June 26, 1951 H. B. RUBENSTEIN ET AL 2,558,272

VALVE OPERATING MECHANISM FOR SPRAY CANS

Filed June 24, 1950

FIG 1

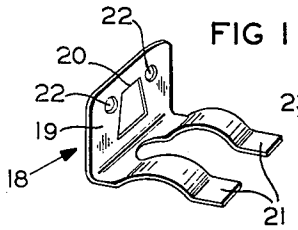


FIG 2

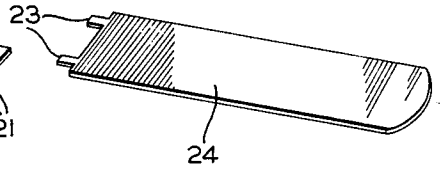


FIG 3

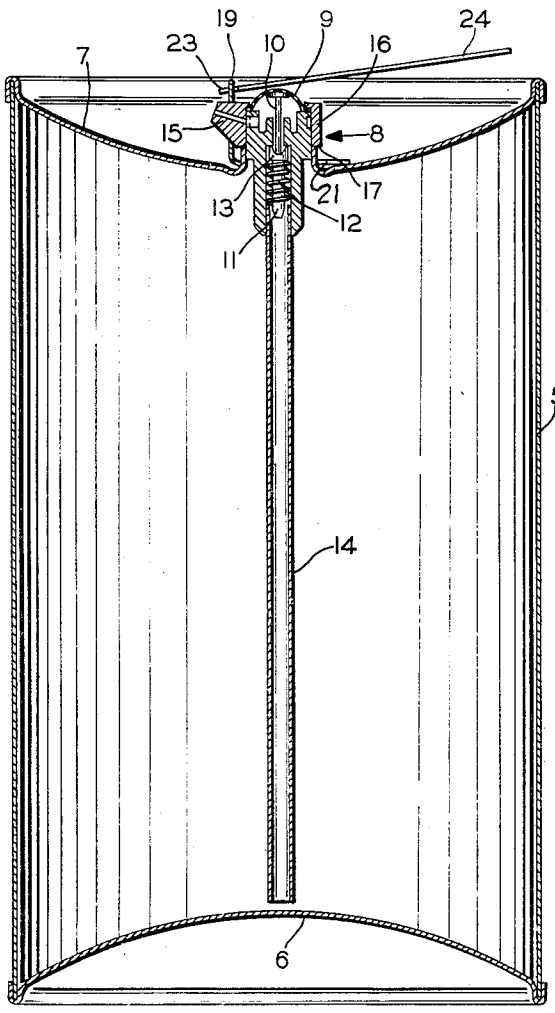
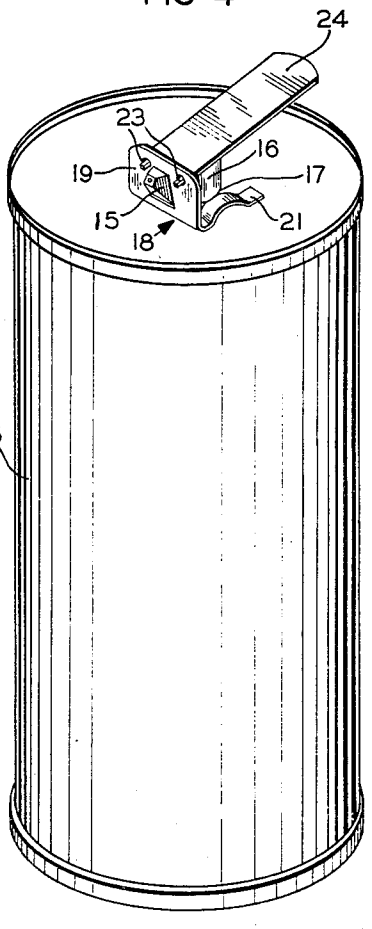


FIG 4



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VALVE OPERATING MECHANISM FOR SPRAY CANS

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2 Claims. (Cl. 299—95)

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This invention relates to valve operating mechanism for spray cans of the type containing a sprayable liquid which is held under fluid pressure in the can and the latter is provided with a manually operable dispensing valve of the push button type.

It is an object of our invention to provide for the valves of such cans a simple, inexpensive and readily attachable and detachable operating lever and fulcrum adapted to facilitate the periodic or continuous opening of the valve for spraying purposes.

A particular object is to provide unusually compact and readily detachable operating means for spray can valves of common type having a push button valve contained in a recess in the end of the can where it is protected against accidental or unintentional operation.

Our invention also includes certain novel details of construction which will be more fully pointed out in the following specification and claims.

Referring to the accompanying drawing which illustrates a preferred embodiment of our invention:

Figure 1 is a perspective view of our improved fulcrum member;

Fig. 2 is a perspective view showing the valve operating lever;

Fig. 3 is a central vertical sectional view through a spray can and valve of common type with our improved valve operating mechanism in place thereon, and

Fig. 4 is a perspective view of the spray can and valve operating mechanism.

