April 25, 1933. E. M. ROBINSON 1,905,750

APPLICATOR AND MASSAGE INSTRUMENT

Filed July 6, 1931

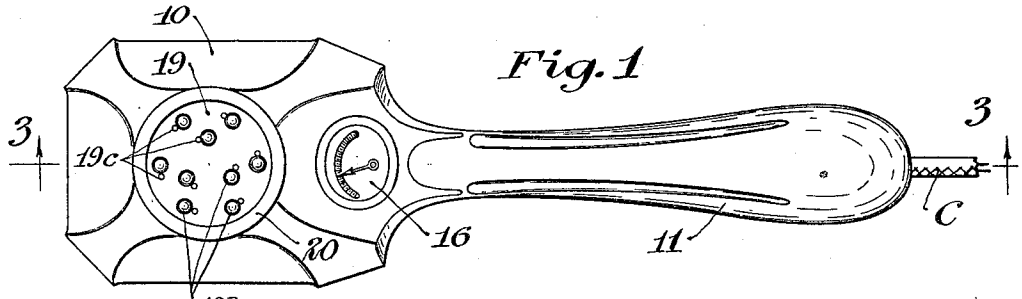


Fig. 1

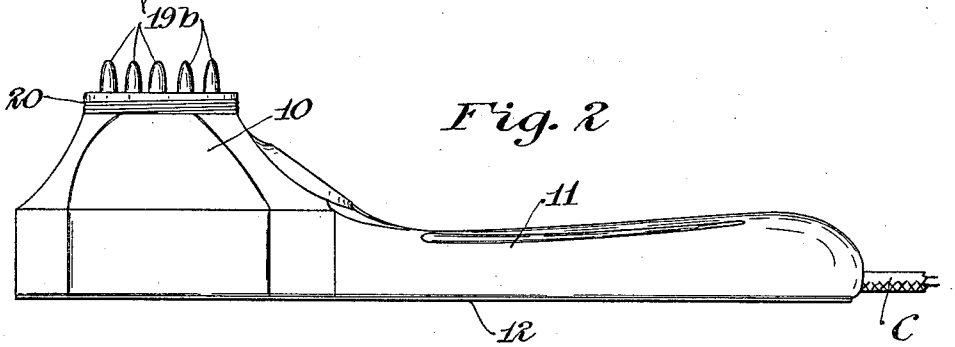


Fig. 2

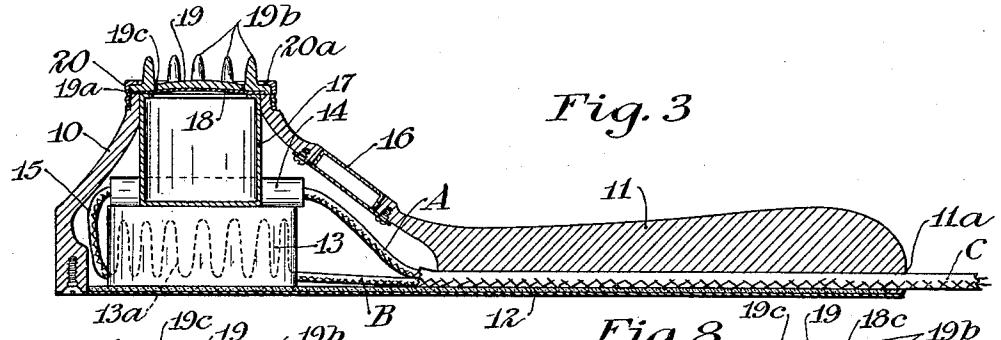


Fig. 3

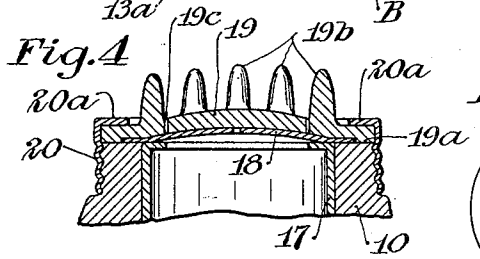


Fig. 4

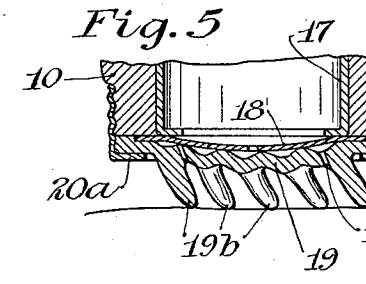


Fig. 5

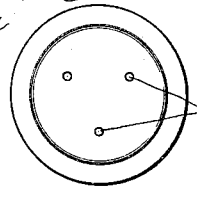


Fig. 6

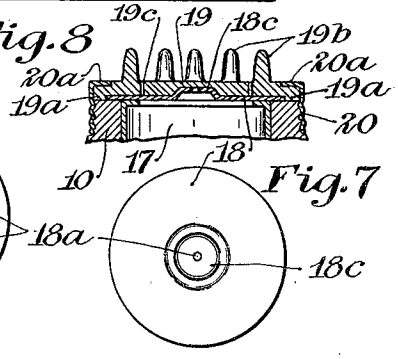


Fig. 8

Fig. 7

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UNITED STATES PATENT OFFICE

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APPLICATOR AND MASSAGE INSTRUMENT

Application filed July 6, 1931. Serial No. 548,775.

This invention relates to applicators of the fountain or reservoir type and particularly to an applicator and heater for massage treatments.

It is an object of my invention to provide a simple, inexpensive and highly efficient device for distributing liquids and semi-liquids under the control of the operator and for further working the liquid or other material efficiently into or over a surface. The invention is especially applicable for the distribution of materials for rendering scalp and massage treatments wherein it is desirable to work the applied material into the scalp or pores of the skin.

Another object is to provide in a device of the class described, means associated with the distributing head for controlling the dispensing or delivery of the material whereby a rubbing or flexing of the head will produce a substantial pumping action upon the contents of the device, effecting a gradual and uniform discharge and distribution of material.

Another object is to provide an applicator and massage instrument especially designed for scalp and beauty parlor treatments and having provision for heating the oil or material to be applied as well as controlling in a desired manner the distribution or application of the material.

