

(No Model.)

J. D. BACON.

PLUG FOR BOWLS AND BATH TUBS.

No. 300,552.

Patented June 17, 1884.

Fig. 1.

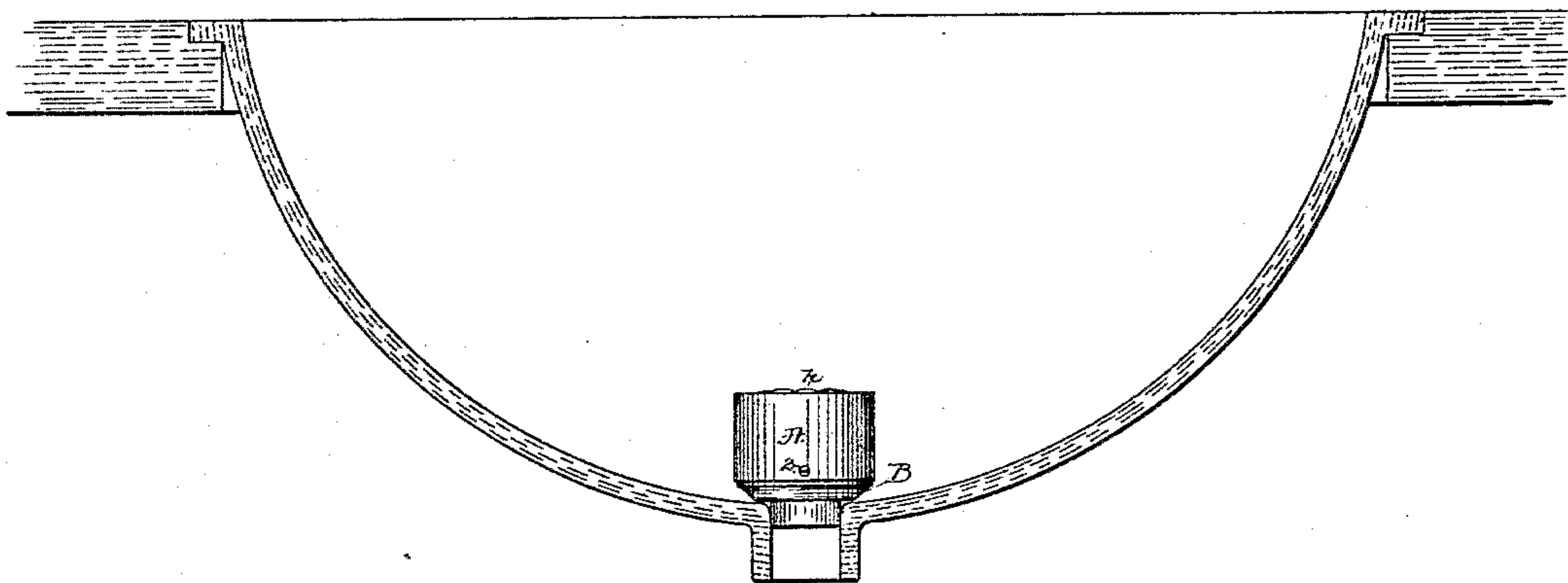


Fig. 2.

