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SHAVING BRUSH

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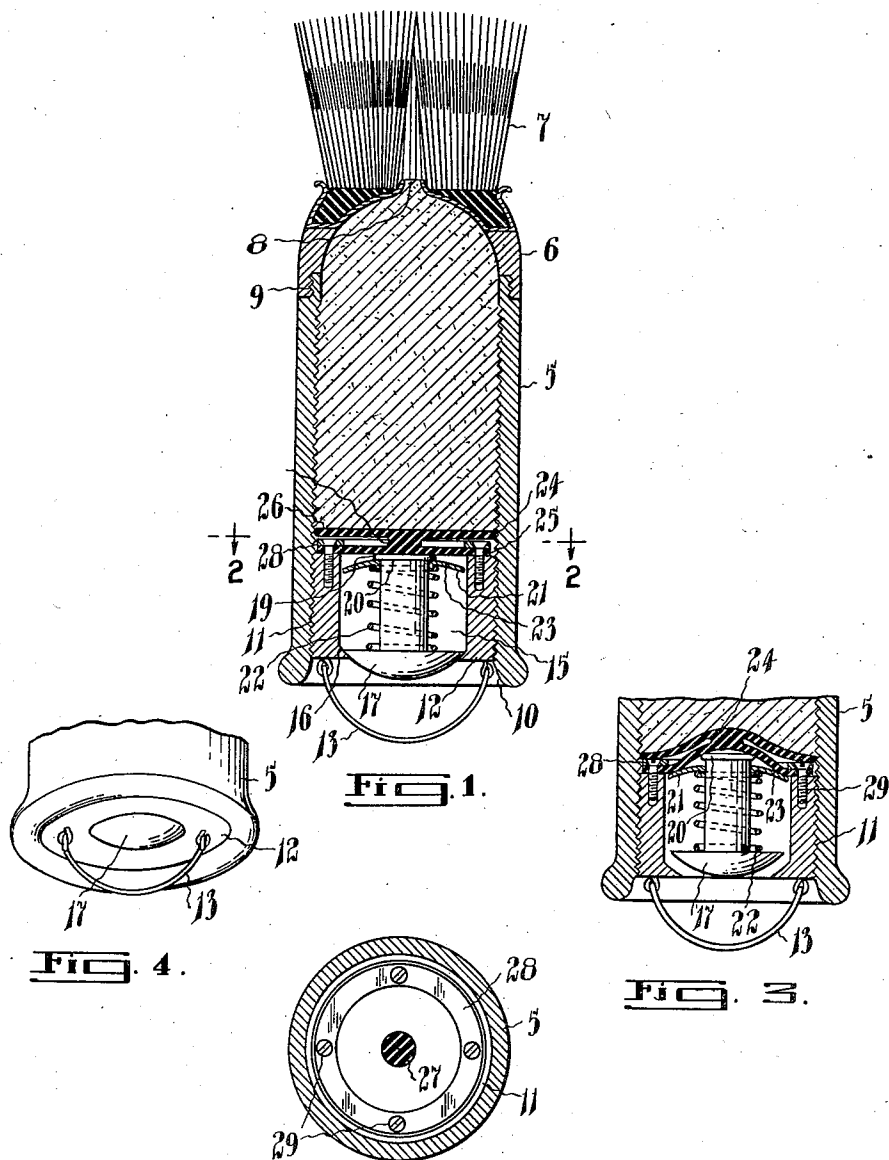


FIG. 2.

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SHAVING BRUSH

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4 Claims. (Cl. 15—137)

My invention relates to improvements in shaving brushes and particularly concerns a brush having a hollow handle or body portion providing a container for holding a supply of shaving cream which is dispensed as required through the bristles and thereby obviates having to deposit cream on the brush from a separate container on each occasion of use.

An object of the invention is to provide an efficient and serviceable dispensing mechanism by which a quantity of cream sufficient for a shave will be dispensed by depression of a plunger so as to discharge it through an orifice into the bristles.

A further object of the invention is to produce a diaphragmatic plunger mechanism which can be operated a number of times without having to make adjustment for the displaced shaving material.

A still further object is to produce a diaphragm forming a wall portion of the compartment in which the shaving material is confined and which can be advanced by an adjusting mechanism from time to time as required to take up the space left by the discharged material.

A still further aim of the invention is to furnish a practical and inexpensive brush of the class above referred to having salient features of construction and specifically comprehending a cylindrical body fitted with a screw plug having a central opening containing a plunger for acting on an inner diaphragm. The diaphragm is a rubber disc clamped by a ring and adapted to have its central portion bulged inwardly by depression of the plunger whereby only a small amount of shaving material is expelled with each operation. The diaphragm has a free radial flange and the plunger is guided by a loose member axially spaced by a spring.

The drawing illustrates the preferred embodiment of the invention, in which

Fig. 1 is a longitudinal section of the brush depicting the operating mechanism in normal position.

Fig. 2 is a cross section taken on line 2—2 thereof.

Fig. 3 is a fragmentary longitudinal section of the operating mechanism but showing it in depressed position.

Fig. 4 is a perspective view of the plunger end of the brush.

Like numerals of reference denote similar parts in each figure of the drawing.

In carrying out the invention, I employ a brush having a cylindrical handle 5 providing an

elongated body having its head portion 6, from which the bristles 7 extend, closed with the exception of a central aperture 8 constituting a discharge orifice from which the shaving material is expelled into a passage centrally of the bristles. The hollow body 5 provides a compartment for holding a supply of the shaving material hereinafter referred to for convenience as "cream." The head portion 6 is preferably detachable such as by a screw connection denoted at 9, and the bristles are mounted in approved manner.

