

No. 702,041.

Patented June 10, 1902.

C. J. WALZ.
APPARATUS FOR DISINFECTING.

(Application filed Nov. 14, 1900.)

(No Model.)

Fig. 4.

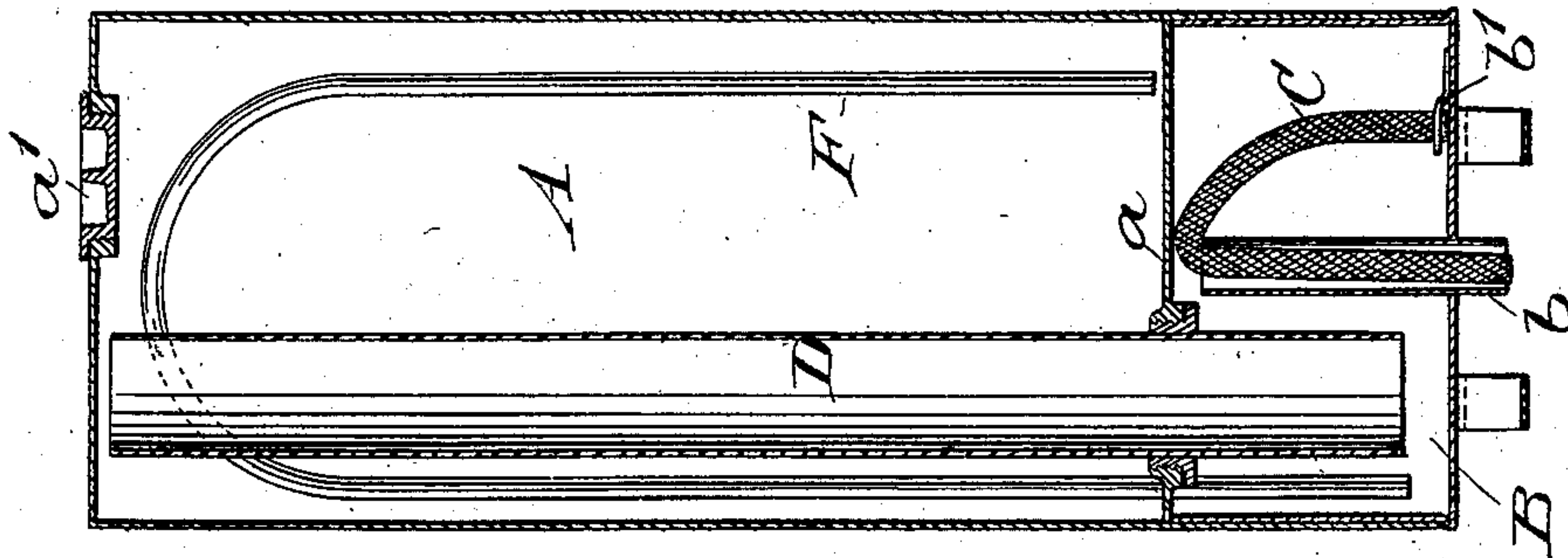


Fig. 3.

