

[54] **BRUSH WITH RETRACTABLE BRISTLES**

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[73] Assignee: **Magnion Inc.**, c/o Michael Kane, New York, N.Y.

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[52] U.S. Cl. **15/169, 15/184, 15/203, 132/119**

[51] Int. Cl. **A46b 17/06**

[58] Field of Search **15/168, 169, 201, 15/202, 203, 184, 159 R; 132/119, 120, 121, 122, 123, 151**

[56] **References Cited**

UNITED STATES PATENTS

1,927,093	9/1933	Ingwersen et al.	15/184
2,529,927	11/1950	Fisk	15/169 X
2,660,183	11/1953	Gruring	15/169 UX

2,671,238	3/1954	Nehrke	15/184
3,059,259	10/1962	Peilet et al.	15/184
3,110,053	11/1963	Surabian	15/169 X

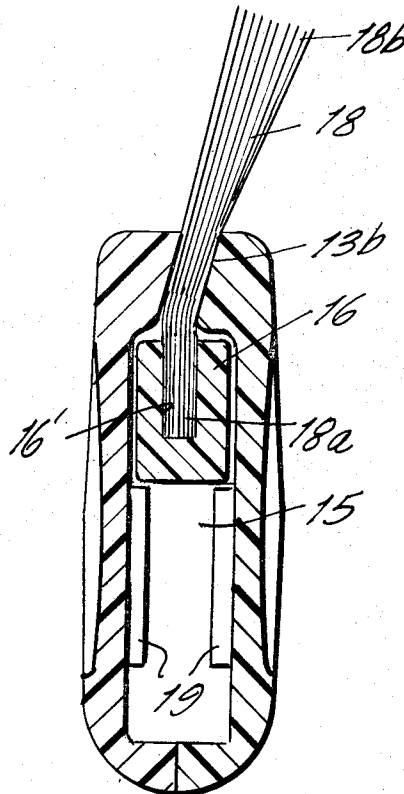
Primary Examiner—Peter Feldman

Attorney—Peter L. Berger

[57] **ABSTRACT**

A brush with retractable bristles is constructed which comprises an enclosure which has apertures through the top surface, a member which holds the bristles and which is movable upward and downward within the enclosure, bristles one end of which are held in the bristle holding member and the other end of which are aligned with the apertures, means for moving the bristle holding member from a position whereby the bristles extend out through the apertures to a position whereby the bristles are substantially flush with the apertures or just slightly below the apertures and means for retaining the bristle holding member in the two positions described.

