United States Patent [19]

Bagguley

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[54] **RACK FOR PRESSURIZED PRODUCT DISPENSING CONTAINER**

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[52] **U.S. Cl.** **222/135**, 222/144.5, 222/162, 222/181, 222/183

[51] **Int. Cl.** **B65d 83/14**

[58] **Field of Search**...222/180, 181, 144.5, 162, 160, 222/173, 135, 402.1, 402.13, 131

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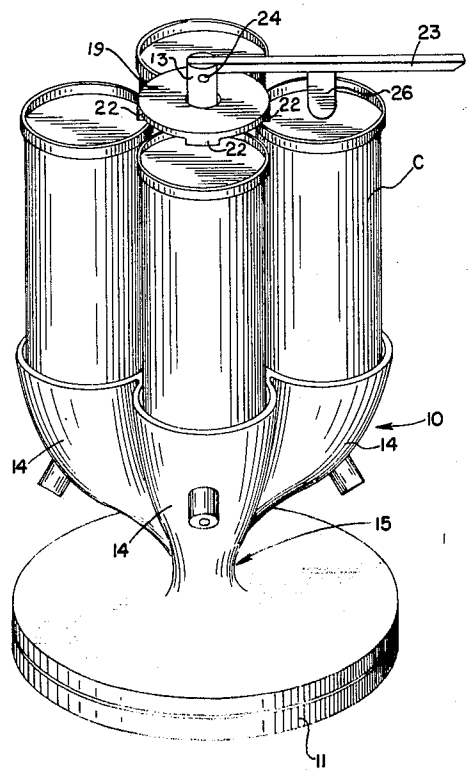
[57] **ABSTRACT**

Racks for supporting pressurized product dispensing containers. The racks include means for tilting the dispensing valve on the containers to a dispensing position upon relative axial movement of the rack and container.

6 Claims, 4 Drawing Figures



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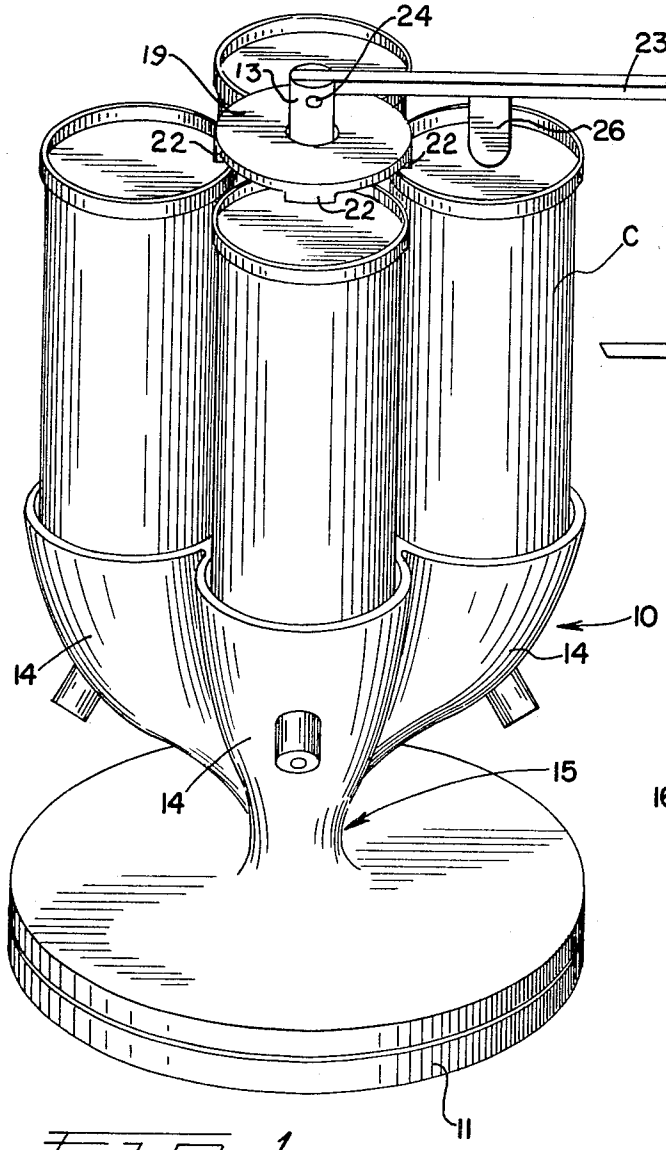
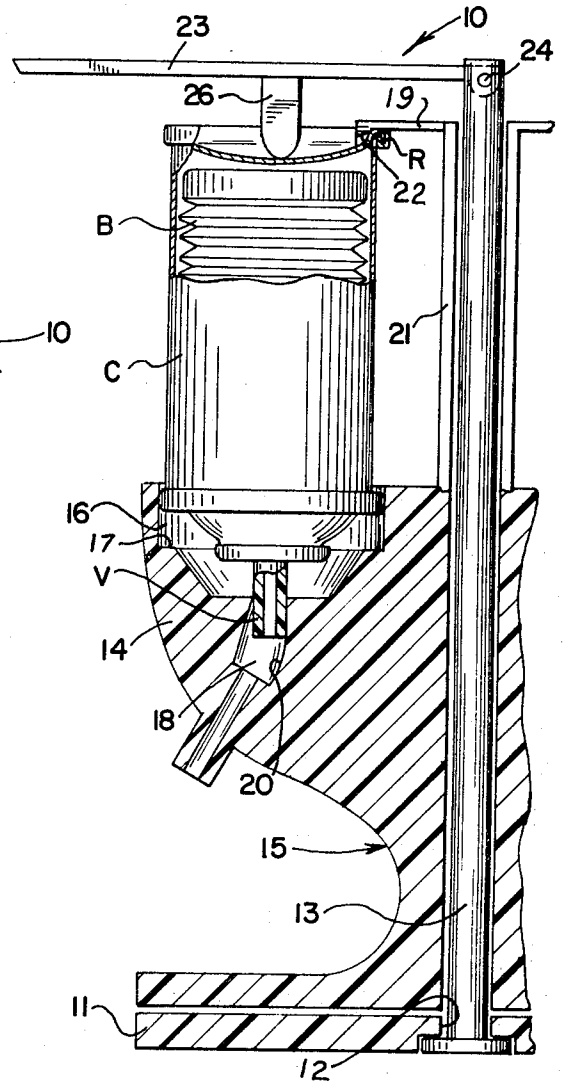


