Nov. 28, 1939. E. A. CLAUDER 2,181,653

SHAMPOO APPARATUS

Filed Oct. 25, 1937

Fig. 4.

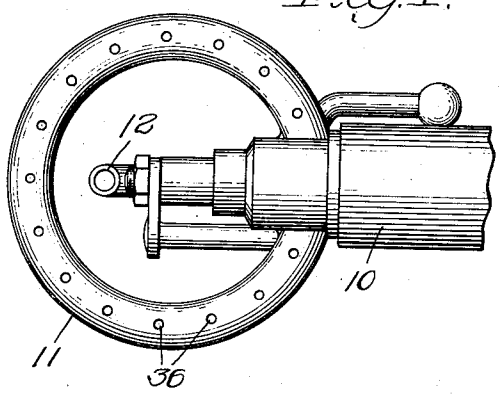


Fig. 1.

Fig. 2.

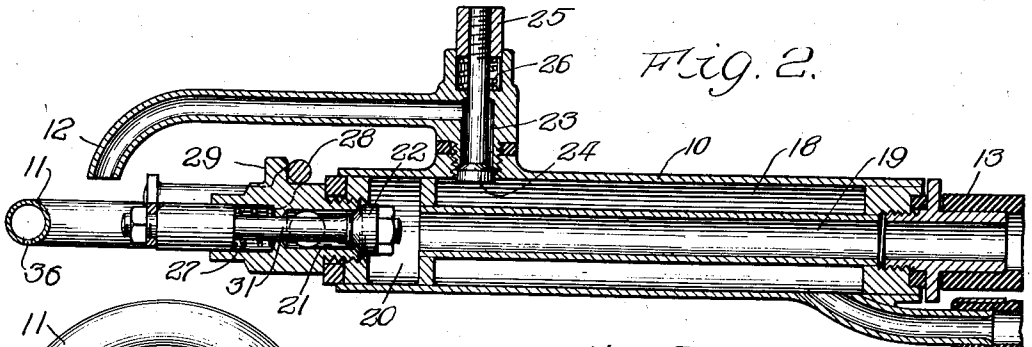
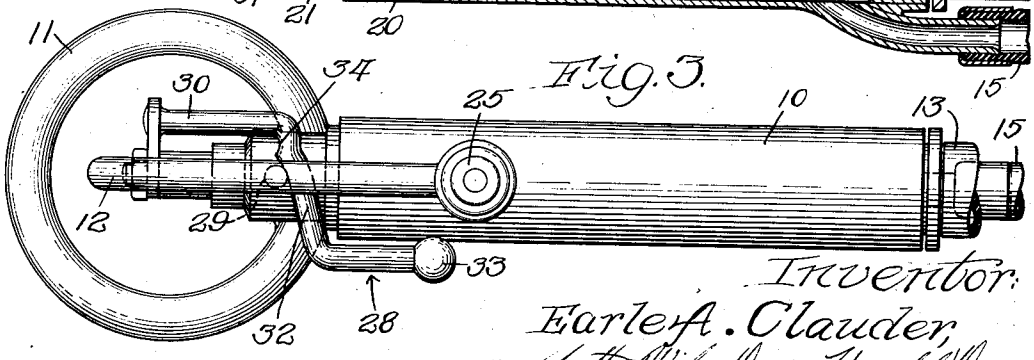


Fig. 3.



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SHAMPOO APPARATUS

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3 Claims. (Cl. 299—144)

This invention relates to improvements in shampoo apparatus, and more especially in apparatus designed to supply both water and liquid soap to the head.

The present application is a continuation-in-part of my application, Serial No. 146,687, filed June 5, 1937.

