Feb. 20, 1923. 1,445,869.

F. CHALFANT.

FLUID RECEPTACLE.

FILED APR. 14, 1920.

Fig. 1.

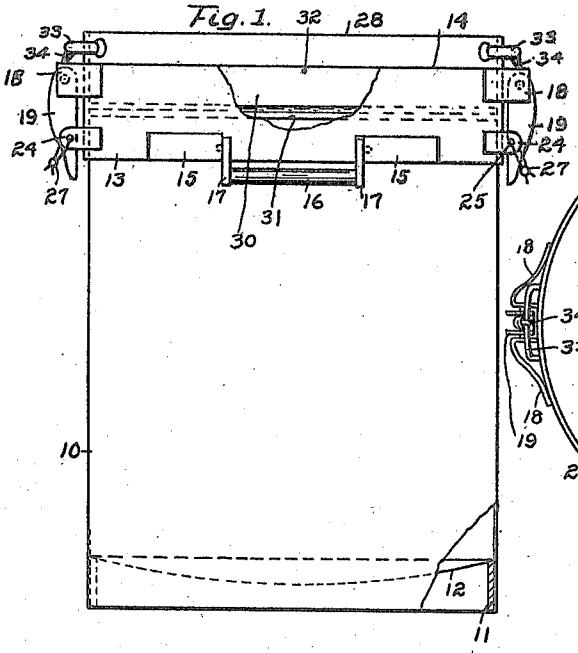
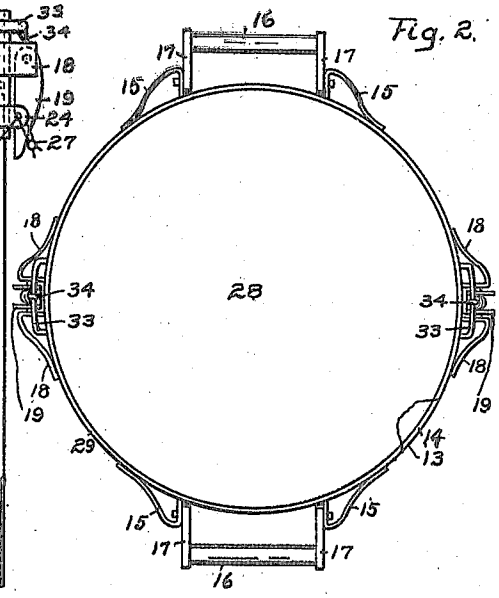


Fig. 2.



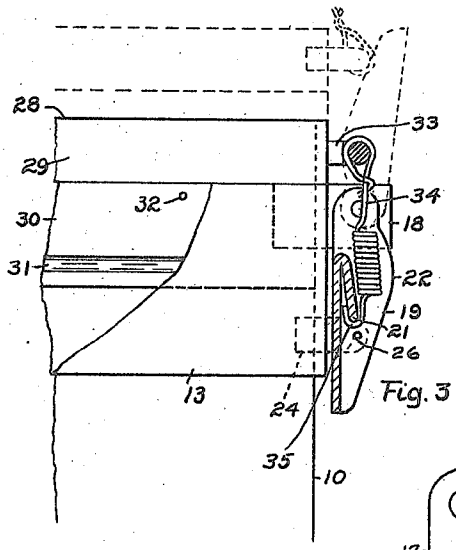


Fig. 3

Fig. 4.

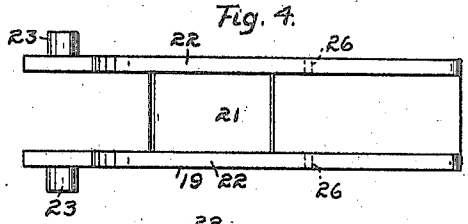
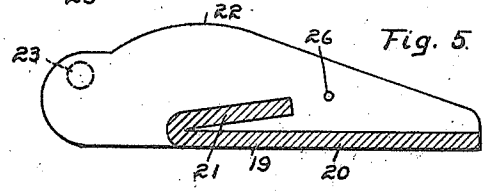


Fig. 5.



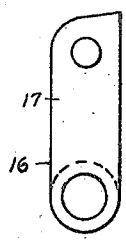


Fig. 6.

INVENTOR

Frank Chalfant.

by Elwin M. Hulse

ATTORNEY.

Patented Feb. 20, 1923. 1,445,869

UNITED STATES PATENT OFFICE.

FRANK CHALFANT, OF FORT WAYNE, INDIANA.

