

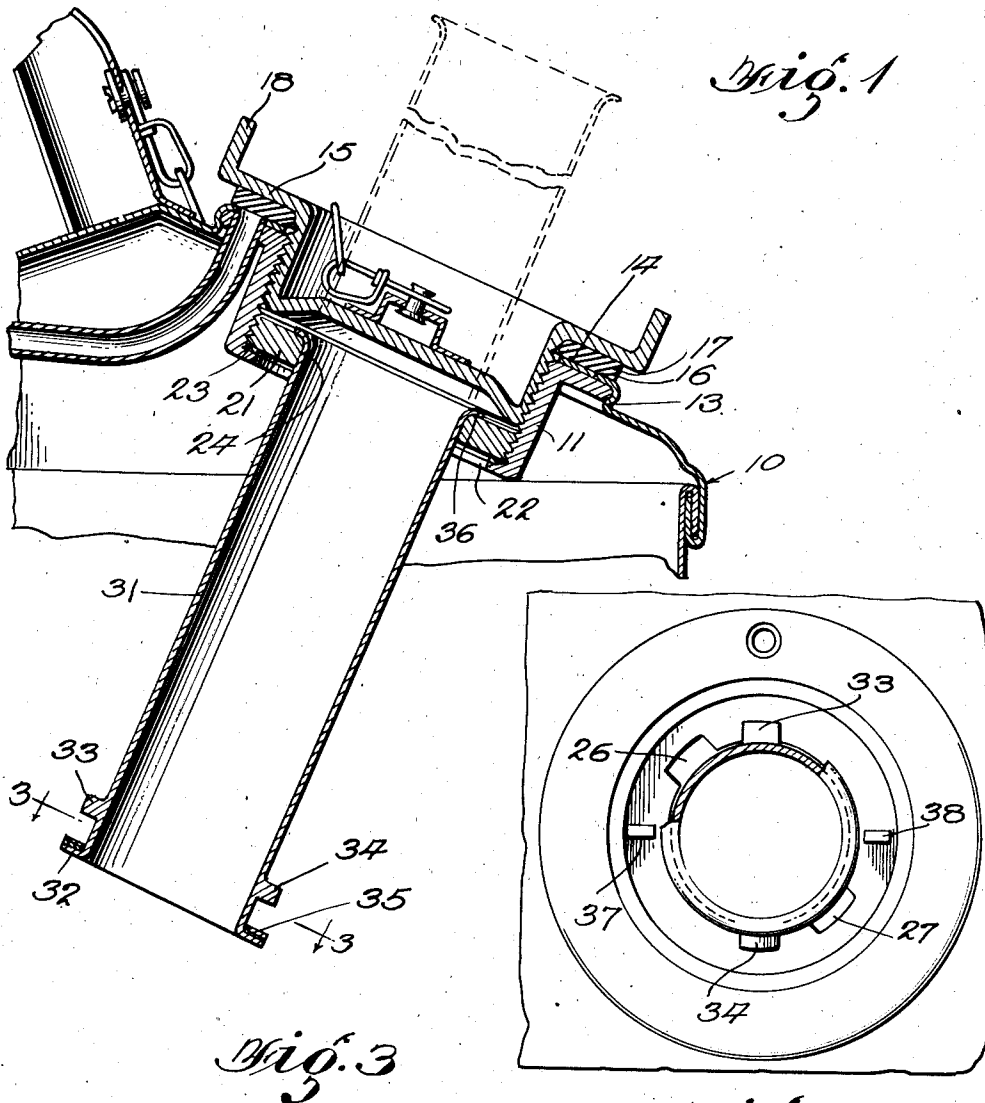
Aug. 31, 1943.

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2,328,020

RETRACTIBLE SPOUT

Filed Sept. 30, 1941



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UNITED STATES PATENT OFFICE

2,328,020

RETRACTIBLE SPOUT

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Application September 30, 1941, Serial No. 412,973

5 Claims. (Cl. 221-27)

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

The invention described herein, if patented, may be manufactured and used by or for the Government for governmental purposes without the payment of any royalty thereon.

This invention relates to pouring spouts and more particularly to a retractible type of pouring spout adapted to be used on sheet metal containers such as gasoline cans.

The prime object of the invention is to provide a conversion unit whereby a standard type of gasoline can equipped with a conventional filling opening and screw threaded plug may be converted into a retractible spout assembly, the arrangement being such that the retractible spout may be extended from the can when desired, or may be shifted to a position completely within the can, so that the standard closure plug can be used in connection with the retractible spout in the same manner that it operated to close the can when the spout assembly was not in place.