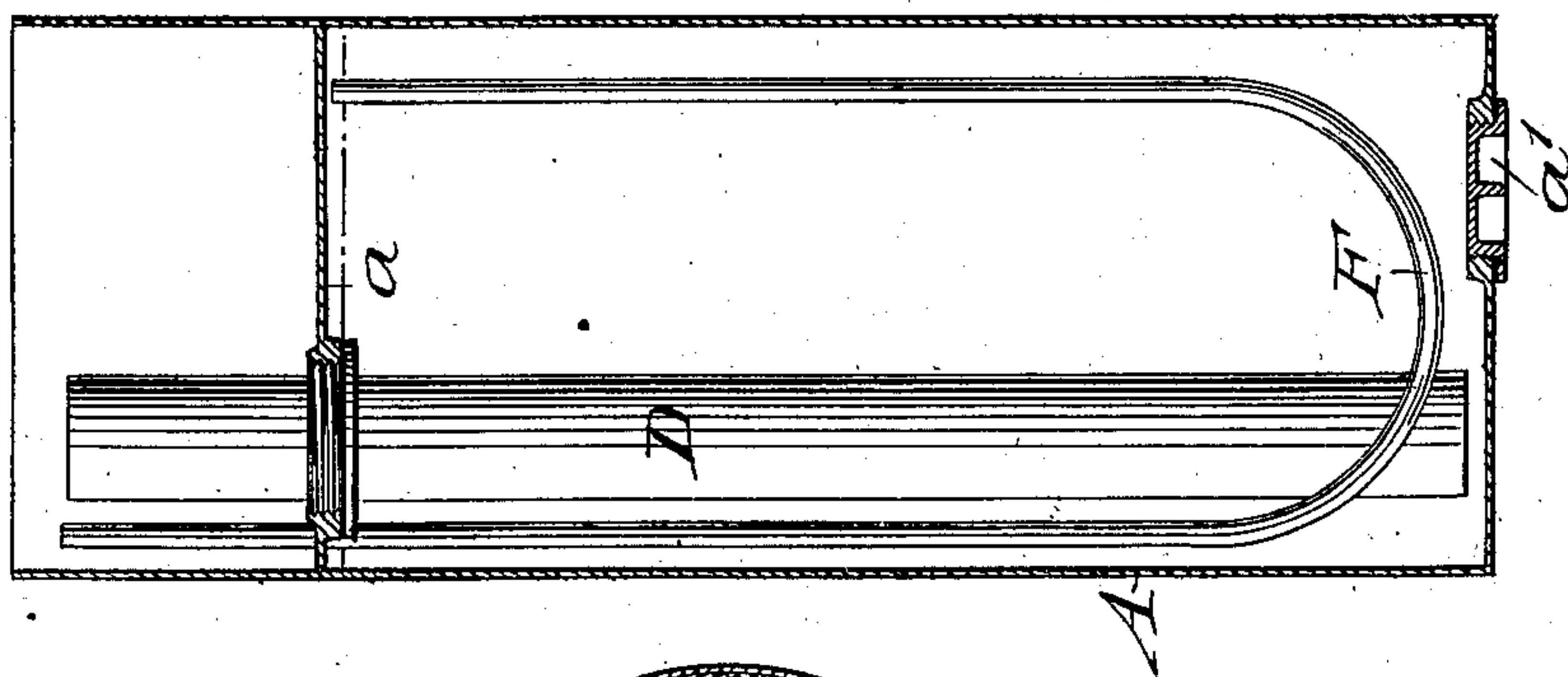


Fig. 2.

