

Nov. 1, 1938.

W. C. PARROTT

2,134,985

PRESSURE AND SEALING DEVICE FOR CONTAINERS

Filed Nov. 16, 1936

2 Sheets-Sheet 1

Fig. 1.

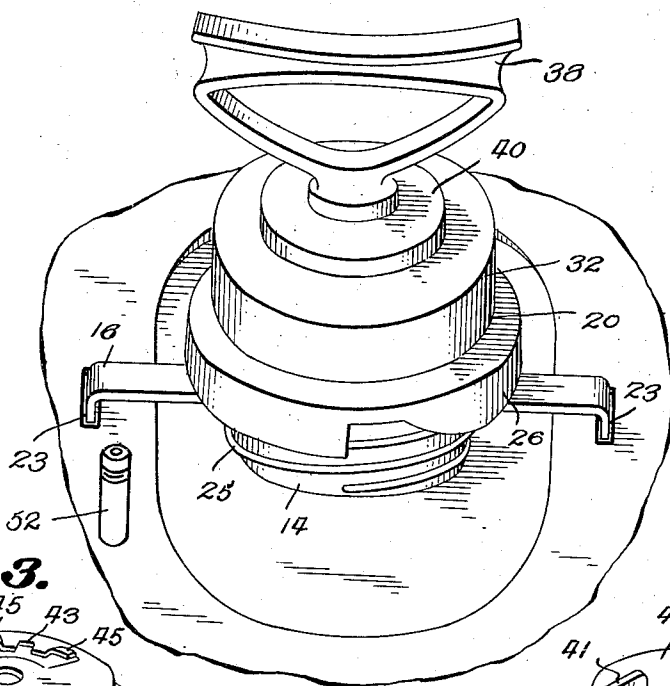


Fig. 3.

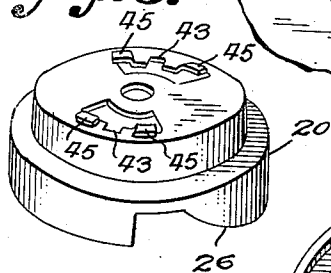


Fig. 2.

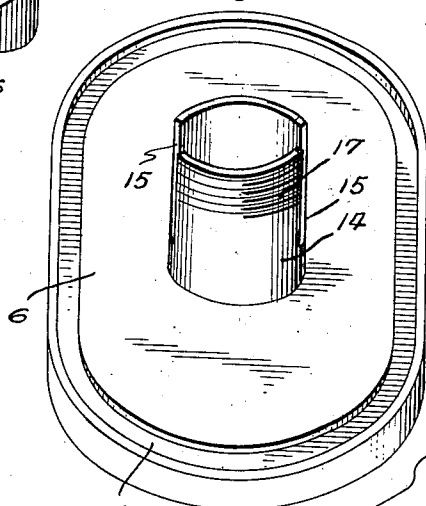
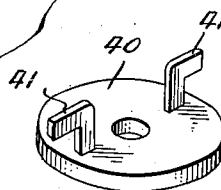


Fig. 7.

Fig. 6.

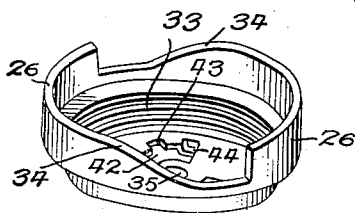
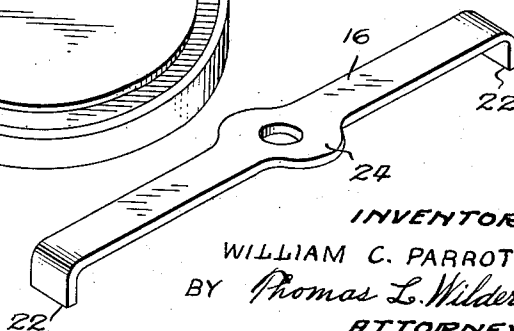


Fig. 5.