13 Claims, 12 Drawing Figures



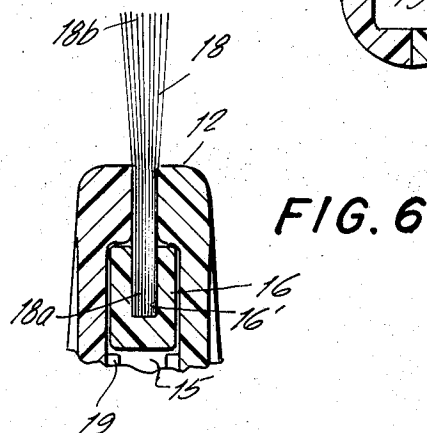
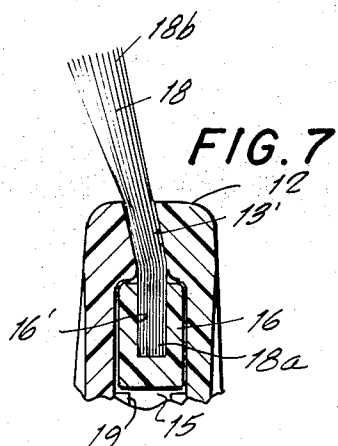
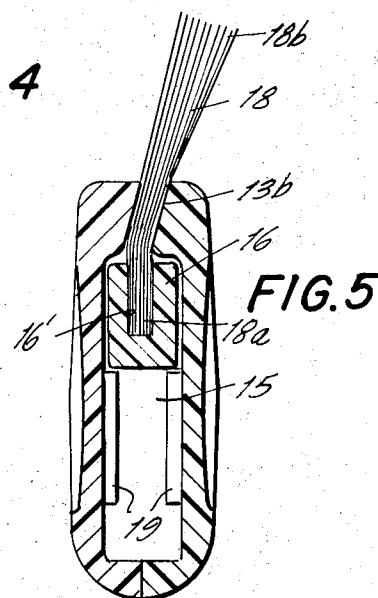
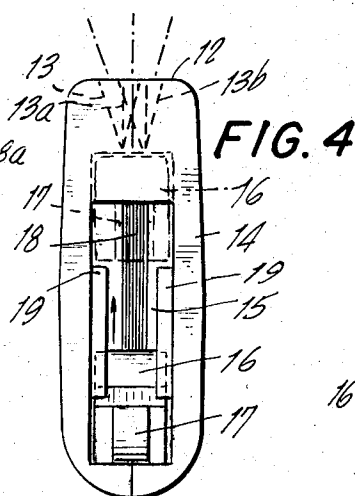
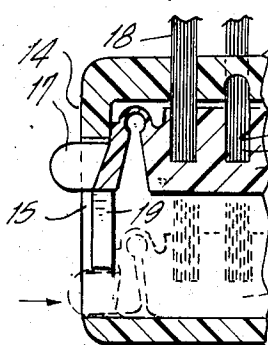
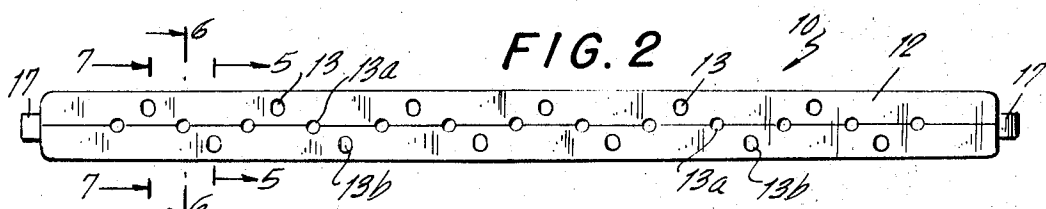
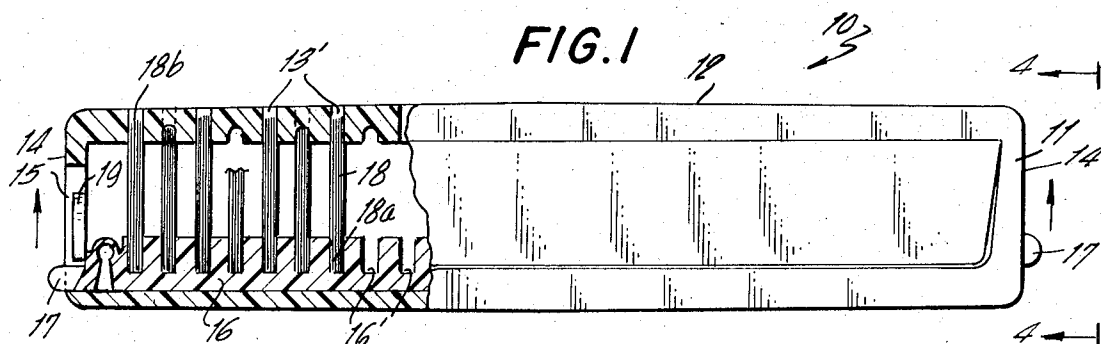


