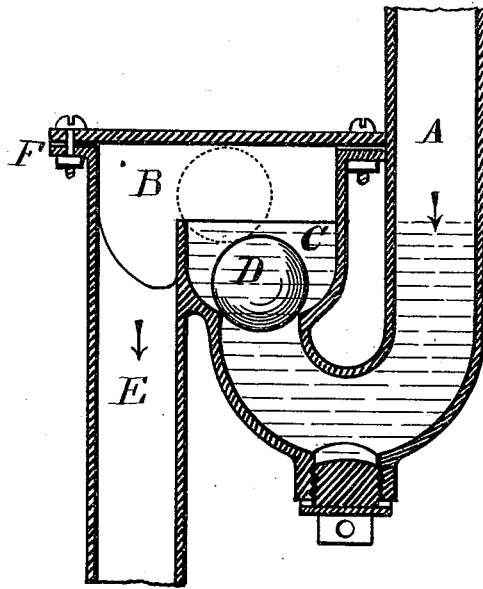


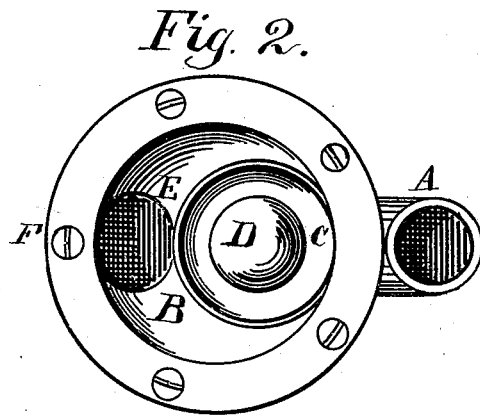
F. E. CUDELL.  
Sewer Gas Trap.

No. 201,391.

Patented March 19, 1878.



*Fig. 1.*



*Fig. 2.*

*Attest:*

*Geo. W. Tibbitts*  
*C. B. Allen*

*Inventor:*

*F. E. Cudrell*

# UNITED STATES PATENT OFFICE.

FRANK E. CUDELL, OF CLEVELAND, OHIO.

## IMPROVEMENT IN SEWER-GAS TRAPS.

Specification forming part of Letters Patent No. **201,391**, dated March 19, 1878; application filed February 4, 1878.

*To all whom it may concern:*

Be it known that I, FRANK E. CUDELL, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Sewer-Gas Traps, which improvements are fully set forth in the following specification and accompanying drawing, in which—

Figure 1 is a vertical section. Fig. 2 is a top or plan view.

The object of my invention is to furnish a device for effectually preventing the escape of sewer-gases; and consists of a chamber applied to a common stench-trap, said chamber being formed with two cups or bowls, of circular or any other practical shape, one placed inside of the other in such a manner that the larger forms a gutter or shelf, (extending partly or entirely around the smaller one,) to receive the overflow of the water and its contents, and conduct it to the discharge-pipe.

The small cup or bowl forms a valve-chamber for a self-acting ball-valve heavier than water. The formation and proportion of said cups or bowls are such that the ball cannot escape from the small one, or become an obstruction to the free passage of the water and its contents, the distance between the top plate or covering of the outer bowl and the top of the smaller one being less than the diameter of the ball.

The top plate to the outer chamber may be of any material, transparent or otherwise, and adjustable, so that it can be removed, and by means of which the chamber may be examined or cleaned out, the joint also being air and gas tight, by the plate being bedded in putty.

In the drawing, A is a waste-pipe, such as is used in leading from water-closets, wash-bowls, bath-tubs, and the like, having its lower end bent or turned upward. B is a chamber, attached to the bend of pipe A. In the drawing it is represented as circular or half-spherical, and having a flat top, but the form may be changed to any other practical shape.

Within said chamber B is made a second smaller chamber, C, also circular in form, but might be made by making a straight partition across said chamber B. Said second chamber C is situated over the junction with pipe A, and forms the valve-chamber for a ball-valve, D, the said junction forming the

valve-seat. The valve, being heavier material than water, will always settle to its seat when water is not flowing.

E is an outlet or discharge pipe leading from one side of chamber B. The top edge of chamber B is provided with a flange, F, to which is secured a glass plate or cover, by means of bolts or screws, the joint being made air and gas tight with the use of putty, which may be colored red, giving it a neat appearance.

It will be observed that the distance between the top edge of the inner chamber C and the top plate or cover to chamber B is somewhat less than the diameter of the ball, the object of which is to prevent the escape of the ball over into the outer chamber.

It will also be noticed that the area or overflow space from the inner into the outer chamber is very large in proportion to the size of pipe A, and that the ball has ample room to play in. This is to provide against the ball becoming an obstruction to the free passage of water and its contents.

Waste water from water-closets, wash-bowls, sinks, bath-tubs, &c., always contains more or less of soap, grease, and other matter, liable to lodge and clog traps that are small or limited in capacity, and are therefore objectionable.

To provide against this and produce a perfect safeguard against the escape of sewer-gases, and yet give as great freedom to the flow of waste water and its contents through the trap, is the object sought, and, upon experiment, is found to have been accomplished by this invention.

For water-closets, the ball need not be more than half submerged in water, and, should the trap become entirely emptied of water by siphoning, the valve, when dry, forms a perfect seal.

Having described my invention, I claim—

The herein-described sewer-gas trap, consisting of the chamber B, having the inner valve-chamber C, the chamber B receiving the overflow from the chamber C, the proportion of said chambers being such that the ball D cannot escape over into the outer chamber, in combination with the pipe A and pipe E, substantially as shown and described.

Witnesses: F. E. CUDELL.  
GEO. W. TIBBITTS,  
F. W. CADWELL.