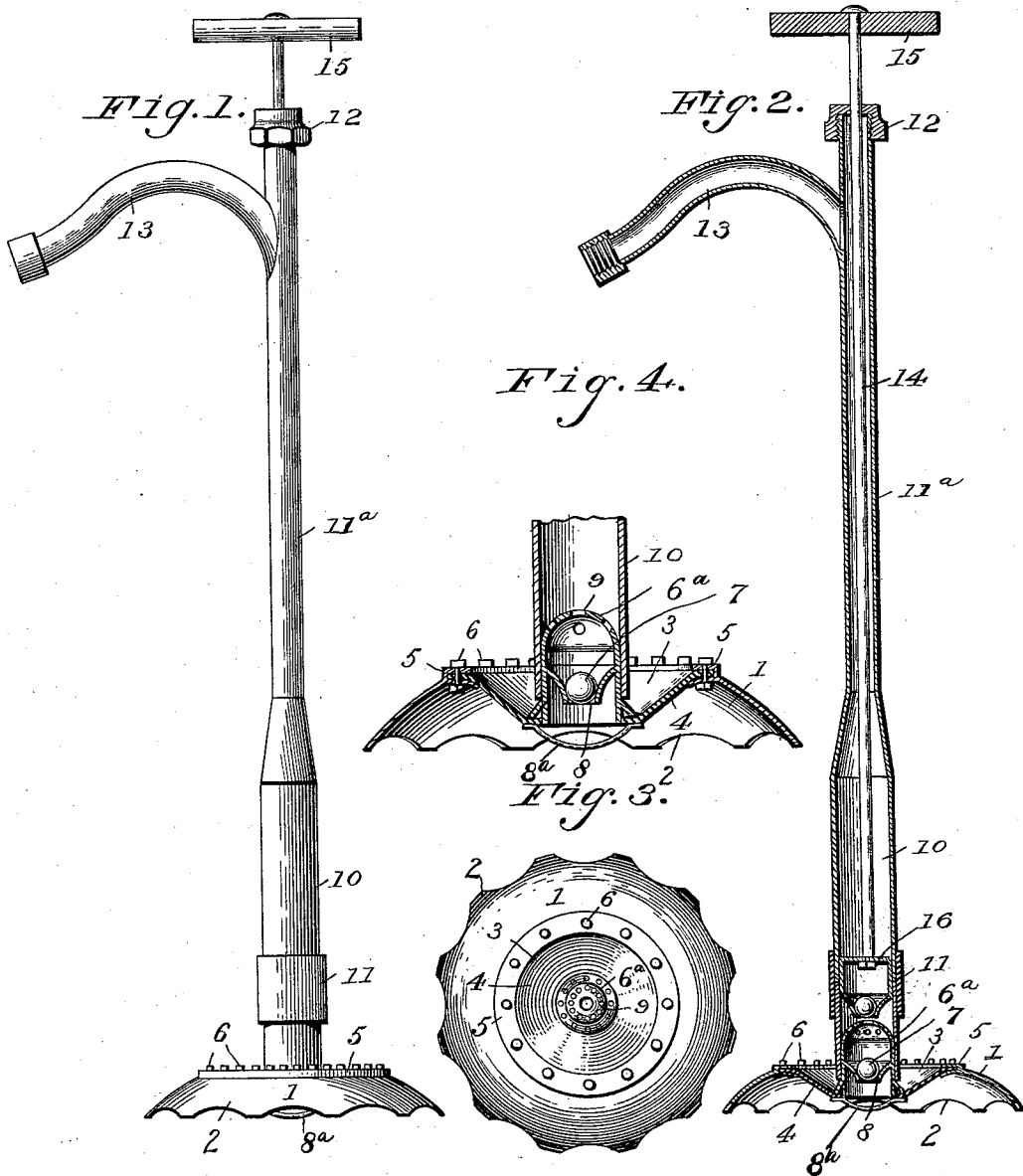


(No Model.)

R. H. GRAY.  
CISTERN CLEANER.

No. 537,151.

Patented Apr. 9, 1895.



Inventor

Robert H. Gray,

Witnesses

Julius Ulke, Jr. By his Attorneys.  
John A. Siggers.

C. A. Snow & Co.

# UNITED STATES PATENT OFFICE.

ROBERT H. GRAY, OF LEXINGTON, KENTUCKY.

## CISTERN-CLEANER.

SPECIFICATION forming part of Letters Patent No. 537,151, dated April 9, 1895.

Application filed October 8, 1894. Serial No. 525,272. (No model.)

*To all whom it may concern:*

Be it known that I, ROBERT H. GRAY, a citizen of the United States, residing at Lexington, in the county of Fayette and State of Kentucky, 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 cleaner of this character having simple and efficient means for removing mud, sediment and other impurities from the bottom of ordinary cisterns without unnecessarily agitating or stirring up the mud and so forth, while at the same time providing a cleaner that can be readily adjusted to the most convenient position for cleaning out the cistern.

