No. 818,696. PATENTED APR. 24, 1906.

R. KULENKAMPFF.

BRUSH.

APPLICATION FILED FEB. 27, 1905.

Fig. 1.

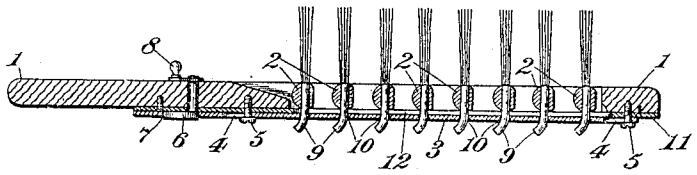


Fig. 2.

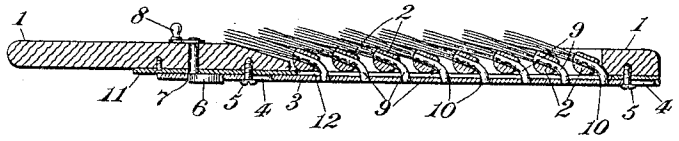
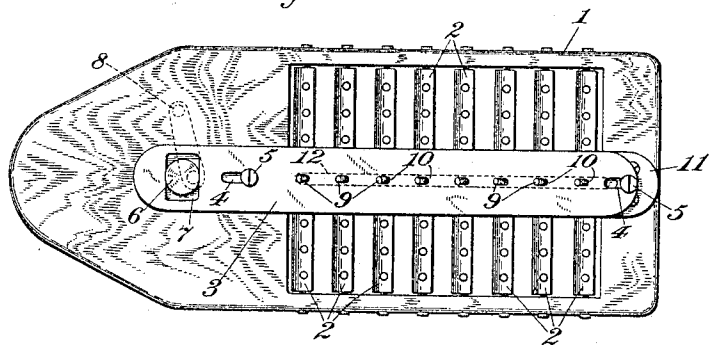


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

ROBERT KULENKAMPFF, OF BROOKLYN, NEW YORK.

BRUSH.

No. 818,696. Specification of Letters Patent. Patented April 24, 1906.

Application filed February 27, 1905. Serial No. 247,542.

To all whom it may concern:

Be it known that I, ROBERT KULENKAMPFF, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented new and useful Improvements in Brushes, of which the following is a specification.

This invention relates to brushes, and more particularly to folding or collapsible brushes.

The invention consists in the novel parts, articles, improvements, and combinations herein shown and described.

The accompanying drawings, referred to herein and forming a part hereof, illustrate one embodiment of the invention, the same serving, in connection with the description herein, to explain the principles of the invention.

Of the drawings, Figure 1 is a longitudinal section showing the mechanism in one position. Fig. 2 is a like section showing the mechanism in a different position, and Fig. 3 is a plan view of the back of the brush.

In the embodiment of the invention illustrated in the drawings a brush is shown of a generally flat form, having a frame portion 1, in which is supported one or more movable bristle-carriers 2, in which the bristles are arranged, preferably, in rows. In the present embodiment these bristle-carriers are shown as pivotally or rotatably mounted in the said frame 1 and having one side cut away or flattened. When the bristle-carriers are so pivotally or rotatably mounted, the folding or collapsing function is effected by a partial rotation of such carriers by suitable actuating means, so that the bristles or series or rows of bristles will assume an operative position, as shown in Fig. 1, or an inoperative position, as shown in Fig. 2. The cut-away or flattened portions of the bristle-carriers during the rotation assume a position so as to permit the bristles to lie in a more compact form.

