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924,834.

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2 SHEETS—SHEET 2.

Fig. 2.

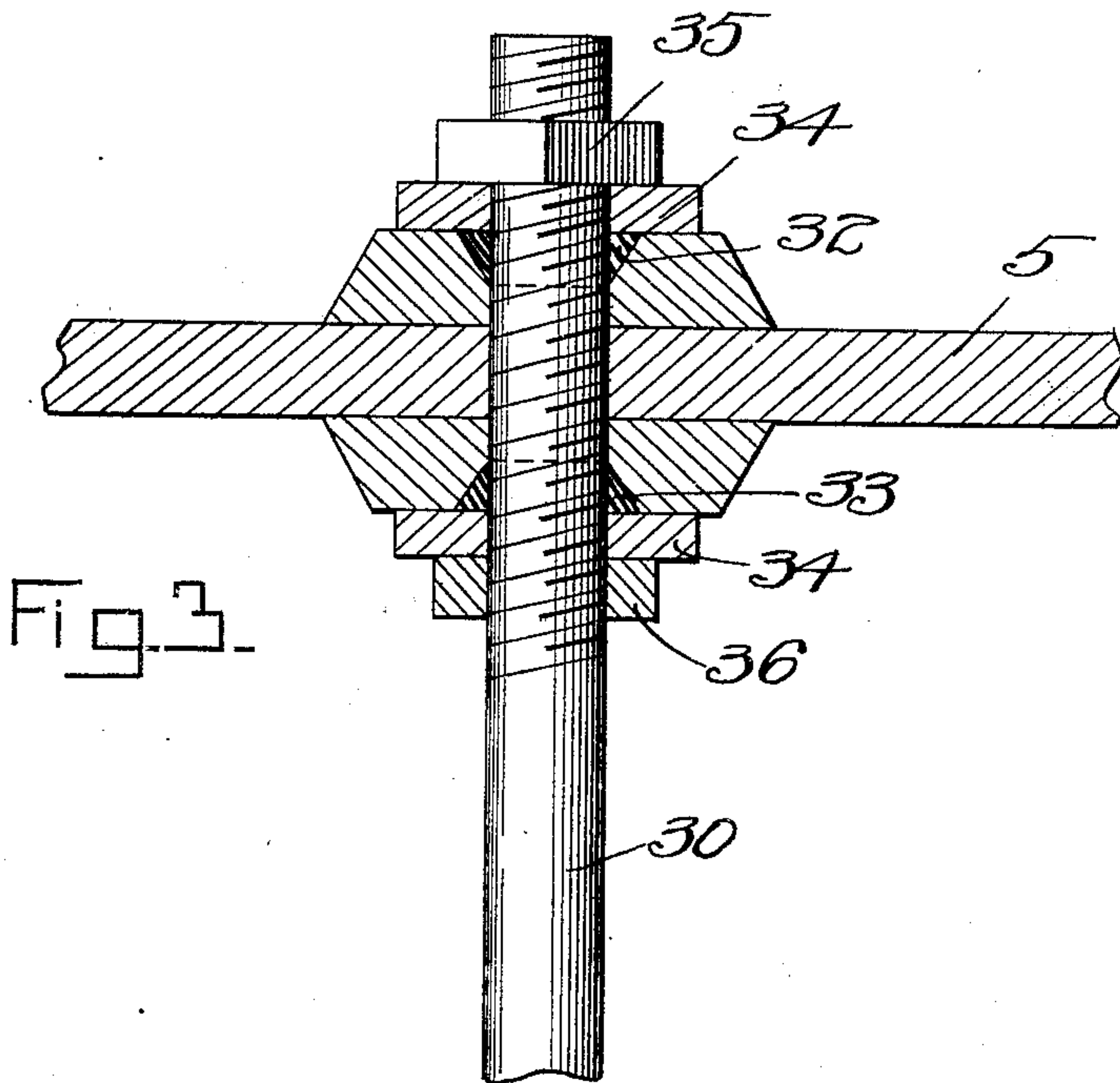
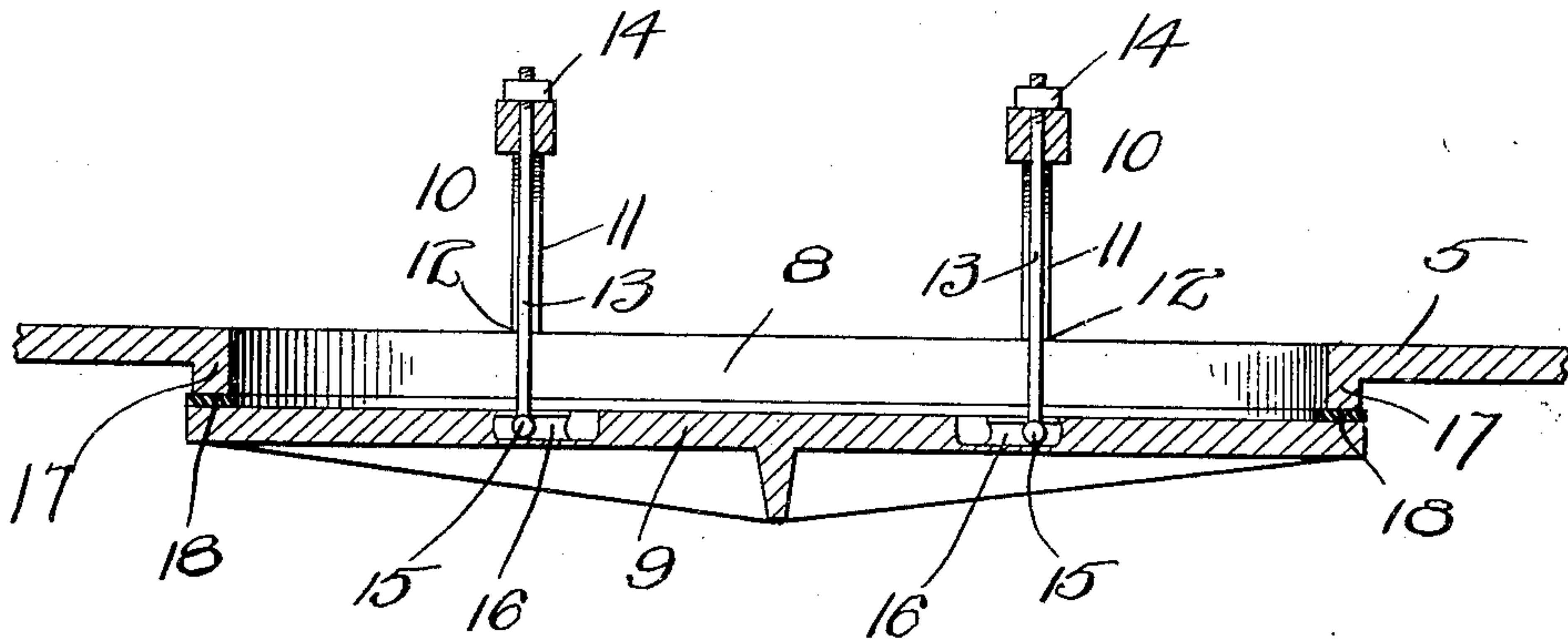


