

No. 846,831.

PATENTED MAR. 12, 1907.

A. D. EASTON.

APPARATUS FOR APPLYING DISINFECTANTS TO WATER CLOSETS.

APPLICATION FILED APR. 9, 1906.

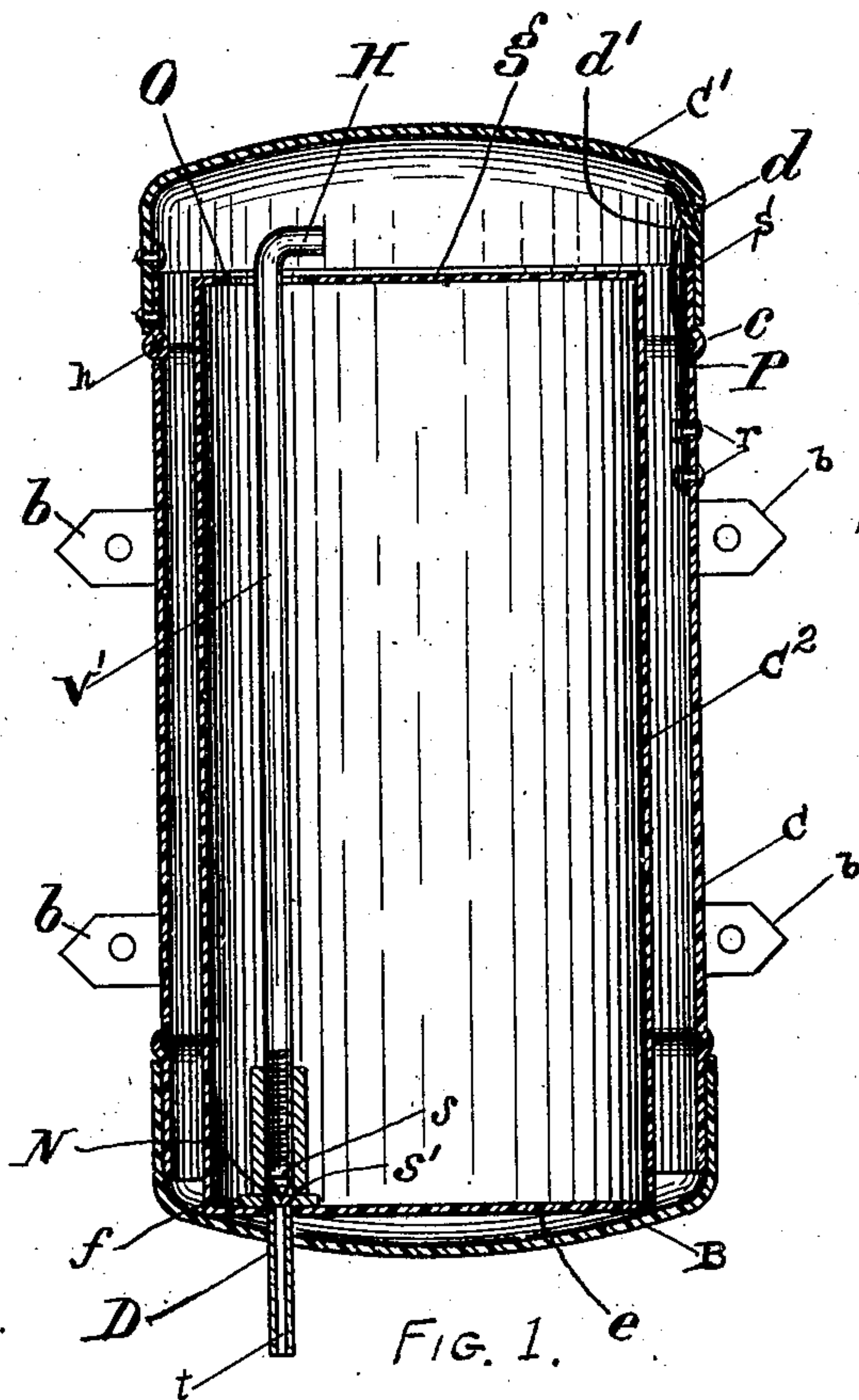


FIG. 1.

