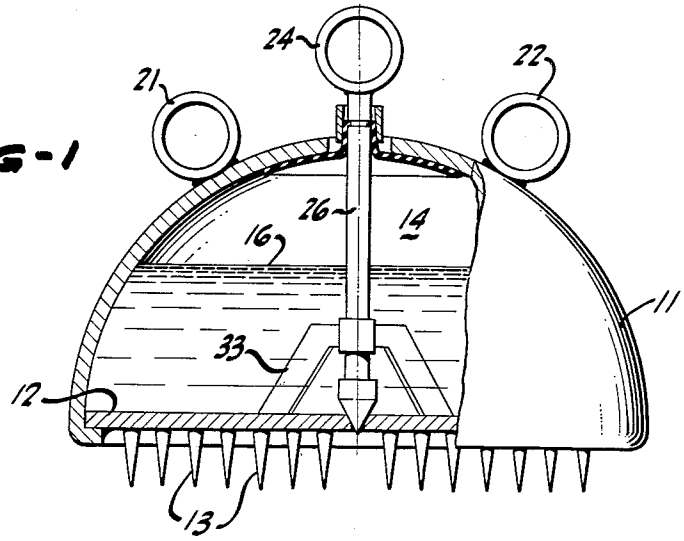
April 28, 1964 L. T. KELLIS 3,130,442

MASSAGE DEVICE WITH SOAP DISPENSER

Filed Dec. 7, 1962

FIG-1



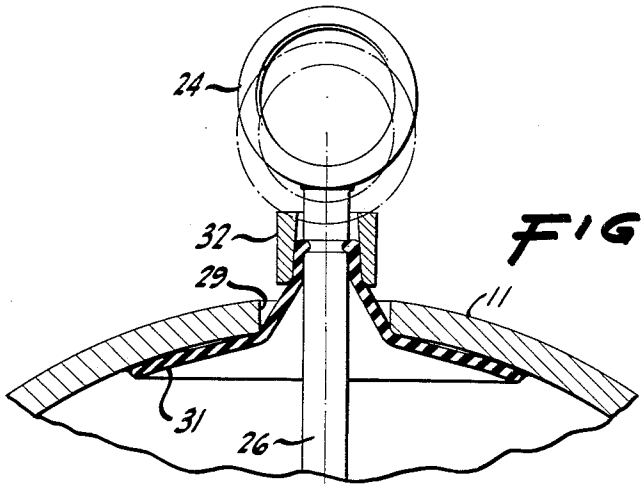


FIG-2A

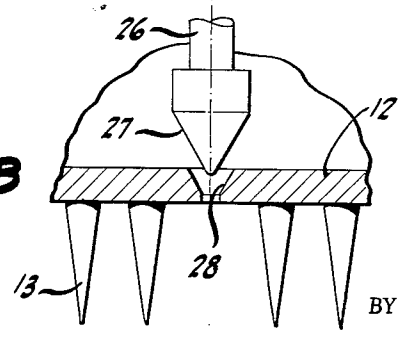


FIG-2B

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MASSAGE DEVICE WITH SOAP DISPENSER

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The present invention relates to a massage device as may be employed, for example, in the shampooing of hair, and more particularly, to an improvement in such devices wherein a shampoo fluid, such as soap, or the like, may be readily dispensed by the operator during shampooing.

It is known to provide various types of brushes having receptacles for containing liquid soap, or the like, and provided with means for dispensing this soap during operation of the brush. The present invention provides an improvement over these types of devices. In accordance with the present invention, there is provided a generally semi-spherical massage element having teeth, or the like, upon the generally flat under surface thereof. Finger loops are provided upon the curved upper surface of the device to provide means for gripping the massage unit during use thereof. The invention provides for actuation of a dispensing valve through the raising of one of these finger loops.

In the use of a massage unit of the type adapted to fit within the hand of an operator, it is necessary for the operator to grip the unit and thus to normally apply an inward pressure upon the unit. Inasmuch as the dispensing of a shampoo fluid, such as liquid soap, is only intended to be accomplished periodically, it is provided by the present invention that a reverse pressure or action of one of the gripping fingers shall be utilized for actuating the dispensing valve. This then provides a materially improved ease of operation and insurance against inadvertent dispensing of the soap.

