

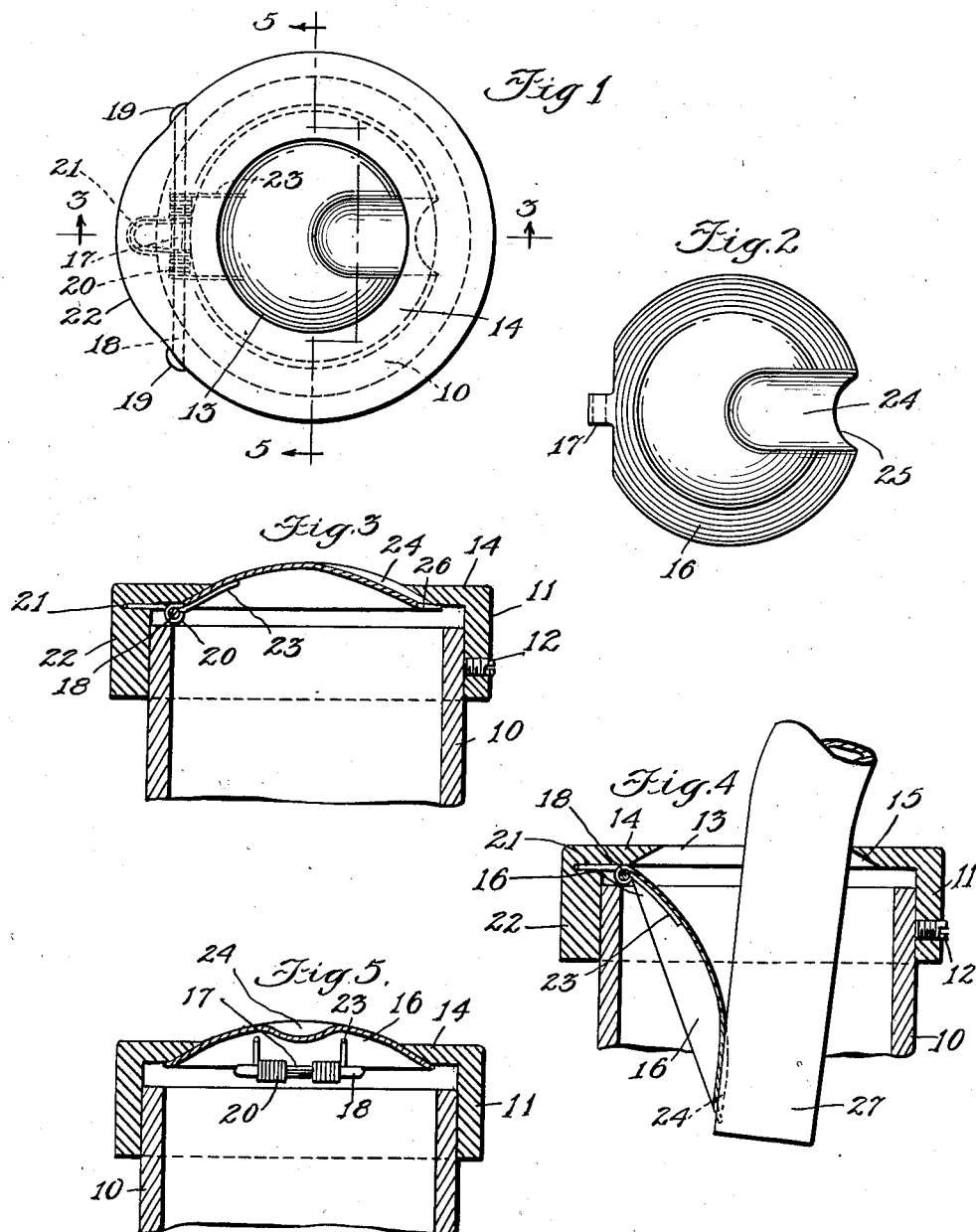
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M. JAWORSKY

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CLOSURE

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Inventor:
M. Jaworsky
By
B. Pechenik Atty.

UNITED STATES PATENT OFFICE

MICHAEL JAWORSKY, OF CHICAGO, ILLINOIS

CLOSURE

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The present invention relates to closures adapted to be opened inwardly, for use in connection with automobile gasoline tanks or the like.

5 A further object of the present invention is the provision of a cap adapted to be fit over an inlet stem and which may be provided with a tensioning closure plate which may open inwardly when under the actuation of
10 gasoline hose nozzle and which may automatically close on removing the nozzle therefrom.

A further object of the present invention is the provision of a suitably formed closure
15 plate in connection with the cap constituting a part of the present invention, for facilitating drainage of the gasoline which may drop upon said closure plate on withdrawal of the nozzle from within the inlet stem.

20 With the above general objects in view and others that will appear as the nature of the invention is better understood, the same consists in the novel construction, combination and arrangement of parts hereinafter more
25 fully described, illustrated in the accompanying drawings and pointed out in the appended claims.

In the drawings forming a part of this application and in which like designating characters refer to corresponding parts through-
30 out the several views,

Fig. 1 is a top elevational view of the present device;

35 Fig. 2 is the top elevational view of the closure plate;

Fig. 3 is a cross-sectional view through the device, the view having been taken on line 3—3 of Fig. 1;

40 Fig. 4 is a similar view with the closure plate in an open position; and

Fig. 5 is a cross-sectional view through the device, the view having been taken on line 5—5 of Fig. 1.