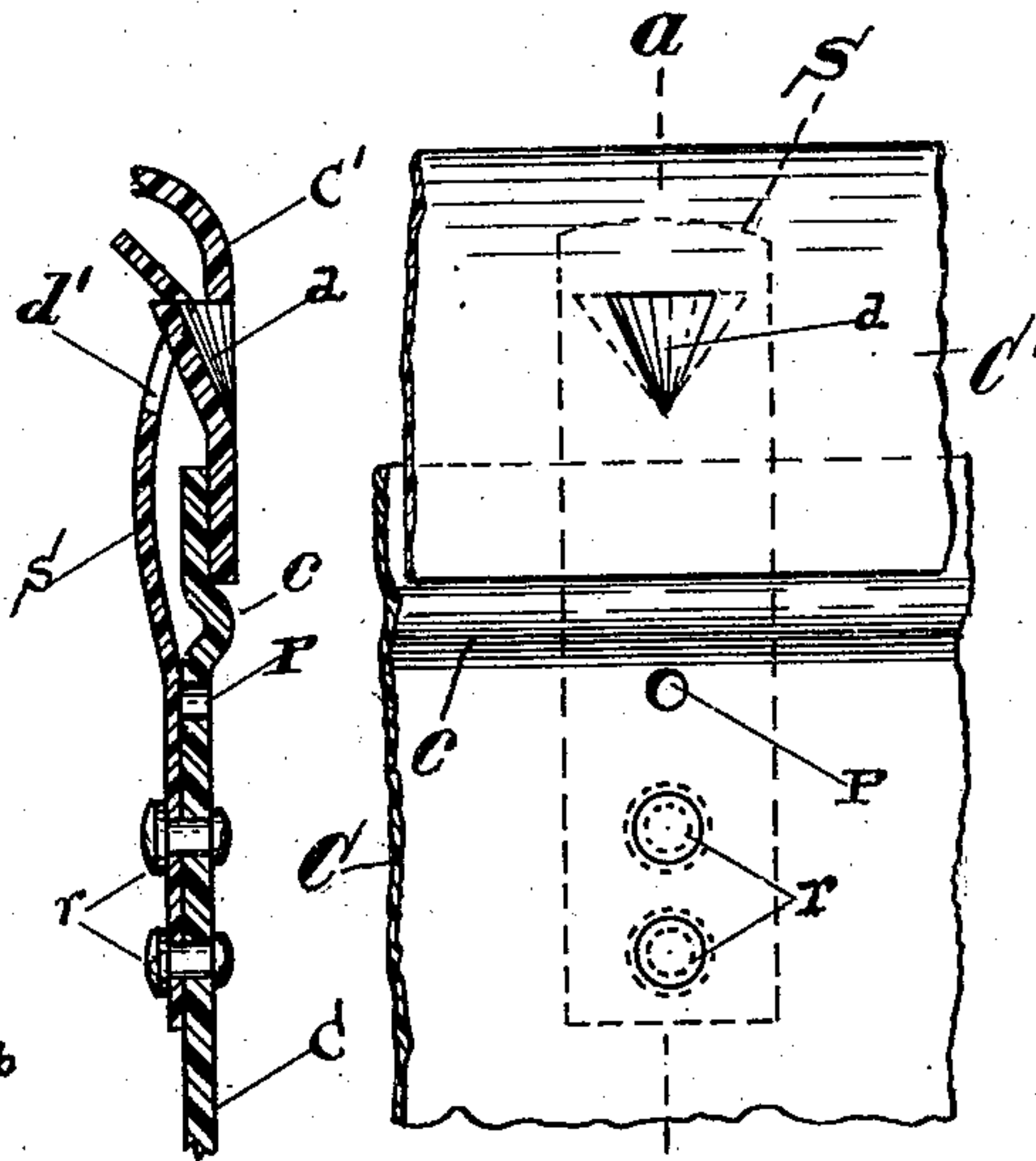


FIG. 3.

FIG. 2.

