No. 859,183. PATENTED JULY 2, 1907.

H. W. SPRAGUE & E. C. DUNNING.

DISINFECTING RECEPTACLE FOR URINALS.

APPLICATION FILED OCT. 23, 1906.

FIG. 1.

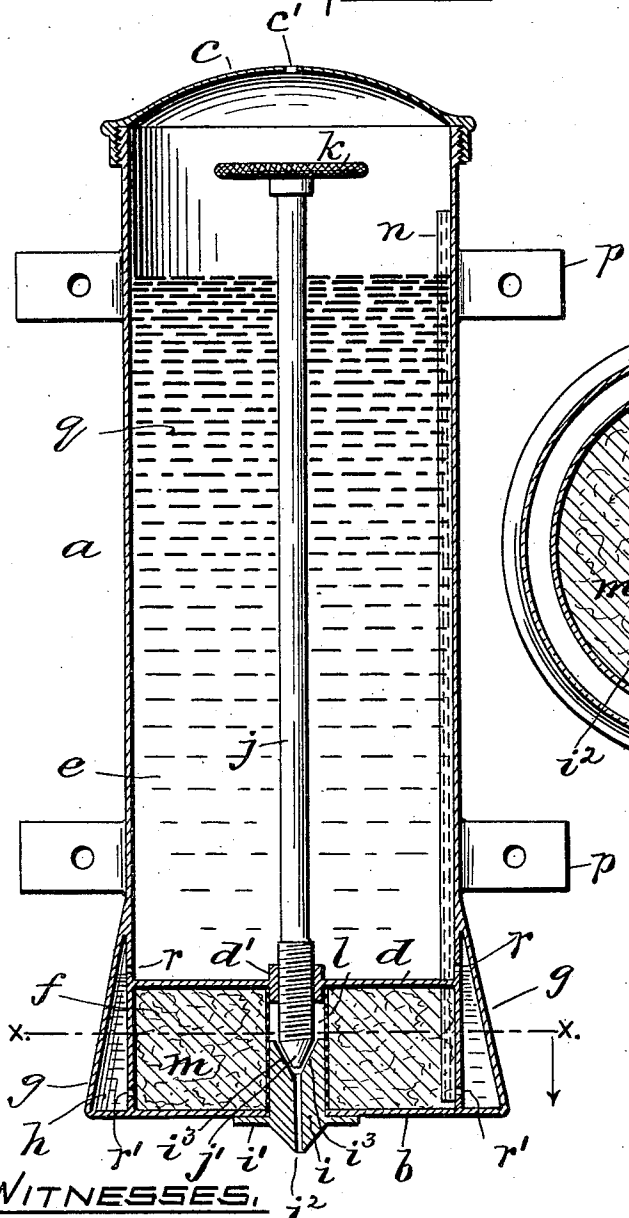
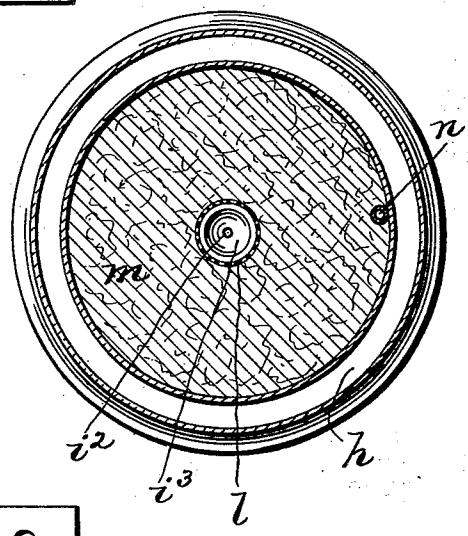


FIG. 2.



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DISINFECTING-RECEPTACLE FOR URINALS.

No. 859,183. Specification of Letters Patent. Patented July 2, 1907.

Application filed October 23, 1906. Serial No. 340,224.

To all whom it may concern:

Be it known that we, HENRY W. SPRAGUE and EDWARD C. DUNNING, citizens of the United States, residing at the city and county of Providence, State of Rhode Island, have invented certain new and useful Improvements in Disinfector-Receptacles for Urinals, of which the following is a specification.

Our invention relates to an improved device, adapted to contain a disinfecting liquid to discharge into a urinal-basin, in order to prevent or destroy the obnoxious odor therein; and the object of our invention is to provide means for regulating the discharge of said liquid, whereby the same is caused to drop at intervals of time, from the device to the urinal-basin.

With this end in view, our invention consists of the novel construction and combination of parts, as hereinafter described and claimed.

Like reference characters indicate like parts.

In the accompanying sheet of drawings, Figure 1 represents a vertical sectional view of our improved device, and, Fig. 2 is a top plan sectional view taken in line $x.—x.$ of the same.

a designates a cylindrical vessel whose lower end is closed by a bottom b, and having its upper end arranged to receive a removable cover c, which is provided with a vent c'. This vessel or receptacle a is divided by a transverse partition d located near its bottom b, so as to provide two compartments e and f. From at a point above the partition d and integral with the body of the receptacle, a downwardly inclined wall g extends and terminates integral with the bottom b, so as to provide a chamber h surrounding this portion of the receptacle.

