No. 713,977. Patented Nov. 18, 1902.

G. S. GALLAGHER.

APPARATUS FOR APPLYING LIQUID DISINFECTANTS OR PERFUMERY TO WATER CLOSETS.

(Application filed Dec. 17, 1901.)

(No Model.)

Fig. 1.

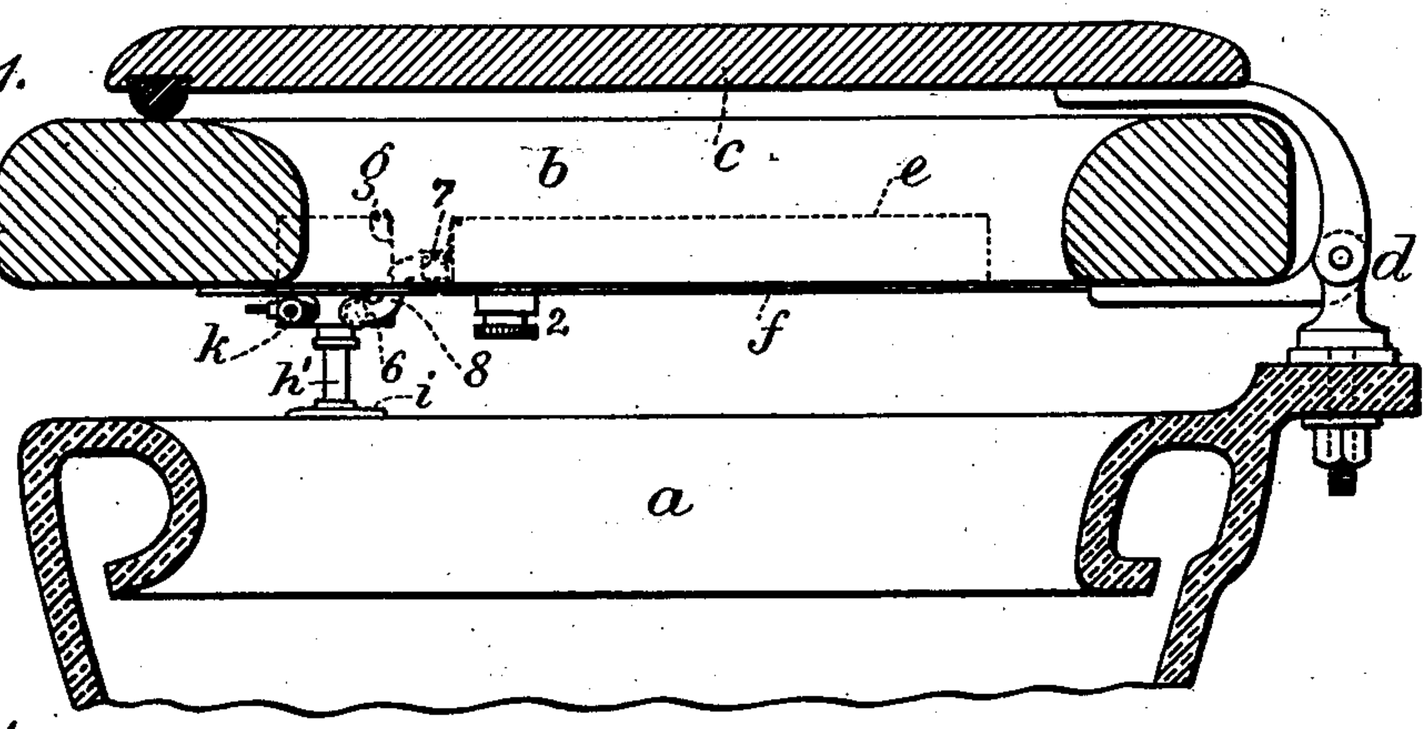


Fig. 4.

