April 29, 1952 A. MASTERS 2,594,959

HAIR REMOVER WITH CENTRAL FEED OF SKIN LOTION

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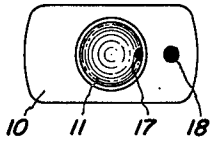


FIG. 3

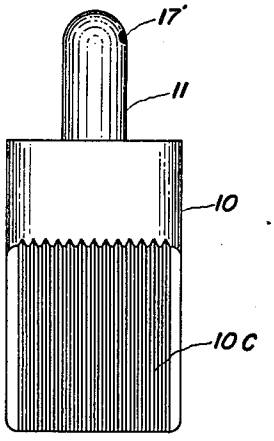


FIG. 1

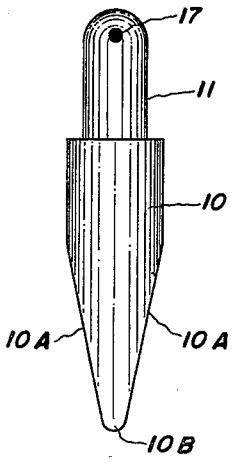


FIG. 2

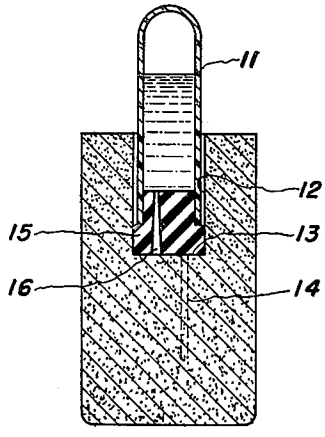


FIG. 4

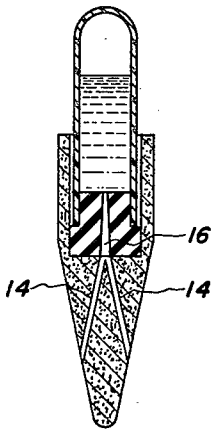


FIG. 5

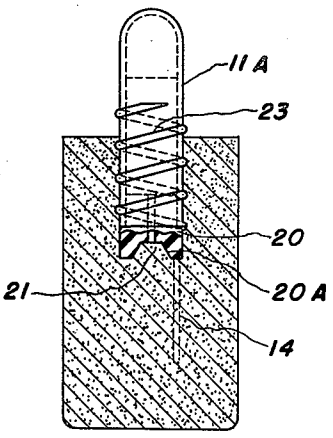


FIG. 6

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HAIR REMOVER WITH CENTRAL FEED OF SKIN LOTION

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9 Claims. (Cl. 128—260)

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The present invention relates to a pocket device useful to remove hair and stubble from the skin of a person, for example from the arms or legs, and is concerned more especially with a device, by the aid of which, the hair is removed by an abrading action and simultaneously the skin of the user anointed with soothing liquid such as an oil, that feeds from within the abrading element and works into the skin to prevent irritation.

The invention aims primarily to effect removal of unwanted hair from one's person quickly and efficiently and in the least annoying manner possible and to provide a pocket size device for the purpose that will include the abrading element and a self-contained reservoir for a soothing liquid which together and in combination are constructed and adapted to function as valve means and pumping means adapted when operated to discharge the soothing liquid through the abrading element from the interior thereof to the exterior surface and thence in intimate contact with the skin of the user.

While it is known to use sandpaper to cut and rub off hair from one's person, sandpaper is difficult properly to manipulate and its cutting action is harsh and irritating, so much so that the skin becomes painfully sensitive and sore to the touch. The present invention aims to render available a hair remover that is not only rigid and compactly proportioned to fit the hand of the user but shaped and proportioned to perform its hair removing and skin treating functions over areas of the person not too easily reached by other devices.

The invention has for a further objective, a hair removing device constructed essentially of a stone or stone-like material especially treated for this particular purpose and by which the surface of the stone is roughened to present a multitude of infinitesimally small projections and intervening cavities suitable for abrading the hair when rubbed gently over the skin. As the stone wears away a new roughened surface continually presents itself thus rendering the device useful until too small to handle. By way of further improvement, the stone-like abrasive member may be further roughened by mechanical means to present for example, a ribbed effect on one side for coarse work or toughened skin and a finer surface effect on another side for finer work or more delicate skin.

Still another aim of the invention is to provide such an abrasive element with a built-in or self-contained reservoir for a skin soothing

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liquid, which reservoir may be removed from time to time to replenish the supply. The reservoir itself, in accordance with this invention, will preferably be constructed as a hollow deformable tube closed at one end and corked at its other end. After filling the tube, the corked end will be inserted into the abrasive element and in cooperation with the abrasive element is arranged to function as a valve. It is intended that a sufficient portion of the tube remain exposed and accessible for manipulation whereby the valve may be opened and closed at will. When the valve is in open position, a slight pressure on the exposed portion of the deformable tube will expel skin treating oil therefrom which flows through the interior of the abrading element through channels provided, to the operating surface thereof and to the skin of the user.

Other objects and advantages will be in part indicated in the following description and in part rendered apparent therefrom in connection with the annexed drawings.

