

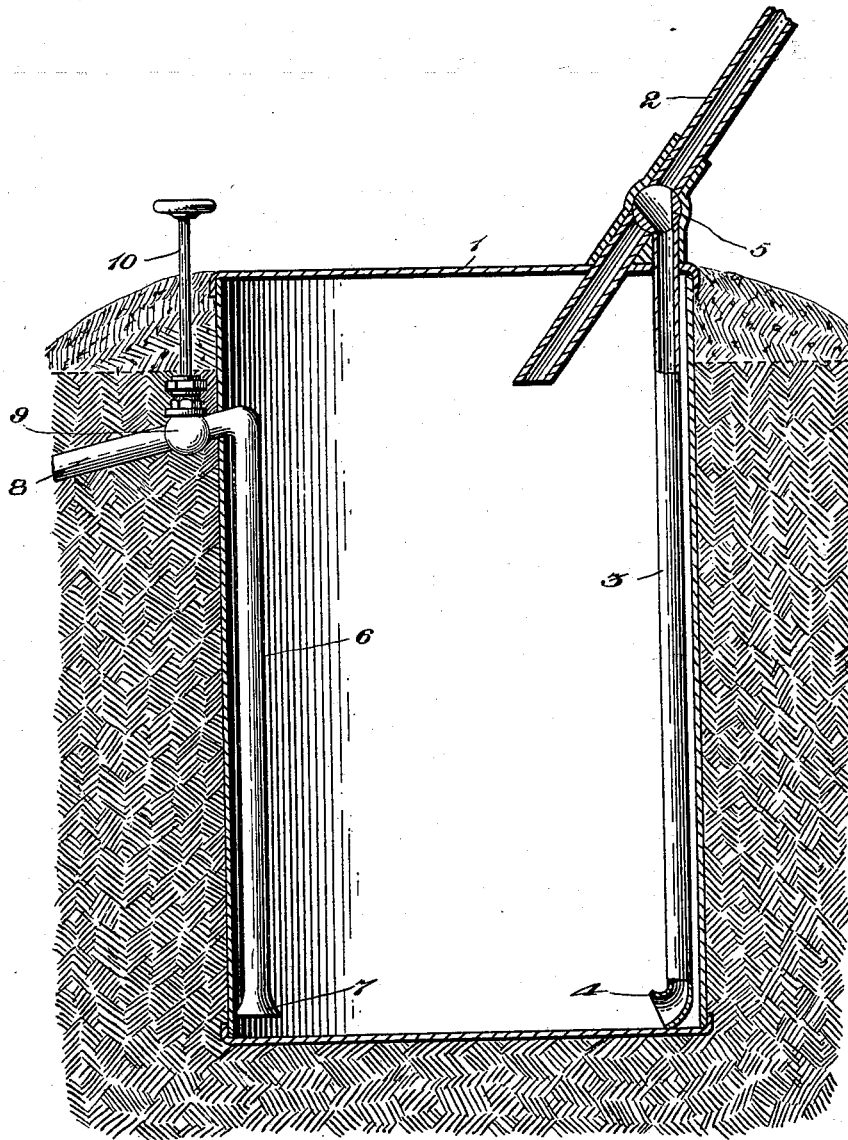
No. 648,317.

Patented Apr. 24, 1900.

C. S. WATERS.
CISTERN CLEANER.

(Application filed Feb. 10, 1900.)

(No Model.)



Witnesses

John Maupin
[Signature]

By *his* Attorneys,

C. S. Waters

Inventor

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UNITED STATES PATENT OFFICE.

CHARLES S. WATERS, OF PAYNE, OHIO.

CISTERN-CLEANER.

SPECIFICATION forming part of Letters Patent No. 648,317, dated April 24, 1900.

Application filed February 10, 1900. Serial No. 4,772. (No model.)

To all whom it may concern:

Be it known that I, CHARLES S. WATERS, a citizen of the United States, residing at Payne, in the county of Paulding and State of Ohio, have invented a new and useful Cistern-Cleaner, of which the following is a specification.

This invention relates to cistern-cleaners, and has for its object to provide improved means for stirring up the sediment at the bottom of the cistern and carrying off such sediment and foul water without disturbing the pure water at the top. It is furthermore designed to employ the inflowing supply of water to stir up the sediment when it is desired to clean the cistern and also to provide means for normally preventing agitation of the foul water at the bottom of the cistern when the cleaning device is not in operation.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawing, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawing there has been shown a sectional elevation of a cistern having the improved cleaning device applied thereto.