Fig. 3.

Witnesses

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GEORGE ROSS, OF BLADEN, NEBRASKA.

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To all whom it may concern:

Be it known that I, GEORGE ROSS, a citizen of the United States, residing at Bladen, in the county of Webster and State of Nebraska, have invented a new and useful Cistern; 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 appertains to make and use the same.

This invention relates to air and water pressure cisterns especially adapted for use in connection with water supply systems, or any other purpose for which the device is suitably adapted.

The walls of the cistern are constructed of brick or concrete. The bottom is formed of a concave metal shell which supports the side walls, and is incased in concrete, said shell being secured to the cistern cover by a rod which may be adjusted to tighten said cover, and hold the same against movement. Tie rods are embedded in the side walls near the top and conforming to the shape of said top. Other tie rods are disposed and embedded circumferentially around the cone shaped top, said rods being at right angles to the first mentioned rod. The top of the cistern is provided with a cover, of any suitable material, preferably metal, which may be cast or otherwise suitably constructed for the purpose; this cover is provided with a manhole so as access may be had to the cistern, which manhole is provided with a suitable closure therefor, pipe connections therewith for the admission and discharge of water or gases, and valves for the admission and escape of air. A rod extends from the cover to the bottom of the cistern, said rod being provided with cross bars which serve as a ladder for descending into said cistern.

This invention comprises further objects and combinations of elements which will be hereinafter more fully described, shown in the accompanying drawings, and the novel features thereof will be pointed out by the appended claims.

To obtain a full and correct understanding of the details of construction, combinations of features, elements and advantages, reference is to be had to the hereinafter set forth description and the accompanying drawings in connection therewith, wherein,

Figure 1 is a sectional view of the cistern, showing some of the parts in elevation. Fig.

2 is a sectional view of the cover. Fig. 3 is a detail view of the closure, to the manhole, showing the means of fastening the same.

