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V. J. VOGEL
LOW PRESSURE DOUCHE DEVICE WITH
MEDICAMENT MIXING CONTAINER
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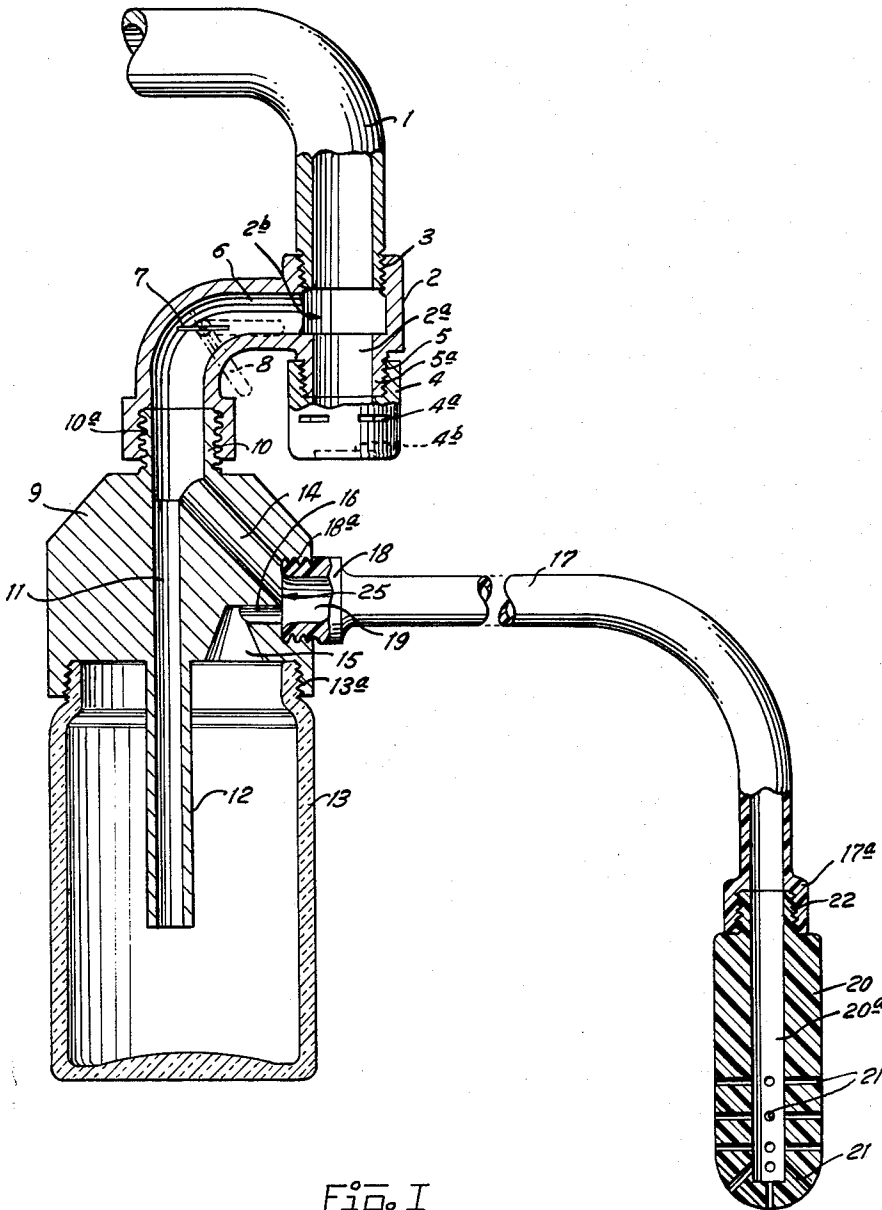


Fig. 1

INVENTOR

Vernon J. Vogel

BY

Howard E. Moore

ATTORNEY

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LOW PRESSURE DOUCHE DEVICE WITH MEDICAMENT MIXING CONTAINER

Vernon J. Vogel, Tyler, Tex., assignor to Jet-Flo Corporation, Tyler, Tex., a corporation of Texas
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This invention is concerned with a douche device, and is particularly concerned with a douche dispenser which may be attached to the spout of a standard water faucet, and includes a special adapter or separator head which is arranged for attachment thereto of a flow restricting dispenser, such as a conventional aerator used on water faucets, so as to exert a positive back pressure through another passage leading therefrom into a medicament and disinfectant container for mixture of the medicament disinfectant with water from which it is dispensed through a nozzle.

