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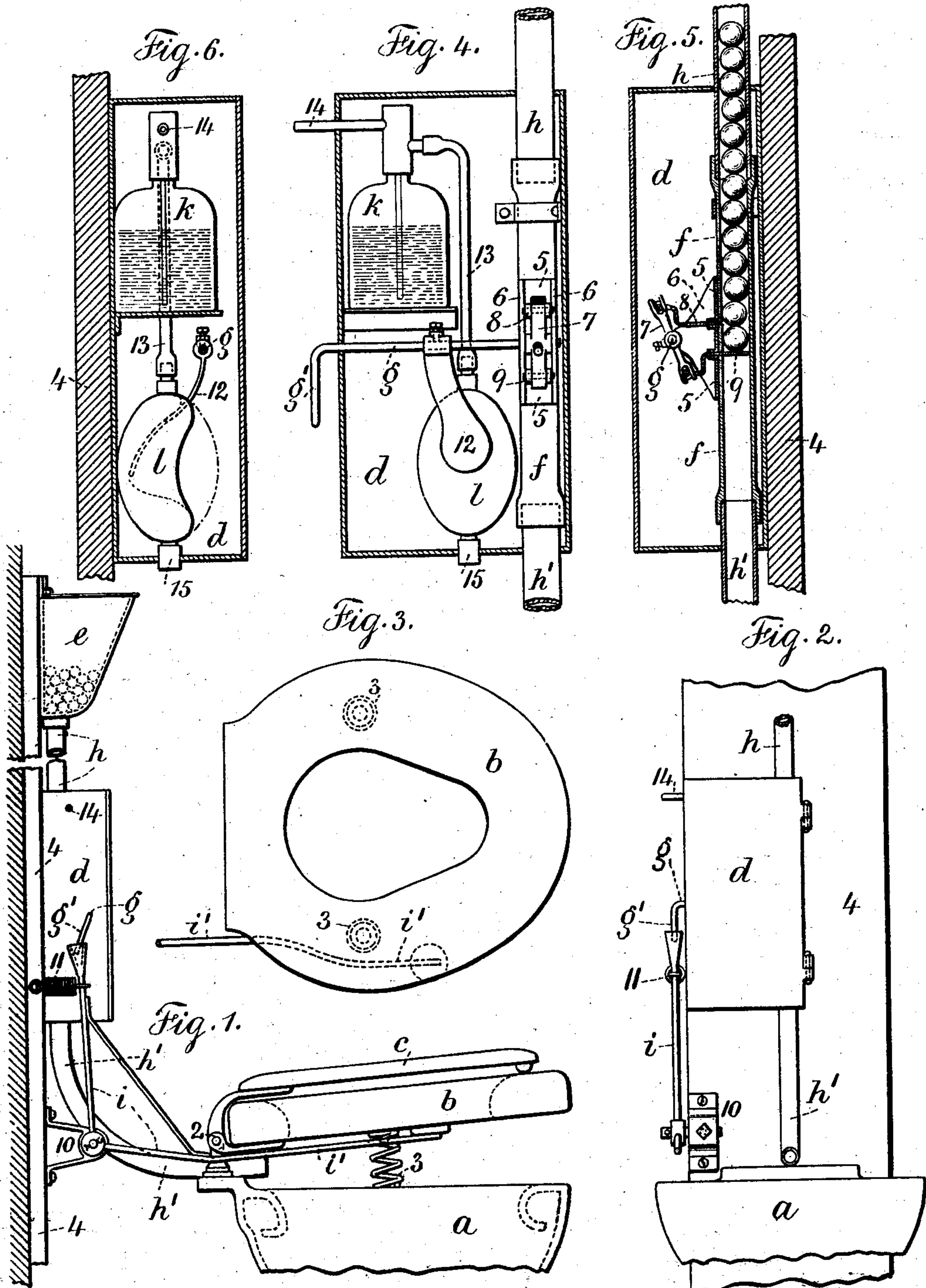
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APPARATUS FOR APPLYING DISINFECTANTS TO WATER CLOSETS.

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NO MODEL.



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UNITED STATES PATENT OFFICE.

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APPARATUS FOR APPLYING DISINFECTANTS TO WATER-CLOSETS.