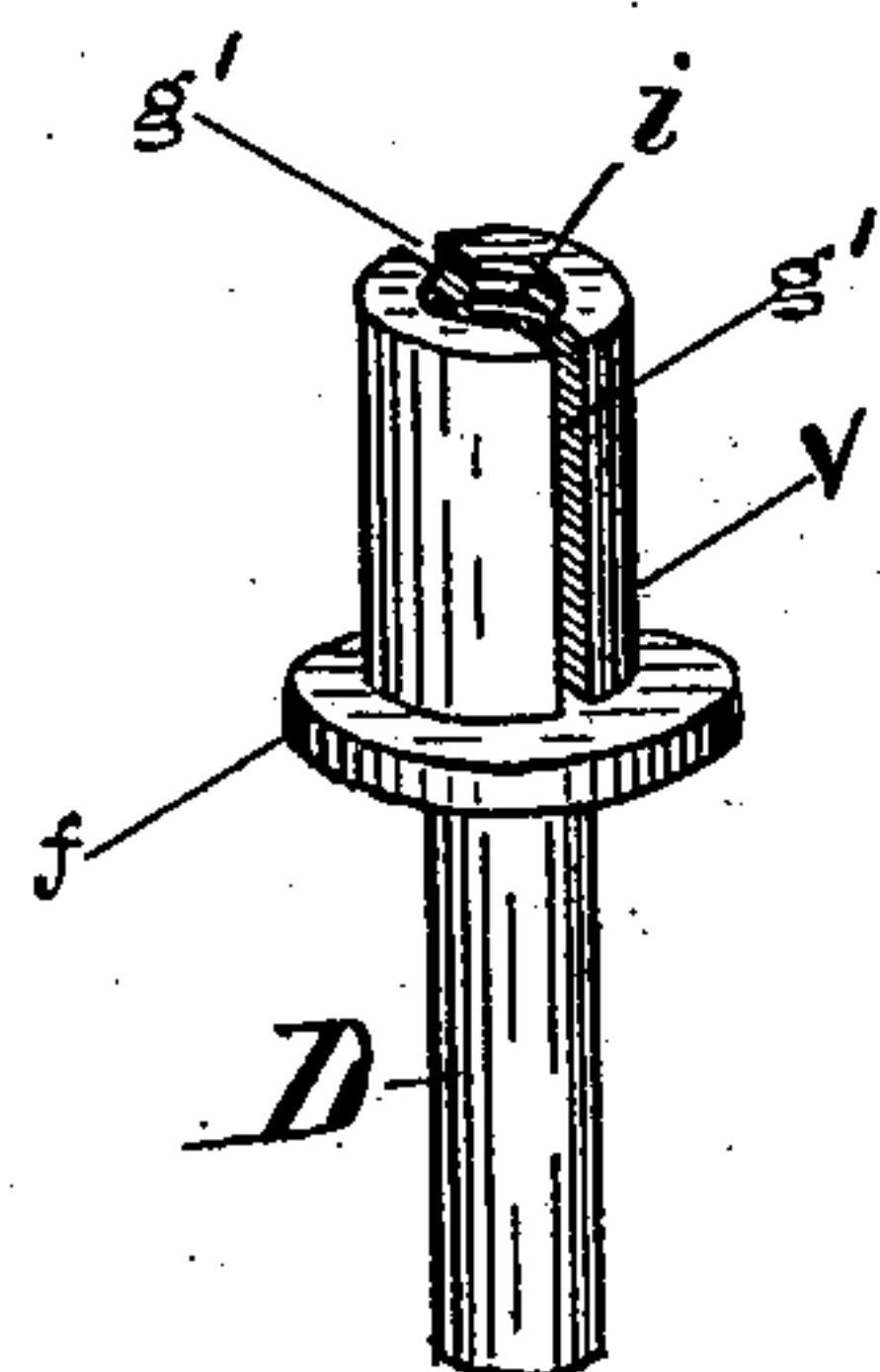


FIG. 4.