Making renewed reference to the accompanying drawings, wherein similar reference characters indicate corresponding parts in the several illustrations, by figures, 1 designates the cistern constructed of any suitable material, preferably concrete or brick, which cistern is provided with a cone shaped top, having tie rods 2 embedded therein, and conforming substantially to the shape thereof; these tie rods have their ends, which are threaded, extended beyond the concrete or brick as at 3, and provided with nuts 4, so as to have a binding action for the cone top. The upper ends of the rods, extend also through the cover 5, prior to applying the said nuts. These tie rods are provided with laterally projecting arms, 6, to insure durability, and to prevent crumbling and cracking of the concrete or bricks. The cone shaped top is also provided with tie rods 7, which are embedded therein and extended circumferentially around thereof, and at right angles to the tie rods 2, this is for the purpose of further reinforcing the said cone top. This cover 5 of the cone top is provided with a manhole 8, having a closure 9 which is provided with locking means 10, such as a segment shaped member 11, the arms of which have a bearing, as at 12, upon the cover, which segment shaped member is provided with an aperture, to receive the rod 13, the end of which is threaded for the application of a nut 14, between which and the head 15 of the rod, the closure 9 is securely clamped, as clearly illustrated in the drawings. The end of this rod which is provided with the head thereof, is received by an aperture 16, which is elongated, and is provided with an enlarged portion thereof so as to allow the head to pass therethrough, after which a slight movement is given to the rod, which will bring the head beyond the enlargement of the aperture, so as to prevent the head from being drawn through the reduced portion thereof, as clearly shown. By this construction the closure is clamped securely adjacent the flange 17, of the manhole, between which closure and the flange a gasket 18, of any suitable material, preferably rubber is clamped, as clearly shown. The cistern cover is provided with the threaded apertures 19 and 20 through which

pass the supply and discharge pipes, the first named pipe being designated in the drawing as 21 and the second as 22, suitable valves being provided for controlling the intake and discharge.

The pipe 22 is provided with a gage device 27, so as to indicate the amount of pressure within the cistern. When the pressure of the air becomes too great, the air escape valve 28 is operated to reduce the air pressure within the cistern, as will be clearly apparent from the drawings.

When a supply of air is needed any suitable construction of pump may be used, which is adapted to be connected to a short pipe 29, in which a suitable check valve 30, is provided, which will prevent the outward flow, after the charge of air has been forced into the cistern, as will be clearly understood.

The rod 30 which secures the cover of the cistern to the bottom is provided with the cross arms 31 which serve as a ladder for descending into the cistern. This rod is secured to the metal shell which forms the bottom by means of a hook formed upon the end of said rod, said hook engages an eye which is screwed into the metal shell. The rod 30 is secured to the cover of the cistern in the manner shown in Fig. 5 of the drawings. This connection is made in the following manner. An opening is formed in the cover at a point near the center thereof, the two extremities of said opening are concaved to receive the cone-shaped washers 32 and 33, which are held in place by the washer plates 34. The rod passes through said washers, said washer plates and said opening and is provided with the nuts 35 and 36 at points above and below the cover the rod being provided with screw threads to receive the nuts. This structure acts to retain the cover rigidly in place, and should the cover work loose the same may be tightened by tightening the nuts 35 and 36.

It is to be understood that various changes and modifications may be employed in the construction and embodiment thereof, combinations of features, and elements, without in any way departing from the spirit and scope of the invention covered by the claims hereof; it being understood that whatever variations or modifications are employed must fall within the scope of the appended claims.

From the foregoing, the essential features, elements and the operation of the device, together with the simplicity thereof, will be clearly apparent, and, when manufactured in accordance with the invention, an inex-

pensive market will be easily obtained therefor.

Having thus fully described the invention, what is claimed as new and useful by the protection of Letters Patent, is:—

1. A cistern constructed of concrete or brick having a cone shaped top, reinforcing tie rods embedded within said cone shaped top and conforming to the shape thereof, said tie rods having arms projecting therefrom to prevent crumbling and cracking of the said material, a metal cover for the cistern having apertures, the upper ends of said rods extending through said apertures and having means at both ends to provide holding means for the said cover.

2. A cistern constructed of concrete or brick, a cover therefor having means of access thereto, said cover having admission and discharge pipes, said cistern having a cone shaped top, tie rods embedded in said top, tie rods extending at right angles to the first-mentioned rods, and nuts carried by the first mentioned rods for holding the rods and the cover securely in place.

3. A cistern constructed of concrete or brick, a cover therefor, a base portion embedded in concrete, a rod connecting said base portion and said cover, said rod passing through an opening in said cover, said rod being provided at points above and below the cover with adjusting nuts.

4. A concrete cistern, a cover therefor, a concave metal base portion having an annular flange embedded in the concrete, a rod connecting said base portion and said cover, said rod being adjustably secured to the cover.

5. A concrete cistern, a cover therefor, a concave metal base portion having an annular flange embedded in the concrete, a rod connecting said base portion and said cover, said rod having nuts adjustably carried thereby and designed to engage the upper and lower faces of said cover said rod having cross arms as and for the purpose specified.

6. A concrete cistern, a cover therefor, a concave metal base portion having an annular flange embedded in the concrete, said metal base portion having an eye, a vertically disposed rod connected to said eye and having its upper end adjustably secured to said cover.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE ROSS.

Witnesses:

JOHN AULTZ,
H. W. Ross.