Douche dispenser devices wherein water is mixed with a medicament or disinfectant to form a medicated solution as it is dispensed, have heretofore been known, but all of such devices employed the principle of suction removing the mixture from the container and combining it with the fluid stream by reason of the fluid stream passing over a passage leading into the mixing container. Typical of such devices is that shown in the R. H. Moore Patent No. 1,861,932.

However, such devices have the disadvantage that the fluid stream must be dispensed under high pressure in order to draw the medicated solution from the container, and thus water must be dispensed in relatively large quantities under relatively high pressure in order to draw an appreciable amount of the medicament solution from the container, with the result that not enough medicament is admixed with the dispensed water to be effective.

Moreover, the water is necessarily jetted at high pressure, which is not only uncomfortable to the user, but can be damaging to delicate tissues. Furthermore, in the use of such devices the temperature and pressure of the water cannot be regulated by feel except through the dispensing nozzle at which point an adequate test of temperature and pressure cannot be attained by reason of the finely divided jetted fluid dispensed therefrom.

In the present improvement, the regulated, relatively low pressure stream of water is dispensed through the special separator head and through a special control head on the medicament solution container so that a portion of the positive low pressure stream is directed into the container to provide the water medicament solution therein, and a portion of the positive, relatively low pressure stream is directed through a fitting connected to the nozzle. Therefore, the same pressure which is injected into the medicament solution container forces the solution out through a passage in the control head for the medicament container through the common fitting for the nozzle hose. The medicament solution ejection passage through the control head is of relatively small and regulated diameter so that effective percentage of mixture with water contacting same at a given pressure is attained.

Thus the medicament solution mixture is formed, mixed and dispensed through the nozzle at a positive but regulated low pressure and the amount of mixture with the water at a given pressure is attained to provide an effective disinfectant solution. The solution is dispensed through the nozzle at a positive but uniformly low pressure, so that there can be no discomfort or damage from the use thereof.

Other and further objects of the invention will become apparent upon reading the detailed specification herein-

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after following, nad by referring to the drawing annexed hereto.

In the drawing, FIGURE I is a partially sectionalized, cross-sectional, elevational view of the douche dispenser, incorporating the improvements comprehended by this invention.

Numeral references are employed to indicate the various parts shown in the drawing.

The numeral 1 indicates a standard water dispensing spigot as conventionally used in home lavatories, which customarily is attached in communication with both hot and cold water supply conduits which are controlled by valves (not shown) operable at the rear of the lavatory or sink.

Such spigot 1 customarily has threads 3 formed on the outer ends thereof to which there may be, in many instances, threadedly attached an aerator head which has passages or perforations 4a in the side thereof, and a screen 4b over the outlet thereof. Air is drawn through the passage 4a and mixed with the jetted stream passing through the screen 4b to provide aerated water.

A special adaptor or separator head 2 is provided having a central passage 2a therethrough, which is threadedly engaged at 3 to the lower end of the spigot 1 after removing the aerator 4, if there be one on the spigot.

Threads 5 are provided on the extension 5a communicating with the main or central passage 2a, to which the aerator or other flow restricting device 4 may be threadedly attached.

A lateral passage 2b is provided through the wall of the separator head 2 which communicates with an L-shaped branch passage 6, which may be made integral with the body of separator head 2.

A valve 7 is rotatably disposed in the passage 6 and is arranged to be rotated by a handle 8 to thereby provide for opening and closing, or adjusting the flow of fluid through the passage 6.

A control head 9 has a threaded extension 10 thereon having a central passage therethrough, which is threadedly engaged as indicated at 10a to the lower end of the passage 6.

The control head 9 has a vertical passage 11 extending therethrough which continues through the dip tube 12 extending into the medicament solution mixing container 13.

The container 13 is threadedly connected, as indicated at 13a, to the lower end of the control head 9.

A diagonally disposed passage 14 is provided through the control head 9 which communicates with the passage 6 at its upper end and communicates with the enlarged bore 19 provided in the hose connector head 18.

