

C. C. FROST.
Valve for Water-Closets, &c.

No. 205,626.

Patented July 2, 1878.

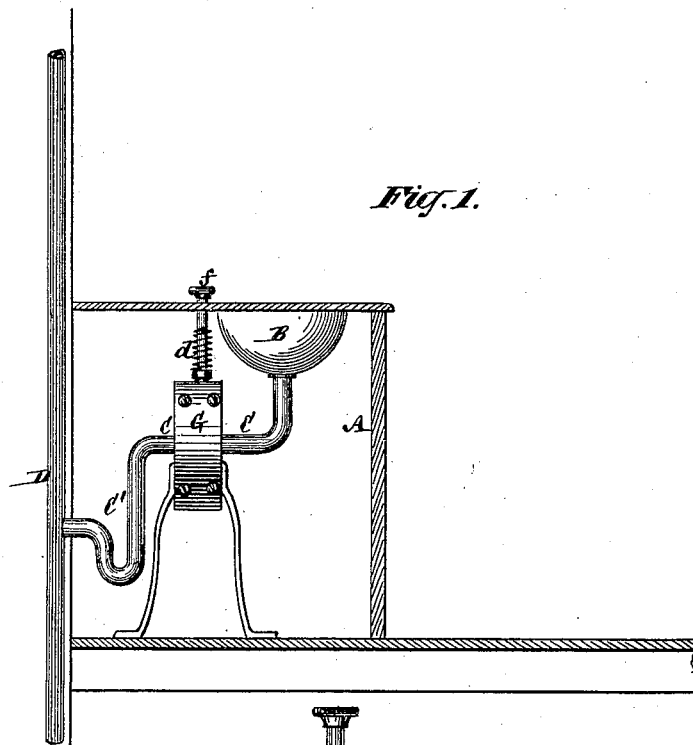


Fig. 1.

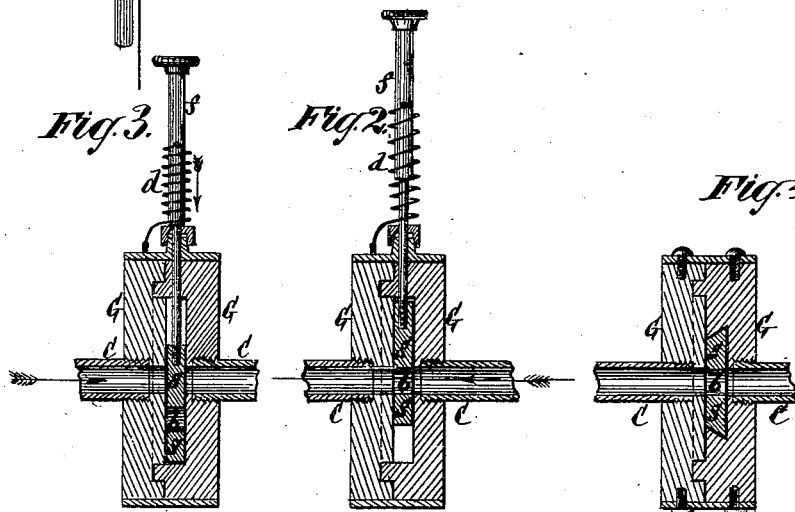


Fig. 3.

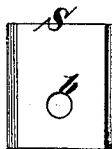
Fig. 2.

Fig. 4.

Fig. 5.

Witnesses

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Inventor

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UNITED STATES PATENT OFFICE.

CAROLINE C. FROST, OF NEW YORK, N. Y.

IMPROVEMENT IN VALVES FOR WATER-CLOSETS, &c.

Specification forming part of Letters Patent No. **205,626**, dated July 2, 1878; application filed March 25, 1878.

To all whom it may concern:

Be it known that I, CAROLINE C. FROST, of the city and State of New York, have invented a new and useful Improvement in Valves for Water-Closets, Wash-Basins, and Sinks, of which the following is a description, reference being had to the accompanying drawing, forming part of this specification.