A further object is to provide an instrument especially adapted for giving hot oil massage treatments to the scalp wherein the heating of the oil or material is carried on in a predetermined manner through the control of a thermostat and where a thin liquid may be distributed and worked into the scalp or skin only during the brisk rubbing or massaging of the distributing head over the surface being treated.

These and other objects and advantages of the invention will be fully set forth in the following description made in connection with the accompanying drawing, in which like reference characters refer to similar parts throughout the several views, and in which:—

Fig. 1 is a top plan view of an embodiment of my invention;

Fig. 2 is a side elevation of the same;

Fig. 3 is a vertical section taken substantially on the line 3—3 of Fig. 1;

Fig. 4 is an enlarged section taken diametrically through the distributing head and showing one form of construction for controlling the discharge or application of material;

Fig. 5 is a similar view showing the operation and function of the applicator when in use upon the skin or scalp;

Fig. 6 is a top plan of the discharge controlling plate detached;

Fig. 7 is a plan view of a slightly different form of discharge controlling plate; and

Fig. 8 is a section taken diametrically through a discharge head having the second form of discharge controlling plate applied thereto.

In the embodiment of my invention illustrated the general shape of the device is somewhat similar to a hair brush, having, as shown, a truncated conical distributing head 10, an elongated handle 11 and a flat back which is adapted to rest upon a supporting surface with the distributing head in inverted position. The body of the device, if desired, can be in the form of an integral casting or stamping and material, such as a metal or bakelite may be conveniently utilized. As shown the body is in the form of a casting and head 10 is hollow while the back of the handle 11 is provided with a longitudinally extending groove 11*a* communicating with the hollow head and adapted to accommodate an electrical service cord C. A flat plate 12 is secured to the back of the body closing the back of the head and covering and housing the groove 11*a* and cord C disposed therein.

