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E. P. SUNDHOLM  
METHOD OF PRODUCING DISCHARGE HEADS AND  
HANDLE SUPPORTS FOR BARREL PUMPS

2,642,653

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2 Sheets-Sheet 1

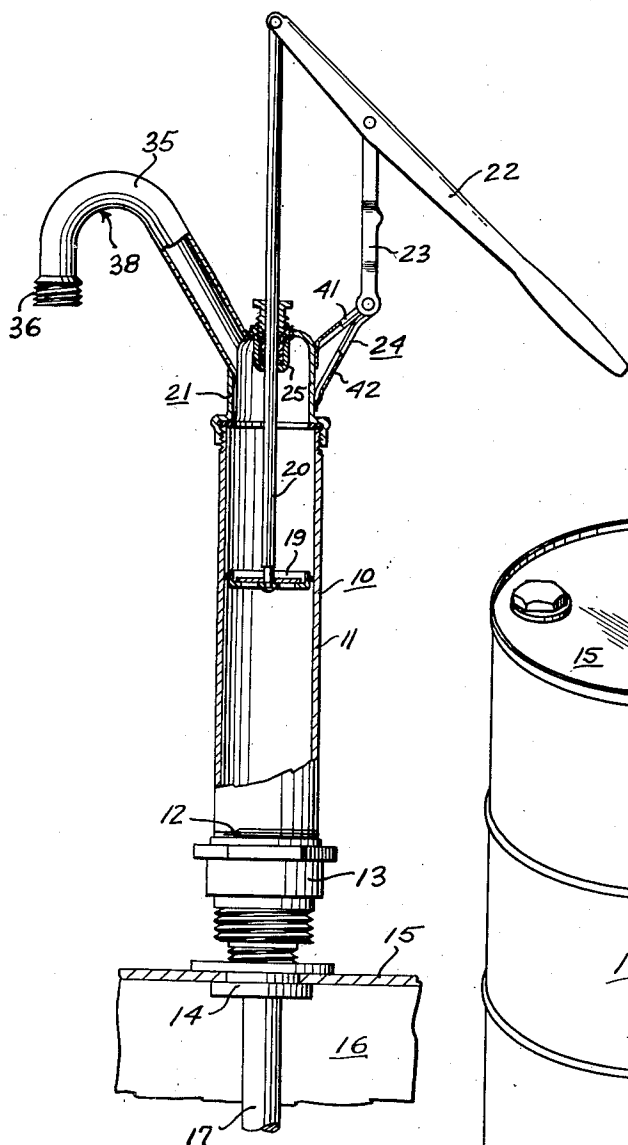


Fig. 2.

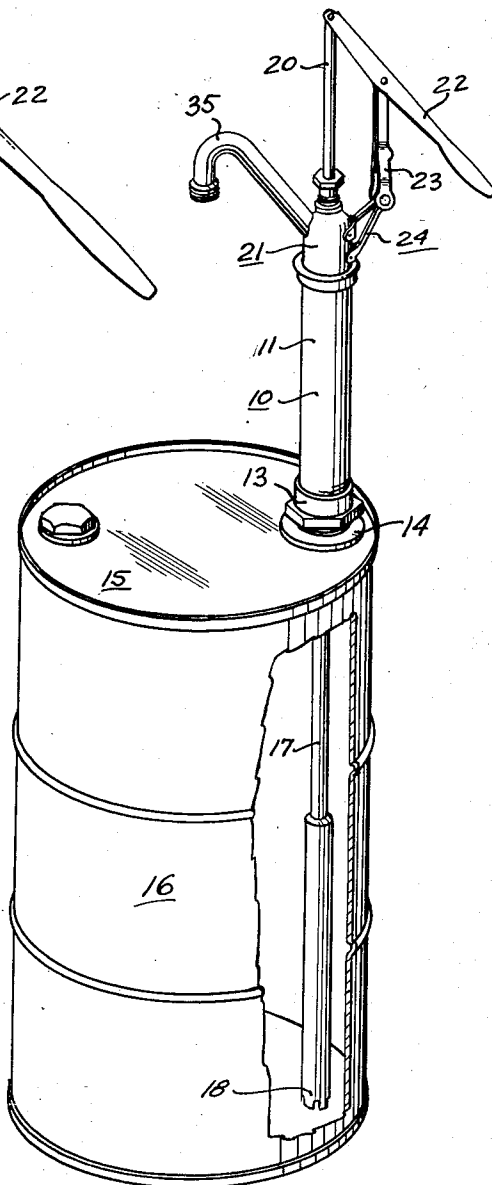


Fig. 1.

