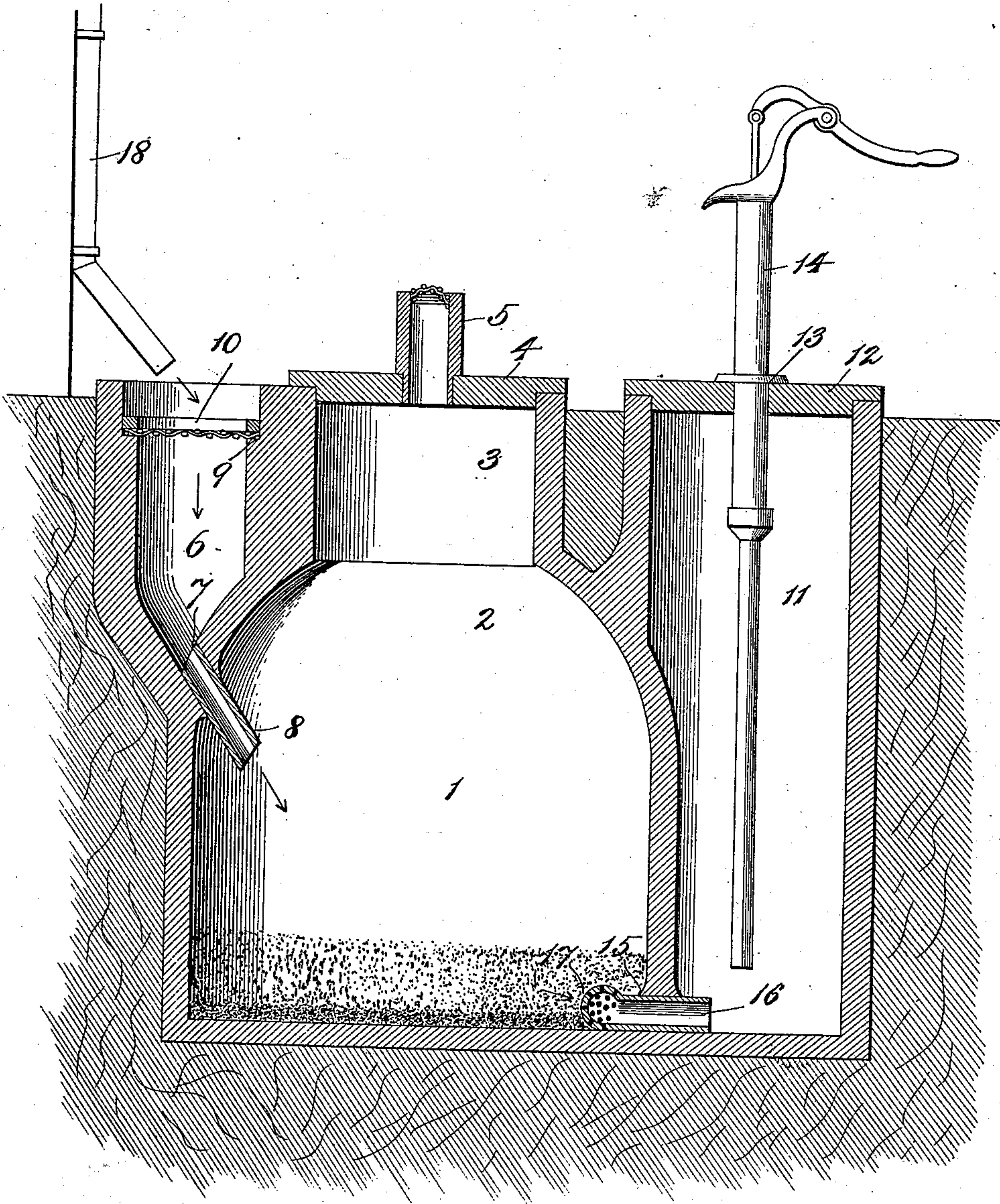


(No Model.)

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CISTERN.

No. 548,823.

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WITNESSES

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To all whom it may concern:

Be it known that we, ORLANDO O. WALKER and WILLIAM WALKER, citizens of the United States, residing at Bedford, in the county of Taylor and State of Iowa, have invented certain new and useful Improvements in Cisterns; and we 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.

Our invention relates to improvements in cisterns, the objects in view being to produce a lasting cistern adapted to receive water and purify and store the same for use, which may be readily cleansed in all parts, and, furthermore, which is vermin and water proof, and also readily constructed.

With the above objects in view the invention consists in certain novel features of construction hereinafter specified, and particularly pointed out in the claims.

In the drawing, in which we have illustrated a longitudinal sectional view of the cistern, the numeral 1 designates the filtering-chamber, which is dome-shaped, as at 2, and provided with a central manhole 3, having a removable cover 4, in which is situated a screened vent 5. At one side of the filtering-chamber is a receiving-chamber 6, the same being located upon the dome 2 and at the side of the manhole 3. The bottom of the receiving-chamber tends toward an opening 7, in which a discharge-pipe is situated, that empties into the filtering-chamber. The upper end of the receiving-chamber is provided with an internal offset or shoulder 9, and seated thereon is a screen-frame 10, having a reticulated cover.

