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2,805,725

SPRAY VALVE

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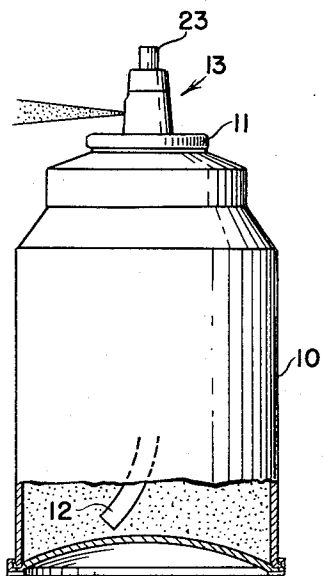


FIG. 1

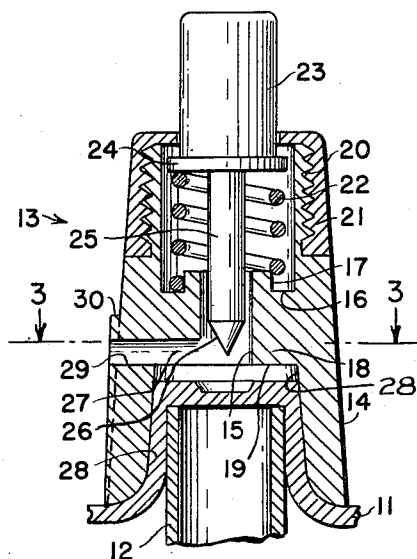


FIG. 2

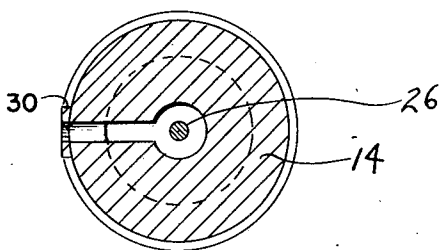


FIG. 3

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SPRAY VALVE

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2 Claims. (Cl. 169—31)

This invention relates to a valve and more particularly to a spray valve for fire extinguishers using high pressure inert gas.

This invention is a continuation-in-part of Serial Number 511,494, filed May 27, 1955, now abandoned.

It is an object of this invention to provide a spray valve for spraying dry particles using an inert gas, for example, the spraying of sodium bicarbonate by means of nitrogen gas at 100 pounds per square inch.

This and other objects of this invention will become apparent upon reading the following disclosure taken in conjunction with the accompanying drawing in which:

Fig. 1 is a side view of the valve disposed on a spray container, for example, a fire extinguisher having sodium bicarbonate under nitrogen gas pressure,

Fig. 2 is a vertical section of the valve and

Fig. 3 is a section taken on line 3—3 of Fig. 2.

Referring to the drawing, a container 10 of conventional manufacture is provided with a conventional closure cap 11 centrally disposed therein, said closure cap 11 having a conventional syphon tube 12 secured thereto.

The valve 13 of this invention is shown in detail in Fig. 2. This valve comprises a housing 14 of unique construction.

The housing 14 comprises a tubular truncated cone having a constricted throat aperture 15. The housing 14 is provided with a top inner shelf 16 adjacent an upright ring 17 having aperture 15 therethrough. Ring 17 is integral with inner transverse wall 18 having a bottom apertured surface 19.

The top of housing 14 is provided with screw threads 20 and an aperture holding cap 21 having interiorly disposed screw threads therein is threadingly secured to the housing threads 20.

A coil spring 22 of suitable and appropriate dimensions is removeably disposed around ring 17.

An integral plunger pin having a knob 23 and a shoulder 24 secured to the base of the knob 23 is disposed through the aperture of cap 21 with the shoulder 24 thereof abutting against the inside wall of cap 21.

A pin 25 integral with shoulder 24 is centrally and dependingly disposed in shoulder 24. Pin 25 is provided with a sharp conical point 26 adapted to pierce the conventional stub wall of the conventional syphon tube assembly unit.

