

April 28, 1964

S. W. KLUTZ, JR

3,130,873

PRESSURIZED PRODUCTS DISPENSING CABINET

Filed June 20, 1961

2 Sheets-Sheet 1

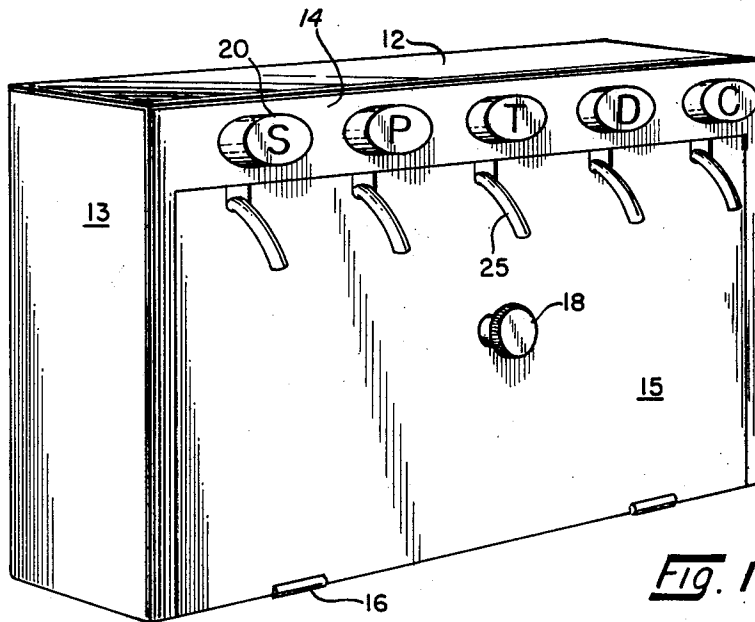


Fig. 1

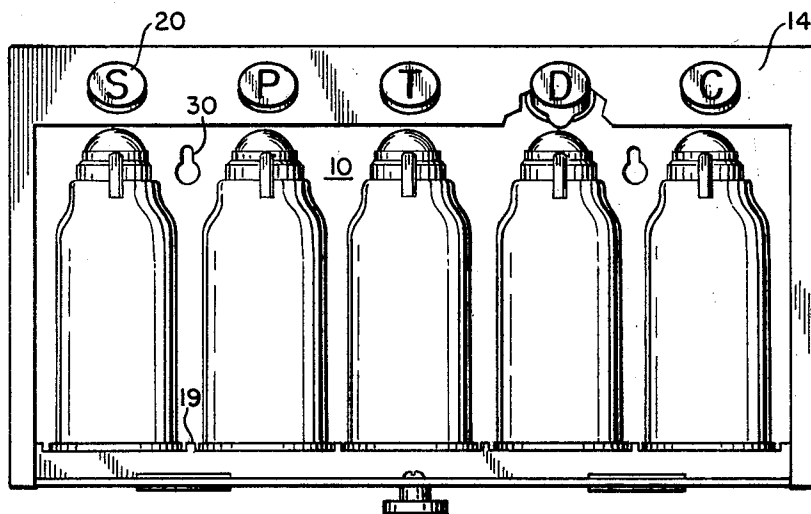


Fig. 2

INVENTOR.

Stoner W. Klutz, Jr.