To enable others skilled in the art so fully to apprehend the underlying features hereof that they may embody the same in the various ways contemplated by this invention, drawings depicting a preferred typical construction have been annexed as a part of this disclosure and, in such drawings, like characters of reference denote corresponding parts throughout all the views, of which:

Figures 1, 2 and 3 of the drawings are respectively front, side, and plan views of an assembled device embodying the invention.

Figs. 4 and 5 are vertical sectional views of the device taken in transverse planes.

Fig. 6 is a view, partly in section, illustrating a variant form of valve.

Referring more particularly to Figs. 1, 2 and 3, a hair remover constructed in accordance with this invention, will comprise essentially, a shaped abrasive stone element 10, having a built in reservoir 11. Preferably, the stone will be cut so as to be wider than it is thick and somewhat elongated. The flatter sides 10*a* of the stone may be tapered and somewhat wedge-shape and the point end slightly rounded as at 10*b*. If desired one or both of the flattened sides 10*a* may be grooved or ribbed, as at 10*c*, to define and present the normal or inherent abrasive qualities of the stone in ridges with intervening valleys.

Within the body of the stone is formed a relatively deep cavity 12 that extends approximately half way the length of the stone (Figs. 4 and 5).

The recess or cavity 12 is circular and in the form illustrated in Fig. 4, is formed with a flat bottom 13. Eccentric to the central axis of the cavity one or more passageways 14 are formed which lead from the interior of the cavity to the tapered exterior working surfaces of the stone. The relatively deep cavity 12 is adapted to receive the capsule or vial reservoir 10 containing a skin lotion. Preferably, the vial will be constructed of transparent material of a quality that is inert to the skin oil and also possess the property of being somewhat deformable. One end of the vial is closed, as at 11*a*, and the other end by means of a resilient cork 15, also made of material inert to the skin oil. The cork will have an external diameter 15*a* approximately the diameter of the cavity 12 in the stone so as to form an effective seal therewith, and a reduced portion 15*b* of a diameter closely fitting the open end of the vial 11. Also, the cork 15 will be provided with a fluid passageway 16, extending generally parallel to the axis of the vial. The passageway may be offset from the axis of the bore in the stone by an amount corresponding to the eccentricity of the leading end of the channel or channels 14 in the stone. With the parts assembled and related as illustrated in Fig. 4, the outlet end of the passageway 16 is effectively closed by the stone end wall 13. However, when the vial is turned about its longitudinal axis, communication is established between the passageway 16 and with the leading end of the channels 14 in the stone. When the latter relations obtain a slight squeezing pressure upon the exposed portion of the vial will cause a portion of the contained liquid to be expelled through the passageway 16 in the cork and through passageways 14 to the working face of the stone. Accordingly, as the stone is used, the skin lotion is worked into the skin of the user and prevents irritating effects. As more oil is required, the deformable reservoir is again lightly squeezed, and an additional quantity is supplied from the interior of the stone.

When the ports 16 and 14 are in communication as above explained, the oil is prevented from leaking out of the cavity 12 by reason of the seal therewith made by the marginal portion of the vial cork. When the hair removing operation has been completed, the reservoir vial 10 is again rotated about its axis to close off communication between ports 16 and 14, and the port 16 again becomes sealed by the blank end wall 13 of the stone. As an additional assurance against leakage of oil, which is of special importance in a pocket device of this kind, the passageway 16 in the cork may be formed conical with the small end of the cone towards the supply. A cone shaped passage automatically breaks the tendency of the oil to flow by capillary action.

The device of Fig. 6 is similarly constructed with the exception that the stone engaging end of the cork 20 is formed with a cone shaped recess 20*a* that fits over a complementally shaped projection 21 formed in the stone. In this construction the passageway 16*a* in the cork, leads to the apex of the male and female valve cones. In addition, the vial may have formed upon its exterior one or more convolutions of a helical thread 23, and likewise the receiving cavity in the stone will be threaded to match. In this variant form, rotation of the body of the vial causes relative axial movement to occur between the cones 20*a* and 21 and establishes communication or closes off communication between the passageways 16 and 14. It is preferred that a right handed thread be used, for it is natural for a person to turn a part clockwise to tighten or to close, and counterclockwise to loosen or to open.

In order to determine by sight the open or closed position of the ports 16 and 14, the vial may carry an index mark on its side such as a dot 17 and a zero mark such as a dot 18 may be applied to the stone. When the marks are opposite one another the flow channels will be understood to be open, and if not opposite one another it will be understood that the ports are closed.

From the foregoing it will be seen that a neat and compact hair remover of the abrading character is provided. One that is easy to use on various irregular areas of the person, one that carries within the abrasive element its own reservoir of soothing oil which in coaction with the stone itself, is arranged to function as a valve and a pump operative to discharge small quantities of a skin oil from the interior of the stone to its exterior working surface and thence directly to the skin of the user. The construction and operation of the valve is simple and without complications, and when closed by a simple and natural turning movement effectively seals off the flow and prevents leakage or loss of fluid that would, if it did occur, be quite aggravating.

