No. 612,157. Patented Oct. 11, 1898.

H. F. COOK.

ROTARY BRUSH.

(Application filed Mar. 11, 1898.)

(No Model.)

Fig. 1.

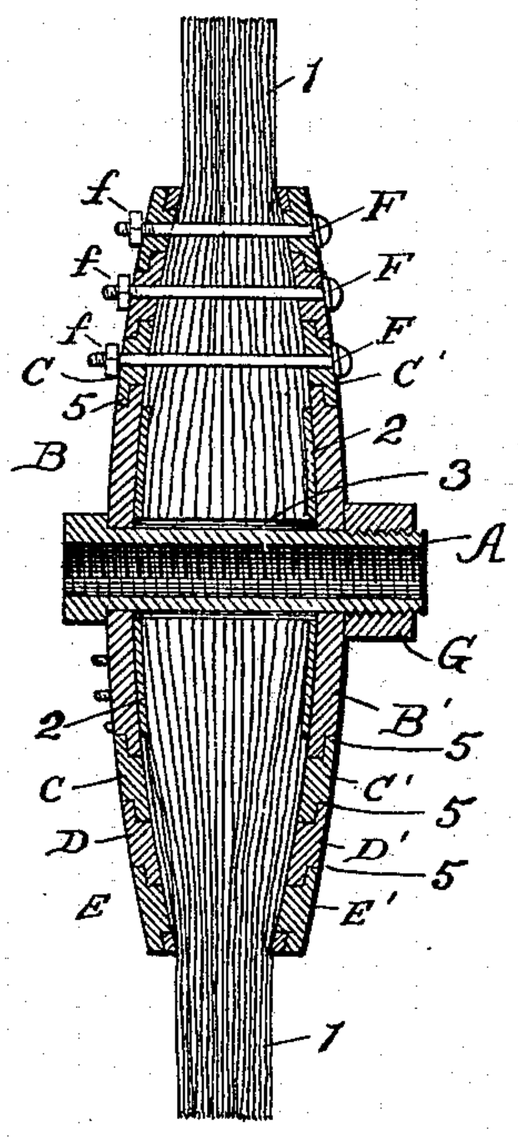


Fig. 2.

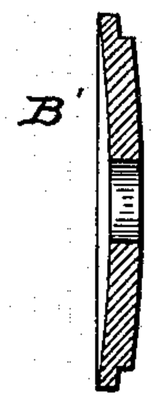
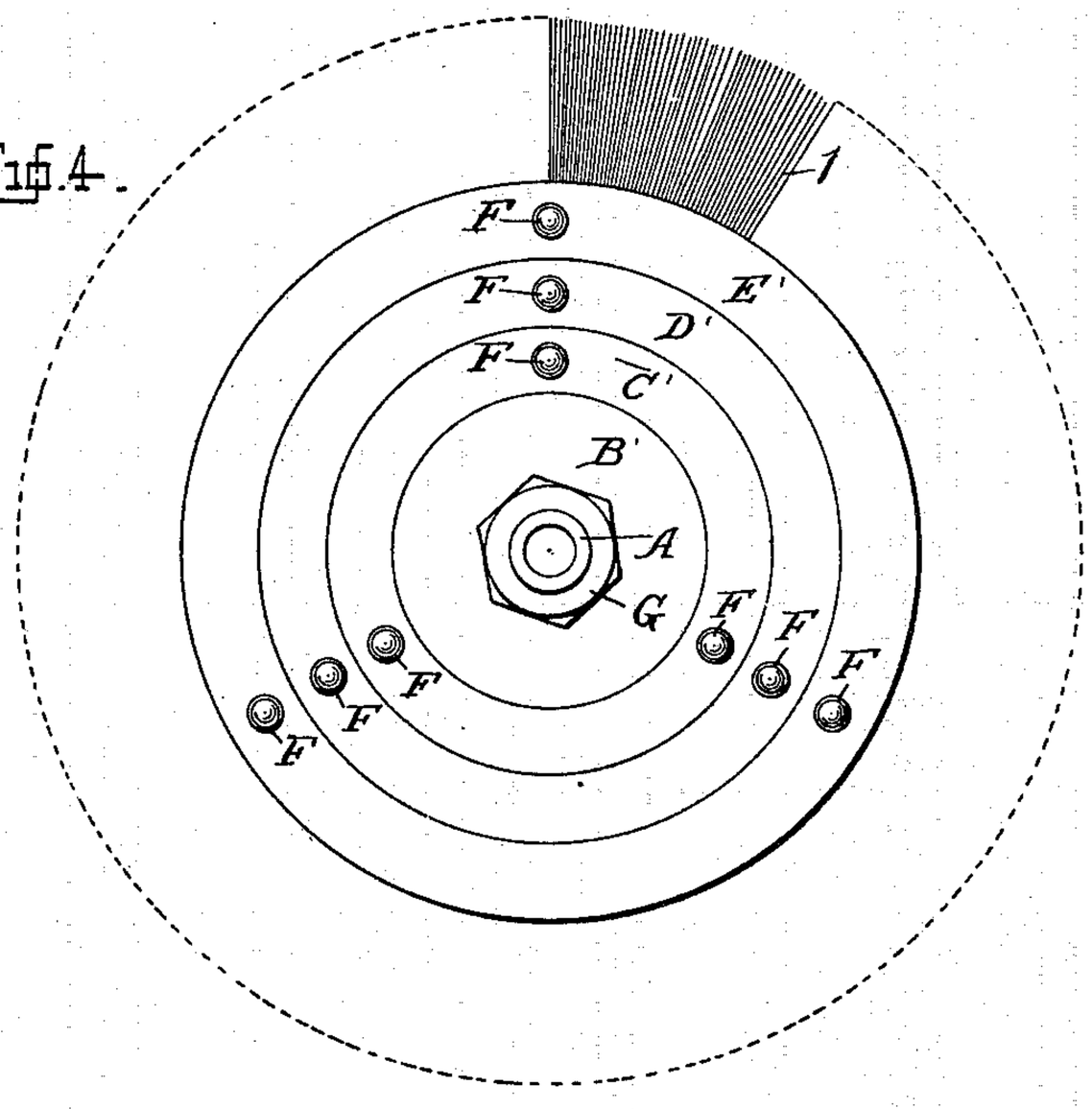


Fig. 3.