An electrical heating unit 13 of a suitable

type is housed within distributing head 10 preferably being affixed to the inner surface of back plate 12. As shown this heating unit is of shallow cylindrical shape having a metal casing and provided with a heating element 13*a* which may be embedded in suitable insulating material disposed within the casing of the unit. A thermostatically operated switch 14 is preferably associated with the heating element and may be mounted within the body or distributing head, affixed to the top of the heating unit. One of the contacts of the thermostatic switch is connected by a wire 15 to one end of the heating element 13*a* and the other contact of the thermostatic switch is connected with one of the lead wires A within electrical service cord C. The second lead wire B connects with the opposite terminal of heating element 13*a*.

A conventional temperature indicator 16 may be mounted within the wall of the body or distributing head having its inner side subjected to the heat therewithin and as shown having a graduated dial readable from the exterior of the device.

The reduced end or side of the body or distributing head 10 is open, terminating, as shown, in an annular externally threaded edge to facilitate the inserton and removal of a supply container 17 which may be filled with oil or any other desirable liquid or semi-liquid substance. Container 17 has an open upper end defined by an inturned flange which is provided primarily for the purpose of furnishing a finger grip to facilitate removal of the container from the device. The inner end of the container is adapted to engage and rest upon the top or inner end of the heating unit 13.

A discharge control plate 18 as shown in the form of an independent thin metallic disk covers the open outer end of container 17 and has provided therein one or more relatively small discharge ports 18*a*. The peripheral portion of the plate is adapted to engage and be seated against the inturned flange of container 17, as well as, if desired, a portion of the annular edge of the distributing head 10. A flexible massage cap 19 covers the discharge controlling plate 18 as well as the end of the distributing head and as shown is of disk form being constructed of some suitable flexible and elastic material, such as rubber. This cap may have a shallow circular recess wherein disk 18 is seated leaving an annular sealing flange 19*a* which is adapted to engage the annular edge of the distributing head. Cap 19 is also provided with a series of spaced massaging and distributing teats 19*b* which teats protrude substantailly normal to the upper surface thereof and which are preferably integrally constructed with the body of the cap. The cap is also provided with transverse discharge ports 19*c* located immediately adjacent at least a number of the massaging teats in such position that the liquid or other material will be discharged upon the teats and worked to the ends thereof. If desired these discharge ports may be formed axially of the teats.

Massage cap 19 and discharge controlling plate 18 are held in operative position upon the open end of the distributing head 10 by a retaining ring 20 the peripheral wall of which is threaded to engage the externally threaded cylindrical end of the distributing head and this ring is provided an inturned flange 20*a* whch engages the marginal edge of the flexible cap 19 serving to clamp the sealing flange 19*a* of the cap against the edge of the distributing head.

In the form of distributing head and discharge controlling plate illustrated in detail in Figs. 4 to 6 inclusive the controlling plate 18 has a substantial and central portion thereof of concavo-convex construction provided with a series, as shown three, discharge apertures 18*a*. This concavo-convex central portion normally seats tightly against the inner or bottom surface of the massage cap forming a liquid-tight joint therewith and preventing dripping of the liquid or other material through the discharge ports 19*c* of the massaging cap.

In the form of discharge controlling plate and cap shown in Fig. 8 the plate is provided with a relatively small bossed or substantially conical portion 18*c* having a single and centrally located discharge port, said bossed portion closely conforming to a complementary shaped seat formed in the bottom of the rubber cap associated therewith. The parts are normally held in close relation with the discharge port of the controlling plate sealed. I preferably provide a heavy pad of efficient heat insulating material between the casing of the heating unit 13 and the back or cover plate 12.

In operation the oil or other material is placed within supply container 17 by removing the threaded retaining ring 20 and withdrawing the container. The discharge controlling plate 18 and massage cap 19 are then operatively applied over the outer end of the distributing head and clamped in place by means of the retaining ring. The circuit through the heating element is then closed by manipulation of a suitable switch (not shown) and the liquid or other material will then be heated to a predetermined temperature (in oil scalp treatments usually from 140 to 175 degrees F.).

The handle 11 of the device may be grasped and distributing head turned to normal position with the massage cap directed downwardly. The projecting lugs or teats 19*b* will then be vigorously rubbed over the scalp massaging the same and producing a flexing of the cap as illustrated in Fig. 5. This flexing of the cap produces a pumping suction

between the inner surface of the cap and the discharge controlling plate causing small quantities of the liquid or other material to be discharged through the ports 19*c* into the base portions of the teats, which material is worked down to the tips of the teats and onto the scalp by the massaging action.

