Feb. 21, 1950 S. M. ROBERTS 2,498,222

POURING SPOUT OR FAUCET FOR CONTAINERS

Filed Dec. 5, 1944

Fig. 1.

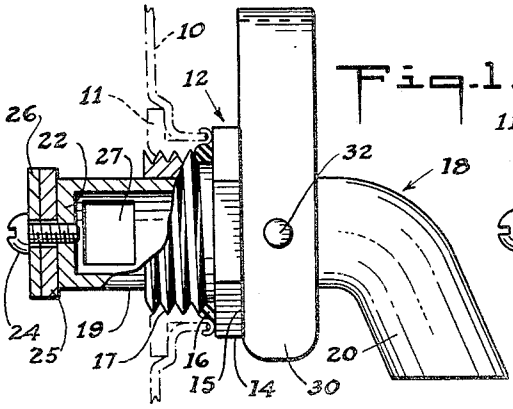


Fig. 2.

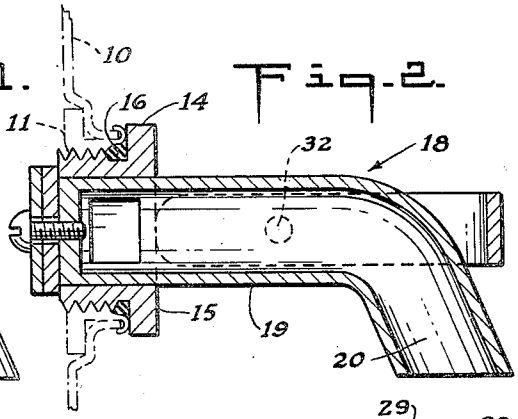


Fig. 3.

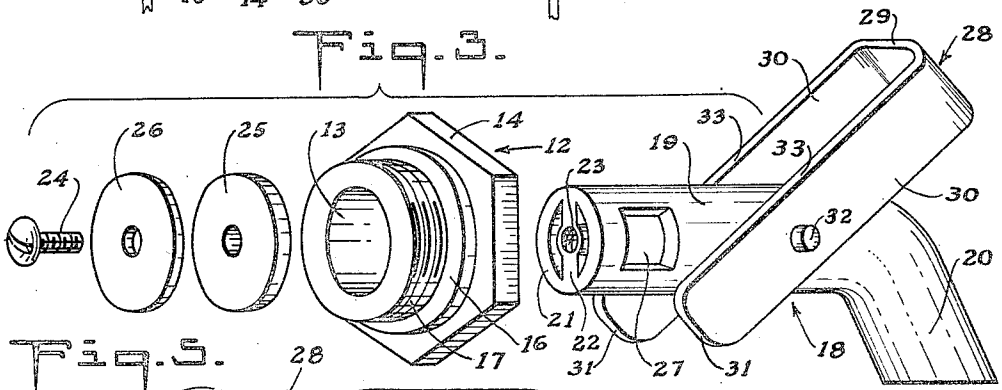


Fig. 5.

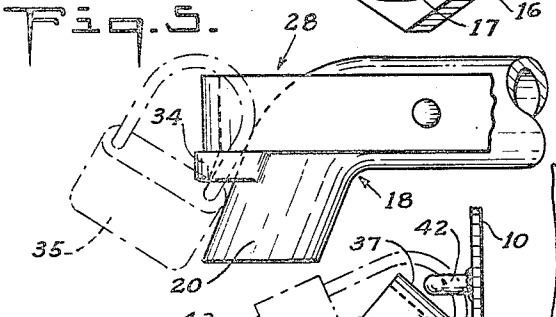


Fig. 4.