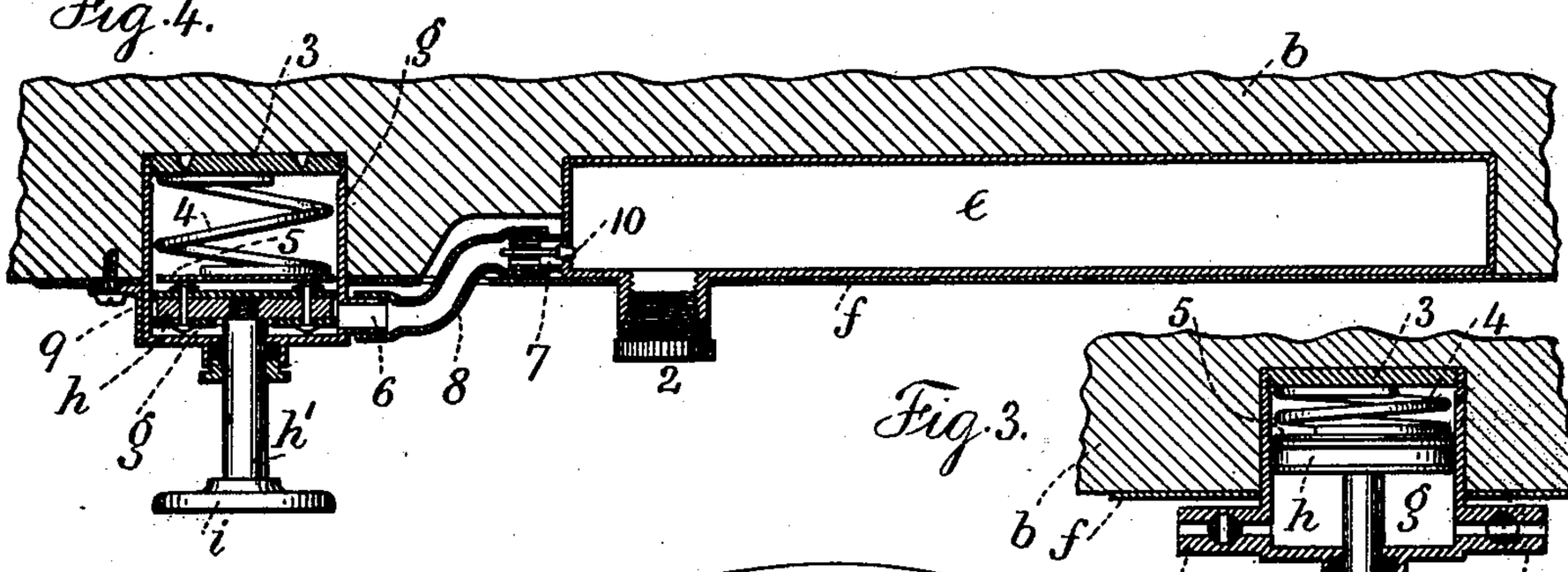
