(No Model.)

J. W. MASTER.

WELL OR CISTERN CLEANER.

No. 484,214. Patented Oct. 11, 1892.

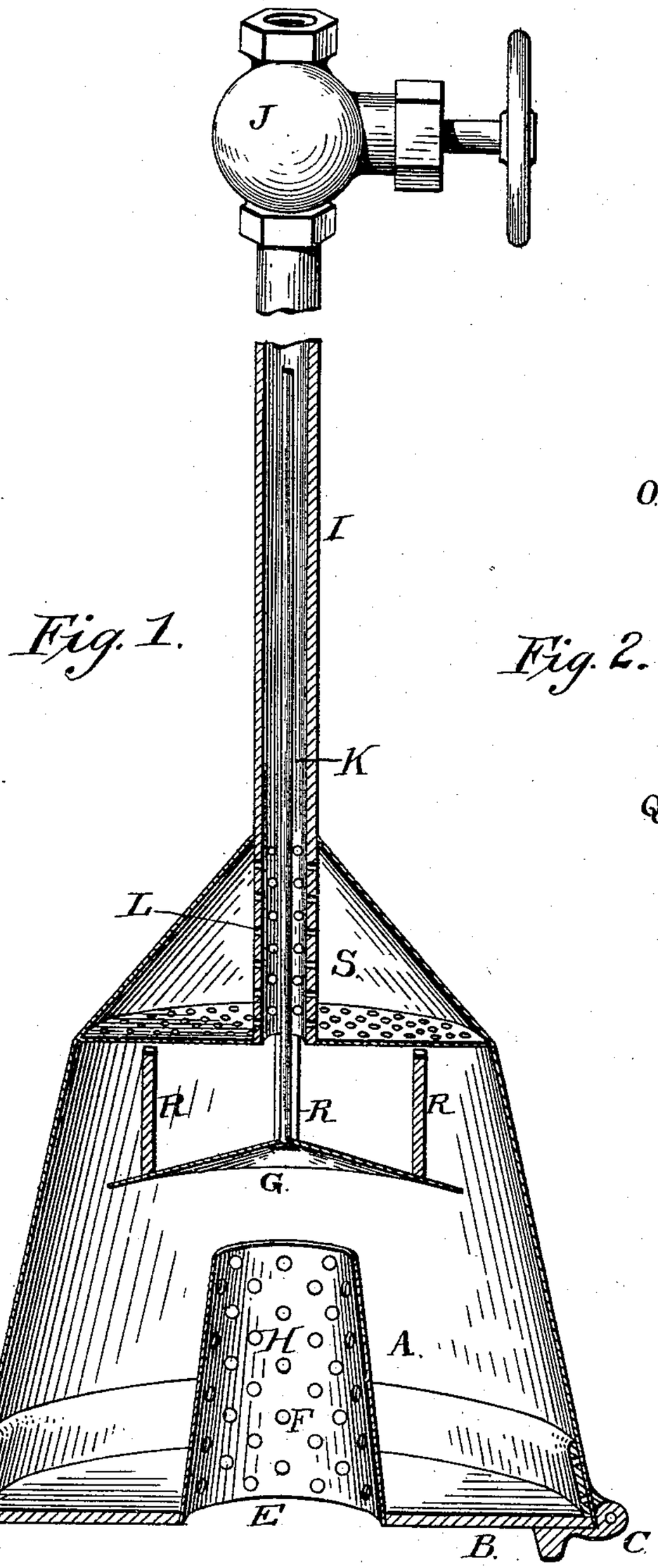

Fig. 1.

Fig. 2.

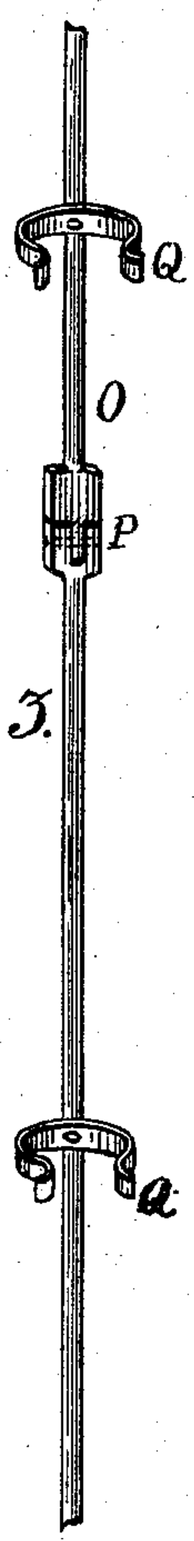

Fig. 3.

Witnesses
Severance.
Geo. L. Clark

Inventor
James W. Master,
by F. B. Brock
Attorney

UNITED STATES PATENT OFFICE.

JAMES WILLIAM MASTER, OF CHARLESTON, ILLINOIS.

WELL OR CISTERN CLEANER.

