March 30, 1954 F. A. BOYSEN 2,673,664

FLUID CONTAINER PREFERABLY FUEL CONTAINER FOR MOTOR VEHICLES

Filed Jan. 5, 1951 2 Sheets-Sheet 1

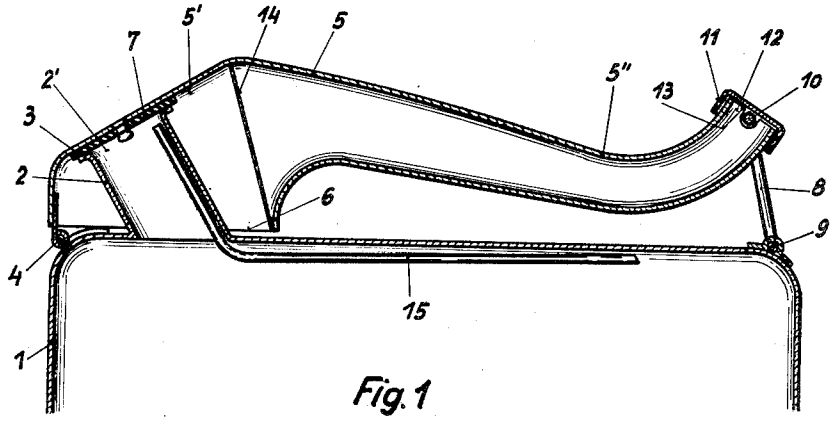


Fig. 1

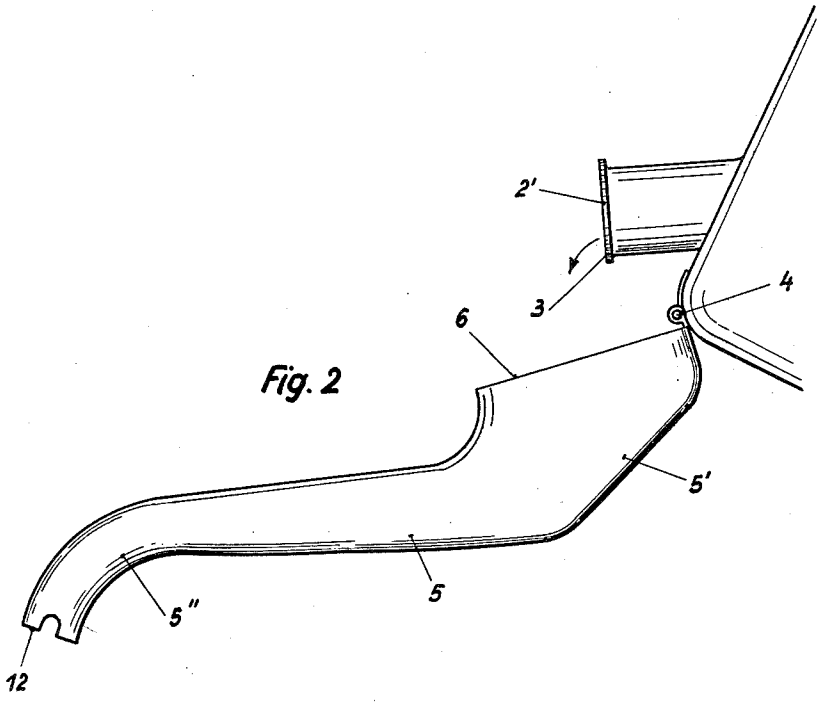


Fig. 2

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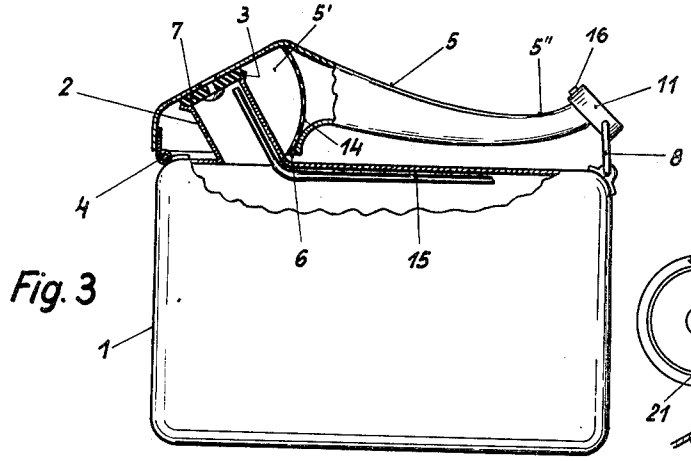