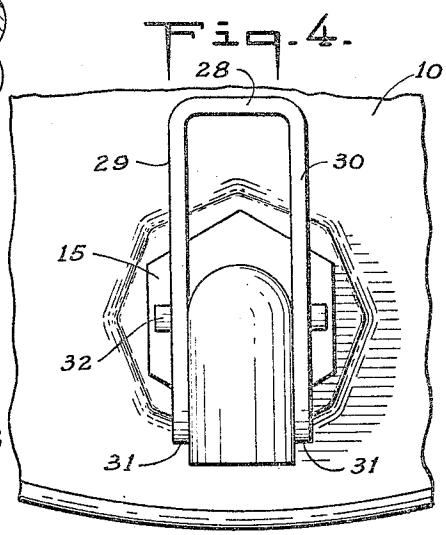
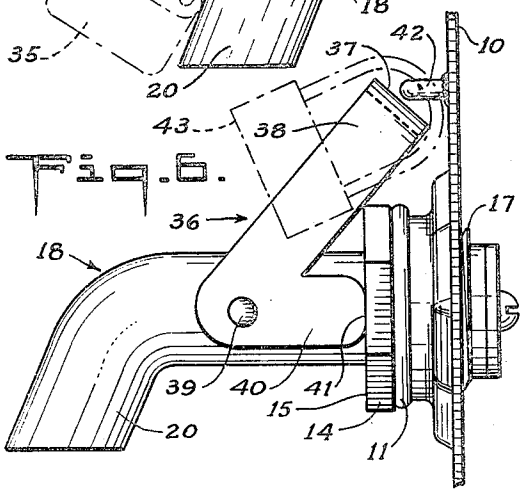


Fig. 6.



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Patented Feb. 21, 1950 2,498,222

UNITED STATES PATENT OFFICE

2,498,222

POURING SPOUT OR FAUCET FOR CONTAINERS

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Application December 5, 1944, Serial No. 566,728

4 Claims. (Cl. 251—8)

1

This invention relates to pouring spouts or faucets for containers and particularly to such spouts or faucets used with containers known in the trade as barrels, drums or pails.

In the past it has been the custom in equipping containers of the types and sizes here considered with spouts or faucets, to do so in one of two general ways. The first of these, more commonly employed in the lighter containers commonly referred to as pails, was to make a specially formed opening in the container wall in the course of the manufacture of that container and seat in that opening a spout member particularly adapted to be received thereby. Such spout thus became a component part of the completed container and was with it at all times.

This practice called for each pail manufacturer to have special dies for forming the opening and for securing the spout in place, as well as special equipment for forming the spouts themselves. This tended to make them too expensive, or, due to the desire to cut down on the expense, too fragile. Furthermore, such spouts could not be regulated as to the volume of flow and were not designed to shut off that flow quickly. Any flow at all would depend upon the tilting of the container and the cutting off of the flow would call for a reverse action. In addition, the openings thus formed were varied, were not suited for receiving standard closures and were often equipped with closures which were inadequate to prevent leakage of the container contents.

In larger containers falling into the barrel and drum category, which are almost universally equipped with two openings—one 2" in diameter and the other ¾" in diameter—the practice has been to suspend a cheap faucet, susceptible of being screwed into the ¾" opening, from the inside of the 2" plug. When the container arrived at its destination the 2" plug would have to be removed, the faucet detached from it and secured in the ¾" opening after the removal of the ¾" plug. This would work so long as one did not fail to include the faucet on filling the container, and the faucet did not fall off while the container was in transit or become damaged by swinging against the walls of the container on the wire that carried it. At the best such faucets were of cheap construction, and were often unworkable. They would be messy to handle due to immersion in the contents of the container and, before they could be used, would require the removal of both plugs, the replacement of the 2" plug and the screwing of the faucet into the ¾" opening. Furthermore, their pouring apertures were quite small while the flow of the material through them was additionally restricted by the inclusion of a cut-off valve.