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 drawings:—Figure 1 is a side elevation of a cistern cleaner constructed in accordance with this invention. Fig. 2 is a central vertical longitudinal sectional view thereof. Fig. 3 is a top plan view of the shallow suction cup with the pump cylinder disconnected therefrom. Fig. 4 is an enlarged detail sectional view of the shallow suction cup including the connection of the pump cylinder therewith.

Referring to the accompanying drawings, 1 designates a shallow suction cup that is adapted to be placed flat upon the bottom of a cistern to be cleaned. The cup 1, is provided with a scalloped lower edge 2, that forms openings to admit of the passage of the sediment and water into the cup, and the said cup is provided with a top opening 3, in which is arranged the flexible cover 4. The flexible cover 4, is preferably formed of rubber cloth which provides for the required flexibility and at the same time forms a water tight cover for the cup, and the edges of said flexible cover are secured to the edges of the top opening 3, by means of the fastening ring 5, clamped onto the edges of the flexible cover and fastened to the cup by means of rivets or bolts 6, thereby providing a water tight con-

nection or joint between the cup and its flexible cover.

The flexible cover 4, of the shallow cup 1, has fitted centrally thereto the valve cage 6<sup>a</sup>, that accommodates therein a ball valve 7, which works over the tapered or conical valve seat 8, and forms a check to prevent the return flow of water or sediment back into the cup after having once been drawn therefrom. The valve cage 6<sup>a</sup>, is provided at its lower end with a curved or bowed rest bar 8<sup>a</sup>, that is adapted to rest on the bottom of the cistern to sustain the weight of the pump connected with the cup and to relieve the flexible cover 4, of strain, and at the top or upper end the said valve cage is provided with a perforate top plate 9, that serves to hold the valve 7, to its place within the cage, while at the same time not interfering with the free flow of water and sediment.

The valve cage 6<sup>a</sup>, is adapted to have detachably or otherwise suitably fitted thereto the lower end of the pump cylinder 10, so that said valve cage will practically form the valved lower end for the cylinder. The said pump cylinder 10, is provided at a point slightly above its connection with the valve cage with a rubber or other suitable flexible joint 11, preferably consisting of a short section of rubber tubing that admits of the pump cylinder being moved in any direction or bent out of alignment with its connection with the suction cup, as occasion may demand.

The pump cylinder 10, is extended at its upper end into the discharge tube 11<sup>a</sup>, that is provided at its upper extremity with the stuffing box 12, and an offstanding discharge charge spout 13. The stuffing box 12 accommodates for movement therethrough the plunger rod 14, carrying upon its outer end beyond the stuffing box the handle 15 for operating the same, and upon its inner end within the pump cylinder the valved plunger 16, that provides for drawing the water and sediment into the cylinder from the cup and then elevating the same through the discharge tube 11<sup>a</sup>, and out of the spout 13.

In operation the cleaner is lowered into a cistern until the shallow suction cup rests flat on the bottom thereof, and by reason of the flexible cover 4, and the joint 11, the pump

cylinder may be inclined or bent in any direction as may be required without disturbing the position of the cup 1, or interfering with the operation of the pump. By reciprocating the plunger rod an ordinary pumping action occurs which serves to pump out from the cistern accumulation of mud, sediment and other impurities.

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 invention.

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

1. In a cistern cleaner, a shallow suction cup provided with a flexible cover, and a hand pump having the cylinder thereof connected with said flexible cover, substantially as set forth.

2. In a cistern cleaner, the shallow suction cup, and a hand pump having the cylinder thereof attached directly to said cup and communicating with the interior thereof, substantially as set forth.

3. In a cistern cleaner, the combination of a shallow suction cup having a scalloped lower edge and a flexible cover at the top, and a hand pump, the cylinder of which is provided with a flexible joint and is attached directly to said flexible top cover of the cup, substantially as set forth.

4. In a cistern cleaner, the combination of a shallow suction cup provided with a top

opening, a flexible cover fitted within said top opening and clamped to the edges thereof by a water tight joint, and a hand pump the cylinder of which is connected to said flexible cover, substantially as set forth.

5. In a cistern cleaner, the combination of a shallow suction cup provided with a flexible top cover, a valved cage secured centrally to said flexible top cover and provided at its lower end with a curved rest bar and at its upper end with a perforate top plate, and a hand pump the cylinder of which is fitted at its lower end onto said valved cage, substantially as set forth.

6. In a cistern cleaner, the combination of a shallow suction cup provided with a flexible top cover, a valve cage attached centrally to said flexible cover; the pump cylinder having a flexible joint and fitted at its lower end onto said valve cage, said pump cylinder being extended into a discharge tube having at its upper end a stuffing box and an off-standing discharge spout, a hand operated plunger rod working through said stuffing box, and a valved plunger secured to the inner end of said rod and working within the pump cylinder, substantially 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.

ROBERT H. GRAY.

Witnesses:

J. E. HUNTER,  
P. D. ROBINSON.