

July 26, 1932.

L. C. HEROLD

1,869,102

ROTARY BRUSH

Filed May 20, 1931

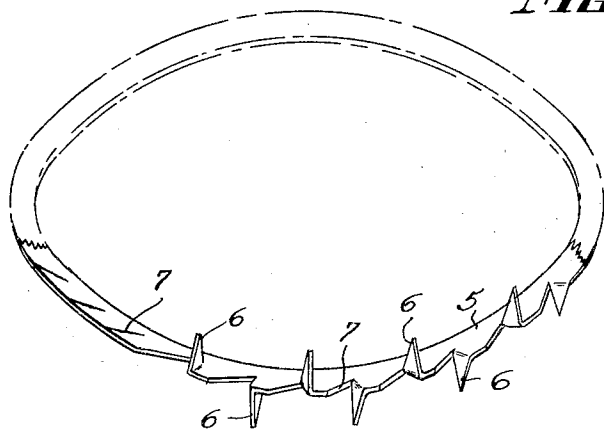


FIG. 1

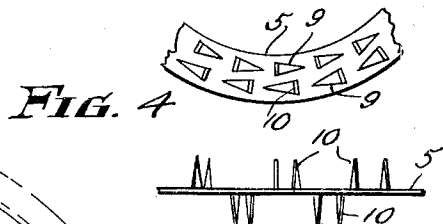


FIG. 4



FIG. 5

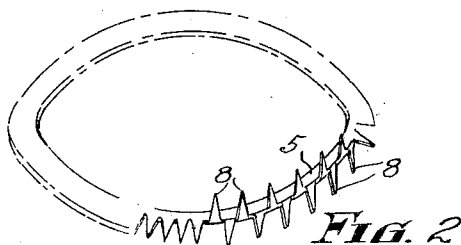


FIG. 2

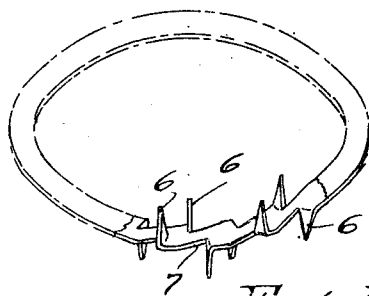


FIG. 3

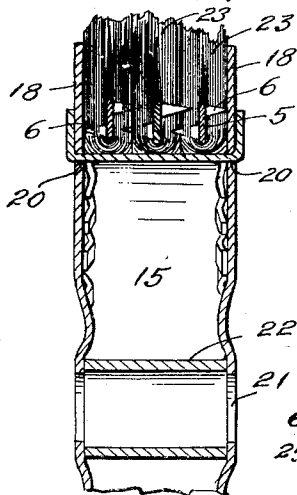


FIG. 6

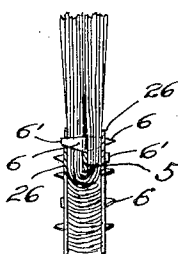


FIG. 9

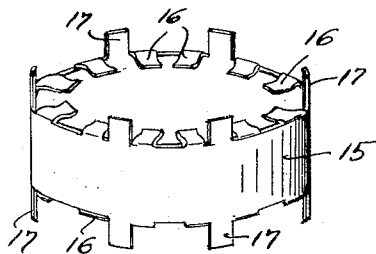


FIG. 7

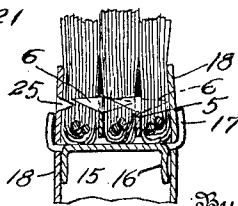


FIG. 8

Inventor

Lawrence C. Herold

Dates Schick & Teare

Attorney

UNITED STATES PATENT OFFICE

LAWRENCE C. HEROLD, OF LAKEWOOD, OHIO

ROTARY BRUSH

Application filed May 20, 1931. Serial No. 538,677.

This invention relates to industrial brushes, particularly to rotary brushes adapted for cleaning and abrading operations on parts, such as rough castings.

5 The objects include the provision of a bristle disc mounting, which may be readily and economically made in any size, to support any suitable number of bristle discs; the provision of an improved bristle disc base; and the
10 provision of an effective and simpler bristle disc unit for a single or multiple disc brush. The bristles, so mounted, may be of wire, fibre, hair, or other material.

Other objects and features of the invention
15 will become apparent from the following detailed description relating to the accompanying drawing, which illustrates the preferred embodiments. The essential characteristics appear in the claim.

