

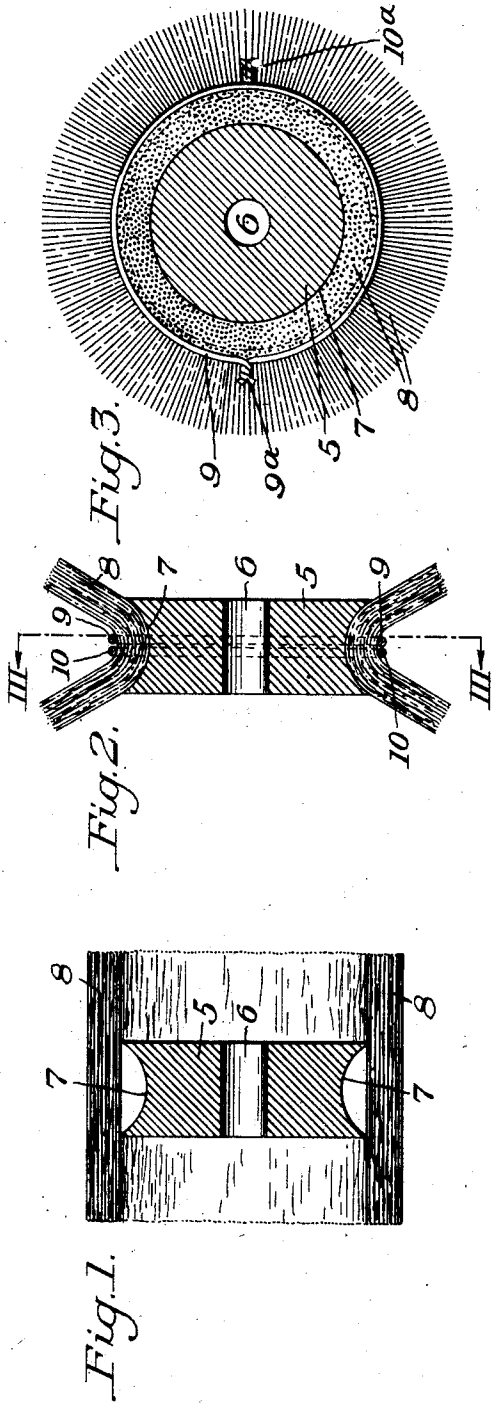
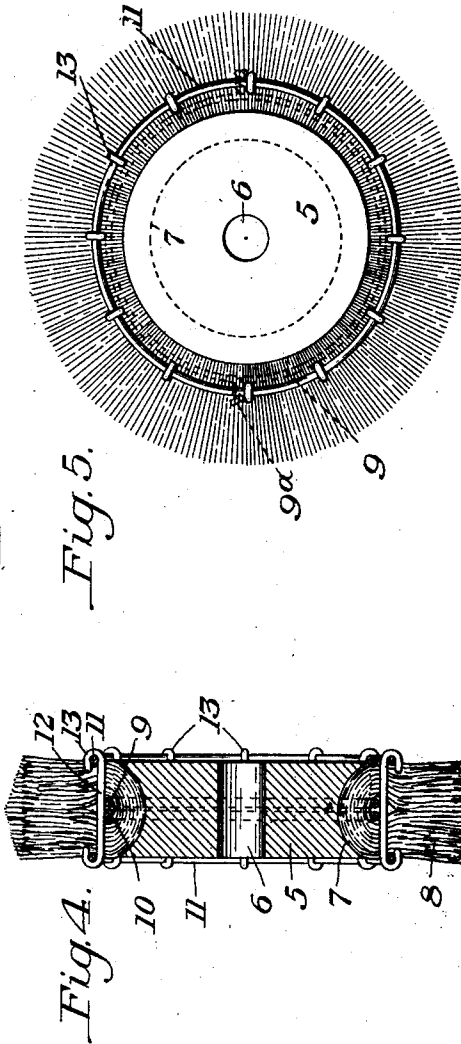
Sept. 11, 1928.

A. L. HOFFMAN

1,683,618

BRUSH

Filed Sept. 2, 1925



INVENTOR
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Patented Sept. 11, 1928.

1,683,618

UNITED STATES PATENT OFFICE.

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BRUSH.

Application filed September 2, 1925. Serial No. 54,040.

This invention relates to brushes, and more particularly rotary brushes.

The invention has for its principal objects to provide a brush wherein the bristles are firmly held and wherein binders are used to retain the bristles in place. The invention contemplates further the use of tie members arranged to cooperate with the binders in such manner that should any of the binders break, they will still be retained in place. The invention has for a further object to provide a simple and efficient method of assembling brushes.

