No. 725,954. PATENTED APR. 21, 1903.

M. GOLDMAN.

ATOMIZER.

APPLICATION FILED OCT. 4, 1902.

NO MODEL.

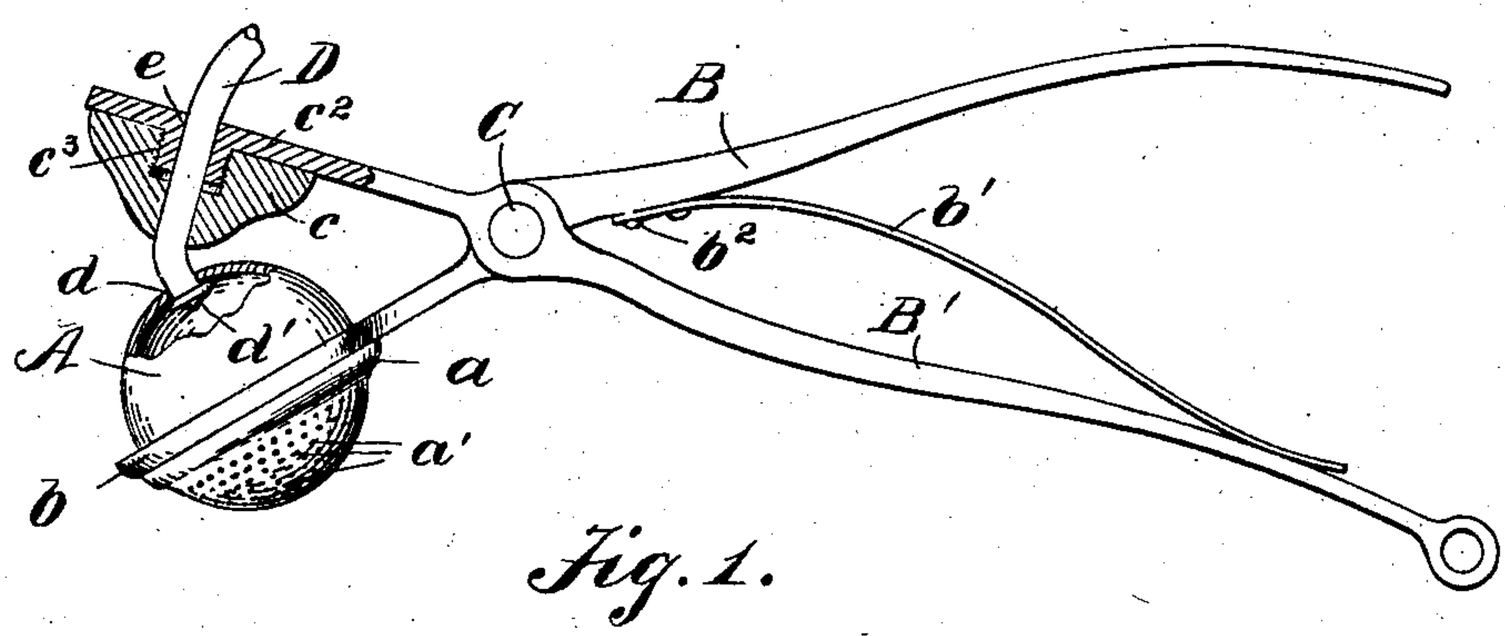

Fig. 1.

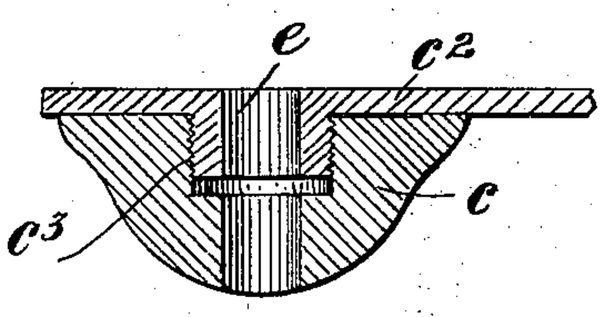

Fig. 2.

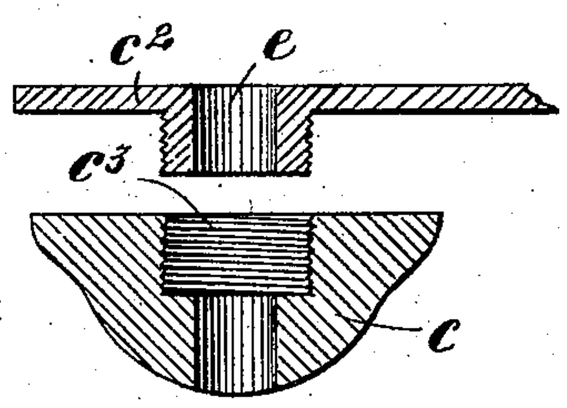

Fig. 3.

