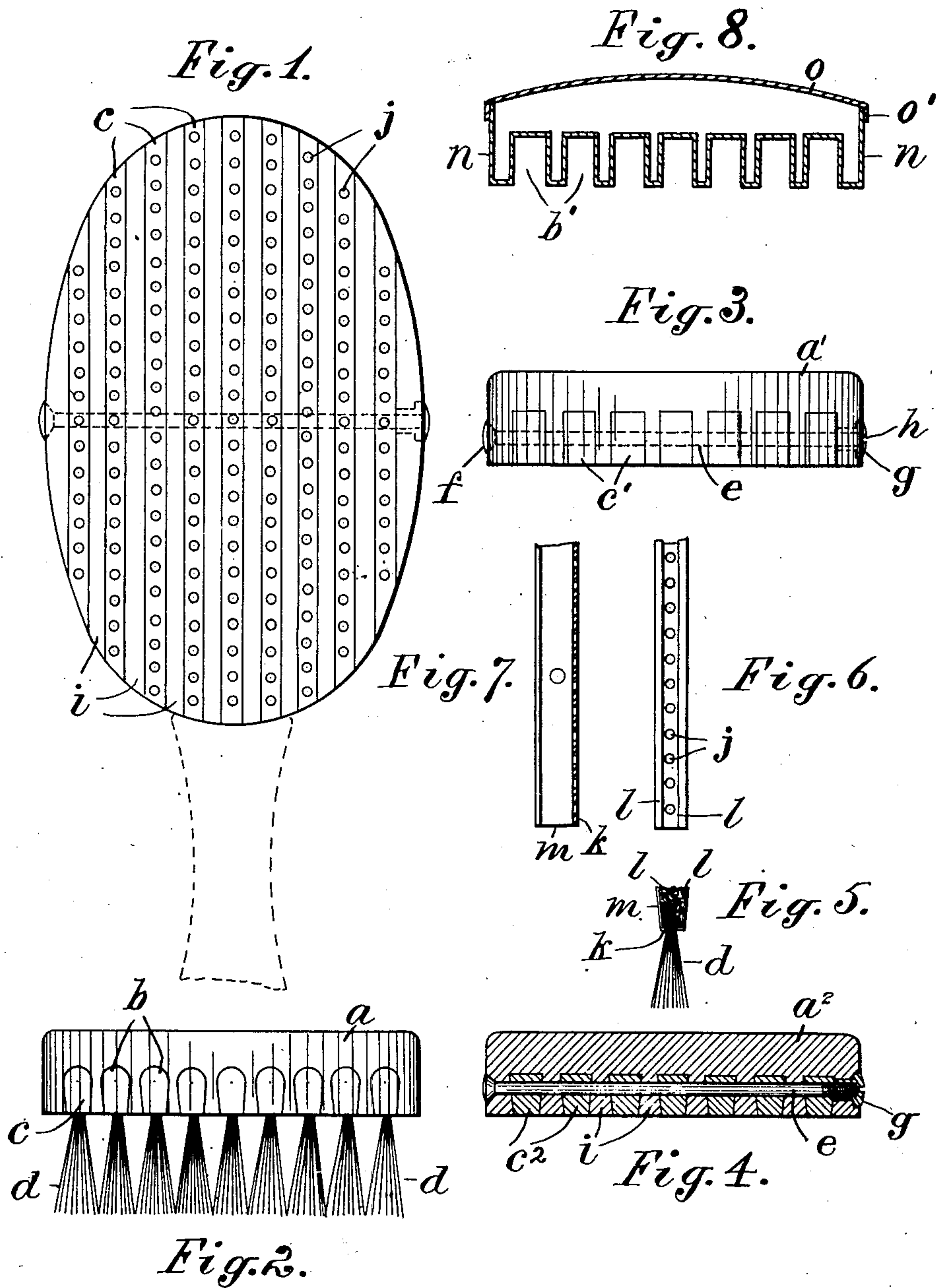


C. A. FETTERS.
SECTIONAL BRUSH WITH GROOVED BLOCK.
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Attest:
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UNITED STATES PATENT OFFICE.

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SECTIONAL BRUSH COMPANY, A CORPORATION OF NEW YORK.

SECTIONAL BRUSH WITH GROOVED BLOCK.

No. 822,836.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHARLES A. FETTERS, a citizen of the United States, residing at 12 West Sixty-sixth street, New York, county of New York, and State of New York, have invented certain new and useful Improvements in Sectional Brushes with Grooved Blocks, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

The object of this invention is to furnish a cheap and simple construction in which all of the bristle-tufts may be so supported upon the brush-block that they can be readily removed therefrom for cleansing; and the invention consists of a brush-block having a series of parallel grooves extended through the same from end to end and all of the bristle-tufts mounted upon strips which are fitted removably to such grooves, so that all of the strips with the tufts may be readily removed from the brush-block, and the whole construction requires but a few parts to be cleansed.

Heretofore brushes have been made with separate tufts mounted upon separate blocks secured in a suitable holder to form the brush-head; but by the present construction all of the tufts can be supported upon a relatively smaller number of strips, and the expense of manufacturing the parts is thus reduced and the labor of cleansing the parts is diminished. As the strips are extended throughout the entire length of the grooves, the ends of the strips require to be beveled, if the block is made of oval form, so as to exactly fill the ends of the grooves.