Referring now more particularly to the drawing accompanying and forming a part of the specification:

Figure 1 is a central sectional view through a preferred embodiment of the present invention shown in position on a liquid container.

Figure 2 is a plan view of the container mouth and upper portion of the spout shown with the closure plug removed, and

Figure 3 is a detail sectional view taken substantially on the plane of the line 3-3 in Fig. 1.

The numeral 10 indicates generally a sheet metal container such as a fuel oil can. Inasmuch as the can itself forms no particular part of the present invention and is described and claimed in full in my co-pending application, Serial No. 412,975, filed September 30, 1941, it will not be described in detail in this specification. It should be noted, however, that the can 10 includes the usual type of relatively large filler opening provided with a screw threaded neck member 11 provided with a flange 12 on its outer face, whereby it is secured to the metal of the can by a crimp 13 surrounding the filler opening and defining a sealing surface 14. The sealing surface 14 may be formed directly on the neck 11, but it is preferable to crimp the metal of the can top about the flange as indicated at 13 so that the metal of the can top extends inwardly over the flange 12.

A closure plug 15 is threaded into the neck portion 11 and is provided with a sealing flange 16 arranged to cooperate with the sealing surface 14 to complete the closure. A gasket 17 is positioned between the sealing surface 14 and the flange 16 so that when the closure plug is tightened down by the lugs 18 the gasket acts to completely seal the filling opening.

As thus far described, the structure constitutes

a conventional, simple type of screw threaded closure plug but, as pointed out hereinbefore, the object of this invention is to provide means whereby such a construction may be converted into a structure having a retractible spout which may be either extended from the can to facilitate the pouring of liquids therefrom, or retracted into the can in order that the filling opening may be closed by the plug. To this end, I provide a base plug 21 having external male screw threads adapted to be threaded into the screw threads within the neck 11. The plug 21 seats against the internal flange 22 on the bottom of the neck 11 and a gasket 23 is provided to prevent the leakage of liquids between these surfaces. The base plug 21 is provided with a central orifice 24, which is of generally circular shape but which includes a pair of bayonet notches 26 and 27 on opposite sides of the center. A cylindrical spout 31 is fitted into the orifice 24 and is provided at its lower end with a flange 32 and a pair of bayonet lugs 33 and 34. The arrangement is such that the bayonet lugs 33 and 34 may pass through the notches 26 and 27 whenever the sleeve 31 is raised to its extended position but the lugs 33 and 34 are so spaced from the flange 32 that the flange 32 will be brought to bear against the lower surface of the plug 21 when the lugs 33 emerge from the notches 26 and 27 and the flange 32 may be locked in face-to-face relationship with the lower surface of the base plug 21 by slightly rotating the spout 31, as indicated in Fig. 2, so that the lugs 33 and 34 overlies a solid portion of the plug. With the parts in this position, the spout 31 will be positively locked in its extended position, and may be used for the purpose of directing liquids from the container in the usual manner. To prevent leakage, however, it is usually preferable to provide a gasket 35 to complete the sealing action between the flange 32 and the lower surface of the flange 21. The upper extremity of the spout 31 is also provided with a slightly enlarged flange 36, to prevent the spout 31 from falling into the body of the container by limiting its inward movement.

From an examination of the drawing, it will be apparent that the base plug 21, which is positioned at the lower extremity of the neck 11, will not be easily accessible without special tools. For this reason, means have been provided whereby this base plug 21 may be screwed into or out of the neck 11 without the use of any wrenches or tool other than the spout structure itself. To accomplish this, a pair of raised lugs 37 and 38 are provided on the upper surface of the base plug in such a position that they may be engaged by the lugs 33 and 34; thus, while the spout 31 is free for axial sliding movement and rotational movement with respect to the plug 21, this move-

ment is limited by the engagement of the lugs 33 and 34 with the lugs 37 and 38. With this arrangement, if it is desired to remove the spout conversion unit from the filler opening of the container, it is only necessary to twist the extended spout 31 in a counterclockwise direction until the lugs 33 and 34 engage the lugs 37 and 38 and to continue the rotational movement of the spout until the base plug 21 is completely unscrewed. The spout assembly may be inserted in the container in the same manner.

