Jan. 12, 1937. H. H. CHAPIN 2,067,658

WAGON CAN OR SIMILAR RECEPTACLE

Filed April 5, 1933

Fig. 1.

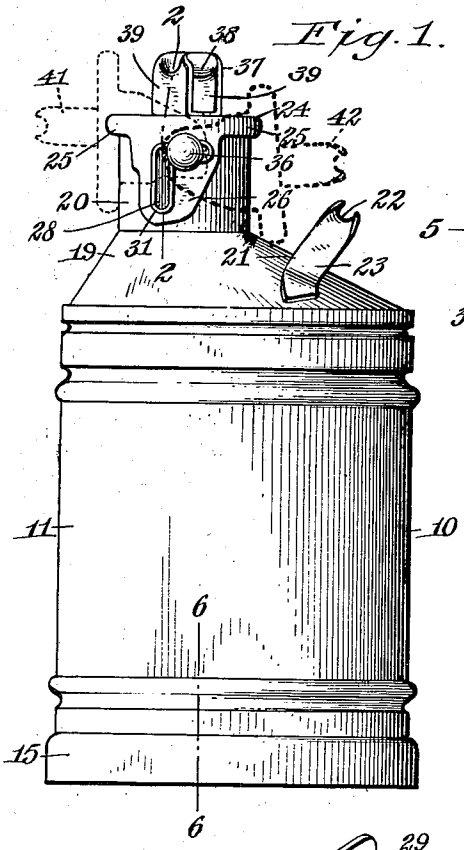


Fig. 2.

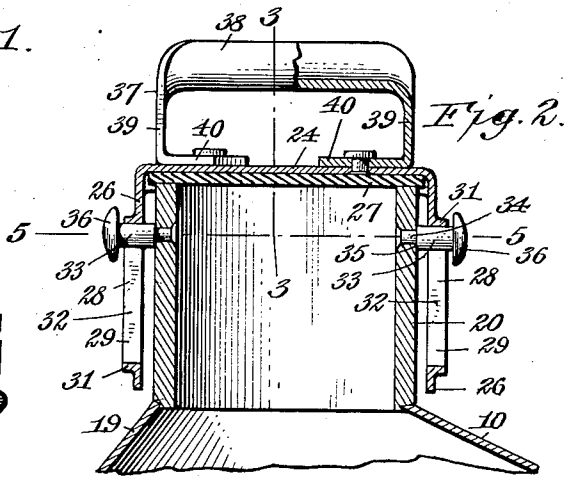


Fig. 3.

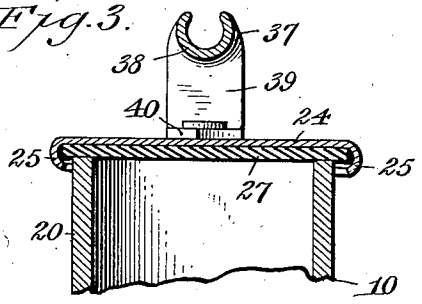


Fig. 6.

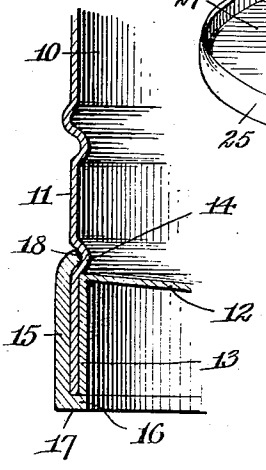


Fig. 4.

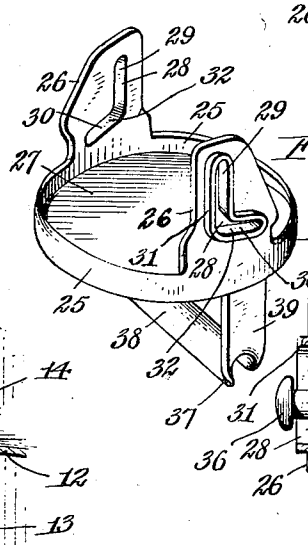
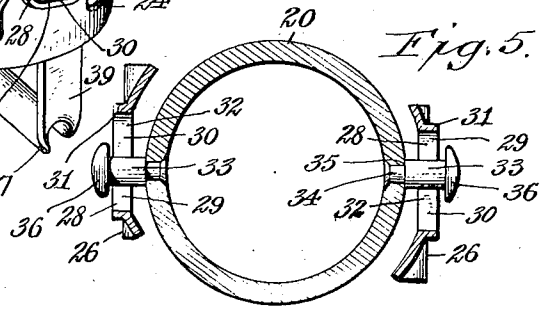


Fig. 5.



