

May 24, 1966

A. R. WERFT

3,252,217

POWER SHAVER WITH SHAVING AID DISPENSER

Original Filed Oct. 1, 1959

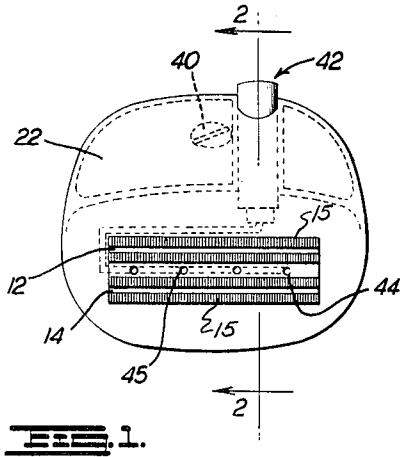


FIG. 1.

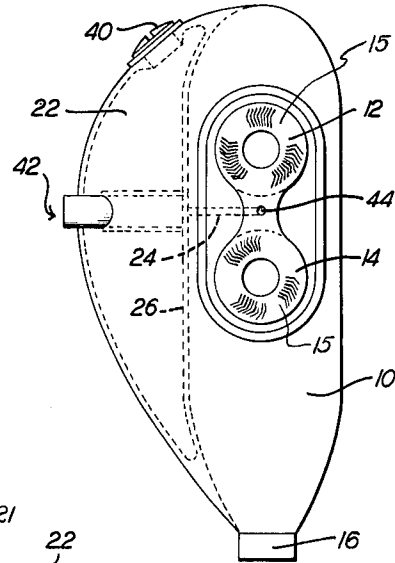


FIG. 2.

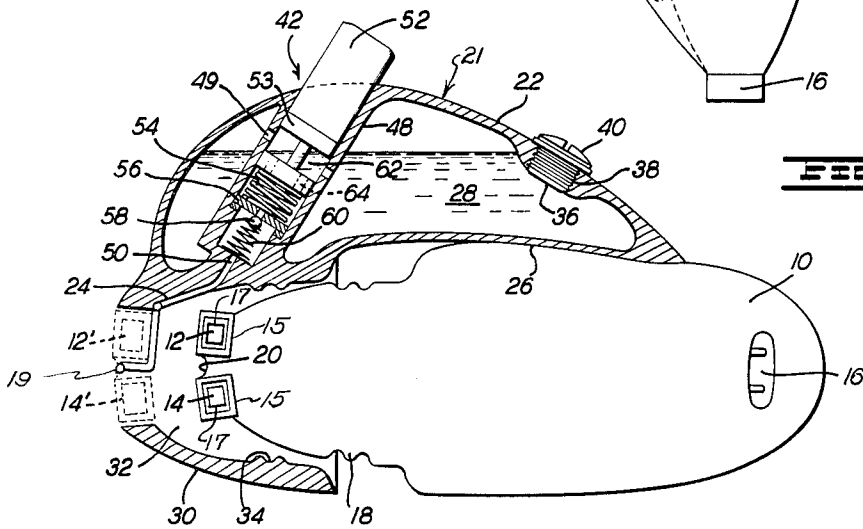


FIG. 3.

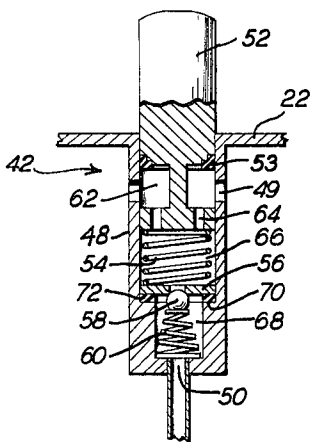


FIG. 4.

INVENTOR
AUGUST R. WERFT

BY *Adams, Howard & M. C. Lane*

ATTORNEY

1

2

3,252,217

POWER SHAVER WITH SHAVING AID DISPENSER
 August R. Werft, Uniontown, Pa., assignor, by mesne assignments, to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois

Original application Oct. 1, 1959, Ser. No. 843,822, now Patent No. 3,103,299, dated Sept. 10, 1963. Divided and this application Nov. 2, 1962, Ser. No. 235,099
 2 Claims. (Cl. 30-41)

This application is a division of copending application Serial No. 843,822, filed October 1, 1959, which has now matured into Patent No. 3,103,299, granted September 10, 1963.

