

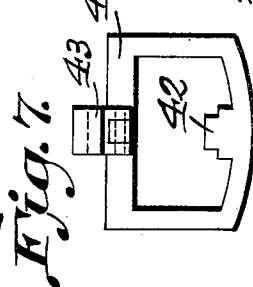
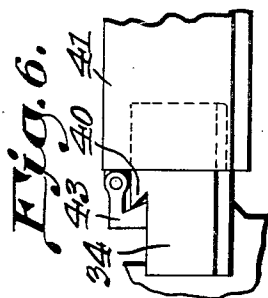
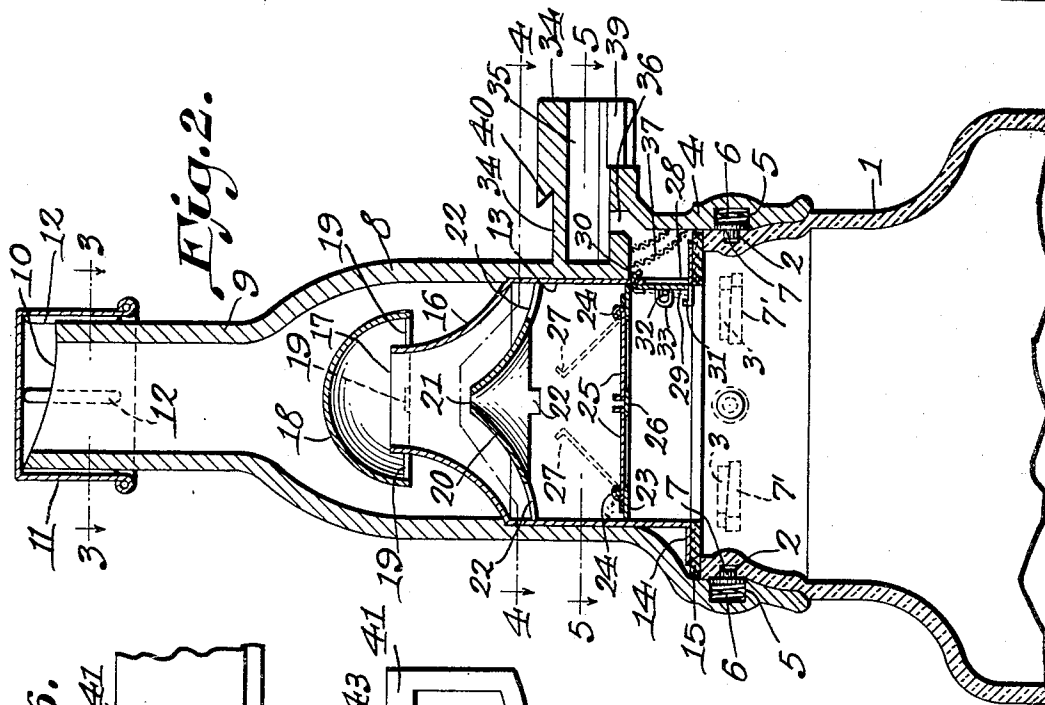
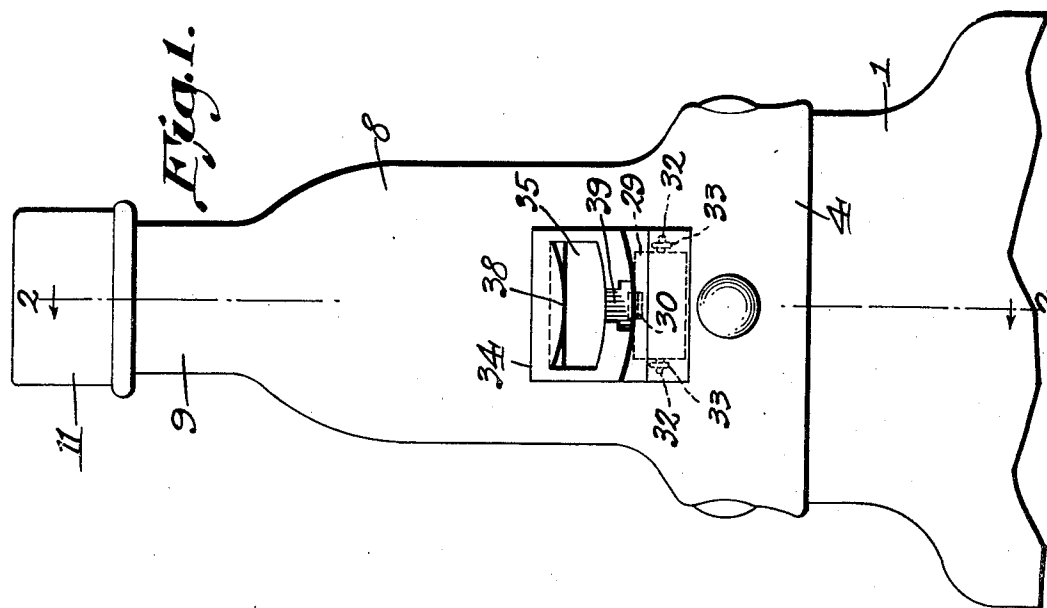
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S. E. WITT ET AL
DISPENSING CONTAINER