Diametrically opposite the receiving-chamber a storing or pump chamber 11 is located, the same being preferably of the same height as the filtering-chamber and closed by a removable cover 12 seated thereon. The cover 12 is provided with an opening 13, through which a discharge-pipe may be introduced and lead to a pump located at the point of use, which may be some distance from the cistern, or, as shown, the pump 14 may be seated on the cover 12 and depend into the chamber 11. The bottoms of the storing-chamber and the filtering-chamber are in

the same horizontal plane, and an opening 15 is formed in the intermediate wall at the bottoms, and seated in said opening is a communicating-pipe 16, the end that is located in the filtering-chamber being provided with an enlarged perforated, preferably spherical, filtering-bulb 17.

In use the filtering-chamber, it will be understood, is partially filled with a filtering material—such as charcoal, gravel, or any other media—and it is preferred that the cistern be located in a suitable excavation in the earth, though it may be above the surface, if preferred. It receives its supply of water from any source—as, for instance, from the discharge-spout 18 shown.

The use of the device will be obvious, but may briefly stated, as follows: The water-supply first passes through the screen 10, where it is freed from the larger foreign bodies that invade the same—such, for instance, as sticks, small twigs, leaves, and the like—and after thus being freed passes into the chamber 6 and from thence into the filtering-chamber above the filtering media. It then percolates through this media and, seeking its level, rises in the pump-chamber 11 in a purified condition from its passage through the media. The perforated bulb 14 prevents the media from gaining access to the pump-chamber, so that nothing but pure water is contained in the chamber 11, and the action of the pump tending to stir up the water or agitate the same will not injure the water in any way.

The cistern may be constructed in various ways; but we prefer the process hereinafter described, in that it is believed the same is more lasting, by reason of the fact that it will not crack or leak, that it is impervious to all external moisture, and, furthermore, proof against any vermin whatever.

It is commonly the practice to construct cisterns of certain classes by the mixture of sand, cement, and water, the same being reduced to a plastic mass, so plastic, in fact, as to render the mass applicable by the use of a trowel. We have found that by the application of so much water as to bring the mass to the required consistency the strength of the cistern when completed was decreased, so that cracking was a common result.

We construct the cistern-chamber, receiv-

ing-chamber, and pump-chamber separately, and we will proceed to describe the manner of constructing the cistern-chamber, which it will be understood is followed in the construction of the remaining chambers, the said chambers being subsequently assembled and cemented together.

We employ a series of segmental molds, the two when assembled, one within the other, producing two concentric rings or walls, between which intervenes a space of a few inches. These molds are secured together so as to make the rings rigid, after which we introduce sand and cement in almost a dry state and tamp the same thoroughly. A second series of molds is then arranged upon the first and more cement and sand tamped in position. When the circular wall of the cistern has been completed, we then employ two additional molds, which are dome-shaped, and again fill the spaces between the same and tamp damp cement and sand therein. When the dome has been completed, we then construct the manhole 3 in the same manner, employing smaller molds for this purpose. The mass having set, the molds are removed, and as a result we have a homogeneous chamber of great durability and strength. After the molds have been removed we then slush the bottom of the cylinder with cement, sand, and water, and this completes this portion of the cistern. The chambers 6 and 11 are then constructed in a similar manner, or otherwise, if preferred, and cemented in their positions, as shown.

Having described our invention, what we claim is—

1. The herein described cistern, consisting

of the filtering chamber, provided at its upper end with a ventilating-cover, the receiving-chamber arranged at one side of the filtering-chamber and having its bottom above that of the filtering-chamber, a water-passage leading from the bottom of the receiving-chamber to the filtering-chamber above the bottom of the latter, and a pump-chamber arranged at the side of the filtering-chamber and having its bottom at or below the level of the bottom of the latter, a pump receiving cover for the pump-chamber, and a water-passage between the pump and filtering-chambers adjacent to their bottoms, substantially as specified.

2. The herein-described cistern, consisting of the filtering chamber 1, having the dome 2, the cover 4, the receiving chamber 6 arranged upon one side of the dome and at one side of the man-hole and having the opening 7 in its bottom, the communicating pipe 8 arranged in the opening and terminating in the filtering chamber, the screen frame 10 arranged in the upper end of the receiving chamber, the pump chamber 11, at a diametrically opposite side of the filtering chamber, and of the same depth as the latter, the cover for the same, and the intermediate pipe 16 arranged on the bottom of the chambers 1 and 11 and extending through the intermediate wall and having an inner perforated end, substantially as specified.

In testimony whereof we affix our signatures in presence of two witnesses.

ORLANDO O. WALKER.

WILLIAM WALKER.

Witnesses:

THOMAS E. COBB,

JOHN W. BECK.