Referring in detail to the present drawings
45 there is shown therein an inlet stem 10 with the lower portion thereof broken away, said inlet stem projecting from automobile gasoline tank or other container, which is not shown.

50 The device includes a cap generally indi-

cated by 11 which is adapted to fit over the upper end of said inlet stem 10 and whereupon the same is affixed by one or more screws such as the one indicated by 12. The horizontal wall of said cap 11 has a central opening 13 affecting an annular flange 14, which, in an operative association of said cap 11 on the inlet stem 10 is adapted to overlie the upper end of said inlet stem 10. Said annular flange 14 at its edges is upwardly
60 tapered as at 15 for the purpose hereinafter described.

The closure cap generally indicated at 16 is of substantially semi-spherical shape and has at its edge a hinge member 17 formed,
65 which engages and encompasses pin 18 substantially at the central portion thereof. Said pin 18 is passed through the vertical annular wall of cap 11 and has its ends flattened as at 19 for holding the same in a rigid stationary position with respect to said cap.

Positioned upon said pin 18, and on each side of hinge element 17 are a pair of coils of spring 20, the inner ends of said coils being connected by a U-shaped wire loop 21,
75 which loop extends away and substantially on a plane with the upper portion of hinge member 17, as clearly seen on Figs. 1 and 3. Said loop 21 is frictionally held within a semi-annular recess made within the vertical wall of cap 11 and on a plane with the lower face of flange 14, and so that the structure of the cap may be more durable the body portion of the vertical wall of said cap 11 adjacent said recess wherein said loop 21 is
85 adapted to fit is enlarged as at 22. The outer ends 23 of the coil spring are adapted to rest upon and bear against the underface of closure plate 16.

It is to be understood that the coils 20 of said spring are at all times under a tension so that said ends 23 of the spring may bear against the underface of closure cap 16 and thus to hold it in a closed position within
90 flange 14, as clearly seen on Figs. 3 and 5. Likewise when the closure cap 16 is under a pressure from above and remains in an open position, shown on Fig. 4, the tension of the spring is increased, and when the pressure is
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removed, cap 16 automatically assumes its original closed position within flange 14.

As already stated closure cap 16 has a semi-spherical shape, by virtue of which fact its edge is adapted to closely fit the tapered face 15 of flange 14.

Closure cap 16 on a diametrical line passing through hinge member 17 and passing radially from the central portion thereof is provided with a downward depression resulting in a radial channel 24, and at the outer termination of said channel said closure plate 16 has a crescent-shaped incision 25. Said channel 24 and said incision 25 do not contact with any portion of cap 11 when the closure plate 16 remains in a closed position therewith by virtue of which fact there is a resulting opening 26 between said closure plate 16 and flange 14, and through which opening any gasoline still flowing from the nozzle before the same is removed away from the device may drain into and pass through the inlet stem 10 into the tank.

A further purpose and advantage of said channel 24 and incision 25 in plate 16 resides in the fact that said channel is adapted to engage the periphery of nozzle 27 of the hose and hold the same in position within the device when the nozzle is inserted within inlet stem 10, as clearly shown on Fig. 4. Also when the closure plate 16 remains in a closed position within the device, shown on Figs. 3 and 5, opening 26 resulting from said channel 24 and incision 25 with the adjacent portion of flange 14, as aforesaid, will permit entrance of air into the tank thus obviating any vacuum which might otherwise be created in the tank when the gasoline is drawn and used up by the engine.

It is further observed that in order to accommodate pin 18, portions 20 of the spring and hinge member 17, the upper end of inlet stem 10 does not bear against the underface of flange 14, but is spaced therefrom, as seen on Figs. 3, 4 and 5.

While there is described herein a preferred embodiment of the present invention, it is nevertheless to be understood that minor changes may be made therein, without departing from the spirit and scope of the invention as claimed.

What I claim as new is:

1. A closure comprising a cap, said cap having a central opening in its horizontal wall affecting an inner annular flange therein, the edge of said flange being upwardly tapered, and a closure plate of a substantially semi-spherical shape adapted to fit within said opening and by its edge adapted to engage and closely fit the tapered edge of said flange, said closure plate having a depression for affecting an opening communicating within said cap.

2. A closure comprising a cap, said cap having a central opening in its horizontal wall

affecting an inner annular flange therein, the edge of said flange being upwardly tapered, and a closure plate of a substantially semi-spherical shape adapted to fit within said opening and by its edge adapted to engage and closely fit the tapered edge of said flange, said cap having a radial depression non-contacting with said flange for causing a communicating passage into said cap.

3. A closure comprising a cap, said cap having a central opening at its horizontal wall affecting an inner annular flange therein, the edge of said flange being upwardly tapered, and a closure plate adapted to fit within said opening and by its edge adapted to engage and contact with the tapered edge of said flange, said closure plate having a depression for affecting an opening communicating with said cap.

4. A closure operable by a hose nozzle comprising a cap, said cap having a central opening in its horizontal wall affecting an inner annular flange therein, and a closure plate normally contacting with said flange, said plate being provided with a radial depression adapted to engage the periphery of the nozzle when the same is inserted within said cap through said central opening.

In testimony whereof I affix my signature.

MICHAEL JAWORSKY.