Between the strokes of the massage treatment and when the device is normally held with the distributing head directed downwardly no liquid or material will drip from the discharge ports 19*c*, since at that time the massage cap 19 is snugly seated against the discharge controlling plate and since the discharge ports 18*a* of the controlling plate are not in alignment with the discharge ports of the cap a flexible seal is formed for the ports 18*a*.

The thermostat 14 is effective to maintain the liquid at a predetermined temperature and the temperature indicator 16 will show the operator when the oil has been brought up to adequate temperature for treatment.

The cord C may be detachably connected by a plug with the outer end of the handle, if desired, to enable the device to be utilized without carrying the cord in giving a treatment.

The feeding or distribution of liquid or other material is very uniform due to the cooperation between the discharge plate and my flexible massage cap which is usually constructed of rubber. In commercial use, as in beauty parlor work, the cap may be removed after each treatment and sterilized to conform to sanitary requirements for barber shops and beauty parlors.

When not in use the device may conveniently rest upon the flat back plate 12 which as has been stated is insulated from the heating unit 13 so that it will not scorch a table or other support on which it rests.

From the foregoing description it will be seen that I have provided a simple and highly efficient applicator and massage instrument capable of being manufactured at low cost and especially well adapted for giving hot oil massage treatments, although capable of wide general use in applying liquids or semi-liquids for cleaning, massaging or other distributing purposes.

It will, of course, be understood that various changes may be made in the form, details, proportions and arrangement of the parts without departing from the scope of my invention, which, generally stated consists in a device capable of carrying out the objects above set forth and in the novel parts and combinations of parts disclosed and defined in the appended claims.

What is claimed is:—

1. An applicator comprising a container having an open end a discharge controlling plate secured over said open end and provided with a discharge port, a flexible cap secured over said discharge controlling plate and having discharge ports therein disposed out of alignment with the discharge port of said plate, said plate having a convex outer surface normally distending said cap and pressing against the under side thereof to close the discharge ports of said cap whereby when said cap is rubbed against a surface to be treated portions thereof will be spaced from said plate producing a pumping action on the material within said container.

2. The structure set forth in claim 1, wherein said cap is constructed of stretchable material such as rubber and is provided with projections or teats supplied with material by said discharge ports.

3. In an applicator, a hollow open ended head, a container in the open end of said head and having an open end adapted to be disposed at least flush with the open end of said head, a cap constructed of compressible material disposed over the open ends of said head and said container and having discharge ports extending therethrough and a detachable retaining ring engaging the end of said head and having a flange for pressing the marginal edge of said cap against the open ends of said head and container to form a liquid-tight seal.

4. An applicator comprising a container having an open end, a discharge controlling element secured over said open end and provided with a discharge aperture and a flexible cap secured over said discharge controlling element and having a series of projections and discharge ports for supplying material to said projections, the apertured portion of said discharge controlling element being normally disposed flush against an imperforate portion of said cap to close said aperture whereby when said cap is flexed by rubbing the same against a surface, portions of said cap will be spaced from said discharge controlling element to permit discharge of material from the device.

5. An applicator comprising a container having an open end, a discharge controlling element secured over said open end and provided with a plurality of discharge apertures and a flexible cap secured over said discharge controlling element and having a series of projections and discharge ports for supplying material to said projections, the apertured portion of said discharge controlling element being normally disposed flush against the under side of said cap to close said apertures whereby when said cap is flexed by rubbing the same against a surface, portions of said cap will be spaced from said discharge controlling element to permit discharge of material from the device.

6. In an applicator, a hollow open ended head, a container in the open end of said head having an open end adapted to be disposed at least flush with the open end of said

head, a cap constructed of compressible material covering the open ends of said head and said container and having discharge ports extending therethrough, a heating unit mounted within said head for heating said container, and a detachable retaining ring engaging the end of said head and having a flange for pressing the marginal edge of said cap against the open ends of said head and container to form a liquid-tight seal.

In testimony whereof I affix my signature.

EMMET M. ROBINSON.