Robbins & Heery.

Making Circular Brushes.

No. 42,685. Patented May 3, 1864.

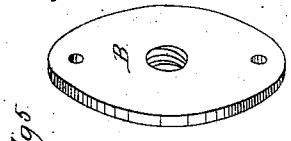
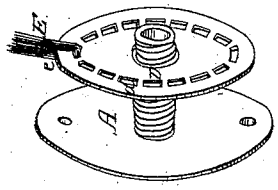


Fig 5



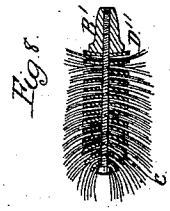
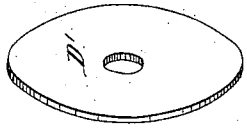


Fig 8



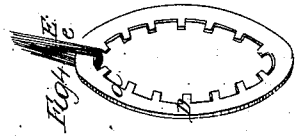


Fig 4

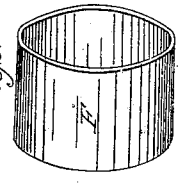


Fig 3

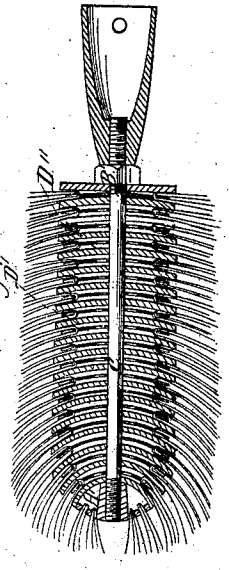


Fig 7

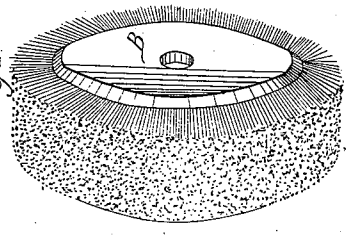


Fig 2

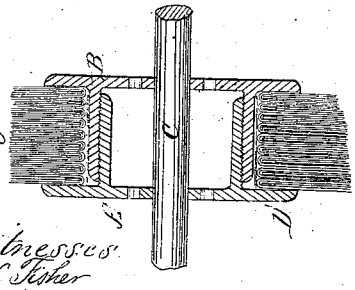


Fig 1

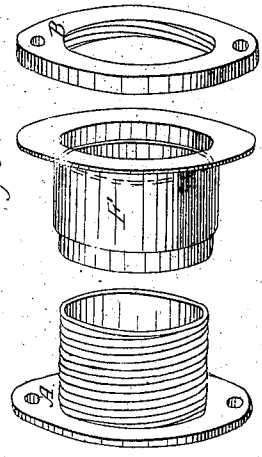


Fig 6

Witnesses
Charles L Fisher
Samuel Knight

Inventor
M. Robbins & C. Heery
per Knight Bros
attys

UNITED STATES PATENT OFFICE.

MARTIN ROBBINS AND CHARLES HEERY, OF CINCINNATI, OHIO, ASSIGNORS TO CHARLES HEERY.

IMPROVED CIRCULAR BRUSH.

Specification forming part of Letters Patent No. **42,625**, dated May 3, 1864.

To all whom it may concern:

Be it known that we, MARTIN ROBBINS and CHARLES HEERY, both of Cincinnati, Hamilton county, Ohio, have invented a new and useful Mode of Constructing Swabs, Emery-Wheels, and other Circular Brushes; and we do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

Our improvement is designed especially for the multifarious class of cylindrical or circular brushes, such as cannon and musket swabs, emery-wheels, chimney-brushes, bottle-whisps, &c.; and our invention consists in a system of nuts, washers, and central hub or stem, by which the bristles are secured or replaced in a more expeditious, strong, and uniform manner than by any customary method.

Figures 1 and 2 are respectively an axial section and a perspective view of an emery-wheel embodying our invention. Figs. 3 and 4 represent a sleeve and washer forming a part of the said wheel. Figs. 5 and 6 represent modifications of the central portion or hub. Figs. 7 and 8 are swabs embodying our invention.

A B in the several figures represent various forms of cheeks, nuts, or heads constituting the "hub," adapted to screw fast to each other or to a central stem, C.

D are washers, provided at equal distances with apertures or niches *d*, for the insertion of numerous small bundles of bristles, E, which, being bent around the marginal portion of the washer, are temporarily secured by wire lashings *e*, which are taken off after the brush is put together. The portions of the washer which intervene between the bundles of bristles, insure an exact uniformity, and prevent any crowding of the bristles to one side.

D′ are blank washers, one or more of which may be inserted between every two consecutive brush-washers when an open form of brush is desired.

A rather open and very secure brush is obtained by alternating each bristle-washer with a threaded washer or nut, as in the musket-swab represented at Fig. 8. A portion of such a swab may be broken off, and yet the bristles on the remaining portion will remain in place.

In the swab form of our improvement the washers D″ are made with a progressively dished or cup-formed depression as they approach the tip, so as to form a bristled extremity to the swab, the whole being secured by the screwing on of one or more end nuts, A′ B′, as in Fig. 7, or by screwing each individual washer to the stem, as in Fig. 8.

In the forms represented in Figs. 1, 2, 3, 4, and 6, sliding sleeves F prevent any interference of the bristles with the thread of the screw.

Although we have used the term "circular brushes," and have selected to illustrate our improvement forms having a circular transverse section, we do not desire to restrict the invention to brushes of circular or cylindrical exterior merely, as a square, a semicircular, or other contour may be given to the bristles, and the washers may at the same time be either circular or polygonal.

It is also obvious that the bristle-washers may themselves screw onto the stem.

Split whalebone, tampico, wire, &c., may take the place of bristles for some of the coarser kinds of brushes.

We claim herein as new and of our invention—

As an improvement in the manufacture of brushes, swabs, emery-wheels, and analogous articles, the combination of the bristle-washers D, substantially as described, with screw-clamps of any suitable form, either with or without central stems or intermediate washers.

In testimony of which indention we hereunto set our hands.

MARTIN ROBBINS.
CHARLES HEERY.

Witnesses:
GEO. H. KNIGHT,
J. T. MELCHER.