FIG. 8

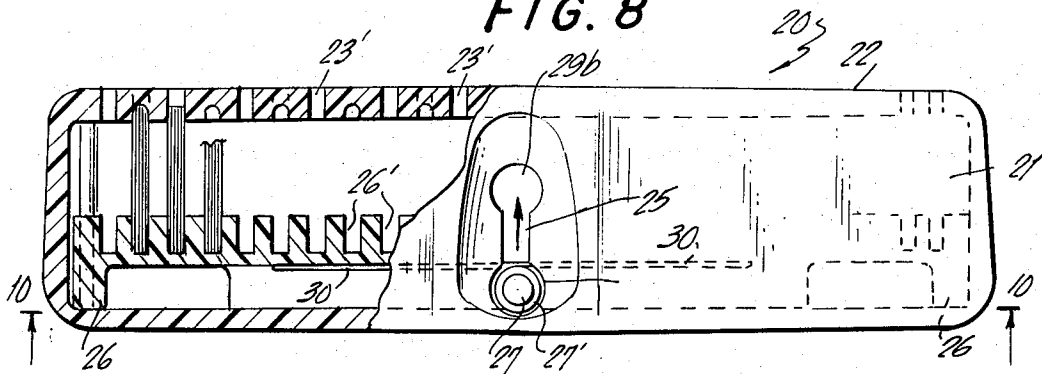


FIG. 9

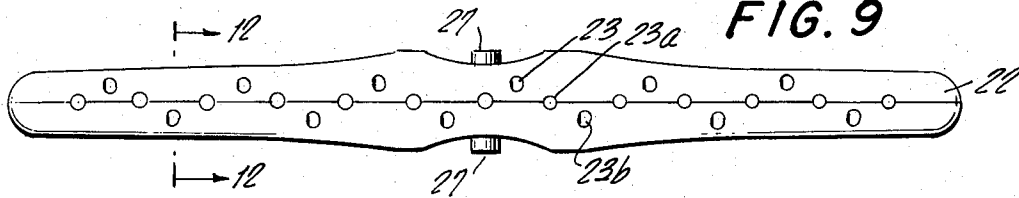


FIG. 10

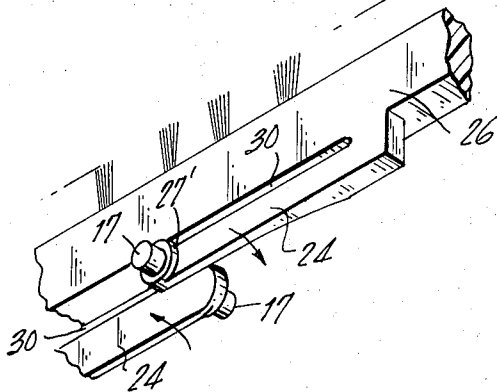
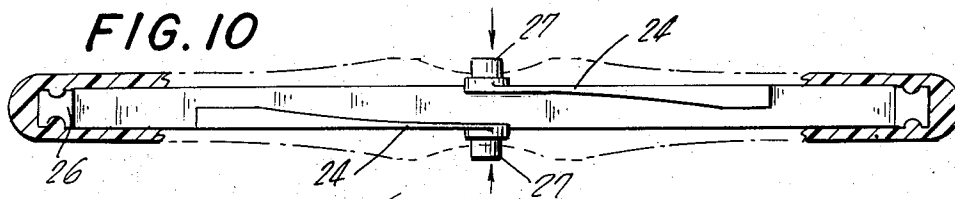


FIG. 11

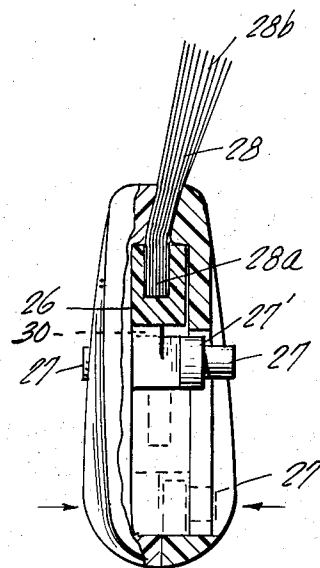


FIG. 12

BRUSH WITH RETRACTABLE BRISTLES

The present invention is concerned with a brush having retractable bristles. More particularly, the present invention is concerned with a small compact brush which may be easily carried in a pocket or purse which brush has bristles which are capable of being moved from a retracted position where the bristles are not exposed to a position where the bristles extend upward through apertures in the surface of the brush whereby the bristles are in a position to be used to brush hair.

Various brushes with retractable bristles are known in the art. For example, U. S. Pat. Nos. 2,916,756 and 3,059,259 are concerned with brushes having retractable bristles whereby one member is rotated vis-a-vis a second member of the brush and through a camming arrangement the bristles are moved upward and downward. These structures are bulky and mechanically complicated whereas the instant invention provides a simple compact brush with retractable bristles.

Another brush with retractable bristles is described in U. S. Pat. No. 2,486,203. This structure is in conventional brush shape and is not suited to be easily carried in a pocket or purse. This structure includes a socket and lug arrangement and requires a structure sufficiently large so that the bristles may be retracted within the brush at an angle rather than substantially vertically.

U. S. Pat. No. 3,055,033 is concerned with a brush with retractable bristles whereby the bristles are retracted through the use of levers such as 152 and 154 which are grasped and swung upwardly from the body 114 as shown in FIG. 1. The structure is a bulky, complex one and is not well suited to a small compact brush of the type herein disclosed and claimed.

U. S. Pat. No. 2,881,460 also discloses a brush with retractable bristles and as was the case with the art described above, this reference discloses a relatively complex rivet and blade arrangement such as shown in FIG. 2 whereby the bristles may be moved from a retracted to an extended position.

