

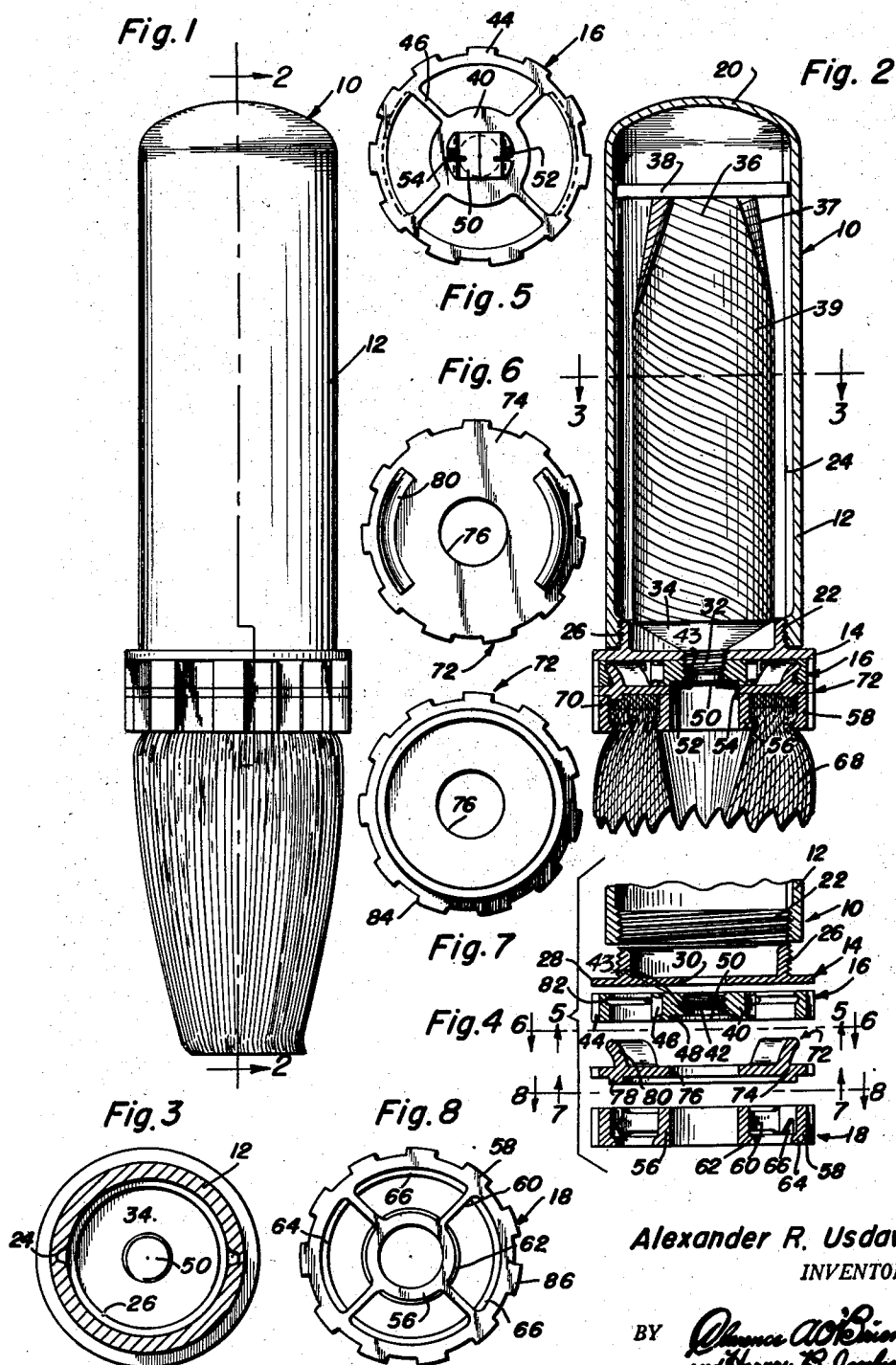
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BRUSH HEAD STRUCTURE

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Alexander R. Usdavin
INVENTOR.

BY *Charles A. Wilson*
and *Harvey B. Jordan*
Attorneys

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BRUSH HEAD STRUCTURE

Alexander R. Usdavin, Washington, D. C.

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2 Claims. (Cl. 15—176)

This invention relates in general to new and useful improvements in brush structures, and more specifically to an improved brush head structure of the type used for applying shaving cream.