The spout or faucet of the invention overcomes these difficulties, first by being mounted in an

2

otherwise complete closure plug which is susceptible of being received in a standard screw threaded opening. By employing the 2" opening it is only necessary to remove the 2" plug and replace the same by the faucet carrying plug, or sleeve. A larger pouring orifice can thus be employed than was the case with prior art faucets. The faucets and sleeves of the invention are readily useable with the smaller containers, normally considered as pails, since war time experience has shown the handiest form of such pails to be those which are equipped with one standard 2" opening.

By supplying the users of containers with the plug-faucet combination in accordance with the invention, the disadvantages of trying to equip each container with its individual faucet hung from the inside of the 2" plug and the annoyance caused by the handling of such faucets would be eliminated. The person receiving the drum or pail would merely need to remove the 2" plug and apply the faucet carrying one he had on hand. In addition, he would have a far superior faucet to those heretofore employed, though a more simple and rugged one. Also he would have a faucet whose pouring orifice is greater than those heretofore employed and one where there is no valve in the stream to constrict the flow. Nevertheless, exactly controlled flow is assured since the faucet need merely be slid inward to open it, pulled outward to shut it off or moved to an intermediate position to limit the volume of flow. It may also be turned to direct the flow wherever desired without loosening it as would be required were it screwed in place in an opening. In addition, the faucet of the invention is provided with means to lock it in closed position to prevent unauthorized dispensing of the container contents. All of this is accomplished with a simple and rugged construction which will last and operate efficiently for a long period of time.

It is accordingly an object of this invention to provide a spout or faucet for containers which can be readily applied to standard fittings.

It is another object of the invention to provide such a spout or faucet which is operable within, and carried by, a member receivable in standard fittings.

It is a further object of the invention to provide a spout or faucet for containers which, though giving a substantial volume of flow, is quickly and easily actuated to turn such flow on or off or regulate it between the extremes of fully open or fully closed positions.

It is a still further object of the invention to provide an effective spout or faucet that will direct the flow from the container to whatever position is desired.

Finally, it is in object of the invention to provide such a spout or faucet whose construction is

simple, rugged and economical and which can be locked in place against unauthorized manipulation.

For a fuller understanding of the nature and objects of the invention, reference should be had to the following detailed description taken in connection with the accompanying drawings in which:

Fig. 1 is an elevation, with a fragment shown in section, of the faucet member of the invention in pouring position and seated in place in a container wall opening.

Fig. 2 is a vertical section of the faucet member of the invention seated in place in a container wall opening and shown in closed position.

Fig. 3 is an exploded perspective view of the faucet member of the invention and the carrying sleeve or plug forming part of the combination of the invention.

Fig. 4 is an elevation taken at right angles to the elevation shown in Fig. 1 and with the container wall shown in solid lines.

Fig. 5 is a fragmentary elevation of the faucet member shown in the preceding figures with the addition of means to lock it in closed position.

Fig. 6 is an elevation of the faucet member mounted in a container wall opening showing that faucet member as equipped with a modified form of operating lever and a modified form of locking means.

The reference character 10 indicates a portion of the wall of a container which is shown in solid lines in Figs. 4 and 6 and in dot dash lines in Figs. 1 and 2. This container wall is provided with an opening which, as best shown from the dot dash lines in Figs. 1 and 2, is surrounded or bordered by the screw threaded bushing 11 of a type well known in the trade and which in and of itself forms no part of the instant invention.

Secured within the bushing 11 is a sleeve member generally indicated by the reference character 12 whose appearance is that of an ordinary closure plug except that it has a bore hole 13 through it to receive a faucet member to be described hereinafter. The member 12 has an enlarged head 14 which, merely for the purposes of illustration, is shown as a hexagon but may, of course, have any irregular periphery desired to facilitate wrenching. This head has an upper face 15. The sleeve member 12 is equipped with a gasket 16 and screw threads 17 to enable it to be properly secured in the bushing 11 in conventional manner.

