Oct. 12, 1965 A. E. SILVER 3,211,343

MULTIPLE-CHAMBERED PRESSURIZED SPRAY CONTAINER

Filed Nov. 5, 1962 2 Sheets-Sheet 1

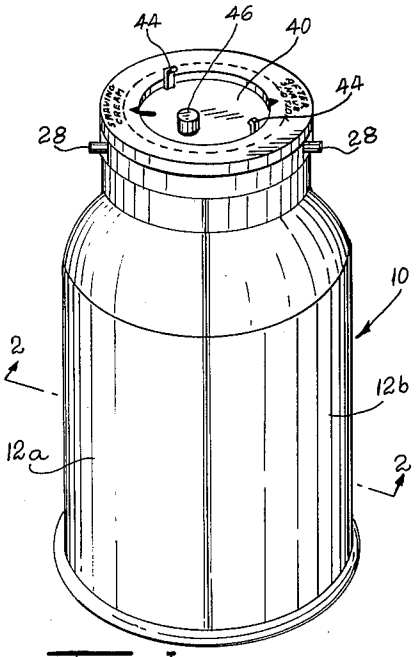


Fig. 1

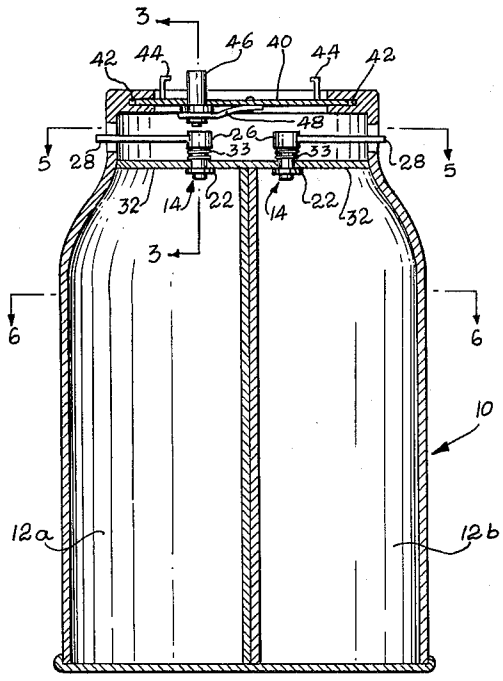


Fig. 2

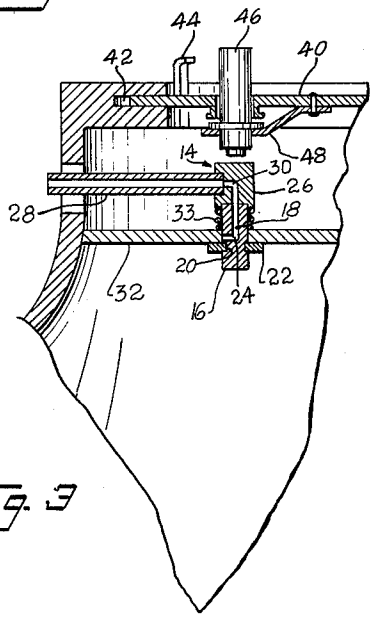


Fig. 3

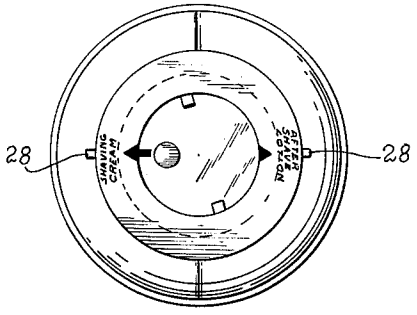


Fig. 4

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MULTIPLE-CHAMBERED PRESSURIZED SPRAY CONTAINER

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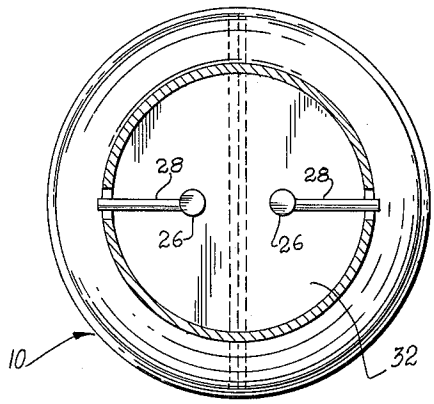