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Patented Jan. 12, 1937

2,067,658

UNITED STATES PATENT OFFICE

2,067,658

WAGON CAN OR SIMILAR RECEPTACLE

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Application April 5, 1933, Serial No. 664,593

8 Claims. (Cl. 220—38)

My invention relates to cans or similar receptacles used for transporting liquids, and more especially to what is generally termed a wagon can in which gasoline, oil, or the like is transported; the cans being placed in wagons or trucks for the purpose.

The primary object of this invention is the production of a can which is durable in construction, inexpensive, and liquid-tight, so that when transporting the cans in or on wagons or trucks, the contents thereof cannot spill.

Another object of my invention is the provision of a can so constructed as to resist wear when pulling or dragging the same along a portion of the wagon or truck, or over a floor or other surface.

Another object of my invention is the provision of means for conveniently carrying the can in substantially vertical position and for more conveniently pouring out the contents of the can.

A further object is to provide a cap or closure for the can which will completely seal the same and be irremovably secured to the can, and which, when moved into open position, will not interfere with the pouring out of the contents, especially when pouring the contents from the can while in an elevated position.

A further object of my invention is to provide a sealing cap or closure for the can, which may be swung into either open or closed position, and wherein pressure applied to the cap or closure, while closing the same, will assure equal pull on the cover at opposite sides of the neck of the can; thus assuring equal pressure on the sealing element within the cap or closure against the upper edge of the neck.

A still further object of my invention is the provision of two handles to be grasped simultaneously during the act of pouring out the contents of the can so that the cover will not swing on its pivots and so that more effective control of the can during the pouring action is assured.

With these and other objects in view to appear hereinafter, my invention consists in the novel features of construction and in the arrangement and combination of parts to be hereinafter described and more particularly pointed out in the subjoined claims.

Fig. 1 is a side elevation of a can embodying my invention.

Fig. 2 is an enlarged vertical section taken on line 2—2, Fig. 1.

Fig. 3 is a vertical section taken on line 3—3, Fig. 2.

Fig. 4 is an inverted perspective view of the cap or closure of the can.

Fig. 5 is a horizontal section, taken on line 5—5, Fig. 2.

Fig. 6 is an enlarged vertical section taken on line 6—6, Fig. 1.

Cans of this type are invariably made to contain several gallons of liquid; usually from five gallons upward. They are constructed of comparatively heavy gage material, due to the fact that they are subjected to rough handling, not only in placing them upon a wagon, truck, or other means of transportation, but in removing them from such means of transportation. When filled with gasoline, oil, or other liquids, they are of considerable weight, and oftentimes are dragged along a roadway, garage floor, or other surfaces, or dropped from elevated points while guiding them to maintain verticality; all of which tend to subject the lower ends of the cans to extreme wear and strain.

Wagons or trucks used for transporting cans of this type invariably have can shelves or supports at a height a considerable distance above the roadway, which necessitates lifting them a considerable height; and the means provided for handling the cans when placing them upon a wagon or truck, or removing them therefrom, do not serve very well for carrying the cans from the wagon to the interior of garages, or other places, of delivery. Moreover, since the contents of cans of this type are usually poured into larger receptacles, or into storage tanks, the pouring neck of the can is preferably eccentrically mounted on the body portion for the purpose of facilitating the pouring of the contents into the receptacle or storage tank without causing any portion thereof to be spilled or wasted.

My improved can is designed to overcome, eliminate, or improve the shortcomings of cans of the type mentioned; to facilitate the transporting and handling of such cans and the pouring qualities thereof; to so construct the cans to insure longer life, and to otherwise furnish advantages with the use of such cans.

In the construction of the can I provide a cylindrical body portion 10 of comparatively heavy gage steel-material, the peripheral wall 11 of which may be circumferentially ribbed or beaded both inwardly and outwardly to stiffen the metal and lend to the attractiveness of the can.

Fitted into the lower end of the peripheral wall 11 is a bottom 12, which is dished to provide a downwardly-directed flange 13 lying in contact with the interior surface of the peripheral wall

at its lower end and which is welded, soldered, or otherwise secured in place in a liquid-tight manner. While the circumferential beads may be provided at various elevations of the peripheral wall for strengthening and embellishment, I provide an internal bead 14 on said peripheral wall 11 directly above the bottom and against which said bottom bears, thus fixing the limit of insertion of the bottom into said peripheral wall from its lower end.