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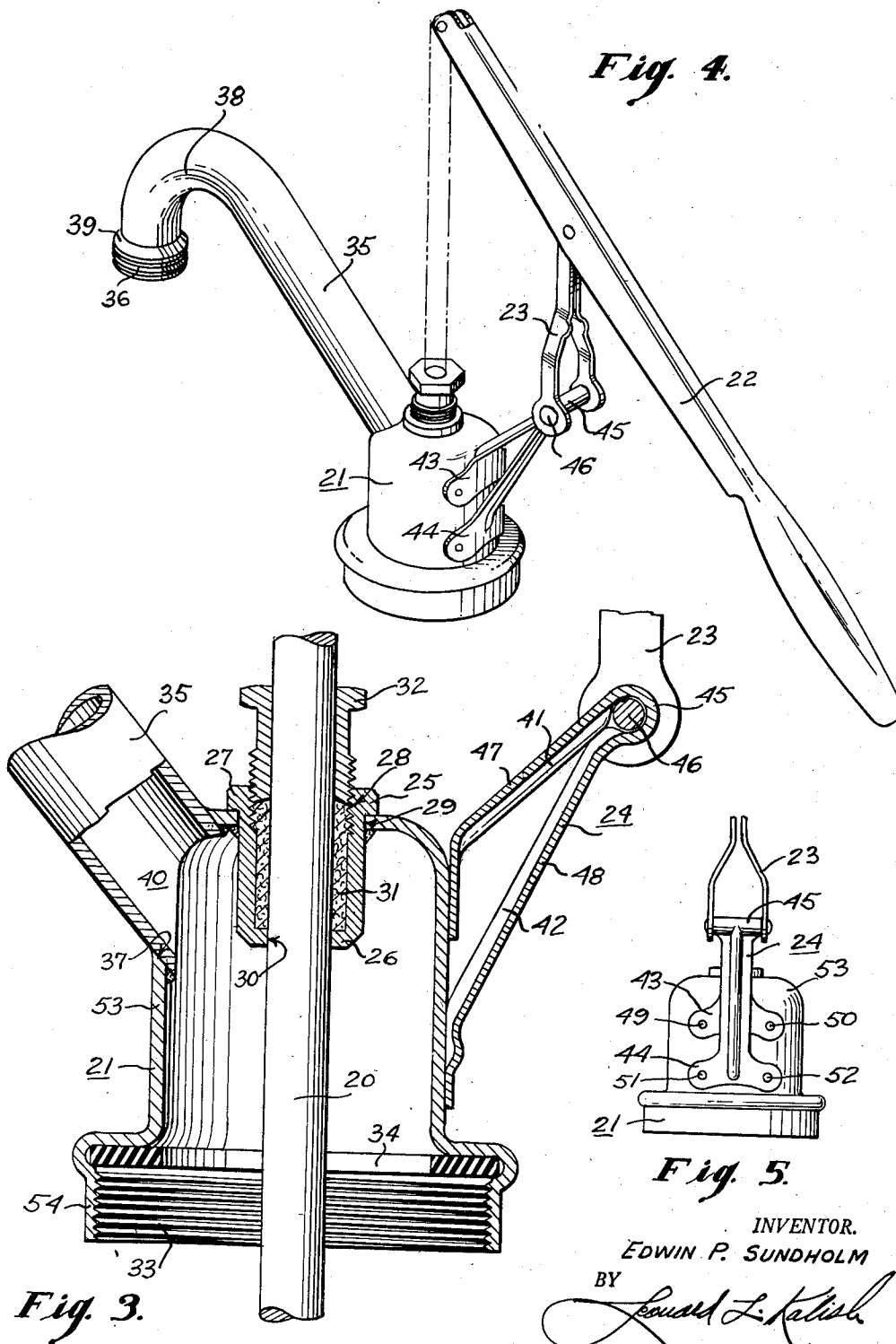


Fig. 5.