This invention relates to a moistureproof motor-actuated shaving device having means for dispensing a liquid to, through and/or around the shaving head to the hair and skin of the user. The invention provides a modern mechanical type shaving device that will permit the user to shave in a wet medium by dispensing and controlling a quantity of hair softening, skin conditioning, cutting head lubricating, or any other beneficiating liquid to the shaving head and the hair, beard and skin of the user, whenever desired, from a reservoir that is either an integral part of the shaver body or from a detachable reservoir.

The dispensing means is adaptable to shavers with either single or multiple cuttings heads and of the rotary blade type, reciprocating shear type, rotary disc type and other electric shavers. The dispensing means may be either integral or detachable and includes a reservoir made of plastic, rubber or other material for storing a non-lather type shaving lotion or other liquid shaving aid, and a means for dispensing and controlling the quantity of lotion to, through, and/or around the shaving head to the hair and skin of the user. Means, in the form of a detachable cap may also be provided to refill the reservoir with the lotion or liquid or the detachable reservoir may be discarded after its charge of liquid is exhausted. By thus being able to wet the hair and skin during shaving, the device will glide smoothly over the skin and eliminate the usual dragging and sticking of the shaving head on the skin. The dispensing means includes a valve mechanism which can discharge effectively whenever and as desired a shaving lotion or other liquid to a duct which conducts the liquid to, through and/or around the shaving head, which valve means can be operated while the user has his hand disposed in a natural position upon the body of the shaving device.

While, as mentioned previously, the dispensing means of this invention is combinable with single-head shaving devices, it is particularly useful in combination with devices having a multiplicity of shaving heads which contact the skin simultaneously during shaving. Each shaving head conventionally comprises a stationary member or cutting element sometimes referred to as a comb, or more usually a series of stationary cutting elements, and a moving member which comprises a movable cutting element or a series of movable cutting elements. The movement of the moving member may be vibratory or, in the case of rotary heads it may be a rotary motion.

The dispensing means generally comprises a reservoir and a duct leading to one or a plurality of orifices near the shaving head. Where the shaver is provided with a plurality of heads at least one orifice is situated between a pair of heads. The reservoir is preferably provided with an aperture for filling and the flow of liquid between the reservoir and the duct is controlled by a dispensing valve.

The invention will be more easily understood by refer-

ence to the accompanying drawing which is not to be construed as limiting and in which

FIGURE 1 represents a front elevational view of a conventional motor-actuated shaver to which the dispensing means of this invention has been added.

FIGURE 2 is a sectional view along the line 2-2' of FIGURE 1, showing the dispensing means partially detached from the shaver.

FIGURE 3 is a front view of another form of shaver combined with the dispensing means of this invention, and

FIGURE 4 is a sectional detail of the dispensing valve.

In the drawings, elements of a conventional motor-actuated shaver are shown and include a housing 10, for the motor, gearing, etc., of the shaver, one or more shaving heads 12 and 14 each comprising one or more stationary cutting elements 15 and one or more movable cutting elements 17. The shaver also includes an electrical connection 16. Where the shaver is detachable from the dispensing means, shaver housing or casing 10 may conveniently be provided with depressions or threads 18 for frictional or threaded engagement with the dispensing means. The housing of the shaver is also provided with a depression 20 in the vicinity of the shaving head for reception of the duct 19 of the dispensing means 21 and conveniently, when the shaver has a plurality of shaving heads, the depression is between a pair of the heads. Although conventional shavers rarely have more than two shaving heads, where three or more heads are present, a plurality of depressions could be provided, one depression between each pair of heads.

The dispensing means 21 comprises a housing 22 and a duct 24, the housing 22 having bottom 26, for the reservoir 28. Where the dispensing means is integral with the shaver, the housing 22 may be integral with the housing 10 and the bottom 26 may comprise a common wall between shaver and reservoir.

The housing 22, when the dispensing means 21 is separable from the shaver, will include the sleeve 30 which will provide a passage or opening 32, for reception of the shaver and the sleeve will advantageously be provided on its inside surface with projections or threads 34 for engagement with the housing of the shaver to hold the shaving heads in the position of heads 12' and 14'. The housing 22 is also preferably provided with refilling hole 36 which advantageously is provided with threads 38 for reception of the screw-cap 40. As is apparent, the cap 40 may, alternatively, be force-fitted or secured in any convenient manner to the hole 36 to provide a substantially liquidproof closure.

