May 23, 1939. W. E. ENNS 2,159,432

RETRACTABLE BRUSH

Filed Aug. 10, 1936

Fig. 1.

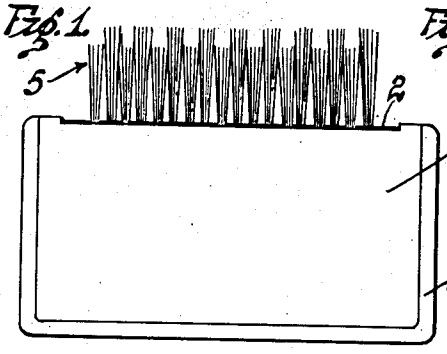


Fig. 2.

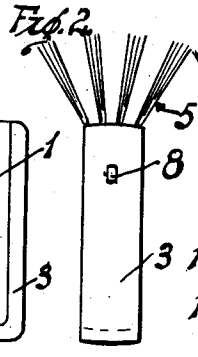


Fig. 3.

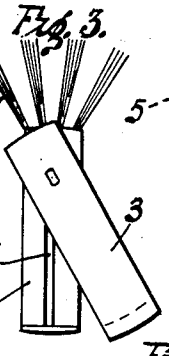


Fig. 5.

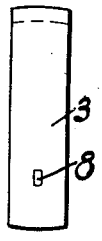


Fig. 4.

Fig. 6.

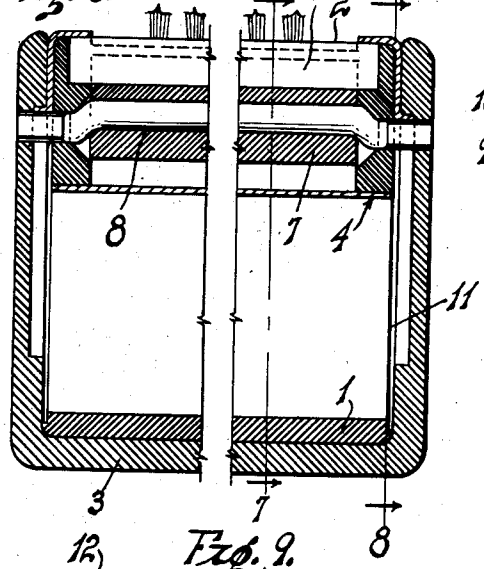


Fig. 7.

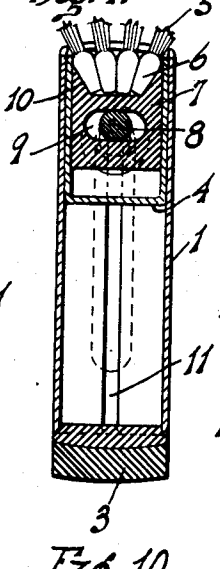


Fig. 8.

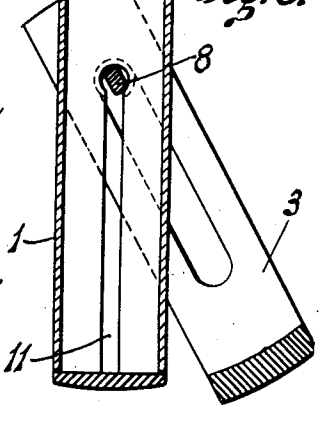


Fig. 9.

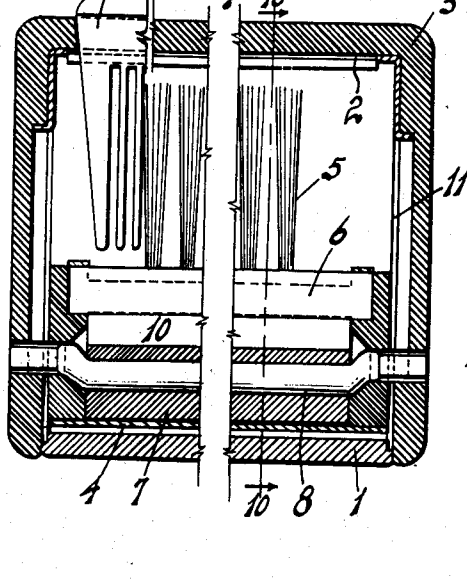


Fig. 10.

