July 10, 1934. J. H. SCHROEDER 1,966,143

VALVE CONSTRUCTION FOR FLUID DISPENSERS

Filed March 13, 1933

FIG. 1.

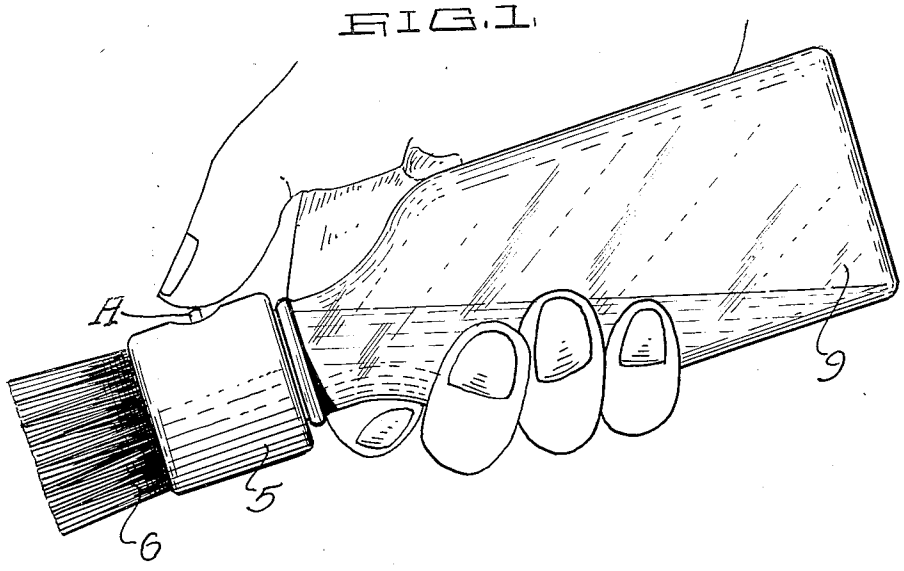


FIG. 2.

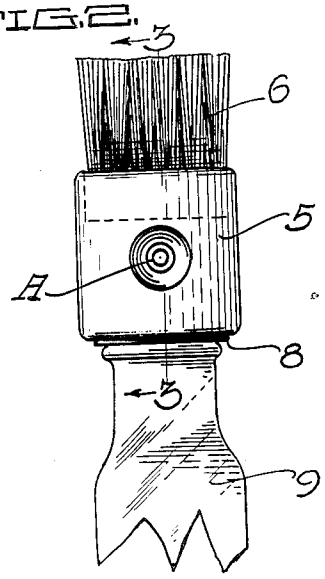


FIG. 3.

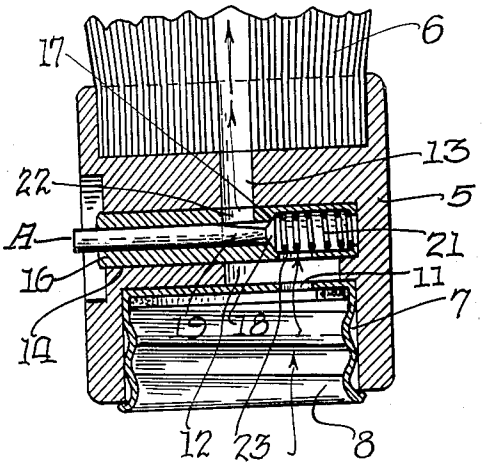


FIG. 4.



FIG. 5.

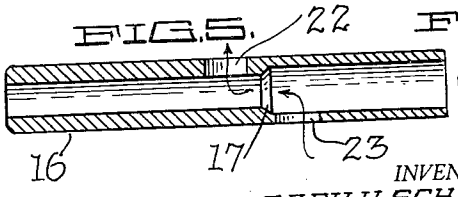


FIG. 6.



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VALVE CONSTRUCTION FOR FLUID DISPENSERS

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1 Claim. (Cl. 15—138)

This invention relates to improvements in valve construction for fluid dispensers.