Fig. 5

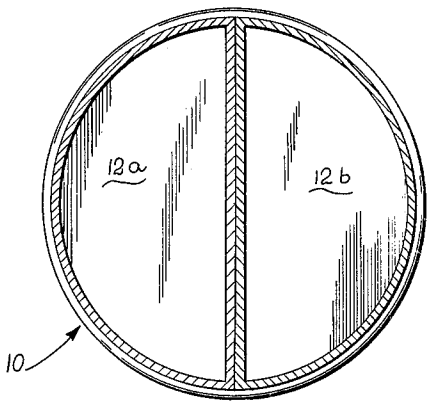


Fig. 6

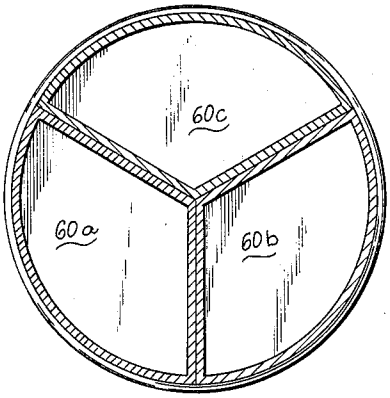


Fig. 7

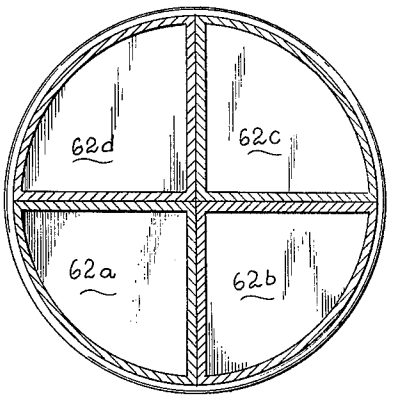


Fig. 8

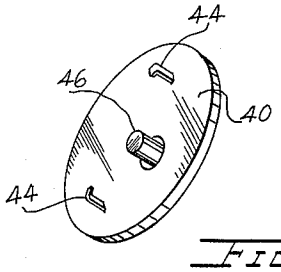


Fig. 9

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3,211,343

MULTIPLE CHAMBERED PRESSURIZED SPRAY CONTAINER

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Filed Nov. 5, 1962, Ser. No. 235,335
5 Claims. (Cl. 222—144.5)

This invention relates to a multi-chambered pressurized dispenser having a plurality of valves, one for each chamber, and a single means for selectively actuating said valves in order to selectively dispense the contents of said chambers. Briefly stated, the present invention contemplates a single dispenser having a plurailty of chambers in fixed locations relative to each other, a plurality of valves, one for each of said chambers, and a single means for actuating said valves, said means being moveably mounted on said dispenser for selective engagement with, and operation of, said valves.

The invention is concerned particularly with the provision of multi-chambered dispensers of the character described as applied to related or complementary groups of dispensable materials. For example, a two-chambered dispenser may be provided within the scope of this invention for shaving cream and aftershave lotion. A multi-chambered dispenser of the character described may also be provided for dispensing paints of various colors and shades of colors. Such dispenser might contain two, three or more separate chambers, each adapted to dispense a paint of a different color. A third illustration would be of a two-chambered pressurized dispenser of the character described wherein one chamber is adapted to dispense whipped cream and the other a second kind of topping product.

In one preferred form of this invention, two separate chambers are provided, each in semi-cylidrical form, the two being joined flat-side to flat-side to form a complete cylinder. The valve actuator is mounted for rotary movement for selective engagement with the valves of said chambers. It will however be appreciated that individual chambers of the present device may be formed in the shape of the third or a quarter of a cylinder. In the case of the former, three chambers would be joined flat-side to flat-side in order to form a complete cylinder, and in the case of the latter, four chambers would be joined in the same manner, also to form a complete cylinder.

By the same token, the rotary movement of the valve actuator may be superseded by a linear movement as between the valves of a two-chambered dispenser. In short, there are many valves that are contemplated within the scope of the invention.

The invention contemplates two general classes or groups of container structures. The first relates to a plurality of individual containers which are fastened together to form a unitary structure. The second relates to a plurality of individual containers which are held together within a single outer enclosure or shell. In either case, however, each individual container is provided with its own individual valve, and a single valve actuator is provided on the entire unitary structure for selective engagement with said valves. For purposes of illustration, however, the invention will be shown in the drawing and described in the specification solely in terms of the first class or group last above described, wherein the individual containers are held together to form a unitary structure, there being no outer enclosure or shell to contain them.

The invention is illustrated in the accompanying drawing in which:

FIGURE 1 is a perspective view of a dispenser of the character herein described and claimed, said dispenser having two separate chambers.

FIGURE 2 is a vertical section through said dispenser.

FIGURE 3 is an enlarged fragmentary section on the line 3—3 of FIGURE 2.

FIGURE 4 is a top view of said dispenser.

FIGURE 5 is a transverse section on the line 5—5 of FIGURE 2.

FIGURE 6 is a transverse section of the line 6—6 of FIGURE 2.

FIGURE 7 is a sectional view similar to that of FIGURE 6, but showing a three-chambered dispenser.

FIGURE 8 is another view similar to that of FIGURE 6, but showing a four-chambered dispenser.

FIGURE 9 is a perspective view of the the valve actuating means and the slide plate on which it is mounted.

Referring now to the details of the invention as illustrated in the drawing, it will be observed that the multi-chambered pressurized dispenser **10**, which is shown in FIG. 1, is provided with a generally cylindrical container which consists of a pair of semi-cylindrical containers **12***a* and **12***b*, respectively, each said semi-cylindrical container being complete in and of itself and being entirely sealed off from the other. These two semi-cylindrical containers may be secured to each other by any conventional means such as soldering, and it will be noted that they are disposed in face-to-face relationship, their respective curved walls defining the cylindrical container.

