

(No Model.)

H. BLACKMAN.

DISINFECTING APPARATUS FOR WATER CLOSETS.

No. 258,699.

Patented May 30, 1882.

Fig. 1.

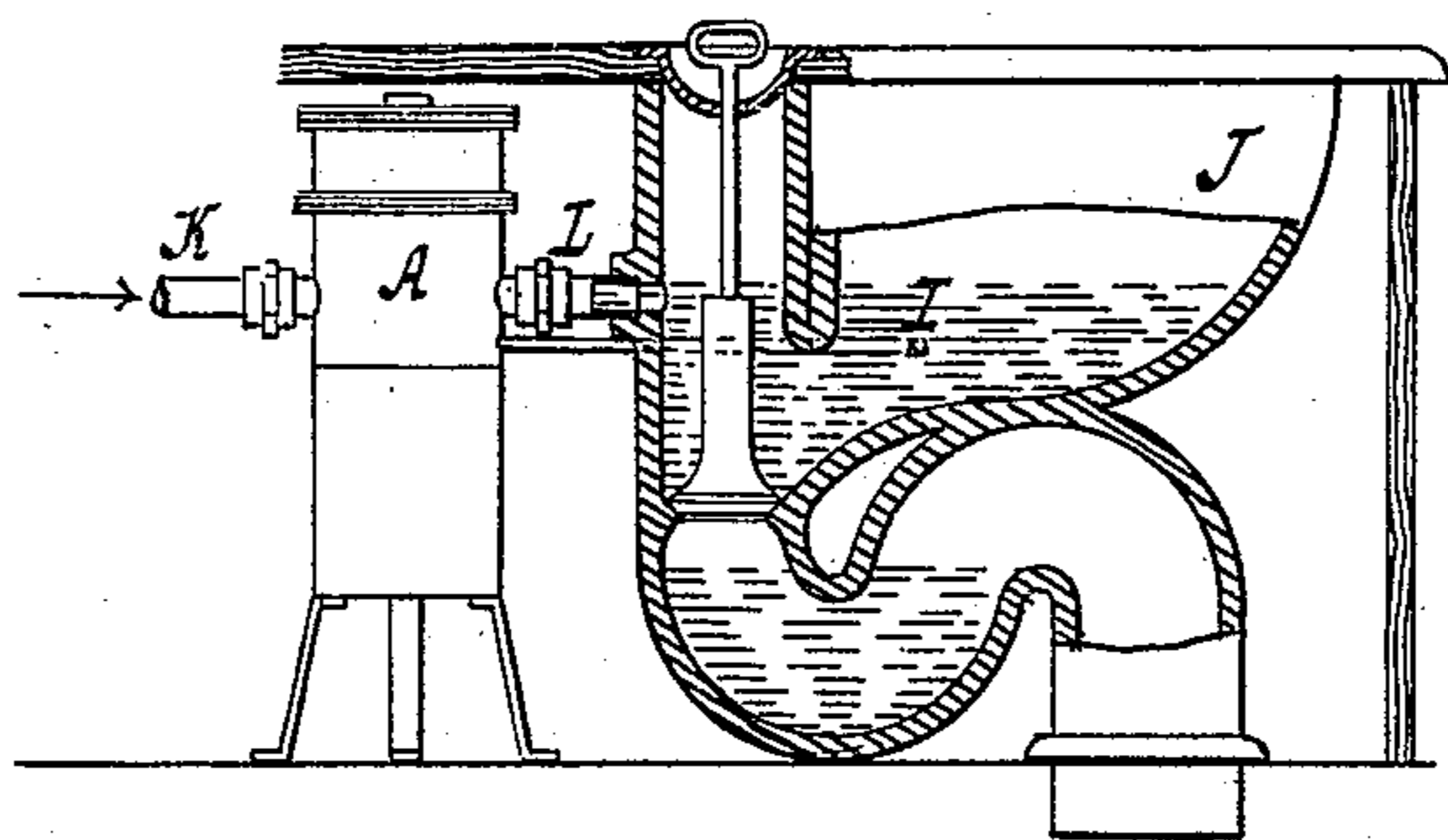


Fig. 2.

