annular shoulder of the holder, and means for securing said supporting member against said shoulder.

4. In a brush of the class described, the combination with a cylindrical holder having an internal annular shoulder substantially midway of its length, a brush disposed central within and extending from one end of the holder and including a bristle supporting stem terminating at one end in an annular supporting member seated against the inner annular shoulder of the holder, a tubular form of brush mounted in the other end of the holder against said supporting member, and means for securing said tubular brush and supporting member against said shoulder.

5. In a brush of the class described, the combination of a cylindrical holder, one end portion of which is of a larger inside diameter than the other, forming an internal annular shoulder between said different diameters, an annular member seated against said shoulder, a tubular form of brush mounted in the larger end of the holder against said annular member, a second brush having an annular supporting member seated against said annular member and having a bristle supporting stem disposed centrally of and extended from the smaller end of the holder.

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