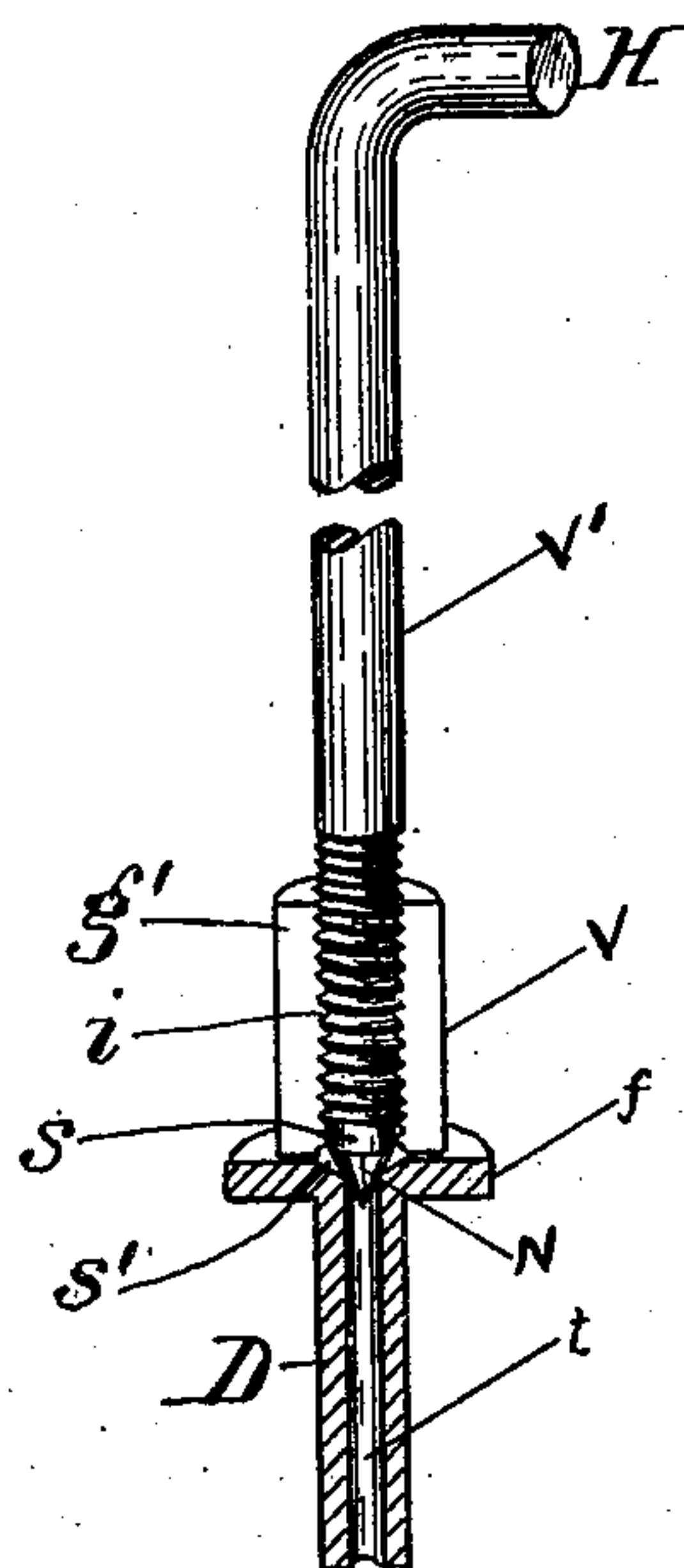


FIG. 5.

WITNESSES;

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UNITED STATES PATENT OFFICE.

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APPARATUS FOR APPLYING DISINFECTANTS TO WATER-CLOSETS.

No. 846,831.

Specification of Letters Patent.

Patented March 12, 1907.

Application filed April 9, 1906. Serial No. 310,844.

To all whom it may concern:

Be it known that I, ALAXANDER D. EASTON, a citizen of the United States of America, and a resident of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Apparatus for Applying Disinfectants to Water-Closets, of which the following is a specification.

This invention relates to certain improvements in apparatus for applying disinfectants to water-closets, and especially to that class of apparatus in which a can or vessel is used as a receptacle for holding the fluid subject to discharge therefrom through a passage having a regulating device for the desired flow of said fluid; and the object of the invention is to provide a disinfectant-distributer of an improved nature and one that is readily operated to receive, contain, and discharge the fluid.

The invention consists in certain novel features of the construction, combination, and arrangement of the several parts of the improved disinfectant-distributer, all as will be hereinafter fully set forth.

The novel features of the invention will be carefully defined in the claims.

In the accompanying drawings, which serve to illustrate my invention, Figure 1 is a central sectional elevation of the device embodying my invention, showing the parts in position for use; Fig. 2, a fragmentary elevation showing the exterior of the upper part of the device, including the cap or lid thereof, and illustrating in dotted lines the spring catch or fastening for holding said lid or cap in locked position; Fig. 3, a vertical section taken on the dotted line *a a* of Fig. 2 to show the spring-latch locking device; Fig. 4, a perspective view of the discharge or valve chamber and drip or drop tube detached from the bottom of the fluid-receptacle, but omitting the valve therefrom; and Fig. 5, a sectional semiperspective view of the valve device for use in controlling the discharge of fluid from the receptacle, the latter not being shown in this view and the handle or stem of the valve being foreshortened or broken mid-length.

As shown in said views, C represents a cylindrical casing or shell having a bottom B

and a flanged lid or cap C', the latter being hinged at *h*.

b represents each one of a number of lateral brackets or ears on the shell for use in attaching it in place.

c represents an outwardly-projecting bead or rib formed in the metal of the shell near its upper edge and encircling the same to serve as a stop for the lower flanged edge of the lid.

d represents an inwardly-disposed projection or stop constructed in the side of the depending portion or flange of the cap C diametrically opposite the hinged part *h* of the lid, and S is a vertical spring-latch bar attached at its lower end by means of rivets *r* to the inner face of shell C below the upper edge of the latter and having a slot or opening *d'* at its upper end to engage over the projection or stop *d* on the lid when the latter is in closed position, as seen in both Figs. 1 and 3. The upper end of the spring-latch flares inwardly, so that it does not come in contact with the inner face of the cap-flange, and the body of the spring concaves or bows inwardly, so as to clear the inner face of the shell, as best seen in Fig. 3. The lid is thus provided with an internal automatic snap-lock, which latter readily catches when said lid is closed to protect the contents of the fluid-receptacle and prevent tampering with the internal operating devices. A minute opening or almost imperceptible hole P is provided in the side of shell C in line with the spring-latch S for forcible insertion of a convenient pointed implement, such as a nail, ice-pick, or the like, when it is desired to open or raise the lid.