Each semi-cylindrical container **12***a*, **12***b* defines a pressurized chamber adapted to accommodate a dispensable material under pressure. As has above been indicated, related materials would be used as, for example, a shave cream in one chamber and an aftershave lotion in the other.

Each semi-cylindrical container **12***a*, **12***b* is provided with a valve **14**. Any conventional valve used in pressurized containers may be used here, but for illustrative purposes, the valve shown in the drawing will now be described. This valve is provided with a body portion **16** having a vertical passage **18** formed therein. An annular groove **20** is formed in said body portion and disposed therein is an annular washer **22** which is made of rubber or other suitable material. It will also be noted that a radial channel **24** which is positioned vertically above said annular washer is formed in said body portion in order to provide communication between said vertical channel **18** and the pressurized chamber of said container. A head **26** is mounted on said body portion **16** and a tubular nozzle **28** projects laterally from said head. It will now be noted that a passage **30** is formed in said head **26** to provide communication between channel **18** and tubular nozzle **28**.

As above indicated, each semi-cylindrical container is provided with one such valve. The valve is situated in the top wall **32** of the container and it is mounted for vertical movement therein. The pressure within the container, in conjunction with a spring member **33** interposed between the bottom portion of the head **26** and the upper surface of the top wall **32**, urges the valve outwardly therefrom and squeezes the washer between the lower wall of annular groove **20** and the lower surface of the top wall **32** of said container. This results in sealing off orifice **24** and prevents escape of the contents of the container.

It will now be seen that a disc-shaped plate **40** is rotatably mounted within an annular groove **42** formed above the top wall **32** of the two semi-cylindrical containers **12***a*, **12***b*. Annular groove **42** occupies a plane to which the longitudinal axis of container **12** is normal, said plane being also situated in spaced parallel relation to the common plane in which the two valves are disposed. Disc-shaped plate **40** is rotatably slidable within groove **42** and in a plane which parallels the plane in which said valves are disposed. Tabs or lugs **44** may

be provided on said slide plate **40** for digital engagement in order to rotate said plate to any desired angular position within groove **42**.

A unitary valve-actuating means **46** is provided on slide plate **40**. This valve actuator is a push button which is spring urged upwardly and away from the valves by means of leaf spring **48**. In order to operate the present device, slide plate **40** is moved angularly until push button **46** is disposed directly above either of the two valves heretofore described. It is then depressed manually until it engages the head **26** of said valve and forces the valve body downwardly to disengage washer **22** from top wall **32** of the semi-cylindrical container to which the engaged valve is connected. This will open orifice **24** by placing it in flow communication with the pressurized chamber of said container and will permit discharge of the contents thereof through said orifice, channel **18**, channel **30** and tubular nozzle **28**. To stop the flow of material, all that need be done is to release the push button and the pressure within the container will return the valve to closed position, thereby sealing off orifice **24**.

The illustrations of FIGS. 7 and 8 differ from the foregoing form of the invention only in the following respect. In FIG. 7, a three-chambered dispenser is shown, while in FIG. 8 a four-chambered dispenser is illustrated. In FIG. 7 each chamber **60***a*, **60***b*, **60***c* defines one-third of a cylinder. In FIG. 8, each chamber **62***a b*, *c* and *d* defines one-fourth of a cylinder. The flat sides of cylinders **60***a* to *c* are disposed flat against each other, and are soldered or otherwise held together so that the three containers will collectively define a full cylinder. This is also true of containers **60***a* to *d*, as FIG. 8 clearly shows.

The foregoing is illustrative of the preferred forms of this invention, and it will be clearly understood that they are subject to modification and variation, all within the board principles and cope of the invention.

What is claimed is:

1. A multi-chambered pressurized dispenser of the character described, said dispenser comprising a container having at least two pressure chambers for storage of dispensable material under pressure, said chambers being sealed off from each other, a separate valve member attached to the top of each chamber, an apertured slidable plate mounted on said container in spaced relation to the tops of said chambers, a push button mounted for vertical movement through said aperture in said plate, resilient means normally urging said push button in an upward direction, said plate being slidable for registration of said push button with a selected valve member so that manual downward movement of said push button against said resilient means will actuate the selected valve for dispensing of said material contained within the chamber to which said valve is connected.

2. A multi-chambered pressurized dispenser as set forth in claim **1**, wherein said resilient means comprises a spring mounted on said plate and in contact with said push button.

3. A multi-chambered pressurized dispenser in accordance with claim **1** wherein the container is generally cylindrical in shape and each of said chambers is semi-cylindrical in shape.

4. A multi-chambered pressurized dispenser in accordance with claim **1** wherein the container is generally cylindrical in shape, each of said chambers defining one-third of a cylinder, and three such chambers being in juxtaposed relationship to form said container.

5. A multi-chambered pressurized dispenser in accordance with claim **1** wherein the container is generally cylindrical shape, each of said chambers defining one-quarter of a cylinder, there being four such chambers in juxtaposed relationship to form said cylindrical container.

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