United States Patent [19]

McGrath

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[54] **FLUID DISPENSING VIBRATOR**

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[52] **U.S. Cl.** **128/65,** 128/41

[51] **Int. Cl.** **A61h 9/00**

[58] **Field of Search** 128/32, 65, 41, 24.2

[56] **References Cited**

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Primary Examiner—Lawrence W. Trapp
Attorney—Alex Friedman et al.

[57] **ABSTRACT**

A fluid dispensing vibrator having a hand-held housing containing a vibrator motor operatively coupled to a skin vibrating element extending out of the housing. A fluid reservoir having a plurality of dispensing ball valves is releasably mounted on said housing with the ball valves positioned adjacent said skin vibrating element so that said ball valves and skin vibrating element may simultaneously engage the user's skin.

9 Claims, 3 Drawing Figures

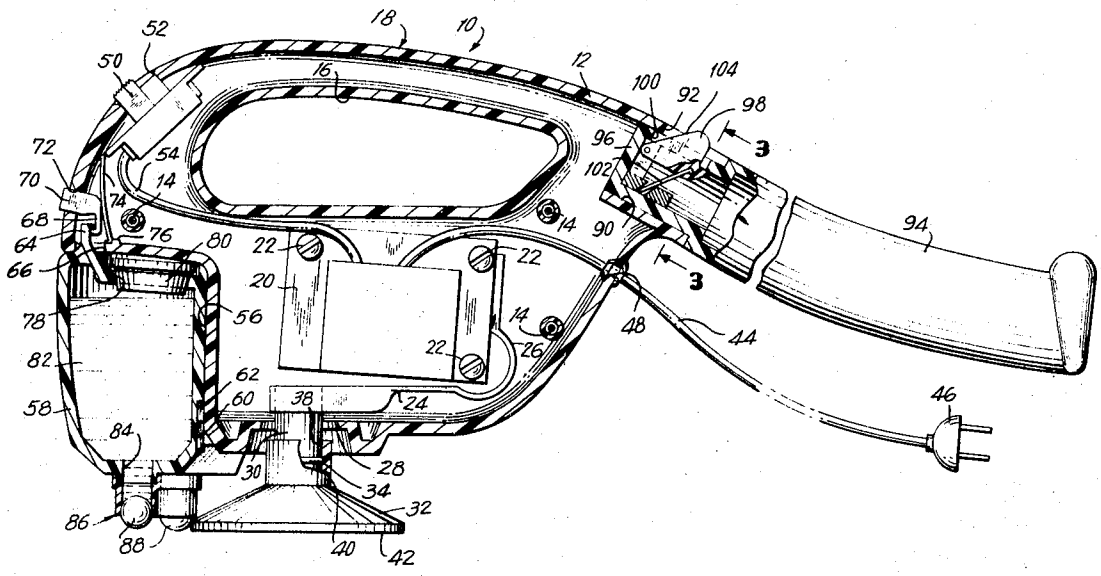


FIG. 3

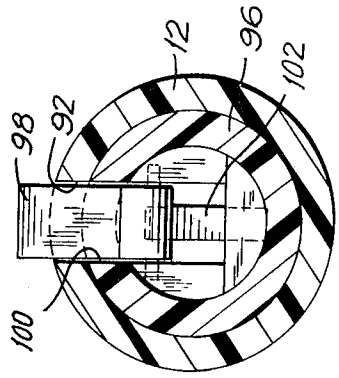


FIG. 1