It is one of the purposes of this invention to provide a brush head structure to be used in conjunction with a tube of shaving cream, the brush head structure being of such a nature whereby it may be threadedly engaged on the shaving cream tube in lieu of the usual cap thereof. Inasmuch as specific structure is required to secure the brush head to the shaving cream tube, and there is a possibility of breakage of this structure, it is an object of this invention to make the portion of the brush head structure which is securable to the shaving cream tube separate and independent from the construction of the bristle portion of the brush head whereby the two may be separated and individual components thereof replaced.

Still another object of this invention is to provide an improved brush head structure, the brush head structure being primarily intended for use in conjunction with a shaving cream tube and being so constructed whereby the component parts thereof may be separated, including the bristle structure thereof whereby the component parts may be replaced as is necessary and may be readily cleaned.

A further object of this invention resides in the provision of a dispensing device, in accordance with the foregoing features, in which the brush head includes a spout rotating head and the bristles supporting head, which bristles supporting head is detachably secured to the spout rotating head, for movement therewith, and which bristle supporting head may nevertheless be removed for cleaning or replacement.

These, together with various ancillary objects and features are attained by this device, a preferred embodiment of which has been illustrated in the accompanying drawings, wherein:

Figure 1 is a side elevational view of the dispensing device;

Figure 2 is a longitudinal sectional view taken on the plane 2—2 of Figure 1;

Figure 3 is a transverse sectional view, taken on the plane 3—3 of Figure 2, with the tube removed from the dispensing device;

Figure 4 is a fragmentary assembly view of the dispensing device, showing details of construction of the brush head;

Figure 5 is a plan view of the spout rotating head, taken on the plane 5—5 of Figure 4;

Figure 6 is a top plan view of the cap for the bristle supporting head, taken on the plane 6—6 of Figure 4;

Figure 7 is a plan view of the bottom of the cap, taken on the plane 7—7 of Figure 4; and

Figure 8 is a top plan view of the bristles supporting head, taken on the plane 8—8 of Figure 4.

Reference is now made more specifically to the ac-

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companying drawings, wherein the dispensing device, indicated generally by the numeral 10 is illustrated, and which dispensing device includes a casing 12, a closure plate 14, a spout rotating head 16, and a bristle retaining head 18.

The casing 12 is preferably in the form of an elongated cylindrical tube having a closed end 20, and an internally threaded open end 22. For reasons which will later become apparent as the following description proceeds, the casing 12 has guideways 24, formed in the inner face thereof, and extending longitudinally of the casing. The closure plate 14 has an upwardly extending, externally threaded annular flange 26 formed integrally therewith, inwardly of the outer edge 28 of the plate, which flange is adapted to be threadedly received in the internally threaded open end 22 of the casing 12, whereby the plate constitutes a closure for the casing. The plate has a spout receiving opening 30, formed centrally thereof, which opening receives the externally threaded spout 32 which extends outwardly of the cap 34 on the flexible tube 36. It is contemplated that the tube 36 have the side portions adjacent one end thereof folded upon itself, as at 37, the inwardly folded side portions and the adjacent end of the tube being clamped between the legs of the sealing strips 38 whereby the end of the tube is sealed. The strip 38 is guidingly received in the guideways 24 formed in the casing 12, in a manner clearly apparent from a consideration of Figure 2, the tube 36 preferably being formed with spiral scores 39 to facilitate twisting of the tube to extrude the contents therefrom. Additionally, it is intended that the cap 34 abut the plate 14, and be of sufficient strength to prevent severance of the spout 32 therefrom, when the latter is rotated, in a manner to be hereinafter described. Obviously, instead of folding the side portions of the tube upon itself, as shown, the tube may be formed with a diametrically reduced end.

The spout rotating head 16 includes a spout engaging collar 40, having an internally threaded bore 42 therein, which collar is secured to an externally knurled ring 44, by means of the radially extending arms 46, best shown in Figure 5. As is apparent from a consideration of Figure 2, the collar 40 is adapted to threadingly engage the spout 32 on the tube 36 in such a manner that rotation of the head 16 will rotate the spout 32, and the adjacent portion of the tube 36 therewith. To prevent the collar 40 from being threaded too far upwardly on the spout 32 and thereby cause the head 16 and the tube cap 34 to bind against the plate 14, any conventional means may be employed for locking the collar 40 to the spout 32 for simultaneous rotation, such as for example, the lower end of the bore 42 may be provided with an annular shoulder 43 to abut the lower end of the spout 32 at the point where sufficient clearance exists between the cap 34 and the plate 14 to permit rotational twisting of the tube. The undersurface of the collar 40 is recessed, as at 48, to receive the complementary closure members 50. The closure members 50 are pivotally mounted by pins 52, carried by the closure members, and which pins are otherwise embedded in the collar 40. Springs 54 are disposed about the pins 52 and serve to yieldingly bias the closure members 50, into their spout closing position, best shown in Figure 2.