1,933,646

Filed May 12, 1933

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

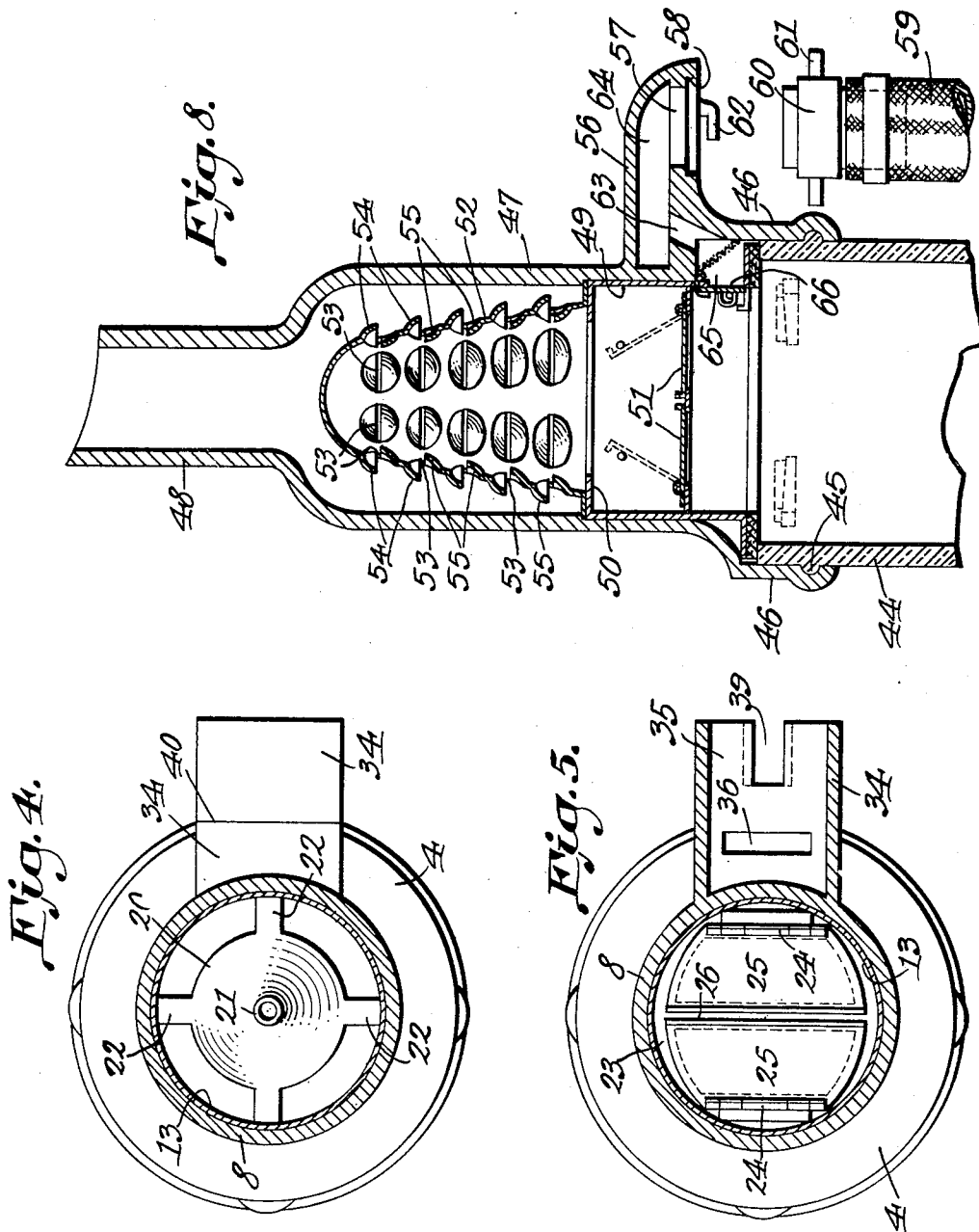
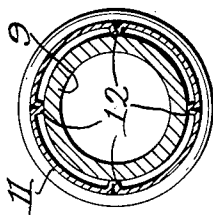


