

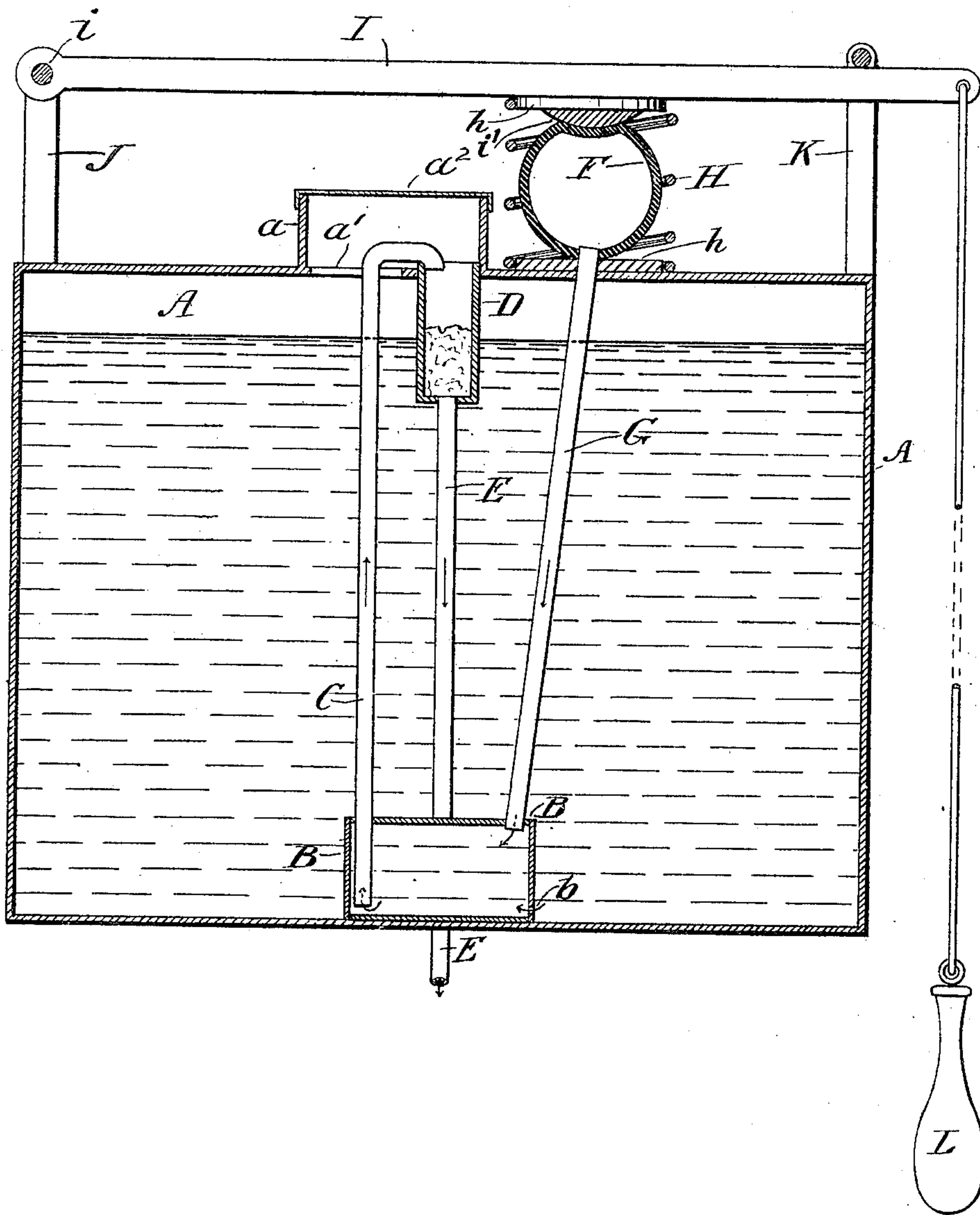
No. 649,583.

Patented May 15, 1900.

F. J. MITCHELL.
DISINFECTING APPARATUS.

(Application filed Mar. 29, 1897.)

(No Model.)



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DISINFECTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 649,583, dated May 15, 1900.

Application filed March 29, 1897. Serial No. 629,761. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK J. MITCHELL, a citizen of the United States, and a resident of the city, county, and State of New York, have made certain new and useful Improvements in Disinfecting Apparatus, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing forming part of this specification.

The object of my invention is to provide an apparatus for the delivery of liquid disinfectants by pneumatic pressure and which may be actuated by the manual operation of a simple hand-pull.

To this end the invention consists in the combination, with a supply-reservoir adapted to contain the desired supply of the liquid disinfectant, of an auxiliary reservoir connected with the lower part of the supply-reservoir, a discharge-conduit connected with the auxiliary reservoir and rising above the liquid-level of the supply-reservoir, an air-forcing device consisting of a compressible elastic bulb connecting with the auxiliary reservoir, and a lever arranged to compress and discharge said bulb and create a pneumatic pressure in the auxiliary reservoir when the hand-pull is operated.

It consists, further, in the arrangement and combination of parts and details herein shown and described, and specifically pointed out in the claims.

The accompanying drawing shows a sectional elevation of my improved device.

