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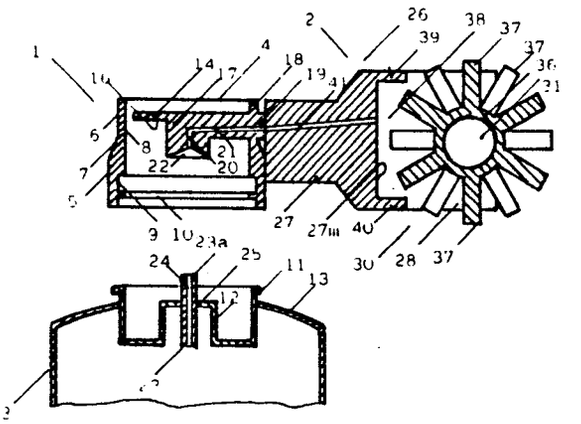
(54) Shaving foam dispenser.

(57) The saving foam dispenser consists of a cap (1) similar to that one applied up to now to the top of the foam bottles (3) and of a dispenser member (2), which is composed of a fork (26) integrally connected to the outside of the cap (1) in correspondence to the foam outlet orifice of hole (21) of cap - (1), which hole (21) extends also through said fork (26) by means of hole (41). A cylinder (31) equipped with a set of radial elements (37) of elastic soft material is idly supported by two arms of said fork. By pressing the cap (1) che user causes the outlet of the foam through the fork (26) and the filling of the space (38) delimited by said fork, by its arms - (28, 29) and the facing radial elements (37) and then by rotating said cylinder (31) acting on its elements - (37) of the whole space between all elements. Stopping then the outlet of the foam the user can bring the radial elements in contact of the face skin and with a traverse movement of the foam bottle (3) and a gentle pressure of said elements against the skin obtains the spreading of the foam on the skin and at the same time a massage of the skin itself.

FIG. 1



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Shaving foam dispenser

The present utility model refers to a shaving foam dispenser and precisely to a dispenser to be applied to the usual shaving foam bottles.

Up to now men use, for shaving, different types of safety or non-safety razors and anyhow, except when using electric razors, they soap the face so as to predispose hairs and skin for shaving with good results for hair cutting and without the skin having to suffer for irritations of various kind. The soaping has been initially made by using solid or liquid soap directly placed on the face and then suitably spread and emulsified with a shaving-brush or by putting said soap on the brush and mixing it directly up on the skin or previously in a bowl until a good foam is obtained, which is then spread on the face with the shaving-brush. The soaping of the face with the shaving-brush has the drawback that much time is lost to form the foam and the latter is not always well distributed on the face. In order to eliminate these disadvantages, pressure foam bottles have come into use, which are very easy to employ, as the face can be foam spread in a time much shorter than the time required if using the shaving-brush. On the other side the use of said bottles involves the drawback to use easily much more foam than required and furthermore the need of adjusting the foam on the face during shaving with the hands and so to soil the hands with the disadvantage to soil then the towel or the water-tap if not other means for cleaning the hands.

The aim of the invention according to the present utility model is to eliminate the mentioned drawbacks by achieving a device to be used together with the foam bottle in order to distribute the foam on the face in the quantity which is practically required and furthermore with the advantages to avoid soiling the hands as it is always possible to use the device instead of the hands and in addition to effect simultaneously with the quite quick distribution of the foam on the face an efficient massage of the face skin, which helps in better distributing the foam and in keeping the skin safe from possible irritations, thus also allowing persons having delicate skin to shave against the lie of the hair in order to obtain a perfect shave without the troubles met by simple use of the bottle or by using the shaving-brush.

