No. 830,680. PATENTED SEPT. 11, 1906.

H. A. SILVERA.

DISINFECTING APPARATUS.

APPLICATION FILED MAY 25, 1904.

Fig. 2.

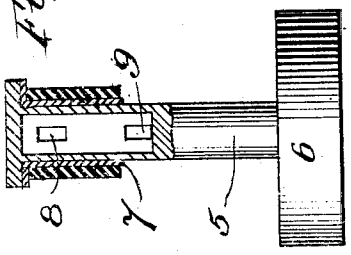
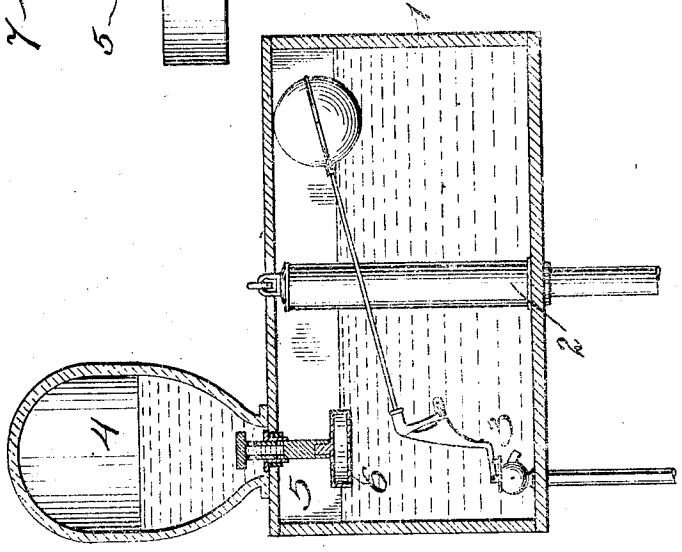


Fig. 1.



WITNESSES:

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DISINFECTING APPARATUS.

No. 830,680. Specification of Letters Patent. Patented Sept. 11, 1906.

Application filed May 25, 1904. Serial No. 209,667.

To all whom it may concern:

Be it known that I, HERBERT A. SILVĒRA, a citizen of the United States, residing at the city of New York, in the borough of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Disinfecting Apparatus; and I do hereby 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.

My invention relates generally to disinfecting, fumigating, or deodorizing apparatus, and particularly to apparatus designed to be used in connection with a flush-tank or the like for impregnating the water in said tank with a disinfecting, deodorizing, or odor-disguising substance.

My invention consists in means whereby when the tank fills a measured quantity of the material to be used in impregnating the water in the tank is discharged therein.

The objects of my invention are to impregnate the water in flush-tanks and the like with a suitable disinfecting, deodorizing, or odor-disguising substance, to avoid unnecessary waste of the substance so employed for impregnating the water, and to make the apparatus employed simple, reliable, and relatively inexpensive.

I will now proceed to describe my invention with reference to the accompanying drawings, in which certain forms of apparatus embodying my invention are illustrated, and will then point out the novel features in claims.

In the said drawings, Figure 1 shows a vertical section of one form of my apparatus as applied to a flush-tank. Fig. 2 shows a central longitudinal section of the valve of such apparatus on a larger scale.

Referring now to the drawings, I have shown my invention as applied to an ordinary flush-tank such as is commonly used with sanitary apparatus and which is provided with a conventional form of discharge-valve 2 and with a float-operated inlet-valve 3. The disinfecting or other material is commonly contained within a closed vessel 4, usually placed above and over the tank 1 and having in its bottom a discharge-valve 5, operated by a float 6 and arranged each time the tank fills to discharge a measured quantity of the disinfecting material into the water in said tank. This valve may have various forms and constructions. In the construction shown in Figs. 1 and 2 it consists of a hollow cylinder, both ends of which are closed, the interior of the valve constituting, in effect, a measuring-chamber arranged to receive at each operation a definite quantity of the disinfecting material and in the next succeeding operation to discharge its load into the water in tank 1. For this purpose the valve is arranged to slide vertically within a guide-bushing 7 and is provided with two ports 8 and 9, the former located near the top of the internal chamber of the valve, the latter located near the bottom of said chamber.

In the elevated position of the valve port 8 is in communication with the interior of vessel 4 and port 9 is closed by bushing 7, while in the opposite position of said valve port 8 is closed by the bushing 7 and port 9 is open.

The operation of this apparatus will be understood readily. Upon the opening of the discharge-valve 2 of tank 1 the water-level in the tank will fall rapidly, and as it falls the valve 5 will open, discharging its disinfecting material into the tank. During the subsequent filling of the tank the float 6 will lift the valve 5, thus causing port 8 to open, so that the valve again fills and remains filled until through fall of the water-level in tank 1 port 9 is opened and port 8 closed. The valve 5 slides freely through the bushing 7, but nevertheless forms a sufficiently tight joint therewith to prevent leakage. It will be observed that the vessel 4 is never in communication with the outer air. Each time the chamber in the valve fills with disinfecting material from said vessel air passes from said chamber into vessel 4 to take the place of the disinfecting material discharged, and when said chamber of the valve discharges its load of disinfecting material it fills again with air. In the normal position of the valve the measuring-chamber of the valve is closed to the atmosphere. My disinfecting apparatus is therefore particularly adapted for using disinfecting materials which are volatile or which suffer loss or deterioration when exposed freely to the air and for using disinfecting materials possessing an odor which it is not desired to disseminate. It will be obvious that this valve is not restricted to use with liquids, but that it may be arranged to discharge each time into the flush-tank a measured amount of powder or similar material which will flow somewhat like water with-

in the vessel 4. In such case it may be necessary to make the ports of the valve proportionately larger than illustrated in Fig. 2.

It will be obvious that my invention is susceptible of many variations and modifications of construction and arrangement of the parts, and I do not limit myself to the particular construction herein shown and described.

What I claim is—

1. In a flush-tank, the combination of a flush-tank provided with means for varying the liquid-level therein, a sealed disinfectant-chamber mounted on the tank, a float in the tank and a disinfectant-measurer mounted on and operated by said float, said measurer in its upward movement communicating with the chamber and on its lower movement with the tank.

2. In a flush-tank, the combination of a flush-tank provided with means for varying the liquid-level therein, a sealed disinfectant-chamber mounted on the flush-tank, a float in the tank, a valve-casing between tank and chamber, a hollow valve-stem mounted on the float and fitting within the valve-casing and provided with two perforations at different levels, and means limiting the downward travel of the stem, whereby in its upward travel the hollow of the stem communicates with the chamber and in its lower travel with the flush-tank.

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

H. A. SILVĒRA.

Witnesses:
H. M. MARBLE,
MINERVA PAPE.