SPECIFICATION forming part of Letters Patent No. 749,963, dated January 19, 1904.

Application filed December 17, 1901. Serial No. 86,200. (No model.)

To all whom it may concern:

Be it known that I, GEORGE S. GALLAGHER, a citizen of the United States, residing in the borough of Manhattan, in the city, county, and State of New York, have invented an Improvement in Apparatus for Applying Disinfectants 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 and which devices contain a disinfectant and are actuated by the movement of the seat of the closet for delivering the disinfectant into the bowl thereof. In carrying out my invention the disinfectant is preferably employed in the form of spheres or balls which are delivered progressively and one at a time by the movements imparted by the seat of the closet to devices controlling the progressive delivery of said spheres or balls.

Upon the wall back of the closet a case is secured and above the same a supply-hopper. A tube from the hopper passes through the case and devices are employed within the case, preferably in the form of a rocker-arm and slide-plates, the movement of which arrests and at the same time delivers a sphere or ball at a time, the same passing down the tube into the bowl of the closet. This rocker-arm is actuated by a lever device upon which the seat of the closet bears, and I prefer to employ, in connection with these devices, a perfume-atomizer simultaneously actuated by the said devices, which bring into operation a pressure-blade upon a rubber bulb to effect the operations of the atomizer.

In the drawings, Figure 1 is a side elevation representing my improvements. Fig. 2 is an elevation with the seat portion removed. Fig. 3 is a plan of the seat. Fig. 4 is a vertical section of the case and elevation of the parts contained within the same. Fig. 5 is a vertical section through the case and the tubular way or passage for the spheres of disinfectant, and Fig. 6 is a vertical cross-section and partial elevation of the atomizer device and the means for operating the same. Figs. 4, 5, and 6 are shown of exaggerated size for clearness.

a represents the upper portion of the porcelain bowl of a water-closet of usual construction;

b, the seat; *c*, the cover, and 2 hinges connecting the seat and cover, respectively, to the bowl of the closet. A wall-plate 4 is to be secured in place back of the closet.

d represents a case secured to the wall-plate in any desired manner, and *e* a hopper also secured to said plate above the case *d* and preferably having a hinged lid, said hopper receiving the supply of the disinfectant. A tube-section *f* is secured vertically within the case *d*, preferably at one side, and the upper and lower ends of this tube-section are flared, the upper end receiving the tube *h* from the hopper *e* and the lower end receiving the tube *h'*, passing out of the lower end of the case and curved to the closet-bowl and extending beneath the seat and over the edge of the said bowl. A plate 5, having bracket-arms 6 at each side, is secured vertically upon one face of the tube-section *f*, and a shaft *g* is at one end pivoted to the case *d*, and at the other end said shaft passes through and is pivoted in the bracket-arms 6. Said shaft *g* terminates outside of the case *d* in a bent end *g'*. Upon the shaft *g* and between the bracket-arms 6 is a rocker-arm 7 with forked ends, and I provide slide-plates 8 9, adapted to pass through slideways made in the outer portion of the tube-section *f* and to pass across within and close off the aperture through the said tube-section. These slide-plates are located the one above the other and at a distance apart about equal to the diameter of the spheres or balls of disinfectant. The outer ends of these slide-plates are preferably bent and provided with pins received within the forked ends of the rocker-arm 7.

To a bracket 10, secured to the wall-plate 4, is pivoted a bell-crank lever *i*. The lower portion of this lever is prolonged as an arm *i'*, passing beneath the closet-seat *b*, and the upper end of the bell-crank lever *i* is formed as a recess or funnel to receive the lower portion of the bent end *g'*, and there is a spring 11 at one end fastened to the wall-plate 4 and at the other end to the bell-crank lever *i*.