The foam dispenser according to the present utility model consists of a cap similar to the cap which is used up to now for being applied to the upper end of the shaving foam bottles and which is generally composed of a bottomless cylindrical ring provided, near the lower rim, with a circular inside projection suited, when assembling the cap on the upper end of said bottle, for hooking with the circular rim of the bottle cover, which cover is clinched to the bottle and houses in its central part a small movable pipe protruding from the bottle along its axis and which, when pressed on its top for retracting partially into the bottle, causes outlet, through its axial longitudinal hole, of the foam by the action of the inner pressure, said cylindrical ring being provided towards the other end with a disk integral with the wall only in a limited portion and provided in the inside part of the cap with a small cylinder which base has a concave shape suited, when the disk is pressed towards the bottle, to go adhering to the walls of the free end of said small pipe without blocking up the inner hole and allowing said hole to join with the hole which passes through the small cylinder and extends, through a prolongation, outside the ring forming the cap, and hence to go pushing the small pipe inside the bottle in order to actuate its foot valve thus allowing outlet of the foam from said hole of the cap, said annular cap being connected externally, in correspondence with the foam outlet area, with a member composed of a fork the connection part of which is integral, in a practically rigid way, with the outer wall of said cap and is provided with an inside through hole crossing it radially to the annular cap and which joins with the cap foam outlet hole, and of two supporting arms extending parallel one to the other and the axis of symmetry of which is radial to said cap and hence to said bottle, said member including also a small cylinder which is supported by said arms with free rotation perpendicularly to said arms, the small cylinder being idle, that is freely rotating on its axis and directly or indirectly provided with a set of radial elements, i. e. which extend radially to the axis of the small cylinder, the connection part of the fork being so shaped to surround the small cylinder with the radial elements for one part of it so as to form such a space between the small cylinder and said connection part that by pressing the cap towards the bottle to control outlet of the foam, the latter, when getting out from the hole going through said connection part, gets into said space, i. e. also between the radial elements which are inside said space, and fills it and then by pivoting manually the small cylinder for about one turn the foam is brought to fill entirely the space included between all radial elements of the small cylinder, said elements being so arranged and shaped, and consisting of materials having such strength, elasticity and softness, as to allow that by moving the bottle traversely, after foam delivery has stopped, after having brought the ends of the radial elements to

contact the face skin, and by gently pressing against the skin so as to cause rotation of the small cylinder, the free ends of the radial elements cyclically contact the skin with slight flexure thus applying the foam on the skin while the latter is at the same time massaged by said radial elements, which massage helps the foam penetrating into the base of the hair, the size of the various parts of the fork, those of the small cylinder and of the radial elements and the number of these being so determined that the amount of foam which is delivered to fill the space between all the radial elements corresponds to the optimum amount to be used for soaping for a full shaving.

In an improvement of the previous solution the hole passing through the connection part of the fork has such a direction in correspondence to its orifice that the axis of its terminal part does not meet the axis of rotation of the small cylinder but is at such a distance from it that the foam, when getting out from said orifice, goes, after having filled the said space, pushing the radial elements at a height from their base sufficient to cause automatic rotation of the small cylinder without requiring any manual operation during the entire foam delivery.

In a further improvement of the previous solutions the radial elements have a quincunx arrangement on the peripherical surface of the small cylinder, that is in ranges parallel to the generating lines of said small cylinder, and equidistant, these elements being regularly staggered between one range and the other, so as to produce very uniform massage and distribution of the foam on the skin.

For better explanation of the invention according to the present utility model an embodiment of it shall be described, as an example only, with reference to the enclosed drawings, wherein:

-figure 1 is a vertical section according to plane AA,

-figure 2 is a plan view.