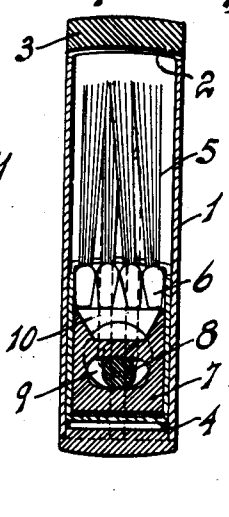


Fig. 11.

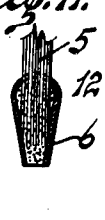
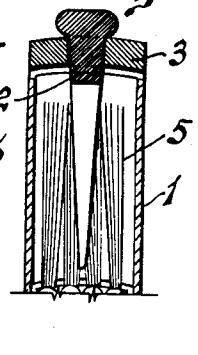


Fig. 12.



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RETRACTABLE BRUSH

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Application August 10, 1936, Serial No. 95,203

5 Claims. (Cl. 15—185)

This invention relates to a brush wherein the bristles are retractable when not in use.

An object of my invention is to provide a novel brush wherein the groups of bristles are independently mounted. The mounting means for the bristles being engaged for the purpose of extending and distending the bristles when the brush is in use, and disengaging the mounting means so that the bristles can be compacted when the brush is in folded position.

Another object is to provide a novel actuating cover mounted on the brush case, said cover actuating the bristles for the purpose of extending or retracting the same.

Still another object is to provide a novel brush of the character stated in which a hingedly mounted cover actuates a plunger, said plunger in turn engaging the base of the bristles for the purpose of distending said bristles when the bristles are extended from the case and disengaging the base of the bristles so that said bristles are compacted when said bristles are retracted.

A further object is to provide a brush of the character stated which is effective in operation.

Other objects, advantages and features of invention may appear from the accompanying drawing, the subjoined detailed description and the appended claims.

In the drawing:

Figure 1 is a side elevation of my brush with the bristles extended.

Figure 2 is an end view of the same.

Figure 3 is an end view of my brush with the swing cover partly rotated.

Figure 4 is an end view of my brush with the swinging cover rotated into position to retract the bristles.

Figure 5 is an end view of the brush in retracted position.

Figure 6 is a fragmentary vertical sectional view of the brush with the bristles extended.

Figure 7 is a sectional view taken on line 7—7 in Figure 6.

Figure 8 is a sectional view taken on line 8—8 of Figure 6.

Figure 9 is a fragmentary vertical sectional view with the bristles retracted.

Figure 10 is a sectional view taken on line 10—10 of Figure 9.

Figure 11 is a fragmentary vertical sectional view of one of the bristles.

Figure 12 is a fragmentary transverse sectional view of the brush showing a comb extending into the bristles.

Referring more particularly to the drawing, the numeral 1 indicates an outside case which is open at the top, as shown at 2.

A cover 3 is mounted on the case 1 and the purpose of this cover will be further described. The cover 3 is substantially U-shaped and is hingedly and slidably mounted on the case 1, as will be further described.

A tray 4 is slidably mounted in the case 1 and this tray carries a plurality of bristles 5. The bristles are mounted in a row and in a base 6. The bases 6 are substantially wedge shaped and a plurality of these bases are arranged side by side substantially as shown in Figures 7 and 10. The bases 6 are retained in the upper part of the tray 4 and these bases are tiltable for the purpose of distending the bristles, as shown in Figures 2 and 3. The bases 6 rock through a slight angle from the distending position shown in Figure 7 to the contracted position shown in Figure 10. The bases 6 are engaged and rocked in the tray 4 for the purpose of distending the bristles by a plunger.

This plunger is slidably mounted in the tray 4 and is moved vertically by the swinging cover 3 through suitable means such as the eccentric shaft 8.

The outer ends of the shaft are fixedly mounted in the cover 3 while the central eccentric portion of the shaft extends through an elongated slot 9 in the plunger 7.