20 In the drawing, Figs. 1, 2 and 3 are fragmentary perspective views showing respective forms of bristle disc elements; Fig. 4 is a plan view of a small section of a different type of element; Fig. 5 is a side elevation of the arrangement shown in Fig. 4; Fig. 6 is
25 a partial central sectional view of a completely assembled brush, showing the mounting; Fig. 7 is a perspective view of one of the parts of the mounting shown in Fig. 6, but before the bristle discs and retaining members are assembled thereon; Fig. 8 is a fragmentary
30 view of a different brush assembly, illustrating another use of the elements such as shown in Figs. 1 to 5, and Fig. 9 is a modified form of bristle disc.

Referring now to the preferred types of bristle disc elements (Figs. 1 to 5), these comprise annular sheet metal rings with suitably
40 arranged prongs or projections distributed thereabout to engage the bristles. In Fig. 1, there is a flat ring of sheet metal at 5, with a series of oppositely extending prongs 6 at its outer edge.

45 The pronged brushed elements formed, for example, as above described, may supplant the usual twisted wire bristle cores or bases as suggested in Fig. 6, the rings receiving the bristle loops or tufts; or these pronged elements may be otherwise used in the brush to
50 hold the bristles in place. For example, in

Fig. 8 the pronged rings are simply placed between adjacent bristle discs of the conventional type. The rings may also serve as binders for bristle retaining plates, (see Fig. 9), as will be presently more fully explained. 55

Referring to Fig. 2, it will be seen that instead of having the prongs lie in substantially radial planes, with reference to the ring, the prongs 8 may be tangentially disposed, at the inner or outer edges of the ring or both. The
60 prongs may also be struck out from opposite edges of the ring, in the radial arrangement, as shown in Fig. 3.

Another convenient form of pronged ring is shown in Figs. 5 and 6, wherein the prongs
65 are cut on two edges from the sheet metal body as at 9, and alternately struck out as at 10 in respective evenly spaced radial planes.

The present invention relates to a novel mounting for these or other usual forms of
70 bristle discs.

In Fig. 7 is shown a substantially cylindrical ring of sheet metal at 15, having spaced tongues 16 and 17 at its opposite ends. The
75 tongues 16 are shown as bent inwardly toward the axis of the ring, to form endwise supports and spacers for suitable bristle retaining side plates 18 (Figs. 6 and 8). Preferably, the tongues 16 are bowed slightly, as shown in
80 Fig. 6, to insure that the inner ends will be in contact with the side plates. The tongues 17 simply extend through suitable slots 20 in the plates 18 and may be bent outwardly, as shown in Figs. 6 and 8, to tightly clamp
85 the side plates against the embraced bristle discs.

A suitable central formation for the plates 18 is, of course, provided, to permit the brush to be suitably attached to a drive shaft. As
90 shown, the plates 18 are centrally apertured at 21, to receive such shafts, and a stiffener sleeve 22 may be retained in place at the openings in any suitable way, to receive the clamping force of the usual shaft mounting (not shown). 95

Referring again to Fig. 6, it will be seen that with the pronged elements embraced by
100 tuft loops 23, forming the bristle discs, the prongs of each disc extend out into the adjacent disc or discs, thereby very effectively pre-

venting all the bristle discs from slipping around on the mounting. It will be understood that sufficient clamping force may be applied to the outermost bristle discs, by the
5 plates 18, to prevent slippage between the outermost discs and the plates; and that devices such as inturned prongs 25 (Fig. 8) may be used on the side plates to assist in firmly holding the discs.

10 It may be mentioned that, with all the tongues 17 turned down on the side plates, the brush is exceedingly strong and rugged, and it is therefore immaterial whether the member 15 forms a continuous annulus. The
15 ends of the member 15 may, of course, be rigidly joined if desired, as by welding.

While the drawing shows three discs, in Figs. 6 and 8, it is, of course, contemplated that any greater or lesser number may be
20 used for a single brush.

I claim:

A rotary brush mounting comprising a substantially cylindrical, sheet metal, bristle supporting sleeve with inwardly extending
25 tongues thereon at one end, a flange plate secured adjacent one end of the sleeve in contact with the outer side of said tongues, there being additional tongues at the ends of the supporting sleeve and openings in the flange
30 plate receiving the additional tongues, said additional tongues being bent over exteriorly of the plate to hold the plate in rigid relation to the said support, and means at the opposite end of the sleeve cooperating therewith and
35 with said flange plate to form a bristle receiving and supporting annular channel.

In testimony whereof, I hereunto affix my signature.

LAWRENCE C. HEROLD.

40

45

50

55

60

65