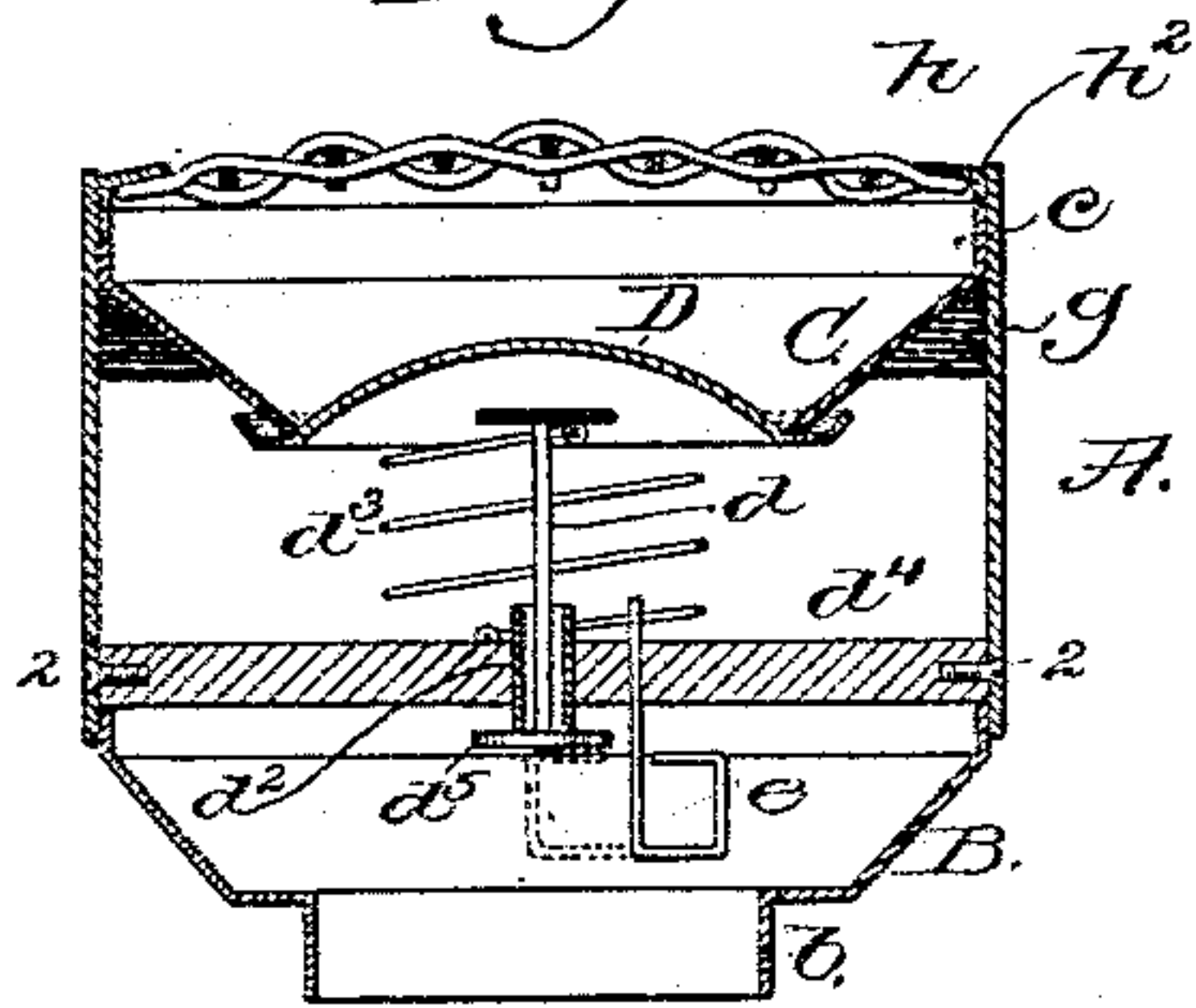
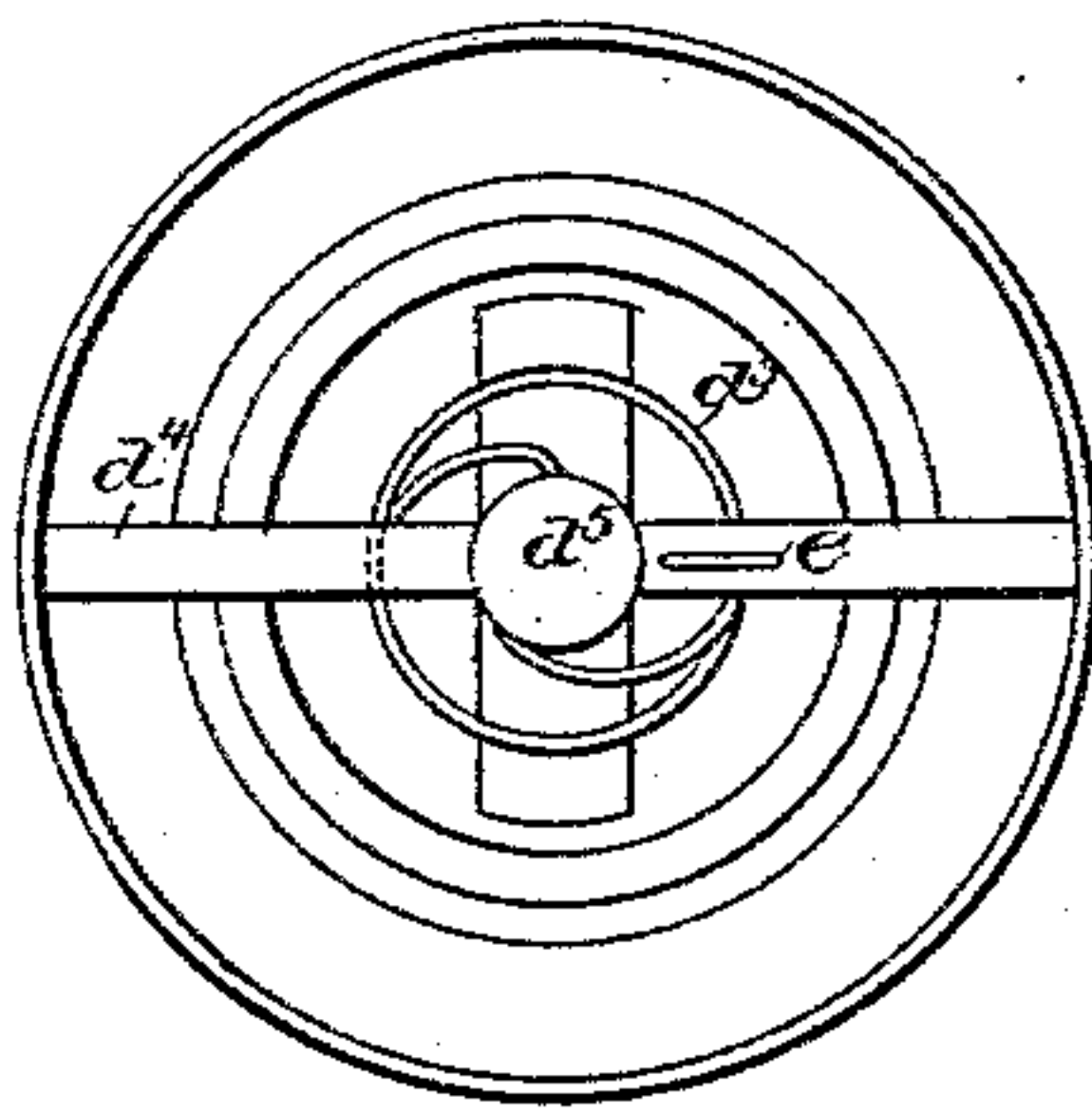