BY

B. B. Olive

ATTORNEY

April 28, 1964

S. W. KLUTZ, JR

3,130,873

PRESSURIZED PRODUCTS DISPENSING CABINET

Filed June 20, 1961

2 Sheets-Sheet 2

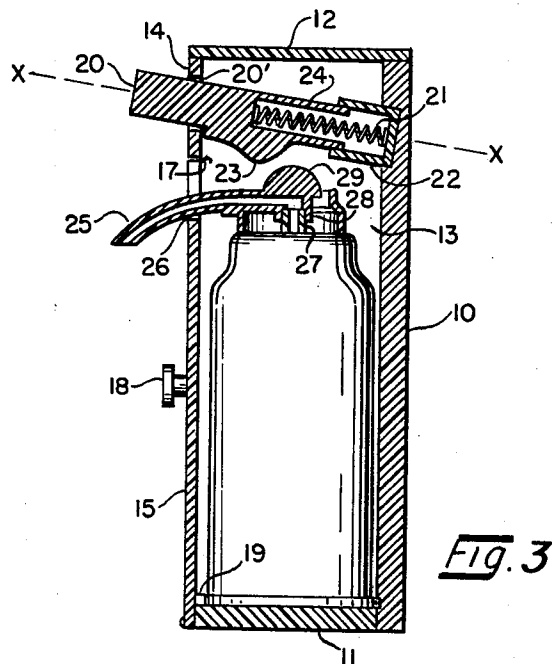


Fig. 3

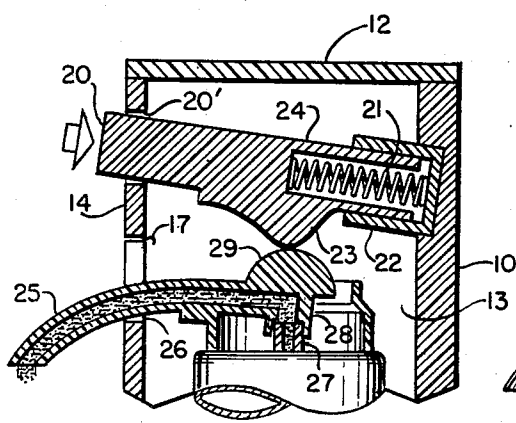


Fig. 4

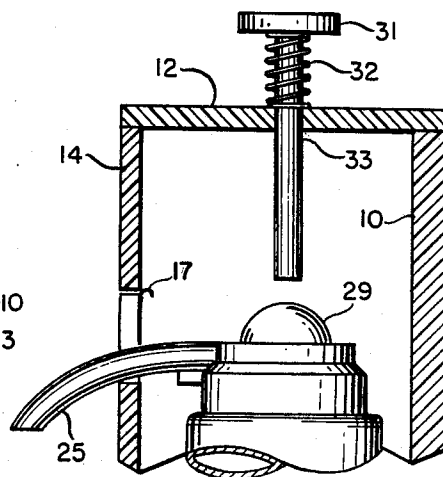


Fig. 5

INVENTOR.

Stoner W. Klutz, Jr.

BY

B. B. Olire

ATTORNEY

1

2

3,130,873

PRESSURIZED PRODUCTS DISPENSING CABINET

Stoner W. Klutz, Jr., 3409 Denise St., Durham, N.C.

Filed June 20, 1961, Ser. No. 118,393

6 Claims. (Cl. 222-131)

This invention relates to dispensing fluid products from pressurized containers. More particularly, the invention is concerned with a cabinet structure for conveniently storing several such containers and with means enabling their contents to be dispensed while so stored.

As is well known, various consumer type fluid products have been packaged in what are known as aerosol containers. Such products include toothpastes, shaving creams, hand lotions, soaps, hair preparations and other fluid materials. The entire container, once emptied, is disposable along with the valve and spout structure customarily mounted in top of the container. Due to the convenience of this form of packaging the householder or traveler frequently desires the use of several such containers but is confronted with the problem of having to store the containers when not in use. Hotels, train stations and the like are also in need of some convenient means of dispensing at one location the several types of products usually packaged in aerosol containers.

An object of this invention therefore is to provide a cabinet structure adapted to conveniently store and dispense from a plurality of individual, disposable, pressurized containers.

Another object is to provide improved disposable spout and valve structure for pressurized containers enabling the containers to be stored in a cabinet and the contents of the containers to be dispensed from within the cabinet by remote operation of their valves.

A further more general object is to provide for use in hotels, train stations and the like a cabinet structure adapted to conveniently store a plurality of individual, disposable, pressurized containers such that the contents of the various containers can be separately dispensed and empty containers easily replaced.

These and other objects will appear as the description proceeds and in the drawings in which:

FIGURE 1 is a perspective view of the cabinet in closed position.

FIGURE 2 is a front elevation of the cabinet with the cabinet door open.

FIGURE 3 is a side elevation sectional view with the cabinet door closed.

FIGURE 4 is a partial side elevation sectional view showing the valve actuator depressed.

FIGURE 5 is a fragmentary sectional view of an alternative valve actuating embodiment.

To summarize the invention briefly, I provide a closed cabinet structure adapted to support a plurality of disposable, pressurized, aerosol type fluid product containers. The containers sit vertically upright, in side by side, free standing position with the valve for each container being exposed and residing directly below a valve actuator built into the cabinet and operable from outside the cabinet. The disposable container valve and spout structure employed with the invention is of modified form to the extent that the conventional container spout is lengthened so that it may extend through the cabinet wall outside the cabinet and the conventional valve is modified to have a point of contact cooperating with the valve actuator structure built into the cabinet.

With the cabinet loaded with whatever number of containers are provided for, the user may select from any particular container simply by pushing an actuator button that is part of the valve actuator structure and that protrudes outside the cabinet for each container. This

causes the particular container's fluid to flow out of its respective spout which protrudes from the cabinet. The container, when empty, may be disposed of in the normal way including the modified disposable valve and spout structure. To do this, the cabinet door is opened and the empty container is removed from its free standing position beneath its valve actuator and the full container is inserted in the same position.