In addition to the enhanced utility of the present invention, it is furthermore provided herein that the structure of the improved device shall be exceedingly simple and inexpensive to manufacture. Although this inexpensiveness is the goal of many device improvements, the present invention is particularly successful in this respect, for only two elements are added to a substantially conventional massage unit in order to achieve readily controlled dispensing of soap, or the like, therefrom. This then highly commends the present invention to widespread use.

It is an object of the present invention to provide an improved massage unit containing a soap dispenser actuated by an element employed for gripping the unit.

It is another object of the present invention to provide in a massage unit a dispensing valve resiliently mounted for actuation by reverse finger pressure from that normally employed in gripping the unit.

It is yet another object of the present invention to provide a massage unit of a configuration to fit within the hand of an operator and having finger engaging elements thereof to facilitate gripping with one of such elements controlling a dispensing valve in the unit.

Various other possible objects and advantages of the present invention will become apparent to those skilled in the art from the following description of a single preferred embodiment of this invention, taken together with the accompanying drawing, wherein:

FIG. 1 is a transverse sectional view taken in a vertical plane through the massage unit of the present invention;

FIG. 2A is an enlarged partial sectional view of the upper portion of the massage unit with the dispenser valve actuated; and

FIG. 2B is an enlarged partial sectional view of the lower portion of the massage unit illustrating the valve

in open position as established by the actuator illustrated in FIG. 2A.

Considering now a single preferred embodiment of the present invention, and referring to the accompanying drawing, there is illustrated at FIG. 1 thereof a hollow, semi-spherical shell **11** having a generally flat bottom wall closure **12**. This bottom wall or plate **12** is provided with a plurality of depending teeth **13**, which are adapted for engagement with the scalp of one being massaged. The teeth **13** may be formed of a resilient material, as may be the lower wall **12** or, alternatively, these elements may be formed of hard rubber or plastic.

Within the shell **11** there is defined a closed chamber **14**, which is adapted to contain a fluid to be dispensed from the massage unit. This fluid **16** may comprise a liquid soap or any other liquid material that may be advantageously periodically dispensed during massage treatments.

Upon the upper curved surface of the shell **11**, there are provided a plurality of finger engaging elements such as rings or loops for the purpose of facilitating gripping of the massage unit during use thereof. A pair of rings **21** and **22** are shown to be disposed on opposite sides of the center of the shell, and affixed to the outer surface thereof by any suitable means. At the center of the shell there is disposed an additional ring **24**, and these three rings are formed of a sufficient inner diameter so that an operator may readily slip the fingers of one hand through these rings. In normal use, the index, middle, and ring fingers of an operator's hand would be inserted through the rings **21**, **24** and **22**, respectively. With the massage unit so gripped, it is then in condition for utilization to rub over the head or other portion to be massaged and cleaned.

Interiorly of the massage unit, and within the chamber **14**, there is disposed a valve stem **26** extending axially through the hemisphere and containing at the lower end thereof an enlarged valve head **27**. An opening **28** substantially at the center of the lower plate **12** provides a valve seat for this enlarged valve head **27**, and it may have a tapered configuration, as illustrated in some detail in FIG. 2B. The upper end of the valve stem **26** extends through an opening **29** in the shell **11**, and is there firmly attached to the ring **24** exteriorly of the shell. It will be seen that raising of the valve stem, as by an upward pressure on the ring **24** will unseat the valve head from the valve seat so as to provide an opening from the chamber **14** through the bottom wall **12** of the massage unit. Conversely, a downward pressure upon the valve stem, as would normally be exerted by the pressure of a finger gripping the sphere, will seat the valve and thereby close the opening **28** through the bottom plate **12**. Operation of the invention to dispense fluid is thus accomplished by an upward movement of a gripping finger of the operator holding the massage unit. The normal pressure exerted by the fingers of one gripping the unit is downward against the spherical shell **11**, and consequently inadvertent dispensing of fluid with the present invention is substantially entirely precluded.

In addition to the foregoing, the present invention provides for sealing the upper opening **29** in the shell **11**, and also for the automatic closure of the valve under all conditions except desired valve opening through the application of an upward pressure to the ring **24**. These two functions are combined in a resilient cone **31**. The valve stem **26** extends through the center of this cone, and is sealed thereto as, for example, by a locking nut, or the like, **32**. This joinder of valve stem and sealing cone may be formed exteriorly of the spherical shell **11**, as illustrated in FIG. 2A, and as is also shown in that figure, the outer edges of the cone extend within the shell through

the opening **29**. The outer edge of the sealing cone **31** is firmly affixed and sealed to the inner surface of the shell **11** as, for example, by the utilization of appropriate adhesives.