The principal object of the invention is to produce a small valve which may be readily applied in a limited space.

A further object is to produce a valve of this character, which is economical to manufacture and simple to install.

An additional object is to produce a device wherein the liability of clogging or sticking is practically eliminated.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawing forming a part of this specification and in which like numerals are employed to designate like parts throughout the same,

Fig. 1 is a side elevation of a bottle having a cleaning cap, with my valve positioned therein,

Fig. 2 is a fragmentary side elevation of Fig. 1,

Fig. 3 is an enlarged detail cross sectional view on the line 3—3 of Fig 2,

Fig. 4 is a side elevation of the valve stem,

Fig. 5 is a cross sectional view of the valve casing and valve seat, and

Fig. 6 is a side elevation of the valve spring.

In applying cleaning fluids or other liquids from a bottle, it is essential that some means be provided for regulating the flow of the fluid from the bottle to the cleaner, which may be in the form of a brush or pad. Due to the extremely small size of these devices, it is necessary that a small valve be utilized and due to the sale price of the completed article, it is obvious that a valve must be incorporated at the least possible expense. I have, therefore, devised a cleaner which consists of a wooden cap tightly placed over the customary screw threaded top of a bottle cap through which a hole has been punched. This cleaner may carry a pad or may carry bristles as shown in the drawing. By simply drilling a single hole through the side of the wooden member I am able to control the flow of liquid from the valve to the bristles of the brush.

In the accompanying drawing wherein for the purpose of illustration is shown a preferred embodiment of my invention, the numeral 5 designates a block preferably of wood, in one end of which is inserted bristles 6. At the opposite end of this block I provide a cavity 7 which is of such size that it will tightly engage the outer surface of the ordinarily threaded bottle cap 8, which threadedly engages the upper end of a bottle such as shown at 9. In using my device it is necessary to punch a hole 11 through the top of the cap 8, which hole will register with a slot 12 formed in the block 5. A bore 13 connects the slot 12 with the bristles 6.

A cross bore 14 permits the valve casing 16, which is in tubular form, to be snugly fitted therein so as to intercept the passage between the bore 14 and slot 12. This casing has a valve seat 17 against which the valve 18 is adapted to contact (see Fig. 3). The valve stem is tapered at the point 19 and is of sufficient length to extend out of the casing 16 so as to form a thumb piece A, which may be actuated by the user for the purpose of unseating the valve. A spring 21 contacts the bottom of the valve 18 and therefore normally tends to keep this valve seated. Ports 22 and 23, formed in the casing 16 on opposite sides of the valve seat 17, prevent the flow of liquid from the bottle to the bristles as follows:—

When the device is turned upside-down, as shown in Fig. 1, by pressing upon the end A liquid will flow from the bottle through the opening 11 in the cap into the slot 12, thence through the opening 23, and assuming that the valve has been depressed against the tension of the spring, then the liquid will flow past the valve out of the port 23 into the bore 13 and thence to the bristles. As soon as manual pressure is relieved from the valve the spring will close the valve and the further dispensing of liquid will be prevented. It will thus be seen that I have produced a simple valve structure which will accomplish all the objects above set forth.

It is to be understood that the form of my invention herewith shown and described is to be taken as a preferred example of the same and that various changes relative to the material, size, shape and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claim.

Having thus described my invention, I claim:—

A fountain brush comprising a housing member having an inlet and an outlet therein, said member adapted to house bristles in one end thereof and adapted to receive the perforated cap of a fluid holding container in the opposite end thereof, and means mounted in said member for controlling fluid passing from the container to the bristles, said means embodying in its construction a casing positioned in said member, a valve seat provided in said casing and defining an outer and inner chamber therein, a sliding valve positioned in said outer chamber and having one end thereof positioned beyond said casing, a spring housed in said inner chamber and adapted to maintain the valve in contact with the valve seat, and a pair of ports formed in said casing on opposite sides of said valve seat to permit flow of liquid from the container to the bristles of said fountain brush.

JOSEPH H. SCHROEDER.