Fig. 3

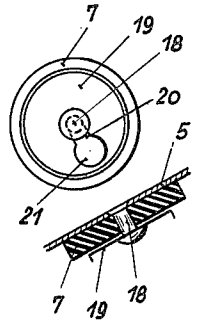


Fig. 8

Fig. 9

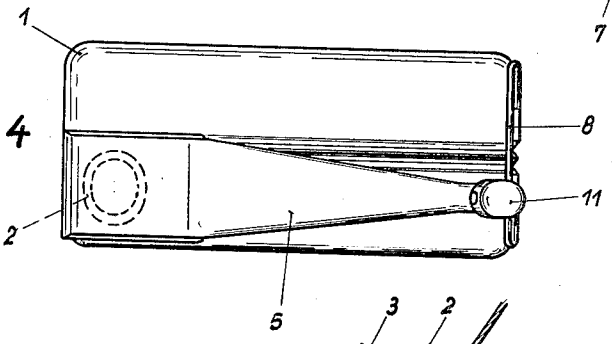


Fig. 4

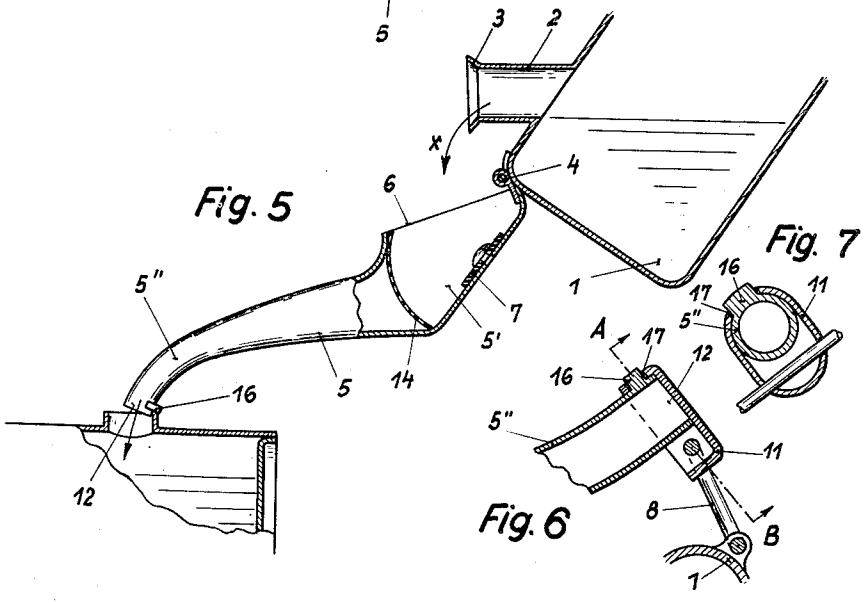


Fig. 5

Fig. 7

Fig. 6

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FLUID CONTAINER PREFERABLY FUEL CONTAINER FOR MOTOR VEHICLES

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5 Claims. (Cl. 222—469)

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This invention relates to a contrivance for fluid containers preferably service containers for motor vehicles (for instance, for gasoline, lubricating oil, or such like).

In the present invention a container is provided which as compared with heretofore usual fluid containers is substantially simplified and far more suitable not only in regard to its construction but also in regard to its performance.

An important object of the invention is to provide the new container with a contrivance preferably a goose-necked or arm-like member especially adapted for several functions requisite for the performance of the container, particularly as closure for the container opening, as spout or funnel contrivance for draining the container and as carrying handle for easy portage of the container.

Another object of the invention is to connect the aforementioned member of the container having several functions with the container by means of a joint or hinge in such a way that it may easily and quickly perform one or the other of its functions without being detached from the container.

A further object of the invention is to provide means whereby a perfectly safe and reliable sealing of the container opening is assured. A still further object of the invention is to provide means for coupling the foldable member—serving preferably at the same time as closure respectively pouring contrivance—with the container particularly in such a manner that a rigid and safe connection is effected between the foldable member and the container, whereby the foldable member on the one hand is usable as handle and on the other hand an especially effective sealing of the filler pipe opening is obtained.