The duct 24 is provided, leading from the reservoir 28 to the vicinity of the heads 12, 14, of the shaver, by way of the dispensing valve, indicated generally as 42. Where the dispensing device is manufactured integrally with the shaver the duct may run through the body of the shaver to the vicinity of the shaving head where one or more orifices 44, 45 are provided in the vicinity of the head. The orifices may be suitably constructed or otherwise arranged to give an atomizing effect to the liquid if desired. The duct may be fitted along the bottom wall 26 of the reservoir when the dispensing means is detachable, and may be continued into the passage or opening 32 of the sleeve 30, ending with one or more of the orifices 44, 45, in a position where they are close to the shaving heads when the shaver is positioned in the sleeve.

Interposed between the reservoir 28 and the duct 24 is the dispensing valve 42. This valve may conveniently be located in a throat 48, located in proximity to or within the reservoir 28 and, in the embodiment shown in the drawings, may be formed integrally with the housing 22. The interior of the throat 48, communicates with the reservoir 28 by means of apertures 49, reaches to the top of the housing 22 and terminates at its lower end at the opening

50 to the duct 24. The valve mechanism is contained within the throat and it is to be understood that this valve mechanism may be of any form desired, although a preferred form is illustrated and will be described. The valve mechanism shown comprises the piston 52, sealing ring 53, spring 54, flat ring 56, ball valve 58 and ball valve spring 60.

As can be seen, the piston 52 projects beyond the top of housing 22. The piston is provided with the annular space 62 along its length under the sealing ring 53 and with one or more passages 64 leading from the annular space 62 through the bottom of the piston to the space 66 which contains the spring 54. The ball valve 58 and the valve ball spring 60 are contained in the space 68 which, as shown in the drawing, is of smaller diameter than the space 66, due to narrowing of chamber in the throat 48. This narrowing conveniently provides a shoulder 70 in the throat suitable as a seat for the flat ring 56. A flexible gasket 72 may be provided between the ring and the shoulder.

In its non-actuated position, the ball valve 58 is biased by spring 60 against the flat ring 56, closing the central opening in this ring. The ring itself is biased against shoulder 70 by the spring 54, which spring also biases the piston 52 upward, and out of the throat 48, bringing the annular space 62 into communication with the apertures 49. In this position, liquid from the reservoir 28 is allowed to flow into the annular space 62 and through the passages 64 to provide the space 66 with liquid.

The valve is actuated by pressing down the piston 52 at least to the extent that sealing ring 53 passes the apertures 49. The pressure of fluid in the spaces 62 and 66 forces ball valve 58 from its seat on the ring 56. Liquid is thereby permitted to enter the chamber 68 from which it is ejected, on subsequent pushing of the piston, through aperture 50 and the duct 24 to, through and/or around the cutting heads 12, 14, of the shaver, and out of orifices 44, 45 in the vicinity of the cutting head.

It is intended that the oblique angle mounting of the push button liquid metering valve in the body of the reservoir (FIG. 2) is only one of many positions that may be employed to dispose the dispensing valve in a natural position for use by the operator. The dispensing reservoir

of relatively durable material may be replaced by a pressurized disposable "aerosol" type mechanism containing a gaseous propellant.

I claim:

1. A dry shaver comprising a housing, a motor mounted in said housing, a stationary cutting element mounted on said housing, a movable cutting element mounted adjacent said stationary cutting element, means drivingly relating said movable cutting element and said motor, and means associated with said stationary cutting element for dispensing a glide agent within an area substantially defining the cutting surface of said dry shaver.

2. A dry shaver comprising a casing, a motor mounted in said casing, a stationary cutting element mounted on said casing, a movable cutting element mounted adjacent said stationary cutting element, means drivingly relating said movable cutting element and said motor, a chamber associated with said casing, means for storing a glide agent in said chamber, a glide agent dispensing device disposed adjacent said stationary cutting element and means for selectively supplying said glide agent from said chamber to said dispensing device, said glide agent being dispensed within an area substantially enclosed by the cutting surface of said dry shaver.

References Cited by the Examiner

UNITED STATES PATENTS

1,338,305	4/1920	Jones	30-41	X
1,479,301	1/1924	Jones	30-41	
2,134,960	11/1938	Testi	30-34	X
2,323,659	7/1943	Holsclaw	30-41	
2,327,192	8/1943	Keene	30-41	
2,659,968	11/1953	Crisp	30-45	
2,686,361	8/1954	Resnick et al.	30-41	
2,786,270	3/1957	Orlando et al.	30-41	
2,787,829	4/1957	Bayne	30-34.1	
2,839,224	6/1958	Lipka	222-191	
2,910,770	11/1959	Kachline	30-43.92	

WILLIAM FELDMAN, *Primary Examiner.*

LOUIS J. DEMBO, MYRON C. KRUSE, *Examiners.*