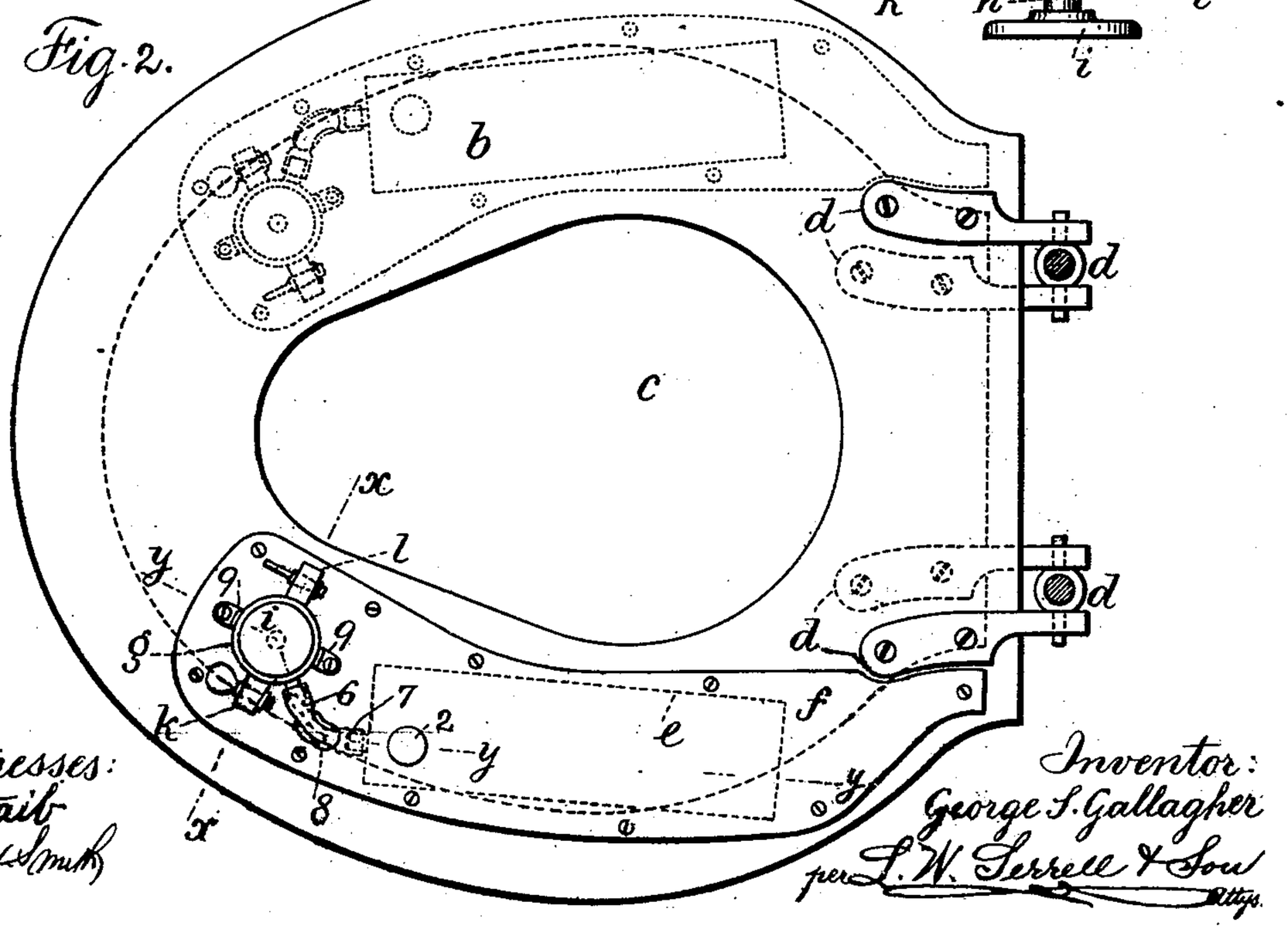


