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W. D. HENDERSON
DISPENSING FOUNTAIN BRUSH
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2,026,832

Fig. 1

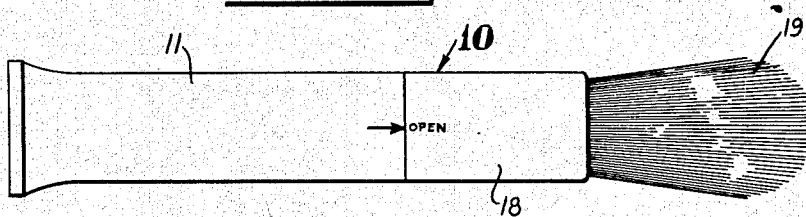


Fig. 2

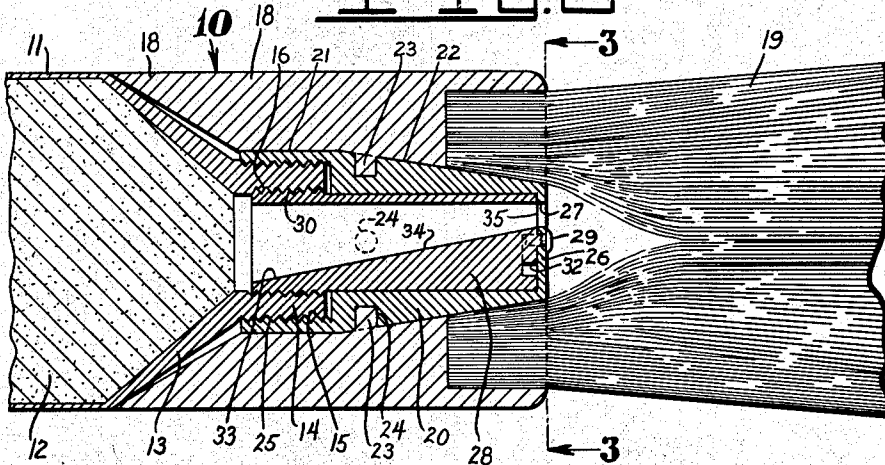


Fig. 3

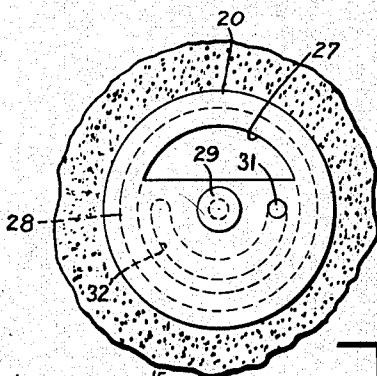


Fig. 4

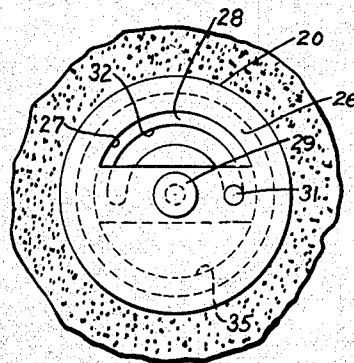
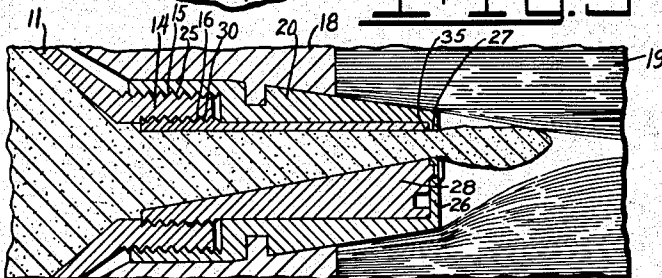


Fig. 5



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UNITED STATES PATENT OFFICE

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DISPENSING FOUNTAIN BRUSH

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4 Claims. (Cl. 15—135)

This invention relates to dispensing fountain brushes.

The general object of the invention is to provide a dispensing fountain brush which is of novel construction.

A more specific object is to provide a fountain brush wherein the brush head can be removably mounted on a tube of shaving cream.

A further object of the invention is to provide a novel brush head for use with a tube of shaving cream.

Another object of the invention is to provide a novel collapsible tube end structure which is particularly adapted for use with a fountain brush head.

Other objects and the advantages of my invention will be apparent from the following description taken in connection with the following drawing, wherein:

Fig. 1 is a side elevation of a dispensing fountain brush embodying the features of my invention;

Fig. 2 is a fragmentary longitudinal sectional view through the operating portions of the brush;

Fig. 3 is a fragmentary sectional view taken on line 3—3 of Fig. 2 and drawn to a larger scale;

Fig. 4 is a view similar to Fig. 3 showing parts in another position; and,

Fig. 5 is a fragmentary view similar to Fig. 2 showing a position of the parts with the cream being extruded.

Referring to the drawing by reference characters, I have shown my invention as embodied in a fountain brush indicated generally at 10. As shown I employ a novel collapsible tube 11 which may be filled with a suitable shaving cream 12 and which has a shoulder 13 which terminates in a reduced neck 14. This neck is provided with external threads 15 and with internal threads 16. Normally a closure cap may be applied to the external threads 15 or a plug may be applied to the internal threads.

The member 10 includes a head 18 in which bristles of any desired length are suitably secured in the usual manner. The head 18 is preferably made of hard rubber or bakelite. Mounted within the head 18 I show an outer valve member 20 which is preferably made of die cast metal and includes a cylindrical rear portion 21 and a frusto-conical forward portion 22. This outer member 20 is preferably cast in the head 18 and portions 23 of the head material fit pockets 24 in the member 20 to hold the parts 18 and 20 rigidly assembled.