Another object of the invention is to provide a suitable and agreeable configuration for the yoke serving at the same time as closure, spout and handle.

A further object of the invention is to provide an advantageous closure for the said member serving as closure and pouring contrivance, whereby is assured that no particles of dirt or foreign matter will get into the interior of the hollow member and perhaps dirty the fluid when poured. A screen arranged in the interior of the hollow, funnel-shaped member serves for a similar purpose.

Further objects of the invention relate to the special configuration of the hollow member serving as spout, funnel or handle, to the construction of the coupling between the foldable member and the container, to the conformation of the seal or gasket and to the cross-sectional form of the edge of the container opening and to other details of the container.

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Such objects and features of my invention will be fully understood from the following detailed description of two preferred forms of my invention and illustrated in the accompanying drawings. The invention, however, is not limited to the specific forms illustrated and described herein but various different embodiments may be employed within the scope of the various objects and features of the invention. On the drawings—

Fig. 1 is a longitudinal section through the upper portion of a fluid container (for example, a gasoline container, with a longitudinal section through the folding arm serving as handle, closure and pouring contrivance, shown in closing position),

Fig. 2 is a side view of a portion of the container with the articulated folding arm shown in pouring position of the container,

Fig. 3 illustrates the container with a somewhat differently constructed closure, handle and spout contrivance in longitudinal section similar to Fig. 1,

Fig. 4 is a top plan view of this container,

Fig. 5 shows the container in pouring position,

Fig. 6 shows the coupling device for coupling the foldable arm to the container in longitudinal section,

Fig. 7 is a section taken on line A—B of Fig. 6,

Fig. 8 is a sectional view through the filler pipe sealing gasket, and

Fig. 9 a top plan view upon an especially constructed sealing means.

In the construction according to this invention the container 1 is provided on its topside with a single tubular stub, e. g., the filler pipe 2 with an opening 2' which serves simultaneously as inlet and outlet of the container. The upper edge of the filler pipe is provided with a collar-shaped rim 3. Very close to the filler pipe 2, an elongated hollow carrying member, e. g., the folding arm or handle 5 is linked to the container by means of a hinge or joint 4 disposed transversely to the axis of the filler pipe opening. This folding arm or handle 5 serves simultaneously as sealing contrivance, carrying contrivance and pouring contrivance and for this purpose it is constructed essentially as S-shaped hollow tube which, like a funnel, tapers from the end 5' adjacent the joint 4 to the opposite end 5''. In the position of the closure shown in Fig. 1, the arm 5 with its wide end 5' respectively with its wide opening 6 folds like a hood over the filler pipe 2 with the filler opening 2'; its inner wall being pressed against the collar-shaped rim 3 of the filler pipe by means of a gasket 7 and thereby seals the opening.

The other end of the folding arm 5 tapering off like a funnel is, in closing position of the container, coupled to the container by means of a

coupling device. This coupling device consists of a wire or yoke 8 which at 9 is linked to the container and to which a container cap 11 is articulated at 10 which is placed over the outlet 12 of the funnel-shaped folding arm 5.

In the preferred construction according to Fig. 1 the rim of the outlet 12 is provided with a notch 13 into which the yoke 10 is hooked when the container is closed by exerting pressure upon the end of the arm.

A screen 14 is inserted into the hollow folding arm 5 which forms a partition between the hollow space for accommodating the filler pipe 2 and the tapered portion of the arm. The Figs. 1 and 3 show, furthermore, a vent pipe 15 which extends along the inside of the top of the container up into the filler pipe respectively drain pipe 2 on that side of the filler pipe opposite to the joint 4 so as to permit air to enter the container while it is being filled or drained.

Holding the gasket in good sealing engagement with the rim of the filler pipe opening 2' is substantially assured by the great leverage with which the gasket 7 is pressed upon the collar-shaped rim 3 of the filler pipe when the arm 5 is coupled to the container by means of the yoke 8. In this closed position the container is easily portable by means of the arm 5, the form of the arm being especially handy for this purpose.

To drain the container the coupling 8, 11 is released and the arm 5 is turned about the hinge 4 and folded into its other end position. The container can then be brought into the position shown in Fig. 2. This is the pouring or draining position of the container; its wide opening 6 being below the rim 3 of the outlet of the container, whereas the tapered S-shaped end 5'' of the arm 5 extends downwards like a snout. Therefore, when tilting the container, the fluid pouring out of the opening 2' is caught by the wide opening 6 of the funnel and conducted by means of the pipe to the outlet 12 where it may flow into vessels, bottles or such like.