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## UNITED STATES PATENT OFFICE

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METHOD OF PRODUCING DISCHARGE  
HEADS AND HANDLE SUPPORTS FOR  
BARREL PUMPS

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Application January 30, 1950, Serial No. 141,259

1 Claim. (Cl. 29—156.4)

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The present invention relates to a new and improved liquid-dispensing apparatus and more particularly to a barrel-pump for removing lubricating fluid from a container such as a 55-gallon drum or the like.

The present invention relates more particularly to the method of constructing the head-portion or cap-portion of a liquid-dispensing apparatus such as a barrel-pump.

An object of the present invention is to provide a new and improved method of manufacturing the head-portion or cap-portion of a barrel-pump or similar liquid-dispensing apparatus. An additional object of the present invention is to provide a method of constructing the head-portion of a liquid-dispensing apparatus such as a barrel-pump or the like which requires less cost, labor and time than heretofore used.

Further objects will be apparent by reference to the appended specification, claim and drawings.

For the purpose of illustrating the invention, there is shown in the accompanying drawings one form thereof which is at present preferred, although it is to be understood that the various instrumentalities of which the invention consists can be variously arranged and organized and that the invention is not limited to the precise arrangements and organizations of the instrumentalities as herein shown and described.

Referring to the drawings wherein like reference characters indicate like parts:

Figure 1 represents a perspective view, partly in section, of the barrel-pump of the present invention as employed on a lubricant-container.

Figure 2 represents a side elevational view, partly in section, of the barrel-portion and cap-portion of the lubricant dispenser of the present invention supported on the head of a lubricant container.

Figure 3 represents a vertical cross-sectional view of the cap-portion of the barrel-pump shown in Figures 1 and 2, but on a larger scale so as more clearly to reveal the details of construction thereof.

Figure 4 represents a perspective view of the cap-portion of the barrel pump of the present invention, showing particularly the handle-bracket or support.

Figure 5 represents a rear elevational view of the cap-portion of the barrel-pump.

Barrel-pumps of the general type and structure contemplated by the present invention are shown in the "prior-art." A barrel-pump sim-

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ilar to the pump contemplated by the present invention is disclosed in Sundholm Patent 2,344,005. Such pumps may be supplied to retailers of lubricating fluid or to large-scale consumers of lubricating fluid; said retailers or consumers purchasing lubricant in large containers (generally 55-gallon drums or the like) which usually are not provided with fluid-dispensing means, making it necessary for the user to attach a pump or spigot or the like to the drum to dispense the fluid therefrom intermittently in small amounts.

To facilitate the removal of the lubricant from the container, the barrel-pump contemplated by the present invention may be employed, which pump generally includes a cylindrical barrel portion with reciprocating piston therein secured to the drum-head at the bung-hole opening with a riser-pipe extending into the container and with handle-means to operate the piston and with a spout or conduit through which the contents of the barrel may be discharged.

In Figure 1 there is shown a pump 10 of the type contemplated by the present invention. This pump includes a cylindrical barrel-portion 11 which may be screw-threaded at its lower end 12 for engagement with a bung-hole adapter 13. Said bung-hole adapter may be screw-threadedly secured in the bung-hole 14 in one end 15 of a lubricant container 16. A riser-pipe 17 extends downwardly into the lubricant container 16 from the barrel 11 through the adapter 13. The riser-pipe 17 may be telescopic whereby to fit lubricant-containers of various sizes and permit the lower end 18 thereof to contact the bottom of the lubricant-container. Appropriate valve means such as a foot-valve (not shown) may be disposed in the lower end of the riser-pipe near the bottom of the container 16 or at the upper end of the riser-pipe within the adapter 13, through which lubricant may be drawn into the barrel-member 11.

A piston 19 is adapted to fit slidingly and in fluid-tight relationship within the barrel 11 and to be reciprocated therewithin by the piston-rod 20. The upper end of the piston-rod 20 extends out of the barrel 11 through the cap or head 21 and is secured, at its upper end, to the handle 22. The handle 22 may be joined by the link 23 to a supporting bracket 24; said bracket being secured to and extending upwardly and outwardly from the cap or head 21. By means of the handle 22 and link 23, the piston-rod 20 and piston 19 may be reciprocated axially within the barrel 10.

