(No Model.)

B. F. SMITH.

AUTOMATIC PLUG FOR WASH BOWLS AND BATH TUBS.

No. 347,390. Patented Aug. 17, 1886.

Fig. 2.

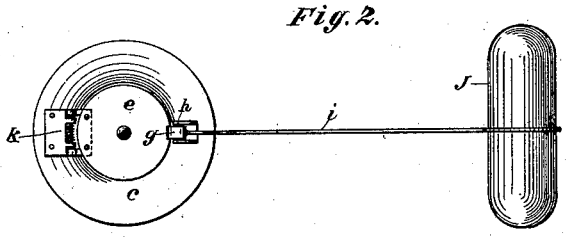


Fig. 1.

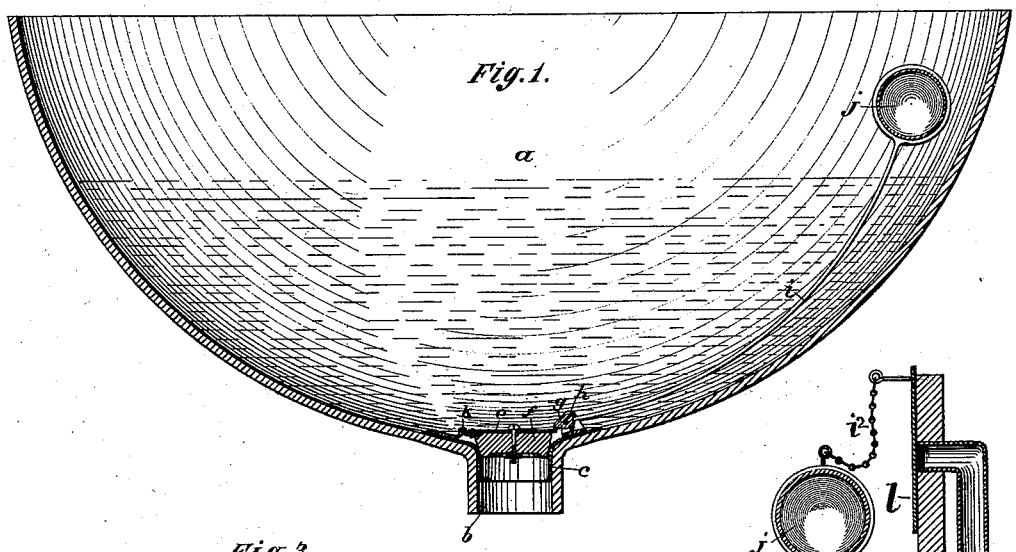
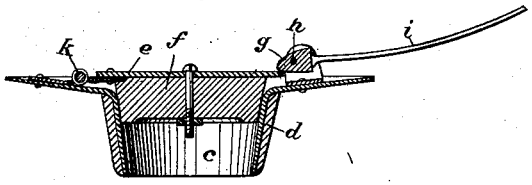


Fig. 3.



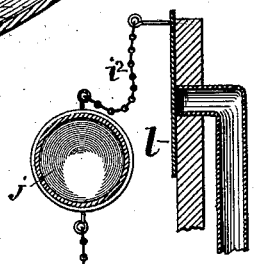
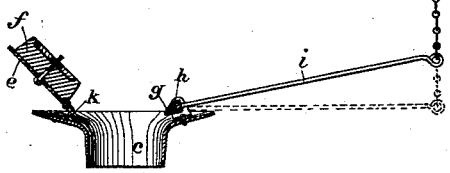


Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

BENJAMIN F. SMITH, OF CHICAGO, ILLINOIS.

AUTOMATIC PLUG FOR WASH-BOWLS AND BATH-TUBS.

SPECIFICATION forming part of Letters Patent No. 347,390, dated August 17, 1886.

Application filed December 2, 1885. Serial No. 184,393. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN F. SMITH, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Automatic Plugs for Wash-Bowls and Bath-Tubs, which are fully set forth in the following specification, reference being had to the accompanying drawings, forming a part hereof, and in which—

Figure 1 shows a transverse vertical section through the center of a wash-bowl in which my improved valve is attached. Fig. 2 shows the valve or plug and its float in plan. Fig. 3 shows the valve in an enlarged view in a transverse vertical section. Fig. 4 shows the valve in transverse vertical section opened and arranged with its float in a bath-tub, of which only the part immediately around the waste-pipe is shown.