The present invention is concerned with a brush with retractable bristles which is of a generally rectangular shape and comprises an enclosure which has apertures through the upper surface, a bristle holding member which is movably disposed within the enclosure, bristles one end of which are disposed in the bristle holding member and the other end of which contact the apertures and means for moving the bristle holding member from a position whereby the bristles are just flush with or slightly below the surface of the apertures to a position whereby the bristles are fully extended through the apertures so that the brush can be used to brush hair.

The present invention can be more fully appreciated by reference to the accompanying drawings wherein:

FIG. 1 is a side elevational view with a portion cut away;

FIG. 2 is a top view;

FIG. 3 is a sectional view;

FIG. 4 is an end view taken along line 4—4 of FIG. 1;

FIG. 5 is an end view similar to FIG. 4 which shows a tuft of bristles in an extended position;

FIG. 6 is an end view similar to FIG. 4 which also shows a tuft of bristles in an extended position;

FIG. 7 is an end view similar to FIG. 4 which shows a tuft of bristles in their extended position;

FIG. 8 is a side elevational view partially cut away showing a further embodiment of the present invention;

FIG. 9 is a top view of the embodiment of FIG. 8;

FIG. 10 is a sectional view taken along lines 10—10 of FIG. 8;

FIG. 11 is an enlarged view of the tab of the bristle holding member; and

FIG. 12 is an end view showing the tuft of bristles in an extended position.

Referring now to the drawings, the brush with retractable bristles is generally indicated as 10 in FIG. 1. This brush comprises an enclosure 11 which is of a generally rectangular configuration which has a top surface 12 through which are disposed a plurality of apertures 13, 13a and 13b which are laid out in a zig-zag or Z-type configuration. These apertures extend through some thickness in the upper surface as shown by the passages marked 13' in FIG. 1. The enclosure 11 has two ends 14 each of which has a slot 15 which permits the protuberances 17 which are the extensions of bristle holding means 16 to move from a downwardly locked position as shown in FIG. 1 to an upwardly locked position as shown in FIGS. 3 through 7. The protuberances 17 are held in their downwardly or upwardly locked position by a locking means 19. Bristles either singly or in tufts are designated as 18. One end of the bristles or tuft of bristles 18a is disposed in the various bristle sockets 16'. The other end of the bristles or tuft of bristles 18b move from a position such as shown in FIG. 1 when the bristle holding means is in its lower position whereby the bristles or tuft of bristles 18b are just flush with the surface of apertures 13 or slightly below the surface of apertures 13 to an extended position as shown in FIGS. 4 through 7. The row of bristles is stored in a single row in the lower position. The passages 13' which are extensions of the aperture, 13 and 13b are as part of the zig-zag pattern angled slightly from the vertical as shown in FIGS. 5 and 7 while apertures 13a along the median of top surface 12 are substantially vertical as shown in FIG. 6. Thus, aperture 13 and integral passage 13' would for example be angled as shown in FIG. 7 while aperture 13a and integral passage 13' would be substantially vertical as shown in FIG. 6 and aperture 13b and integral passage 13' would be angled as shown in FIG. 5. The angled apertures serve as widening means to transversely spread the bristles from the stored single row to a plurality of rows when the bristle holding member is moved to the upper position.

Turning now to the further embodiment of the instant invention shown in FIGS. 8 to 12, the brush with retractable bristles is shown generally at numeral 20. The brush comprises an enclosure which is also of a substantially rectangular form 21 having a top surface 22 and apertures 23, 23a and 23b with integral passages 23'. The apertures are in a zig-zag or Z-type pattern as shown in FIG. 9. Apertures 23, 23a and 23b and passages 23' are angled essentially the same as apertures 13, 13a, 13b and integral passages 13' in the first embodiment of the instant invention. This second embodiment differs from the first embodiment in the manner in which the bristle holding member 26 is moved from a downwardly locked position wherein the bristles or tuft of bristles 28 are just flush with or just below the surface of apertures 23, 23a and 23b to a position where the bristles or tufts of bristles 28 extend out

through the apertures such as shown in FIG. 12 at 23b. The bristles or tuft of bristles 28a are secured in bristle sockets 26'. According to this embodiment bristle holding member 26 which has bristle sockets 26' which are similar to bristle sockets 16' has a tab 24 which extends from bristle holding member 26 and is flexibly movable because of slot 30 which separates a portion of the tab from the bristle holding member 26. This tab 24 has attached thereto or integral therewith means such as buttons 27 having rings 27' which are shown most clearly in FIG. 11 which extend through the outer surface of enclosure 21. The buttons 27 with rings 27' extend through either side of enclosure 21 and are movable from a position 29' whereby the bristle holding member is in a down position so that the bristles are not extended through the apertures 23, 23a and 23b to an up position 29b shown also in FIG. 12 whereby the bristles are in extended position. Buttons 27 are movable from position 29a to 29b via a passage 25. Buttons 27 are depressed inwardly by pressure, thereby moving the rings 27' inwardly with tabs 24 whereby the buttons are then pushed upward as shown by the arrow in passage 25. The bristle holding member moves upward and the bristles or tufts of bristles 28b extend out to the apertures. When button 27 is in position 29b the buttons are released and rings 27' move slightly outwardly into a locked position 29b thereby rendering the bristle holding member in a firm position.