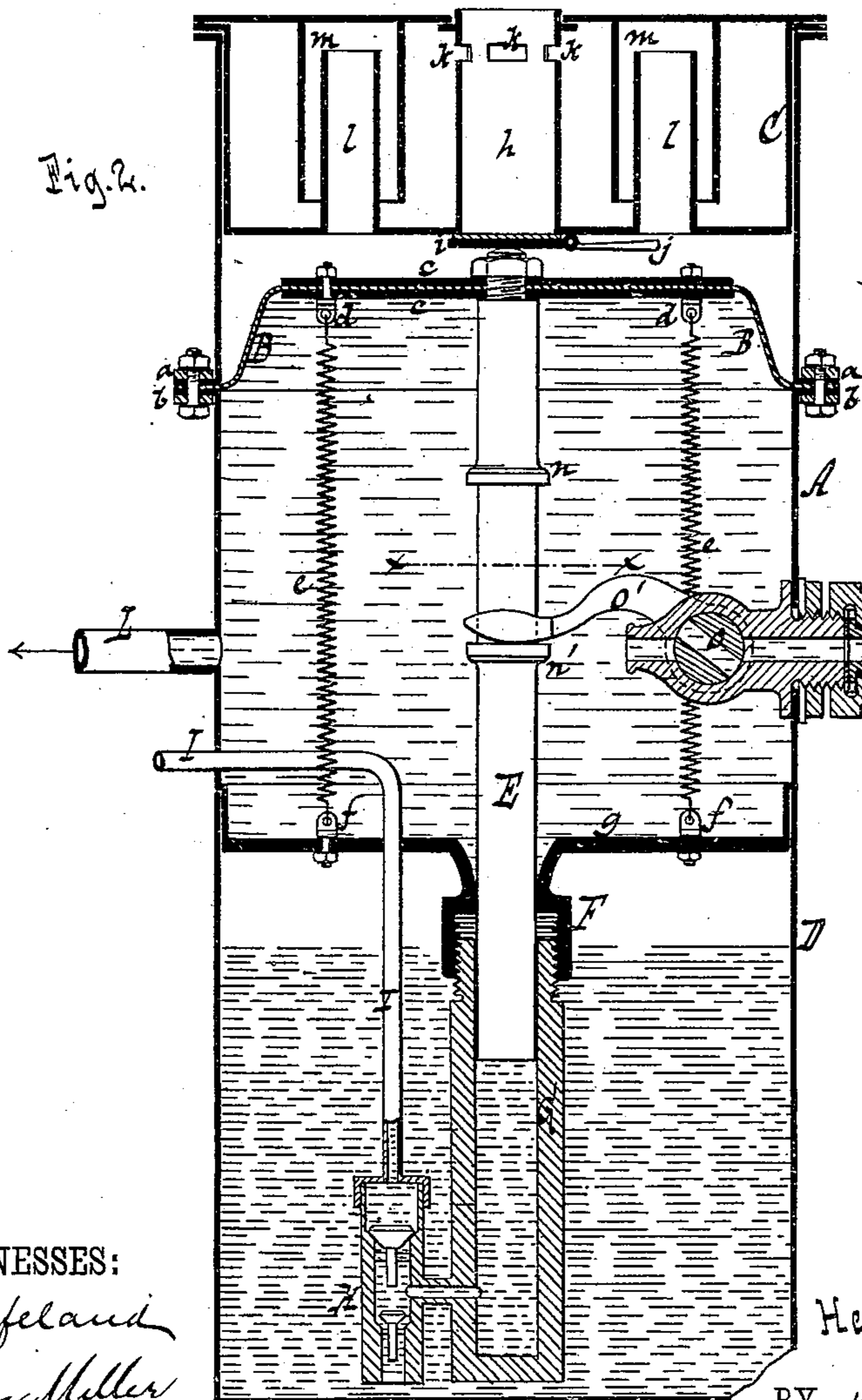
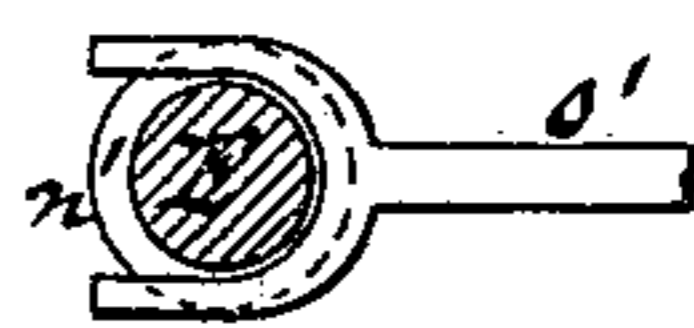


Fig. 3.



WITNESSES:

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DISINFECTING APPARATUS FOR WATER-CLOSETS.

SPECIFICATION forming part of Letters Patent No. 258,699, dated May 30, 1882.

Application filed March 8, 1882. (No model.)

To all whom it may concern:

Be it known that I, HENRY BLACKMAN, a citizen of the United States, residing at New York, in the county and State of New York, have invented new and useful Improvements in Disinfecting Apparatus for Water-Closets, of which the following is a specification.

This invention relates to an apparatus which serves to inject scented air into the room and a disinfecting-fluid into the basin of the water-closet whenever the handle of said closet is operated. The particular construction of my apparatus which forms the subject-matter of this application for a patent is pointed out in the following specification.