The cap 11 covering the outlet 12 protects the interior of the funnel 5 from dirt and likewise against entering of other foreign matter, which otherwise would be dragged along by the fluid into the containers to be filled while decanting the fluid. The screen 14 provides a further protection against pollution of the fluid to be decanted.

The embodiment according to Figs. 3 to 7 as compared to that shown in Figs. 1 and 2 has the following dissimilarity: the rim 3 of the tubular stub or filler pipe 2 serving simultaneously as inlet and outlet 2' is of conical form. In the closing position of the container illustrated in Fig. 3, the sealing disk 7, for example, of oil-resisting rubber, is pressed under tension against the conical rim 3 of the filler pipe 2; the pressure being increased from the interior to the exterior, and the opening of the filler pipe being securely sealed all-round.

As clearly shown in Fig. 5, the fluid when poured out of the container is led over the conical rim in such a manner that it pours forth from the outermost inclined edge of the same. In this instance the fluid pours forth approximately in the direction x, whereby an objectionable adhesive effect exerted upon the fluid and diverting it against the wall of the container is effectively obviated and an undesirable afterdrip after the pouring is checked also.

The bend-up end 5'' of the arm 5 is provided with a projection in the form of a nose 16 situated a few millimeters from the edge of the rim of the outlet. A cap 11 articulated to the fluid container 1 by means of a yoke 8 serves again for coupling the arm with the container. This cap, on its upper end situated opposite to the yoke, is provided with a slot which engages the nose 16 when the cap is put over the opening 12 and thus the cap is locked in place. Applying and locking the cap is thereby accomplished under the pressure of the resilient sealing disk 7 which is effective in coupling direction and thus prevents an unwanted release of the coupling even at most severe bumps and shocks.

As clearly shown in Fig. 5, the nose 16 on the tapered end 5'' of the arm 5 may serve in a suitable manner as stop when the fluid is filled into a vessel, thus preventing the spout 12 from slipping off laterally or from sticking too far into the opening of the vessel to be filled.

The interior of the funnel 5 is here also at the same time protected against dust and dirt by the cap 11. The screen 14, being likewise provided, in this case is curved or funnel-shaped and readily and quickly replaceable in the position of the arm 5 illustrated in Fig. 5.

In the Figs. 8 and 9 a sealing disk 7 is illustrated which is centered on a rivet 18 and secured against any undesigned detachment by a washer 19. The washer is provided with a slot 20 which ends in an aperture 21 whose diameter is at least equal to that of the head of the rivet 18. For removing the sealing disk the washer can be shifted in such a way that the rivet shank slides in the slot 20 until the aperture 21 comes under the rivet head and then the washer can be removed. The edge of the washer is turned up so as to facilitate its handling. The pressure of the sealing disk secures the washer in its position.

The invention is not limited or restricted to the specific embodiments illustrated and described herein but may be varied within the scope of the individual aspects of the invention, particularly as defined by the appended claims.

What I claim is:

1. A fluid container, comprising, in combination, a container formed with an aperture therein; an elongated carrying member for carrying said container having a first and a second end; a pivotal mounting means on said container disposed adjacent said aperture pivotally connecting said first end of said carrying member with said container to pivot about an axis substantially transverse to the axis of the aperture; attaching means mounted on said container on the side of the aperture distant from said pivotal mounting means for releasably attaching said second end of the carrying member to the container to permit pivoting of said carrying member from a closed position overlying said aperture to an open position exposing said aperture, said elongated carrying member in said closed position extending along the top of said container and being spaced therefrom so as to enable grasping of said carrying member on the portion thereof facing the top of said container for carrying said container; and sealing means carried by said carrying member and mounted thereon in registration with and pressed against said aperture when said second end of said carrying member is attached to said container by said attaching means.

