(No Model.)

I. E. OVERPECK.

WATER PURIFIER.

No. 418,470. Patented Dec. 31, 1889.

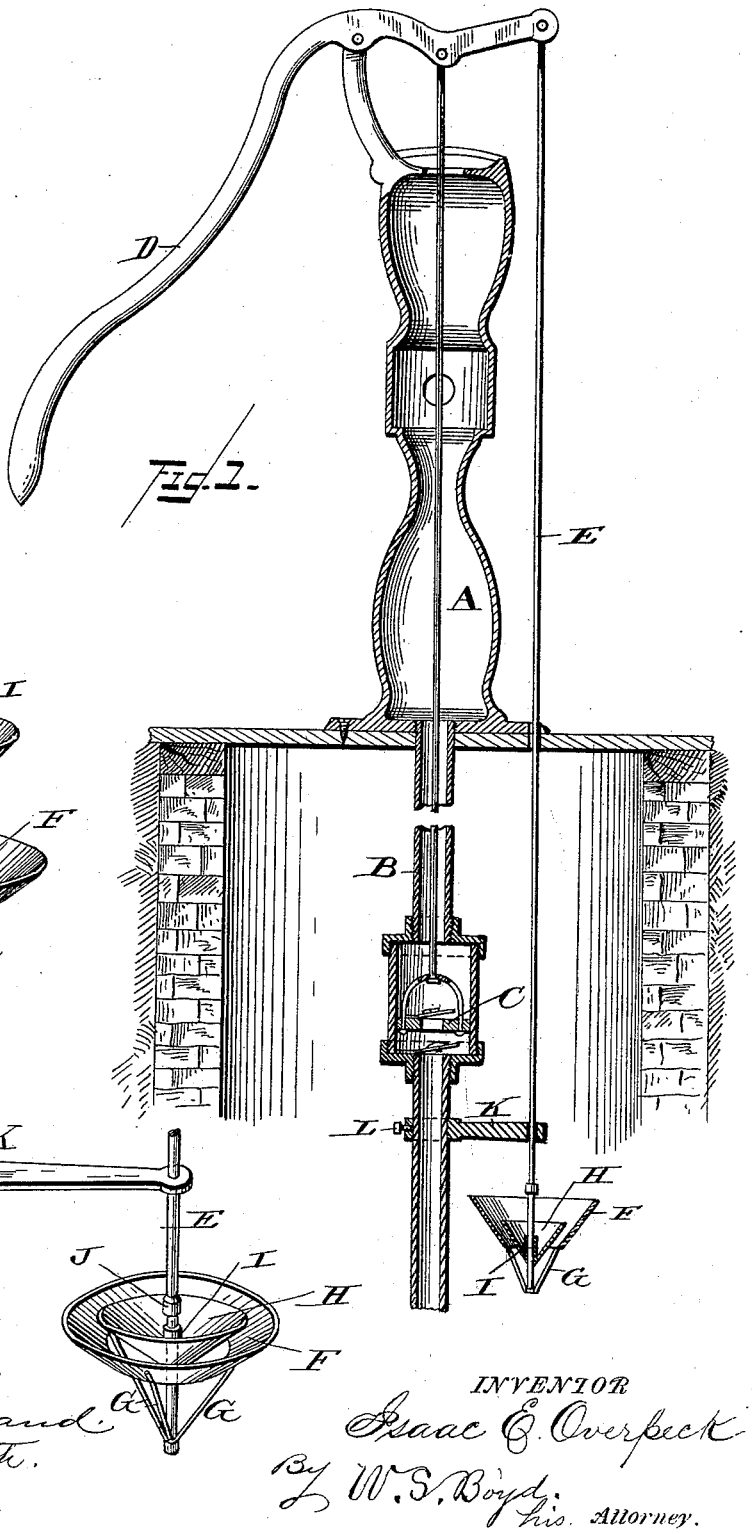

Fig. 1.