In the accompanying drawings, Figure 1 represents a side elevation of my disinfecting apparatus as connected to a water-closet. Fig. 2 is a vertical central section of the disinfecting apparatus detached, on a larger scale than the previous figure. Fig. 3 is a horizontal section in the plane *x x*, Fig. 2.

Similar letters indicate corresponding parts.

In the drawings, the letter A designates a vessel, which may be cylindrical or of any other suitable form, and which is made of sheet metal or any other material suitable for the purpose. In the interior of this vessel is secured a flexible diaphragm, B, which is made of india-rubber or any other suitable material, and the edge of which is firmly secured between the two flanges *a b*. (See Fig. 2.) The middle portion of this diaphragm is stiffened by metallic plates *c*, and in these plates are secured a series of eyebolts, *d*, from which extend spiral springs *e* to eyebolts *f*, which are firmly secured in the bottom *g* of the vessel A, said springs being arranged in such a manner that they have a tendency to draw the diaphragm down. In the top of the vessel is placed a drum, C, through the center of which extends a tube, *h*. This tube is open at the top and provided at the bottom end with a valve, *i*, which closes by a weight, *j*. In the sides of said tube are openings *k*, leading into the interior of the drum. From the bottom of the drum rise two pipes, *l l*, which are surrounded by cups *m m*, depending from the top of the drum, so that if air is forced up against the bottom of the drum such air will pass up through the pipes *l l*, down through the cups *m m*, and finally out through

the openings *k* in the central tube, *h*. The drum C is intended to be filled with a suitable disinfecting or scenting material, by preference in a liquid state.

Beneath the vessel A is situated an additional vessel, D, which fits the bottom *g* and contains a suitable disinfecting-liquid.

From the diaphragm B extends a plunger, E, through a stuffing-box, F, on the bottom *g*, into a cylinder, G, which is secured in the stuffing-box. The bottom part of this cylinder connects with a valve-chamber, H, from which extends a pipe, I, into the basin J, Fig. 1, of the water-closet.

On the plunger E are two collars, *n n'*, which serve to actuate a forked lever, *o'*, secured to a valve, *o*, which is situated in the water-supply pipe K, and from the vessel A extends a pipe, L, into the basin J, Fig. 1.

When the vessel A is empty the diaphragm B is down and the valve *o* is open. The water from the supply-pipe K rushes in and forces the diaphragm B up to the position shown in Fig. 2, when the valve *o* is closed automatically by the collar *n'*. If the handle M, Fig. 1, of the water-closet is now raised, so as to empty the basin of the water-closet, the water from the vessel A discharges through the pipe L into the basin, the diaphragm B being drawn down by the spring *e* until the collar *n* opens the supply-valve *o*, and if the handle of the water-closet has been closed in the mean time, the vessel A and the basin are filled with water until the diaphragm B reaches the position shown in Fig. 2, when the supply-valve is closed by the action of the collar *n'*. During the downward motion of the diaphragm B air is drawn in through the central tube, *h*, of the drum C, and when the diaphragm is forced upward by the pressure of the supply-water the valve *i* closes and the air is forced out through the pipes *l l* into the disinfecting material contained in the drum; and after having been impregnated with this disinfecting material, the air escapes through the openings *k* into the room. At the same time, when the diaphragm B moves downward, the plunger E forces the disinfecting-liquid contained in the cylinder G out through the pipe I into the basin J, and when the diaphragm rises a fresh supply of disinfecting-liquid is drawn into said cylinder

from the vessel D. By these means the air in the room is disinfected, as well as the basin of the water-closet.

If desired, the apparatus can be reversed and connected to the water-closet by the pipe K, while the pipe L connects with the water-supply pipe, and is provided with a valve which is actuated by the handle of the closet in the well-known manner. In this case the valve *o* must be so placed that it is open when the diaphragm is up and closed when the diaphragm is down.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, substantially as hereinbefore described, of the vessel A, the diaphragm D, the connections K L, the disinfecting-drum C, the air-tube *h*, the circulating-pipes *l m*, and the valve *i*.

2. The combination, substantially as hereinbefore described, of the vessel A, the dia-

phragm B, the plunger E, the collars *n n'*, for actuating the valve *o*, and the connections K L.

3. The combination, substantially as hereinbefore described, of the vessel A, the diaphragm B, the plunger E, the cylinder G, the valve-chamber H, and the pipe I, leading into the basin of a water-closet.

4. The combination, substantially as hereinbefore described, of the vessel A, the diaphragm B, the connections K L, the disinfecting-drum C, the plunger E, the pump-cylinder G, and the pipe I, leading into the basin of a water-closet.

In testimony whereof I have set my hand and seal in the presence of two subscribing witnesses.

HENRY BLACKMAN. [L. S.]

Witnesses:

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