One feature of this invention is the provision of a device adapted to be held with one hand and designed for quick dispensing of either water or soap, or both, the control of such dispensing being by the thumb of said hand without the necessity of shifting the hand; another feature of this invention is the provision of means for heat exchange between warm water and the liquid soap so that said soap may be applied to the head in a warmed condition; yet another feature of this invention is the provision of an annular nozzle for the water supply, with the soap nozzle so arranged as to discharge soap within the area bounded by said annular nozzle; a further feature of this invention is the provision of an improved control valve; other features and advantages of this invention will be apparent from the following specification and the drawing, in which:

Fig. 1 is a side elevation, partly broken away, of shampoo apparatus embodying this invention; Fig. 2 is a vertical sectional view of the handle and associated nozzles and valves; Fig. 3 is a top plan view of the handle of Fig. 2; and Fig. 4 is a bottom plan view of the nozzles and a portion of the handle.

In connection with the shampooing of hair, and particularly women's hair, it is desirable to have a convenient supply of both warm water and soap, so arranged that they may be used individually, intermittently or simultaneously. It is also of considerable advantage if the dispensing apparatus for the soap and water can be operated by one hand, leaving the other free to adjust a towel, work the soap or water into the hair, and otherwise care for the needs of the person whose head is being shampooed.

The application of cold liquid soap (and soap at room temperature may be thus considered in comparison with the warm water used) to a head after preliminary rinsing with warm water is uncomfortable to the patron. Moreover, relatively cold soap does not lather as well as warmed liquid soap. My shampoo apparatus, therefore, provides means whereby the soap supply can be warmed substantially to the temperature of the water so that its application to the scalp causes no unpleasantness, and the conversion of the soap into a lather is facilitated.

It has also been found that the use of an annular nozzle is of considerable advantage, since it provides good distribution of a plurality of small jets of water. It has also been found an advantage to supply the liquid soap to the hair within the area or space bounded by the annular nozzle, or the jets of water issuing therefrom, so that more soap can be placed on the hair, even when the water is flowing full force from an annular nozzle, without its being immediately washed away and lost.

In the particular embodiment of my invention illustrated herewith a substantially cylindrical handle 10 is shown provided wtih an annular nozzle 11 adapted to discharge water, and a second nozzle 12 adapted to discharge soap. Convenient means for supplying both soap and water to the handle, and thus to the nozzle, is here shown as comprising a main hose 13 adapted to be coupled to a conventional faucet 14 by any convenient means, and a second smaller hose 15 adapted to have liquid soap gravity fed therethrough from an elevated soap container 16, which may, for example, be mounted on a wall as by the bracket 17.

The handle 10 has formed therein two distinct chambers, 18 and 19, here shown as concentrically arranged. The chambers are not in communication with each other, but are in heat transfer relation so that the liquid flowing through the chamber 19, namely warm water, can transfer heat to the liquid in the chamber 18, such as soap. The chamber 19 receives water from the large hose 13 and passes it into the end chamber 20, which is adapted to communicate with the annular nozzle 11 through the opening 21 controlled by the valve member 22. The chamber 18 receives liquid soap from the smaller hose 15, and is in communication with the nozzle 12 through the opening or passage 23 controlled by the valve member 24. The size of the soap chamber 18 is sufficient that only a portion of the soap therein will be discharged through the nozzle 12 at any given time, thus insuring sufficient length of stay of the soap in the chamber 18 that it approaches the temperature of the warm water flowing through the chamber or passage 19.

The valve controlling the communication of the chamber 18 with the nozzle 12, and thus the flow of liquid soap therethrough, is of the normally closed type adapted to be held in open position only by manual pressure on the button 25. That is, the spring 26 urges the valve 24 into

closed position, and as soon as pressure is removed by release of the thumb from the operating button 25 the valve at once returns to this closed position.