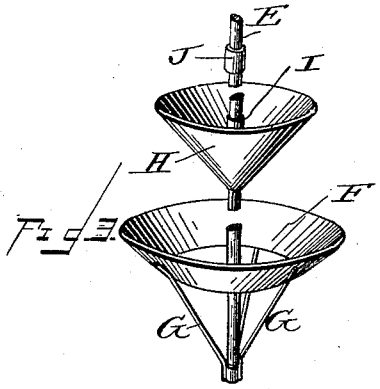

Fig. 3.

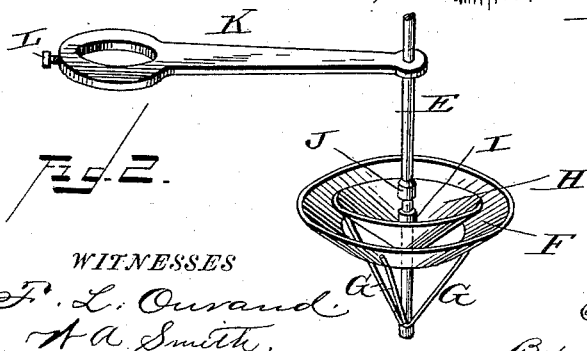

Fig. 2.

WITNESSES

F. L. Ourand.

H. A. Smith.

INVENTOR

Isaac E. Overpeck

By W. S. Boyd, his Attorney.

N. PETERS. Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

ISAAC E. OVERPECK, OF OVERPECK, OHIO, ASSIGNOR TO EDSON L. OVERPECK AND STELLOEL SMITH.

WATER-PURIFIER.

SPECIFICATION forming part of Letters Patent No. 418,470, dated December 31, 1889.

Application filed August 15, 1889. Serial No. 320,843. (No model.)

To all whom it may concern:

Be it known that I, ISAAC E. OVERPECK, a citizen of the United States, residing at Overpeck, in the county of Butler and State of Ohio, have invented certain new and useful Improvements in Water-Purifiers for Pumps; 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, and in which—

Figure 1 is a vertical sectional view of a pump with my attachment secured thereto. Fig. 2 is an enlarged perspective view of my attachment, and Fig. 3 is a similar view showing the parts of the attachment detached or separated from each other.

My invention relates to pumps, or more particularly to attachments to the same for the purpose of purifying the water; and it consists in the improved construction and combinations of parts of the same, as will be hereinafter more particularly described, and pointed out in the claims.

Referring to the accompanying drawings, in which the same letters of reference indicate corresponding parts in each of the figures, A indicates the pump, which may be of any ordinary construction, having the stock B, extending down into the water, the valve or sucker C, and the handle D for operating it.

E indicates a rod of any desired size and length, which is connected with the handle D at its upper end and is provided at its lower end with my improved agitator or purifier.

The purifier consists of a flaring rim F, which is secured to the lower end of the rod E by means of three or more stays or braces G, which support the rim at a slight distance above the extreme lower end of the rod E, and also at an equal distance from it, where it encircles the rod. Within this rim is loosely secured upon the rod E a conical-shaped valve H, the apex of which is downward and the base upward, so that when at its lowest point upon the rod E the apex is at the lower end of the rod and the base fits closely within the interior lower edge of the flaring rim F, thus making a cone-shaped cup, the base of which is formed by the upper edge of the rim F and the apex is at the lower end of the rod E. To cause the valve H to always fit within the rim F, a sleeve or collar I is secured at the apex of the valve, which fits around the rod E and permits the vertical movement of the valve, but prevents its toppling over to one side or the other as the pump is being operated. The upward movement of the valve is controlled or limited by means of a collar or stop J upon the rod E, which can be rigidly secured upon the rod, or adjustably so, by means of an ordinary set-screw.

Near the lower end of the stock B an arm K is secured by means of a set-screw L or otherwise, which projects laterally from the stock and is provided at its outer end with a hole or aperture through which the rod E passes, and is kept from moving out of line as it (the rod) is moved up and down by the movement of the handle D. This arm can be made to be secured upon any style of stock, although I have shown it secured upon a round stock, the only requisite being that its outer end be at a sufficient distance from the stock to prevent the purifier from coming in contact with the stock.