The invention may now be better understood by referring to the drawings. The cabinet structure proper includes a rear wall 10 fixed to a bottom wall 11, to a top wall 12 and to identical end walls 13, only one of the latter being shown. The front wall of the cabinet includes a fixed upper front wall 14 joined to top wall 12 and end walls 13 and a movable lower front wall in the form of door member 15 hinged by means of a longitudinally extending piano type hinge 16 to bottom wall 11. Door member 15 gives access to the cabinet and is arranged to swing downwardly and outwardly from the position of FIGURE 1 to the position of FIGURE 2. Door member 15 could of course be hinged from one of the other wall members. A flat spring latch member 17 fixed to the inside of door member 15 catches on the inside of front wall member 14 to hold the door in position as indicated in FIGURE 4. A knob 18 is fixed to the front of door member 15 to assist in opening and closing the door when replacing containers.

In the embodiment illustrated, the cabinet is adapted to hold five aerosol type pressurized containers and these are maintained in laterally spaced relation by means of the ridges 19 made integral with bottom wall 11 and extending from the front to the back of the cabinet between containers. Each container has its valve exposed and the valve is aligned with a valve actuator mechanism each of which includes a push button 20 extending through and bearing on the surface of a hole 20' provided in front wall member 14. The valve actuator mechanism also includes a compression spring 21 and a spring retaining cap 22. Push button 20 is part of an integral body, preferably molded plastic, which includes a valve actuating knob 23 and an open ended cylinder portion 24 surrounding and furnishing a bearing surface for one end of spring 21. The cylinder portion 24 is adapted to slidably fit inside a cap 22 fixed to rear wall 10 and which is of open ended matching cylindrical construction. Cap 22 in turn is adapted to surround and furnish a bearing surface for the other end of spring 21.

Reverting to the container valve construction itself, there is provided a modified spout 25 which is substantially longer than the conventional pressurized container spout and which is adapted to extend through an opening 26 provided through door member 15. Spout 25 connects with the conventional valve tube 27 through an integral conventional collar portion 28 made integral with a modified valve contact surface in the form of a raised knob 29. For those familiar with the typical aerosol type valve construction, it will be recognized that knob 29 presents a raised rather than a conventional flat surfaced valve and it is this modified contact surface that cooperates with the valve actuating mechanism of my invention. As in conventional construction, the structure which includes spout 25, collar 28 and valve knob 29 is made of a relatively cheap, pliable and disposable material. The container valve is opened by depressing knob 29 which acts to depress valve tube 27 which causes tube 27 and spout 25 to be filled with whatever product is in the container.

Referring to FIGURE 3, it will be seen that when button 20 is fully extended outwardly, the valve knob 29 will pass under the valve actuator knob 23 without disturbing the valve tube 27. Thus, when a partly empty

container is being removed or a full container is being installed, there is no tendency for the container valve to be operated. It may also be noted here that upper front wall 14 is designed to terminate above bottom wall 11 a distance approximating the height of the container in order that the same may be easily inserted and removed from its free standing position in the cabinet.

FIGURE 3 illustrates the relative positions of the container valve and valve actuator mechanism after the container has been installed and is ready for dispensing. It will be noted particularly that the central axis of the elongated structure which includes button 20, spring 21 and cap 22 as indicated by the axial line X—X is on a slight vertical angle with respect to the horizontally disposed base of the container. As best shown in FIGURE 4, when button 20 is depressed the contacting surface of actuator knob 23 tends to move downwardly from a position in which it clears valve knob 29 to a position in which it contacts valve knob 29 and causes valve tube 27 to be slightly depressed and the container contents to flow. Through this cooperative arrangement of valve actuator and valve structure it can be seen that the individual container can be removed and installed from a free standing position without fear of disturbing the container valve while at the same time allowing the valve to be readily operated once the container is in dispensing position.

In the embodiment described, the entire cabinet structure may be formed of sheet metal or the parts may be molded of plastic or made partly of plastic and partly of metal or other materials may be used. Depending on the location, the cabinet may be supported on bottom wall 11 or may be wall supported by means of screw attachment holes 30.

While the valve actuator arrangement previously described is preferred, an alternative form is somewhat schematically illustrated in FIGURE 5. Here, 31 represents a push button type plunger operable against a spring 32, such a button and spring arrangement being provided for each of said containers. As indicated, button 31 in this embodiment is slidably mounted at 33 in top wall 12 and resides over valve knob 29. Button 31 is normally out of contact with the container and particularly knob 29 but is depressible to effect contact with the valve and open the same.

With either of the embodiments described, the cabinet may be equipped with coin operated controls. For example, such controls could be adapted to control movement of buttons 20 or 31. In such case, the cabinet would remain locked.

While I have described specific embodiments, it will be understood that, within the scope of the claims below, variations will be apparent to those skilled in the art without departing from the spirit of my invention.