The bottom b of the receptacle is provided with a central circular opening to receive therethrough a plug i, which has an integral annular flange i' that is soldered or otherwise secured to said bottom b. This plug i projects from the bottom of the receptacle in a conical form, from the apex of which a small port-opening i^2 extends and terminates with a valve-seat i^3 formed on the inner end of said plug.

The partition d of the receptacle has a centrally arranged integral hub d' provided with a screw-threaded opening therethrough to receive the threaded portion of a rod j. One end of this rod j is made conical in form, as at j', and this end of said rod acts as a valve arranged to fit upon the seat i^3 of the plug i, in closing the port of the latter. Said rod j extends above the liquid level and upon its upper end is secured a disk k, which acts as a handle to regulate the proper adjustment of the valve j'. A fine wire gauze tube l surrounds the plug i and extends between the bottom b and partition d of the receptacle. A packing m, of sponge, fabric, or other suitable absorbent material surrounds the wire tube l and fills the compartment e.

n is an air-vent-pipe secured upon the inner surface of the wall of the receptacle, and said pipe extends from near the bottom of the latter to a point above the level of the liquid, to permit said liquid to discharge when the cap is secured upon the receptacle.

This device has two integral flanges p, p provided each with openings to receive screws therethrough, for securing said device to the wall of a closet, at a proper location above the urinal-basin.

This device is adapted to be charged with our specially prepared chemical liquid, indicated by reference letter q, and when the device is mounted in position, as described, the cover is first removed and the rod j turned to screw its valve upon the seat, after which the liquid is poured into the compartment e of the receptacle and percolates through fine perforations r, r through the chamber h, from whence the liquid next passes through fine perforations r', r', located near the bottom of the receptacle, and saturates the packing m in the lower compartment f of the same. The rod j is now turned to unscrew its valve a trifle from its seat, and the liquid in passing from the gauze tube l is caused to discharge from the port i^2 in small drops, to fall into the urinal-basin. After the valve has been regulated to discharge the liquid at the proper interval of drop desired, the cover c is secured upon the receptacle. By having a small compartment located beneath the bulk of liquid contents and packed with a suitable absorbent material, lessens the weight-pressure of liquid at the point of discharge from the device, and at the same time the packing tends to hold its liquid contents, thus, instead of a stream or flow of the liquid taking place, a liquid drop action is obtained, either a slow or quick dropping of the liquid, according to the adjustment of the valve. Furthermore, by having the valve concealed within the device, there is less liability of its being tampered with, as in other devices of this class wherein the valve is exposed, thus our arrangement of parts insure an effective working, and at the same time a device that is simple and inexpensive to manufacture.

What we claim and desire to secure by Letters-Patent, is—

1. The combination with a receptacle adapted to contain a disinfecting liquid, said receptacle having a partition dividing the same into an upper and lower compartment, and said partition provided with a screw-threaded opening; a chamber surrounding the receptacle and in open communication with its compartments; a plug secured in the bottom of the receptacle and provided with a port-opening; a rod having a screw-threaded portion to engage thereby in the threaded opening of the partition of the receptacle, said rod of a length to extend above the level of said liquid in the upper compartment and having its lower end arranged to close the port of said plug; a wire gauze tube surrounding said plug in the lower compartment of the receptacle; a packing of absorbent material surrounding said tube; a vent-pipe extending from the lower compart-

ment to a point above the level of the liquid in the upper compartment, and a cap to close the top of the receptacle and provided with a vent-opening.

2. In combination, a vertically arranged cylindrical vessel adapted to contain a chemical liquid, and said vessel having a small compartment located in its bottom portion; a chamber surrounding said vessel and in open communication with said liquid and lower compartment; a fixed plug depending from within said compartment, and said plug provided with a port extending throughout its length; means mounted within the vessel to operate in opening or closing the port in said plug; a wire gauze tube surrounding said plug in said compartment; a packing of absorbent material surrounding said tube; a vent-pipe from said compartment to a point above the level of the liquid in said vessel, and a cover arranged to close the top of said vessel and provided with a vent-opening.

3. In combination, the herein described device, comprising the receptacle *a*, having the partition *d* dividing the same into an upper and lower compartment, and said receptacle having the chamber *h* in open communication with each compartment; the fixed plug *i* provided with a port-opening therethrough; the hand-operating-rod *j* mounted in the partition of said receptacle and arranged to open or close the port of said plug; the wire gauze tube *l* surrounding said plug; the packing *m* surrounding said tube; the vent-pipe *n* extending within the compartments, and the cap *c* provided with a vent, all arranged substantially as shown and for the purpose specified.

In testimony whereof we affix our signatures in presence of two witnesses.

HENRY W. SPRAGUE.
EDWARD C. DUNNING.

Witnesses:
A. H. SMITH,
R. T. FARNHAM.