In said drawing, A indicates the supply-reservoir of sufficient size to contain the requisite supply of liquid disinfectant and which may be secured in any suitable position above the level of the closet-bowl or other object to which the disinfecting material is to be supplied. The auxiliary reservoir B is arranged in the lower part of the reservoir A and communicates therewith by means of the small opening *b* in the side of the reservoir B, so that the auxiliary reservoir B will always be completely filled so long as the liquid-level in the reservoir A does not fall below the top of the auxiliary reservoir B. The discharge-conduit C enters the auxiliary reservoir B through its top and extends upwardly above the normal high level of the liquid in the res-

ervoir A. In this manner any discharge from the reservoir B is prevented under normal conditions until the apparatus is put into operation, as hereinafter described. The upper part of the discharge-conduit C is bent and carried over the top of the measuring-chamber D, which, as shown, is partially filled with suitable fibrous material, such as cotton. The pipe E connects with the lower part of the chamber D, and through it the liquid disinfectant is carried to the point of application.

F is a hollow rubber ball or bulb formed of some compressible material and preferably of rubber. The pipe G connects the interior of the bulb F with the upper part of the auxiliary reservoir. The bulb F is preferably arranged on top of the reservoir A, as shown, and is surrounded by an open coil helical spring H. The spring is held in place by the centering-bosses *h*, one of which is secured to the top of the reservoir A and the other of which is secured to the under side of the lever I. The under side of the latter is provided with a convex projection or bearing-surface *i'*, which rests on the top of the bulb F. The lever I is pivoted at *i* to the standard J. Standards K (only one of which is shown in the drawing) are secured to the opposite end of the reservoir A and serve as guides for the free end of the lever I. The free end of said lever is connected by an ordinary chain or rope to the hand-pull L. A cup *a* surrounds the measuring-chamber D and the filling-opening *a'*. The removable cover *a''* is provided to exclude dust from the apparatus. The spring H serves not only to hold the bulb F in position, but also operates to return the lever to the position shown in the drawing when the hand-pull L is released.

The operation of the device is as follows: When the reservoir A is filled with the liquid disinfectant, it will flow through the opening *b*, filling the auxiliary reservoir B and rising in the pipes C and G to the level of the liquid in the reservoir A. To operate the machine, the hand-pull L is pulled downwardly, carrying with it the lever I, which will compress the bulb F. The compression of the bulb F will create sufficient pressure behind the liquid in the reservoir B and pipe C to cause

the same to flow over into the measuring-chamber D. The parts are preferably so adjusted and proportioned that considerably more liquid will be forced through the pipe 5 C than is sufficient to fill the chamber D; and the surplus will flow into the cup *a* and again enter the reservoir A through the opening *a'*. As the pressure produced by the compression of the bulb F is exerted suddenly and as the 10 opening from the chamber D is nearly closed by the cotton or other restricting substance, the amount of disinfectant received and held by the measuring-chamber at each operation of the apparatus is practically constant under 15 fixed conditions and may be varied as desired by simply varying the amount of the packing *d*. The liquid discharged in the chamber D will percolate slowly through the packing into the pipe E and will be carried 20 thereby to the point at which it is desired to apply the disinfecting liquid. Upon the release of the pull L the spring H will return the lever I to its original position.

I do not claim herein, broadly, the combination of the parts herein shown in combination with any form of air-forcing device. Such combination forms the subject-matter of my application, Serial No. 622,696, filed February 9, 1897, and I make no claim herein to 30 the device shown, except in combination with the special form of air-forcing device shown, and specifically designated in the claims.

Having thus described my invention, what I claim as new, and desire to secure by Letters 35 Patent, is—

1. In a disinfecting apparatus for manual operation, the combination of a supply-reservoir, a smaller auxiliary reservoir secured to the lower portion thereof, an opening between 40 the lower part of the supply-reservoir and the auxiliary reservoir, a discharge-conduit

leading from the auxiliary reservoir and rising above the liquid-level of the supply-reservoir, a compressible elastic bulb carried on the top of the supply-reservoir, a tube or conduit 45 connecting the interior of said bulb with the interior of the auxiliary reservoir, a lever extending across the top of the supply-reservoir above said bulb and arranged to bear against the latter, a hand-pull connected with 50 said lever, whereby the latter may be drawn down to compress the bulb, a spring for returning the lever to its normal position when the hand-pull is released, and a stop for arresting the upward movement of the lever, 55 substantially as shown and described.

2. In a disinfecting apparatus for manual operation, the combination of a supply-reservoir, a smaller auxiliary reservoir secured to the lower portion thereof, an opening between 60 the lower part of the supply-reservoir and the auxiliary reservoir, a discharge-conduit leading from the auxiliary reservoir and rising above the liquid-level of the supply-reservoir, a compressible elastic bulb carried on 65 the top of the supply-reservoir, a tube or conduit connecting the interior of said bulb with the interior of the auxiliary reservoir, a lever extending across the top of the supply-reservoir above said bulb and arranged to bear 70 against the latter, a hand-pull connected with said lever, whereby the latter may be drawn down to compress the bulb, a spring for confining the bulb in position and for returning the lever to its normal position when the hand-pull is released, and a stop for arresting the upward movement of the lever, substantially 75 as shown and described.

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