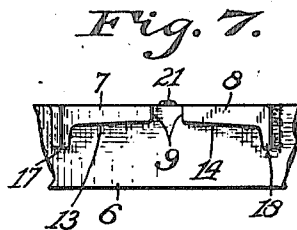
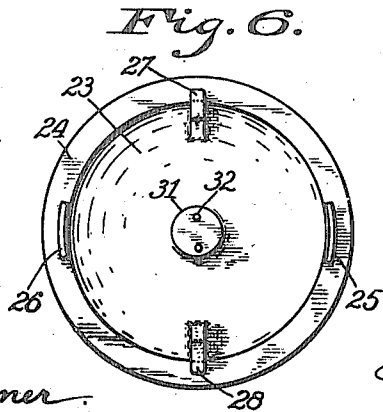
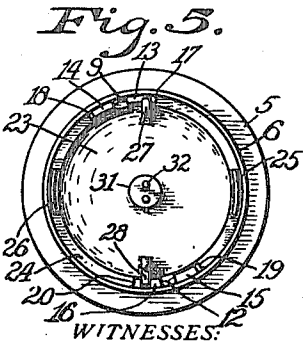
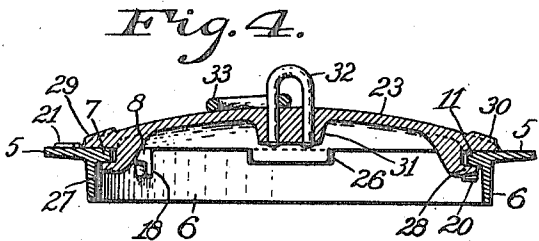
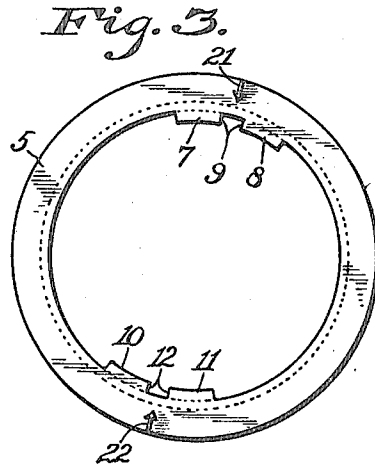
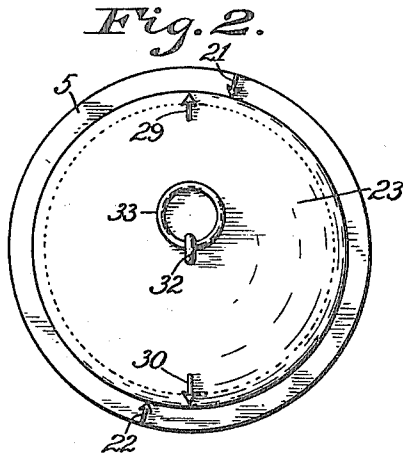
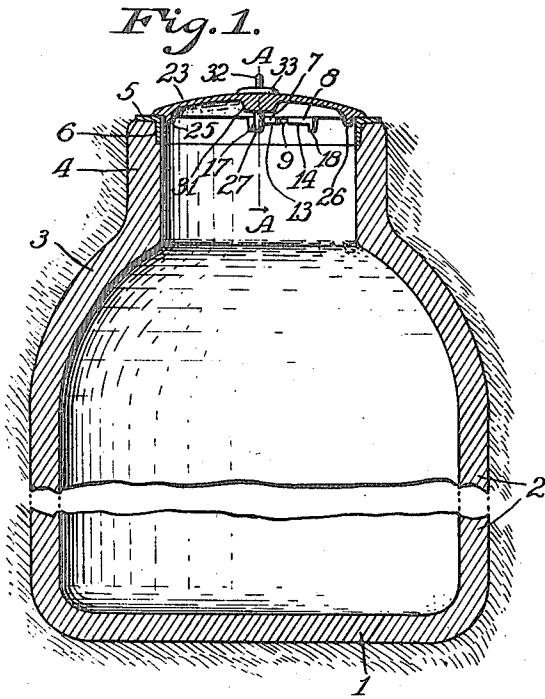


H. W. FARRIS.
 CISTERN NECK RING AND COVER.
 APPLICATION FILED FEB. 7, 1912.

1,152,618.