A spout or faucet member generally indicated by the reference character 18 is shown in retracted or pouring position in Fig. 1, in extended or shut-off position in Fig. 2 and in disassembled perspective in Fig. 3. This member has a substantially tubular body portion 19 which extends as a straight tube for the larger portion of its length and terminates in a downturned pouring nozzle 20. Member 18 may be formed in any desired manner though the forming of it by casting, either in iron or from zinc is the simplest way of producing it. The rear end of the member may be closed entirely or be formed in any other way that will facilitate the attachment thereto of a gasket with a backing washer.

As illustrated here, such rear end, marked 21, is provided with a cross member or web 22 which has a tapped centre opening 23. This threaded opening 23 is designed to receive a short stove bolt or the like, 24, for the purpose of securing the gasket 25 and the backing washer 26 against the end 21 of the member 18 when the same is in assembled position as shown in Figs. 1 and 2. Both the gasket member 25 and the backing member 26 are of somewhat greater diameter than the outside of the tubular portion 19 so that they abut the bottom end of the sleeve member 12. The gasket 25 thus prevents leakage between the portion 19 and the bore 13 when member 18 is assembled with member 12 and is in closed position, as shown in Fig. 2. Additionally, the gasket 25 and the backing ring 26 act as a stop to prevent the member 18 from being withdrawn all the way out of the bore 13.

Just forward of the end 21, the member 18 is provided with apertures extending through the wall thereof as shown at 27. These may be of any desired shape or number but, as shown for the purposes of illustration, are rectangular. Apertures, 27, provide the entrance for material to be poured out of the container through the spout or faucet member. Due to their rectangular formation, they cooperate with the inner end of the sleeve member 12 to reduce and finally sharply cut off the flow from the spout or faucet member as the same is moved from the position of Fig. 1 into the position of Fig. 2. Should it be desirable, however, to more gradually curtail the flow or control it in any other desired manner, the apertures could of course be replaced by some other suitable geometric figure.

In order to facilitate the operation of the member 18 it is provided with an operating lever, indicated by the reference character 28, which is generally of a U shape. This is shown best in Figs. 3 and 4. This U-shaped lever 28 has a base portion 29 and identical side arms 30. These arms terminate in ends which are rounded into a flat face 31. They are pivoted at a pre-selected point of their extent on pins 32 formed on the sides of the tubular portion 19 of the spout or faucet. The pins, 32, may be extensions from a casting, may be welded to the wall of the portion 19, or formed in some other way. Important in the operation of the device, however, is that the distance from the centre of the pivots 32 to the flat face 31, less one half of the width of the arms 30, be the same as the travel of member 18 in moving from fully open or pouring position to tightly closed or cut off position. Furthermore, the distance from the centre of the pivot 32 to the edge 33 of the arms 30 is such that when the edges 33 come into contact with the outer face 15 of the member 12, the spout or faucet member 18 is in fully opened position. This provides a stop action which not only prevents the spout from being projected into the container, but also gives it a rigidity when it is fully retracted so that it can be raised on, or against, whatever it is pouring into without being likely to slip out of position. Nevertheless, this stop does not prevent the turning of the spout member angularly about its axis should it be desired to direct the flow at any desired angle. Of course, it would normally be desirable to have this flow directly downwardly. The same can be accomplished without any trouble in this construction. In prior devices, where the faucets were screw threaded in place, one could never tell what the angle of pour would be when the faucet was fully threaded into its seat.

Before passing to the next feature it is well to point out that the fit of the tubular portion 19 in the bore 13 is such that they can slide or turn quite freely with respect to each other, but without any play. Thus, though there is no gasketing

of the faucet member with respect to the bore, when the faucet is in pouring position, there is no appreciable leakage between 19 and 13 at such time.

In Fig. 5 a locking arrangement is shown which may or may not be applied to the spout as desired. An apertured shoulder 34 extends out from the portion 20 of the member 18. This shoulder is so located that when the U-shaped member 28 is brought into position to properly shut off the flow from the container, its portion 29 will abut the shoulder 34 and can be locked in that position by means of a padlock shown in dot dash lines at 35. To make this locking means fully effective it should be used in conjunction with a common lead and wire seal to lock the sleeve 12 in place.