Fig. 1 represents the normal position of the parts, in which it will be noticed that the closet-seat is maintained at an appreciable distance above the level of the top of the bowl by springs 3 under the seat and resting on the flushing-rim

of the closet. In the operation of the device and when the weight of a person is applied to the seat the bell-crank lever *i* is swung upon its pivot or connection with the bracket 10 and the same is moved against the force of the spring 11, and the end *g'* of the shaft *g* is moved to turn the said shaft in its pivots. This movement swings the rocker-arm 7, and it will be noticed by reference to Fig. 5 that this swinging movement withdraws the slide-plate 9 from the tube-section *f* and from below the lowermost sphere of disinfectant and simultaneously forces in the slide-plate 8 between the two lowermost spheres of disinfectant, at the same time dropping the lowermost sphere of disinfectant and supporting the superposed spheres above the slide-plate 8. The ball or sphere of disinfectant now passes down the tube-section *f*, through the tube *h'*, and into the bowl of the closet. When the person rises from the seat and pressure is relieved, the spring 11 returns the parts to their normal position, in which the slide-plate 8 is withdrawn and the slide-plate 9 simultaneously forced within the tube-section, permitting the superposed spheres of disinfectant to drop a distance agreeing with the diameter of one sphere and to be then supported upon the slide-plate 9. Simultaneously with the first movement of the bell-crank lever by the depression of the seat the blade 12 is given an outward movement, thus permitting the rubber bulb *l* to fill with air through the valve 15 in its lower end. With the return of the parts to their normal position by the action of the spring 11 the blade 12 is forced against the rubber bulb and the air from within passes by the tube 13 through the perfume-atomizer *k*, causing a spray of perfume to be ejected from the discharge-tube 14. This atomizer of itself is of usual construction and well-known operation and does not require further description. With each operation of the closet-seat and the mechanism actuated thereby a sphere or ball of disinfectant is delivered into the bowl of the closet while the supply lasts, the operations being automatically effected.

It will be apparent from the foregoing description that the downward movement of the seat effects the delivery of a sphere of disinfectant into the closet-bowl and that the return movement effects the discharge of a quantity of liquid perfume. It is, however, obvious that these operations might be simultaneous, to effect which would not require any change in the operative parts, but only a rearrangement thereof to the extent of placing the rubber bulb *l* above the shaft *g* and reversing the position of the blade 12.

I claim as my invention—

1. The combination with the hinged seat of a water-closet, of a wall-plate secured back of the closet, a case secured to said plate, a tube-section passing vertically through said case, a

hopper for disinfectant secured to the wall-plate above the case, a tube extending from the hopper to one end of the tube-section and another tube extending from the lower end of the tube-section to and terminating above the rim of the closet-bowl, a pair of slide-plates and slideways therefor in said tube-section at a predetermined distance apart, a rocker-arm pivotally connected to the slide-plates and adapted to alternately move the same in said slideways, within and across the passage through the tube-section, a shaft connected to said rocker-arm, means for pivotally supporting said shaft upon said tube-section, the opposite end of said shaft passing through and being pivoted in said case and terminating in a downward-bent end, and a bell-crank lever pivotally supported upon the wall-plate, an arm forming a prolongation of the lower end of said bell-crank lever and extending beneath the closet-seat, the upper end of the bell-crank lever being provided with a recess or funnel receiving the bent end of said shaft, and a spring at one end secured to the upper end of the bell-crank lever, and at its other end to the wall-plate, substantially as and for the purposes set forth.

2. The combination with the hinged seat of a water-closet, of a wall-plate secured back of the closet, a case secured to said plate, a tube-section passing vertically through said case, a hopper for disinfectant secured to the wall-plate above the case, a tube extending from the hopper to one end of the tube-section, and another tube extending from the lower end of the tube-section to and terminating above the rim of the closet-bowl, a pair of slide-plates and slideways therefor in said tube-section at a predetermined distance apart, a rocker-arm pivotally connected to the slide-plates and adapted to alternately move the same in said slideways, within and across the passage through the tube-section, a shaft connected to said rocker-arm, means for pivotally supporting said shaft upon said tube-section, the opposite end of said shaft passing through and being pivoted in said case and terminating in a downward-bent end, and a device spring-actuated in one direction and actuated in the opposite direction by the downward movement of the seat and engaging the bent end of said shaft for effecting the movements of the rocker-arm and slide-plate, a pressure-blade secured within said case to said shaft, and a perfume-atomizer device, against the air-bulb of which said pressure-blade is adapted to bear to effect the operation of the perfume-atomizer with and by the movement of the other devices, substantially as set forth.

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

G. S. GALLAGHER.

Witnesses:

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