April 27, 1926. 1,582,209

C. EHRET

CLOSURE FOR THIEF HOLES FOR TANKS AND OTHER RECEPTACLES

Filed August 25, 1924

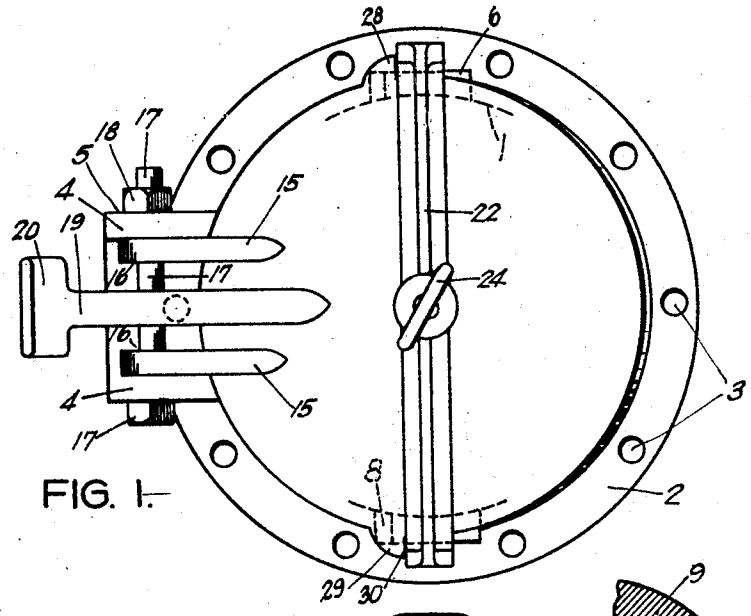


FIG. 1.

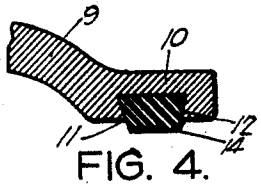


FIG. 4.

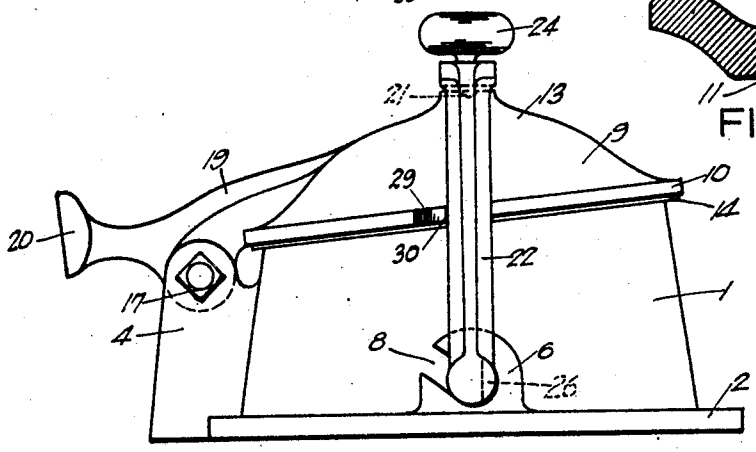


FIG. 2.

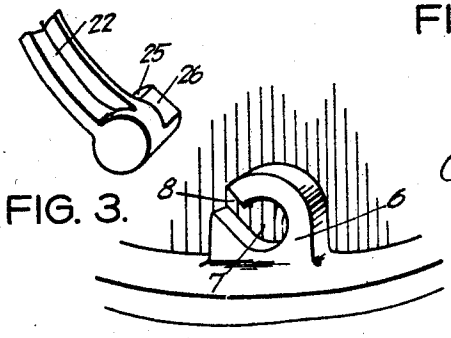


FIG. 3.

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Patented Apr. 27, 1926. 1,582,209

UNITED STATES PATENT OFFICE.

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CLOSURE FOR THIEF HOLES FOR TANKS AND OTHER RECEPTACLES.

Application filed August 25, 1924. Serial No. 734,113.

To all whom it may concern:

Be it known that I, CONRAD EHRET, a citizen of the United States, residing at Oklahoma City, in the county of Oklahoma and State of Oklahoma, have invented a certain new and useful Improvement in Closures for Thief Holes for Tanks and Other Receptacles, of which the following is a specification, reference being had to the accompanying drawings.