Fig. 3.

Fig. 2.



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UNITED STATES PATENT OFFICE.

GEORGE S. GALLAGHER, OF NEW YORK, N. Y.

APPARATUS FOR APPLYING LIQUID DISINFECTANTS OR PERFUMERY TO WATER-CLOSETS.

SPECIFICATION forming part of Letters Patent No. 713,977, dated November 18, 1902.

Application filed December 17, 1901. Serial No. 86,199. (No model.)

To all whom it may concern:

Be it known that I, GEORGE S. GALLAGHER, a citizen of the United States, residing at the borough of Manhattan, in the city, county, and State of New York, have invented an Improvement in Apparatus for Applying Liquid Disinfectants or Perfumery to Water-Closets, of which the following is a specification.

My invention relates to devices employed in connection with the bowl of a water-closet for containing either a disinfectant in fluid form and delivering the same into the bowl of the closet or for containing perfumery in liquid form and delivering the same therefrom, so that the perfumery may evaporate and the odor thereof permeate the air. In the under surface of the closet-seat and at one side I form a recess and provide a vessel fitting said recess or cavity, a means for filling the same, a means for discharging the contents thereof, a spring-actuated piston in a suitable case, and a rod and head for the piston.

The device for discharging the fluid from the vessel is connected to the cylinder, and the spring employed in connection with the piston normally supports the closet-seat in a substantially horizontal position. When the piston is moved through the cylinder as the seat is depressed, a slight vacuum is effected in the cylinder which causes a flow of a regulatable quantity of fluid from the vessel into the cylinder, and when the seat is released and the spring causes the piston and parts to assume a normal position the fluid in the cylinder is ejected.

In the drawings, Figure 1 is a vertical section and partial elevation representing my improvement. Fig. 2 is an inverted plan of the closet-seat and the devices of my improvement connected therewith. Fig. 3 is a vertical cross-section at the line *x x* of Fig. 2, and Fig. 4 is a vertical longitudinal section at the line *y y* of Fig. 2. Figs. 3 and 4 are shown of exaggerated size for clearness.

a represents the upper end or flushing-rim of a porcelain water-closet.

b represents the seat, *c* the cover, and *d* the hinges, connecting both cover and seat to the bowl of the closet. In the under surface of the seat *b* and at one side I provide a cavity or recess, and an elongated rectangular metal vessel *e* is placed in the said recess. This vessel is provided with a filling-plug 2, and a plate of metal *f* fits over the under side of the closet-seat, and the said plate is secured to the seat, is provided with an opening for the filling-plug 2 and with an opening for the metal cylinder *g*, which fits therein, and is also received in a recess made in the under surface of the seat. This cylinder *g* has an exposed outer end and packing. A piston *h* is within the cylinder. A piston-rod *h'*, connected thereto, passes through the exposed end of the cylinder and through the packing and is provided with a head *i* outside of the cylinder. In the inner end of the cylinder there is a removable head 3, and between said head 3 and the piston there are a helical spring 4 and a disk 5, the disk 5 being against the piston and receiving one end of the spring.

Brackets 9, secured to opposite sides of the cylinder, are in turn secured either to the plate *f* or to the seat by screws passing through the brackets and through the plate *f*. The cylinder *g* is provided with lateral tubes 6, *k*, and *l*. The vessel *e* is provided with a discharge-tube 7, and the tubes 6 and 7 are preferably connected by a flexible or bent tube. In the lateral tubes *k* and *l* there are stop-cocks that can be turned to open the orifice in said tubes or close the same off. (See specially Fig. 3.) The aperture from the vessel *e* into the tube 7 is quite small, and the same is closed by a needle-valve device 10, having a slight longitudinal movement in said tube 7.

Figs. 1 and 2 represent the normal position of the parts in which the seat *b* and cover occupy a substantially horizontal position, being supported in such position by the spring 4, the piston, piston-rod, and head, the said head *i* resting upon the flat upper surface of the porcelain closet-bowl. In this position the valve 10 is seated in the aperture in the vessel *e*, so that the fluid therein is held in place. As the seat is depressed by the weight of the person sitting thereon the piston *h* is

moved up through the cylinder and the spring 4 is compressed. This movement creates a partial vacuum in the cylinder, which causes a movement of the valve 10 and permits a small quantity of the liquid contents of the vessel *e* to be discharged into the tube 7, down the tube 8, through the tube 6, and into the cylinder *g*. This position of the parts is shown in Fig. 3.

The vessel *e* may be filled with a liquid disinfectant or with a liquid perfume. Where the disinfectant is employed, it is preferable to discharge the same directly into the bowl of the closet. This is accomplished by opening the stop-cock in the tube *l*. Then when the weight upon the seat *b* is relieved by the person rising the spring 4 returns the piston and parts to a normal position and the force exerted ejects the fluid contents of the cylinder through the pipe *l* into the bowl of the closet. This movement further closes the needle-valve 10, and it may hold some fluid confined within the tubes 6, 7, and 8. These movements are repeated in the same manner. Should the vessel *e* be filled with liquid perfume, it is then desirable to discharge the same so that the perfume may evaporate and the odor be present in the air. To effect this, the stop-cock in the tube *l* is closed and that in the tube *k* is opened. Then with the movement of the piston from the position Fig. 3 to the position Fig. 4 the liquid perfume is ejected through the tube *k* into the air. These parts are made small, neat, and compact, they are out of the way, and their presence is not so manifest as to be in any sense objectionable.

