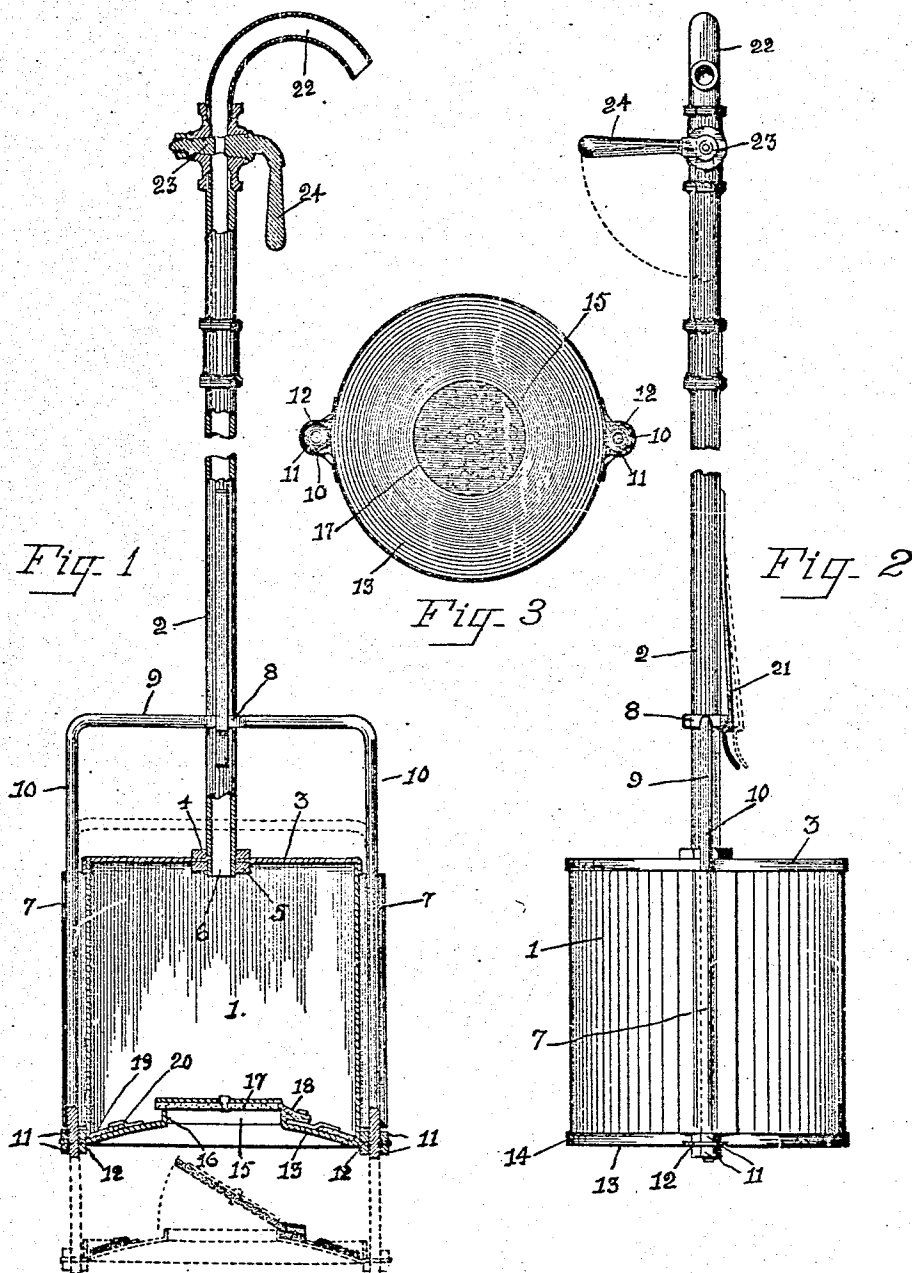


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CISTERN CLEANING APPARATUS.  
APPLICATION FILED NOV. 15, 1909.

985,708.

Patented Feb. 28, 1911.



Witnesses—

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# UNITED STATES PATENT OFFICE.

JOHN SHEPHERD, OF TOLEDO, OHIO.

## CISTERN-CLEANING APPARATUS.

985,708.

Specification of Letters Patent. Patented Feb. 28, 1911.

Application filed November 15, 1909. Serial No. 528,108.

*To all whom it may concern:*

Be it known that I, JOHN SHEPHERD, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented a new and useful Improvement in Cistern-Cleaning Apparatus, of which the following is a specification.

My invention relates to improvements in cistern cleaning apparatus and has for its object to provide an improved apparatus of the kind, whereby sediment and impurities deposited and accumulated on the bottom of a cistern may be automatically collected in a receiver and removed from the cistern through the clear water above without contaminating it.

A further object is to provide an apparatus of the kind with simple and effective means whereby it may be readily handled for filling and emptying without contamination of the hands or clothes, or scattering the contents about, and with improved means whereby the apparatus when filled with sediment is automatically and securely closed against leakage while being lifted through the water and carried to the place of emptying.