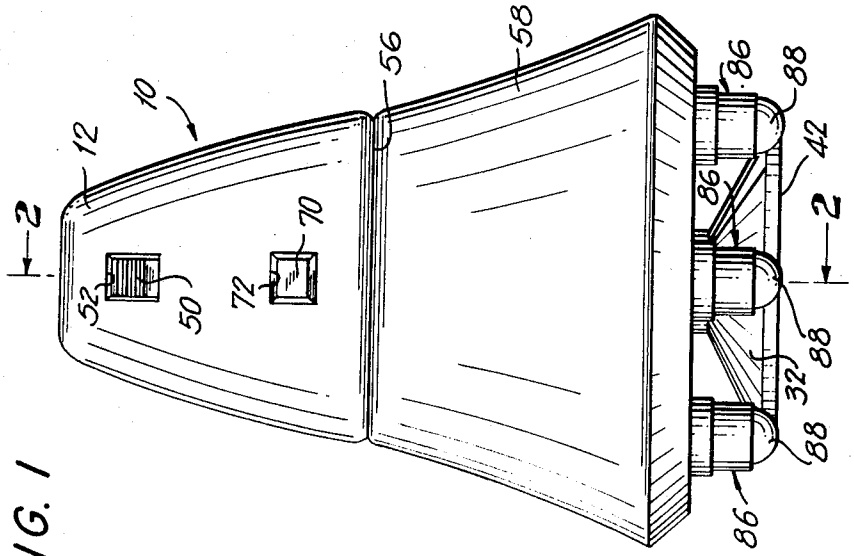
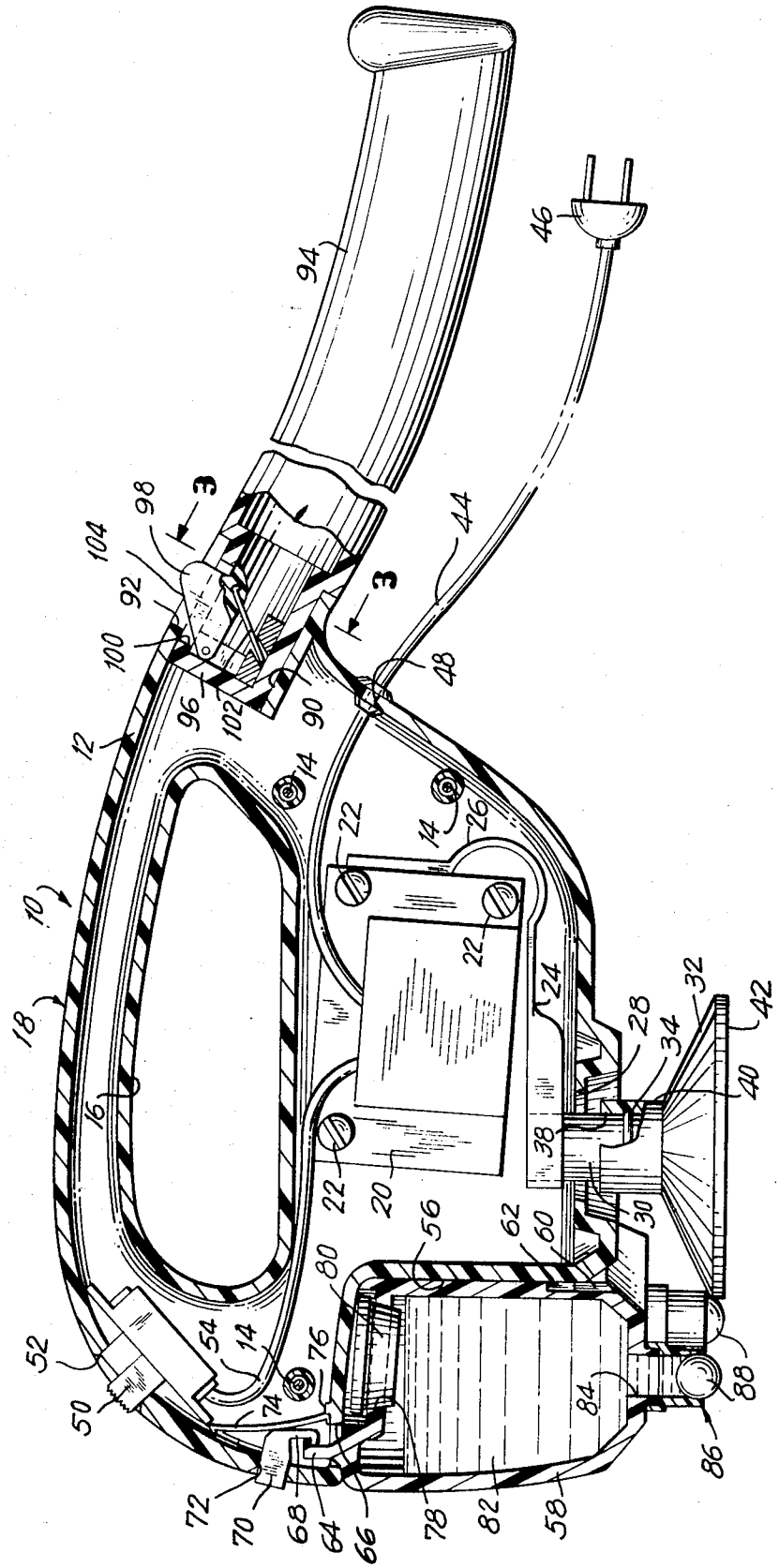


FIG. 2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FLUID DISPENSING VIBRATOR

BACKGROUND OF THE INVENTION

This invention relates to vibrating devices which have achieved substantial acceptance as skin treatment and relaxing instruments. Many cosmetic creams and lotions have been utilized in connection with the care and treatment of skin and the use of vibrators for applying such creams and lotions has been suggested. However, where separate means are utilized for vibrating and for applying the cream or lotion, it is difficult to apply just the required amount of said cream or lotion, the process being both wasteful and messy. On the other hand, there are occasions where the vibrator should be utilized by itself without the addition of additional creams or lotions or with no such creams or lotions. By providing a vibrator having a fluid dispensing reservoir releasably mounted thereon, the difficulties with the prior art arrangements have been avoided.

