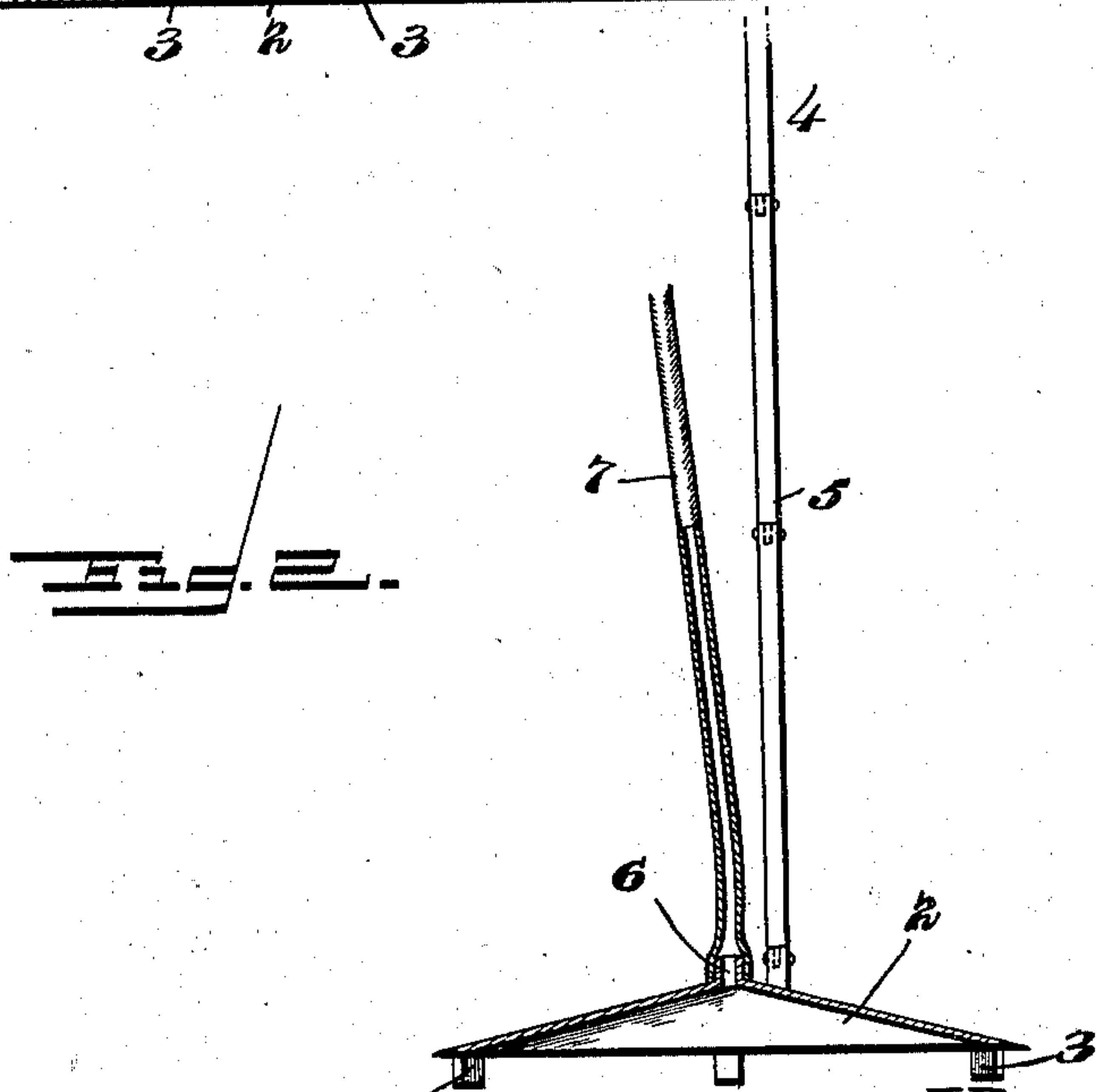
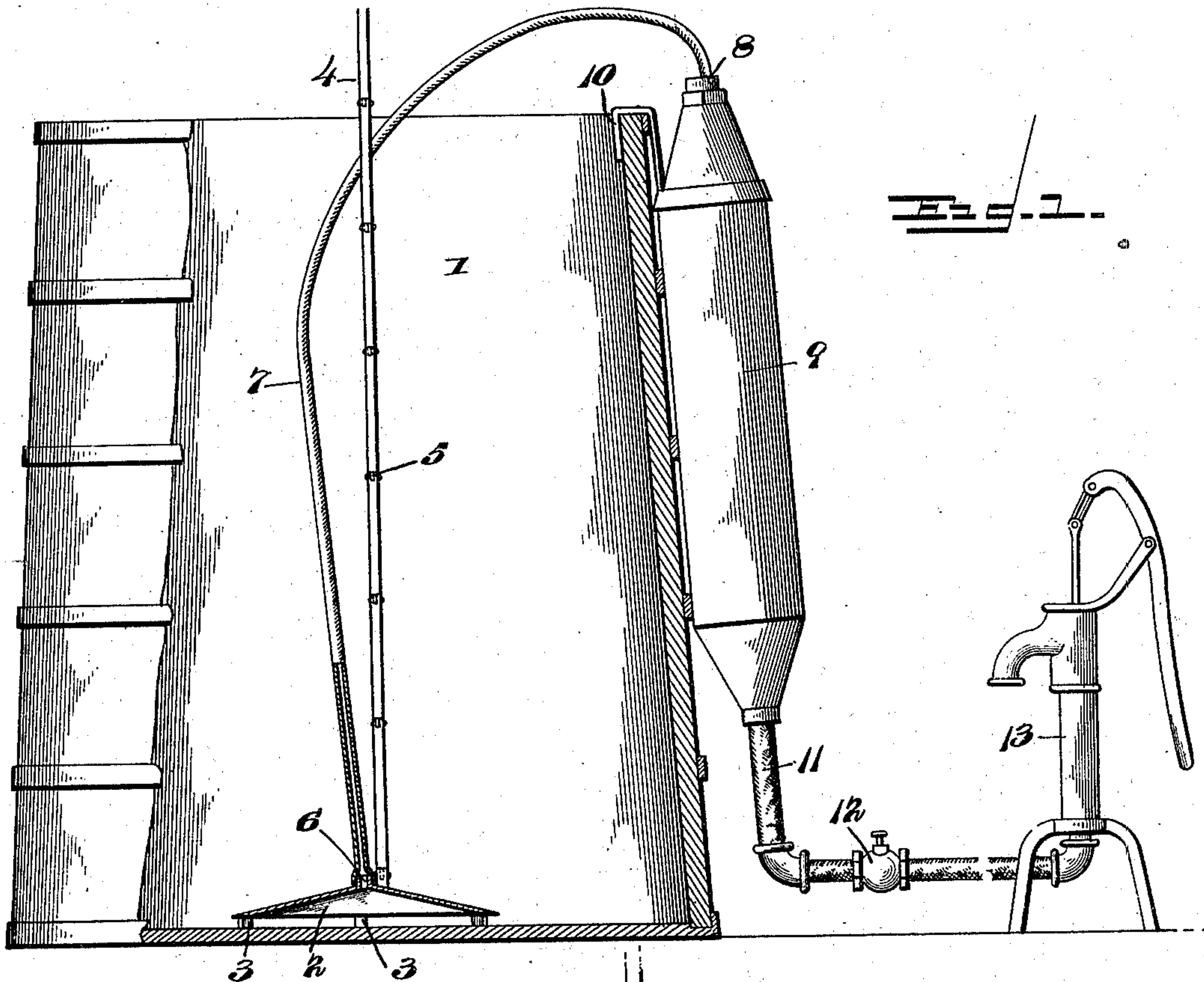