A reinforcing or wearing band 15, preferably of heavier gage than the metal of the body portion 10, surrounds the lower end of said body portion, and at its lower edge it has an inwardly-directed flange 16 which, when the band is positioned in place, bears against the lower edge of the peripheral wall 11 and the lower edge of the flange 13, thus providing an unbroken and unseamed contact surface 17 at the lower end of the can. This band with its flange 16 thus protects the seam between the peripheral wall 11 and the flange 13 of the bottom and prevents separation of this seam, which would tend to occur under rough usage in dragging the can over rough portions or elevations of garage floors, sidewalks, or portions of a wagon or truck.

It is to be noted that the internal bead 14 is formed by exteriorly grooving the peripheral wall 11, as at 18, and into this groove so formed, the upper marginal portion of the band 15 is swaged; thus the band is locked to the body portion of the can in a secure manner, and in addition to strengthening the bottom of the can, which is subjected to the greatest wear, it assures liquid-tight maintenance of the seam between the peripheral wall 11 of the can and the flange 13 of the bottom thereof.

A top wall 19 is provided for the can which is connected to the upper end of the peripheral wall 11 of the can in any approved manner capable of joining the two together in a liquid-tight manner. This top wall varies in its inclination from a given point at its base or line of connection to the peripheral wall 11 to a point diametrically opposite, the upward inclination, being greatest at the last-mentioned point so that an opening is provided in this top wall, or shoulder wall as it may be termed, which is eccentrically disposed with reference to the base of said top or shoulder wall and the peripheral wall 11. This top or shoulder wall therefore is gradually reduced in diameter from the peripheral wall 11 upwardly, and it has a neck 20 fitted into its opening which is secured thereto in any approved manner, assuring a liquid-tight connection between the two. The wall of this neck is of heavier gage material than the top or shoulder wall of the can, and is preferably formed of a short length of seamless steel tubing, all of the parts described constituting the body portion of the can, which when united by welding the joints or seams, is rendered liquid-tight under such methods; but any other method of rendering them liquid-tight may be employed. The neck 20 is therefore eccentrically arranged with relation to the remainder of the can, and the pouring opening at the upper end of this neck is therefore off-center, which facilitates the pouring action without tendency to spill over the edge onto surrounding parts while emptying the contents into a receptacle or storage tank. By eccentrically mounting the neck on the upwardly-tapered top or shoulder wall 19, the latter wall has greater slope in one direction than in its directly opposite direction, the slope gradually becoming diminished from its place of greatest slope to that of its least slope.

Welded or otherwise secured to the top or shoulder wall 19, is a rigid upwardly-directed handle 21, which is for convenience in handling the can, positioned with its center directly over the plane of greatest slope of the top or shoulder wall 19 so that its points of attachment to said wall are at opposite sides of said plane. This handle comprises a concavo-convex grasping portion 22 spaced from said top or shoulder wall, and depending end securing portions 23 bent outwardly at their lower ends in contact with said top or shoulder wall, said outwardly-bent portions being welded or otherwise suitably secured to said wall. The grasping portion 22 is positioned to one side of the center of the body portion of the can and a considerable distance from the neck, for a purpose to appear hereafter.

A cap or closure 24 is provided to close the upper open end of the neck 20, and this cap is formed of sheet-metal stamped into circular form with depending flanges 25 to provide a dish-like formation for the same. Retainer or lock ears 26 extend integrally from the flange 25 and lie on opposite sides of the neck. Positioned within the cap or closure thus formed is a sealing disk 27, which may be constructed of fiber or other slightly compressible material and which, when the cap is placed on the can so as to close the latter, lies against the upper edge of the neck. The flanges 26 are curved inwardly at their lower ends to retain the sealing disk within the cap or closure, as clearly shown in Fig. 3, and by reason of this construction the cap is of somewhat greater diameter than the neck of the can; the advantages of which will hereinafter be set forth.

The flanges 25 extend from ear to ear and serve as a curb wall to retain the cap or closure on the can in the event of said cap or closure becoming accidentally loosened, and each of the ears is provided with an angular slot 28, closely approaching L-formation; thus providing two slot portions 29, 30, disposed at a slightly obtuse angle to each other; the slot portions 29 being vertically-disposed while the slot portions 30 are substantially horizontal. These angular slots are formed by slitting or slotting the metal from which the cap or closure is constructed and thence banding the metal outwardly to provide outwardly-extending flanges 31. By thus constructing the slots, comparatively wide riding faces 32 are provided. The stamping of the flanges outwardly from the slots prevent rough or raw edges in the latter and eliminate all possibility of the formation of open fractures in the metal.