I claim:

1. In combination with a plurality of uniform size disposable aerosol type containers, each having a uniform type disposable exposed control valve and relatively long spout at the top thereof; a closed cabinet including a top wall, a back wall, end walls, a bottom wall adapted to support said containers in vertical, side by side, free standing, upright interchangeable position between said end walls and below said top wall, and a front wall comprising a fixed upper wall terminating above said bottom wall a distance approximating the height of said containers and a movable lower wall hinged to said bottom wall, said spouts protruding through openings provided in said lower wall; singular, independently operable, spring loaded, direct action, uniform type actuating means for each of said valves, said actuating means each being mounted within said cabinet above a respective one of valves and including a manually operable button extending through said upper wall, each button being effective when pushed to open the respective valve, thereby enabling

each of said containers to be selectively dispensed from said cabinet through said spouts.

2. In combination with a plurality of uniform size disposable aerosol type containers each having a uniform type disposable exposed control valve and relatively long spout at the top thereof; a closed cabinet adapted to enclose and support said containers in vertical, side by side, free standing, upright interchangeable position and including a front wall having openings for protrusions of said spouts; singular, independently operable, spring loaded, direct action, uniform type actuating means for each of said valves, said actuating means each being mounted within said cabinet above a respective one of said containers and including as a part thereof a manually operable button extending through said wall outside said cabinet, each button being effective when pushed to open a particular one of said valves thereby enabling each of said containers to be selectively dispensed from said cabinet through said spouts.

3. In combination with a plurality of uniform size disposable aerosol type containers each having a uniform type disposable, exposed control valve and relatively long spout at the top thereof; a cabinet adapted to enclose and support said containers in vertical, side by side, free standing upright interchangeable position and having openings in the front thereof for protrusion of said spouts; individual, spring loaded, direct action, uniform type actuating means disposed within said cabinet above said valves, said actuating means each including operating means protruding from said cabinet and being effective when pushed to operate respective ones of said valves, thereby enabling each of said containers to be selectively dispensed through said spouts.

4. In combination with a plurality of uniform size disposable aerosol type containers, each container having a uniform type disposable exposed control valve and relatively long spout at the top thereof; a closed cabinet adapted to enclose and support said containers in vertical, side by side, free standing, upright interchangeable position and including a front wall having openings for protrusion of said spouts; uniform type individual actuating means for each respective valve, said actuating means each having a valve contact surface suspended within said cabinet above and normally free of said valve and an operating member protruding from said cabinet, manipulation of said operating member being directly effective to bring said surface against said valve causing it to open, thereby enabling each of said containers to be selectively dispensed from said cabinet through said spouts.

5. In combination with a plurality of uniform size disposable, aerosol type containers, each container having a uniform type disposable, exposed control valve and relatively long spout at the top thereof; a closed cabinet adapted to enclose and support said containers in vertical, side by side, free standing, upright interchangeable position and including a front wall having openings for protrusion of said spouts; individual uniform type actuating means for each respective valve, said actuating means each having a valve contact surface suspended within said cabinet above, directly in front of and normally free of said valve and made integral with an elongated operating member protruding from said cabinet and arranged to be movable along its central axis, manipulation of said operating member being effective to move said surface downwardly, towards and against said valve causing it to open by direct action, thereby enabling each of said containers to be selectively dispensed from said cabinet through said spouts.

6. In combination with a plurality of uniform size disposable aerosol type containers each having a uniform type disposable exposed control valve and relatively long spout at the top thereof; a closed cabinet including a top wall, a back wall, end walls, a bottom wall adapted to support said containers in vertical, side by side, free standing, upright interchangeable position between said

5

end walls and below said top wall, and a front wall comprising a fixed upper wall terminating above said bottom wall a distance approximating the height of said containers and a movable lower wall hinged to said bottom wall, said spouts protruding through openings provided in said lower wall; singular, independently operable, spring loaded, direct action, uniform type actuating means for each of said valves, said actuating means each being mounted within said cabinet above a respective one of said valves and including a valve contact surface suspended within said cabinet above and normally free of said valve and an operating member protruding from said cabinet, manipulation of said operating member being effective to bring said surface against said valve causing

5

10

6

it to open, thereby enabling each of said containers to be selectively dispensed from said cabinet through said spouts.

References Cited in the file of this patent

UNITED STATES PATENTS

2,085,274	Rutt et al.	June 29, 1937
2,411,196	Dolan	Nov. 19, 1946
2,781,152	Van Slyke	Feb. 12, 1957
2,989,214	Manheimer	June 20, 1961
3,007,613	Tygard	Nov. 7, 1961

FOREIGN PATENTS

531,098	Italy	July 21, 1955
958,376	France	Sept. 12, 1949