A single actuating means for moving the bristle-carriers to and from the operative and inoperative positions, as may be desired, is shown. This means is located centrally of the brush structure and of the bristle-carriers and is arranged to move longitudinally of the brush structure while performing its function of moving the bristle-carriers. The said actuating means is shown as a bar 3, located on the back side of the brush structure. Means for holding the said bar 3 in its position and for guiding and limiting its movement are provided. Such a limiting and guiding means are herein shown as consisting of slots 4 in the said bar 3, in which are screws 5, which take into the brush structure. Means for reciprocating the bar 3 are provided, and a form of such means is illustrated herein as comprising a rotatable eccentrically-mounted cam 6, which works in a slot 7 in the bar 3 and which is provided with turning means, herein shown as a handle or arm 8. The said handle or arm 8 is so arranged that in all positions which it assumes in its movement to actuate the bar 3 it is within the limits of the frame and is thus protected from any accidental movement which would tend to displace it, and in consequence the bristles. It will be noted that when the bristles are either in the operative or inoperative position the eccentric cam 6 has its point of contact in the line passing through its shaft by which it is connected to the handle or arm 8 and the central line of movement of the sliding bar 3. It will thus be seen that any tendency to rotate which the bristles may receive while in use would be effectually checked by the position of the said cam 6, as the strain put upon it by the bar 3 would pass directly through its shaft and would have no rotating tendency whatever with reference thereto. It will thus be seen that the cam 6 serves to positively hold the bristle-carriers and the bar 3 in either the operative or inoperative position. The actuating means is constructed and arranged to rotate in a plane substantially parallel to the general plane of the brush frame or structure, thus tending to take up but little space and to present a simple and neat appearance.

Connections are provided for communicating motion from the bar 3 to the bristle-carriers. These connections are shown in the form of curved fingers 9, fixed in the bristle-carriers and working in apertures 10 in the said sliding bar 3. When the bar 3 is moved or slid in one direction, the said fingers 9, working in the apertures 10, will cause the bristle-carriers to rotate and the bristles to assume an upright and operative position, and when the bar 3 is slid in the opposite direction the consequent rotation of the bristle-carriers will cause the bristles to assume a prostrate or inoperative position. A connection of this kind permits of the sliding bar 3 being placed close against the bristle-carriers, and thus a simple and compact arrangement is secured.

A guide-strip 11 is provided when desired, consisting of a plate or strip which lies between the bar 3 and the brush frame or structure, and said strip 11 is furnished with a slot 12, which serves as a guide for the fingers 9 and also serves to give additional strength and rigidity to the brush structure.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A folding brush having in combination a frame, oscillating bristle-carriers mounted within said frame each provided with a curved finger, a slidable bar coacting with said curved fingers to move the bristle-carriers into the operative or inoperative position, and rotatable means coacting with said bar to actuate same, said rotatable means being in all its positions within the limits of said frame.

2. A folding brush having in combination a frame, oscillating bristle-carriers mounted within said frame each provided with a curved finger, a slidable bar coacting with said curved fingers to move the bristle-carriers into the operative or inoperative position, an eccentric cam coacting with said bar to actuate same, and a handle or arm for actuating said cam, said handle or arm being in all its positions within the limits of said frame.

3. A folding brush having in combination a frame, oscillating bristle-carriers mounted within said frame each having a curved finger attached centrally thereto, a slidable bar coacting with said curved fingers to move the bristle-carriers into the operative or inoperative position, and rotatable means coacting with said bar to actuate same, said rotatable means being in all its positions within the limits of said frame.

4. A folding brush having in combination a frame, oscillating bristle-carriers mounted within said frame, said bristle-carriers having a flattened or cut-away portion and each being provided with a curved finger, a slidable bar coacting with said curved fingers to move the bristle-carriers into the operative or inoperative position, and rotatable means coacting with said bar to actuate same, said rotatable means being in all its positions within the limits of said frame.

5. A folding brush having in combination a frame, a rotatable bristle-carrier, a curved finger connected thereto, a slidable bar engaging said finger, an eccentric cam coacting with said bar to actuate same, a handle for rotating said cam, and a flat strip located between the bristle-carrier and the slidable bar and provided with guiding means for said slidable bar.

6. A folding brush having in combination a frame, a rotatable bristle-carrier, a curved finger connected thereto, a slidable bar engaging said finger, an eccentric cam coacting with said bar to actuate same, a handle for rotating said cam, said handle being in all positions within the limits of the frame, and a flat strip located between the bristle-carrier and the slidable bar and provided with guiding means for said slidable bar.

7. A folding brush having in combination a frame, a rotatable bristle-carrier, a curved finger connected thereto, a slidable bar engaging said finger, and a strip located between said bristle-carrier and slidable bar and provided with guiding means for said finger and said slidable bar.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ROBERT KULENKAMPFF.

Witnesses:

J. M. WILSON, Jr.

CHESTER A. DADY.