The object of this invention is to prevent the escape of noxious gases from sewers into apartments or buildings through water-closets, wash-basins, or sinks situated within the buildings and connected with the sewers.

The invention consists in arranging in the discharge-pipe of a water-closet, wash-basin, or sink a vertically-sliding valve having an opening therethrough, and provided with a novel construction of seat or guide, and having a rigid stem connected directly with a spring-retracted handle located in convenient position for use, whereby the communication with the sewer is effectually and automatically closed, excepting when the valve is purposely opened to empty the bowl or basin, &c., of its contents. When a trap is used in addition, then said valve should be arranged between the bowl, basin, or receptacle and the trap, which latter, in its turn, communicates with the pipe that connects with the sewer. A trap, however, may be dispensed with when a spring slide-valve, applied as I have described, is used.

Figure 1 of the drawing represents a sectional elevation of a wash-stand with my invention applied; Figs. 2 and 3, sectional elevations, upon a larger scale, of the spring slide-valve and its box or case, showing the valve in its open and closed positions relatively with an outlet-pipe from the basin. Fig. 4 is a horizontal section of like parts, and Fig. 5 a face view of the valve detached.

A represents a fixed wash-stand, and B its bowl or basin. C is the pipe attached to the basin for running off the foul or dirty water therefrom. This pipe connects the bottom of the basin, either directly or through the intervention of a trap, C', with the pipe D, which forms the main or direct connection with the sewer, and which may serve as the general discharge-pipe to the sewer from several wash-

stands, water-closets, or sinks in the same building.

S is a slide-valve arranged to intersect the discharge-pipe C between the basin B and the general discharge-pipe D, or between the basin and the trap C', which connects with the pipe D. This valve is arranged to work within a box or case, G, which may be made in halves or sections fitting together by a tongue and groove, and soldered or otherwise hermetically closed after the valve has been inserted to its place therein. Said valve has an aperture, *b*, through it, to provide for a thorough communication of the pipe C when said aperture, by the lifting of the valve, is brought in line with the intersected portions of said pipe; but said valve, when not thus raised, closes by its opposite faces such intersected portions of the pipe C or passages in the box communicating therewith, and forms a solid stop or barrier to any efflux of gas from the sewer, thereby affording much better protection than a mere water-trap, which not infrequently permits of the passage or blowing of noxious gases from the sewer through it.

A broad or flat slide-valve working between the two halves of its box, or in a recess formed within one of them, as shown in the drawing, forms a most effectual barrier to the efflux of gas.

Said valve S is made self-closing by means of a spring, *d*, operating in addition to the weight of the valve for the purpose, said spring being applied to an upwardly-projecting stem or rod, *f*, of the valve, which rod may also form a handle for lifting the valve.

Thus the valve does not admit of being carelessly left open to allow of the passage of deleterious gases, and requires to be purposely opened when necessary to empty the bowl or basin of its contents, it being automatically and positively closed by the spring at all other times.

The rod *f* passes from its connection with the valve through a stuffing-box or guide in the top of the box. This guide may be of conical construction, and an inverted conical cap be fitted over it, the rod also passing through the cap, and having a shoulder which comes down on the inverted conical cap when the

valve is closed; or any other suitable construction may be adopted to secure a close fit of the rod.

I am aware that it is not new to arrange spring slide-valves in the discharge-pipes of water-closets, wash-basins, sinks, and the like, and do not broadly claim such a device as my invention.

I claim—

The combination, with the bowl, basin, or receptacle B, discharge-pipe D, and pipe C, of the

vertically-sliding valve S, provided with an opening, *b*, and having a rigid stem connected directly with the handle *f*, the box G, inclosing and forming a guide for said valve, and the spring *d* for retracting the same, all constructed and arranged substantially as described.

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Witnesses:

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