FLUID RECEPTACLE.

Application filed April 14, 1920. Serial No. 373,759.

To all whom it may concern:

Be it known that I, FRANK CHALFANT, a citizen of the United States, residing at Fort Wayne, in the county of Allen and State of Indiana, have invented new and useful Improvements in Fluid Receptacles, of which the following is a specification.

The invention relates to fluid receptacles and particularly to receptacles adapted for use in the shipment of milk, cream and various other forms of fluids and materials.

The object of the invention is to provide a receptacle which is sanitary, fluid tight, durable and economical of manufacture and maintenance, and which may be stacked one upon another with safety.

Another object is to provide a receptacle which shall automatically vent itself in the event of the accumulation of gas within it—as in the case of sour cream—and thereby prevent injury to the can or loss of the contents and injury to the person who may open the same.

Another object is to provide such receptacle with a fluid tight cover and with novel means for securing and sealing the cover on its seat, the said means also being capable, when operated, to unseat the cover.

Other objects and advantages will be referred to hereinafter.

In the accompanying drawings I have illustrated one manner in which the invention may be carried out in practice and in which—

Figure 1 is an elevational view of a receptacle constructed in accordance with the invention; Figure 2 a plan view of the same; Figure 3 is a fractional elevational view of the same partly in section; Figure 4 a plan view of one of the clamping levers; Figure 5 a longitudinal cross-section of the lever, and Figure 6 a side view of one of the handles.

Referring to the drawings, the receptacle comprises a cylindrical body 10 formed, preferably of sheet metal. A ring 11 is suitably secured within the lower end of the cylinder to reinforce the same, and bottom 12, preferably curved to present a concave surface facing upwardly and substantially continuous with the wall of the receptacle, is suitably secured to said wall above ring 11. The opposite end of the body is open to form the mouth and a ring 13 is suitably secured to the exterior side of the wall of the body adjacent said mouth, the upper edge 14 of which ring forms a seat for the cover. Suitable brackets 15 are secured in pairs to diametrically opposite sides of ring 13, the brackets of each pair being sufficiently spaced apart to receive and pivotally support between them a handle 16 having sufficient weight to normally hang downwardly but which may be rotated upwardly through 90°. The end of each arm 17 of each handle adjacent the pivotal point of the same is squared at the outer corner so that when the handle is elevated on its pivot the squared ends of the arms will abut the face of ring 13 and prevent further upward movement of the handle.

Suitable brackets 18 are suitably secured in pairs to the ring 13 at diametrically opposite points and adjacent the upper edge of the ring and, preferably, intermediate the handles. Each pair of brackets 18 pivotally support a lever 19. This lever is of peculiar form and comprises a channelled member having the forward portion of its bottom 20 bent upwardly and rearwardly to form an inclined cleat 21, the function of which will be explained hereafter. The side walls of the lever are provided with corresponding cams 22 along their upper edges and pivots 23 project laterally from said walls forwardly of the cams and are adapted to be inserted in apertures formed in brackets 18. A pair of brackets 24 is suitably secured to the ring below each pair of brackets 18, the members of each pair being spaced to permit lever 19 to pass between them and each member being provided with an aperture 25 through which and through apertures 26 in the side walls of the lever may be passed a seal 27 by which the lever is sealed in its down or locking position.

The cover 28 is formed with a flat or slightly concaved top, a ring 29 being suitably secured to the outer face of the depending annular flange 30 of the cover and adapted to engage seat 14 on ring 13. When installed the depending flange of the cover below ring 29 is passed within the mouth of the receptacle and makes a close fit with the wall thereof. Adjacent its lower end flange 30 is crimped or otherwise shaped to form an annular channel 31 opening toward the wall of the receptacle. When the cover is installed on the receptacle body air remains and is confined in channel 31 and

seals the cover to the body so that liquid within the body cannot escape around the cover since the liquid cannot pass the air filled channel. An aperture 32 is formed in flange 30 of the cover at a suitable point below ring 29 which will serve to vent the receptacle when the cover is elevated sufficiently to expose the aperture to atmosphere.

At diametrically oposite sides of ring 29 are secured loops 33 which project laterally from the ring. A coiled spring 34 is loosely engaged on each loop 33, the engagement being such that the spring has free movement both circumferentially and longitudinally of the loop. The lower end 35 of each spring is hook-shaped and is adapted to engage under cleat 21 when the spring drops into the channel of lever 19. The longitudinal movement of the spring on the loop makes possible the passage of the spring into the channeled lever without accurate alignment of the loop with the lever; that is: the cover may be inserted on the receptacle body without accurately registering the loops with the levers, the springs, within the limits of the loops, being slid along the loops until they pass into the channels of the levers.