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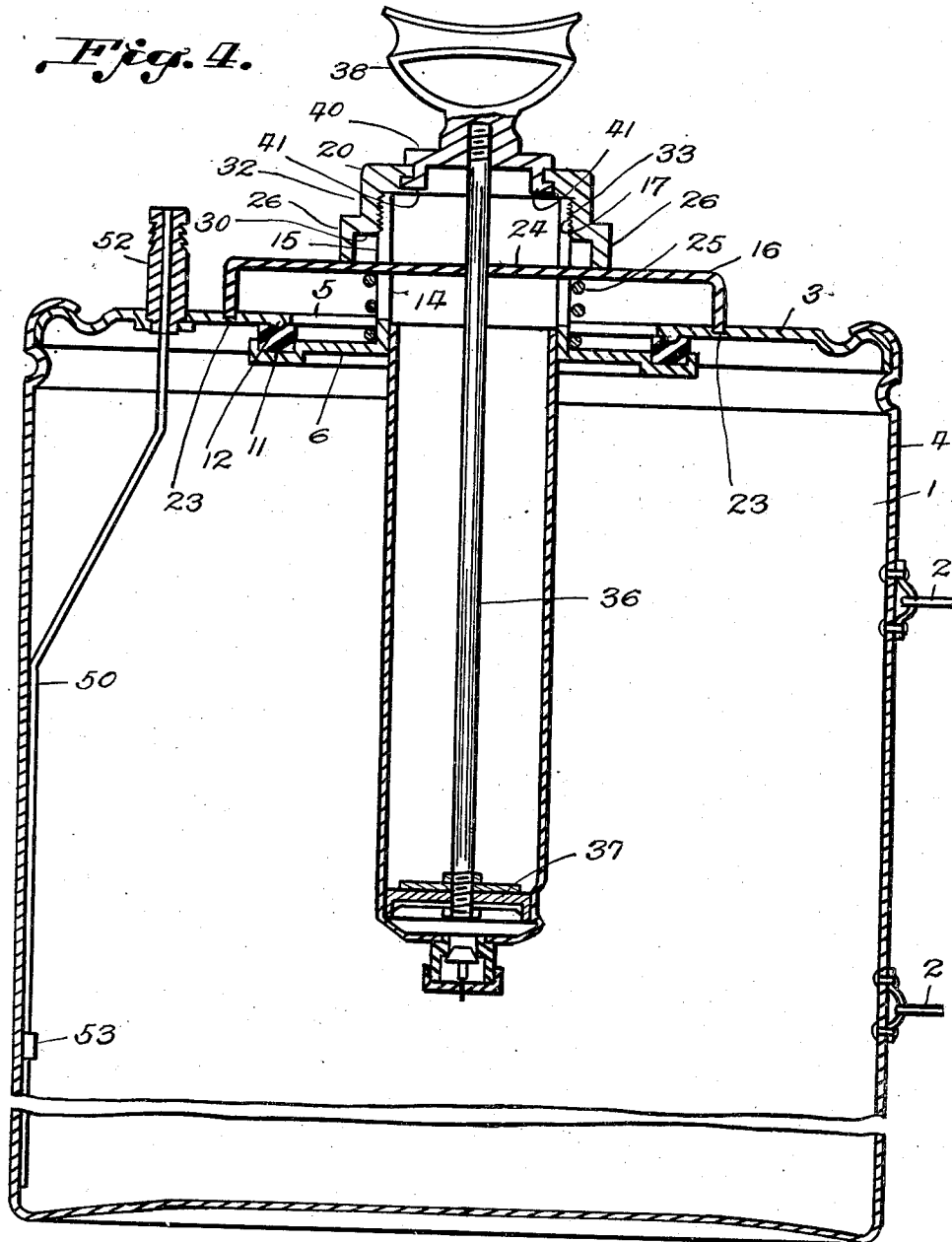
2,134,985

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2 Sheets-Sheet 2

Fig. 4.



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PRESSURE AND SEALING DEVICE FOR CONTAINERS

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Application November 16, 1936, Serial No. 110,989

3 Claims. (Cl. 220—57)

My invention relates to a pressure and sealing device for containers and I declare the following to be a full, clear, concise and exact description thereof sufficient to enable anyone skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings in which like reference characters refer to like parts throughout the specification.

The object of the invention is to provide a pressure and sealing device for use more particularly on insecticide sprayers, lacquer, spraying tanks, beer containers, such as thermo-jugs, steel drums and barrels, which utilizes air pressure for forcing the spray therefrom, that will be perfectly safe against explosions.