My invention has reference to closures for thief holes and man-holes for tanks and other receptacles. The object of the invention is to provide a closure which will be novel, simple, strong, durable, easily attached and detached, not liable to get out of order, easily and cheaply constructed and manufactured, compactly arranged, quickly and securely closing the aperture or opening of the thief hole, permanently holding the rubber ring so as to fit it at all times on the rim or top of the hole. The top is easily unfastened and tilted for use, and is detachable and removable from the rim. The whole is so constructed as to not require the use of bolts, threads and wrenches, or other fastenings in the opening and closing of the hole, or making openings for them through the sides of the casing over the hole, thereby preventing escape of gas or liquid, caused by the rusting, decaying, and wearing out of the metal around the hole around such bolts or other members or by the jarring loose of the closing members by wrenches or the like, if used.

Other objects and advantages will be set forth in the ensuing description and accompanying one page drawing.

Figure 1 is a plan view of the device.

Figure 2 is a side elevation of the rim and the closure in place thereon, including manner of inserting and withdrawal of bail member.

Figure 3 is a partial view of the outside fastening for and the end of the clamping member.

Figure 4 is a partial view in section showing the fitting of the rubber ring in the outer portion of the closure.

Like characters of reference designate like parts in all the figures.

The device shown includes a hole cut in the tank or receptacle, and a short stand-pipe thereover, securely bolted to said tank surrounding said hole through a flared shoulder 2 attached to said stand-pipe 1 through holes 3 therein. Attached to said shoulder 2 and stand-pipe 1 are two outwardly and upwardly extending lugs 4, each perforated near its upper portion 5. On the outer surface of the walls of said stand-pipe 1 are two C-shaped flat lugs 6, one on each outer surface of the walls of said stand-pipe 1 to the left and right, respectively, of said two outwardly and upwardly extending lugs 4 and at right angles therewith. In the center of said C-shaped flat lugs 6 is a hole 7 extending only through said lugs to the outer surface of standpipe 1; from said holes 7 is an upwardly pointing channel or cut 8, pointing towards the upper portion of said lugs 4 and extending to the outer surface only of stand-pipe 1. The top, or closure 9 is formed like a cymbal, having a raised center 13 and a flat outer rim 10, the under surface of said outer rim 10 having a frustum shaped dove-tailed channel 11 therein, with the longer dimension thereof at its top and the shorter at the lower surface 12, and inserted snugly in said channel 11 is a rubber ring 14 square in form, each dimension of the square being the same as the largest dimension of said dove-tailed channel and forced in said channel and fitting therein as a tenon and held there by the form of the channel and the elasticity of the rubber, and without bolt or other fastening. On each side of the outer rim 10 of said top 9, oppositely situated, are laterally extending lugs 28, 29, with square shoulders facing outwardly from shoulder 10 and the hinge members 4, 5, 15, 16, 17 and 18 on said top member 9 and stand-pipe member 1, and in such position as to stop the bail member 22 at 30 and force the lugs 25, 26 at the ends of said bail member 22 into the lower lobes 7 of the C-shaped lugs 6. On one side of top 9 are two outwardly and downwardly extending arms 15 with holes 16 near the outer end of each, corresponding with the two perforated upper portions 5 of said outwardly and upwardly extending lugs 4; said top 9 is hinged with said stand-pipe 1 by said arms 15 and said lugs 4 at holes 16 and said holes 5 by a bolt 17 and nut 18. On said top 9 between said two arms 15 is a third outwardly and upwardly extending arm 19 having a foot-hold, or head 20, for pressure for raising said top 9. In the upper center of said top 9 is a cupped out portion forming a closed thimble 21. On each side of

said top 9, oppositely situated, and at right angles to the hinged portion of said top and said stand-pipe member is an outwardly extending lug 28, 29, having a straight edge or shoulder as shown at 30 facing away from said hinged portion, for the stopping of the bail or clamping member. The clamping member 22, is in the form of a bail, and has a spirally threaded hole 23 in its center with a spirally threaded thumbscrew 24 fitting therein. At each end of the bail or clamping member extending inwardly is a D-shaped lug or pin 25 the plane surface 26 of which permits the ends 25 of said clamping member 22 to be inserted at an angle of approximately 45° in the slots 8 of said C-shaped lugs 6.