The body 5 is open at its other end 10 and internally screw threaded, as at 11, substantially throughout its length to provide a screw connection with a plug 12 externally threaded and initially disposed at the end 10. The plug is furnished with a device by which it may be turned by hand to advance it into the bore of the body and to withdraw it therefrom, which device desirably consists of a semi-circular key 13 diametrically disposed across the outer face of the plug with its ends pivoted thereto as at 14 to permit it to be swung to one side when not in use so as not to interfere with the plunger hereinafter detailed.

The plug has a substantial axial opening there-through denoted at 15, which is reduced annularly at its outer end to supply a shoulder 16 normally engaged by a head 17 of the plunger 18. The plunger is co-axially disposed in the opening 15 and is of a circular cross section considerably smaller in diameter than the opening and terminated abruptly in a pusher end 19 flush with the inner face of the plug. The head portion of the plunger is rounded outwardly in the form of a segment of a sphere and the pusher end 19 of the plunger is slightly enlarged to provide an annular shoulder 20. The head portion of the plunger is of a diameter to slide freely in the opening 15 and thus supports the outer part of the plunger loosely therein. The pusher end of the plunger is likewise supported by means of a loose guide ring 21 slidably fitted thereon and normally held in engagement with the shoulder 20 by means of a helical compression spring 22 seated against the head 17. The guide ring is a slide fit in the opening 15 and has an inwardly curved face 23.

According to this construction the plunger together with its guide ring is free to reciprocate within the plug and may be urged inwardly by finger pressure.

At the inner end of the plug is a rubber diaphragm 24 comprising two disc members 25 and 26 slightly spaced one in advance of the other

and centrally united as at 27. The outer face of the disc member 25 abuts the pusher end 19 of the plunger and is marginally clamped against the inner end of the plug by a rigid retaining ring 28 secured by fastening elements 29; the other disc member, 26, is marginally free, but provides a sealing juncture with the bore of the body 5.

In the use of the brush, the plug provides a closure by which the diaphragm can be screwed up against the cream by means of the key 13, which is swung to one side of the plug when not in use so as to clear the head of the plunger. To discharge cream through the orifice 8 into the bristles it is merely necessary to lightly depress the protruding head 17 of the plunger, which flexes the diaphragm causing the central portion to bulge inwardly of the compartment and in this manner to expel cream. When the pressure on the head of the plunger is removed, the relaxation of the diaphragm returns the plunger to its original position for recurrent operation. The plunger may be operated several times before it is necessary to advance the plug on account of the displaced cream, the extent to which the plunger is depressed depends on the number of times it has been actuated before change of position of the plug is effected and the amount of cream discharged for each shave. In lightly depressing the plunger the guide ring 21 moves as a unit with it, but in depressing the plunger to a greater degree such that the curved face 23 of the guide ring is brought into engagement with the bulging portion of the diaphragm, the advance movement of this ring is arrested with the result that further movement of the plunger compresses the spring 22, the tension of which in conjunction with that of the diaphragm returns the plunger as the person using it releases his pressure on the head 17. This construction assures of facile regulation and ready control. The plug can be advanced to new positions of adjustment as required at intervals in the consumption of the cream stored in the handle. When the supply is depleted, it can easily be replenished.

Various changes and modifications may be resorted to as coming within the spirit and scope of the invention as defined in the appended claims.

What I claim is:

1. In a brush having bristles, a body having a cylindrical chamber with a dispensing orifice leading into the bristles and open at an end, a plug adjustable axially in the chamber thereof,

a resilient diaphragm transversely arranged in the chamber at the inner end of the plug, said diaphragm being composed of a pair of disc members centrally united, one of the disc members being marginally attached to the plug and the other being free to form a sealing juncture with the bore of the chamber, and a plunger carried by the plug for inwardly bulging the diaphragm.

2. In a brush having bristles, a handle having a chamber with a screw-threaded bore provided with a dispensing passage for the bristles, a plug threadedly engaged in the bore, means for turning the plug, a resilient diaphragm carried by the inner end of the plug, and a plunger for inwardly urging the diaphragm.

3. A brush in accordance with claim 2 and in which the plunger has a head centrally of the plug, and a semi-circular device for turning the plug, said device being diametrically arranged across the said head and pivoted to the plug so that it may be swung to one side when not in use.

4. A shaving brush comprising an elongated handle having a cylindrical bore screw threaded and closed at one end with the exception of an orifice forming a communication with bristles, the other end being open and receptive to a screw plug, a screw plug threadedly engaged therein and having a substantial axial opening therethrough annularly reduced at its outer end to form a shoulder, a rubber diaphragm disposed across the inner end of the screw plug, a retaining ring clamping the marginal portion of the diaphragm to the screw plug, a plunger of a circular cross section disposed axially in the plunger-opening with its inner end abutting the central portion of the diaphragm and having an annular enlargement constituting a shoulder, a guide ring loosely encircling the inner end of the plunger and engaged with the shoulder thereof, the guide ring being a slide fit in the plunger-opening and having a curved face engageable with the diaphragm, the outer end of the plunger having an enlargement forming a head slidably fitted in the plunger-opening and retained against outward dislodgment by the shoulder thereof, a helical compression spring encircling the plunger with one end seated against the head thereof and the other seated against the guide ring; and a key carried by the screw plug for turning purposes.

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