Heretofore, on sprayers of this type, the removable top portion or cover has not been sufficiently secured in position to prevent the air pressure within the container from forcing it off into space usually with dangerous results to the user and bystanders.

The present structure disposes the removable top portion or cover within the container and forces it upward against the contiguous upper wall of the container for sealing purposes.

The device is an improvement, principally by simplification of parts over my former construction illustrated and described in Letters Patent, 1,971,727 issued to me August 28, 1934.

The object will be understood by referring to the drawings in which:

Fig. 1 is a perspective view of the top portion of the container showing the sealing member applied thereto.

Fig. 2 is a detail view showing a perspective of a removable member employed.

Fig. 3 is a detail view showing a perspective of a cap member employed.

Fig. 4 is an enlarged fragmentary view showing a central vertical section of the device, parts broken away.

Fig. 5 is a detail view of a perspective of a bridge member employed.

Fig. 6 is a detail view showing a perspective of cap member employed and looking at the underside thereof.

Fig. 7 is a detail view.

Referring more particularly to the drawings, the device is shown assembled to the top of an insecticide container 1 having handles 2, 2 and a top rim overhanging portion 3 welded or otherwise secured to the lateral cylindrical wall 4 of the container 1. An oval shaped central opening 5 is provided by the top rim portion with an

overhanging portion 3 to allow for the insertion of the removable cover 6.

Removable cover 6 is oval shaped to conform to the oval shaped opening 5 made by rim 3. Ordinarily it is turned at right angles to rim 3, forming oval shaped opening 5 and tilted for insertion within container 1.

A groove 10 is formed adjacent the periphery on the upper side of cover 6 to allow for the insertion or mounting of a rubber gasket 11 which contacts a ridge 12 formed on the under surface of rim 3 adjacent opening 5, whereby to form a hermetically sealed joint when said cover 6 is forced upward into locked or sealing position.

An upstanding neck or throat portion 14 is formed integral with or otherwise secured to cover 6. Neck 14 is recessed at diametrically opposite sides to provide open aligned recesses 15, 15 for the play of a bridge member 16 hereinafter mentioned. Furthermore, the upper outer surface of throat 14 has external screw threads 17 for mounting a cap 20, hereinafter mentioned.

The means for holding removable cover 6 in sealed position embodies a bridge member or locking bar 16 which is arched. Its free ends 22, 22 rest in suitably formed countersunk recesses or sockets 23, 23 made in overhanging rim 3, whereby to hold said bridge member 16 and cover 6 from turning relative to rim 3. The middle portion of bridge member 16 is enlarged and fitted at 24 to the interior of throat 14.

Bridge member 16 is forced downward against the tension of a coiled spring 25 by cap 20 hereinafter described. The lower end of coiled spring 25 is projected and held in an aperture made in the outside surface of the wall of throat 14. The spring coils about the outside surface of throat 14. Its upper end rests against the lower surface of bridge member 16, whereby to force said bridge member 16 normally upward.

The upper surface of bridge member 16 is engaged by a cam skirt or depending flange 26 formed integral with the upper portion of cap 20. Cap 20 is spaced from the contiguous surface of neck or throat 14 by a shoulder formed at 30 in cap 20, whereas the uppermost part of cap 20 is reduced in diameter at 32. Internal screw threads 33 are formed on the inner surface of the uppermost part which cooperate with the screw threads 17 in cap 20, whereby to draw removable cover upwards against overhanging rim 3 into sealing position.

The lower surfaces of cams 26, 26 are serrated

or roughened at 34, whereby to effect a frictional contact with the upper surface of bridge 16.

A central aperture 35 is made through the upper surface of cap 20 for the projection of a piston rod 36 that extends down through an aligned aperture made in bridge member 16 to engage a piston 37 operating in cylinder 39. There is also an outlet pipe 50 that extends down to nearly the bottom portion 51 of the container in order to insure emptying the contents thereof when the sprayer is in use. The upper end of said outlet pipe 50 projects up through a central aperture in nipple 52. A ring 53 is used to hold the pipe 50 to the inside of container 1 as shown and described more particularly in my former Patent No. 1,971,727 issued August 28, 1934.