FIG. 1

FIG. 2



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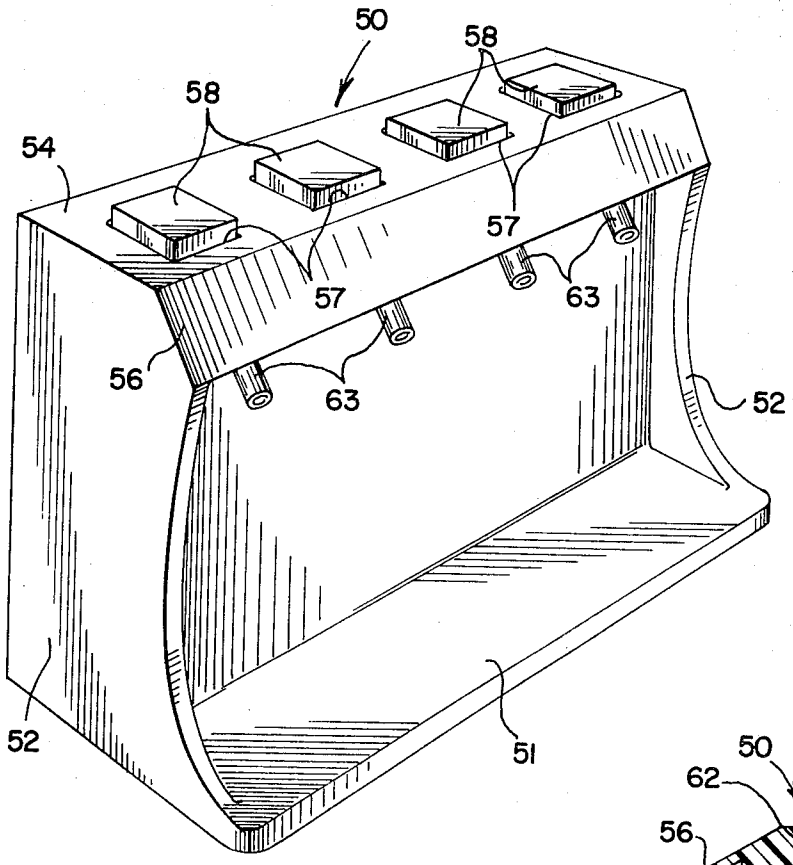