The brush head 18 includes inner and outer concentric sleeves 56 and 58, respectively, which sleeves are secured to each other by radially extending arms 60, best shown in Figure 8. An outwardly directed rib 62 is formed integrally with the lower end of the inner sleeves 56 and a registering rib 64 is formed integrally with the lower edge of the outer sleeve 58. This latter rib is suitably braced by gussets 66, spaced circumferentially on the

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outer sleeve 58. The brush bristles 68 are disposed between the inner and outer sleeves 56 and 58, the bristles being set in a suitable composition indicated at 70. A cap 72 for the bristle supporting head 18 is provided and includes a plate-like member 74 having a central opening 76 therein, and a downwardly extending annular flange 78 disposed inwardly of the edge thereof, which rim is adapted to be seated within the outer sleeve 58 of the brush head, in a manner clearly apparent from a consideration of Figure 2. It is contemplated that the cap 72 be glued, or otherwise rigidly secured to the brush head 18, and that the cap be provided with the upwardly and outwardly extending arcuate fingers 80 which are adapted to be seated in corresponding sockets 82, on the inner face of the ring 44 of the spout rotating head 16. It will thus be appreciated that the brush head 18 and cap 72 therefor are detachably and non-rotatably secured to the spout rotating head 16 for movement with the latter. The cap 72 and bristle supporting head 18 are externally knurled, as at 84 and 86 respectively, whereby they provided an additional finger gripping surface for aid in rotating the spout rotating head 16.

In operation, the tube 36 is disposed within the casing 12 with the sealing strip 38 guidingly received in the guideway 24. The closure member 14 is then threadedly attached to the casing, in abutting engagement with the cap 34 on the tube 36 with the nozzle 32 of the tube extending through the aperture 30 in the closure plate. The spout rotating head 16 is then threadedly attached to the outwardly extending end of the spout 32, which head, when in position on the casing, rotatably abuts the closure plate 14, in a manner clearly apparent from a consideration of Figure 2. The bristle supporting head 18 and cap 72 therefor is then detachably, and non-rotatably secured to the spout rotating head 16 by merely pressing the cap 72 so that the fingers 80 thereon lockingly engage in the sockets 82 in the ring 44. Whenever the head 16 is rotated, the bristle supporting head and cap therefor will rotate therewith, and twist the tube, so as to extrude the contents of the tube through the inner sleeve 56, and into the core formed in the bristles 68. The pressure exerted on the cream by twisting of the tube will move the closure members 50 into their open position. However, whenever the head 16 is rotated in the relatively opposite direction, the cream in the spout 32 will tend to be drawn back into the tube, thereby permitting the spring 54 to urge the closure members 50 into their spout closing position.

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From the foregoing, it is thought that the operation and construction of the device will be readily understood. However, since numerous modifications will readily occur to those skilled in the art after a consideration of the foregoing specification and accompanying drawings, it is not intended to limit the invention to that shown and described, but all suitable modifications may be resorted to, falling within the scope of the appended claims.

Having described the invention, what is claimed as new is:

1. A brush head structure comprising a circular head member provided with a central bore and with arcuate sockets concentric with said bore, a circular plate coaxial with said head member, arcuate keeper fingers provided on one side of said plate and removably disposed in said sockets to separably connect the plate to said head member, an annular flange provided at the other side of said plate, a circular head secured to said plate in coaxial relation, said head including an annular inner wall defining a central opening, an annular outer wall spaced from said inner wall, and a plurality of radial ribs connecting the outer and inner walls together, said flange extending into said head in frictional engagement with the inner surface of said outer wall, said plate having an opening in register with said bore and with the opening in said head, and an annular bristle unit mounted in the space between the inner and outer walls and projecting outwardly from the head.

2. The structure as defined in claim 1 together with annular rims provided in opposing relation on the outer and inner surfaces of the respective inner and outer walls and compressibly engaging said bristle unit.

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