H. STUCKER.

VACUUM CISTERN CLEANER.

APPLICATION FILED FEB. 2, 1912.

1,039,209.

Patented Sept. 24, 1912.

2 SHEETS—SHEET 1.

Fig. 1.

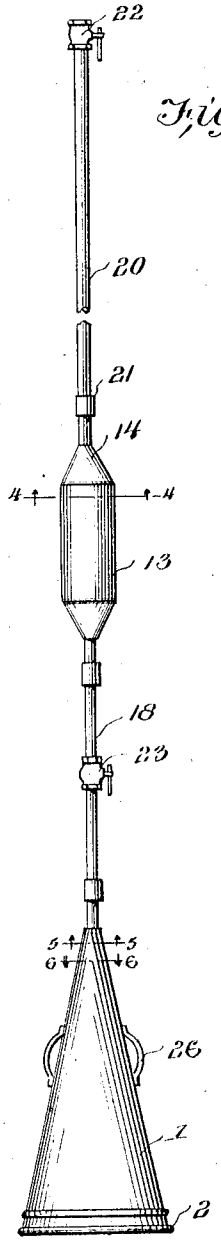


Fig. 4.

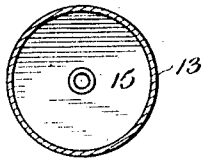


Fig. 5.

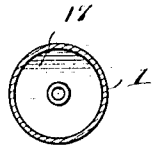


Fig. 6.

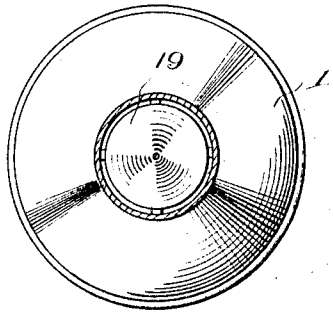
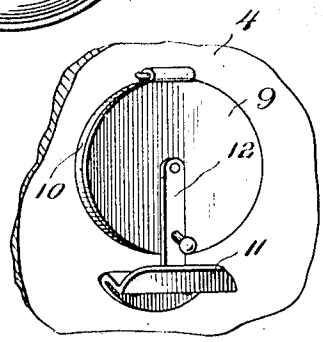


Fig. 7.



Inventor

Howard Stucker.

Witnesses

William P. Smith

James Hoeltz

By Victor J. Evans

Attorney

H. STUCKER.

VACUUM CISTERN CLEANER.

APPLICATION FILED FEB. 2, 1912.

1,039,209.

Patented Sept. 24, 1912.

2 SHEETS—SHEET 2.

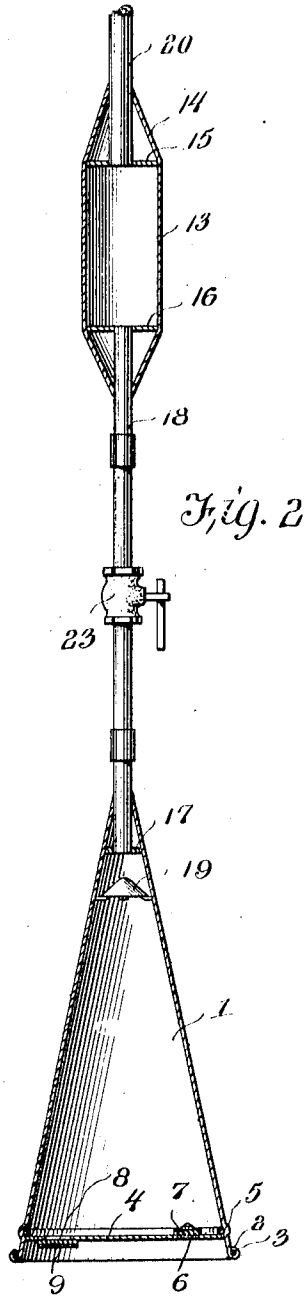


Fig. 2.