In use the purifier is attached to the pump by securing the upper end of the rod E to the handle D by any ordinary means, such as a bolt passed through the rod and handle and at a suitable distance from the pivotal point of the handle, so that as the handle is operated to raise the water the rod will be moved up and down. By extending the end of the handle, as shown in the drawings, and attaching the end of the rod to the extended portion a longer stroke is given to the purifier, and consequently a greater agitation is produced in the water and a correspondingly greater good results; but if it is not convenient to thus extend the end of the handle, as in applying it to pumps already constructed and in use, the upper end of the rod E can be easily attached to the handle intermediate its pivotal point and the end grasped by the hand of the operator. The rod passes down through a hole or opening through the plat-

form of the pump, and also through the hole in the end of the arm K, and the purifier is located as near the bottom of the well or cistern as may be desired. As the handle is moved for raising the water through the body of the pump, the purifier is operated, and by its peculiar construction a current or movement of the water is created from the bottom to the top, which thus causes the entire contents of the well or other reservoir to be brought to the surface and exposed to the action of the atmosphere and purified. On the downstroke of the purifier the valve H opens or slides up on the rod E until the upper end of the sleeve I comes in contact with the collar J, where it is retained by the pressure of the water which is passing between the valve and the rim F. As soon as the purifier starts on its upstroke the valve slides down until its upper edge or base comes in contact with the interior lower edge of the rim F and prevents the passage of the water between the two, and thus carries it upward with the purifier with sufficient force to cause it to pass on up to the surface, where the purifier does not reach the surface of the water on its upstroke. Owing to the opening of the valve on the downstroke, there is comparatively no pressure exerted upon the water as the purifier goes toward the bottom, and consequently there is no current or movement of the water in that direction, and the sediment at the bottom of the reservoir is not disturbed or "roiled up," as would be the case where the purifier is not placed with its apex downward and provided with upwardly-opening valves. In this manner the purifier can be located so near the bottom of the reservoir that all of the water can be agitated or passed to the surface, and without disturbing the sediment at the bottom, which would cause it to be drawn into the stock of the pump with the water and emptied into the receptacle at the spout.

As the rim and valve of the purifier can be made out of galvanized iron, and the stays or braces for the rim can be made out of wire or small rods, the device can be constructed so simple and durable that it will need no attention after having been placed in position; and as the entire device, except the upper end of the rod, can be placed below the surface of the water there will be no danger from freezing.

Having thus described my invention, I claim—

1. An agitator for purifying the water of wells, cisterns, &c., consisting of a rod for operating it, an outwardly-flaring rim secured to the lower end of the rod, and a downwardly-pointed cone-shaped valve within the rim, the upper portion or base of which is of a larger diameter than the diameter of the lower portion of the rim and adapted to engage therewith, substantially as described.

2. An agitator for purifying the water of wells, cisterns, &c., consisting of a rod for operating it, an outwardly-flaring rim, stays for securing the rim to the lower end of the rod, and a downwardly-pointed cone-shaped valve within the rim, the base of which is adapted to engage with the lower portion of the rim, substantially as described.

3. An agitator for purifying the water of wells, cisterns, &c., consisting of a rod for operating it, an outwardly-flaring rim secured to the lower end of the rod, a downwardly-pointed cone-shaped valve within the rim having a sleeve for engaging with the rod, and a stop on the rod above the sleeve for limiting the upward movement of the valve, substantially as described.

4. The combination, with a pump, of a laterally-extending arm secured to the stock having a hole at its outer end, a rod within said hole, the upper end of which is secured to the handle of the pump, and a purifier secured to the lower end having upwardly-opening valves.

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

ISAAC E. OVERPECK.

Witnesses:
I. J. WEHR,
A. J. WEHR.