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COLLAPSIBLE TUBE

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7 Claims. (Cl. 91—67.4)

This invention relates to collapsible tubes of the character usually employed in the sale of toiletries such as shaving creams, and the primary object of this invention is the provision of a novel-
5 formed tube for such a product that has applying surfaces making up a part of the head of the tube.

Another important aim of this invention is to provide a collapsible tube of the conventional type, having as an integral part thereof, a specially
10 formed head that comprises a number of inclined faces, most of which may be utilized in spreading and applying the contents of the tube after it has been ejected therefrom through the outlet port formed in one of the angled walls of the face.

Other objects of this invention include the relation between a plurality of inclined faces constituting the head of the tube and their specific contour, all of which plays an important part
15 in the result obtained from the construction and use of a collapsible tube made to embody the present invention.

Minor objects of the invention will appear during the course of the detailed specification, referring to the accompanying drawing, wherein:

25 Figure 1 is a side elevation of a collapsible tube made to embody this invention.

Fig. 2 is a top plan view of the same.

Fig. 3 is a fragmentary, longitudinal section through the head of the tube.

30 Fig. 4 is a similar section taken through a tube head made in accordance with a modified form of the invention, and,

Fig. 5 is an inverted plan view of the removable head illustrated in Fig. 4.

35 Shaving creams known commercially as "brushless" are best applied directly from the tube containing the same and these tubes may be cheaply and quickly manufactured to embody structural features as illustrated in the accompanying drawing.
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The body 10 of the collapsible tube is comparatively thin and is depressible by the user so that the contents thereof may be ejected through the hereinafter described outlet port formed in one
45 of the walls of the novel head 12. Wall 14 is substantially circular and a crescent shaped, inclined face 16 joins wall 14 to the body 10. This wall 14 has a concave exterior face which is circumscribed by the outer edge of wall 14 that
50 lies in a plane and which has a spreading edge 22 forming a length thereof. This spreading edge 22 is straight, as shown in Figs. 1 and 2, and serves as a smoothing blade after the material from body 10 has been forced through outlet port 18
55 and into the depression formed on the outer face

of wall 14. Obviously, this depression may contain a greater or lesser amount of the ejected material, all in accordance with the pressure exerted by the user, i. e., when concave face of wall 14 is pressed tightly against the skin, material will
5 be wiped from within the material retaining depression and a lesser force will allow some of the material to remain.

A seal for outlet port 18 is provided in the form of a plug 24 made of some resilient material
10 that will cause the plug to seat when forced into outlet port 18. Some areas of the face and neck require a flat face to properly spread the shaving cream and the flat, inclined, rear face 20 which extends downwardly and outwardly from the apex 15 formed by spreading edge 22 fulfills such need.

Head 12 should be of material somewhat thicker than body 10 so that it will maintain its form, and while the preferred embodiment of this invention results in an integral head and body, it
20 has been found practical to embody the invention in a modified form illustrated in Figs. 4 and 5, which is in the nature of a removable head having a plurality of inclined faces of precisely the same nature as those previously described, and includ-
25 ing the substantially circular, concave applying areas 30 joined to the annular skirt 38 by crescent-shaped wall 32. Outlet port 34 extends through the wall forming face 30 and terminates in a large, internally screwthreaded cavity that is formed in
30 boss 36. Through this expedient the head may be removably applied to the conventional type of collapsible tube 50 having an exteriorly threaded neck 52. A flat, inclined rear face 40 performs the function as hereinbefore set down and the smooth-
35 ing edge 42 creates an apex at the line of connection between concave face 30 and flat face 40. Obviously, when tube 50 is empty, this novel head may be removed and positioned upon another tube
40 for continued use.

The provision of a number of variously formed and inclined faces on the head, all of which are at an angle to the longitudinal axis of the associated tube, affords means for applying a shaving cream without waste and without the cus-
45 tomary objectionable use of the hands and fingers.

Having thus described the invention, what is claimed as new and desired to be secured by
Letters Patent is:

1. A collapsible tube adapted for use in applying the content thereof as it is ejected therefrom comprising a head on the tube having a substantially circular wall disposed at an angle to the longitudinal axis of the tube and intersect-
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ing the same; an outlet port formed through said wall; and a concave area formed on the exterior face of the said wall, the edge of the wall defining said area being substantially in a plane whereby
5 to form a material retaining depression having the said outlet port in communication therewith.

2. A collapsible tube adapted for use in applying the content thereof as it is ejected therefrom
10 comprising a head on the tube having a substantially circular wall disposed at an angle to the longitudinal axis of the tube and intersecting the same; an outlet port formed through said wall; and a concave area formed on the exterior
15 face of the said wall, the edge of the wall defining said area being substantially in a plane whereby to form a material retaining depression having the said outlet port in communication therewith, a length of said edge defining the
20 concave area being straight to present a spreading ridge.

3. A collapsible tube adapted for use in applying the content thereof as it is ejected therefrom comprising a head on the tube having two
25 upwardly and inwardly inclined meeting walls; a concave area formed on the exterior face of one of said walls; and an outlet port formed through said wall to convey material from the tube to the concave area, the other wall having
30 a flat exterior face.

4. A collapsible tube adapted for use in applying the content thereof as it is ejected therefrom comprising a head on the tube having two upwardly and inwardly inclined meeting walls; a
35 concave area formed on the exterior face of one of said walls; and an outlet port formed through said wall to convey material from the tube to the concave area, the other wall having a flat exterior face, said walls meeting along a straight
40 spreading edge at the vertex of said head.

5. A tube of the character described comprising a collapsible body; and a head having a plurality of faces disposed at an angle to the longitudinal axis of said tube, one of said faces being
5 concave and having an outlet port extending inwardly therefrom, the remaining angular faces diverging from the first mentioned face to connections with the said body.

6. A tube of the character described comprising a collapsible body having a screwthreaded
10 neck of relatively small diameter; and a head having an annular depending skirt, and a plurality of faces disposed at an angle to the longitudinal axis of said tube, one of said faces being
15 concave and having an outlet port extending inwardly therefrom; the remaining angular faces diverging from the first mentioned face to connections with the said annular depending skirt of the head, a portion of the wall of said port being
20 screwthreaded for connection with said neck for removably associating the head with the body, said depending skirt being drawn down over the body as the head is threaded on the neck.

7. A tube of the character described comprising a tubular collapsible body; a hollow head of
25 rigid material closing one end of the tube; an arched wall having an inclined, concave face, formed by the said head, disposed at an angle to and intersecting the projected longitudinal axial line of the tubular body; an outlet port
30 formed through the said arched wall to allow the escape of material from within the said tube and hollow head when the former is compressed; an inclined wall formed by the head, having a flat exterior face formed thereon, merging with the
35 said arched wall to create a straight edge adapted to spread the material ejected through the said outlet port; and walls, formed by the head, for joining the hollow head and collapsible body.

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