A modification of the locking means is shown in Fig. 6 wherein parts common to those previously discussed carry the same reference characters. Here the U-shaped lever member has been modified as shown at 36. The base portion 37 of the U has arms 38 extending downward therefrom to the pivot 39. At this point the lever member departs from the previous construction and extends backward at an angle towards itself at 40 and terminates in an end face 41 for engaging the outer face 15 of the plug sleeve 12. This reversed construction enables the base 37 of the member 36 spout turned back adjacent the container wall 10 when the spout 18 is in closed position. The faucet can thus be locked in closed position by passing a padlock around the base 37 and on eyelet 42 secured to the container wall. Such a padlock is shown in dot-dash lines at 43. This modification has the advantage that through it the faucet can be positively locked in place and against removal from the container without placing reliance upon a lead and wire seal for preventing removal of the sleeve 12.

It is believed that changes and modifications could be made in the construction above described without departing from the spirit and scope of the invention and it is accordingly intended that the description and drawing are to be interpreted merely as illustrative and not in a limiting sense.

Having described our invention, what we claim as new and desire to secure by Letters Patent is:

1. In pouring devices for containers, a closure plug, a spout member slideably and rotatably carried by said closure plug and extending through the same, said spout member being closed on its inner end and gasketed against leakage between the same and said plug, openings in said spout member in advance of closed end, said openings being closeable by said plug whereby the flow through said spout member will be cut off in extended position thereof and as said spout member is moved forward with respect to said plug and will be opened up as said spout member is moved rearward with respect to said plug, a pivoted lever member carried by said spout member intermediate the ends thereof, said lever member, including a locating portion and a handle portion extending from opposite sides of said pivot and means to engage said handle portion to lock the same in place when said locating portion has located said spout member in closed position.

2. In closing and pouring constructions for containers, a plug receivable within a container opening to normally close the same, said plug being formed with a bore hole for the reception

of a spout member, a spout member within said bore hole and mounted in a sliding fit with respect to the same, removable means on the inner end of said spout member for closing the end of the same and engaging with the inner end of said plug member to serve as a stop at the end of the slideable movement of the spout in one direction and to gasket said plug and spout against leakage therebetween, actuating means carried by said spout member for engaging the said plug for moving said spout member into closed extended position, said actuating means comprising a pivoted lever carried by said spout member, a face on said lever for engaging said plug to maintain said spout member in closed position, a second face on said lever to engage said plug and maintain said spout member in open retracted position admitting material to be poured into said spout member in advance of the closed rear end thereof.

3. A slideable spout for containers comprising a tubular pouring member and an actuating member, said pouring member including a pouring nozzle on one end thereof, a radially enlarged closing member on the other end thereof and forming an annular shoulder at said end of said tubular pouring member, said pouring member adjacent said shoulder being formed with entrant parts through the body thereof and means to pivotally interengage said pouring member and said actuating member, intermediate the ends of said pouring member, said actuating member extending in one direction from said pivot means to terminate in an engaging shoulder and extending in the other direction from said pivot means to terminate in a laterally extending handle portion.

4. In closing and pouring constructions for containers, the combination of a closure member and a pouring member, said closure member having means for normally closing an opening and being formed with a bore for the slidable reception of said pouring member, said pouring member being received within said bore and being provided with an annularly enlarged shoulder on the inner end thereof for engagement with the inner side of said closure member to form a complete closure when said pouring member is in extended position, said pouring member being formed with liquid admitting openings therein adjacent the inner end thereof, and actuating means for said pouring member pivotally carried by the same on the outer side of said closure member, said actuating means consisting of a lever formed with a shoulder to engage said closure member on one side of the pivotal position and with an actuating handle on the other side of said pivotal position.

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