From the foregoing description it will be apparent that by practicing the teachings of the present invention a convenient and simple structure may be provided whereby an improved type of retractible spout may be almost instantly mounted on any standard container equipped with any conventional type of screw threaded closure orifice. Further, when a container is so equipped and it is later to be utilized for some other purposes wherein the presence of the pouring spout is unnecessary or undesirable, the conversion unit may be instantly removed and will leave the filling orifice unaltered.

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

1. In combination with a container, including a filler opening provided with female screw threads, and adapted to be closed by a screw-threaded plug having an external sealing flange, a removable and retractible pouring spout conversion unit, including a base plug externally threaded with male screw threads adapted to fit and cooperate with the female threads of the aforementioned filler opening; a central circular opening in the base plug including diametrically opposed bayonet notches, a plurality of lugs positioned on the upper face of the base plug and closely adjacent the central opening; a generally cylindrical pouring spout slidably mounted within the central opening of the base plug, and arranged for limited axial and rotating movement with respect thereto; a sealing surface at the lower extremity of the pouring spout arranged to coact with a sealing surface of the base plug; bayonet lugs on the pouring spout arranged to pass through and cooperate with the bayonet notches of the base plug to maintain the aforementioned sealing surfaces in engagement; and additional lugs associated with the base plug to limit the relative rotating movement between the spout and plug and thus transmit force between the spout and plug whereby the entire assembly may be threaded into or removed from the filler opening of the container by the continued rotation of the pouring spout.

2. In combination with a container, including a filler opening provided with screw threads, and adapted to be closed by a screw-threaded member having sealing surfaces; a removable and retractible pouring spout conversion unit, including a base having sealing surfaces and screw threads adapted to fit and cooperate with the threads of the aforementioned filler opening; a central circular opening in the base including bayonet notches, a plurality of lugs positioned on the base and closely adjacent the central opening; a generally cylindrical pouring spout slidably mounted within the central opening of the base and arranged for limited axial and rotating movement with respect thereto; a sealing sur-

face at the lower extremity of the pouring spout arranged to coact with a sealing surface of the base; bayonet lugs on the pouring spout arranged to pass through and cooperate with the bayonet notches of the base to maintain the aforementioned sealing surfaces in engagement; and additional lugs associated with the base to limit the relative rotating movement between the spout and base and thus transmit force between the spout and base whereby the entire assembly may be threaded into or removed from the filler opening of the container by the continued rotation of the pouring spout.

3. In combination with a container, including a filler opening provided with female screw threads, and adapted to be closed by a screw-threaded plug having male screw threads fitted to said female threads and having an external sealing flange adapted to seal directly against the edge of the filler opening, a retractible pouring spout, including a base plug having a central circular opening and diametrically opposed bayonet notches, a generally cylindrical pouring spout slidably mounted within the central opening and arranged for limited axial movement with respect thereto; a sealing surface at the lower extremity of the pouring spout arranged to coact with the central opening, said sealing surface comprising a flange of less diameter than the filler opening to permit removal of the spout from the container and bayonet lugs on the pouring spout arranged to pass through and cooperate with the bayonet notches of the base plug to maintain the aforementioned sealing surfaces in engagement.

4. In combination with a container, including a filler opening and adapted to be closed by a plug having a sealing flange, a retractible pouring spout including a base, a central circular opening in the base including bayonet notches, a generally cylindrical pouring spout slidably mounted within the central opening and arranged for axial and rotating movement with respect thereto; a sealing surface at the lower extremity of the pouring spout arranged to coact with the sealing surface of the base and bayonet lugs on the pouring spout arranged to pass through and cooperate with the bayonet notches of the base to maintain the aforementioned sealing surfaces in engagement.

5. In combination with a container, including a filler opening provided with screw threads, and having a sealing flange, a removable and retractible pouring spout conversion unit, including a base plug with screw threads adapted to fit and cooperate with the threads of the aforementioned filler opening; a base plug having a circular opening therein and diametrically opposed bayonet notches, a generally cylindrical pouring spout slidably mounted within the central opening of the base plug and arranged for limited axial and rotating movement with respect thereto; a sealing surface at the lower extremity of the pouring spout arranged to coact with the sealing surface of the base plug and bayonet lugs on the pouring spout arranged to pass through and cooperate with the bayonet notches of the base plug to maintain the aforementioned sealing surfaces in engagement, the entire assembly being adapted to be threaded into or removed from the filler opening of the container.

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