Extending through the slots 28 are combined pivot and lock pins or trunnions 33, which project from the neck of the can at diametrically opposite points. These pivots or trunnions have reduced portions 34 forming shoulders 35 which bear against the outer peripheral face of the neck 20, and these reduced portions are passed through the wall of the neck and riveted at their inner ends. The outer ends of said pivots and lock pins, or trunnions as they may be termed, are provided with comparatively large heads 36 which are preferably slightly spaced from the edges of the flanges 31 projecting outwardly from the slots. The diameter of each of said pivots or trunnions is such as to freely fit through the slots 28 so as to enable the cap or closure to travel thereon and swing freely to the right or left, as indicated by dotted lines in Fig. 1. The flanges provided on the slots and serving as the walls of the slots

being smooth, eliminate excessive friction on the pivots or trunnions, and consequently pressure applied to the cover when closing the same is equalized and assures equal pull at opposite sides of the neck, assuring even pressure on the sealing disk 27 at all points of contact with the upper edge of the neck.

It may here be stated that by providing a cap or closure of a somewhat larger diameter than the diameter of the neck 20, and spacing the inturned lower edge of the flange of this cap or closure from the outer surface of the neck, and also the retainer or lock ears, self-adjustment of the cap or closure is provided, so that in the event that the pivot or lock pins are not exactly at the same elevation, or not exactly diametrically oppositely disposed axially, the cap or closure may move laterally in any radial direction, yet retain the necessary relation between said pins and the slots to assure a secure locking of the cap or closure in the neck with the sealing disk of said cap in contact with and under equal pressure around the entire upper edge of the can neck.

It is to be noted that, while the upper portions of the ears 26 conform to the curvature of the retainer flange 25, their lower portions from approximately the plane of the slot portion 30 downwardly, are flat or straight-lined transversely.

It is further to be noted that the ears at opposite sides of the cap or cover are reversed; the vertical portions 29 of the slots 28 being in line diametrically, while the substantially horizontal portions 30, which may be more particularly referred to as "wedge portions", extend in opposite directions from the vertical portions. The vertical portions 29 of the lock or retaining slots are closer to one edge of the ears than the other.

When the can is closed the sealing disk 27 of the cap or closure bears marginally against the upper edge of the neck 20, and the lock or pivot pins or trunnions, are wedged within the wedge portions 30 of the slot, said wedge portions trending slightly upwardly from the upper ends of the vertical portions so as to firmly draw the cap downwardly under rotation. So positioned, the wedge portions 30 of the slots 28 lie at opposite sides of a vertical plane passing axially through the lock or pivot pins or trunnions, and assurance is had that the sealing disk is liquid-tight under contact with the upper edge of the neck.

For conveniently manipulating the cap or closure an upstanding handle 37 is riveted or otherwise secured to the upper surface of the cap or closure, and while this handle may be of any convenient construction, it trends in the same general direction as the handle 21 and is preferably formed with a hand grasp 38 spaced from the cap or closure and extending diametrically thereover; depending legs 39 at opposite ends of the hand grasp, and inwardly-directed ears 40 which lie against the top of the cap or closure and which may be riveted, welded, or otherwise secured thereto. The formation of this handle may be varied, but for the purposes of embellishment I have designed the same as shown.

When it is desired to pour out the contents of the can, the handle 37 is grasped and the cap or closure 24 rotated, thereby to cause the pivot or lock pins or trunnions to be withdrawn from the wedge portions 30 of the slots 28 and enter the upper ends of the vertical portion 29 thereof, after which the cover may be lifted to bring the lower ends of the slots 28 into engagement with the pins or trunnions. When so positioned the cover may be swung either to the right or left, as may be desired.

When the cap or closure is locked onto the neck of the can, the handle 38 is disposed at an angle to the axes of the lock pins or trunnions, as clearly shown in Fig. 1, and in this position the said handle is also at a slight angle to the handle 21 on the top or shoulder wall 17. However, when the cap or cover is rotated to bring the lock pins or trunnions in line with or into any part of the vertical portions 29 of the slots 28, the handle 37 will be parallel with the handle 21 and also with the lock pins or trunnions.

