S. H. RHOADES.

Apparatus for Storing and Discharging Liquids.

No. 203,194. Patented April 30, 1878.

Fig. 1.

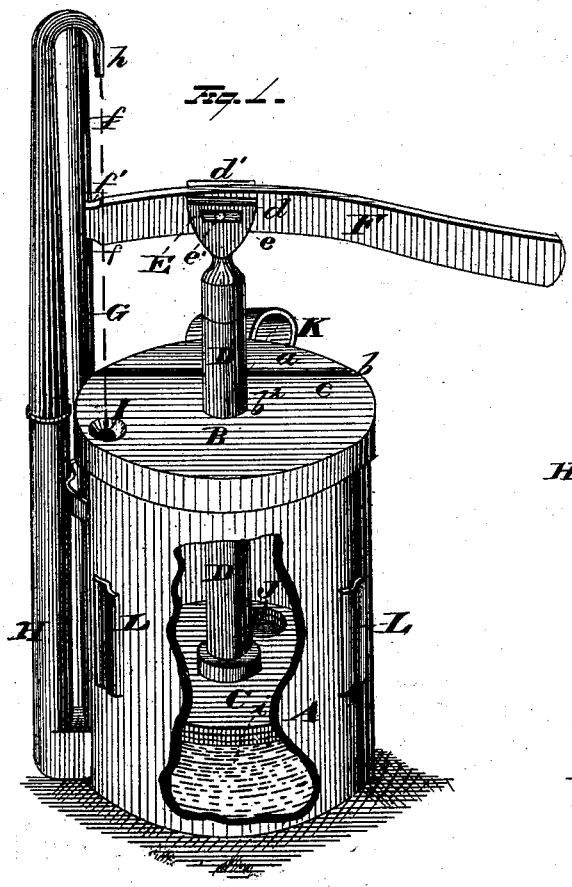
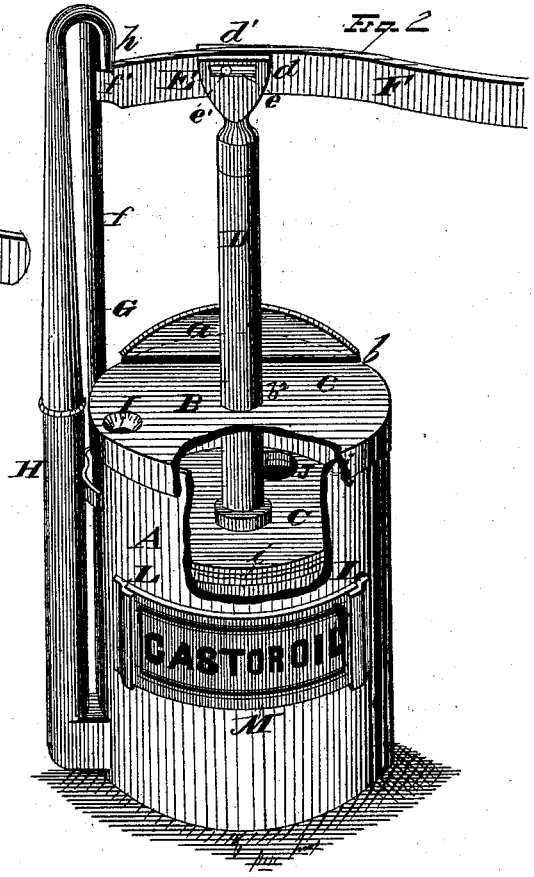


Fig. 2.



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STEPHEN H. RHOADES, OF PITTSTON, PENNSYLVANIA.

IMPROVEMENT IN APPARATUS FOR STORING AND DISCHARGING LIQUIDS.

Specification forming part of Letters Patent No. **203,194**, dated April 30, 1878; application filed April 24, 1878.

To all whom it may concern:

Be it known that I, STEPHEN HOWARD RHOADES, of Pittston, in the county of Luzerne and State of Pennsylvania, have invented certain new and useful Improvements in Apparatus for Storing and Discharging Liquids; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improved apparatus for storing and discharging oils and other fluids.

In discharging fluids from an ordinary can or bottle by pouring from the nozzle of the receptacle, the fluid is liable to drip from the nozzle of such storing-can or other vessel onto the sides of the same, and also onto the shelving, thereby rendering the handling of oils and many other fluids a disagreeable duty, as the hands become soiled, and also the shelving soon becomes filthy from the drips running down the sides of such storing-vessel. Again, when a thick fluid is discharged into a small bottle, the neck of the bottle often becomes clogged, and thus causes the liquid to overflow and stream down the sides of the bottle.

The object of my invention is to provide an apparatus for storing and discharging fluids, of such construction that the flow of the fluid may be easily regulated, and the drops made to flow back into the storing-vessel; and to that end my invention consists in the combination, with a vessel for storing oils or other fluids, of a piston fitting within said vessel, and operated by suitable means, and a discharge-pipe, one end of which connects with the lower end of the storing-vessel, while the discharging end is located above the top of the storing-vessel and in line with a drip-opening formed in the cover of said vessel.

My invention further consists in the several details of construction and combinations of parts, as will more fully appear from the following description and claims.

In the accompanying drawings, Figure 1 is a view, in perspective, with a portion of the can broken away to show the piston, located therein, in position for discharging the oil. Fig. 2 is a similar view, showing the position of the parts as the piston is being raised within the can or vessel.

A represents the body of a can, which may be of any desired size, and constructed of any desired material. B is the cover, and the same is adapted to be removed to allow of the insertion of the piston C within the body of the can. Cover B has a portion, *a*, thereof hinged at *b* to the main portion *c* of the cover, whereby the can may be readily filled without removing the entire cover, by simply raising the hinged lid *a*. Cover B is perforated at b^2 for the passage of the piston-rod D, to the lower end of which is rigidly secured the piston C. The upper end of piston-rod D is provided with a bifurcated bearing, E, the ears *d* *d'* of which are constructed with elongated transverse bearings *e*, within which are placed the ends of the journal *e'* of the operating-lever F.