It will be observed that when said device is set up thumbscrew 24 with said clamping member 22 aided by lugs 28 and 29 and by two straight edges or shoulders as shown at 30 holds the closure 9 and rubber ring 14 thereunder, on the rim 27 of said stand-pipe 1. By releasing the thumb-screw 24 the clamping member 22 can be laid down over the top 9 opposite said hinge members 4, 5, 15, 16, 17 and 18. It will also be seen by loosening nut 18 and removing bolt 17 and lifting top 9, clamping member 22 can then be raised and removed by withdrawing the bail or clamping member through cut 8 upwardly and towards holes 5 on lugs 4. It will also be seen that the rubber ring member 14 being square and a square of the largest dimension of the said dove-tail channel, and being fitted into said dove-tail 11 on flat outer rim 10 will be securely and permanently held therein without bolt, screw or other fastening, and be at all times ready for fitting on the top rim 27 of the stand-pipe 1. It is also plain that the stand-pipe 1 having no perforations through its side surfaces and being clamped tight with rubber fitting over its upper rim 27 no gas or liquid can escape or be lost from the tank or other receptacle.

By certain minor changes said invention may be adapted for use in connection with man-holes, and other holes for tanks and other receptacles.

From the description and the accompanying one page drawing, and the specifications, the advantages of construction, application and manufacture will be apparent to those skilled in the art to which my invention pertains. I have entered into a detailed description of the construction and relative arrangement of the parts embraced in the present and preferred embodiment of my invention in order to impart a full, clear and exact understanding of the said embodiment. I do not desire, however, to be understood as confining myself to the specific construction and relative arrangement of parts inasmuch as in the future practice of the invention various changes and modifications may be made such as fall within the scope of my invention as defined in my appended claims.

Having thus described the invention, what is claimed and desired to be secured by Letters Patent, is:

1. A tank closure, as described, comprising a close fitting member surrounding a tank opening, means for securing same to the tank, a raised frusto-conical smooth rimmed pipe thereover, having laterally outwardly extending perforated shoulders from one outer surface portion, and having two external lugs near its bottom oppositely situated to each other and at right angles to said shoulders with a C-shaped partial perforation in each, the channels in the openings directed upwardly towards said perforation of said shoulders, a crown cap conjugate with said smooth rim adapted to fit tightly thereover, having an inverted closed thimble-shaped depression in its upper center, and two parallel perforated arms, and a third longer perforated arm therebetween, with a foot-hold thereon, the three arms extending outwardly from its top and outer portion and having therein perforations conjugate with each other and adapted to be conjugate with the perforation of said shoulders, a bolt and nut adapted to fit and hinge said pipe and cap members; a bail member with threaded perforation in its top center with threaded thumb-screw fitting therein, a D-shaped lug on each end of said bail member extending inwardly and adapted to be inserted into and withdrawn from said C-shaped partial perforations in said pipe at a certain angle and to be securely held therein at all other angles.

2. A tank closure, as described, surrounding an opening in a tank secured to the tank by appropriate holding means, a raised frusto-conical pipe thereover having a smooth upper rim, two oppositely located external outwardly and upwardly extending lugs integral therewith, with a partial perforation in each, C-shaped, the openings pointing upwardly and outwardly and in the same direction, two upstanding parallel perforated lugs equidistant between said C-shaped partially perforated lugs and at right angles thereto; a crown cap conjugate with said upper rim, an inverted closed thimble in its upper center, an outstanding lug on its periphery, two parallel outwardly extending perforated arms, a third outwardly extending perforated arm therebetween with foothold thereon; a bolt and nut adapted to fasten through all of said perforations; a frustum-shaped dove-tailed recessed channel in the under side of the outer rim of said cap, a square rubber ring placed therein by force and conjugate with said upper rim of said pipe; a clamping bail member with an inwardly extending D-shaped lug on each

end adapted to removably fit into said oppositely situated C-shaped lugs, a spirally threaded hole in the upper center thereof, a removable spirally threaded thumb-screw adapted to fit therethrough into said inverted thimble in said cap.

3. A tank closure, as described, comprising a member surrounding a tank opening, means for securing same to the tank, a raised frusto-conical smooth rimmed pipe thereover, two outwardly extending perforated shoulders, two opposite external lugs near its bottom, a C-shaped partial perforation in each; a crown cap adapted to conjugately fit said smooth rim, having a depression in its external upper center, three outwardly extending perforated arms therefrom, one having a foot-hold thereon, a bolt and nut adapted to fit said perforations and hinge together said cap and pipe members, a small lug outwardly extending from the periphery of said cap member at right angles to said arms; a bail member with a threaded perforation in its upper center and inwardly extending D-shaped lug on end of same adapted to be inserted and withdrawn from said C-shaped partial perforations of said pipe member at a certain angle and to be securely held therein at all other angles; a threaded thumb-screw adapted to removably fit said central perforation in said bail, and into said depression in said cap member.

CONRAD EHRET.