The invention may readily be understood by reference to the accompanying drawings, which are illustrative of the spirit of my invention and in which:

Figure 1 is a somewhat diagrammatic view, showing the first step in the method of assembling brushes, the hub of the brush being shown in section;

Figure 2 is a similar view, showing the next succeeding step;

Figure 3 is a section on the line III—III of Figure 2;

Figure 4 is a transverse section through the completed brush; and

Figure 5 is a side elevation of the completed brush.

In the drawings, 5 designates a suitable hub member having a central opening 6 and a concave periphery 7. In the manufacture of the brush the bristles, which may be of wire or fiber, or any other suitable material, and designated as 8, are laid around the periphery of the brush, as shown in Figure 1.

One or more binders are then passed around the hub over the bristles and the ends of these binders are twisted together to clamp the bristles to the hub. I have shown two such binders, one of which is designated 9 and the other of which is designated 10. Binder 9 has its ends twisted together at 9^a and the ends of the binder 10 are connected at 10^a. The tightening of the binders 9 and 10 tends to bend the bristles into the U shape shown in Figure 2.

Side bands or hoops 11 are then applied to each side of the brush and transverse binders 12 are passed through the bristles and secured to the side bands at opposite sides of the brush. The binders 12 are arranged at desired intervals around the wheel and are preferably provided with hooks 13 by means of which they are connected with the bands

11. The transverse binders 12 are preferably passed through the bristles in such manner that they extend across the binders 9 and 10 in contact therewith.

In the completed brush the binders 9 and 10 serve to secure the bristles to the hub. The hoops 11 serve to prevent the bristles from spreading. The binders 12, in addition to holding the hoops 11 in proper position on the brush, also serve to prevent the bristles from bunching or creeping around the periphery of the hoop. Since they are in contact with the wires 9 and 10, they serve to prevent these wires from coming off should the wires break or become disconnected when the brush is in use.

It is preferred that the connection 9^a in binder 9 be diametrically opposite the connection 10^a in binder 10. The transverse binders 12 may co-act with the connections 9^a and 10^a to prevent the binders from rotating with respect to the bristles and to hold the hooked ends of the binders 9 and 10 in position, even if such ends should become untwisted. After being thus assembled, the bristles may be trimmed up if necessary.

There is little danger in a brush thus constructed of any of the binding wires tearing loose, and the brush is accordingly safe for use at high speeds. The bristles are firmly and tightly secured in place and it is not possible for them to become bunched. The brush is confined against spreading by the hoops 11 at each side thereof. The method is one which may be easily practiced and requires no special skill or equipment.

A brush constructed in accordance with the present invention preferably has a wooden or other readily breakable hub. Such a construction adapts itself readily to an arrangement wherein a plurality of brush sections are arranged side by side on an arbor to form a brush of considerable width. Then, if one or more sections wear down, break or develop imperfections which render it useless, that particular section or sections may be broken out and the remaining brush sections on the arbor moved together. This is of particular advantage in mills for brushing tin plates and the like.

Various changes and modifications may be made in the details of construction and in the method of assembly within the spirit of my invention and under the scope of the appended claims.

I claim as my invention:

1. A brush comprising a hub member, bristles arranged about the hub member, a circumferentially extending binder around the hub member over the bristles for securing the bristles in place, a hoop at each side of the aforesaid structure, and transverse binders connecting the hoops and bearing against the first binder for confining said binder in place.

2. A brush comprising a hub member having a concaved periphery, a plurality of bristles arranged about the hub member, a binder for securing the bristles to the hub member, hoops at the sides of the aforesaid structure, and transverse binders connecting the hoops and in contact with the first binder.

3. A brush including a hub member having a concaved periphery, a plurality of wire binders passed around the hub member over the bristles for securing the bristles

to the hub member, each of said wire binders having its ends twisted together, a side hoop at each side of the bristles, and transverse binders connecting the side hoops, one of said transverse binders being in contact with one of the twisted ends of the first mentioned binders.

4. A brush comprising a hub member having its central portion depressed relatively to the side portion, bristles arranged about the hub member and transversely thereof, a circumferentially extending binder around the hub member over the bristles for securing the bristles in place and causing the bristles to substantially conform to the contour of the hub, hoops at the sides of the aforesaid structure, circumferentially of the hub, and transverse binders connecting the

In testimony whereof I have hereunto set my hand.

ARTHUR L. HOFFMAN.

CERTIFICATE OF CORRECTION.

Patent No. 1,683,618.

Granted September 11, 1928, to

ARTHUR L. HOFFMAN.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 1, line 80, for the word "is" read "in"; page 2, line 6, claim 1, after the word "structure" insert the words "circumferentially of the hub" and line 8, for the word "connecting" read "interconnecting"; and that the said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 20th day of November, A. D. 1928.

(Seal)

M. J. Moore,
Acting Commissioner of Patents.