(No Model.)

H. F. MUELLER.
CISTERN CLEANER.

No. 558,656.

Patented Apr. 21, 1896.



Witnesses

C. H. Stewart
L. D. Thompson

By *his* Attorneys.

Henry F. Mueller

C. A. Snow & Co.

Inventor

UNITED STATES PATENT OFFICE.

HENRY F. MUELLER, OF NEW ORLEANS, LOUISIANA.

CISTERN-CLEANER.

SPECIFICATION forming part of Letters Patent No. 558,656, dated April 21, 1896.

Application filed June 16, 1894. Serial No. 514,793. (No model.)

To all whom it may concern:

Be it known that I, HENRY F. MUELLER, a citizen of the United States, residing at New Orleans, in the parish of Orleans and State of Louisiana, have invented a new and useful Cistern-Cleaner, of which the following is a specification.

This invention relates to cistern-cleaners; and it has for its object to provide a new and useful device of this character having simple and efficient means for thoroughly removing sediment from the bottom of cisterns or water-tanks, whether above, below, or at the level of the ground.

To this end the main and primary object of the present invention is to construct a cistern-cleaning device in a simple and practical manner and to make provision for a powerful suction, whereby the heaviest sediment will be removed without any undue agitation or stirring up of the water.

With these and other objects in view, which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts hereinafter more fully described, illustrated, and claimed.

In the accompanying drawings, Figure 1 is a sectional view of a water cistern or tank, showing the herein-described cleaning device arranged in position therein. Fig. 2 is an enlarged detail sectional view of the shallow suction-funnel, including the connections therewith.