Like letters refer to like parts.

The object of my invention is to prevent the escape of sewer-gas into houses from the sewers, and to close the openings of the waste-pipes of wash-bowls and bath-tubs so as to be gas-tight, and so as to open automatically and allow the water to escape before the vessels overflow. To attain said end I construct the plugs for bath-tubs and wash-bowls as follows, namely: Into the end of the discharge-pipe, just above the strainer, is placed a short flanged tube, *c*, the flange of which is made to fit neatly and snugly upon the bottom of the bowl or tub. The part entering the waste-pipe is made slightly tapering, and so as to fit tightly into the waste-pipe.

To provide for the varying diameters of waste-pipes, a wedge-shaped ring or gasket, *d*, of india-rubber or like gas-tight and elastic material, is slipped over it, so as to make with it and the pipe a gas-tight joint. The upper end of the tube *c* is closed by means of a valve attached to the flange by means of a hinge having a coiled-wire spring, *k*, wound around its pintle with a tension tending to throw the valve open. The part *e* of the valve is a metal plate, to which is attached a rubber plug, *f*, which fits tightly into said tube *c*, and may be so constructed as to aid the spring *k* by means of its elasticity. On the opposite side of the opening is a pair of lugs, through which and the head of the lever *i* passes the pin *h*. The head *g* of the lever is rounded at its point, so as to operate easily on the part *e*. The end of the head *g* holds but slightly upon the plate *e*, as shown in Fig. 3, so that a comparatively slight motion of the lever *i* will release the plate *e* from the lever. The end of the lever *i* is provided with a float, J, attached either directly, as shown in Fig. 2, or to a chain, *i'*, as shown in Fig. 4, for a bath-tub. In the former case the lever *i* is bent so as to conform to the curve of the bowl and be out of the way as much as possible, and in the latter case it is straight, so as to lie flat upon the bottom of the tub. The length of the chain to the ball *j* regulates the height of the water.

No overflow-pipe near the upper edge of the bowl is needed when provided with my automatic valve-plugs, and where they have such overflow-pipe the holes leading to them are to be corked. The overflow of the bath-tub is more conveniently closed by means of a disk soldered over the outlet. A chain, *i²*, of sufficient length to let the ball *j* work freely, is attached to the upper side of the ball *j*, of which its outer end is attached to a pin or directly to the bath-tub. When the plug is closed and locked into the pipe *c* by the lever *i*, water may run into the vessels until the float *j* begins to rise; but if more water is allowed to flow into the vessel the float will rise and raise with it the lever *i* until the head *g* has released the valve, which will then open by the force of the elasticity of the spring *k* alone, or of both the spring *k* and rubber *f*, and permit the water to escape through the discharge-pipe *b*. When the water has drained out of the vessels, the valves are closed, and thereby sewer-gas is effectually shut out of buildings.

A special feature of my invention is, that such plugs are easily attached to any wash-bowl or bath-tub—in fact, may be carried about by a traveler and readily attached to any such vessels.

I am aware of Deegan's patent, No. 308,307, and make no claim on the construction there shown.

What I claim is—

1. In combination with a bowl provided with pipe *b*, the flanged and removable pipe *c*, having a hinged valve provided with an elastic

plug, *f*, held in place by a lever, *i*, having a float, *j*, and cam *g*, substantially as specified.

2. In combination with a bowl provided with a pipe, *b*, the flanged pipe *c*, provided with gasket *d* and valve having elastic plug *f*, and lever *i*, provided with cam *g* and float *j*, substantially as specified.

3. In combination with a discharge-pipe, *b*, the flanged tube *c*, provided with a gasket, *d*, and cover attached by a hinge having a spring, *k*, and lever *i*, provided with float *j* and cam *g*, substantially as specified.

4. In combination with a bowl provided with discharge-pipe *b*, the flanged valve *c*, provided with hinged valve having spring *k*, and lever *i*, having float *j* and cam *g*, substantially as specified.

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Witnesses:
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