The foam dispenser is composed of a cap 1 and a dispensing mem ber 2. The cap 1 is composed as the cap which is at present used to be applied on the upper end of a bottle 3 for shaving foam of 312 gr, that is it includes a cylindrical ring 4 which is formed of two parts having different outside diameters 5, 6, joint one to the other by the slope 7, while it has inside two parts having different diameters 8, 9 not corresponding to the outside ones, the lower part 9 with larger diameter being provided with an inner circular projection 10 such as to allow hooking of the cap to the bottle 3 and exactly to the connecting toroidal rim 11 of the bottle cover 12 to the cambered upper wall 13 of the same. On the upper side the ring 4 is provided with a disk 14 which is fixed to the inner wall in the portion 8 only through the tab 15; on the lower surface 16 of the disk 14 a vertical small cylinder 17 is integral thereto and has a radial extension 18, which joins to the wall of the ring in the part 6 and extends slightly outwards the cap in the portion 19, the small cylinder 17 is provided with the central hole 20 which joins with a hole 21 which passes through the extension 18 and then the 19. The lower wall 22 of the small cylinder is concave in a conical way, i. e. in such a way that when the cap 1 is mounted on the bottle 3 and the disk 14 is pressed with the finger so as to lower it, which can occur owing to the elasticity of its connection to the wall 6 and i. e. of the tab 15 and of the extension 18 integral thereto, said wall 22 goes to press on the terminal part 23a of the small pipe 23, which is provided with central hole 24 and passes tightly in 25 through the cover 12 of the bottle and penetrates into it so that when it is depressed because pushed by disk 14 the small pipe 23 goes to open with its lower part the foot valve inside the bottle, which is not indicated in the figure, so as the other inner parts of the bottle are not indicated as they are well known to the prior art, thus causing the outlet, owing to the bottle inner pressure, of the foam which, when coming out from the small pipe 23, is com pelled by the mating of the terminal wall 23a of the small pipe with the conical wall 22 of the small cylinder 17 to enter into and then to flow through the holes 20 and 21 and then to get out through the cap. The dispensing member 2 is connected integrally in a practically rigid way to said cap. The dispensing member is composed of a fork 26 composed of a connecting part 27 and of two supporting arms 28, 29 consisting of two rectangular shaped plates, said arms surround a movable rotating member 30. The connection part 27 has frusto-pyramid shape and is integral, with the smaller base, with the extension 19 and with the outer wall of part 5 of cap 1, while the short sides of the larger base are integral with the two arms 28, 29 supporting the movable member 30. Said member is composed of a cylinder 31 the longitudinal axis of which is perpendicular to the plates forming the two supporting arms, said arms being provided with holes 32, 33 in which the two freely rotating pins 34, 35 are housed, which are axially integral with the said cylinder 31, which has a soft rubber coating 36 to which are integral n. 42 radial cylindrical elements 37, also in soft rubber; said radial elements 37 are quincunx arranged, that is on n. 12 ranges among them parallel and equidistant, four on one range and three on the next one, staggered to the previous ones. A space 38 is delimited by said cylinder 31, by its radial elements 37, by the larger base 27m of the frusto-pyramidal portion of the connecting element 27 and by the portion of the two arms 28, 29 near its connection and also by the extensions 39, 40 of

the connection part 27. Said connection part 27 is provided with a hole 41 which passes through it joining on the smaller base with the terminal part of the hole 21 of the extensions 18, 19, the axis of the hole 41 being slanted to the axis of the cylinder 31 in the plane of figure 1, so that when the disk 14 is pressed in order to cause the dispensing of foam, the latter, when getting out from the hole 41, goes filling the space 38 and then exerting a pressure in the direction of its own axis on the radial elements located in front so as to cause the rotation of the cylinder 31 around its axis so that the foam which comes out, after having filled the space 38, is transported by the radial elements in their rotation so as to fill entirely the space between the said elements; when the cylinder has so rotated that all the spaces of the cylindrical crown including the radial elements are completely filled with foam, the user stops to press the disk 14 thus causing stopping of the delivery. The sizing of the fork and of the movable member are so determined that in the said delivery operation the amount of foam delivered corresponds to the optimum amount for soaping of the face in order to obtain a complete shaving. After having filled the dispenser the user holds the bottle and brings the ends of the radial elements 37 into contact with the face skin and by effecting a traverse movement perpendicular to the small cylinder axis causes, by exerting a slight pressure against the skin, rotation of the small cylinder and hence a uniform application of the foam on the skin as well as an efficient massage of the same which facilitates also the contact of the foam with the hairs base, which helps a good shaving. At the end of the use the dispenser can be easily washed from foam residues by putting it, still holding the bottle, under the water tap so that the water runs over the radial elements and so causes the small cylinder to rotatate, obtaining a perfect washing of all parts of the dispenser.