FIG. 3

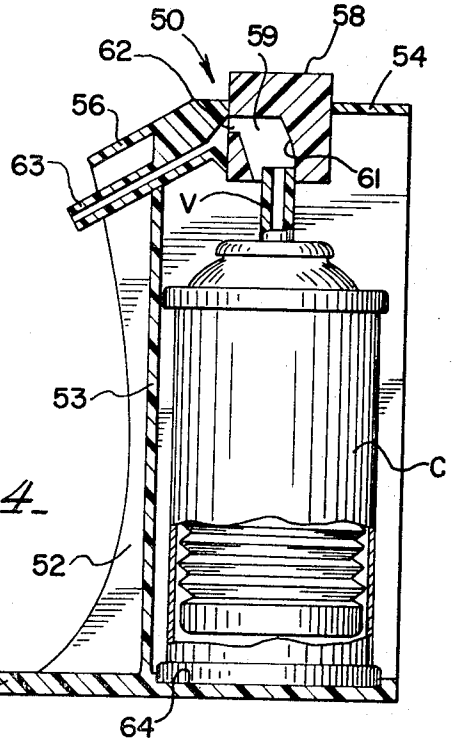

FIG. 4

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RACK FOR PRESSURIZED PRODUCT DISPENSING CONTAINER

BACKGROUND OF THE INVENTION

The present invention relates to racks for conveniently supporting and storing a pressurized product dispensing container, and more particularly to racks having means for permitting the dispensing of the product while the pressurized container is supported thereon.

As is well known, various products are now packaged in pressurized product dispensing containers including liquid products such as perfumes, after-shave lotion and the like and viscous products such as toothpaste, shaving creams, hand lotions, soaps and the like. The containers when emptied are disposable along with the valve and spout structure customarily mounted on top of the container. This type of container is extremely convenient to the housewife and traveller. Oftentimes, it is desirable particularly when the products are of a similar type or have a common function that they be stored on the open shelf so as to be readily accessible. For example, many containers now have various types of cheeses or other types of food products which may be desirable to have available on a shelf or a table on a common rack so as to be capable of immediate use. Other obvious combinations of containers that may be supported on a common rack should be readily apparent.

The rack of the present invention is intended to support a plurality of such pressurized product dispensing containers and to provide a means for dispensing the product therefrom without removing the same from the rack.

This is accomplished by providing a supporting rack having means for discharging any one of a plurality of pressurized product dispensing containers having a product discharge nozzle axially projecting from one end thereof. The container discharge nozzle is of the conventional type that is tiltable between a closed position and an open product dispensing position. The rack includes means for supporting the container against substantial radial movement. The supporting means includes an open ended passage into which the product dispensing nozzle of the container is adapted to extend. The product dispensing passage includes a camming surface which tilts the nozzle to the product dispensing position upon relative axial movement of the container.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of one embodiment of pressurized product dispensing rack embodying the principals of the present invention;

FIG. 2 is a cross sectional view showing one of the container supporting means on the rack;

FIG. 3 is a further embodiment of the rack structure embodying the principals of the invention; and

FIG. 4 is a cross sectional view through one of the bases of the rack of FIG. 3 showing a pressurized product dispensing container supported thereon.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings, in particular FIGS. 1 and 2, there is shown a rack **10** comprising a circular

base **11** having an axial opening **12** in which one end of a post **13** is turnably supported. Rotatable about the post **13** is a plurality of angularly spaced upstanding container supports **14** which may be formed from a common block **15**. The container supports **14** at their upper end are each provided with a circular recess **16** which is adapted to receive the dispensing end of a dispensing container C.

The dispensing container C shown is of the pressurized compartmentized type in which a product dispensing valve or nozzle V is disposed on one end of a metal body. The metal body is provided with a product containing bag B on which a pressurized propellant within the container body reacts upon tilting of the valve V to discharge the product.

As shown, each circular recess **16** includes a shoulder **17** on which the rim of the container body rests after downward movement of the container C. The dispensing valve V is received in a bore **18** having a curved camming surface **20** which engages one side of the dispensing valve V. The frictional engagement at the valve V is sufficient to retain the container C in an upward position within the recess **16** in spaced relation to the shoulder **17**.

A disk **19** is supported on the upper end of a sleeve **21** which is turnable about the shaft **13** and rests on the upper surface of the support block **15**. The disk **19** has a plurality of downwardly projecting and angularly spaced fingers or flanges **22** which are adapted to engage the inside of the rim R on the bottom of the container C. The disk **19** serves to support the containers C in a substantially vertical attitude in cooperation with the circular recesses **16** which accommodate the upper end of the containers C.