Patented Sept. 7, 1915.



WITNESSES:
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UNITED STATES PATENT OFFICE.

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CISTERN NECK-RING AND COVER.

1,152,618.

Specification of Letters Patent.

Patented Sept. 7, 1915.

Application filed February 7, 1912. Serial No. 876,093.

To all whom it may concern:

Be it known that I, HARRY W. FARRIS, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented a new and useful Cistern Neck-Ring and Cover, of which the following is a specification, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon.

This invention relates to cisterns or other structures having openings in their upper portions, or man-holes requiring removable covers, the invention having reference more particularly to the neck rings of the man-holes and to the cover plates that cooperate with the neck rings to close the openings.

The object of the invention is to provide an improved closure for structures of the above-mentioned character, more especially to provide an improved closure for cisterns that shall be so constructed as to prevent children from removing the covers and accidentally falling into the cisterns; a further object of the invention being to provide an improved cistern cover that shall be adapted to enable workmen or others to quickly and reliably secure the cover in its proper position without there being a probability of the cover being placed in position and unsecured; a still further object being to provide a cistern closure that shall be so constructed that the cistern may be readily uncovered by workmen without the use of tools, which closure shall be free from devices that may be liable to become corroded so as to prevent free operation thereof.

With the above-mentioned and minor objects in view, the invention consists in an improved neck ring and an improved cover plate, and also improved means for securing the cover plate detachably to the neck ring; and more specifically the invention comprises certain novel parts and combinations and arrangements of parts as hereinafter particularly described and pointed out in the appended claim.

Referring to the drawings, Figure 1 is a vertical section, partially broken away, of a cistern provided with the improved closure; Fig. 2, a top plan of the complete closure; Fig. 3, a top plan of the improved neck ring; Fig. 4, a vertical section of the complete closure on the plane of the line A A in Fig. 1; Fig. 5, an inverted plan of the

neck ring and the cover plate connected together; Fig. 6, an inverted plan of the cover plate, and Fig. 7, a fragmentary elevation of the inner side of the neck ring and securing devices thereon.

Similar reference characters in the different figures of the drawings indicate corresponding elements or features of construction herein referred to.

In the drawings the numeral 1 indicates the bottom, 2 the side wall and 3 the arched top of a cistern provided with a neck 4 as is customary.

The improved neck ring comprises a flat annular plate 5 from the inner edge of which extends a lining-ferrule or flange 6 adapted to extend downward against the inner side of the neck 4 while the plate 5 rests upon the top of the neck, the neck ring being composed preferably of cast iron, and the inner side of one portion thereof is provided with two inwardly projecting locking-bars 7 and 8 spaced apart a short distance so that an opening 9 is left between them, the locking-bars being of suitable length, and the opposite portion of the ring has two similar locking-bars 10 and 11 projecting from the inner side thereof and likewise spaced apart so that an opening 12 is left between them, the tops of the locking-bars preferably being in one and the same plane with the top of the plate 5. The under sides of the locking-bars 7 and 8 have oppositely inclined faces 13 and 14 respectively, the locking-bars 10 and 11 have inclined under sides 15 and 16 respectively, so that the locking-bars are wedge-shaped and are arranged with the thinner ends adjacent one another, and the thicker ends of the locking-bars 7 and 8 preferably have downwardly projecting stops 17 and 18 thereon, the thicker ends of the locking-bars 10 and 11 having similar downwardly projecting stops 19 and 20 thereon. The top of the plate 5 has two guide arrows or pointers 21 and 22 thereon that are arranged in the plane of the two openings 9 and 12 which are between the locking-bars, each arrow being near the edge of the plate and pointing toward the middle of the adjacent opening, each arrow therefore pointing toward the opposite arrow and are designed to indicate the position of the opening between the two locking-bars respectively.