It is obvious that the devices hereinbefore described may be duplicated in the opposite side of the closet-seat, as shown by dotted lines, Fig. 2. Where two similar devices are employed as thus illustrated, it is evident that the seat will be supported at two points and the strain on the hinges be evenly distributed; also, that one metal vessel may be used for liquid disinfectant and the other for liquid perfume.

I do not limit myself in the number of discharge-tubes employed to deliver the materials from the cylinders, as one or two may be in evidence with either one or two metal vessels in order to direct either or both of the liquids named in either or both directions.

I claim as my invention—

1. The combination with the seat of a water-closet, of a vessel let into the under surface of the seat, a piston spring-actuated in one direction and actuated by the depression of the seat in the opposite direction, a tubular part extending from the vessel to the piston-cylinder and connecting the same, and means for regulating the flow and discharge of the contents of the vessel, substantially as set forth.

2. The combination with the seat of a water-closet, of a vessel let into the under surface of the seat, a piston-spring actuated in one direction and actuated by the depression of the seat in the opposite direction, a tubular connection from the cylinder to the vessel, means for regulating the flow and discharge of the contents of the vessel, and a plate secured to the under surface of the seat inclosing the said vessel, surrounding the said cylinder and partially inclosing the tubular connection between the cylinder and vessel, substantially as set forth.

3. The combination with the seat of a water-closet having a cavity in the under surface, of a vessel received within the said cavity and having a filling-plug, a cylinder let into the under surface of the seat and in proximity to the said vessel, a tubular connection between the cylinder and the vessel, a piston within the cylinder, a piston-rod connected therewith and projecting therefrom, a head upon the opposite end of the piston-rod adapted to bear upon the upper surface of the closet-bowl, a spring for normally projecting the said piston rod and head, and means associated with the said vessel for controlling the amount of fluid material passing therefrom, and means for discharging said material from the cylinder in either one of opposite directions, substantially as set forth.

4. The combination with the seat of a water-closet having a cavity in the under surface, of a vessel received within said cavity and having a filling-plug, a cylinder let into the under surface of the seat and in proximity to the said vessel, a tubular connection between the cylinder and the vessel, a piston within the cylinder, a piston-rod connected therewith and projecting therefrom, a head upon the opposite end of the piston-rod adapted to bear upon the upper surface of the closet-bowl, a spring for normally projecting the said piston rod and head, and a needle-valve device moved in one direction by pressure and in the other direction by a partial vacuum to release the fluid from the vessel, and lateral discharge-tubes from opposite sides of the said cylinder, and means for controlling the apertures therein, substantially as set forth.

5. The combination with the seat of a water-closet having a cavity in the under surface, of a vessel received within the said cavity and having a filling-plug, a cylinder let into the under surface of the seat and in proximity to the said vessel, a tubular connection between the cylinder and the vessel, a piston within the cylinder, a piston-rod connected therewith and projecting therefrom, a head upon the opposite end of the piston-rod adapted to bear upon the upper surface of the closet-bowl, a spring for normally projecting the said piston rod and head, and a needle-valve device moved in one direction by pressure and in the other direction by a partial

vacuum to release the fluid from the vessel, and lateral discharge-tubes from opposite sides of the said cylinder, means for controlling the apertures therein, and a plate of metal fitting over the said vessel around the said cylinder and over part of the tubular connection between the same and against the under surface of the seat assisting in holding the parts in place and providing a finish thereto, substantially as set forth.

Signed by me this 13th day of December, 1901.

G. S. GALLAGHER.

Witnesses:
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