Modifications of the invention are shown in the annexed drawings, in which—

Figure 1 shows the under side of the block prepared for the insertion of the tufts, the view showing an oval brush with broken lines indicating the provision of a handle, if desired. Fig. 2 is an end view of the brush finished by the insertion of the bristles in the strips, the strips being shown of dovetailed form with rounded bottom. Fig. 3 is an end view of the brush-block, having the grooves in the back and the strips of rectangular form. Fig. 4 is a cross-section at the center of the locking-bolt upon a brush-back having dovetailed strips and grooves with acute inner corners, the locking-bolt not being shown in section. Fig. 5 is an end view of a

metallic strip with bristles secured therein by a cement filling. Fig. 6 shows the inner edge of such metallic strip without the filling, and Fig. 7 is a longitudinal section at the center line of Fig. 6. Fig. 8 is a cross-section of a brush-back made of sheet metal.

In the first four figures the brush-back is shown of wood or solid structure; but Fig. 8 shows a cross-section of a brush-back formed wholly of metal.

a designates the brush-back in Figs. 1 and 2, and *b* a series of parallel grooves in the back to receive the strips *c*, provided each with a row of holes *j* for carrying the tufts *d*. The grooves in Fig. 2 are narrower at the face (which is shown in Fig. 1) than at the inner part to prevent the displacement of the strips except by longitudinal movement, and when fitted snugly to the grooves they would thus remain in place without any locking device. The grooves are shown extended throughout the entire length of the block and the strips in like manner extended throughout the entire length of the grooves.

With the block *a'* (shown in Fig. 3) the strips *c'*, as well as the grooves, are shown rectangular of the same width at the bottom as at the face, and they would therefore slip outwardly when in use unless retained in the grooves, which is effected by a transverse locking-bolt *e*. Such bolt is represented with a head *f* and a nut *g*, which is in practice made with a central notch *h* of suitable width to insert the edge of a ten-cent piece, so that the nut can be readily removed and the bolt withdrawn when it is desired to remove the strips from the back to cleanse the tufts.

In the block *a''* (shown in Fig. 4) the strips *c''*, as well as the grooves of angular dovetail form, are prevented from longitudinal displacement by bolt *e*, which is shown with the nut *g* in section. The rounded bottoms of the dovetails in Fig. 2 are preferable to the angular bottoms of the dovetails shown in Fig. 4 as imparting more strength to the tongues *i*, which stand upon the back between the several grooves.

Figs. 5 to 7 show a tuft-strip bent from sheet metal to form a trough, narrower at the bottom *k* than at the top and having flanges *l* bent inwardly at the top from the sides *m*. The tuft-holes *j* are formed in the bottom *k*, and when the tufts are inserted the trough is wholly filled with cement, which secures the

tufts therein. Such strips may be used in place of the solid strips shown in Fig. 4.

Fig. 8 shows the brush-back made of two parts, the face portion being bent to form a series of angular grooves b' and an encircling flange n and the hollow body of the back being closed by a cover o , having a peripheral flange o' to fit outside of the flange n .

The holes j for the tufts are omitted in Fig. 4, as the locking-bolt e would in practice be inserted between the holes in the strips, so as not to interfere with the tufts; but the bolt is shown in this figure inserted transversely across the grooves and strips near the bottoms of the grooves, so as to weaken the outer-edges of the strips and the intermediate tongues i as little as possible.

It will be observed that Figs. 1 to 4, inclusive, show the brush-block formed of a single piece of wood with the grooves b made directly in the same and extended through the same from end to end, which permits all of the grooves to be made simultaneously by suitable tools, thus furnishing the cheapest possible construction.

It will be observed in Fig. 1 that the tufted strips c extend through the grooves from end to end, so that where the block is made of oval form, as in Fig. 1, the ends of the strips require to be beveled on the outer side to match the oval sides of the block, so as to wholly fill the grooves. When the strips are secured in the grooves, the brush-block then appears entirely solid. As this construction is very cheap and simple, I have made a specific claim herein to the same.

Having thus set forth the nature of the invention, what is claimed herein is—

1. A brush comprising a brush-block having a series of longitudinal grooves formed directly in the body of the block and extending from end to end through the same, a series of strips fitted directly in said grooves and provided each with a row of bristle-tufts, each of said strips being a continuous piece and extending through the grooves from end to end, and means for securing the tufted strips removably in the grooves, whereby all

of the bristle-tufts are supported upon strips and such strips readily removable from the brush-block for cleansing.

2. A brush comprising an oval brush-block having a series of longitudinal grooves extending from end to end through the same, a series of strips fitted tightly to said grooves and provided each with a row of bristle-tufts, said strips extending through the grooves from end to end and having their ends beveled upon the outer side to match the oval sides of the block, and means for securing the tufted strips removably in the grooves.

3. A brush comprising a back having a series of longitudinal grooves and a series of strips fitted detachably to such grooves and provided each with a row of bristle-tufts, and a common means for securing all of the tufted strips in the grooves.

4. A brush comprising a back having a series of longitudinal grooves and a series of strips fitted detachably to such grooves and provided each with a row of bristle-tufts, and a locking-bolt inserted transversely across the grooves and strips to secure them detachably in place.

5. A brush comprising a back having a series of longitudinal grooves and a series of strips fitted detachably to such grooves and provided each with a row of bristle-tufts, and a locking-bolt inserted transversely across the grooves and strips near the bottoms of the grooves.

6. A brush comprising a back having a series of longitudinal undercut grooves and a series of strips fitted detachably to such undercut grooves, and a locking-bolt inserted transversely across the grooves and strips to prevent longitudinal displacement of the strips.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

CHARLES A. FETTERS.

Witnesses:

THOMAS S. CRANE,
L. LEE.