SUMMARY OF THE INVENTION

Generally speaking, in accordance with the invention, a fluid dispensing vibrator is provided including a housing formed with handle means for manual manipulation and having a vibrator means mounted therein in proximity to an opening in said housing. A skin vibrating element is operatively coupled to said vibrating means through said opening for the vibration thereof. A fluid reservoir is provided with a plurality of dispensing ball valves for dispensing fluids therefrom. Means are provided for releasably mounting said fluid reservoir on said housing with said dispensing ball valves adjacent said skin vibrating element so that said dispensing ball valves and said skin vibrating element simultaneously engage the user's skin.

Extension handle means is provided, means being provided for releasably securing said extension handle means to said reservoir means. The skin vibrating element is releasably coupled to the vibrating device for the substitution thereof. Switch means is provided for the selective turning on and turning off of said vibrator means. Said dispensing ball valves are disposed in an arcuated array spaced about a quadrant of the periphery of said skin vibrating element.

Accordingly, it is an object of this invention to provide a compact hand-held vibrator having provision for the selective simultaneous dispensing of fluids.

Still other objects and advantages of the invention will in part be obvious and will in part be apparent from the specification and drawings.

The invention accordingly comprises the features of construction, combinations of elements and arrangement of parts which will be exemplified in the constructions hereinafter set forth, and the scope of the invention will be indicated in the claims.

BRIEF DESCRIPTION OF THE DRAWINGS

For a fuller understanding of the invention, reference is had to the following description taken in connection with the accompanying drawings, in which:

FIG. 1 is a front elevational view of the fluid dispensing vibrator in accordance with the invention;

FIG. 2 is a sectional view taken along lines 2-2 of FIG. 1; and

FIG. 3 is a sectional view taken along lines 3-3 of FIG. 2.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring now to FIGS. 1–3, a cosmetic or other fluid dispensing vibrator **10** is depicted having a main housing **12** formed in two sections joined together by bolts **14**. Main housing **12** is preferably formed of molded plastic and is formed with an elongated lateral aperture **16** therethrough defining an integral handle portion **18**. Mounted within main housing **12** is a conventional vibrator motor **20** retained in position by screws **22**. Vibrator motor **20** drives a vibrating member **24** mounted on said motor by means of spring **26** in a position facing opening **28** in the wall of main housing **12**. A coupling rod **30** is mounted on said vibrating member and projects through opening **28**. A skin vibrating element **32** is mounted on said coupling rod, said coupling rod being formed with a radial flange **34** for mating engagement with a corresponding groove **36** formed in the recess **38** in the coupling portion **40** of said skin vibrating element. Said skin vibrating element is preferably formed of a flexible plastic or rubber with an operative face **42** for engagement against the skin of a user. The skin vibrating element is removably mounted on coupling rod **30** and a plurality of such skin vibrating elements may be provided with operative faces of various configurations as desired.

Power is applied to vibrator motor **20** through power cord **44** which terminates in a conventional plug **26**, said power cord extending through an opening **48** in main housing **12**. The motor is actuated by means of a switch element **50** mounted in main housing **12** in registration with an opening **52** in said main housing through which the switch element extends. Cable **54** connects switch element **50** with vibration motor **20**. Switch element **50** may be a conventional two position switch, or may have more than two positions for operation in conjunction with a speed control feature in vibrator motor **20**.

Main housing **12** is formed with a recessed region **56** in the front portion thereof dimensioned to receive a separate cosmetic reservoir **58**. The inner wall of said cosmetic reservoir is formed with a slot **60** which receives a projection **62** formed in the mating wall of main casing **12**. The upper surface of reservoir **58** is formed with a hook-shaped projection **64** dimensioned to extend through an opening **66** in main casing **12** for cooperative engagement with a similarly hooked finger **68** of a latch button **70**, said latch button projecting through an opening **72** in main housing **12** and being biased to a latch position by leaf spring **74**. Said leaf spring is retained in position by switch element **50** and an internal ridge **76** formed in main housing **12** adjacent opening **66**. Thus, by depressing latch button **70**, cosmetic reservoir **58** may be released and withdrawn from recess **56**.

Cosmetic reservoir **58** is formed with an opening **78** in the upper surface thereof, said opening being normal closed by a removable stopper **80**. A quantity of cosmetic lotion or cream **82** is received within the reservoir. At the base of the reservoir are three openings **84** having ball valves **86** secured at each exit opening thereof. Each of said ball valves is of conventional construction and is provided with a ball **88** adapted to rotate within a socket in the valve and to deliver a measured quantity of the cosmetic within the reservoir to the outer surface of the ball. An example of such a ball

valve is the Owens-Illinois Rollette Fitment with ball. The three ball valves and apertures are arranged in an arcuate array about the periphery of one quadrant of skin vibrating element **32**. The balls **88** are in substantial registration with the operative surface **42** of said skin vibrating elements so that the balls and the skin vibrating element engage the skin substantially simultaneously. In this manner, a measured quantity of the cosmetic lotion or cream is deposited on the skin as the vibrator is passed along the surface of the skin, said lotion or cream being massaged into the skin by the skin vibrating element.

