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E. M. SARGENT

2,006,369

CONTROL VALVE FOR CONTAINERS

Original Filed June 19, 1933

Fig. 3

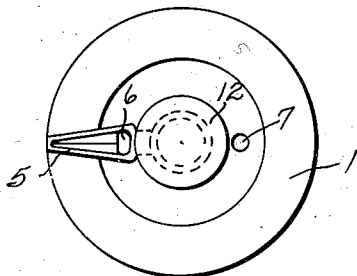


Fig. 1

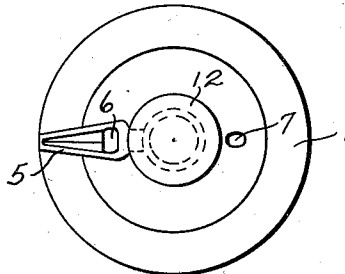


Fig. 2

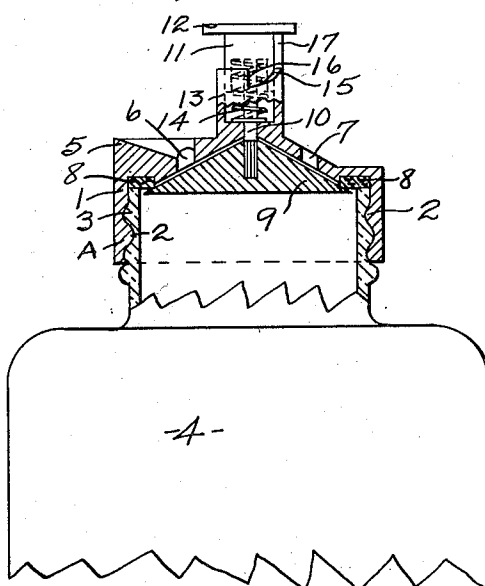


Fig. 4

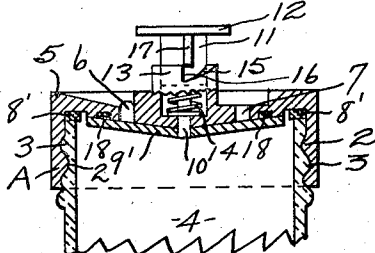
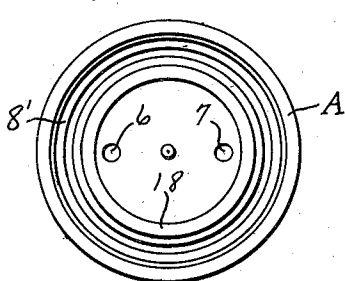


Fig. 5



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CONTROL VALVE FOR CONTAINERS

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Application June 19, 1933, Serial No. 676,499

Renewed October 4, 1934

2 Claims. (Cl. 221-16)

My invention relates to improvements in a control valve for containers.

The object of my invention is to provide a cap for a container and a valve in connection therewith, the valve and cap evaporation proof.

A further object of my invention is to provide a locking means for the valve in its closed position.

A still further object of my invention is to provide a spout from which the contents of the container may be poured and a vent simultaneously opened with the spout.

These and other objects will hereinafter be more fully explained, reference being had to the accompanying drawing forming a part of this specification, and in which like characters will apply to like parts in the different views.

Referring to the drawing:—

Fig. 1 is a plan view of the cap.

Fig. 2 is a side view of the cap as applied to the neck of a container, the neck and cap partly in section.

Fig. 3 is a plan view of a modified cap.

Fig. 4 is a side view partly in section.

Fig. 5 is an inside plan view of the modified cap with the valve removed.

My invention herein disclosed consists of a cap 1 having internal threads 2 for the flange A thereof. Said threads are adapted to engage with corresponding threads 3 on the neck of a container 4.

Positioned on the top of the cap radially extending is a spout 5 integral with the cap and having an aperture 6 inwardly positioned as an exit for the contents of the container. Oppositely positioned on the diametrical axis of the container is another aperture 7 passing thru the cap functioning as a vent for free displacement of the container contents as it flows from the spout.

Seated in the cap is an annular gasket 8 as evaporation sealing means between the cap and the outer portion of the neck of the container. Said gasket is preferably made of fine texture cork and being of sufficient width in cross section to be engaged near the peripheral edge of a valve 9 arranged to move inward and outward on the axis of the cap. The said valve is preferably made frusto-conical in form and adapted to seat in a similar form in the cap as shown in Fig. 2, and being carried by a pin 10 axially positioned and secured thereto. The said pin extends outward and is secured to a plunger 11 having an annular flange 12 on the outer end thereof as contact means for the reciprocating movement of the plunger. Said plunger seats in the hollow of a sleeve 13 that is concentric to and integral with

the head of the cap and will function as guiding means for the plunger in its turning and reciprocating movement.

The inner end of the plunger is bored to receive a recoil spring 14 as outward tensioning means therefor. In the outer end of the sleeve is a depression formed by a downward slant from the outer end of the sleeve as at 15 functioning as a cam and terminating at a point 16 in parallelism with the axis of the sleeve to function as a stop for the turning of the plunger thru the medium of a rib 17 integral with and outwardly extending from the side of the plunger. The lower end of the rib is adapted to engage along the cam when turned in the opposite direction to the outer termination of said cam, at which point the plunger carrying with it the said valve is locked against longitudinal movement binding the valve to close engagement with the annular gasket as evaporation sealing means therefor.

In Figs. 3, 4, and 5 I have illustrated the conical valve 9' reversed but actuated in like manner to that shown in Figs. 1 and 2.

As an evaporation sealing means for the said inverted valve with respect to its conical form, I have arranged an annular gasket 18 seated in the head of the cap but protruding sufficiently to snugly engage with the upper side of the valve and bound firmly thereto by a similar cam arrangement as above described, and free to move inward from engagement when the rib of the plunger is turned vertical with the maximum depth of the cam and pushed downward by pressing the outer end of the plunger.

While I have arranged the annular gasket just described it is also possible to arrange for the gasket 8' to extend inward for a similar engagement to that shown in Fig. 2. Therefore, I do not wish to be deprived of such arrangement in the latter described form of valve, and such other modifications may be employed as lie within the scope of the appended claims.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a control valve for containers, a cap comprising a head and an annular flange, the flange threaded to engage with a threaded neck of a container, and an annular fibrous gasket to seal the cap evaporation tight at the outer end of the neck of a container, the inner peripheral edge of the gasket extending inward, a valve concentrically carried by the head of the cap, the peripheral edge thereof to engage with the inner extension of the gasket, a sleeve integral with the head and

outwardly extending, and a cam-shaped notch in the outer end thereof, a plunger to movably engage in the sleeve, means to connect the plunger to the valve, and a spring in the sleeve as outward 5 tensioning means for the plunger carrying the valve therewith, means on the plunger to restrict turning movement thereof and lock the same against longitudinal movement.

2. In a control valve for containers of the class 10 described comprising a cap having a head and an annular flange, and means to secure the same to the neck of a container, a spout integral with the head and communicating with the interior of the cap, the head having an aperture diametrically

positioned from the spout, and a sleeve concentric to the head outwardly extending and having a cam notch on the outer end thereof, a plunger to engage in the sleeve, and a rib on the side of the plunger to engage with the cam notch, a valve 5 seated in the head, and an annular gasket to seal against evaporation between the valve and the head, the plunger and valve being connected axially by a pin, and a recoil spring wound on the pin and within the sleeve to engage between the 10 plunger and the head as closing means for the valve, all as and for the purpose specified.

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