To install the cover on the receptacle body and lock it thereto, the depending flange of the cover is inserted into the mouth of the the body, the loops with their depending springs being positioned adjacent the clamping levers, and the springs are dropped into the channeled levers if they do not pass into said channeled levers of their own accord. The levers are then rocked upwardly on their pivots. The inclined cleat 21 of each lever, when it abuts the hook 35 of the spring, causes the same to travel up the incline and drop over the edge of the cleat and engage under the same. The levers are then depressed into vertical position the springs drawing the cover down on its seat. A seal then may be attached to each lever and the brackets 24 and thereby seal the cover to the body. Thereafter to open the receptacle the seals must be broken before the cover can be removed and unauthorized opening of the receptacle is thereby guarded against.

To remove the cover both levers are grasped in the hands and rocked upwardly. The springs move upwardly with the levers and turn on the loops. The cam surfaces on the levers engage the loops and the continuous movement of the levers upwardly pry off, as it were, the cover, the distance the cover is elevated being determined by the distance upwardly the levers are moved and the force applied to them. If the movement of the levers upwardly is sudden the cover may be entirely disengaged from the body, the springs, at the same time, releasing their engagement with the levers. When the levers have been elevated a short distance above the 90° point the hooks on the springs tend to disengage from under the cleats and eventually do disengage and drop out of the levers whether or not the levers are moved quickly. No matter how tightly the cover may be seated on the mouth of the receptacle body the clamp levers will unseat the cover and make its final removal most easy to accomplish.

In the event that the contents of the receptacle give off a gas, as when cream is contained within it and ferments, the gas will accumulate within the receptacle and when its pressure is sufficient to overcome the tension on springs 34, the springs will permit the cover to rise to expose vent 32 and permit the gas to escape and thereby prevent the explosion of the receptacle or the blowing out of the cover. Many persons have been injured in the past by the blowing off of a milk can cover when attempting to remove it from the can body. By my invention such injury is practically impossible since the receptacle will automatically vent itself if fermentation of the contents of the receptacle occurs.

It will be noted that no part of the locking mechanism is above the upper surface of the cover and that since said surface is flat or substantially flat, the receptacles may be stacked one upon another. The body of the receptacle being cylindrical with no restriction at its mouth the same is readily cleaned and may be exposed to sunlight with the assurance that every portion of the interior of the receptacle will be reached by the light rays. The receptacle is, therefore, highly sanitary. It will withstand hard usage and no matter in what position it may be placed the cover is sealed in the body so that the contents of the body will not escape.

What I claim is:

1. In a fluid receptacle, a body, a cover for the body, a spring engaged on the cover and depending exteriorly thereof, a lever pivotally mounted on the body and having a longitudinal channel therein, an upwardly inclined transverse cleat in the bottom of the channel adapted to releasably engage the free end of the spring, and a cam member on the lever adapted to unseat the cover when the lever is operated in one direction.

2. In a fluid receptacle, a body, a cover for the body, a resilient member movably supported on the cover, a channeled lever pivotally supported on the body, a cleat in the bottom of the channel adapted to be engaged by the resilient member, cams on the lever adapted to engage and unseat the cover when the lever is operated in one direction, the lever and the resilient member

being adapted to seat and clamp the cover on the body when the lever is operated in the opposite direction, and means to lock the lever in clamping position.

3. In a fluid receptacle, a hollow body closed at one end, a ring secured to the exterior of the body adjacent the open end, two levers pivotally mounted on the ring, each lever having a spring engaging means and a cam surface, a cover adapted to seat in the open end of the body, two loops projecting laterally from the cover and a spring supported on each loop and adapted to engage the spring engaging means on the levers respectively, the levers when moved in one direction exerting tension on the springs to cause the cover to seat resiliently on the body and when moved in the opposite direction causing the cam surfaces to engage the loops and unseat the cover from the body.

4. In a fluid receptacle, a body, a cover for the body having a substantially flat top, a channeled lever pivotally supported on the body, a cam member on the lever adapted to unseat the cover when the lever is operated in one direction and a resilient member having engagement with the cover below the top thereof and with the lever and adapted to enter the channel in the lever in the locking position thereof.

In witness whereof I have hereunto subscribed my name this 7th day of April, 1920.

FRANK CHALFANT.