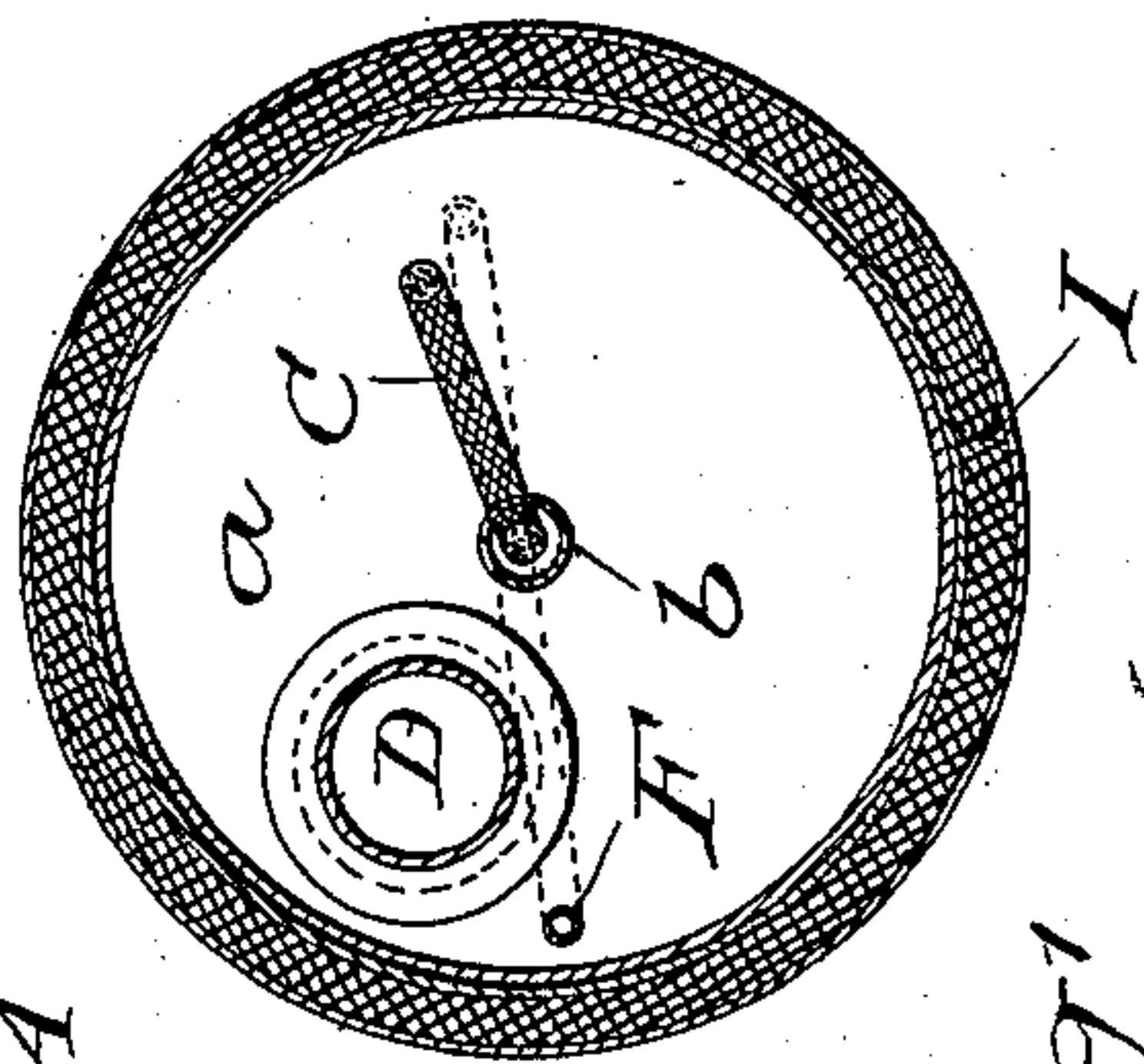
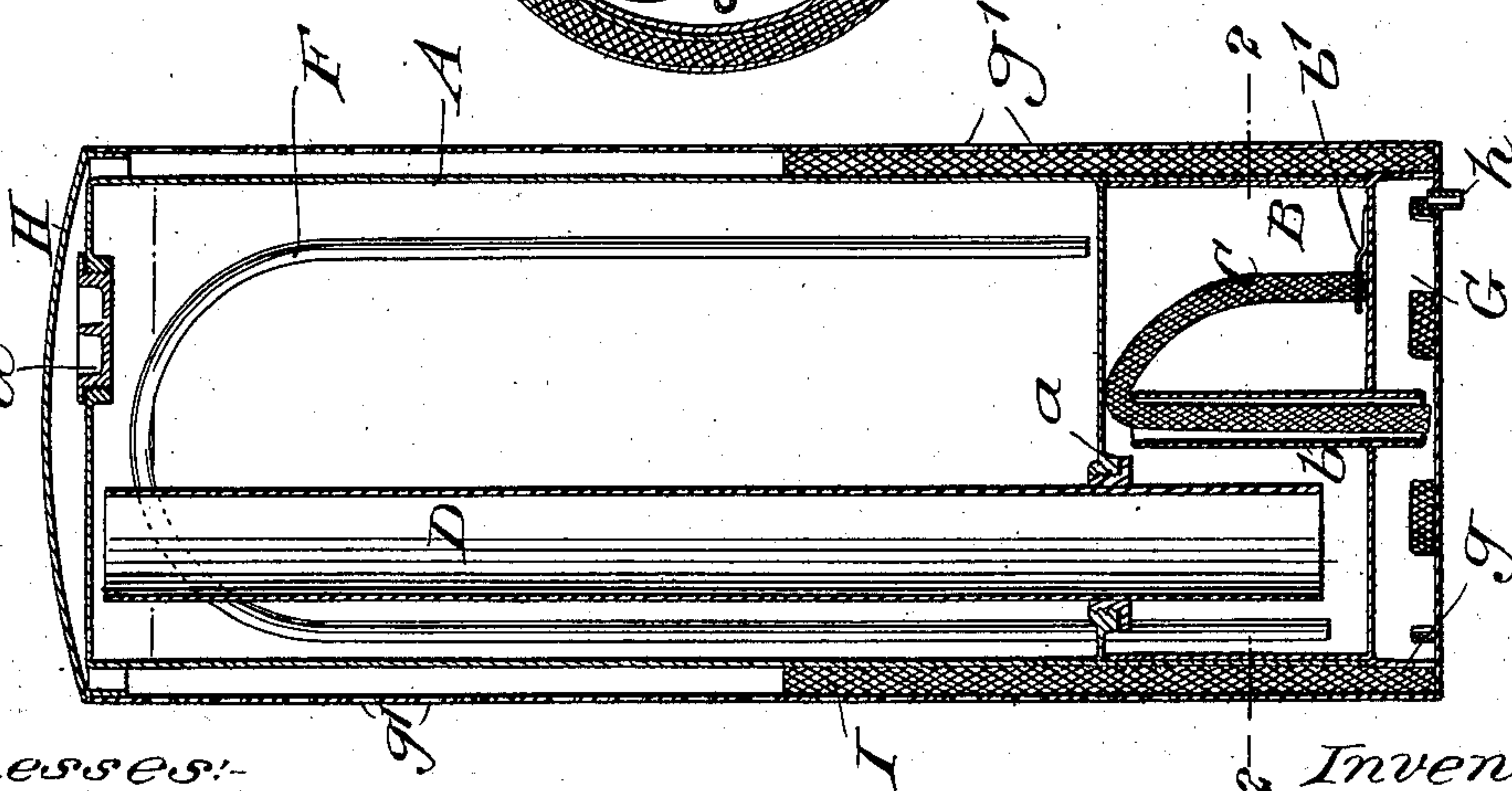