SPECIFICATION forming part of Letters Patent No. 484,214, dated October 11, 1892.

Application filed February 10, 1892. Serial No. 420,939. (No model.)

To all whom it may concern:

Be it known that I, JAMES WILLIAM MASTER, a citizen of the United States, residing at Charleston, in the county of Coles and State of Illinois, have invented certain new and useful Improvements in Well or Cistern Cleaners; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Figure 1 is a central vertical sectional view and partial perspective of a well and cistern cleaner embodying my improvements. Figs. 2 and 3 are detail views of the pipe connections.

The object of my improvements is to provide a simple, cheap, and effective portable device which shall be free from valves in its lower operating parts and capable of easy access for the removal of the foreign or extraneous matter collected therein.

For this purpose my invention consists in the following construction and combination of parts, which will first be fully set forth and described, and the features of novelty then pointed out and claimed.

The same letters of reference indicate the same parts in the different figures.

In the drawings, A represents the collector, which is preferably of inverted flaring shape, although I may make it of any other suitable form.

B is a cover upon the bottom of the collector A, which is hinged on one side at C and provided at the other with a catch D, which holds the cover in place until it is desired to open it. The center of the cover is provided with a concentric opening E, within which is riveted or otherwise secured an interiorly-projecting cone H or cylinder having perforations F in the walls thereof. These perforations allow the water within the collector to drain back into the cistern after each operation and retains the rubbish therein. If the cone were imperforate, the collector would stay filled with water and would have to be lifted out of the well after each operation.

G represents a diaphragm arranged above the perforated cone H and is preferably of inverted-dish shape, though a simple disk may be substituted therefor.

R are a series of projections rigid with and secured to the movable diaphragm G for limiting the movement thereof.

I is the main escape-pipe and handle of the device, which is secured to the top of the collector A in a rigid manner and at its upper end is provided with a valve J.

K is a rod attached at its lower end to the diaphragm and projects upwardly within the pipe I for a considerable distance.

L are perforations formed in the lower end of the pipe I.

M represents a flexible hose provided with a suitable coupling N for screw attachment to the upper end of the handle or pipe I.

O is a rod made of sections with swivel or flexible joints P uniting the sections.

Q are spring-clevises riveted or secured to the rod-sections, which spring over the hose and hold it, thereby permitting the ready handling of the cleaner and hose in any position in which it may be necessary to use it—such as obstructions which do not allow of ready access, where, for instance, the well is under the house or porch.

The pipe I acts as an air-escape and air-chamber. The diaphragm serves the purpose of preventing leaves and other matter from passing into the pipe I, so as to clog the same and prevent its action. The foreign matter and sediment after being received into the collector is removed, after the collector is taken out of the well or cistern, by unlatching the bottom B and swinging it open. The cleaner is let down into the well or cistern with the valve J closed, thereby forming an air-lock to prevent an ingress of water to the collector. When the latter rests upon the well-bottom, the valve J is opened and the water rushes into the collector, carrying the sediment with it, thereby forcing up the diaphragm G, which rests on the cone H, and deflecting the sediment outwardly and downwardly into the collector. After the action the diaphragm falls again. An air-chamber S is formed above the collector, having a perforated wall T connecting therewith and with the escape-pipe I through perforations L. This air-chamber forms a more perfect air-

cushion than can be secured by utilizing the pipe connection I, the collector A filling with water when the valve J is open. The perforations between the chamber S and the collector and the escape-pipe serve to prevent the filth and rubbish from effecting an entrance and lodgment in the air-chamber.

When the collector is at the bottom of the cistern and the cock J is opened, the imprisoned air therein escapes through pipe I and the water and sediment in the cistern rushes in to take the place of the air. The perforations in the top of the collector and in the pipe I serve to divide the flow of water and sediment into the lower end of pipe I by causing the flow in part to pass through the chamber S, and thereby prevent any tendency of the pipe I at that point, as well as the valve, to clog with sediment. The flow from the collector through the perforations has an effect of checking the more solid portions of the sediment before reaching the pipe I until the escape of air is neutralized, after which they drop down and settle quickly in the bottom of the collector.

I claim—

1. In a well or cistern cleaner, the combination of a collector having an inlet-opening provided with an interiorly-projecting perforated cone, a vertically-moving diaphragm adapted to cover said opening, having projections or stops for limiting its motion and a rod which enters the pipe connection, a pipe connection for the collector serving, also, as a rod-guide, and an air-chamber in the upper portion of the collector and exterior to the pipe and having connections with the pipe and collector.

2. In a well or cistern cleaner, the combination of a collector having an inlet-opening and a pipe connection and a supplementary air-chamber in the upper portion of the collector, a perforated wall between the collector and air-chamber, and perforations in the pipe connection between the said pipe and air-chamber.

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

JAMES WILLIAM MASTER.

Witnesses:

H. A. NEAL,

ELI WILEY.