C² represents an internal can or receptacle resting on the bottom B within the shell C and having a bottom *e* and top *g*, said top having an orifice or opening O and the bottom having a small perforation or opening perpendicularly and concentrically below the said orifice O. This internal can C² forms the receptacle in which the fluid is held, the orifice O being provided for the entrance of the fluid in filling the can when the lid C is raised.

V represents an upright cylindrical block having a flanged base *f* and a pendent nozzle or lower extension D, the latter passing through the said small opening in the bot-

tom of the internal can and a registering opening in the bottom B of the shell C. The block V is kerfed axially, as shown at *g'* in Fig. 4, across its diameter from its top to the flange portion *f*, and it is provided with a central screw-threaded bore *i*. The pendent extension D has a smooth passage-way *t* centrally bored therethrough, the upper part of the passage-way *t* being flared or tapered outwardly to form a smooth valve-seat *s'*.

V' represents a vertical rod having an outwardly-turned upper end H to form a handle thereon and being screw threaded at its lower portion to engage the internal-screw-threaded bore of the block V.

N represents the lower smooth pointed or tapered end of the rod V', forming the valve portion of the said rod and engaging the smooth-tapered valve-seat *s'* at the upper end of the smooth passage-way *t*, as best seen in Figs. 1 and 5.

s is a smooth or plain portion of the rod V' between the threaded portion of said rod and the tapered or pointed lower end of said rod, the purpose of which will be presently described.

It will be seen that the block V forms a valve-chamber with its flange portion *f* resting tightly on the bottom *e* of the can C², and the pendent extension D forms a drip-tube for said valve-chamber.

The upper handled end of the valve-rod V' extends beyond the orifice O in the top of the receptacle C, so that the handle H is convenient for the operator to turn the rod in regulating the flow of fluid through the drip-tube D.

In operating the device the valve-rod is turned so as to bring the tapered smooth lower end N away from the smooth-tapered valve-seat *s'*, as seen in Fig. 1, thus allowing the fluid to pass downward through the smooth drip-tube, the amount of flow being determined by the relative distance above the said valve-seat of the said tapered lower end of the rod for either a continuous flow or an intermittent drop discharge from the drip-tube into the closet or other place to be disinfected. The kerfs *g'* in the valve-block V form extended passage-ways for the fluid to readily flow or be fed into the drip-tube, making it practically impossible for any small ob-

struction or small amount of sediment that may be in the bottom of the can to obstruct the flow of fluid through the drip-tube, any such obstruction, whether minute or greater, being readily displaced from these kerfs by the use of a long needle or other instrument inserted through the orifice O from above. The smooth or plain portion *s* at the lower end of the valve-rod serves the purpose of an easy flow around it of the fluid into the smooth passage-way of the drip-tube and presents no obstruction for the sediment or other foreign matter to collect thereon where the greater part of the flow of fluid occurs.

I claim—

1. A device of the character described, comprising an outer case or shell having a suitable bottom, an internal can or receptacle, a kerfed valve-block having a screw-threaded bore and a smooth, tapered seat at the bottom of said bore, a drip-tube having a smooth bore and extending downwardly from the kerfed valve-block with its said smooth bore or passage-way a continuation of said seat and with its lower portion extending through the bottom of the internal receptacle and thence through the bottom of the outer casing, and a vertical valve-rod having a screw-thread adjacent its lower end engaging said threaded bore of the kerfed valve-block and a tapered or pointed lower end adapted to engage said tapered seat in regulating the flow of fluid from the inner receptacle.

2. A device of the character described, comprising an outer shell or casing provided with a suitable bottom, an internal can or receptacle having a top provided with an orifice, a transversely-kerfed valve-block having a valve-seat therein, a drip-tube extending from the seat portion of said valve-block, and a valve-rod having a tapered lower end and engaging said valve-seat and provided with a screw-thread at its lower portion and engaging a screw-threaded bore in said valve-block and having at its upper end a bent portion forming a handle extending beyond the orifice in the can-top.

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Witnesses:

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