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

JAMES D. BACON, OF BOSTON, MASSACHUSETTS.

PLUG FOR BOWLS AND BATH-TUBS.

SPECIFICATION forming part of Letters Patent No. 300,552, dated June 17, 1884.

Application filed March 12, 1884. (No model.)

To all whom it may concern:

Be it known that I, JAMES D. BACON, of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Plugs for Bowls and Bath-Tubs, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

Wash-bowls and bath-tubs are commonly provided with outlets adapted to be closed by metal plugs, and the sides of both the bowls and tubs are provided with overflow-openings. In the majority of houses one or both of these openings in bowls and tubs are left open at night, permitting sewer-gas to enter the room where they are placed. To avoid the entrance of sewer-gas into a house through these holes I have devised a plug to take the place of the usual solid metal plug; and my invention consists, essentially, in a metal plug provided with a valve which is adapted to be opened downwardly, as will be described, in the direction of the flow of water, and to be closed in the opposite direction. I have provided the valve with, and supported it upon, a spring, and, as herein shown, I have provided the plug with a locking device, to keep the valve closed, when desired, against the weight of water in the bowl or tub, and the bottom piece of the plug is made detachable from the plug-shell, so that the bottom piece with a collar of any desired diameter may be used in connection with the same shell, according to the diameter of the hole to be plugged.