A generally frusto-conical shaped passage 15 is provided in the lower surface of the control head 9, which communicates with a restricted lateral passage 16 through the wall of the control head 9.

The lateral passage 116 is considerably smaller in diameter than the diagonal passage 14 and the vertical passage 11. The passage 16 communicates with the enlarged bore 19 of the hose connector head 18. The hose connector head 18 is threadedly engaged, as indicated at 18a, in a recess 25 provided in the wall of the control head 9 in position so that the bore through the hose 17 communicates with both the passages 14 and 16.

The hose 17 is preferably of flexible rubber or plastic material having an interiorly threaded head 17a on the outer end thereof, which is threadedly engaged to an extension on the nozzle 20, as indicated at 22. The passage 20a through the nozzle 20 communicates with the passage through the hose 17.

The nozzle 20 has laterally extending restricted passages 21 through the wall thereof, so as to provide a jetted spray pattern from the nozzle.

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The operation and function of the dispenser device hereinbefore described is as follows:

The aerator 4 is removed from the spigot 1 and the separator head 2 is screwed thereon. The aerator 4 is screwed to the lower extension of the separator head 2. In the event an aerator head is not available or is not provided, any suitable flow restricting device, having a restricted passage therethrough leading from the central bore through the separator head may be attached, so as to provide a moderate back pressure through the passage 6. Suitable medicament, such as powdered, tablet or liquid form antiseptic is placed in the container 13 and the container is threadedly engaged with the control head 9. The control head is threadedly engaged with the lower end of the passage 6 and the hose 17, with nozzle 20 attached thereto, is threadedly engaged into the control head 9 as the device is assembled in the manner shown in FIGURE I.

The hot and cold water may then be turned on and the pressure and temperature thereof may be regulated by placing the hand under the back pressure device 4. The back pressure of the aerator, or other flow restricting device 4, causes the mixture of hot and cold water to pass laterally through the passage 6. The valve 7 may be regulated, to further control the pressure and amount of water injected into the container 13, and outwardly through the hose 17.

Water is thus admitted under positive pressure through the passage 11 into the container 13, mixing same with the antiseptic or medicament in the container 13. The mixed solution is forced out by positive pressure through the restricted passage 16, and jetted into the stream of water passing through the diagonal passage 14 where it is thoroughly mixed within the chamber 19 before it is dispensed through the hose 17 and the nozzle 20. By providing the positive regulated pressure for mixing and ejecting the solution, the solution is quickly mixed, withdrawn from the container, and mixed with the water passing through the passage 14 and such mixture is dispensed through the nozzle 20 at a relatively low pressure and in regulated and effective quantities.

Thus the antiseptic solution is in effective proportions and at the same time is applied at a regulated, relatively low pressure, so as not to impart discomfort or damage while in use.

It will thus be understood that other and further forms of the invention may be devised without departing from the spirit and scope of the appended claims.

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Having described my invention, I claim:

1. In a device of the class described, a mixer container; a closure head attached to the container; a vertical passage through the head communicating with the container; a diagonal passage through the head communicating with the vertical passage at its upper end; an opening in the wall of the head communicating with the other end of the diagonal passage; a lateral passage through the wall of the head communicating with the container and the opening; an adapter attached to the head having a main passage therethrough having one end arranged for attachment to a water spigot or the like; a flow restricting member attached to the other end of the main passage; a branch passage in the adapter having one end communicating with the main passage and the other end connected to the head in communication with the vertical and diagonal passages therein; a dispensing conduit attached in communication with the opening in the side of the head; and a nozzle on the end of the conduit.

2. The combination called for in claim 1 with a valve in the branch passage to control flow of fluid therethrough.

3. The combination called for in claim 1 wherein the lateral passage through the head is smaller in diameter than the vertical and diagonal passages therein.

4. The combination called for in claim 1 wherein a dip tube is attached to the vertical passage in the head and extends downwardly in the container.

5. The combination called for in claim 1 wherein the flow restricting member is an aerator.

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RICHARD A. GAUDET, *Primary Examiner.*

DANIEL S. BURKS, RONALD L. FRINKS,
Assistant Examiners.