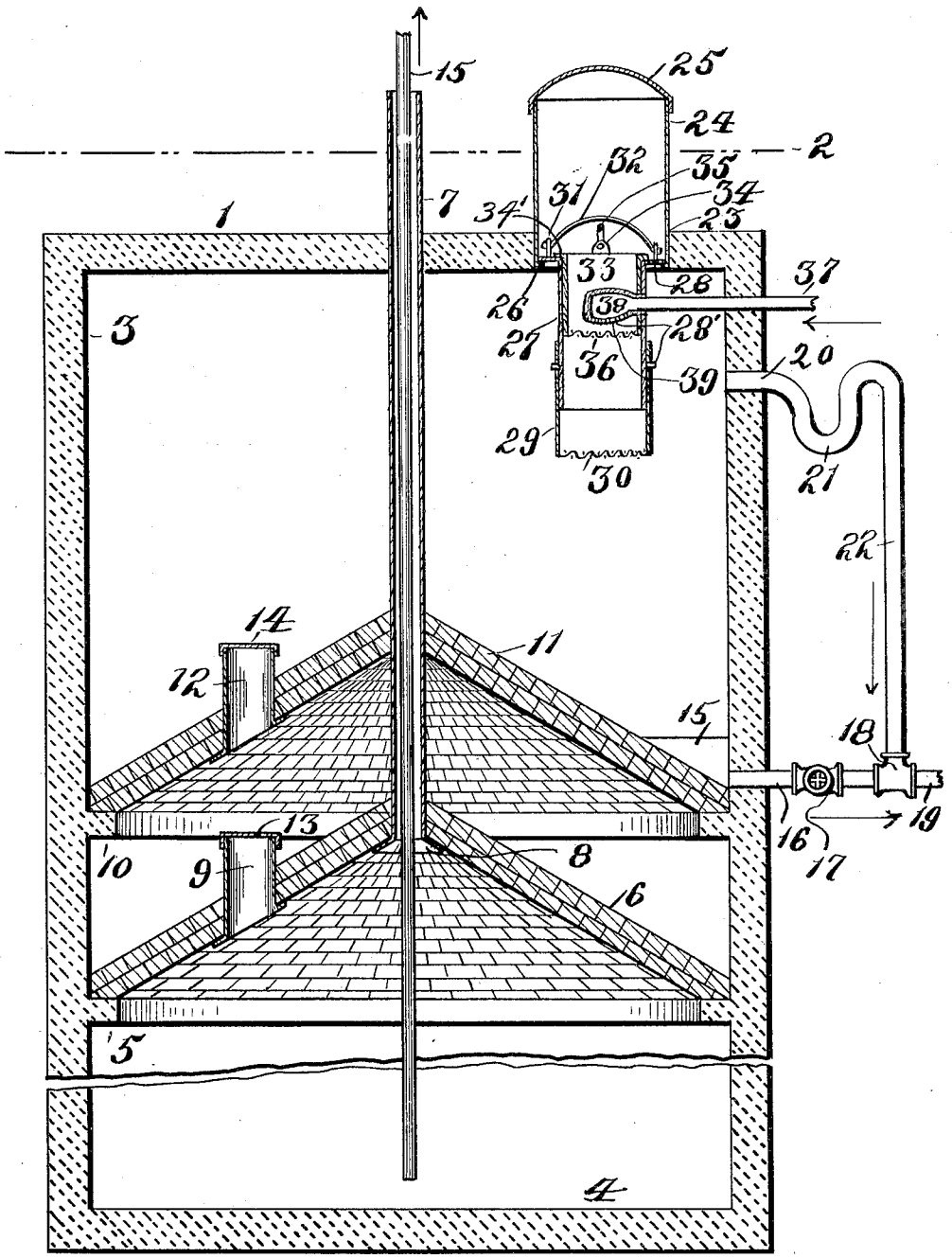
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CISTERN.

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1,082,444. Patented Dec. 23, 1913.



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1,082,444. Specification of Letters Patent. Patented Dec. 23, 1913.

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To all whom it may concern:

Be it known that I, WILLIAM HENRY REIFSNIDER, a citizen of the United States, residing at Akron, in the county of Summit and State of Ohio, have invented new and useful Improvements in Cisterns, of which the following is a specification.

This invention relates to cisterns provided with means for purifying the water to be stored therein.

The object of this invention is to construct a cistern, preferably of the type that is submerged in the ground and which is provided with means by which the water supplied to the containing portions of the cistern will be thoroughly purified so that when withdrawn therefrom for use it will be in a fit condition to be employed in ordinary domestic use.

With the foregoing and other objects in view, the invention consists in the novel construction, combination and arrangement of parts constituting the invention to be hereinafter specifically described and illustrated in the accompanying drawing which forms a part hereof wherein is shown the preferred embodiment of the invention, but it is to be understood that changes, variations and modifications can be resorted to which come within the scope of the claim hereunto appended.

The drawing presented is a vertical central sectional view of a cistern embodying this invention.