Fig. 3.



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UNITED STATES PATENT OFFICE

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DISPENSING CONTAINER

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Application May 12, 1933. Serial No. 670,780

4 Claims. (Cl. 221—28)

This invention relates to a container designed primarily for dispensing lubricant although it is to be understood that it can be used for dispensing other fluids.

5 It is an object of the invention to provide a novel form of spout for permanent attachment to the outlet end of a container, there being arranged within the spout a novel arrangement of baffles and valves whereby the fluid in the container can be dispensed through the spout but
10 cannot be poured through the spout back into the container.

A further object is to provide the spout with a special inlet through which the container can be filled or refilled provided a special coupling means is used in connection therewith.
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With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claims, it being understood that changes may be made in the construction and arrangement of parts without departing from the spirit of the invention as claimed.
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In the accompanying drawings the preferred forms of the invention have been shown.

In said drawings:

Figure 1 is an elevation of a portion of a container provided with a pouring spout such as constitutes the present invention.
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Figure 2 is a section on line 2—2, Figure 1.

Figure 3 is a section on line 3—3, Figure 2.

Figure 4 is a section on line 4—4, Figure 2.

35 Figure 5 is a section on line 5—5, Figure 2.

Figure 6 is a side elevation showing a portion of the feeding means coupled to the inlet of the dispensing or pouring spout.

Figure 7 is an end elevation of the outlet of said feeding means.
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Figure 8 is a section similar to Figure 2 showing a modified structure.

Referring to the figures by characters of reference 1 designates a jar or other container for lubricant or the like and the neck portion thereof is provided at suitable points in its outer surface with sockets 2 while at other points portions of a jump thread may be provided as shown at 3.
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The present improvements are all contained within a pouring or dispensing member which, in the structure shown in Figures 1 and 2, includes a cap 4 adapted to be lowered onto the neck portion of container 1. In this cap are sockets 5
50 each of which contains a spring 6 constantly

thrusting against a pin 7. A jump thread 7' can be provided in the cap. Thus the cap can be lowered onto the neck portion of the container and by then giving it a partial rotation the jump thread 7' can move under the jump thread 3
60 and when the parts have been sufficiently tightened the pins 7 will snap into sockets 2, thereby locking the parts together so that they cannot thereafter be separated without breakage.

The cap 4 has an elongated pouring spout 8
65 preferably cylindrical. The upper portion of this spout is constructed to form an outlet nozzle 9 the end of which can be substantially beveled, as shown at 10, and normally closed by a cap 11 preferably of metal. The inner surface of
70 the wall of the cap has ribs 12 adapted to bind tightly upon the nozzle 9 so as to hold cap 11 in place but at the same time permit air to vent between the cap and nozzle.