By light dotted lines, indicated at 41, Fig. 1, I have shown the cap or closure in open position at the left of the neck; and while the contents of the can can be poured in this manner, the preferable position of the cap or cover is indicated by the heavy dotted line 42 in said figure, in which open condition the cap assumes a lower position as well as a more extended position than when swung to the left.

When the cover is swung to the right, as indicated by the heavy dotted lines 42, that is, when in its lower and more extended open position, the handle 37 of the cap or closure will be positioned above the handle 21 on the body of the can and thus, during the act of pouring, the flange, shown at the bottom of the can in Fig. 6, may be taken hold of with one hand, while both handles 21 and 37 may be grasped with the other hand, thus facilitating the act of pouring out the contents and preventing any wiggling or shaking movement of the can; in fact, the cover will be retained in a permanent position. If desired, the handle of the cap or closure only need be taken hold of, and with proper care so as to prevent swinging movement of the can while holding the cover, no difficulty will be experienced in pouring out the contents of the can. This is also true when pouring out the contents of the can by grasping the handle when in the position shown by dotted lines 41 in Fig. 1.

Due to the fact that the neck is eccentrically mounted on the body of the can, less liability of spilling any of the contents while pouring the same will exist when the cap or closure is swung to the right than when swung to the left, as viewed in Fig. 1.

It will be apparent that, although the handle 37 trends transversely at an angle to the plane in which the lock pins or trunnions are arranged when the cap or cover is closed, this handle will assume a position parallel with the handle 21 on the body of the can when the cap or closure is swung to the right, thus making it exceedingly convenient to grasp both handles during the act of pouring out the contents of the can.

Cans of this kind being invariably carried on elevated portions of a truck body, must be lifted from such position in order to carry the same to distant receptacles or storage tanks. Oftentimes the handle or cover is out of reach when the delivery man is standing on the ground adjacent the truck, but the handle 21 on the body portion of the can is within reach. It is a simple matter to grasp this handle when standing on the ground and, where necessary, tilt the can so as to lift it above ledges usually provided on the truck to prevent the cans falling off. By pulling the can over the ledge, the flange at the bottom of the can and the handle 21 may be grasped until the can has been lowered to the ground. After this the can can be carried to the place of delivery by means of said handle, but as this is so

positioned on the can that the can will tilt considerably while carrying the same, the delivery man will necessarily be subjected to inconvenience. At such times therefore it is of advantage to grasp the handle 37. Full weight of the can and its contents will then be carried by the lock pins and trunnions, and the can will be conveyed to its point of delivery in a substantially vertical manner, making it convenient to carry the same and eliminating the possibility of spilling any of the contents while so doing, especially since assurance will be had that the cap or closure is properly locked and will so remain.

Having thus described my invention, what I claim is:

1. A wagon can or the like, comprising a body portion having a neck at its upper end, trunnions projecting from said neck at diametrically opposite points thereof, a cap bearing against the upper edge of said neck and having depending ears at opposite sides thereof and depending flanges extending between said ears, said flanges and ears being spaced from the neck to permit full seating of said cap against said neck, said ears having slots therein through which said trunnions are passed to permit lifting of said cap from said neck and the swinging of the same to one side of said neck, a handle on said cap, and a handle on said body portion, the handle on said cap being brought into proximity with the handle on said body portion when said cap is swung to one side of said neck so that both handles can be grasped by one hand.

2. A wagon can or the like, comprising a body portion having a neck at its upper end, trunnions projecting from said neck at diametrically opposite points thereof, a cap bearing against the upper edge of said neck and having depending ears at opposite sides thereof, said cap and the ears being stamped from a single piece of sheet metal and said ears having angular slots formed therein by stamping portions of the metal outwardly from the inner sides thereof to form outwardly-extending flanges around the slots and to provide smooth and comparatively wide walls for said slots serving as riding surfaces, said trunnions extending through said slots and adapted to ride in contact with at least portions of said riding surfaces.

3. A wagon can or the like, comprising a body having a cylindrical main portion, a neck arranged eccentrically with respect thereto and a shoulder wall sloping from the lower end of said neck to the upper end of said cylindrical main portion, a handle on said shoulder wall, a cap pivotally and slidably applied to said neck so as to be elevated therefrom and swung to one side thereof towards said handle, and a handle applied to the upper surface of said cap substantially parallel with said first-mentioned handle, said last-mentioned handle being moved in close proximity to said first-mentioned handle when said cap is swung to one side of the neck so as to enable both of said handles to be grasped with one hand to facilitate pouring of the contents of the can with the cover completely under control.