Figure 1 shows a wash-bowl in section, with one of my improved plugs therein; Fig. 2, a vertical section, on a larger scale, of one of my improved plugs; and Fig. 3, an under side view thereof with the bottom plate removed.

The plug-shell A has fitted into its lower end the bottom piece, B, provided with a collar, *b*, of suitable diameter to fit the opening in the bowl or bath-tub to be closed by the plug. This bottom piece is flanged to match with, and is fitted closely but removably to, the lower end of the shell A. The funnel or top plate, C, flanged at its upper end, is fitted into the upper end of the shell, and its lower end serves as the seat for the valve D, supported on a spring, *d*³, and provided, as herein shown, with a spindle, *d*, extending through a guide, *d*², held in a cross bar or piece, *d*⁴, herein shown

as attached to the shell A by screws 2, the cross-piece acting to brace and strengthen the shell, which, as well as the bottom and top piece and the valve, will preferably be struck up or drawn from thin sheet metal, which will preferably be nickel-plated or otherwise guarded against rust and corrosion. The valve placed in the hollow plug-shell above the collar or neck *b* closes upwardly against a seat made in the plug-shell, and the strength of the spiral spring supporting it may be such as to enable the valve to be forced open by the water above it in the bowl or tub when at a certain depth. The lower end of the upper portion, C, as shown in Fig. 2, enters a groove formed by turning up the edge of the valve to form a rim, the flanged lower end of the said upper portion entering water in the groove of the valve to form a trap or water-seal for the valve. The spring acts to keep the valve closed upwardly against its seat, and the pressure of any gas which may be in the pipe acts in the same direction. The stem *d*, at its lower end, has a button, *d*³, which, when the valve is to be locked in its elevated and consequently closed position, is acted upon by a valve-locking device, *e*, shown as a pivoted loop of wire connected with the cross-piece *d*⁴.

I do not desire to limit my invention to the particular kind or shape of spring employed to support the weight of the valve and the weight of the material above it in the bowl or tub, nor to the particular shape of the valve.

To keep the shell and its attached parts down in the bowl or tub I prefer to weight the same with lead, as at *g*, and to prevent the passage of hair, &c., into the shell I prefer to cover the top of the shell with a strainer, *h*, composed of wire attached to a ring, *h*².

The described plug may be set into the hole occupied by the usual plug, and will close the said hole against the escape of gas or air, but will let the valve yield or fall under weight of the water on top of it and within the shell, the water at such time being discharged. Where my improved plug is employed, the usual overflow-openings may be permanently closed. The strainer is made removable. Water in the bowl passes therefrom out through the plug.

I claim—

1. In a plug for bowls and bath-tubs, a shell having a passage through it for water, and a

seat, combined with an upwardly-closing valve to close the said passage against the action of sewer-gas inward through the hole closed by the plug, substantially as described.

5 2. The plug-shell provided with a valve-seat, combined with an upwardly-closing valve, and with a spring to support the valve and force it normally upward against the weight of the water resting above the plug, substantially as described.

10 3. The hollow plug-shell, its bottom and top pieces, and valve, combined with a strainer, substantially as described.

4. The hollow sheet-metal plug-shell, its

upper portion, C, valve, and bottom piece, 15 combined with the weight or ring *g*, to aid in holding the plug down in the hole to be closed by it, substantially as described.

5. The plug-shell and valve, combined with a valve-locking device, to operate sub- 20 stantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES D. BACON.

Witnesses:

G. W. GREGORY,
B. J. NOYES.