In the drawing, our invention is shown attached to a spray can of the common type having a cylindrical wall 5, bottom wall 6 and a top wall 7, the walls 6 and 7 being of externally concave form adapted to withstand internal pressure. Mounted centrally on the wall 7 is a valve indicated generally by the numeral 8. This valve has a casing which is in communication with the interior of the can and is of the type having a push button 9 adapted to be pressed downward to open the valve. The push button is constructed from suitably flexible material and is normally held in extended position by a pin 10 which fits loosely in an axial bore in the valve casing. A valve member 11 is biased by means of a spring 12 to close upward against an annular seat 13 formed in the valve casing and the lower or inner end of the pin 10 rests on the upper end of the member 11. Liquid is supplied to the valve casing through a tube 14 and is discharged, when the

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valve is open, through a nozzle member 15 which projects from one side of the valve casing. The nozzle 15 is integral with an annular valve casing member 16 affording an annular external shoulder 17 which projects in spaced relation to the end wall 7 of the can.

Our improved fulcrum member, indicated generally by the numeral 18, is preferably constructed from resilient sheet metal and is provided with a normally upright member 19 having an opening 20 adapted to receive and fit the nozzle 15 of the valve. A pair of spring fingers 21 project laterally from the fulcrum member to embrace the valve casing beneath the shoulder 17. The fulcrum member is thus made readily attachable to and detachable from the valve and may be placed in operative relation to the valve by merely springing the fingers 21 into engagement between the top wall 7 of the can and shoulder 17 of the valve casing. Perforations 22 are formed in the fulcrum member 19 to receive prongs 23 formed on an end of a valve operating lever 24.

Cans of the type hereinbefore illustrated and described are commonly provided to contain various sprayable liquids and to make such liquids readily dispensable in spray form. Examples of suitable liquids are insecticides, liquid wax and paints or lacquers. With some of these materials it is desirable to store the can in inverted position so that the valve passages do not become clogged as a result of the evaporation of the volatile constituents of the liquids and hardening of the pigments or other solid constituents in the valve passages or nozzle.

Our improved valve operating mechanism is designed to permit the lever 24 to be removed when the can is to be stored in inverted position and to permit both the fulcrum member and lever member to be sold separately from the cans and attached, by the user, to the can and valve quickly and easily. When the spray valve is to be operated it is only necessary to spring the fulcrum member 18 into place between the shoulder 17 and wall 7, as hereinbefore described, and to attach the lever 24 by inserting the prongs 23 into the openings 22 in the fulcrum member. Ordinarily the can is only partially filled with the sprayable liquid and the interior space above the liquid is charged with air or other suitable gas under sufficient pressure to discharge the entire liquid contents in the form of a spray through the valve nozzle. With the can in substantially upright position the lever 24 is merely pressed downward to operate the push button member 9 and to open the valve. It will be evident that the

nozzle 15 is directed away from the operator to deliver the spray on the surface to be coated or otherwise into the space where the spray is required. In the absence of our lever operating means for the valve, the opening of the valve is relatively difficult since considerable pressure is required to hold the push button of the valve in depressed position for the time often required for the spraying operation. This difficulty is eliminated by providing our lever means for operating the valve and the cost of our device is nominal.

Having described our invention, what we claim as new and desire to protect by Letters Patent is:

1. For a spray can having a valve contained in a recess in an end wall of the can, said valve having a shoulder projecting in spaced relation to said end wall, a spray discharge nozzle projecting at one side of the valve and a spring biased push button for operating the valve; the improvements which comprise, a fulcrum member formed with an aperture adapted to receive said spray discharge nozzle, spring fingers formed to detachably fasten said fulcrum member in place on the valve by engagement between said shoulder and the end wall of the can and a lever for operating the push button formed to hingedly engage said fulcrum member and to project therefrom across the top of said push button, said lever being readily detachable from said fulcrum member.

2. For a spray can having a valve contained in a recess in an end wall of the can, a peripheral portion of the can normally projecting above said valve, said valve having a shoulder projecting in

spaced relation to said end wall, a spray discharge nozzle projecting at one side of the valve and a spring biased push button for operating the valve; the improvements which comprise, a fulcrum member formed with an aperture adapted to embrace said spray discharge nozzle, spring fingers integral with said fulcrum member and projecting laterally therefrom to detachably fasten it on the valve by engagement between said shoulder and the end wall of the can, and a lever for operating the push button of the valve formed to pivotally engage said fulcrum member and to project therefrom across the top of said push button, said lever being readily detachable from said fulcrum member and the can being adapted to be supported on a flat surface in inverted position with all portions of said valve and fulcrum member contained within said recess when the lever is removed from the valve.

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