2. A fluid container, comprising, in combination, a container formed with an aperture therein; an elongated hollow carrying member

adapted to be used as a guide for outflowing fluid having a first end formed with an opening therein and a second end formed with an opening therein, said second opening being smaller than said first-mentioned opening, and said hollow carrying member tapering funnel-like from said first end to said second end, said first-mentioned opening being in registration with the aperture in said container; a pivotal mounting means on said container disposed adjacent said aperture pivotally connecting said first end of said elongated hollow carrying member with said container to pivot about an axis substantially transverse to the axis of the aperture; attaching means mounted on said container on the side of the aperture distant from said pivotal mounting means for releasably attaching said second end of the elongated hollow carrying member to the container to permit pivoting of said elongated hollow carrying member from a closed position overlying said aperture to an open position disconnecting said opening and said aperture, said elongated carrying member in said closed position extending along the top of said container and being spaced therefrom so as to enable grasping of said carrying member on the portion thereof facing the top of said container for carrying said container; and sealing means carried by said elongated hollow carrying member and mounted thereon in registration with and pressed against said aperture when said second end of said elongated hollow carrying member is attached to said container by said attaching means.

3. A fluid container, comprising, in combination, a container body having a top wall formed with an opening therein; a filler pipe extending from said opening mounted on said top wall; an elongated tubular combined spout and handle member being open at both ends; pivotal mounting means on said container body adjacent one side of said opening attaching said combined spout and handle member at one end thereof to said container body turnably between a carrying position in which said combined spout and handle member extends across said top wall of said container body and is spaced therefrom along most of its length so as to enable grasping of said member on the portion thereof facing said top wall of said container body for carrying the container, and a pouring position in which one open end of said combined spout and handle member cooperates with said filler pipe to guide liquid from said container body and said opening and filler pipe into said opening and through said tubular spout and handle member; attaching means mounted on said container body on the other side of said opening and spaced therefrom, releasably attaching the other end of said combined spout and handle member to said container body; and resilient sealing means mounted within said spout and handle member in registration with said filler pipe when said spout and handle member is in carrying position, said sealing means being pressed against said filler pipe when said attaching means and said spout and handle member are connected.

4. A fluid container, comprising, in combination, a container body having a top wall formed with an opening therein; a filler pipe extending from said opening mounted on said top wall; an elongated tubular combined spout and handle member being open at both ends; pivotal mounting means on said container body adjacent one side of said opening attaching said combined

spout and handle member at one end thereof to said container body turnably between a carrying position in which said combined spout and handle member extends across said top wall of said container body and is spaced therefrom along most of its length so as to enable grasping of said member on the portion thereof facing said top wall of said container body for carrying the container, and a pouring position in which one open end of said combined spout and handle member cooperates with said filler pipe to guide liquid from said container body and said opening and filler pipe into said opening and through said tubular spout and handle member; attaching means mounted on said container body on the other side of said opening and spaced therefrom a greater distance than the distance between said opening and said pivotal mounting means, releasably attaching the other end of said combined spout and handle member to said container body; and resilient sealing means mounted within said spout and handle member in registration with said filler pipe when said spout and handle member is in carrying position, said sealing means being pressed against said filler pipe when said attaching means and said spout and handle member are connected.

5. A fluid container, comprising, in combination, a container body having a top wall formed with an opening therein; a filler pipe extending from said opening mounted on said top wall; an elongated tubular combined spout and handle member being open at both ends; pivotal mounting means on said container body adjacent one side of said opening attaching said combined spout and handle member at one end thereof to said container body turnably between a carrying position in which said combined spout and handle member extends across said top wall of said container body and is spaced therefrom along most of its length so as to enable grasping of said member on the portion thereof facing said top wall of said container body for carrying the container, and a pouring position in which one open end of said member cooperates with said filler pipe to guide liquid from said container body and said opening and filler pipe into said opening and through said tubular spout and handle member; attaching means including a cap fitting over said second end of said combined spout and handle member mounted on said container body on the other side of said opening and spaced therefrom, releasably attaching the other end of said combined spout and handle member to said container body; and resilient sealing means mounted within said spout and handle member in registration with said filler pipe when said spout and handle member is in carrying position, said sealing means being pressed against said filler pipe when said attaching means and said spout and handle member are connected.

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References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
410,342	Arnold	Sept. 3, 1889
699,059	Archer	Apr. 29, 1902
1,037,620	Hellberg	Sept. 3, 1912
1,544,503	Thomson	June 30, 1925
1,618,620	Wiswell	Feb. 22, 1927
1,646,154	Kroll	Oct. 18, 1927
1,729,839	Meggitt	Oct. 1, 1929
2,149,227	Olson et al.	Feb. 28, 1939