J. ADAMS.

ROTARY BRUSH.

APPLICATION FILED JAN. 14, 1921.

1,402,990.

Patented Jan. 10, 1922.

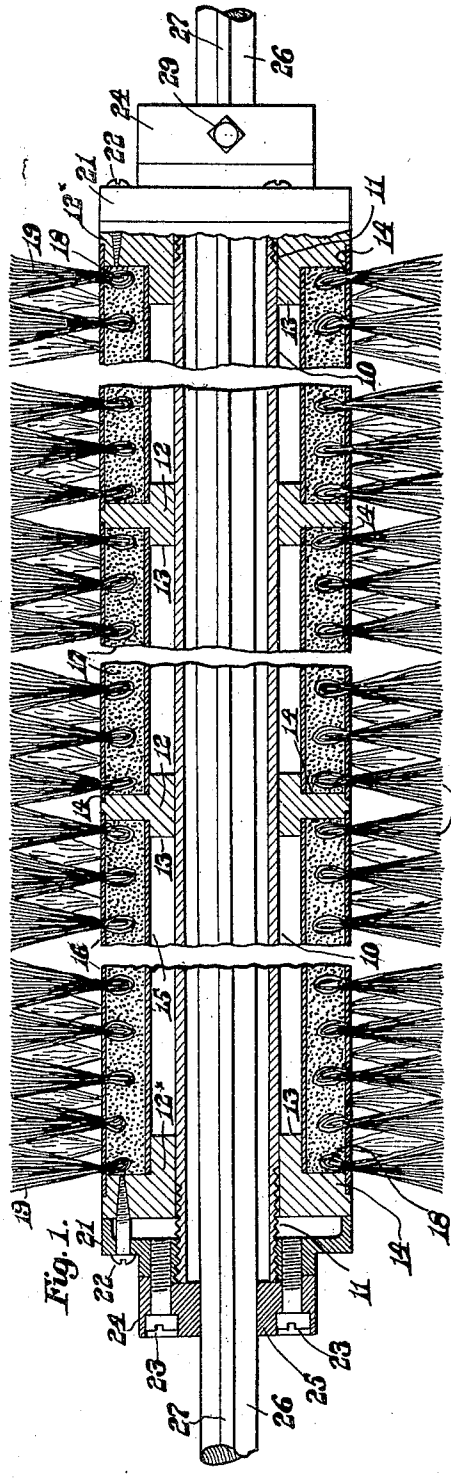


Fig. 1.

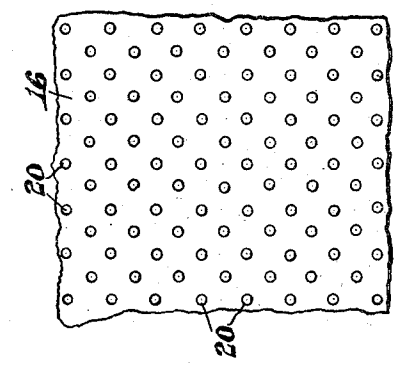


Fig. 4.

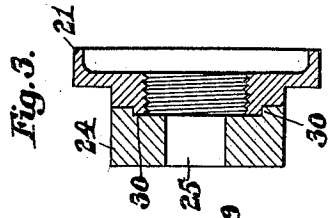


Fig. 3.

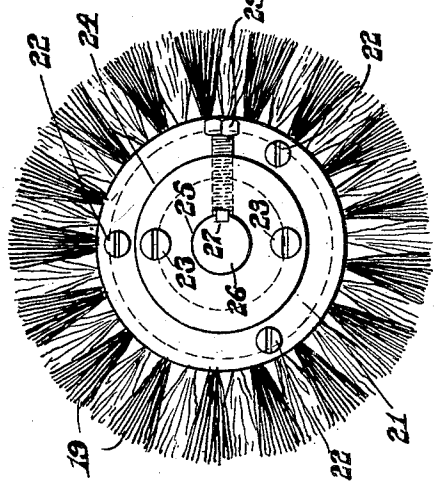


Fig. 2.

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UNITED STATES PATENT OFFICE.

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ROTARY BRUSH.

1,402,990. Specification of Letters Patent. Patented Jan. 10, 1922.

Application filed January 14, 1921. Serial No. 437,326.

To all whom it may concern:

Be it known that I, JOSEPH ADAMS, a citizen of the United States of America, and a resident of Roxbury, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Rotary Brushes, of which the following is a specification.

This invention relates to rotary brushes and has for its object the provision of a device of this character which will have considerable rigidity, will be effective in operation and which may be constructed economically.

The invention consists primarily of a brush made up of various sections mounted upon a tubular member secured at its ends to a revoluble shaft.

The invention further consists of novel means for clamping the brush sections end to end and locking them in clamped position.

The invention further consists in certain novel features of construction and arrangement of parts which will be understood readily by reference to the description of the drawings and to the claims to be hereinafter given.