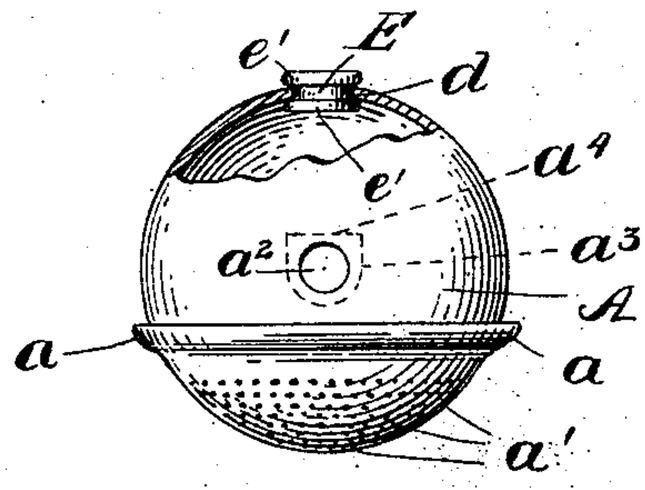

Fig. 4.

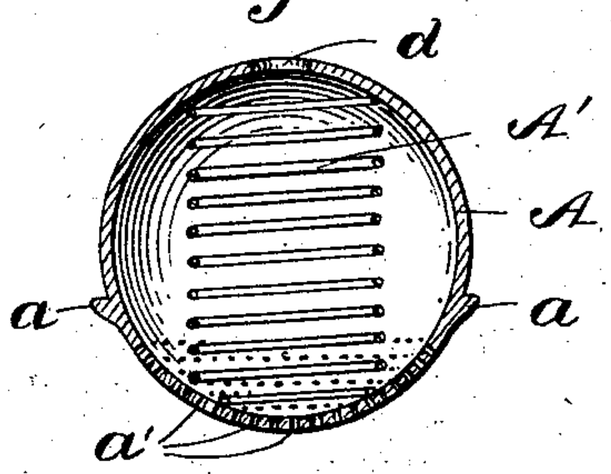

Fig. 5.

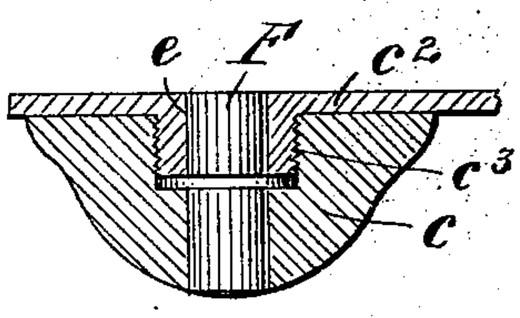

Fig. 7

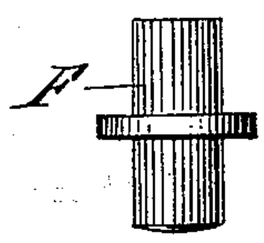

Fig. 6.

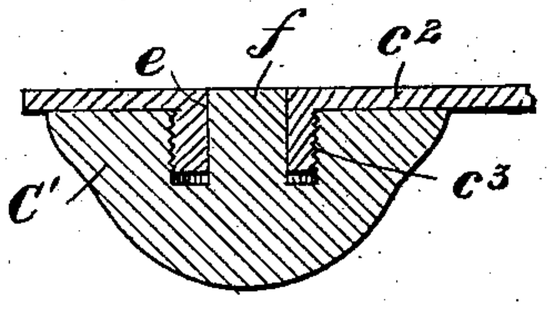

Fig. 8.

Witnesses
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Inventor
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UNITED STATES PATENT OFFICE.

MOSES GOLDMAN, OF PITTSFIELD, MASSACHUSETTS.

ATOMIZER.

SPECIFICATION forming part of Letters Patent No. 725,954, dated April 21, 1903.

Application filed October 4, 1902. Serial No. 125,911. (No model.)

To all whom it may concern:

Be it known that I, MOSES GOLDMAN, a citizen of the United States, and a resident of Pittsfield, county of Berkshire, and State of Massachusetts, have invented certain new and useful Improvements in Atomizers, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof, in which similar letters of reference indicate corresponding parts.

My invention relates to improvements in sprinklers or atomizers wherein I provide a bulb or collapsible receptacle for containing liquids, which is adapted to be held within and compressed by lever-arms to eject the liquid contained in the receptacle. The said bulb is provided with minute radial perforations through which the liquid is ejected.

The object of my invention is to provide a cheap, effective, and convenient device which may be used for sprinkling clothes, plants, tobacco, and floors or as a sprayer for distributing disinfecting fluids for medicinal and surgical purposes, such as cleansing wounds, &c.

A further object is to provide a device of the character described which is adapted to be attached to and used in connection with a reservoir and which is provided with a detachable plunger, as and for the purpose hereinafter described.