I accomplish these objects by the construction and combination of parts as hereinafter described and illustrated in the drawings, in which—

Figure 1 is a view partly in section and partly in side elevation, of a cistern cleaning apparatus constructed in accordance with my invention, the cylinder and bottom closure being shown in diametric vertical section, and the bottom closure being shown in full lines in closed position, and in dotted lines in open position. Fig. 2 is a view in side elevation of the same, showing the bottom of the cylinder closed, and Fig. 3 is a bottom view of the bottom closure.

In the drawings 1 designates a cylindrical receiver, formed of sheet metal. The receiver is closed at the top and open at the bottom and is provided with a tubular handle 2 formed of sections adapted to be coupled together or uncoupled to increase or diminish its length, according as the depth of the cistern may require to lower the cylinder to the bottom of the cistern. The handle 2 is axially secured to the top 3 of the cylinder by the outer and inner nuts 4 and 5 run on the threaded end portion 6 of the handle 2.

The cylinder is provided with the diametri-

cally opposite longitudinal tubular guides 7 which extend from the top to the bottom edge of the cylinder, and movably mounted on the handle 2 by the eye 8 is a bail 9, comprising a rod of suitable length having formed centrally thereof the eye 8, and having portions 10 bent at right angles and extending through the guides 7. The free end portions 10 of the bail are threaded, and mounted and secured thereon between the nuts 11, by the lugs 12, is a bottom closure 13 for the cylinder, comprising an annular concave metal disk, having an upturned peripheral flange 14, and a central opening 15, around which is provided an upturned flange 16, forming an edge seat for a flat leather valve 17 having a hinged portion 18 riveted to the disk. Around and abutting the flange 14 is an annular packing 19 of rubber or leather, which is secured in position by an annular plate 20, which is secured by its inner portion to the disk and has its outer portion extending partly over the packing 19. Thus constructed, the bail 9 may be moved upward on the handle 2 to lift the bottom closure 13 into engagement with the lower end of the cylinder 1, and downward to disengage it therefrom. To secure the closure 13 in position closing the lower end of the cylinder, the handle 2 is provided with a spring hook latch 21, which is located on the handle to automatically engage the eye 8 when the bail 9 is raised the distance required to bring the packing 19 of the closure disk 13 into close engagement with the lower end of the cylinder 1 within the flange 14 of the closure.

The upper and free end of the handle 2 is provided with a curved handle section 22 which is coupled to the main portion of the handle and is provided with a cock valve 23 having a handle 24 by which it may be opened or closed.

Thus constructed the operation of cleaning a cistern with the apparatus is as follows:—First closing the cock 23 and then the cylinder by the closure 13, the apparatus is lowered into the cistern by the handle portion 22 until the ends of the bail 9 rest on the bottom of the cistern. When in this position, the cock valve 23 is then opened, which allows the air in the cylinder 1 to escape, and the valve 17, under the pressure of the water above, opens and the sediment on the bottom of the cistern is forced up into the cylinder. Again closing the cock valve

23, the apparatus is lifted up out of the cistern, the weight of the contents of the cylinder automatically closing the valve 17 as soon as the lifting begins. To empty the cylinder it is turned horizontally by the handle, and laying the side of the cylinder on the top of the receptacle for the contents, the latch is released from the bail 9 and the bail is slowly pushed outward until the closure 13 is opened sufficiently to dump the contents gently into the receptacle, thereby avoiding the scattering and splashing of the contents about, which would occur if the closure were suddenly released and fully opened.

By providing the bottom closure with the flange 14 and the packing 19 abutting the flange, when the closure is engaged with the lower end of the cylinder the packing forms therewith a water tight joint, and by seating the leather back check valve 17 on the edge of the flange 14 I provide for a water tight seating of the valve without liability of sediment lodging on the seat and preventing a perfect closure of the valve. By providing the handle 2 with the curved end section 22 it is made more convenient for lowering and raising the cylinder, and when the cock 23 is opened and the air in the cylinder is released, any water and sediment that may be carried out by the air is directed downward and away from the operator.

What I claim to be new is—

In a cistern cleaner, the combination of a cylinder, closed at the top and open at the

bottom, a tubular handle secured to and opening into the top of the cylinder, diametrically opposite guide ways longitudinal of the cylinder, a bail having parallel end portions mounted and movable in the guide ways and a central portion mounted and movable on the handle as a guide, a closure for the open end of the cylinder, secured to the end portions of the bail and movable thereby to and from engagement with the open end of the cylinder, said closure comprising an annular inwardly convexed sheet metal disk, having a peripheral flange adapted to telescopically receive the end of the cylinder, and an interior flange around its central opening, a flexible check valve adapted to be seated on the flange by pressure from within and opened by pressure thereon from without the cylinder, and a packing between the inner and outer flanges adapted to engage the end of the cylinder, a valve in the handle adapted to close the handle, and a latch secured to the handle and adapted to detachably secure the bail when the end closure is moved by the bail into engagement with the end of the cylinder.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses, this 12th day of November 1909.

JOHN SHEPHERD.

In presence of—

W. J. BILLINGSLEA,  
GEO. P. KING.