4. A wagon can or the like, comprising a body having a cylindrical main portion, a neck arranged eccentrically with respect thereto and a shoulder wall sloping from the lower end of said neck to the upper end of said cylindrical main portion, said shoulder wall varying in slope circumferentially and having its greatest exposure at the point of its minimum slope and least exposure at the point of its maximum slope, a handle applied to said shoulder wall across its greatest exposure and having a grasping portion spaced from said shoulder wall, a cap bearing against the upper edge of said neck and having depending ears at opposite sides thereof provided with angular slots, each slot having a vertical portion and a portion at the upper end of said vertical portion trending horizontally with a slight upward slope, trunnions secured to said neck at diametrically opposite points and extending through said angular slots, said trunnions being entered into horizontally-trending portions of said slots when the cap is closed and being wedged therein by the bottom walls thereof to draw the cap firmly against said neck and lock the cap thereto, a handle extending across the cap and having a grasping portion spaced from the upper surface of said cap, said grasping portion being disposed at an angle to the grasping portion of said first-mentioned handle when the cap is closed and lock on said neck, said cap being rotatable to bring said vertical portions of said angular slots in line with said trunnions and to position the grasping portion of the handle on said cap to assume a position parallel with said first-mentioned handle and also to permit the cover to be elevated from said neck so as to bring said trunnions to the lower ends of said vertical portions and allow said cap to be swung toward said first-mentioned handle, the grasping portion of the handle on said cap thus brought into juxtaposition to said first-mentioned handle to permit both handles to be grasped with one hand.

5. A wagon can or the like, comprising a body having a cylindrical main portion, a neck arranged eccentrically with respect to said main portion and a shoulder wall sloping from the lower end of said neck to the upper end of said cylindrical main portion, said shoulder wall varying in slope circumferentially and having its greatest exposure at the point of its minimum slope and least exposure at the point of its maximum slope, a handle applied to said shoulder wall across its greatest exposure and having a grasping portion spaced from said shoulder wall, a cap for said neck pivotally connected thereto, the pivots of said cap being at diametrically opposite points of said neck and in a plane substantially parallel with said handle so as to permit of swinging said cap towards said handle when opening said cap, a handle across the cap having a grasping portion spaced from the upper surface thereof which, when said cap is opened, is brought in close proximity to said first-mentioned handle so that both handles may be grasped by one hand when said cap is swung into open position.

6. A wagon can or the like, comprising a body having a main portion, a neck and a shoulder wall connecting said neck and said main portion, a handle applied to and extending upwardly from said shoulder wall, and a cap pivotally connected to said neck to swing into open or closed position and provided with an upwardly-extending handle trending in the same general direction as said first-mentioned handle and adapted to be brought into close proximity to the latter when said cap is swung into open position to enable both handles to be grasped by one hand.

7. A wagon can or the like, comprising a body portion having a neck, trunnions extending from said neck at diametrically opposite points thereof, a cap bearing against the upper end of said neck and having integral depending ears at opposite sides of said neck, each of said ears having an angular slot through which said trunnions are

passed, each angular slot having a vertical portion and a horizontally-trending portion slightly sloping upwardly from the upper end of said vertical portion, said angular slots being in reversed positions at opposite sides of said neck and said cap being rotatable to move said trunnions into the upper end of the vertical portions of said slots and vertically movable to bring said trunnions to the lower ends of said slots and permit the cap to be swung at one side of said neck, a handle on said body portion adjacent said neck and arranged in a plane parallel with the plane of said trunnions, and a handle on said cap arranged in a plane at an angle to the plane of said trunnions when said cap is closed so as to assume a position parallel with said trunnions and with said first-mentioned handle when said cap is open to permit of conveniently grasping both said handles with one hand.

8. A wagon can or the like, comprising a body having a cylindrical main portion, a neck arranged eccentrically with respect thereto and a shoulder wall sloping from the lower end of said neck to the upper end of said cylindrical main portion, said shoulder wall varying in slope circumferentially and having its greatest exposure at the point of its minimum slope and least exposure at the point of its maximum slope, a handle applied to said shoulder wall across its greatest exposure, a cap bearing against the upper edge of said neck pivotally and slidably mounted thereon to permit of its being swung into open position over the region of the shoulder wall of greatest exposure, and a handle extending across the top of the cap substantially parallel with said first-mentioned handle and adapted to be brought into close proximity with the latter when swinging said cap into open position to enable both handles to be grasped with one hand to facilitate the pouring out of the contents of the can while supporting and tilting the can with the other hand.

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