In the drawings, Figure 1 is a general side view of the instrument, shown partly in section. Fig. 2 is a section through the plunger portion of my instrument. Fig. 3 is a sectional view showing the plunger detached. Fig. 4 is a view of the bulb, shown partly in section. Fig. 5 is a section through the bulb or collapsible receptacle. Fig. 6 is a view of a plug used to close the opening in the plunger. Fig. 7 is a section through the plunger, showing the plug in place; and Fig. 8 is a sectional view of a modified form of plunger.

In practice I provide the bulb or collapsible receptacle A, formed with a flange a, which engages around and holds the said receptacle upon a circular or ring-shaped end b of the lever-arm B. B′ designates the second lever-arm, which is pivoted to the arm B at c, and b' designates a spring fastened to the arm B at b^2 and adapted to keep the arms normally apart. A plunger c', having a central opening e, is secured to the end c^2 of the arm B′ by means of the threaded portion c^3 and is adapted to engage against the aforesaid bulb or receptacle A and compresses same when the two arms are brought together, thereby causing any liquid contained in the said receptacle to be ejected in a fine spray through very minute perforations a'. A check-valve a^2 is formed upon the receptacle A and is provided with a flap a^3, fastened to the inside of the bulb, and is adapted to open and close the said valve a^2. The flap a^3 is secured to the receptacle by any suitable means along its upper edge a^4 and is adapted to remain normally closed when internal pressure is exerted upon it.

D designates a flexible tube which passes through the opening e in the plunger c and engages and is held in the opening d of the bulb A. The end of the tube D is provided with a flap d', which is adapted to act as a check-valve. The said flexible tube D may be connected with any stationary or portable reservoir and affords a means of continuously supplying liquid to the receptacle A.

In practice water is allowed to enter the receptacle A by means of the tube D, and the operator grasps the handles B and B′, and bringing same together he depresses the bulb or receptacle A, thereby ejecting the liquid contained therein out through the radial openings in a fine spray. The pressure of the liquid in the bulb tends to keep the valve a^2 always closed.

My device may also be used without the reservoir and flexible-tube attachment, in which case the tube is removed from the opening d in the receptacle A, and the plug E, having shoulders e', may be inserted to close said opening. The tube is withdrawn from the opening in the plunger c'. The plunger is removed, as shown in Fig. 8. A plug or pin F is inserted in the said opening e and the plunger refastened to the end of the lever B′. The receptacle is filled with liquid by immersing the compressed receptacle and allowing the arms B and B′ to assume their normal condition. The receptacle expands and draws in the liquid through the valve a^2.

To facilitate the expansion of the bulb or

receptacle A, a spiral spring A′ may be located within said receptacle A, as shown in Fig. 5.

In Fig. 8 I show a modification wherein I provide a plunger having a central upwardly-extending portion *f*, which is adapted to engage in the opening *e* to close same. This form of plunger has no central opening and is intended for use when the tube D and its connected reservoir are not used.

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

1. In an atomizer, a collapsible receptacle for containing a liquid, a holder adapted to hold in position the said collapsible receptacle, a detachable plunger formed upon one arm of said holder and adapted to engage against said receptacle and depress same when the arms of said holder are brought together, a flexible tubing suitably connected with a reservoir and passing through an opening in the aforesaid plunger to engage in an opening upon and securely fastened within the aforesaid collapsible receptacle and a suitable spring mounted between the aforesaid arms of holder and employed to keep the arms normally apart, substantially as described.

2. In an atomizer, a holder formed of two arms pivotally connected, a spring attached to one arm and engaging between said arms to keep them normally apart, a collapsible receptacle having radial perforations formed thereon and held upon said holder, an annular ledge formed upon said collapsible receptacle and adapted to engage around and against a ring formed upon the end of one of the arms of said holder, check-valves formed upon the said receptacle, a spiral spring mounted within said receptacle and adapted to facilitate the expansion of same, a detachable plunger mounted upon the end of the second arm of said holder and adapted to engage with the aforesaid receptacle to depress same, to eject the liquid contained in the collapsible receptacle through the said radial perforations, and a flexible tube adapted to pass through an opening formed in said plunger and connect with the interior of said receptacle, substantially as described.

3. In an atomizer, a holder formed of two arms pivotally connected and provided with a spring engaging between said arms to keep them normally apart, a collapsible receptacle having radial perforations formed thereon, a ledge formed upon said receptacle and adapted to engage around and upon a ring formed upon the end of one of the arms of said holder, check-valves formed upon the said bulb, and having an opening formed thereon adapted to receive the end of a flexible tube, a detachable plunger mounted upon the end of the second arm of said holder and adapted to engage with the aforesaid receptacle to depress same, and provided with an opening through which a flexible tube is allowed to pass and connect with the interior of the said bulb, and a plug adapted to engage in the said opening in plunger and held in position by the plunger, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 17th day of September, 1902.

MOSES GOLDMAN.

Witnesses:
CLARENCE A. BOYCE,
MANSON R. WHITE.