

(No Model.)

E. TAUSSIG & M. SHERIDAN.
AUTOMATIC DISINFECTING DEVICE.

No. 551,564.

Patented Dec. 17, 1895.

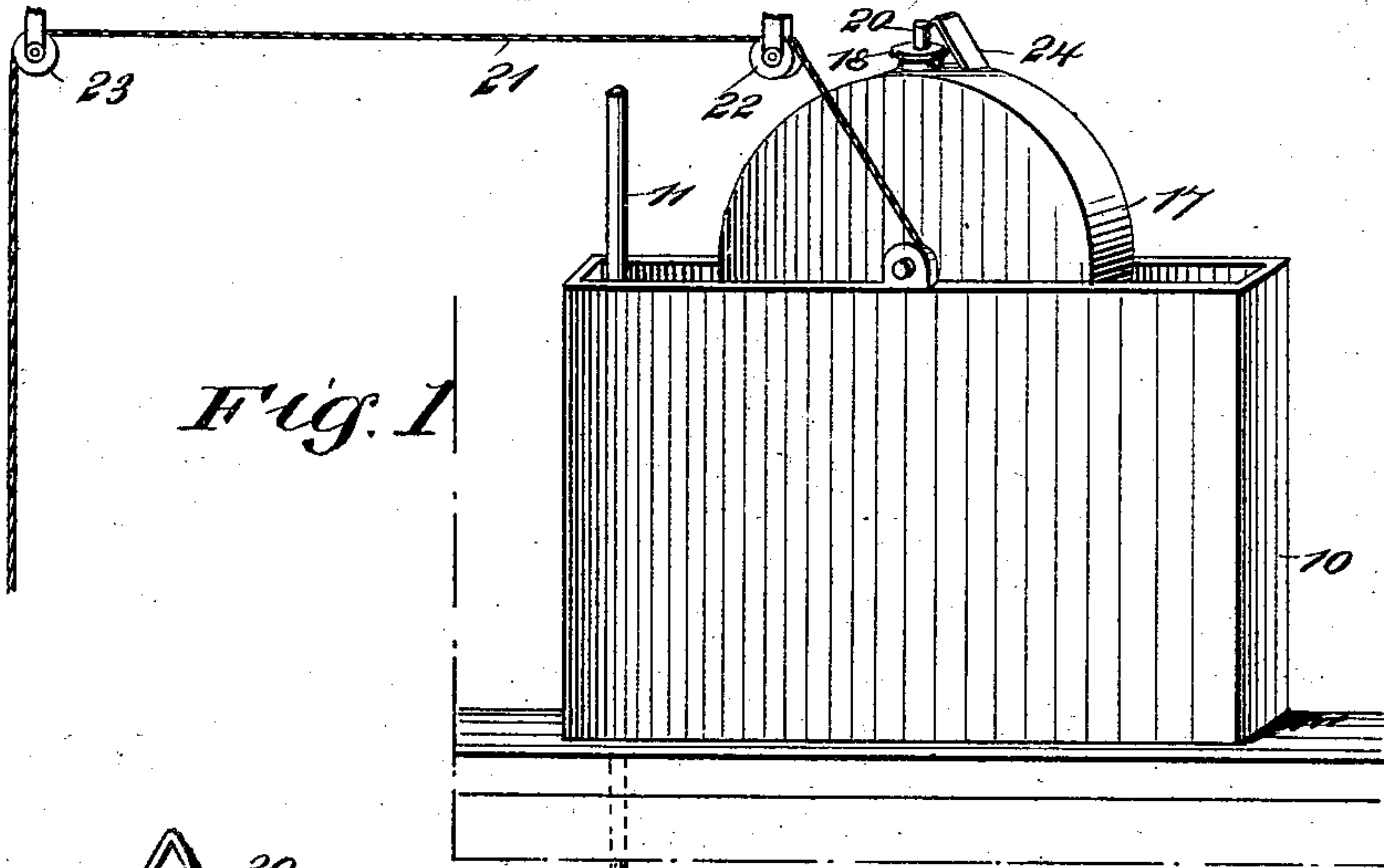


Fig. 1

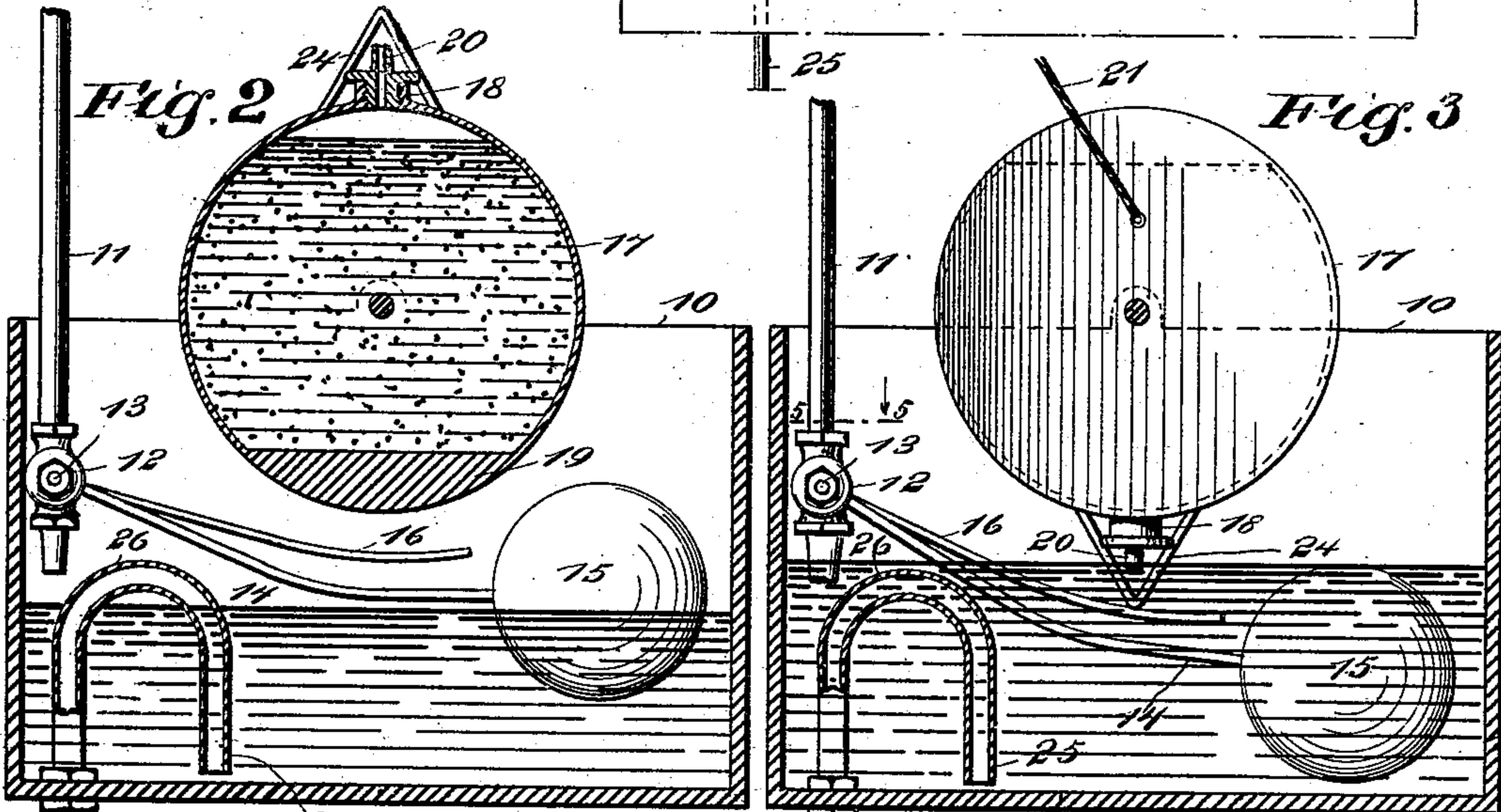


Fig. 2

Fig. 3

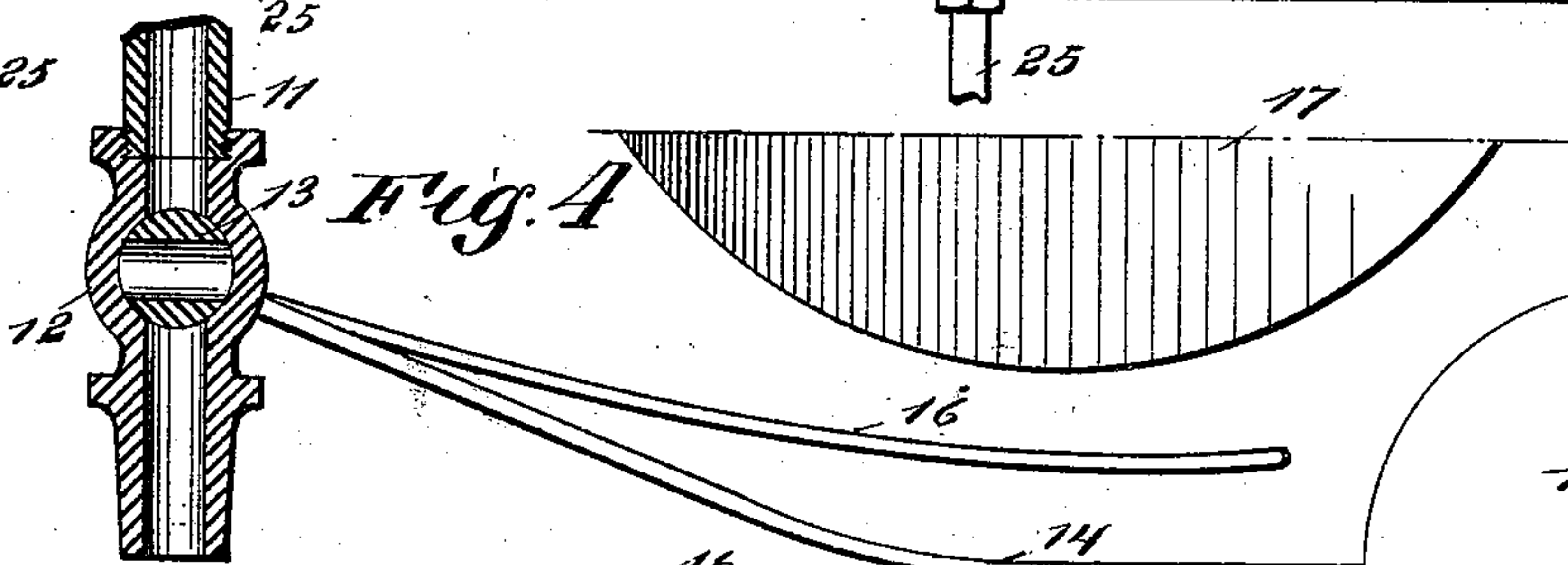


Fig. 4

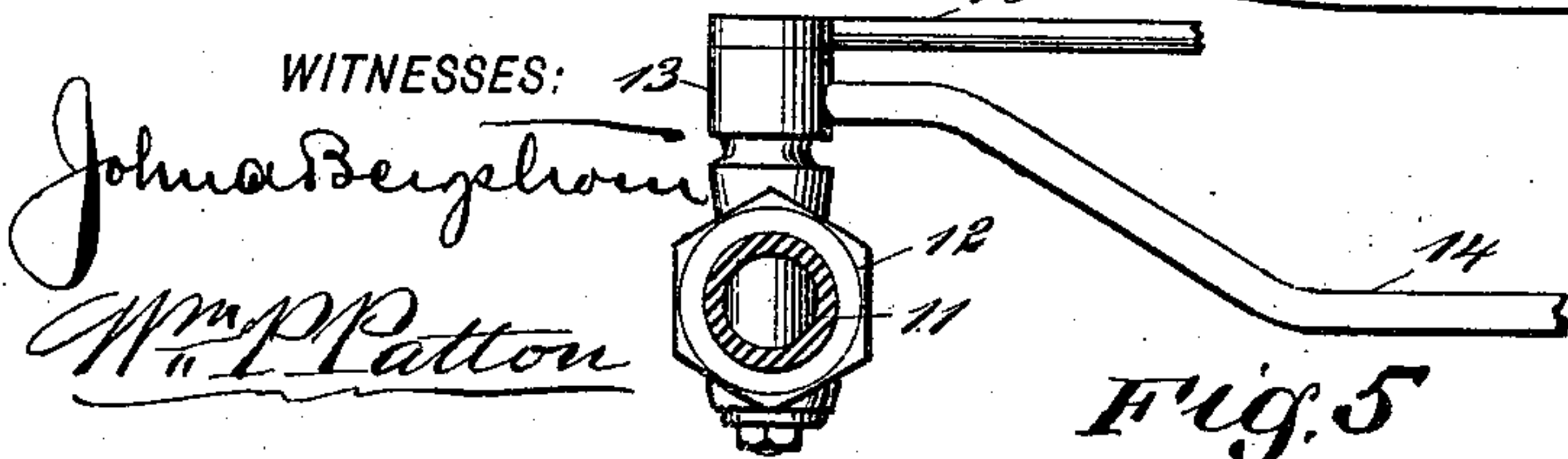


Fig. 5

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EMIL TAUSSIG AND MICHAEL SHERIDAN, OF NEW YORK, N. Y.; SAID SHERIDAN ASSIGNOR TO EMIL TAUSSIG AND JACOB TAUSSIG, OF SAME PLACE.

AUTOMATIC DISINFECTING DEVICE.

SPECIFICATION forming part of Letters Patent No. 551,564, dated December 17, 1895.

Application filed December 1, 1894. Serial No. 530,575. (No model.)

To all whom it may concern:

Be it known that we, EMIL TAUSSIG and MICHAEL SHERIDAN, both of New York city, in the county and State of New York, have invented a new and Improved Automatic Disinfecting Device, of which the following is a full, clear, and exact description.

This invention relates to an improved disinfecting device of a class wherein a predetermined quantity of disinfecting fluid is discharged at intervals into a urinal-bowl or water-closet for the disinfection of such receptacles.

The object of the invention is to provide a simple and practical device of the indicated class which will be adapted to automatically discharge the contents of a water-reservoir which is charged with disinfectant into a closet-bowl or urinal when the door controlling the entrance to the water-closet is moved to open or close it, or the seat of a water-closet is depressed during use.

The invention mainly consists of a water-holding reservoir, a float-valve controlling the water supply therefor, a rocking liquid-holder for disinfecting fluid that is tilted for the discharge of a gaged amount of the disinfectant when draft strain on a flexible connection thereon is induced by the movement of a door or water-closet seat, and a siphon-controlled water-discharging device that is set to work by the tilting movement of the liquid-holder when it is rocked for the discharge of a small portion of the disinfecting fluid from it into the reservoir.

The invention further consists in the construction and combination of parts, as is hereinafter described, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of the complete device on a fixed support and a flexible connection therefor in part, which when complete serves to connect part of the device with a door or closet-seat for its automatic movement when the door or seat is actuated. Fig. 2 is an enlarged sectional side view of the improved device, showing the relative position

of parts during one stage of the operation of the apparatus. Fig. 3 is a sectional side view of the device, showing working parts in a different position. Fig. 4 is an enlarged partly sectional side view of working details removed from other portions of the device, and Fig. 5 is a partly sectional plan view of details of construction on the line 5 5 in Fig. 3.

The reservoir 10 may be of any available form and be constructed of any suitable material. As represented it is given a rectangular shape and has its capacity proportioned to adapt it for the reception of a quantity of water sufficient for one operation to disinfect a water-closet bowl after or during use.