Without further analysis, the foregoing will so fully reveal the gist of this invention that others can, by applying current knowledge, readily adapt it for various utilizations by retaining one or more of the features that, from the standpoint of the prior art, fairly constitute essential characteristics of either the generic or specific aspects of this invention, and therefore, such adaptations should be, and are intended to be, comprehended within the meaning and range of equivalency of the following claims:

Having thus revealed this invention, I claim as new and desire to secure the following combinations and elements, or equivalents thereof, by Letters Patent of the United States:

1. A device of the character described comprising in combination an abrasive element having a relatively large cylindrical bore extending inwardly from one end thereof and a relatively small passageway leading from the inner end of said bore from a point located eccentric to the longitudinal axis thereof to the exterior surface of the abrasive element at a region medially of its ends, a cylindrical container for liquid skin lotion insertable in the bore in the abrasive element, said container being longer than the depth of the bore in the abrasive element so that a portion of the container projects, and a removable cork element for closing the open end of the container, said cork element having marginal portions fitting the opening in the abrasive element so as to form a liquid seal therewith, and said cork element also having a liquid passageway therethrough, and means including the container for rotating the cork angularly relative to the abrasive element whereby to establish communication between the eccentrically located passageway in the abrasive element and the passageway in the cork for the flow of the liquid lotion from within the container and through the abrasive element to the exterior working surface of the abrasive element.

2. The combination of claim 1 in which the abrasive element is formed with tapered sides and the passageway between the bore and the ex-

terior surface terminates at the medial region of at least one of the tapered sides.

3. The combination of claim 1 in which the passageway in the cork element is capillary in size and constructed to prevent a flow therethrough by capillary action.

4. The combination of claim 1 in which the passageway in the cork element progressively increases in sectional area from the interior of the container outwardly to prevent a flow therethrough by capillary action.

5. In a device of the character described, an abrasive stone having a relatively large cylindrical opening extending inwardly from one end thereof and a relatively small passageway leading from the inner end of said opening from a point located eccentric to the longitudinal axis of the opening to the exterior surface of the abrasive stone at a region medially of its ends, a deformable cylindrical container for liquid skin lotion insertable in the opening in the abrasive stone, and adapted for rotation therein, said container being longer than the depth of the opening in the abrasive stone so that a portion of the container projects beyond the end of the stone, and a removable cork element for closing the open end of the container, said cork element having marginal portions fitting the opening in the abrasive stone so as to form a liquid seal therewith, and said cork element also having a liquid passageway therethrough, adapted upon rotation of the container relative to the abrasive stone to establish communication between the eccentrically located passageway in the abrasive stone and the passageway in the cork for the flow of the liquid lotion from within the container to the exterior working surface of the abrasive stone upon the squeezing of the exposed portion of the container.

6. The combination of claim 5 wherein screw thread means are provided between the container and the stone operative when the container and stone are rotated relative to one another to displace the elements axially whereby selectively to open and close communication between the passageway in the cork and the passageway in stone.

7. In a device of the character described, an abrasive stone having a relatively large cylindrical cavity extending inwardly from one end thereof and a relatively small passageway leading from the inner end of said cavity from a point located eccentric to the longitudinal axis of the cavity to the exterior working surface of the abrasive stone at a region medially of its ends, a deformable container for liquid skin lotion rotatable in the cavity in the abrasive stone, said container being longer than the depth of the cavity in the

abrasive element so that a portion of the container projects from the end of the stone, a removable cork element carried by the container for closing the open end thereof, said cork element having marginal portions fitting the circular cavity in the abrasive stone so as to form a liquid seal therewith, and said cork element also having a liquid passageway of capillary size extending axially therethrough adapted on bodily rotation of the container and cork element relative to the abrasive stone electively to open and close communication between the eccentrically located passageway in the abrasive stone and the said capillary passageway in the cork, said passageway when in communication providing an exit for liquid lotion expelled from within the container to the exterior working surface of the abrasive element upon manual deformation of the projecting portion of the container.

8. The combination of claim 7 in which the abrasive stone is formed generally wedge shape and one of the sides thereof is artificially roughened to accentuate the abrading action produced by that side relative to the intensity of the abrading action produced by the other side of the stone.

9. A device of the character described comprising in combination an abrasive stone having tapering side surfaces and a relatively large cylindrical bore extending inwardly from the blunt end thereof and a relatively small passageway leading from the inner end of said bore from a point located eccentric to the longitudinal axis of the bore to the tapering exterior surface of the abrasive element at a region medially thereof, a corked container of skin lotion insertable in the opening in the abrasive stone corked end first, said container being longer than the depth of the bore in the abrasive element so that the corked end bottoms therein and a portion of the container projects from the stone, and the cork of said corked container having marginal portions fitting the bore in the abrasive element so as to form a liquid seal therewith, and the said cork also having a liquid passageway of capillary size extending therethrough adapted on rotation of the corked container relative to the abrasive stone to establish communication between the capillary passageway in the cork and the eccentrically located passageway in the stone for the flow of the liquid from within the container to the tapered exterior surface of the abrasive stone when the exposed portion of the container is manually deformed.

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No references cited.