Referring to the accompanying drawings, 1 designates a cistern or water-tank of the ordinary construction, on the bottom of which is adapted to be placed and adjusted the shallow suction-funnel 2 of the herein-described cleaning device. The shallow suction-funnel 2 is provided at its lower flared edge with a series of rest-feet 3, that rest on the bottom of the cistern or tank to space the funnel slightly thereabove in order that the dirty water and sediment may readily pass thereinto, and said funnel has attached to the top thereof a sectional manipulating stick or handle 4, comprising a series of detachably-connected sections 5, and providing means for slowly moving the suction-funnel over the bottom of the cistern or tank to provide for

removing all sediment and leaving the clear water undisturbed.

The suction-funnel 2 is provided at its apex with the top discharge-opening 6, to which is connected the inner end of the small siphon hose or pipe 7, the other upper end of which is arranged to pass over the upper edge of the cistern or tank and to be coupled at 8 to the upper end of the large outer siphon drum or cylinder 9, of a diameter greatly exceeding that of the small siphon hose or pipe 7.

The drum or cylinder 9 is provided at its upper end with a pair of offstanding supporting-hooks 10, adapted to engage over the upper edge of the cistern or tank to properly support the siphon in a working position, and to the lower end of said drum or cylinder is connected one end of the large siphon hose or pipe 11, to which is coupled an ordinary cut-off valve 12, the pipe leading from which is adapted to be temporarily connected with a suitable pump 13 for the purpose of exhausting the air from the siphon 7 9 11 when the piston or tank is located above or at the level of the ground and for the purpose of pumping the sediment out of a cistern or tank located below the level of the ground.

Assuming the cistern or tank to be arranged on a level with the ground, to remove the sediment it is simply necessary to adjust the siphon, as described, and then to exhaust the air therefrom by means of the pump 13, which is then disconnected after the closing of the valve 12. By opening the valve 12 the flow will be started through the siphon, and by reason of the large drum 9 and hose or pipe 11 a powerful suction will be created, so as to insure the lifting of all sediment both light and heavy through the small leg 7 of the siphon.

It will therefore be seen that the construction of the siphon described provides for an efficient operation with the cistern or tank being cleaned at the level of the ground as well as when located above the ground. With the cistern or tank below the ground the pump 13 will be employed to pump out the sediment.

The pump 13 that is employed to exhaust the air from the siphon 7 9 11 is necessarily a force-pump and must be supplied with water, so that the air can be forced out through the funnel end of the siphon, while the fun-

nel 2 is slightly submerged below the surface of the water. The funnel is then sunk slowly to the bottom of the cistern, the valve closed, and the pump disconnected, when it is simply
 5 necessary to open the valve and the water will flow through the siphon.

At this point it may be additionally noted that by reason of the employment of a sectional manipulating stick or handle 4 it will
 10 be obvious that such handle may be lengthened or shortened to accommodate the device to any size of cistern; also, that the same may be used in connection with cisterns which are placed one above the other, as is sometimes
 15 customary, and, furthermore, in connection with the large siphon drum or cylinder 9 it is to be noted that the same may be either round, half-round, or square, as may be most convenient or desirable, without affecting its
 20 function of creating a powerful suction in the smaller siphon hose or pipe 7. In this connection it is to be noted that the large siphon hose or pipe 11, that is connected to the lower end of the drum or cylinder, is nec-
 25 essarily of considerable less diameter than the said drum or cylinder, while at the same time being larger than the small siphon hose or pipe 7. Bearing this in mind, it will be obvious that after the air has been expelled
 30 from the parts 11 9 7, comprising the siphon, and the valve 12 closed, these parts will be filled completely with water, for the reason that the air is expelled therefrom by forcing water therethrough from the pump 13. Now
 35 the moment the valve 12 is opened the large volume of water in the drum or cylinder 9 will necessarily lower somewhat from the upper end of the drum or cylinder as the flow of water commences out of the hose or pipe 11.
 40 This tendency of the water that is in the filled drum or cylinder 9 to lower produces a par-

tial vacuum within the extreme upper end of said drum or cylinder and thereby induces a rapid flow of water through the hose or pipe 7 to supply this vacuum, and therefore to sup-
 45 ply the drum or cylinder with water as fast as it discharges therefrom through the hose or pipe 11, and it is due to this construction and operation of siphon that a rapid flow of water is produced through the siphon.
 50

Changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this in-
 55 vention.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. In a cistern-cleaner, the combination of a siphon hose or pipe of a relatively small di-
 60 ameter, a large siphon-drum connected at its upper end with the upper end of the small siphon hose or pipe, and a large siphon hose or pipe connected with the lower end of said drum, said large siphon hose or pipe being of
 65 a smaller diameter than the width of the drum, and relatively larger in diameter than the diameter of the siphon hose or pipe connected with the upper end of the drum, substantially as set forth.
 70

2. The combination of a siphon having a discharge-limb of a greater diameter than the short inlet-limb, and a large drum interposed in the line of said discharge-limb, substan-
 75 tially as set forth.

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

HENRY F. MUELLER.

Witnesses:

HENRY RUMMEL,
 ALEX. HIGGINS.