For the purpose of illustrating the invention, one preferred form thereof is illustrated in the drawings, this form having been found to give satisfactory and reliable results although it is to be understood that the various instrumentalities of which the invention consists can be variously arranged and organized and the invention is not limited to the precise arrangement and organization of these instrumentaltities as herein shown and described except as required by the scope of the appended claims.

Of the drawings:

Figure 1 represents a longitudinal section of a brush embodying the principles of the present invention.

Figure 2 represents an end elevation of the same.

Figure 3 represents a transverse section of the end brush-supporting members, and

Figure 4 represents an elevation of a portion of the outer perforated tube of the brush.

Similar characters indicate like parts throughout the several figures of the drawings.

In the drawings, 10 is a tubular member provided with helical threads 11 at the opposite ends thereof.

Superimposed upon the tubular member 10 are a plurality of rings 12 preferably of wood or some similar cheap material.

These rings 12 are provided with cylindrical hubs 13, 14 of different diameters, the smaller hub 13 extending beyond the outer face of the larger hub 14.

The hubs 14 extend into the opposite ends of tubes 15 and support the same parallel with the axis of the tubular member 10 and concentric thereto.

In a similar manner the cylindrical hubs 13 extend into the opposite ends of tubes 16 and support the said tubes concentric to the tubes 15 and spaced therefrom.

These tubes 15, 16 are preferably formed of paper or some other cheap material wound helically to give strength thereto and before being used are subjected to a bath in a waterproof material.

The spaces between the tubes 15, 16 are filled with cement 17 and embedded in this cement 17 are the inner ends 18 of a plurality of bristles 19 extending through the small perforations 20 formed in the outer tube 16.

The end rings $12^{\times}$ have secured to the outer faces thereof the collars 21 by means of screws 22 extending through said collars into the end rings $12^{\times}$.

These collars 21 are mounted upon the threaded ends 11 of the tubular member 10 and are adjustable endwise thereof to clamp together the various sections of brushes and supporting rings 12, $12^{\times}$.

Secured to each collar 21 by means of bolts 23 is an annular member 24 having a bearing 25 for the revoluble shaft 26.

This shaft 26 is provided with a key 27 extending longitudinally thereof and adapted to coact with a keyway 28 in the annular member 24 thereby providing a means for causing the brush to positively rotate when the shaft 26 is revolved.

To prevent end movement of the brush on the shaft 26 each annular member 24 is provided with a set screw 29, the inner end of which is adapted to impinge upon the key 27 and lock the brush in position.

Each collar 21 is provided with a cylindrical hub 30 which extends into a cylin-

drical recess in the inner face of the annular member 24 to insure concentric relation of these members 21 and 24 when the various parts of the device are assembled.

This makes a very simple construction of rotary brushes adapted for many uses.

By making the brush in various sections separated by the rings 12, any number of sections may be locked together upon the tubular member 10 making a brush of any desired length all of the elements being used with the exception of the tubular member 10, of which a different one of the required length must be provided in each case.

It is believed that the operation and many advantages of the invention will be understood without further description.

Having thus described my invention, I claim—

1. The combination of a tubular member having threaded ends; collars threaded to said ends; a brush on said tubular member between said collars and secured thereto; an annular member secured to the outer face of each collar; and a revoluble shaft in said annular members and keyed thereto.

2. The combination of a tubular member having threaded ends; collars threaded to said ends; a plurality of rings slidably mounted on said tubular member; cylindrical members between said rings and supported thereby; bristles secured in said cylindrical members; means for locking said collars to the end rings; and a revoluble shaft to rotate said collars.

3. The combination of a tubular member having threaded ends; collars threaded to said ends; a plurality of rings slidably mounted on said tubular member; cylindrical members between said rings and supported thereby, said cylindrical members each being composed of two separated tubes with cement filling the space between them; bristles secured in said cylindrical members; means for locking said collars to the end rings; and a revoluble shaft to rotate said collars.

4. The combination of a tubular member having threaded ends; collars threaded to said ends; a plurality of rings slidably mounted on said tubular member and having cylindrical hubs of different diameters, the smaller of said hubs extending beyond the outer face of the larger hub; two tubes interposed between said rings with their ends supported by said hubs and the space between said tubes filled with cement; bristles having ends extending through perforations in the outer tube and embedded in said cement; and a revoluble shaft to rotate said collars.

5. The combination of a tubular member having threaded ends; collars threaded to said ends; a brush on said tubular member having rings at the opposite ends thereof; screws extending through said collars into said rings; a revoluble shaft; and means for locking said collars to said shaft.

6. The combination of a tubular member having threaded ends; collars threaded to said ends having a cylindrical hub; a brush on said tubular member between said collars; an annular member fitted over the cylindrical hub of each collar; bolts extending through said annular members into said collars; and a revoluble shaft to which said annular members are secured.

Signed by me at 746–7 Old South Bldg., Boston, Mass., this 7th day of January, 1921.

JOSEPH ADAMS.

Witnesses:
WALTER E. LOMBARD,
NATHAN C. LOMBARD.