The improved cover plate comprises a

concavo-convex disk 23 composed preferably
 of cast iron, the concave side having a flat
 bearing-face 24 at its edge portion that is
 adapted to rest upon and fit closely to the
 5 inner upper portion of the plate 5 of the
 neck ring, said bearing-face having two
 guide projections 25 and 26 thereon ar-
 ranged at opposite sides and preferably are
 formed as segments of flanges adapted to
 10 freely enter the opening in the neck ring for
 guiding the cover when placing the latter in
 position on the ring. The under side of the
 cover is provided at two other opposite por-
 tions thereof with two lugs 27 and 28 that
 15 extend downwardly from the under side of
 the disk 23 and outwardly opposite to the
 bearing face 24, the lugs being of suitable
 length so that they can pass into the open-
 ing in the neck ring and into the openings
 20 9 and 12 respectively, being adapted to en-
 gage the inclined under sides of the locking-
 bars to draw the cover down tightly and se-
 cure it upon the neck ring. The convex side
 of the disk 23 comprising the cover has two
 25 arrows or pointers 29 and 30 on opposite
 edge portions thereof and they are arranged
 directly opposite the lugs 27 and 28 respec-
 tively that are on the opposite side of the
 plate, being designed to indicate the posi-
 30 tions of the lugs when placing the cover
 upon the neck ring and for indicating the
 position to which the cover is to be moved
 so that it may be removed from the neck
 ring. The under side of the middle portion
 35 of the disk 23 has a boss 31 formed thereon,
 and a staple 32 is secured in said middle
 portion as a means whereby a ring and a
 staple 33 is connected to the cover for lift-
 ing and manipulating the cover, the ring
 40 resting upon the top of the cover when not
 in use.

In practical use, the bearing face 24 of
 the cover rests upon the plate 5 of the neck
 ring and the lugs 27 and 28 are in engage-
 45 ment either with the inclined sides 13 and
 16 of the two opposite locking-bars respec-
 tively, or with the inclined sides 14 and 15,
 and in some cases may be nearer the stops
 on the locking-bars, and referring to Fig. 2,
 50 it will be seen that when the cover is in nor-
 mal position the arrows thereon are moved
 away from the arrows on the neck ring, so
 that if it is desired to remove the cover it
 will be understood that the cover must be
 55 turned on the neck ring in the direction re-
 quired to bring the arrows on the cover to

the arrows on the neck ring, in which posi-
 tion of the cover the latter is unlocked and
 may be lifted freely from the neck ring. 60
 When again placing the cover upon the neck
 ring it is only necessary to lower it with the
 arrows thereon directly opposite the arrows
 on the neck ring until the cover is seated and
 then turn it in one direction or in the oppo-
 site direction, so that after placing the cover 65
 in position with reference to the guiding
 marks, whether the cover is turned in one or
 the opposite direction, the cover must cer-
 tainly become locked, thus safeguarding the
 lives of children who might be disposed to 70
 playfully uncover the cistern.

Having thus described the invention, what
 is claimed as new is—

The herein-described neck closure for cis-
 terns consisting of a flat annular plate, an 75
 annular flange on the inner edge of the plate
 extending downward therefrom, a plurality
 of pairs of locking bars on the inner edge of
 said plate extending with their tops on one
 and the same plane with the top of said 80
 plate, the two bars of each pair having un-
 der sides that are respectively inclined each in
 the opposite direction to the other to form two
 oppositely disposed wedges the thinner ends
 of which are in proximity each to the other, 85
 two arrows formed on the edge portion of
 the top of said plate on a plane between the
 two of each of the pair of locking bars, each
 arrow pointing inward toward the other, a
 concavo-convex disk on the concave side of 90
 which is an annular flat bearing face that is
 normally on the top of said annular plate,
 two arrows formed on the edge portion of
 the convex upper side of said disk pointing
 outward each from the other, two lugs on the 95
 concave side of said disk on the plane of said
 arrows that are on said convex side, said
 lugs being each adapted to engage the in-
 clined under side of either one of the two of
 each pair of said locking bars, and two 100
 guide projections on opposite portions of
 said bearing face in contact with the inner
 edge of said annular plate, each projection
 being between the thicker ends of two of
 the said locking bars. 105

In testimony whereof, I affix my signature
 in presence of two witnesses.

HARRY W. FARRIS.

Witnesses:

E. T. SILVIUS,
J. H. GARDNER.