There is a water-supply pipe 11 provided, which is shown in part, but which is to be extended and connected with a source of water-supply that will deliver a proper amount of water freely when said pipe is tapped. The pipe 11 is introduced at the end, which is shown, within the reservoir 10 and a valve 12 is introduced near its depending extremity.

While it is not intended to restrict the form and style of the valve 12 to that shown, as other forms of valves may be used with good results, it is preferred to employ the kind of valve represented, which consists of an ordinary plug-faucet, the plug 13 of which is arranged across the valve-body so that the larger projecting end portion of its tapering body will be in position for the convenient attachment thereto of an arm 14, having the hollow float 15 on its outer end, the said arm being bent, as shown, to permit the float to approach near to the bottom of the reservoir when it is unsupported by water.

At the side of the float-arm 14 a lever 16 is secured by one end to the outer end of the plug 13, and is so bent that its body will lie in a plane above the arm, said lever being shorter than the arm.

On suitable supports at or near the top edge of the reservoir 10 the disinfecting-liquid holder 17 is pivoted, which receptacle is preferably made cylindrical in form and of such dimensions as will adapt it to contain a sufficient quantity of the disinfecting fluid to last for a predetermined interval of time and avoid the necessity for too frequent refilling of the same. The relative proportions of the

reservoir 10 and liquid-holder are such as will afford a proper quantity of water below the holder, as is indicated in Fig. 3.

A filler-nozzle 18 is provided for the holder 5 17, and as shown in Fig. 2 at 19 the holder is weighted on the inside, or it may be on the outside, at a point directly opposite the nozzle, which will cause the latter to assume a position that is the highest point on the pivoted liquid-holder, as the pivots of the said holder are placed oppositely and at the center of each end wall thereof.

The nozzle-plug 20 is furnished with a small discharge-pipe, which is graduated in size at its outlet end, so that when the holder is rocked it will permit a correct amount of the liquid contents of the holder to escape into the reservoir 10 and mix with the water that is contained in it.

The holder 17 is so arranged and the parts of the device are so proportioned that when said holder is rocked to discharge the contained disinfectant the discharge-pipe will be dipped below the surface of the water in the tank or reservoir 10. In this way the disinfectant is discharged directly into the water and prevented from being sprayed outside of the reservoir.

There is a flexible connection, such as a chain or cord 21, attached to the end wall of the liquid-holder 17, or at any other suitable point that is below the pivot-supports of said holder, and from its point of attachment is upwardly extended over a loose pulley 22 that is bracketed to a fixed support, such as a room-wall, and from this pulley the cord is extended to engage another pulley 23, and thence trends downwardly to be connected by the remaining end with a hinged door (not shown) that controls the entrance to the water-closet for which the improved disinfecting device is provided.

As before mentioned, the pendent portion of the cord 21 may be attached to the seat of a water-closet, which is of a type that is movable by applied weight, so that the use of the closet will produce draft strain on the cord. At the highest point on the liquid-holder, at the side of the nozzle-pipe 20, the pusher-arm 24 is projected of a proper length from the wall of the holder, in the same vertical plane with the lever 16.

The lever 16 is held by the float 15 near to the lower surface of the liquid-holder 17, when said float has been sufficiently elevated by the flow of water from the valve 12 to turn the plug 13 far enough to shut the valve, as is shown in Fig. 2, and the length of the pusher-arm 24 is proportioned to adapt it to fully submerge the float 15 when draft on the cord 21 serves to rock the said arm into contact with the lever 16, as represented in Fig. 3. The arm 14 may be arranged to dispense with the lever 16. At any convenient point in the reservoir 10 a siphon-tube 25 is introduced, which tube projects upright from the bottom of the reservoir through which its

longer member downwardly passes to be extended to point of discharge, which may be the bowl of a urinal or of a water-closet.