The cap or head 21 preferably is shaped and

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formed from a piece of sheet-metal into the cup-like body 53 with a flange 54 having screw-threads 33 adapted to receive the barrel 11 therein, and having a central hole 29 at the upper end to receive a packing-gland 25 and with an aperture 37 on one side thereof to receive a spout 35.

The packing-gland 25 is secured to the cap or head 21 around the piston-rod 20 to provide a sliding seal between the piston-rod 20 and the head 21. The packing-gland includes a member 26 having a flange 27 and screw-threads 28. The member 26 is adapted to fit within the aperture 29 in the cup-like body 53 with the flange 27 in contact with the outer surface thereof. The body-member 26 may be secured to the cup-like body 53 by brazing or soldering or welding or any other suitable means whereby to provide a fluid-tight seal between the body 53 and the member 26. The piston-rod 20 is adapted to pass through the hole 30 in the bottom of the member 26, and suitable packing-material 31 (such as a neoprene seal or fiber or jute washers or the like) in the member 25 is compressed by the nut 32 (which is engaged in the screw threads 28) around the piston-rod 20 whereby to provide a fluid-tight yet slidable seal between the packing-gland 25 and the piston-rod 20.

The cap or head 21 may be screw-threadedly secured to the barrel 11 as by the threads 33 with a gasket 34 providing a fluid-tight seal between the barrel 11 and the flange 54.

A conduit or spout 35, having external screw-threads 36 at the end thereof adapted to receive a discharge hose or the like (not shown), extends angularly upwardly and outwardly from the cup-like body 53 through the aperture 37 therein. The spout 35 may be brazed or welded or soldered or otherwise secured in a fluid-tight fashion to the body 53.

The supporting-bracket for the handle 22 and the link 23 preferably is stamped or otherwise formed from one piece of sheet-metal into a pair of arms 41 and 42 having flanges 43 and 44, respectively, and formed, at their juncture-point, into the cylindrical bearing portion 45 which is adapted to receive the pivot pin 46 to which the link 23 may be secured. The arms 41 and 42 may be reinforced by the ridges 47 and 48, respectively, to provide an inexpensive sturdy and light-weight bearing-member or support-bracket for the handle 24.

The flanges 43 and 44 on the arms 41 and 42 may be projection-welded or spot-welded to the cup-like body-member 53 as at 49, 50, 51 and 52.

I have found that a barrel-pump can be manufactured quite inexpensively when the pump-cap or pump-head of the present invention is used therein. The sheet-steel cup-like body-member 53 may be formed much less expensively than cast-iron or cast-steel body-members heretofore employed and the bracket 24, being a pressed-steel one-piece member secured to the discharge-head 21 by the rapid and inexpensive projection-welding method is much less expensive to fabricate than a one-piece cast-metal head. Likewise, because the spout 25 may be formed from

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tubular stock and both it and the member 26 of the packing-gland 25 are brazed to the cup 53, the time consumed in the production of a barrel-pump of the present invention as well as the cost of production thereof are greatly reduced.

In addition, the construction of a barrel-pump according to the method described herein produces a pump which is lighter in weight and hence easier to handle and less expensive to transport than barrel-pumps heretofore used.

The present invention may be embodied in other specific forms without departing from the spirit or essential attributes thereof, and it is therefore desired that the present embodiment be considered in all respects as illustrative and not restrictive, reference being had to the appended claim rather than to the foregoing description to indicate the scope of the invention.

Having thus described my invention, what I claim as new and desire to protect by Letters Patent is the following:

The method of producing a discharge head and handle-support for a barrel pump which comprises pressing a cup from a piece of flat sheet-steel, cutting screw-threads on the inner surface of the lip of said cup, punching an aperture in the center of the end wall of said cup and a second aperture in the side of said cup, bending a generally J-shaped discharge spout from a one-piece tubular pipe, brazing the longer end of said spout in fluid-tight manner to said cup at said second-named aperture with the bore of said spout in communication with the interior of said cup, brazing a packing-gland to said cup at said first-named aperture, bending a one-piece generally V-shaped bifurcated bracket from flat sheet-steel to form a self-container pivot-bearing at the root of the V and to form cup-engaging flanges at the ends of the V, and projection welding said bracket-flanges to the outer surface of the side of said cup opposite said second-named aperture.

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