Fitted snugly within the lower portion of the
75 spout 8 is a metal casing 13 the lower end of which has an annular flange 14 adapted to bear downwardly on a gasket 15 supported by the end of the container and constituting a seal. The upper end portion of the casing 13 is constructed as
80 at 16 and is provided with an opening 17. A semi-spherical or dome-like baffle 18 is supported over and around the opening 17 by radial arms 19 formed on or joined to the baffle 18 and the reduced portion 16.
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Below opening 17 there is provided a substantially conical baffle 20 the apex portion of which is cut away to provide a small axial opening 21. The margin of this baffle is spaced from the casing 13 but is joined thereto by fingers 22.
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Below baffle 20 there is provided a supporting ring 23 joined to the inner surface of casing 13. Hingedly connected to this ring at diametrically opposed points and as shown at 24 are flap valves 25 which, when in their normal or closed positions, rest upon a supporting strip 26 extending diametrically across the ring 23. The valves are limited in their upward movement by contact with the wall of the casing at points indicated generally at 27.
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Below the ring 23 the wall of casing 13 has an inlet opening 28 and this opening is normally closed by a flap valve 29 suspended by a hook 30 from the casing 13. The valve is adapted to swing inwardly toward the axial center of the
100 spout and can be limited in its movement by a stop finger 31. The valve can also be held against displacement by laterally extended pins 32 working freely in loops 33 extending from the end portions of the valve.
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Extending from the wall of the spout 8 and integral therewith is an arm 34 having an intake recess 35 extending thereto from its outer end. This recess has an outlet 36 opening downwardly into cap 4 back of the opening 28 and valve 29. If desired one or more screens 37 can be extended across this space for use as filters. The top of the recess can be suitably shaped. For example it can be bowed downwardly as shown at 38 in Figure 1. The bottom of the arm 34 can be provided with a specially shaped slot 39 opening therethrough into the recess. A retaining shoulder 40 is located preferably on top of the arm and as shown this shoulder is under-cut.

Assuming that the container 1 is empty and that the cap 11 is in position on the pouring nozzle, a special filling means must be used to direct fluid into the container. This filling means can include a coupling sleeve 41 adapted to be slipped onto the arm 34 where it will fit snugly. It is essential that the sleeve be shaped to conform with the external contour of the arm and it is also essential that the sleeve be provided with a filling block 42 for entering and closing the slot 39. A hook 43 is carried by the sleeve and is so located that when the sleeve has been seated snugly on arm 34 the hook can drop into engagement with shoulder 40 and thus hold the parts assembled.

Sleeve 41 is suitably joined to a supply container having forcing means, neither of which has been shown. After the parts have been coupled as explained the fluid is directed under pressure from sleeve 41 into arm 34 and will flow from recess 35 through port 36 and against valve 29 to open it. The fluid will then flow into container 1 and gradually fill it, the displaced air being exhausted between cap 11 and nozzle 9. After the container has been filled the coupling sleeve 41 is removed and recess 35 can be closed by any suitable means if so desired although the valve 29 will automatically close from the pressure thereagainst of fluid within the container so as to prevent escape of the fluid through port 36.

When it is desired to pour the contents of the container the same is tilted to pouring position and the pressure of the fluid against the valves 25 will cause them to open. The fluid will then travel around and through baffle 20 to opening 17 and thence back and around baffle 18 to nozzle 9. As cap 11 has previously been removed the fluid can flow readily from the nozzle.

Should any attempt be made to refill the container by pouring fluid into the nozzle 9, the fluid would merely flow along a circuitous path to the margin of the baffle 20 and then onto the backs or upper surfaces of valves 25 insuring the tight seating of the valves.