If it is desired to operate the vibrating device without any cosmetic, it is merely necesary to remove the cosmetic reservoir. Ball valves **86** are adapted so that the cosmetic will not escape from the reservoir if the balls are not rotated.

Main casing **12** is formed with a handle socket **90** in an end thereof spaced from recess **56**. An opening **92** in main casing **12** is positioned in a side wall of said socket. Cosmetic dispensing vibrator **10** is provided with an extension handle **94** terminating in a tubular end portion **96** dimensioned for receipt within handle socket **90**. The tubular end portion of said extension handle has a latch member **98** pivotably mounted therein and extending through an opening **100** in the wall thereof. Opening **100** is positioned to be in registration with opening **92** in main housing **12** when the extension handle is positioned within socket **90**. Latch member **98** is biased laterally by a leaf spring **102** so as to project through openings **100** and **92** to retain the extension handle in position. The leading surface **104** of latch member **98** is inclined to cam past the entrance opening of socket **90**, said latch member snapping into position when in registration with recess **98** through the action of leaf spring **102**. To release the handle, it is necessary to depress latch member **98** and withdraw the handle. The extension handle permits the use of the cosmetic dispensing vibrator on portions of the user's body not otherwise accessible.

The cosmetic dispensing vibrator in accordance with the invention provides a compact and efficient device for coordinately dispensing measured amounts of cosmetics and massaging said cosmetic into the user's skin by means of a vibrator. Further, the device permits the performance of the vibration function, by itself, without any dispensing. The removably mounted reservoir can be readily cleaned wityout concern about the electrical components of the vibrator and retains the cosmetic until actually used. In addition to cosmetics other beneficial fluids may be dispensed by the vibrator in accordance with the invention such as medicants.

It will thus be seen that the objects set forth above, and those made apparent from the preceding description, are efficiently attained and, since certain changes may be made in the above constructions without departing from the spirit and scope of the invention, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

It is also to be understood that the following claims are intended to cover all of the generic and specific features of the invention herein described, and all statements of the scope of the invention which, as a matter of language, might be said to fall therebetween.

What is claimed is:

1. A fluid dispensing vibrator comprising a manually manipulatable housing having an opening therethrough; vibrator means mounted within said housing means in proximity to said opening; a skin vibrating element outside of said housing means and operatively coupled to said vibrating means through said opening for the vibration thereof by said vibrating means; fluid reservoir means formed with at least one outlet opening in the base thereof; dispensing ball valve means mounted in each of said reservoir means outlet opening; and means for releasably mounting said fluid reservoir means on said housing means with said dispensing ball valve means adjacent said skin vibrating element so that said dispensing ball valve means and said skin vibrating element may simultaneously engage the user's skin.

2. A fluid dispensing vibrator as recited in claim **1**, wherein said fluid reservoir means is formed with a plurality of outlet openings, one of said ball valve means being mounted in each of said outlet openings, said outlet openings and ball valve means being aligned in an arcuate array about a sector of said skin vibrating element.

3. A fluid dispensing vibrator as recited in claim **1**, including switch means projecting outside of said housing means and operatively coupled to said vibrator means for the selective actuation of said vibrator means.

4. A fluid dispensing vibrator as recited in claim **1**, wherein said housing means is formed with an integral handle portion for the manual manipulation thereof.

5. A fluid dispensing vibrator as recited in claim **1**, wherein said housing means is formed with a handle receiving socket, and including a handle member and means for releasably securing said handle member within said handle receiving socket.

6. A fluid dispensing vibrator as recited in claim **5**, wherein said means for releasably securing said handle member within said socket includes a latch member pivotably mounted on the portion of said handle member received within said socket, means for laterally biasing said latch member beyond the peripheral surface of said portion of said handle member, and an opening in said housing means providing communication to said socket in registration with said latch member for engagement thereby.

7. A fluid dispensing vibrator as recited in claim **1**, wherein said means for releasably mounting said fluid reservoir includes a hook member formed on said fluid reservoir and displaceable engagement means on said housing means for selective engagement of said hook member.

8. A fluid dispensing vibrator as recited in claim **1**, wherein said fluid reservoir is formed with an entrance opening, and including stopper means for removably closing said entrance opening.

9. A fluid dispensing vibrator as claimed in claim **1**, wherein said skin vibrating element is removably coupled to said vibrating means.

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