The above-described conical member **31** will be seen to serve a dual purpose in the present invention. By the sealing of the outer edge of the cone **31** against the inner surface of the spherical shell and the sealing of the valve stem to the opening through the apex of the cone, there is then provided a seal about the valve stem through the shell so that fluid within the unit cannot leak out through this upper opening **29**. In addition, the cone **31** is formed of a resilient material and is stretched in assembly so as to urge the stem downward to normally seat the valve. Upon raising the stem, the material of the cone is additionally stretched and consequently will resiliently return to normal position, forcing the valve stem downwardly to close the valve. Although it will be appreciated that alternative resilient return means may be employed for maintaining the valve in normally closed position as, for example, during storage of the unit, a material simplificataion is attained hereby in that one single unit performs both the sealing and resilient return function.

Within the chamber **14** there are preferably provided guide means **33** for insuring linear motion of the valve stem. These guide means may be provided in any one of a variety of ways, and are only schematically illustrated as angular struts extending upwardly from the upper side of the bottom plate **12**.

In operation of this invention, the interior of the chamber **14** is, at least in part, filled with a fluid such as liquid soap **16**, by inverting the massage unit and opening the valve so that fluid may be poured in the opening **28**. With the valve closed, the unit is then gripped by an operator, as by insertion of the operator's fingers through the rings **21**, **22** and **24**. The teeth **13** upon the under surface of the unit are provided for engaging hair during shampooing or massage operation, and the liquid soap **34** is dispensed from the unit by an upward movement of the operator's finger to raise the ring **24** and consequently to unseat the valve.

As previously noted, the normal pressure or forces exerted upon the ring **24** is a downward one required for gripping of the hemispherical shell **11** of the unit. Consequently, it is only upon a reversal of this force brought about by a predetermined intention of the operator that the ring would be raised to thereby open the valve. Consequently, inadvertent dispensation of liquid soap from the unit is precluded hereby.

What is claimed is:

1. An improved massage device comprising

(*a*) a housing defining a chamber and having a substantially flat bottom massage wall with a central opening therethrough defining a valve seat,

(*b*) an elongated valve stem extending from said chamber through the top of said housing and having a valve head at the bottom thereof for engaging said valve seat in sealing relation to the opening in the bottom wall,

(*c*) resilient sealing means engaging said valve stem and said housing for sealing the chamber at the top thereof and unidirectionally resiliently urging said valve stem toward the bottom wall of the housing, and

(*d*) a loop affixed to the top of said valve stem above the housing for valve actuation by an upward force on the loop to raise the valve stem.

2. An improved massage unit as set forth in claim 1 further defined by said resilient sealing means comprising a conical resilient member disposed within the housing and sealed about its edges to the inner surface of the housing with the valve stem extending through the apex of the cone and secured in sealing relation to the cone, said conical member pre-stretched to normally resiliently urge the valve stem in the direction of the bottom wall of said housing.

3. An improved massage unit comprising

(*a*) a hemispherical shell having an opening through an axis thereof,

(*b*) a wall secured to said shell to define a fluid chamber and having a central valve opening therethrough in alignment with the opening in said shell,

(*c*) a plurality of teeth extending from the outside of said wall,

(*d*) an elongated valve stem having a valve head engaging the opening in said wall in sealing relation thereto and extending from the chamber through the opening in said shell,

(*e*) resilient sealing means secured about said valve stem at said shell opening and secured in sealing relation to the shell about the opening therein for resiliently unidirectionally urging the stem into the chamber to normally seat the valve head,

(*f*) fixed ring shaped finger engaging elements secured to the shell on the exterior curved hemispherical surface thereof for facilitating gripping of the shell with the curved exterior hemispherical surface thereof engaging the palm of a hand of an operator, and

(*g*) ring shaped actuating means affixed to the end of the valve stem outside the shell for engagement by the finger of an operator in gripping the shell and actuating the valve stem to unseat the valve head by an upward force thereon by the finger of an operator to thereby open the chamber through the opening in the wall for dispensing a liquid contained in the chamber.

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