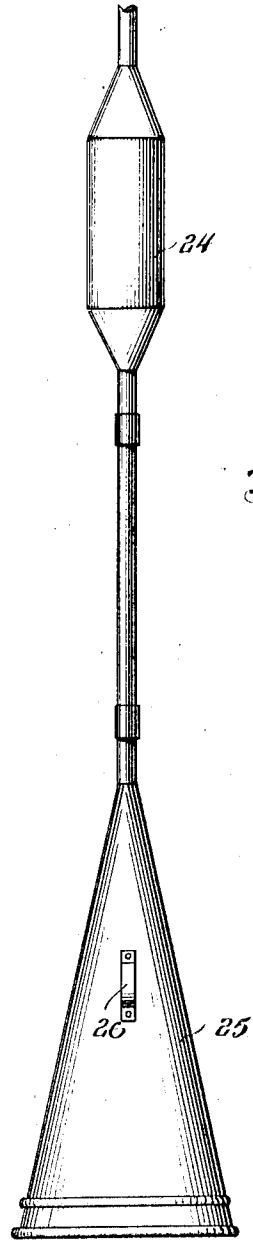


Fig. 3.

Witnesses

William R. Smith.

James Keels

Inventor

Howard Stucker.

By Victor J. Evans.

Attorney

UNITED STATES PATENT OFFICE.

HOWARD STUCKER, OF SHAWNEE, OKLAHOMA.

VACUUM CISTERN-CLEANER.

1,039,209. Specification of Letters Patent. Patented Sept. 24, 1912.

Application filed February 2, 1912. Serial No. 674,964.

To all whom it may concern:

Be it known that I, HOWARD STUCKER, a citizen of the United States, residing at Shawnee, in the county of Pottawatomie and State of Oklahoma, have invented new and useful Improvements in Vacuum Cistern-Cleaners, of which the following is a specification.

This invention relates to cistern or well cleaning apparatus and has for an object to provide an improved apparatus of this character, whereby impurities or objectionable sediment accumulated on the bottom of the cistern may be automatically removed from the cistern.

Another object of the invention is to provide cleaning apparatus wherein a storage chamber or flushing reservoir will be embodied and positioned in the apparatus with such relation to the sediment collector that on the displacement of air from the apparatus a quantity of water will be carried to the reservoir where it may be temporarily stored to be subsequently used as a flushing medium whereby the collecting receptacle of the apparatus is rendered sanitary after each use.

Another object of the invention is to provide apparatus wherein means will be employed to prevent the sediment in the collecting chamber from passing into the flushing reservoir.

Another object of the invention is to provide such means which will prevent the sediment from entering the reservoir as will additionally serve to cause the water to be sprayed in substantial film like manner against the walls of the sediment collector thereby providing for the equal distribution of the water and insuring its maximum efficiency as a cleaning agent.

In the drawing forming a portion of this application and in which like letters of reference indicate similar parts in the several views:—Figure 1 is a side view of the apparatus. Fig. 2 is a vertical section through a portion thereof. Fig. 3 is a view similar to Fig. 1 showing a slightly modified form of the invention. Fig. 4 is a section on line 4—4 of Fig. 1. Fig. 5 is a section on line 5—5 of Fig. 1. Fig. 6 is a section on line 6—6 of Fig. 1. Fig. 7 is a perspective view of a portion of the collector showing the outlet closure or valve.

In referring to the drawing it is shown that the apparatus comprises a substantially conical collector 1 whose walls are rolled as at 2 around a reinforcing wire 3. The bottom 4 of the collector 1 is disposed above the plane of the said portion 2 and as illustrated the edge of the bottom is extended into the annular groove 5 of the walls of the collector and secured in place therein by means of solder or the like. The bottom 1 is provided with an inlet opening 6 which is closed normally by means of a gravitating or flap valve 7 which is adapted to automatically open on submerging the receptacle 1 in a body of liquid. The bottom 4 is also provided with a cleanout opening 8 which is closed normally by means of the closure 9 which is provided with a yieldable gasket 10 which may be brought to bear against the bottom 4 so as to effect an air-tight connection between the same and the closure. A keeper 11 is secured to the bottom 4 and removably engaged with the keeper is the latch member 12 on the closure 9. This construction furnishes means whereby the closure is positively held against gravitating to an open position on removing the apparatus from or in placing the same in the cistern.