The valve member 22, on the other hand, although provided with a spring 27 urging it into closed position, is provided with mechanism whereby it may be manually operated and locked in open position if desired. This mechanism comprises a lever 28 cooperating with a stud or member 29. The lever 28 is provided with a straight portion 30 connected to the stem 31 carrying the valve member 22; a portion 32 inclined or angularly disposed with respect to the direction of the motion of the valve member 22; and a portion 33 adapted to be contacted by the thumb of the user. The stem 31 and valve member 22 are rotatable about an axis coinciding with the stem 31, and thus with the direction of movement of the valve member 22. Since the lever 28 is carried by the stem, it is similarly rotatable, and downward pressure upon the portion 33 of the lever (speaking with respect to the apparatus as shown in Fig. 1) effects movement of the angular portion 32 with respect to the member 29 in contact therewith, which movement results in displacement of the member 22 from its seat to open the valve. The angularly disposed portion 32 is provided with a depression 34 adapted to receive the member 29 when the valve is fully open in order to lock it in that position, so that the thumb may be removed. Thus, even when the water is flowing from the annular nozzle, soap may be supplied to the head of the person being shampooed by manipulation of the button 25. On the other hand, when it is desired to stop the flow of water, the lever may be flicked upwardly with the thumb, causing a change in relationship between the angular portion 32 and the member 29 such that the valve member 22 may return to closed position under the urging of the spring 27. It will be noted, as may be particularly seen in Fig. 3, that the operating portion of the lever and the button 25 are so arranged that they may be selectively operated by the thumb of the hand holding the handle 10 without any necessity for shifting the position of the hand, or using the other hand.

In operation, the valves controlling the flow of water through the faucet 14 would be adjusted to provide water of the desired temperature. The lever 28 would then be moved to a position permitting flow of water from the openings 36 in the annular nozzle 36, and the hair would be given a preliminary rinse to warm and wet it. The flow of water may then be discontinued, if desired, and sufficient soap discharged from the nozzle 12, by operation of the button 25, to enable a lather to be worked up in the hair. A flow of rinsing water could then be again used from the nozzle 11, under control of the lever 28. Moreover, water and small amounts of soap may be simultaneously applied to the hair, if desired, to insure a moist lather. It will be noted that the discharge of both soap and water is fully under the control of the hand holding the shampoo apparatus, with no necessity for manipulation of valves at the faucet 14, or the use of the other hand for such control.

While I have described and claimed certain embodiments of my invention it is to be understood that it is capable of many modifications. Changes, therefore, in the construction and arrangement may be made without departing from the spirit and scope of the invention as disclosed in the appended claims in which it is my intention to claim all novelty inherent in my invention as broadly as permissible in view of the prior art.

I claim:

1. Apparatus of the character described, including: a handle; a nozzle carried by said handle adapted to furnish a spray of water; means for supplying water to said nozzle; a valve controlling said supply; a second nozzle carried by said handle and adapted to furnish liquid soap; means for supplying liquid soap to said second nozzle; and a second valve controlling said soap supply, said handle having two chambers therein, said water passing through one of said chambers and said soap through the other, said chambers being so constructed and arranged that there is a heat transfer relation between said water and said soap.

2. Apparatus of the character described, including: a handle; a nozzle carried by said handle adapted to furnish a spray of water; means for supplying water to said nozzle; a valve controlling said supply, said valve being adapted to be locked in open or closed position; a second nozzle carried by said handle and adapted to furnish liquid soap; means for supplying liquid soap to said second nozzle; and a second valve controlling said soap supply, said valve being so constructed as to remain closed except when manually maintained in open position, said handle having two chambers therein, said water passing through one of said chambers and said soap through the other, said chambers being so constructed and arranged that there is a heat transfer relation between said water and said soap.

3. Apparatus of the character described, including: a substantially cylindrical handle having two chambers therein; an annular nozzle carried by said handle and adapted to communicate with one of said chambers; a valve controlling said communication, said valve being adapted to be operated by the hand holding said handle and to be locked in open or closed position; means for supplying water to the chamber communicating with said annular nozzle; a second nozzle carried by said handle and adapted to communicate with the other of said chambers, said nozzle being adapted to discharge within the space bounded by said annular nozzle; a valve controlling said last mentioned communication, said valve being so constructed as to remain closed except when manually maintained in open position; and means for supplying liquid soap to said other chamber, said chambers being so constructed and arranged that there is a heat transfer relation between said water and said soap.

EARLE A. CLAUDER.