Aug. 14, 1951 H. R. KEYS 2,563,847

CLOSURE

Filed March 21, 1947

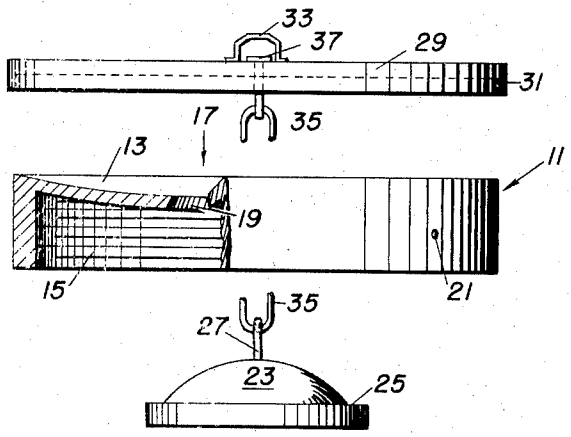



FIG. 1

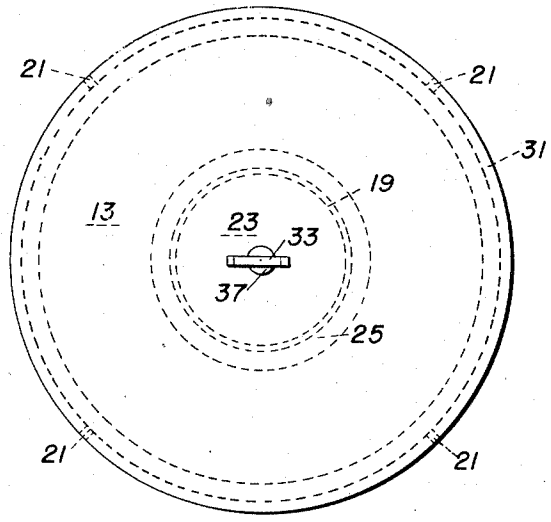



FIG. 2

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2,563,847

## CLOSURE

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2 Claims. (Cl. 220—24)

(Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757)

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This invention relates to improvements in closures and more particularly to improvements in covers for receptacles.

The primary object of this invention is to provide a cover of simple and durable construction adapted to seal a receptacle.

Another object of the invention is to provide a cover for a receptacle adapted to expedite refilling said receptacle.

Another object is to provide a cover for a receptacle adapted to seal said receptacle hermetically when the pressure therein is substantially higher than atmospheric pressure.

Still another object is to provide a cover for a receptacle adapted to provide a greater factor of safety in use than covers employed presently.

Another object is to provide a removable cover for a receptacle adapted to remain secured to said receptacle during a refilling operation.

Another object is to provide a cover for a receptacle adapted to deter entry of foreign matter into said receptacle.

Further objects and advantages of this invention, as well as its construction, arrangement and operation, will be apparent from the following description and claims in connection with the accompanying drawing, in which

Fig. 1 is an exploded elevation of a cover for a receptacle, partly in section, showing a preferred embodiment of the invention; and

Fig. 2 is a plan view thereof.

Similar numerals refer to similar parts throughout the several views.

A disc 11 having a concave upper face 13 is provided with a threaded bore 15 adapted to secure said disc to the threaded mouth of a receptacle. An annular port 17 passing through the upper face 13 of said disc is provided with a wall 19 adapted to lie contiguous with the surface of a plunger ball hereinafter described. A plurality of bores 21 in the periphery of said disc facilitate tightening said disc on the threaded mouth of a receptacle.

A plunger ball 23, preferably in the shape of a hemisphere, is provided with an annular flange 25 circumscribing its planar surface and a lug 27 positioned distal said planar surface.

A lid 29 is provided with an annular flange 31 adapted to seat said lid on the concave face of the disc 11 and a suitable handle 33. A chain 35 secured medial the lower face of said lid, as by a bolt 37, passes through the port 17 and is secured to the lug 27 of the plunger ball 23.

When the disc 11 is secured to the mouth of a receptacle, the lid 29 is suspended at an angle

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to said mouth and the plunger ball 23 suspended within said receptacle, thereby permitting filling said receptacle through the port 17. After the receptacle is filled, by pulling the lid 31 away from the mouth, the plunger ball 23 is brought up to seating engagement with the wall 19. If the said plunger ball is retained in that position while the pressure inside the receptacle is increased substantially, such pressure will retain said ball in that position. At such time, the lid 31 is placed upon the concave face of the disc, the upper portion of the plunger ball, the lug thereof and the chain being disposed in the recess defined by said concave face and said lid. When the pressure inside the receptacle is decreased and approaches atmospheric pressure, the said plunger ball is unseated and is again suspended in the receptacle.

The above-described receptacle top has been found particularly advantageous for use on pressure tanks, e. g., tanks which contain paint under pressure for delivery to spray guns. So long as pressure remains in the tank the plunger ball remains seated in the port 17 and an operator, before attempting to add paint through the port, can release the pressure by suitable valves in the pressure line (not shown). Without the warning given by the plunger ball the operator might try to open the tank while there was pressure still in it. Serious accidents have resulted from such attempts heretofore. The present device removes this danger.

Various modifications and changes can be made in the subject device without departing from the scope of the invention.

The invention described herein may be manufactured and used by or for the Government of the United States of America for governmental purposes without the payment of any royalties thereon or therefor.

I claim:

1. A closure for a receptacle comprising a disc having a concave face, a depending threaded collar and a receptacle-filling port, a hemisphere-shaped valve in registry removably with the wall of said port and the nether surface of said disc, a cover plate adapted to be seated on said disc, and a chain passing through said port and linking said valve and said cover plate.

2. A closure for a receptacle comprising a disc having a concave face, a depending threaded collar and a receptacle-filling port, a hemisphere-shaped valve having an annular flange circumscribing its planar surface, said hemisphere portion and said flange portion being in registry

removably with the wall of said port and the nether surface of said disc respectively, a cover plate adapted to be seated on said disc, and a chain passing through said port and linking said valve and said cover plate.

HOWARD R. KEYS.

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