Above the plane of the receptacle 1 is a combined flushing and air reservoir 13 having the substantially conical ends 14 and the interiorly located disks 15 and 16. A disk 17 is located within the receptacle 1 near the small end thereof, and as shown a small pipe 18 connects the reservoir with the collecting receptacle and it has its lower end extended through the small end of the collector and secured in the disk 17 therein and disposed immediately above the combined spreading member and screen 19. The screen 19 has its apex positioned with respect to the discharge end of the pipe 18 so that as the liquid leaves the pipe it will be deposited upon the spreading and screening member and deflected thereby in film like manner. The walls of the member 19 are flared downwardly toward the walls of the receptacle 1 whereby the water as it leaves the member 19 will be thoroughly distributed upon the walls of said collector. The upper end of the pipe 18 extends through the lower end of the reservoir and into the disk 16.

A plurality of pipe sections 20 are detachably connected together by the coupling sleeves 21, the lower section being extended through the upper end of the reservoir and

suitably secured in the disk 15. The upper pipe section has mounted thereon a bleeding valve 22 which may be of any well known construction whereby communication between the outside air and the apparatus can be closed during the act of properly placing the apparatus in the cistern. The arrangement of a plurality of such pipe sections as shown at 20 provides means whereby any number of said sections can be connected together as may depend upon the depth of the water in the cistern as is understood. A valve 23 which may be similar in construction to the valve 22 is located in the pipe 18 and disposed between the collector 1 and the reservoir 13.

In the modified form of the invention shown in Fig. 3 the reservoir 24 and the collector 25 are substantially identical in construction with their equivalent parts described in the preferred embodiment of the invention, the difference being in the omission of the valve 23 between the reservoir and said collector. It is also stated that in this modification of the invention all of the pipe sections shown are of the same size whereas in the preferred form the sections 20 above the reservoir slightly exceed in diameter the diameter of the section 18.

Now, that the details of construction of the apparatus are fully set forth it is stated that the valve 22 at the top of the apparatus is closed when placing the apparatus in the cistern. The apparatus is then lowered so that the collector 1 and the reservoir 13 are fully submerged in the water and when the said collector 1 rests upon the bottom of the cistern the valve 22 is opened whereby the air in the apparatus will be immediately displaced and water in the cistern will be permitted to rise in the apparatus to take the place of the displaced air. The screening and spreading member 19 will thoroughly prevent the accidental passage of the sediment into the flushing reservoir whereby water entering the latter will be perfectly clean. It is of course understood that when taking the apparatus from the cistern the flap valve in the bottom of the collector will close under the weight of the water above it. It is also stated that immediately upon withdrawing the apparatus from the cistern the valve 23 is closed so as to prevent the accidental loss of the liquid from the reservoir. The collector 1 is provided at its sides with suitable handles 26 whereby the apparatus may be conveniently handled when discharging the sediment therefrom. When discharging the sediment from the apparatus the closure 9 is manually opened and after the sediment has been thoroughly drained from the collector the valve 23 is opened whereby a fresh supply of clean water will be permitted to thoroughly flush the walls of the collector as previously described. While the reservoir 13 is extremely desirable for the purpose specified it is seen that this arrangement in the apparatus greatly increases the air area of the apparatus which has been found most desirable in that the water and the sediment will thoroughly and quickly enter the apparatus when the bleeding valve hereinbefore referred to has been opened.

I claim:—

1. A cistern cleaner comprising a collector having a valved inlet opening and a valved outlet opening, a chamber, a valved connection between the chamber and the collector, a valved connection leading from the chamber, and a liquid spreader located within the collector.

2. A cistern cleaner comprising a collector having an inwardly opening valve at its bottom and provided also at its bottom with an outwardly opening valve, means for holding the second valve closed against the collector, a spreading member located within the collector, a flushing chamber disposed above the collector, a valved connection between the reservoir and the collector and having one of its ends disposed above the plane of the said spreading member, a pipe leading from the reservoir, and a valve located within the pipe.

3. A cistern cleaner comprising a collector having an inlet opening and a valve for closing the opening, a spreading member located within the collector and having its walls flared downwardly in the direction of the collector, a reservoir, a pipe connecting the reservoir with the collector and having one end disposed above the center of the spreading member, and a valved connection leading from the reservoir.

In testimony whereof I affix my signature in presence of two witnesses.

HOWARD STUCKER.

Witnesses:
WILLIAM A. WRIGHT,
ALVA F. MARTIN.

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