As shown, the post **13** is rotatably supported on the base **11**. A lever **23** is supported for swinging movement in a vertical plane at the upper end of the posts **13** by means of a pivot pin **24**. The lever **23** intermediate its ends is provided with a downwardly projecting actuating rod **26** which is adapted to engage the center of the bottom of the container C. Upon downward swinging of the lever **23**, the actuating rod **26** depresses the container C downwardly further into the circular recess **16** and the dispensing valve V into the curved bore **18**. This causes the valve V to be inclined by the camming surface **20**. Upon inclination of the dispensing valve V, the product in the compartment bag B is forced outwardly under the force of the propellant in the propellant chamber of the container C.

Anyone of the other containers may be similarly discharged by turning the shaft **13** until the actuating rod **26** is aligned with the container to be discharged. Thereafter, depression of the lever **23** will discharge product from the container.

Referring now to FIGS. **3** and **4**, there is shown another embodiment of rack **50** in which each of the containers C are adapted to be held in an upright position and in side-by-side relationship rather than in an inverted position and angularly spaced as in the embodiment of FIGS. **1** and **2**. The rack **50** comprises a base **51** having two spaced ends **52** and a partition member **53** connected between the ends **52**. A top **54** having a downwardly inclined forward top portion **56** is connected between the ends **52**. The top **54** is provided with a plurality of lengthwise spaced openings **57** in which actuating knobs **58** are slidably disposed.

The actuating knobs **58** may be frictionally retained within the respective openings **57** and are each provided with a bore **59** having a camming surface **61** which is adapted to engage the dispensing nozzle or valve V of the container C. Upon downward depression of the actuating knobs **58**, the nozzle V is tilted so that the product is discharged therefrom in the manner as described in connection with the container of the embodiment of FIG. **1**. The actuating knobs **58** each includes a horizontal discharge passage **62** communicating with the bore **59**. The inclined forward portion **56** is provided with a plurality of discharge nozzles **63** that are aligned with the horizontal passages **62** in the actuating knobs **58**. The rack base **51** upon which the containers C are adapted to rest may be provided with recesses **64** to receive the lower end or bottom of the container C so as to maintain it in alignment with the actuating knobs. In this manner, the container C is axially restrained against radial movements so that upon downward depression of the actuating knobs **58**, the valve V is tilted to a discharge position. Moreover, it is to be noted that the container C is closely disposed adjacent the rack partition so that the radial or lateral movement thereof is resisted during the downward depression of the knob **58**.

What is claimed is:

1. A rack for supporting a pressurized container having a product dispensing valve axially projecting from one end thereof and being tiltable between a closed position and an open product discharge position, said rack comprising a base, a recess into which the top of an inverted container is adapted to seat, passage means formed in said base and communicating with said recess and into which the product dispensing valve is adapted to extend, said passage means being formed with a camming surface in said opening and engageable with said dispensing valve upon relative axial movement of the container and said support means for tilting said dispensing valve to the open product discharge position, a vertical post means mounted on said base, a sleeve disposed about said posts means, and having means engageable with the bottom end of the inverted container for retaining the container in a substantially vertical position, and a lever pivotally attached to the upper end of said post engageable with the container bottom for depressing the container axially into said recess and thereby tilting said dispensing valve to the open position as the latter moves against said camming surface.

2. The invention as defined in claim **1** wherein said rack comprises a plurality of angularly spaced support means, and wherein said sleeve mounted means includes angularly spaced flange means engageable with the bottom ends of the inverted containers seated in said support means.

3. The invention as defined in claim **2** wherein said post is rotatably mounted on said base so that said swingable lever may be engaged with anyone of the containers.

4. A rack for supporting a pressurized product container having a product dispensing valve axially projecting from one end thereof and being tiltable between a closed position and an open product discharge position, said rack comprising a base on which said container is supported in an erect attitude, a top vertically spaced from said base, actuating means disposed in said top for vertical sliding movement, said actuating means having passage means for receiving said product dispensing valve, and a camming surface in said passage means engageable with the product dispensing valve upon downward vertical movement thereof to tilt said dispensing valve to said open product dispensing position.

5. The invention as defined in claim **4** wherein said top includes a plurality of lengthwise spaced actuating means having said passage means so that a plurality of containers may be supported on said rack.

6. The invention as defined in claim **5** wherein said rack includes a partition means extending lengthwise of said base and said top so that the containers are disposed on one side thereof, and wherein discharge nozzles communicating with said passage means extend from said top on the other side of said partition.

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