Instead of constructing the device as heretofore described certain modifications can be made therein as shown in Figure 8. In that figure the neck portion 44 of the container is formed with an annular rib 45 on which is clinched the skirt portion 46 of a pouring spout 47 having a reduced nozzle 48. Instead of providing the superposed baffles shown in Figure 2, the casing 49 in spout 47 has an annular flange 50 above the hinged valves 51. On this flange is supported a substantially conical member 52 in the wall of which are openings 53 produced by slitting the wall of the baffle as shown. The upper wall of each slit is pressed outwardly to provide an outwardly and downwardly inclined deflecting lip 54 while the inner wall of each slit is pressed inwardly to

form an inwardly and upwardly inclined deflecting lip 55. Obviously any liquid poured from the container must flow from within the baffle 52 between the lips 54 and 55 toward the base of the baffle before passing to the nozzle 48 and because of the arrangement of the lips it would not be possible to insert a wire for the purpose of tampering with the valves.

The arm 56 which is extended from the spout 47 has an inlet opening 57 in its bottom, this opening being countersunk as at 58. The feed tube 59 leading from a supply can be formed with a coupling 60 adapted to enter opening 57 and countersink 58 and has lugs 61 movable into engagement with hooks 62.

An outlet port 63 extends from the recess 64 in arm 56 to the space 65 in cap 46 back of the hinged valve 66 which is similar to valve 29 heretofore described.

In this modified structure as well as in the structure previously described, a special form of coupling is necessary in order to fill the container.

Obviously in both forms of the device it becomes impossible to tamper with the valves because of the arrangement of baffles, etc. Furthermore in both forms the cap carrying the pouring spout cannot be removed from the container after once being applied thereto without breakage of the parts.

During the pouring of the contents air can enter the container past the valve 29 or 66 or, if desired, a suitably located valved air inlet can be located wherever desired.

An important feature of both forms of the invention disclosed resides in the fact that the inner casing carries all of the valve and baffle means and can be inserted readily into the spout before the spout has been assembled with the container. Thereafter, when the spout is joined to the container said container will serve to hold the casing tightly in the spout and, by clamping the gasket interposed between the container and the casing, will insure a tight sealing connection between these parts.

What is claimed is:

1. The combination with a container having a neck portion, of a cap fitted upon and permanently attached to the neck portion, a pouring spout extending from the cap and having an outlet, an arm projecting from the spout and provided with an inlet opening and an outlet port, said port opening into the cap, a casing fitted in the spout, a valve normally closing communication between said port and the interior of the casing, normally closed flap valves within the casing and above the first named valve, and baffles carried by the casing between said flap valves and the outlet of the spout.

2. The combination with a container, of a cap permanently joined thereto, a pouring spout integral with the cap and having an outlet nozzle, an inlet arm having an outlet port opening into the cap, a casing inserted into the spout, a valve for preventing the flow of fluid from the casing to said port, said valve being adapted to open under the action of fluid flowing from the port to the casing, a flap valve carried by the casing above the first named valve for opening under the pressure of fluid being delivered but adapted to prevent return flow of the fluid, and a baffle carried by the casing between the valves and the nozzle, said baffle and casing being insertible into the spout through the bottom thereof prior to the application of the spout to the container.

3. In a device of the class described, a pour-

ing spout including a cap having an outlet at one end, a casing insertible into the other end, a container insertible into the cap for holding the casing against withdrawal from the cap, means 5 for permanently joining the cap and container, a valve within and carried by the casing, and a baffle carried by the casing between the valve and outlet.

10 4. A device of the class described comprising a pouring spout including a cap having an outlet at one end, a casing insertible into the other end of the cap provided with a valved inlet and a

valved outlet, an arm extending from the cap for connection with a supply and having a port opening into the cap and the valved inlet, a sealing gasket, a container insertible into the cap for engagement with the gasket to hold the casing in the spout and seal the connection between the casing and container, means for permanently joining the cap and container, and a baffle carried by the casing and interposed between the outlet valve and the outlet of the spout. 80 85

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