No. 805,431. PATENTED NOV. 21, 1905.

C. A. FETTERS.

SECTIONAL BRUSH WITH TIE BOLT.

APPLICATION FILED MAR. 8, 1905.

Fig. 1.

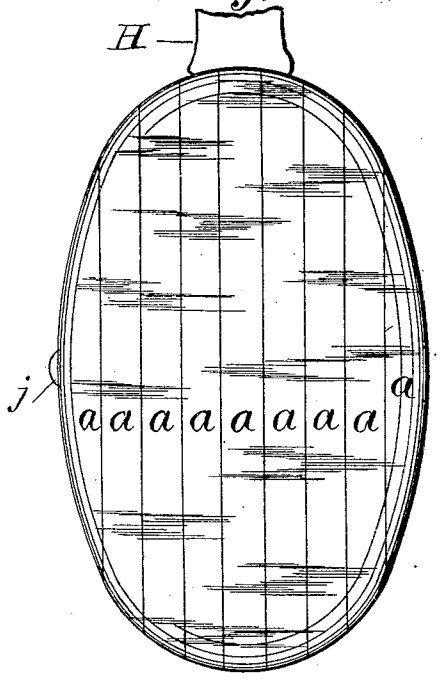


Fig. 3.

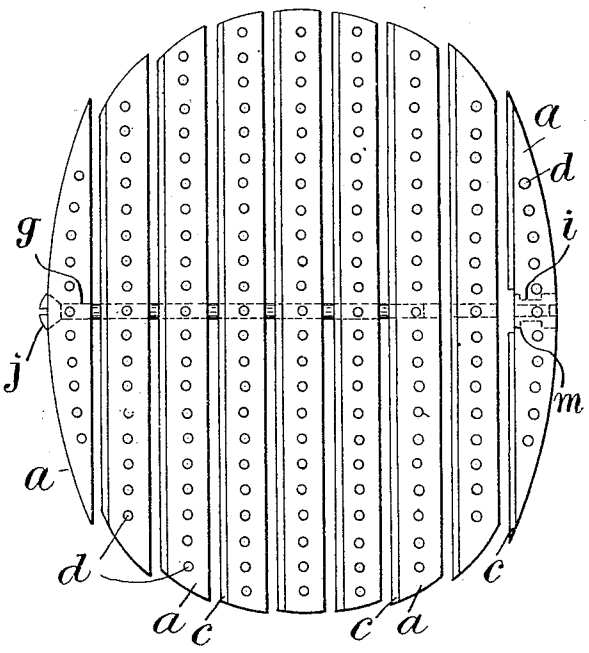


Fig. 2.

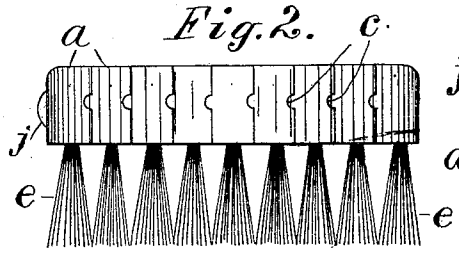


Fig. 4.

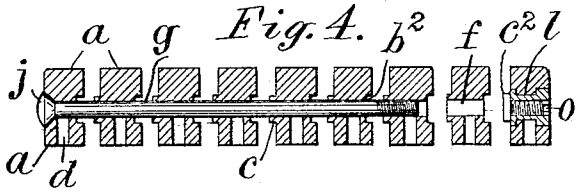


Fig. 7.

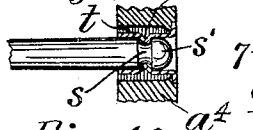


Fig. 6.

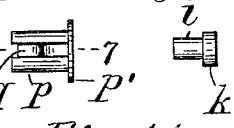


Fig. 5.

Fig. 8.

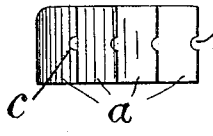


Fig. 9.

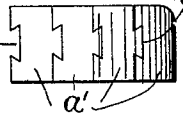


Fig. 10.

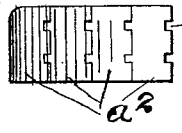
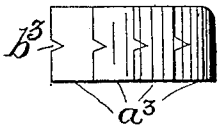


Fig. 11.



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Arthur F. Heaton.

Inventor.
Charles A. Fetters, Jr.
Thomas S. Crane, Atty.

UNITED STATES PATENT OFFICE.

CHARLES A. FETTERS, OF NEW YORK, N. Y.

SECTIONAL BRUSH WITH TIE-BOLT.

No. 805,431. Specification of Letters Patent. Patented Nov. 21, 1905.

Application filed March 8, 1905. Serial No. 249,066.