Fig. 1.



Witnesses:
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UNITED STATES PATENT OFFICE.

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APPARATUS FOR DISINFECTING.

SPECIFICATION forming part of Letters Patent No. 702,041, dated June 10, 1902.

Application filed November 14, 1900. Serial No. 36,453. (No model.)

To all whom it may concern:

Be it known that I, CHARLES J. WALZ, a citizen of the United States, and a resident of the borough of Manhattan, in the city and State of New York, have invented a new and useful Disinfecting Apparatus, of which the following is a specification.

My invention relates to disinfecting apparatus, with the object in view of providing simple and effective means for filling the reservoir with disinfecting liquid, maintaining the liquid in the dispensing-chamber at a predetermined height for the purpose of insuring regularity in its discharge, and at the same time providing means for charging the surrounding atmosphere with the disinfecting vapor whenever so desired.

A practical embodiment of my invention is represented in the accompanying drawings, in which—

Figure 1 is a view of the apparatus in vertical section. Fig. 2 is a horizontal section on the line 2 2 of Fig. 1. Fig. 3 is a sectional view in detail of the reservoir in the position which it assumes when it is to be filled through the filling-tube, and Fig. 4 is a vertical section showing the apparatus as it may be employed without the means for diffusing the vapor of the disinfecting fluid into the surrounding air.

The reservoir for the disinfecting fluid is denoted by A. It is here shown cylindrical in cross-section, although its particular shape is not a matter of importance except so far as cheapness in manufacture is concerned. It is made air-tight at the top with a removable screw-cap *a'* and is provided a short distance above its lower open end with a floor or diaphragm *a*, which cuts off communication with the interior except through the cap *a'* and tubes to be hereinafter particularly referred to.

A cup forming the dispensing-chamber is denoted by B, its wall being arranged to telescope and fit with an easy sliding fit within the lower end of the reservoir A below the diaphragm or floor *a*. The cup B is imperforate save only such opening as is afforded through its bottom by the discharge-tube *b*,

which extends from a point near the top of the cup through its bottom.

The liquid is discharged from the dispensing-chamber B by means of a wick C, one end of which is preferably fastened to the floor of the cup—as, for example, by means of a small clip *b'*—the wick extending thence upwardly within the cup to the top of the tube *b* and thence downwardly within the said tube.

The reservoir A is filled with the disinfecting liquid, either through the opening closed by the cap *a'* or through a filling-tube D, which extends through its floor *a* and to a point near the top of the reservoir. The disinfecting liquid passes from the reservoir A into the cup B through a small tube F, which preferably terminates at its upper end about flush with the upper face of the floor *a* and at its lower end near the bottom of the cup B.