Fig. 4.



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UNITED STATES PATENT OFFICE.

HENRY F. COOK, OF SAG HARBOR, NEW YORK.

ROTARY BRUSH.

SPECIFICATION forming part of Letters Patent No. 612,157, dated October 11, 1898.

Application filed March 11, 1898. Serial No. 673,531. (No model.)

To all whom it may concern:

Be it known that I, HENRY F. COOK, a citizen of the United States, residing at Sag Harbor, in the county of Suffolk and State of New York, have invented certain new and useful Improvements in Holders for Rotary Brushes, of which the following is a specification.

This invention relates to improvements in holders for rotary brushes; and its object is to provide a clamping device for the brush which can be adjusted or changed as the brush wears away, so as to enable the brush to be worn through a large radial distance, while always supporting and holding the bristles in an effectual manner.

In order that the bristles may be properly supported or clamped, it is necessary that the clamping devices should engage with same at points sufficiently near the periphery of the brush to give the necessary stiffness and strength to the bristles, but not so close as to absolutely destroy the elastic and yielding nature of the brush. It is therefore desirable as the brush wears away in use to shift or adjust the supporting surface or device inwardly to a corresponding extent. My invention provides means whereby this may be accomplished in several stages, so that the maximum of wear and of effectual operation is secured.

In the accompanying drawings, Figure 1 is an axial section of a rotary brush provided with my improved clamping devices. Figs. 2 and 3 show the clamping disks and rings separately. Fig. 4 is an end elevation of the brush and clamping devices.

The brush proper consists of bristles 1, which at their inner ends are cemented together and to washers 2, of leather or other suitable material, a hole 3 being left between the inner ends of the bristles, so that the brush proper constitutes a detachable element which can be removed from the clamping devices and handled separately.

The clamping devices consist of a center arbor, bolt, or sleeve A, disks B B′, carried thereby, any desired number of rings C C′, D D′, and E E′, arranged in two series in succession around the respective disks B B′, and bolts F for drawing said rings C C′, D D′, E E′ together, and thus clamping the brush. The arbor bolt or sleeve A is hollow and is arranged to be carried by and fastened to a driving arbor or spindle, its bore being, for example, screw-threaded for that purpose. The disks B B′ and the successive rings C C′, D D′, E E′ are dished as indicated, so as when arranged in place on opposite sides of the brush they will approach one another more closely at their outer edges, and thus the points or line of most effectual contact or support of the bristles will always be at the outer edge of the outermost part. Each ring fits over the disk or ring next within it by a lap-joint or rabbeted flange, as indicated at 5. The rabbeted portions being so arranged, the outer ring extends over the edge of the inner ring or disk, so that each ring may be withdrawn sidewise from or replaced sidewise on the parts lying within same. Each ring is thus centered by its engagement by the ring or disk within it. The bolts F extend through suitable holes in the rings C C′, D D′, E E′, and are adapted to penetrate between the bristles.

In setting the brush up the disk B is first slipped over the sleeve A. Then the brush proper is placed next to it and the disk B′ then placed against the brush and forced up by a nut G. Any desired number of clamping-rings may then be placed over and around the disks on both sides of the brush, the said rings being placed on in pairs, each pair overlapping the one within it. As each pair of rings is placed on the bolts F are threaded through the holes therein and through the brush and then tightened up by nuts *f*, so as to draw the pair of rings together and clamp the brush firmly at the outer edge of said rings. The point of firm support of the brush may thus be carried as far out as desired.

As the brush wears away and the outer edges of the bristles are thereby brought too near the outer edge of the outermost rings the outermost pair of rings may be removed by loosening their bolts F, whereupon the said rings may be slipped off sidewise.

The brush being built up of straight radial bristles, which are neither bent nor crossed and which are cemented together with the side washers or pads into an integral separable body, the maximum of compactness, cheapness, and durability is attained, and the brush is rendered especially adaptable for

use in connection with the detachable and adjustable clamping devices herein shown. My invention, however, as regards the clamping devices is applicable to other forms of brush.

Instead of using bolts *f* to fasten the rings C C′, &c., I may use any other suitable means.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In combination with a rotary brush, a support therefor, comprising side disks, means for forcing said side disks toward one another, and a series of rings, surrounding said disks, each ring being centered on the part within it, and means for drawing said rings toward one another.

2. In combination with a rotary brush, a support therefor, comprising side plates, means for supporting said side plates and drawing them together, a series of pairs of rings surrounding said side plates and successively overlapping one another and said plates, and means for drawing the rings of each pair together.

3. A holder for a rotary brush, consisting of a central arbor, disks surrounding said arbor and adapted to embrace the brush, two series of rings surrounding the respective disks, said rings engaging with one another and with said disks, and bolts for connecting the rings in pairs, substantially as and for the purpose set forth.

4. A holder for a rotary brush, consisting of a central arbor, disks surrounding said arbor and adapted to embrace the brush, two series of dished rings surrounding the respective disks, said rings engaging with one another and with said disks, and bolts for connecting the rings in pairs, substantially as and for the purpose set forth.

HENRY F. COOK.

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