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 Tie-Bolts, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention is a particular form of that shown in my application, Serial No. 230,448, filed October 29, 1904, for patent on a sectional hair-brush, in which I have claimed a brush having the entire brush-block divided into longitudinal strips provided each with a row of bristle-tufts and having removable means for holding the strips in an operative relation, whereby the entire brush-block is divisible into separate strips to facilitate the cleaning of the bristle-tufts. In that application I made specific claim to a strap fitted around the periphery of the sectional brush-block to hold the strips together, and in the present application I make claim to a bolt extended transversely through the several strips for securing them together.

In the drawings, Figure 1 shows the back or outer side of the sectional brush-block; Fig. 2, an end view of the same with rounded tongues to hold the strips in alinement and bristle-tufts upon the several strips. Fig. 3 shows the face of the brush-block with the strips slightly separated from one another in the process of removing them from the tie-bolt. Fig. 4 is a cross-section of the strips at the center line of the bolt shown in Fig. 3. Fig. 5 is a side view of the swivel-nut before it is flanged into the outer strip. Fig. 6 is a side view of a spring-clamp for the end of the bolt, and Fig. 7 is a section on line 7 7 in Fig. 6 with the end of the bolt inserted in the clamp and a portion of the wooden strip adjacent. Figs. 8, 9, 10, and 11 show modifications in the form of the alining means upon the edges of the sections.

The invention is shown in the drawings applied to the so-called "army and navy brush," which is destitute of a handle; but the middle section may be provided with a handle, as described in my former application, Serial No. 230,448, and the junction of such a handle with the middle strip is indicated by lines H in Fig. 1 herein.

The separable strips *a* are shown provided in Figs. 2 and 8 upon opposite sides with rounded grooves *b* and tongues *c* and are provided with the rows of tuft-holes *d*, in which the bristle-tufts *e* are fitted, which are shown only in Fig. 2. The sections are shown perforated transversely at the middle of their length by holes *f*, and a bolt *g* is inserted through the holes and provided at one end with a head *j* and at the opposite end with a screw-thread. The edge section is provided with a swivel-nut *i*, having a flange *k* upon its outer end, the nut and flange being fitted to turn in an opening *l*, extended through the strip and having a circular enlargement *m* at its inner end, into which the inner end of the nut is flanged, as shown in Figs. 3 and 4. The nut is formed with a notch *o* upon the outer side for turning the same. When the sections are assembled together upon the bolt, as shown in Fig. 3, the nut can be readily turned to screw upon the end of the bolt and the sections thus locked firmly together. The notch *o* is preferably made to admit the edge of a ten-cent piece, so that the nut can be turned for fastening or unfastening without the aid of any special tool.

An alternative locking device for the bolt is shown in Figs. 6 and 7, in which a sheet-metal thimble *p* is shown with a flange *p'* upon its outer end and two tongues *q* slit from its body upon the opposite sides and formed with a transverse indentation to produce internal shoulders *r*. The end of the bolt is shown with an annular groove *s*, and the shoulders upon the tongues are adapted to engage the groove when the sections are all in their operative position, and the outer section a^4 is pressed upon the end of the bolt, as shown in Fig. 7. The opening in the tufted strip is made to fit the body of the thimble tightly, and the strip has recesses *t* upon the opposite sides of the opening to permit the tongues to press outwardly when the head *s'* of the bolt is crowded past the shoulder *r*. The extreme end of the bolt is tapered to separate the tongues when pressed between them. Any suitable fastening may be applied to the outer tufted strip to engage the end of the bolt.

Figs. 9 to 11 show variations in the form of the alining devices for holding the strips in position. Fig. 9 shows dovetailed grooves and ribs *b' c'*, adapted to lock the sections *a'* together positively independent of the bolt and the bolt then serving to prevent their longitudinal displacement when in use. Fig. 4 shows single rectangular tongues and grooves b^2 c^2 upon opposite sides of the strips;

but Fig. 10 shows two such grooves b^4 and tongues to fit them upon the opposite side of each strip a^2. Fig. 11 shows V-shaped tongues and grooves b^3 in the strips a^3, and other modifications may be employed without departing from the invention, which embraces, broadly, a strip provided upon opposite sides with tongues and grooves of any desired shape to hold them in alinement and specifically with dovetailed tongues and grooves to hold the strips in engagement independent of the locking-bolt.

The specific form of my former invention which is claimed herein is—

1. A brush having the entire brush-block divided into longitudinal strips provided each with a row of bristle-tufts, ribs and grooves upon the strips at the opposite edges for holding them in alinement, a locking-bolt extended transversely through the strips with head resting upon the strip at one edge, and means swiveled in the opposite edge of the strip for engaging the end of the bolt.

2. A brush having the entire brush-block divided into longitudinal strips provided each with a row of bristle-tufts, ribs and grooves upon the opposite edges of the strips for holding them in alinement, a locking-bolt extended transversely through the strips with head resting upon the strip at one edge, and the nut i having collar k upon its outer end fitted to socket l in the strip at the opposite edge, and flanged over upon the inner edge of the strip to swivel the nut therein.

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.