In operation the reservoir A, in the position shown in Fig. 3, having been filled nearly full through the filling-tube D, the air in the meantime escaping through the tube F, the cup B is put in place and the reservoir upon being reversed into its normal position the liquid will pass through the tube F into the cup B until it reaches a height corresponding to the open end of the air-tube D within the cup, the air in the meantime passing through the tube D above the body of the liquid within the reservoir A and to take the place of the fluid which escapes from the reservoir into the cup. When the liquid reaches the height of the lower end of the tube D, it shuts off the passage of air through the tube into the reservoir and the liquid stops flowing through the tube F into the cup. Whenever the liquid is drawn by the wick from the cup B to a point below the lower end of the tube D, a bubble of air will pass through the tube into the main reservoir and more liquid will be discharged into the cup B, maintaining its level therein at all times at a point corresponding to the position of the lower end of the tube D. By giving the tube F the return-bend within the reservoir A the tube is prevented from filling with liquid when the reservoir is filled through the tube D, and, on the other hand, when the reservoir is filled

through the top the liquid will rise in the tube F to a height which will start the siphoning action, which will continue after the cap a' is screwed into position until the liquid
5 closes the lower end of tube D, as before.

By the above arrangement an air-tight reservoir is readily secured capable of being filled either from the top or by simply inverting it without the liability of wasting any
10 liquid or smearing the operator, and when adjusted and set up the liquid will at once assume the predetermined height within the cup, thereby insuring at all times a constant level in the dispensing-chamber, and hence a
15 perfectly regular discharge from the wick.

When the apparatus as above described is to be used for diffusing the vapor of the disinfecting fluid into the surrounding air to an extent greater than that which the drip
20 from the wick alone would afford, I provide a subcup G, which may be, as here shown, fixed permanently to the bottom of the cup B by means of a skeleton rim g , depending from the margin of the bottom of the cup B, the
25 walls of said cup G being spaced a short distance and extending upwardly around the walls of the reservoir A to a point at or above the top thereof, forming an outer casing for the reservoir. The walls of the cup G, with
30 the exception of a short space from the bottom of the cup, are provided with numerous perforations g' , and the top of the casing is provided with a removable cover H. A diffusing-wick I extends around the lower end
35 of the reservoir A for the purpose of absorbing a portion of the liquid which may be discharged into the subcup G by the wick leading from the cup B, and a short tube h , extending through the bottom of the cup G
40 and projecting a short distance above the floor of the cup, will serve as an overflow for the liquid which may accumulate in the subcup after the diffusing-wick has become saturated. While the addition of this diffusing-
45 wick and exterior casing may be desired in many instances, I wish it understood that the reservoir A, with its dispensing cup and wick, forms in itself a complete dispensing apparatus without the use of the subcup and its
50 diffusing-wick and casing.

What I claim is—

1. A disinfecting apparatus comprising a reservoir, a dispensing cup or chamber in proximity thereto, a filling-tube extending
55 from the dispensing-chamber into the reservoir, a discharge-tube extending from the

lower portion of the reservoir to the upper portion thereof and thence into the dispensing-chamber and means for discharging the liquid from the dispensing chamber or cup, 60 substantially as set forth.

2. A disinfecting apparatus comprising a reservoir for the disinfecting liquid, a dispensing chamber or cup removably secured to the reservoir, means for maintaining the
65 liquid at a predetermined height within the dispensing-chamber and means for automatically discharging the liquid from the dispensing-chamber, substantially as set forth.

3. A disinfecting apparatus comprising a 70 reservoir for the disinfecting fluid, a dispensing chamber or cup removably secured to the reservoir, a filling-tube concealed by the said dispensing chamber or cup, means for maintaining the liquid at a predetermined height 75 within the said chamber or cup and means for automatically discharging the liquid from the said chamber or cup, substantially as set forth.

4. A disinfecting apparatus comprising a 80 reservoir for the disinfecting liquid, a dispensing chamber or cup in proximity to the reservoir, means for filling the reservoir from both top and bottom, a siphon-tube extending from a point within the dispensing cham- 85 ber or cup to a point within the reservoir near its top and thence to a point near its bottom and means for automatically discharging the liquid from the dispensing chamber or cup, substantially as set forth. 90

5. A dispensing apparatus comprising a reservoir for the disinfecting liquid, a dispensing chamber or cup in proximity to the reservoir, means for maintaining the liquid at a predetermined height within the dis- 95 pensing chamber or cup, means for automatically discharging the liquid from the dispensing chamber or cup, a subchamber for receiving the liquid from the dispensing chamber or cup, the said subchamber being pro- 100 vided with an overflow-tube and a wick leading from the bottom of the subchamber upwardly along the outer wall of the reservoir, substantially as set forth.

In testimony that I claim the foregoing as 105 my invention I have signed my name, in presence of two witnesses, this 16th day of October, 1900.

CHARLES J. WALZ.

Witnesses:

FREDK. HAYNES,
C. S. SUNDGREN.