It will be evident that when the cover 3 is moved from the position shown in Figure 2 to that shown in Figure 4, the shaft 8 will be rotated through 180 degrees and will thereby move the plunger 7 from the position shown in Figure 7 to that shown in Figure 10.

A tapered recess 10 is provided in the upper face of the plunger 7 and the tapered walls of this recess engage the wedge shaped bases 6 for the purpose of distending the bristles when the plunger is forced upwardly to the position shown in Figure 7.

The case 1 is provided with a vertical slot 11 in each end thereof and the shaft 8 is slidable in these grooves thus permitting the cover 3 to slide downwardly thereby forcing the tray 4 downwardly for the purpose of retracting the bristles 5.

Before the cover 3 can move the tray and the bristles downwardly it must be swung into the position shown in Figure 4. Thereafter it can be pushed downwardly covering the opening 2 and simultaneously retracting the bristles.

At the time the cover 3 is swung upwardly to the position shown in Figure 4, the plunger 7 will be moved downwardly as shown in Figure 10. The bases 6 of the bristles are then free to rock

inwardly permitting the bristles to be compressed.

The bases **6** preferably engage the adjacent bases and rock against each other about the rounded upper surfaces thus insuring that no foreign material will drop down through the bristles and between the bases to prevent their being wedged outwardly as shown in Figure 7.

If desired the cover **3** may be provided with an elongated slot in the closed end thereof through which a comb **12** can be inserted. The comb extends into the bristles **5** when said bristles are in retracted position, and the bristles will serve to hold the comb in the cover.

Having described my invention, I claim:

1. A retractable brush comprising an outside case, a plurality of brush bases slidably and pivotally positioned within the case, tufts of bristles mounted in each of the bases, means slidably mounted in the case, said means being engageable with the bases and moving them to extended position, said means being adapted to extend or retract the tuft from the case, said bases being substantially wedge-shaped in cross section, a second means including a wedge-shaped socket engaging the bases when the tufts are extended, thereby distending the tufts, said last named means disengaging the bases when the bases are retracted.

2. A retractable brush comprising an outside case, a plurality of bases slidably and pivotally mounted in the case, tufts of bristles in each of the bases, a cover reversibly mounted on the case, means operably connected to the cover and engageable with the bases, whereby said bases are moved vertically in the case to extend or retract the tufts, said bases being substantially wedge-shaped in cross section and means including a wedge-shaped socket operably connected to the cover and operable on rotation of the cover relative to the case, thereby engaging the bases when said bases are moved vertically and thereby distending the tufts projecting from the case.

3. A retractable brush comprising an outside case, a tray slidably mounted in the case, a plurality of bases mounted in the tray, bristles projecting from each of the bases, a cover reversibly and slidably mounted on the case to cover either end of the case, means operably connecting the tray and the cover whereby said tray is moved in the case by said cover, thereby extending or retracting the bristles, means in the tray adapted to engage the bases when extended and fixedly hold said bases against movement, a means operably connecting said last named means and the cover, whereby movement of the cover will engage the second named means with the bases.

4. A retractable brush comprising an outer case, a tray slidably mounted in the case, a plurality of pivoted and extensible bases mounted in the tray, a cover, an eccentric shaft, attached to the cover and extending into said tray, a means in the tray and engageable by said shaft, said means engaging the bases and moving them to extended position, said means having cam faces whereby the bases are rocked about their pivots to distend the bristles, said means comprising a plunger.

5. A retractable brush comprising an outer case, a tray, slidably mounted in the case, a cover pivoted and mounted to said case by an eccentric shaft attached to the cover and extending into the tray, said case having slots in the side thereof through which said shaft extends, a plurality of bases mounted in the tray, bristles extending from the bases, said bases being rockable in the tray, a plunger in the tray, said shaft extending into the plunger whereby the plunger is moved vertically as the cover is rotated, said plunger having a wedge shaped recess therein, said recess engaging the bases whereby said bases are rocked to distend the bristles.

WALDO E. ENNS.