Referring to the drawing in detail, the reference numeral 1 denotes the upper wall of the cistern which is preferably positioned below the ground line which is referred to by the reference numeral 2. The cistern is also provided with a lateral preferably cylindrical wall 3 and a bottom or lower wall 4. The walls 1, 3 and 4 are preferably constructed of cement or concrete and rendered water-tight by any preferred means. The lateral wall 3 is provided with an inward flange or ledge 5 upon which is built a conical wall 6 preferably of porous brick and in the apex of the conical wall 6 is positioned the lower end of an upwardly-extending tube 7 preferably provided with a flange 8 at its lower end which snugly engages the lower face of the conical wall 6. The wall 6 is also provided with a man-hole 9 to permit inspection of the interior of the cistern, and if desired, the cleaning of that portion below the wall 6. Positioned above the inwardly-extending annular flange 5 is a similar flange 10 on which is supported a conical wall 11 of porous brick provided with a central aperture at the apex thereof to receive the upwardly-extending tube 7. The wall 11 is also provided with a man-hole 12 to permit ready access to the portion of the cistern below the walls 6 and 11. The man-holes 9 and 12 are provided with the usual covers 13 and 14, respectively.

Extending in the annular member 7 is the suction pipe 15 which leads to a pump by which the contents of the cistern below the wall 6 is removed. The space between the walls 6 and 11, may, if desired, be filled with filtering material, which may also if desired be placed on top of the wall 11. In practice however, I have not employed this filtering material since it has been found that the filtering obtained by the walls 6 and 11 is sufficient to effect the desired filtration of the water.

Extending radially of the upper wall 11 is a baffle-plate 15 and at one side of this baffle-plate 15 is a discharge pipe 16 provided with a valve 17 and a T 18 so that when it is desired to wash the upper surface of the wall 11 by means of a hose or otherwise, the water used in cleansing the upper surface of the wall 11 may be discharged through the pipe 16 and from thence to a pipe 19 which leads to a sewer or other discharge connection.

In the wall 3 of the cistern above the conical wall 11 is an overflow pipe 20 having a trap 21 which extends to and connects with the discharge pipe 19 and T 18. The upper wall 1 is provided with an opening 23 in which is seated a preferably cylindrical member 24 which projects above the ground line 2 and is provided with a closure device 25. The lower end of the member 24 is provided with an inturned annular flange 26. Within the member 24 is a sleeve-like member 27 provided at its upper end with a laterally outwardly-projecting flange 28 which is normally adapted to rest on the upper face of the flange 26 for supporting the sleeve 27. The outer face of the sleeve 27 is provided with one or more projections 28′ which are adapted to support a second sleeve 29 which is provided with slots constituting bayonet joints between the sleeves 27 and 29. Extending across the lower end of the sleeve 29 is a fine mesh screen or sieve 30. The upper end of the tube-like member 27 is provided with a pair of ears 31 between which

extends a bail 32, and the lateral wall of the member 27 is provided with an opening for a purpose to be later described.

Positioned telescopically within the member 27 is a tubular member 33 provided at its upper end with an outwardly-projecting flange 34′ which is adapted to rest on the upper face of the flange 28 of the member 27. The tubular member 33 is provided with an opening adapted to register with the opening in the member 27. The tube-like member 27 is also provided with a pair of apertured ears 34 to receive a bail 35 normally arranged at right angles with respect to the bail 32. The lower end of the member 33 is provided with a fine mesh screen or sieve 36. Extending through the side wall 3 is an inlet 37 which terminates in the registering openings of the members 27 and 33 and on the inner end of the inlet 37 is a head or nozzle 38 provided in its lower face with a plurality of fine perforations 39 and adapted to discharge fluid passing through the pipe 37 onto the upper face of the screen 36.

In practice, rain water entering through the pipe 37 will be sprayed by means of the nozzle 38 onto the screen 36 which arrests the larger particles carried thereby and after passing therethrough will be received on the wall 11 and be further purified by its filtration through said wall. After passing through the wall 11 it will pass through the porous brick of wall 6 and ultimately collect in the lower portion of the cistern below the wall 6 from which it is withdrawn through the medium of the pipe 15. In case of a surplus of water being fed into the cistern the excess escapes through the overflow 20 into the sewer which connects with the pipe 19, and the trap 21 prevents a return of sewer gas backwardly from the sewer.

When it is desired to clean the screen 36 the cover 25 is removed, the bail 32 is disconnected and by means of the bail 35 the member 33 is lifted out, after disconnecting the nozzle 38 from the inlet 37, which is held in position usually by frictional engagement with the end of the tube 37. Should it be necessary to carry the cleaning operation further, the entire mechanism supported below the bail 32 is raised outwardly through the member 24 and cleaned, and is then easily replaced. If it is desired to clean the cistern above the wall 11, it may be accomplished by utilizing a hose which washes the upper surface of the wall 11, driving the cleansing fluid outwardly through the pipe 16. Access is had to the cistern below the walls 6 and 11 through the man-holes 9 and 12 for further and more effective cleaning.

I claim:

In a cistern, a water-tight receptacle provided on the interior with a pair of annular ledges spaced from each other, conical walls of porous material supported on said ledges, the alined apexes of said walls having openings, a tube extending through said openings and through the top of the receptacle, a suction pipe extending through said tube, alined man-holes in said conical walls, a discharge pipe extending through the side wall of the receptacle immediately above the upper conical wall, an overflow near the top of the receptacle connected with said discharge pipe, a trap in said overflow, and a water inlet near the top of said receptacle.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM H. REIFSNIDER.

Witnesses:
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."