Claims

1. Shaving foam dispenser composed of a cap (1) similar to the cap which is used up to now for being applied to the upper end of the shaving foam bottles (3) and which is generally composed of a bottomless cylindrical ring (4) provided near the lower rim with a circular inside projection (10) suited, when mounting the cap on the upper end of said bottle, for hooking with the circular rim (11) of the bottle cover, which cover is clinched to the bottle (3) and houses in its central part a small movable pipe (23) protruding from the bottle along its axis and which, when pressed on its top for retracting partically into the bottle (3), causes outlet, through its axial longitudinal hole (24), of the foam by the action of the inner pressure, said cylindrical ring (4) being provided towards the other end with a disk (14) integral with the wall only in a limited portion (15) and provided in the inside part of the cap with a small cylinder (17) which base (22) has a concave shape suited, when the disk - (14) is pressed towards the bottle (3), to go adhering to the walls of the free end (23a) of said small pipe (23) without blocking up the inner hole (24) and allowing said hole to join with the hole (20) which passes through the small cylinder (17) and extends, through a prolongation (21), outside the ring (4) forming the cap (1) and hence to go pushing the small pipe (23) inside the bottle (3) in order to actuate its foot valve thus allowing outlet of the foam from said hole (21) of the cap (1), characterized in that it includes in addition, connected with said annular cap (1) externally in correspondence with the foam outlet area, a member (2) composed of a fork (26) the connection part of which is integral, in a practically rigid way, with the outer wall of said cap and is provided with an inside through hole (41) passing through it radially to the annular cap (1) and which joins with the cap foam outlet hole (21), and of two supporting arms (28, 29) extending parallel one to the other and the axis of symmetry of which is radial to said cap (1) and hence to said bottle (3), said member including also a small cylinder (31) which is supported by said arms with free rotation perpendicularly to said arms, the small cylinder (31) being idle, that is freely rotating on its axis and directly or indirectly provided with a set of radial elements (37), i. e. which extend radially to the axis of the small cylinder (31), the connection part (27) of the fork (26) being so shaped to surround the small cylinder - (31) with the radial elements (37) for one part of it so as to form such a space (38) between the small cylinder and said connection part that by pressing the cap (1) towards the bottle to control outlet of the foam, the latter, when getting out from the hole (41) going through said connection part, gets into said space (38), i. e. also between the radial elements (37) which are inside said space, and fills it and then by pivoting manually the small cylinder - (31) for about one turn the foam is brought to fill entirely the space included between all radial elements (37) of the small cylinder, said elements being so arranged and shaped, and consisting of materials having such strength, elasticity and softness, as to allow that by moving the bottle (3) traversely, after foam delivery has stopped, after having brought the ends of the radial elements - (37) to contact the face skin, and by gently pressing against the skin so as to cause rotation of the small cylinder (31), the free ends of the radial elements cyclically contact the skin with slight flexure thus applying the foam on the skin while the

latter is at the same time massaged by said radial elements (37), which massage helps the foam penetrating into the base of the hair, the size of the various parts of the fork (26), those of the small cylinder (31) and of the radial elements (37) and the number of these being so determined that the amount of foam which is delivered to fill the space between all the radial elements (37) corresponds to the optimum amount to be used for soaping for a full shaving.

2. Dispenser as claim 1. characterized in that the hole (41) passing through the connection part of the fork (26) has such a direction in correspondence to its orifice that the axis of its terminal part does not meet the axis of rotation of the small cylinder (31) but is at such a distance from it that the foam, when getting out from said orifice, goes, after having filled the said space (38), pushing the radial elements (37) at a height from their base sufficient to cause automatic rotation of the small cylinder (31) without requiring any manual operation during the entire foam delivery.

3. Dispenser as claims 1. and 2. characterized in that the radial elements (37) have a quincunx arrangement on the peripherical surface of the small cylinder (31), that is in ranges parallel to the generating lines of said small cylinder (31), and equidistant, these elements (37) being regularly staggered between one range and the other, so as to produce very uniform massage and distribution of the foam on the skin.