As shown in Fig. 2, the plunger pin is disposed cap- tively yet moveably in the valve housing with the knob 23 thereof being disposed exteriorly of cap 21.

A feature of this invention is the provision of a channel or groove 27 in the bottom surface 19 of transverse wall 18. This channel extends from aperture 15 to the inner conical wall 28 of the bottom section of housing 14.

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The channel 27 communicates with borehole 29 which extends through the housing 14 wall. The housing 14 is provided at the bore-hole 29 with a flat perpendicular exterior wall 30 which facilitates visual location of the bore-hole 29 so that wall 30 may be readily positioned toward the fire when used.

Depressing of knob 23 causes the pin point 26 to pierce the thin metal wall of conventional closure cap 11. Release of the piercing pressure on knob 23 causes the coil spring to move the pierce point 26 away from the pierced closure cap 11. The powdered material is then propelled up syphon tube 12 and into channel 27 where it is swirled to form a non-clogging mixture of inert gas and dry powder fire extinguishing material. The channel 27 thus functions to prevent clogging of bore-hole 29 with solid particles by serving as a mixing chamber just prior to passage of the mixture into the bore-hole 29.

The pin 25 is disposed through coil spring 22 and aperture 15 so that it is always positioned directly over the thin wall section of closure cap 11.

The conical portion of the conventional closure cap 11 is press fitted into the conical inner wall 28 of the housing so that it is rigidly secured thereto.

This invention has been described with reference to an illustrative embodiment of the invention but its scope is larger than that of this illustration.

I claim:

1. In combination a pressure resistant conventional dry powder spray container having an integral protruding conical closure cap having a top flat wall with a thin walled central area, a syphon tube disposed within said container and fitted into the conical cap cavity, and a spray valve comprising a conical tubular valve housing having a centrally disposed transverse wall having an opening disposed centrally therein, an upright ring integral with said transverse wall and disposed about said wall opening, said housing having externally disposed screw threads at its top and having a conical inner wall at its bottom, said housing having a horizontal channel in the bottom surface of said transverse wall extending through the housing to form a spray outlet aperture, said channel communicating with the base of the opening passing through said transverse wall, said housing being securely positioned over said closure cap of said container, a coil spring disposed in said tubular housing about said upright ring and upon said transverse wall; a plunger pin having a finger knob, a shoulder integral to the base of said knob and a pointed pin dependingly secured to said shoulder, said pin being disposed in said opening of said transverse wall, and a centrally apertured holding cap having internally disposed screw threads therein secured to the external threads of said housing with the knob of the plunger pin protruding through the cap aperture, said coil spring surrounding said pointed pin and contacting said shoulder of said knob.

2. A finger operable spray valve for dispensing a dry spray of solid particles comprising a conical tubular valve housing having a centrally disposed transverse wall having an opening disposed centrally therein, an upright ring integral with said transverse wall and disposed about said wall opening, said housing having externally disposed screw threads at its top and having a conical inner wall at its bottom, said housing having a horizontal channel in the bottom surface of said transverse wall extending through the housing to form a spray outlet aperture, said

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channel communicating with the base of the opening
passing through said transverse wall, a coil spring dis-
posed in said tubular housing about said upright ring and
upon said transverse wall; a plunger pin having a finger
knob, a shoulder integral to the base of said knob and a
pointed pin dependingly secured to said shoulder, said
pin being disposed in said opening of said transverse wall,
and a centrally apertured holding cap having internally
disposed screw threads therein secured to the external
threads of said housing with the knob of the plunger
pin protruding through the cap aperture, said coil spring

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surrounding said pointed pin and contacting said shoulder
of said knob.

References Cited in the file of this patent**UNITED STATES PATENTS**

1,921,411	Johann -----	Aug. 8, 1933
2,472,506	Zieschang -----	June 7, 1949

FOREIGN PATENTS

279,031	Italy -----	of 1930
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