For the proper operation of the improved apparatus, it is essential that the short leg of the siphon 25 be projected down far enough to nearly touch the bottom of the reservoir, also that the bend 26 of the siphon have such an elevation above the bottom of the reservoir that the water-level when at its highest normal stage will not cover the said bend but nearly reach it, whereby the siphon remains inactive during the filling of the reservoir from the supply-pipe 11.

The operation is as follows: Assuming that the water-closet (not shown) is unoccupied and the door to which the depending member of the cord 21 is attached is closed, and, furthermore, that by the operation of the valve and float water has been introduced to a normal height in the reservoir 10 and a further supply cut off by closing the valve due to the elevation of the float, as shown in Fig. 2, if draft strain is produced on the cord 21 by the opening of the door of the water-closet or by a depression of the closet-seat, the cord being attached thereto, it will be seen that the liquid-holder 17 will be rocked on its pivots, so as to decant a modicum of the disinfecting fluid from it into the water in the reservoir to mix with the water. At the same time the pusher-arm 24 is made to press down the lever 16 far enough to plunge the float 15 completely under the water, so as to raise the level of the latter above the bend 26 of the siphon-tube, which will start the siphon in the usual way and cause a discharge of the impregnated water from the reservoir into the bowl of the water-closet for its disinfection.

It is evident that the cord 21 may be readily arranged to receive a pull when the door of the water-closet is closed, if this is preferred, which will effect the automatic operation of the disinfecting apparatus as before described, but said operation will take place after the closet is vacated. In a like manner a hinged platform in front of a urinal-bowl may be connected to the pendent portion of the cord 21 or an equivalent connection, so as to inaugurate the automatic action of the improved disinfecting device when the platform is depressed by the weight of a person stepping on it, so that the use of the urinal will manifestly induce the operation of the apparatus for the disinfection of the urinal-bowl.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. A disinfecting device, comprising a reservoir for water, a disinfectant holder pivoted in the reservoir, a water supply controlled by a float valve adapted to be moved by the rocking of the holder, and a siphon device set in action when the holder is rocked, substantially as described.

2. A disinfecting device, comprising a water reservoir, a water supply controlled by a float valve, a disinfectant holder pivoted in the reservoir and adapted to press down the float and raise the water in the reservoir, and a siphon device set in action when the float is depressed, substantially as described.

3. In a disinfecting apparatus, the combination with a water-holding reservoir, a disinfecting-liquid holder, pivoted in the reservoir and having a filling nozzle and a graduated discharge pipe, a weight on the holder, normally maintaining the discharge pipe upright, and a flexible connection adapted to rock the holder when drawn upon, of a float valve controlling the water supply for the reservoir and projecting below the liquid holder, a pusher arm on the holder, causing the immersion of the float of the valve when the holder is rocked to spill part of its contents, and a siphon device set in action to empty the reservoir when the float is submerged, substantially as described.

4. In a disinfecting apparatus, the combination with a water reservoir connected with the bowl of a water closet, a water supply for the reservoir, controlled by a float valve, and a water-discharging siphon actuated when the float of the valve is submerged in the water contained in the reservoir, of a cylindrical liquid-holder pivoted near its center in the reservoir above the arm of the float, a filler

nozzle on the holder, and a graduating discharge pipe on said holder, held normally upright by a weight on the holder, a pusher arm on the holder, and a flexible connection between the holder and a swinging door or a water closet seat, substantially as described.

5. In a disinfecting apparatus, the combination of a cistern provided with an outlet and having a water-supply pipe provided with a cock, a movable disinfectant holder, adapted when moved to discharge into the cistern, means for moving the holder, and means actuated by the movement of said holder for controlling the cock in the water supply pipe of the cistern, substantially as set forth.

6. In a disinfecting apparatus, the combination of a cistern provided with an outlet and having a water supply pipe provided with a float-valve, a rotative disinfectant holder adapted when rotated to discharge a portion of its contents in said cistern, means for rotating said disinfectant holder, and a projection on said holder adapted when the same is rotated, to engage the valve and move the same to open the water-supply pipe of the cistern, substantially as set forth.

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Witnesses:

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