FIG.1

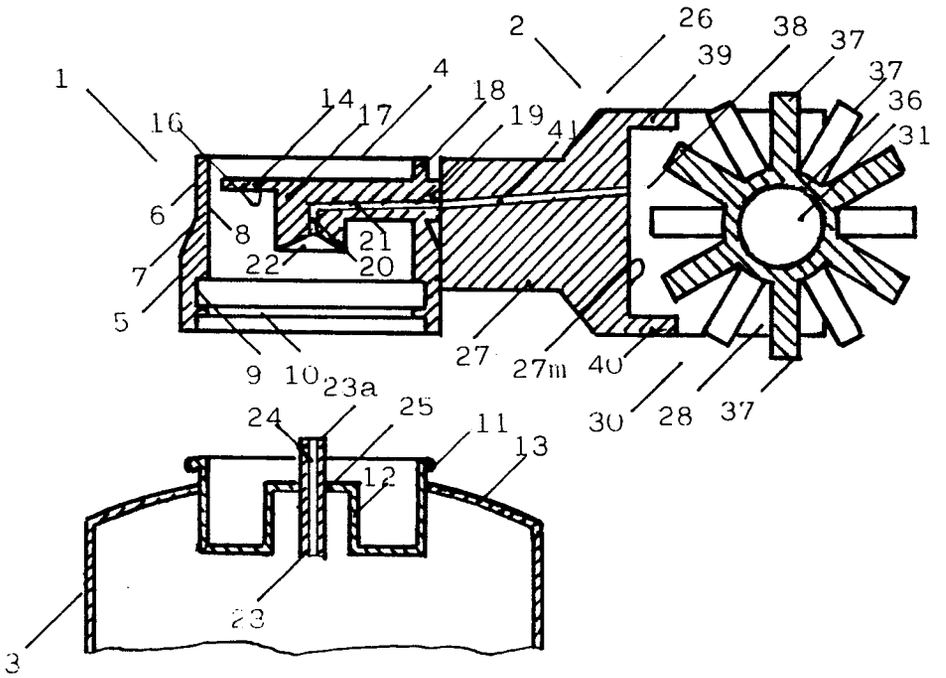
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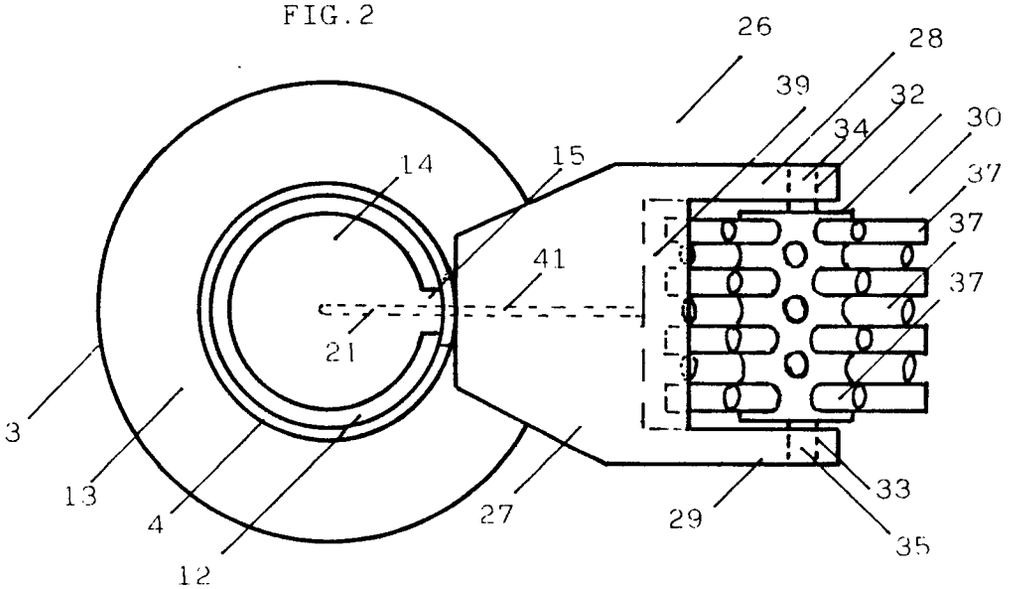
FIG.2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