The cylindrical portion 21 is provided with in-

ternal threads 25 which engage the external threads 15 on the tube neck 14. The outer valve member 20 is provided with an end wall 26 which has an aperture 27 therein. One portion of this aperture 27 is arcuate and the other portion is a chord uniting to the ends of the arcuate portion (see Figs. 3 and 4).

Within the exterior member 20 I show an inner metal cylinder 28 which is rotatably mounted within the member 20 and is secured in position by a headed fastening member 29 the head of which engages the outer face of the end wall 26 of the outer member. The cylinder 28 is provided with a threaded rear portion 30 on its exterior surface which fits the interior thread 16 on the tube neck 14.

In the end wall 26 of the member 20 I provide an inwardly extending pin 31 which is positioned in an arcuate slot 32 in the end of the member 28. When the member 28 is rotated relative to the member 20 the pin 31 restricts the rotation of the member 28 to 180 degrees of travel.

The member 28 has a longitudinal bore 33 therein which at the rear end is circular. One wall 34 of the bore 33 convergently tapers forward towards the opposite side and at the forward end terminates in an opening 35 which is of the same shape as the aperture 27 in the end wall 26 of the member 20.

In operation when the opening 35 of the member 28 registers with the aperture 27 of the member 20 as shown in Figs. 2, 3 and 5 and pressure is applied to the tube 11 the contents 12 thereof is forced out of the tube neck 14 into the bore 33 of the member 28, through the bore 33 and out through the aperture 27 in the member 28 into the brush bristles 19, as shown in Fig. 5.

After sufficient amount of the material 12 has been discharged into the bristles the operator holds the brush portion 10 and rotates the tube 11 to the right. As the tube 11 is thus rotated the member 28 is moved with it until the pin 31 prevents further movement thereof. In this position the opening 35 of the member 28 is out of register with the aperture 27 in the member 20 as shown in Fig. 4 and thus passage through the opening 35 is restricted by the end wall 26 of the member 20.

In the use of my invention the brush element with the contained valve may be distributed free by the seller of the shaving cream or there may be a small charge made for this brush. Thereafter, the purchaser will use the cream until the tube is exhausted after which he will purchase

another tube to fill the brush head. Since, my improved tube having the internal and external threads on the neck is necessary to cooperate with the brush head the owner of a brush head
 5 will be compelled to buy the particular shaving cream which is contained in my improved tube so thus sales will be increased and the user will be assured of a consistently satisfactory product.

From the foregoing description it will be apparent that I have invented a novel fountain
 10 brush which can be economically manufactured and which is highly efficient in use.

Having thus described my invention, I claim:

1. The combination of a collapsible tube and a
 15 shaving brush, said collapsible tube including a neck having external and internal threads thereon, said brush including a bristle portion and a head, said head having an external valve member rigidly secured therein, said external valve
 20 member having interior threads thereon fitting the outer threads on said neck, and a rotatable cylindrical valve element within said valve member, said valve element having external threads
 25 thereon fitting within said neck.

2. The combination of a collapsible tube and a
 30 shaving brush, said collapsible tube including a reduced discharge neck having external and internal threads thereon, said brush including a head having a bristle portion thereon, said head
 35 having a valve member therein, one end of said valve member extending into said bristles and having a discharge opening in the end thereof positioned at one side of the longitudinal center
 40 thereof, the opposite end of said valve member including a threaded portion engaging said external threads of said tube neck, a valve element
 45 rotatably mounted in said valve member and means to secure said valve element to said valve member to limit relative longitudinal movement, one end of said valve element including a thread-
 50 ed portion engaging said internal threads of said tube neck, said valve element having a longitudinal conduit therein, one end of said conduit communicating with the interior of said tube
 neck and said conduit converging towards the opposite end to form a discharge opening positioned at one side of the longitudinal center of the valve element.

3. The combination of a collapsible tube and a
 50 shaving brush, said collapsible tube including a reduced discharge neck having external and in-

ternal threads thereon, said brush including a
 head having a bristle portion thereon, said
 head having a valve member therein, one end of
 said valve member extending into said bristles
 5 and having a discharge opening in the end thereof positioned at one side of the longitudinal center
 thereof, the opposite end of said valve member including a threaded portion engaging said
 external threads of said tube neck, a valve element rotatably mounted in said valve member,
 10 means to secure said valve element to said valve member to limit relative longitudinal movement, one end of said valve element including a threaded
 portion engaging said internal threads of said
 tube neck, said valve element having a longitudinal
 15 conduit therein, one end of said conduit communicating with the interior of said tube neck and said conduit converging towards the
 opposite end to form a discharge opening positioned at one side of the longitudinal center of
 20 the valve element and corresponding in shape to said discharge aperture in said valve member, and means to limit the relative rotation between
 said valve member and said valve element.

4. The combination of a collapsible tube and
 25 a shaving brush, said collapsible tube including a reduced discharge neck having external and internal threads thereon, said brush including a head having a bristle portion thereon, said head
 30 having a valve member therein, one end of said valve member extending into said bristles and terminating flush with the end of the head and having a discharge opening in the end thereof
 35 positioned at one side of the longitudinal center thereof, the opposite end of said valve member including a threaded portion engaging said external
 threads of said tube neck, a valve element rotatably mounted in said valve member, and means to secure said valve element to said
 40 valve member to limit relative longitudinal movement, one end of said valve element including a threaded portion engaging said internal threads
 of said tube neck, said valve element having a longitudinal conduit therein, one end of said conduit communicating with the interior of said tube
 45 neck, the opposite end of said conduit communicating with said discharge opening when said valve element is in one position and being out of
 communication with said discharge opening when said valve element is in another position.
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