It will be appreciated by those skilled in the art that conventional modifications and other embodiments of this invention may be made without departing from the concept or spirit of the invention herein disclosed.

What is claimed is:

1. A brush with retractable bristles comprising an elongated thin substantially hollow enclosure member having outer dimensions approximating those of a conventional comb and having a top thin edge,
 - a bristle holding member extending end to end within said enclosure member and being movably disposed within said enclosure,
 - a plurality of upwardly extending bristles carried on said bristle holding member, and
 - moving means for moving said bristle holding member from a retracted position where said bristles are stored in a single row and are enclosed within said enclosure member and lie entirely below said top edge to a projecting position where said bristles extend above said top edge of said enclosure member,
 - said enclosure member forming a handle for said brush when said bristles project therefrom, and
 - means for transversely spreading said bristles from said single row to a plurality of separate rows when said bristle holding member is in said projecting po-

sition for widening the brushing area.

2. A brush according to claim 1 wherein said means for spreading comprises said top edge comprising a surface having a plurality of spaced apart apertures, said bristles being aligned with said apertures for projection therethrough, said apertures being angulated with respect to each other to widen the brushing area by transversely spreading said bristles from said single row to a plurality of rows when said bristle holding member is in said projecting position.

3. A brush according to claim 2 wherein said apertures are formed by respective slots formed within said enclosure, and said slots depending downwardly from the top edge of said enclosure, wherein said bristles are in permanent registry with said slots.

4. A brush according to claim 2, comprising retaining means for holding said bristle holding member in said projecting and said retracted positions.

5. A brush according to claim 2, wherein said apertures having a width slightly larger than the bristles movable therethrough, said bristles being substantially cleaned when said moving means moves from said projected to said retracted position.

6. A brush according to claim 2, wherein said enclosure member has a slot in each end and said moving means comprises protuberances extending from said bristle holding member through said slots.

7. A brush according to claim 6, wherein said retaining means comprises a stop member disposed along said slot.

8. A brush according to claim 2, wherein said apertures are disposed in a zig-zag pattern.

9. A brush according to claim 2, wherein said bristle holding means has two tabs with buttons having a ring attached to each tab, and wherein said moving means comprises said two buttons and rings, one button extending through a slot in one side of said enclosure and the other button extending through a slot in the other side of said enclosure.

10. A brush according to claim 9, wherein said slot in each side comprises a bristle retracted position, a bristle extended position and a passage connecting said two positions.

11. A brush according to claim 10, wherein said apertures are disclosed in a zig-zag pattern.

12. A brush according to claim 11, wherein said apertures have angled passages integral therewith.

13. A brush according to claim 12, wherein tufts of bristles are disposed in said bristle holding member whereby each angled passage has a tuft of bristles movable from a position just beneath the surface of each aperture to a position whereby they extend at an angle through each aperture.

* * * * *

UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,765,049

Dated October 16, 1973

Inventor(s) Donald Green et al.

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Column 2, line 13, After "enclosure" insert -or handle-.
line 14, After "configuration" insert -and has outer dimensions approximating those of a conventional comb and-.
line 14, After "which" insert -enclosure-.
line 15, After "face" insert -or edge-.
line 17, After "extend" insert -downwardly-.
line 31, After "means" insert -16-.
line 64, After "wherein" insert -one end of-.
line 65, Change "28" to -28b-.
line 67, Change "where" to -wherein the other end of-.
line 67, Change "28" to -28b-.

Column 3, line 1, Delete "at 23b".
line 14, After "a" insert -retracted-.
line 14, Change "29'" to -29a-.
line 17, After "up" insert -or projecting-.
line 28, After "position." insert -The bristles or tufts of bristles are in permanent registry with the apertures 23.-

Signed and sealed this 27th day of August 1974.

(SEAL)
Attest:

McCOY M. GIBSON, JR.
Attesting Officer

C. MARSHALL DANN
Commissioner of Patents