Aug. 17, 1948. W. NEUBURGER 2,447,358

FOUNTAIN SAFETY RAZOR

Filed Nov. 21, 1944

Fig. 1.

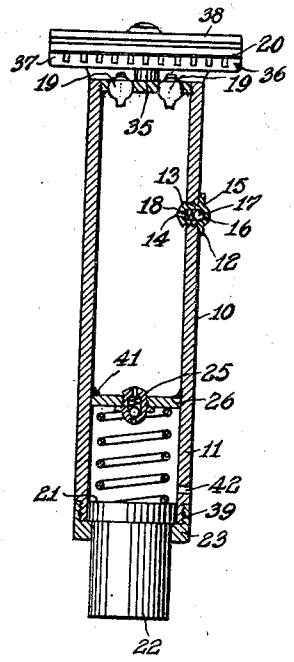


Fig. 2.

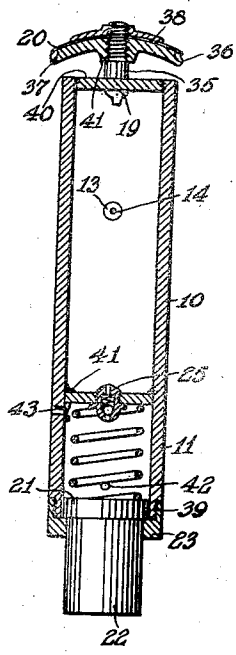
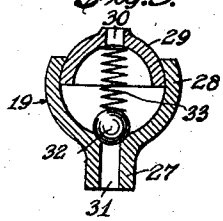


Fig. 3.



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FOUNTAIN SAFETY RAZOR

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4 Claims. (Cl. 30—41)

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This invention relates to fountain safety razors and is herein described in some detail as embodied in a safety razor, using a standard commercial type of blade, that has a chamber in which pressure on contained soap or soap solution is maintained after pumping in air above it.

Attempts have been made to produce fountain safety razors but no one of these have proved successful commercially.

The nozzles were set at a fixed angle and so were not well adapted to use varying types or varying of soap or other solution.

In most cases no steady flow of solution to the blade could be counted on.

Some razors lacked proper devices to produce an even flow of soap solution. Others used feeding devices which were supposed to break up the flow but actually interfered with the flow, other razors proved unsatisfactory in many other ways.

According to the present invention the foregoing and other objections and difficulties are overcome and a razor is provided in which air-pressure feeds the soap solution through nozzles near the blade and those nozzles can be individually adjusted by the user to suit his own ideas of efficiency.

Once set, the supply of soap in the chamber provides predictable shaving conditions for several days.

Other features and advantages will hereinafter appear.

Fig. 1 is a side view largely in section, of a razor embodying the present invention.

Fig. 2 is a sectional side view taken on the central line of Fig. 1.

Fig. 3 is a sectional side view of a delivery valve or nozzle.

The razor shown in Fig. 1 includes a cylindrical barrel 10 having an extension 11 beyond the barrel.

The barrel 10 is adapted to be filled with soap solution or other shaving preparation through a side valve 12 which is shown as including a body 13 having a bore 14 and annular cap 15.

The solution is adapted to be put in through the central opening 16 of the cap 15 by forcing the solution with an atomizer or otherwise to push back a ball 17 which normally closes the opening 16 to admit the liquid.

When liquid is no longer forced in a spring 18 shifts the ball 17 to close the opening 16.

The razor is then adapted to deliver soap solution through the two end nozzles 19. They deliver each behind the usual blade 20 and in the form shown the nozzles 19 stand about one-third

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of the distance from the center of the blade to its end.

To do this delivering the razor is shown as having a plunger 21 with a stem 22 extending out beyond the annular cap 23 which closes the end of the extension 11.

When the stem 22 is pressed it forces its plunger 21 down in the extension 11 to compress air within the extension and force the air through a valve 25 in the partition 26 which forms the bottom of the extension 11.

The valve 25 may be like the valve 12 and either of them may be either screwed or sweated into place.

The nozzles 19 may be clear for some types of soap solution so that they deliver mixed air and solution freely.

For some types of solution the nozzles 19 may be constructed as shown in Fig. 3 in which a stem 27 carries a head 28 which forms more than half of a sphere and embraces a hemispherical end head 29 so that the end head 29 can be diverted to a wide variety of angles and cause its central opening 30 to deliver soap or soap and air at any desired angle to the blade.

In the form shown the opening 31 in the stem 27 which is the effective nozzle is normally closed by a ball 32 held against it by a spring 33 which bears against the inner surface of the head 29.

The ball 32 is adapted to hold within the barrel 10 any contained liquid but to be displaced by air pressure and deliver liquid through the opening 30 either in a stream or drops or foam.

The razor bade 20 is shown mounted in one of the standard forms as held on a post 35 by over-lying the curved member 36 which carries the usual guard teeth 37 and is held against the member 36 by the usual holding piece 38 which is threaded at 39 so that the threaded end 40 of the post 35 when screwed down on the threaded end 39 draws on the piece 38 to firmly bend the blade 20 and hold it in place for shaving, because the curved member 36 seats on the shelf 41 on the post 35 where the thread 40 begins.

In the form shown the nozzles 19 are short enough to enable them to stand clear of the guard member 36 when the razor body is turned to tighten the holding piece 38.

The user of the razor after trying it and finding it unsatisfactory can remove the blade and the guard piece 36 and alter the angle at which the opening 30 delivers the soap solution to suit his own ideas.

An opening 42 in the extension 11 admits air to the front of the piston 24.

The razor body is well adapted to be molded out of plastic material but is herein described in some detail as adapted to be also made of metal.

To this end the cap **23** is shown as threaded at **39** on the end of the extension **11**, the end nozzles **19** are shown on an end plate **40** which is threaded into the end of the barrel **10**, and the partition **26** is shown as forced onto small slanting raises **41** in the interior of the barrel **10**.

If the plunger **21** fits tight a side valve **43** to admit air behind the retreating plunger may be added.

By unscrewing the end plate **40**, the interior is easily washed out and the valves **19** form easily grasped handles for turning the plate **40** to release it.

Having thus described one embodiment of the invention, what I claim is:

1. In a fountain razor the combination with a hollow handle forming a reservoir, of an extension of the handle forming a pump, a blade holder in the opposite end of the reservoir, a side valve for admitting liquid, and a pair of nozzles adapted to deliver liquid behind the blade.

2. In a fountain razor, the combination with a hollow handle forming a reservoir, of an extension of the handle forming a pump, a blade holder at the opposite end of the reservoir, a side valve for admitting liquid, and a pair of swingable nozzles adapted to deliver liquid behind the blade.

3. In a fountain razor, the combination with a hollow handle forming a reservoir, of an extension of the handle forming a pump, a blade holder projecting from the opposite end of the reservoir and adapted to hold a blade spaced from the reservoir, and a pair of nozzles swingable behind the blade holder to deliver the contents of the reservoir at various angles to the back of the blade holder.

4. In a fountain razor, the combination with a hollow handle forming a reservoir, of an extension of the handle forming a pump, a blade holder projecting from the opposite end of the reservoir, a guard for the back of the blade spaced from the reservoir, and a pair of nozzles in the end of the reservoir and clear of the guard and angularly adjustable to deliver the reservoir contents at various points to the back of the guard.

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