Referring to the drawing, 1 designates a tank of any preferred form or construction which forms the body of the cistern and is buried a suitable distance in the ground, so as to prevent freezing of the water contained within the cistern. The upper end of the tank projects a suitable distance above the surface of the ground and is banked about with gravel and loose dirt.

Water is supplied to the tank by means of a supply-pipe 2, which is in communication with the eaves-trough of a building in the usual manner, and its inner end terminates within the tank and adjacent the upper end thereof, so that the discharge of the water may not stir up the sediment which collects at the bottom of the tank.

Connected to the supply-pipe at a point above the discharge end thereof and within

the cistern is a branch inlet-pipe 3, which has its lower discharge end located at or adjacent to the bottom of the cistern and provided with a laterally-disposed flared or funnel-shaped outlet 4. At the point of intersection between the supply-pipe and the branch inlet-pipe there is provided a suitable two-way valve 5, which is designed to control the communication between the two pipes and to close one of the latter when the other is open.

Located opposite the inlet cleaning-pipe 3 is an upright discharge-pipe 6, having its lower end 7 flared outwardly to form a bell-shaped inlet, which is located adjacent to the bottom of the cistern. The opposite end of the discharge-pipe is located adjacent to the upper end of the cistern and is provided with a lateral downwardly-inclined branch or arm 8, which extends outwardly through the adjacent side of the tank and is located a suitable distance below the surface of the ground, so as to prevent freezing of the water which may remain therein. A suitable valve 9 is provided in the branch or arm 8 and exteriorly of the tank and is provided with an operating-stem 10, extending to a point above the surface of the ground, so as to be readily accessible for controlling the communication through the discharge-pipe.

In the normal condition of the cistern the inlet-valve 5 is in a position to close the cleaning-pipe 3 and open the supply-pipe, so that the water is discharged directly into the cistern and adjacent to the upper end thereof, so as not to disturb the sediment and impure water at the bottom of the cistern. When it is designed to clean the cistern, the valve 5 is operated to close the discharge end of the supply-pipe and establish communication between the latter and the cleaning inlet-pipe 3, as clearly illustrated in the drawing, whereby the inflowing water is conducted to the bottom of the cistern, so as to stir up the sediment collected thereon. It will of course be understood that before directing the water into the inlet-cleaning pipe the level of the water in the cistern should be above the upper end of the upright leg of the siphon, which is formed by the discharge-pipe 6, so that the sediment and impure water which is stirred up at the bottom of the cistern may be conveniently carried off by the discharge-pipe.

In order that the siphon may act most effectually, the inlet-pipe and the discharge-pipe should be of the same diameter, so that the inflow and the outflow of water may be substantially the same, in order that the level of the water within the cistern may not fall below the top of the siphon, whereby a continuous discharge of the water is maintained. After the cistern has been sufficiently cleaned the valve 9 is closed, so as to prevent a further discharge of the water, and should the supply continue the valve 5 is operated to entirely cut off communication through both of the pipes 2 and 3. By means of the valve 9 the discharge of the water may be conveniently stopped and should be normally closed, so as to prevent ingress of vermin.

In the normal condition of the cistern the level of the water is below the top of the discharge-pipe 6, so that when it is desired to clean the cistern the valve 9 is closed to prevent escape of the water, and thereby cause the level thereof to rise above the upper end of the discharge-pipe, after which the valve is opened, so that the discharge-pipe may act as a siphon to draw off the water. As the discharge of water is substantially equal to the supply thereof, the siphon is under a substan-

tially-constant pressure of the weight of the volume of water above the top of the discharge-pipe, so that a free discharge of water is insured.

Having described the invention, I claim—

1. The combination with a cistern, of a supply-pipe discharging adjacent to the upper end thereof, and having a branch inlet-pipe discharging at or near the bottom of the cistern, means for controlling communication through the supply and branch pipes, and a siphon to draw off the water from the bottom of the cistern.

2. The combination with a cistern, of a supply-pipe discharging adjacent to the upper end thereof, and having a branch inlet-pipe discharging at or near the bottom of the cistern, a two-way valve located at the intersection of the supply and branch pipes, a siphon to draw off the water from the bottom of the cistern, and a controlling-valve for the siphon.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

CHARLES S. WATERS.

Witnesses:

F. P. BOHYER,
K. J. VANDERHOFE.