To the side of the body of the can A is secured in any desired manner a vertical standard, G, the upper end of which is provided with any number of recesses, *f*, within which engages the short end *f'* of lever F.

A discharge-pipe, H, connects at its lower end with the lower portion of the body of the can A, while its upper end extends a sufficient distance above the cover B to allow of the insertion of a bottle or smaller can beneath the downwardly-turned end *h* of the discharge-pipe. Pipe H has its discharging end *h* located in line with a drip-opening, I, formed in the cover B, to allow any drippings to fall into said opening and run back into the storing-can A.

Piston C may be constructed of metal or wood, and is preferably provided with packing *i*, that it may work snugly within the body of the can.

In order that the liquid that escapes past the piston as the latter is forced downwardly may run back into the can below the piston as the latter is raised, and also to enable the can to be filled without removing the piston therefrom, an upwardly-closing check-valve,

J, is attached to the lower face of the piston C. When the piston is forced against the liquid in the can the resistance of the liquid operates to close the valve J, and thus prevent any considerable quantity of the contained liquid from escaping upwardly past the piston, while all the liquid flowing past the packing of the piston or valve will return beneath the piston when the latter is raised, as the check-valve then falls by its own gravity.

The can may be furnished with a handle, K, and also with strips L, for securing any suitable label, M, to the can to denote the character of its contents.

The operation of my improved apparatus is as follows: The hinged lid *a* is upturned, and the can filled with any liquid desired. The fluid will run through the opening in the piston as the check-valve J is open when the piston is not operated. When it is desired to discharge a portion of the contents of the storing-can A into a smaller vessel, as a bottle or can, the mouth or nozzle of such vessel is placed beneath the discharging end of pipe H, and a downward pressure applied to the long arm of lever F. This operation serves to depress the piston, and cause the fluid to ascend and be discharged from pipe H.

A sufficient quantity of liquid having been discharged into the receiving-vessel, power is removed from the lever, causing a stoppage of the flow, when the vessel is removed from beneath the discharging-pipe, and the drip from said pipe falls into the drip-opening in the cover B, and from thence runs back into the storing-can.

When a small bottle is to be filled, the downwardly-turned end of the discharge-pipe may be inserted in the neck of the bottle, and thus prevent any overflow of the liquid as the latter is forced from the discharge-pipe. This results from the fact that the liquid is prevented from clogging the neck of the bottle, and a free passage for the entrance of air is maintained around the discharge-pipe.

The elongated bearing in the upper end of the piston-rod allows the lever to have lateral movement therein, whereby, when the can is filled, the short end of the lever is placed in the upper slot in the standard, and when a portion of the contents of the can has been ejected therefrom, the lever may be removed from its engagement with the upper slot or recess and placed within the next lower recess in the standard.

The elongated bearing also serves to allow the piston to freely work in a vertical line, which would be impossible were it pivoted in an ordinary manner to the end of the piston-rod.

It is evident that the vertical standard may be dispensed with, and suitable projections secured to the discharge-pipe for the engagement of the actuating-lever; also, instead of a check-valve of the construction illustrated in the drawing, a spherical float-valve, of rubber or other buoyant material, may be combined with the lower face of the piston by a suitable valve-cage, and effect the desired result.

The piston-rod may be provided with a ratchet-bar, and the hand-lever pivoted to one side of the upper edge of the can. By means of suitable pawls pivoted to the lever in a position to engage with said ratchet-bar, the piston may be raised and lowered in the manner and for the purpose hereinbefore set forth.

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

1. The combination, with a can or other vessel, of a piston and suitable means for actuating the same, and a discharge-pipe, one end of which connects with the lower part of the can, and the upper end of which extends above and projects over the cover of the can, substantially as set forth.

2. The combination, with a vessel for storing liquids, and piston provided with an upwardly-closing check-valve, of means for actuating the piston and a discharge-pipe, the lower end of which connects with the lower portion of the storing-vessel, while the upper end extends above and projects over the cover of said vessel, substantially as set forth.

3. The combination, with a vessel for storing liquids, provided with a discharge-pipe extending above and projecting over the top of said vessel, of a piston and suitable means for actuating the same, and a removable cover, having a drip-opening formed therein, substantially as set forth.

4. The combination, with a vessel for storing liquids, provided with a discharge-pipe extending above and projecting over the top of said vessel, and a piston constructed to snugly fit the interior of said vessel, of a removable cover, which latter is provided with a hinged portion, to enable the can to be filled without removing the entire cover, substantially as described.

5. The combination, with the can and discharge-pipe, substantially as set forth, of the piston, piston-rod, standard, and laterally-adjustable actuating-lever, substantially as set forth.

6. The combination, with the can, provided with a discharge-pipe, substantially as set forth, of a piston, piston-rod, lever, and standard, the latter constructed with any desired number of recesses for the engagement of the short end of the actuating-lever, substantially as set forth.

7. The combination, with the standard, recessed as set forth, of the piston-rod, provided with elongated transverse bearings, and the actuating-lever journaled in said bearings, substantially as set forth.

8. The combination, with a vessel provided

with a discharge-pipe, one end of which connects with the lower portion of said vessel, while the upper end extends above the top of said vessel and is inwardly and downwardly turned, of a piston and means for actuating the same to force the liquid from the vessel upwardly through said discharge-pipe, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 20th day of August, 1877.

STEPHEN HOWARD RHOADES.

Witnesses:
WM. M. CLAVE,
HENRY BODMER.