A handle 38 is screw mounted to the upper end of piston rod 36. Handle 38 is made to engage in a detachable manner the upper surface of cap 20, whereby to turn not only said cap 20 on and off throat 14 but also to be used in carrying the sprayer. To this end a disc 40 is formed integral with the lower part of handle 38. Two diametrically oppositely disposed depending L shaped teeth 41, 41 are formed integral with the lower surface of disc 40. Said L shaped teeth 41, 41 are adapted to engage the upper surface of cap 20 by being projected through suitable apertures 42, 42 made therein for this purpose.

Each of the apertures 42, 42 is arc shaped and provided with oppositely disposed offset openings 43, 43 for the insertion of L shaped teeth 41, 41, whereupon handle 38 is turned to cause the horizontal parts of L shaped teeth 41, 41 to engage the under surface of raised portions 45, 45 formed integral with the upper surface of cap 20. Said raised portions 45, 45 provide upward countersunk recesses 44, 44, whereby to localize the position of teeth 41, 41 when therein. It will be observed that there are two sets of raised portions 45, 45 to allow the handle to be turned either to the right or left and engage a set 45, 45.

In operation the user will turn and tip removable cover 6 at right angles to its normal position with reference to the overhanging top part 3 of container 1. In this position of cover 6 it can be inserted within container 1. Bridge member 16 is mounted in place by inserting its central aperture over piston rod 36 before handle member 38 is screw mounted to its upper end or cap 20 screw mounted in place. Bridge member 16 is then dropped down in position within the opposite recesses 15, 15 in throat 14 and against the upper end of coiled spring 25.

Handle 38 is lowered with the L shaped hooks 41, 41 opposite the offset recesses 43, 43 in the top of cap 20. It is turned then to the right to engage the upward countersunk recesses 44, 44 in cap 14 and then turned further to screw cap 20 upon its threads 17 in throat 14, whereby to draw removable cover 6 upward into sealed position. Depending cam skirts 26, 26 formed on cap 20 which turn therewith will at the same time force or cam bridge member 16 downward, against the pressure of spring 25, whereby its free ends will press downward in countersunk sockets 23, 23 formed on the top of overhanging

rim 3 to hold said bridge member 16 and cover 6 from turning relative to rim 3.

When removing detachable cover 6 handle 38 will be turned to the opposite set of upwardly countersunk recess 44, 44 in cap 20 before starting to unscrew cap 20 with the aid of said handle 38.

The upper end of piston rod 36 is screw mounted in a suitably threaded countersunk aperture in disc 40 of handle 38.

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

1. In a pressure and sealing device for containers, a casing having an oval opening at its top portion, a removable member suspended within said casing, whereby to fit and close said opening, an annular neck portion formed on said removable member, a cap member screw mounted to said neck portion, said neck portion having recesses formed therein, a bridge piece engaging said cap member and fitting within said recesses and a cam formed in said cap member, whereby the turning of said cap member will cause said cam to press against said bridge piece to draw the removable member into sealing position.

2. In a pressure and sealing device for containers, a casing having an oval opening at its top portion, an oval shaped removable member suspended within said casing, whereby to fit and close said opening, an annular neck portion formed on said removable member, a cap member screw mounted to said neck portion, said neck portion having recesses formed therein, a bridge piece engaging said cap member and fitting within said recesses and a cam formed in said cap member, whereby the turning of said cap member will cause said cam to press against said bridge piece to draw the removable member into sealing position, a rubber gasket mounted on said removable member and a coiled spring mounted between said removable member and said bridge piece to aid in separating said removable member from said bridge piece.

3. In a pressure and sealing device for containers, a casing having an opening at its top portion, an oval shaped removable member suspended within said casing, whereby to fit and close said opening, an annular neck portion formed on said removable member, a cap member screw mounted to said neck portion, said neck portion having recesses formed therein, a bridge piece engaging said cap member and fitting with said recesses and a cam means formed in said cap member, whereby the turning of said cap member will cause said cam means to press against said bridge piece to draw the removable member into sealing position, a groove formed in said removable member, a rubber gasket mounted in said groove, a ridge formed on said top portion and contacting with said rubber gasket and a coiled spring disposed between said bridge member and said removable member, whereby to aid in separating said removable member from said bridge piece.

WILLIAM C. PARROTT.