L. H. COLBORNE.

Sewer-Pipe Stench-Trap.

No. 203,590. Patented May 14, 1878.

FIG. 1.

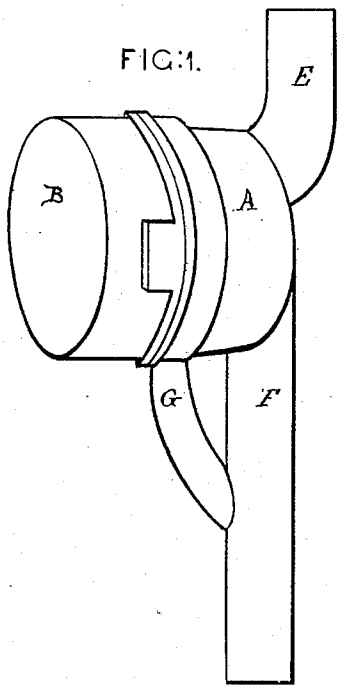
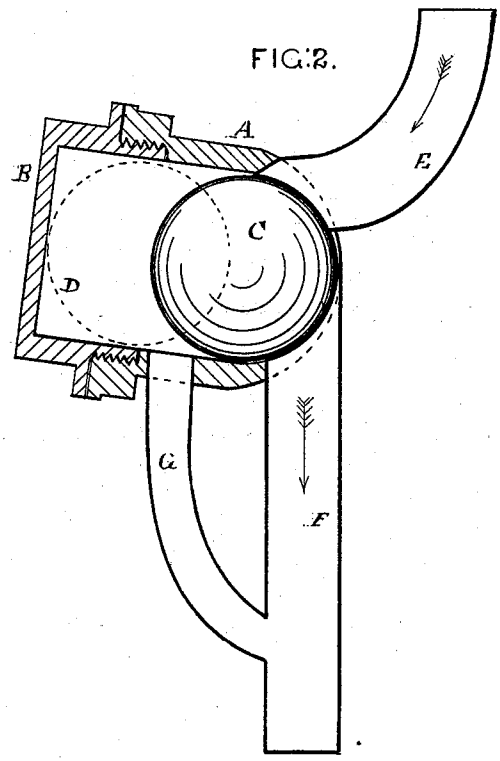


FIG. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

LEVI H. COLBORNE, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF HIS RIGHT TO GEORGE H. BEACH, OF SAME PLACE.

IMPROVEMENT IN SEWER-PIPE STENCH-TRAPS.

Specification forming part of Letters Patent No. **203,590**, dated May 14, 1878; application filed April 13, 1878.

To all whom it may concern:

Be it known that I, LEVI H. COLBORNE, of the city, county, and State of New York, have invented a new and useful Improvement in Sewer-Pipe Stench-Traps, of which the following is a specification:

The object of my invention is twofold—first, to prevent the noxious exhalations and poisonous gases generated in the street-sewers from escaping into the house through the waste-water pipes usually connected therewith; and, second, to prevent siphoning the water out of the house water-traps in consequence of the partial vacuum created in the sewer-pipe by the strong currents of air in the street-sewer passing the mouth of the sewer-pipe leading from the house and connected therewith; and the nature of my invention consists in combining, with a sectional tubular chamber or barrel having a spherically-formed seat in one end, an induction and eduction pipe inserted into the spherical end of the barrel, with their edges conforming in shape, so as to be perfectly closed by a spherical valve; also, in combining with the barrel and eduction-pipe a vent-pipe, whereby the air may act to keep the spherical valve closed upon the mouths of the induction and eduction pipes, and may escape from the back of the valve, to let it fall or roll away from the mouths of the pipes when waste soil and water are discharging through the trap.

But to describe my invention more particularly, I will refer to the accompanying drawings, forming a part of this specification, the same letters of reference, wherever they occur, referring to like parts.

Figure 1 is a perspective view of the trap. Fig. 2 is a cut-sectional view of the same.

Letter A represents the barrel, having a box-cap, B, screwed on its front end, and all made of any suitable metal for such employment or use. The depth of the barrel and its diameter will be governed by the place where used and the diameter of the spherical valve C used. As a general rule, the depth is not designed to exceed the double diameter of the valve, and is abundantly practical in operation where the valve has room to take the position shown by the dotted line D. In this position it allows the valve to open the mouths of the induction and eduction pipes E and F, entering the rear end of the barrel. The curvature of the ends of these pipes and the interior curvature of the rear end of the barrel is a concave hemisphere. The object of this is to form a valve-seat for the mouth of each pipe that will be simultaneously closed by the single operation of the spherical valve rolling into its seat. To enable it to roll into its seat by gravity, the front end of the barrel has a slight upward inclination, which permits the valve to roll back into its seat instantly that the pressure of the descending column of waste-water ceases.

To permit the valve to roll outwardly promptly under the pressure of a descending column of water through the trap, a vent-pipe, G, is inserted into the barrel, just back of the valve, with its lower end discharging into the side of the eduction-pipe. If the barrel were not thus vented, the valve would be resisted in its backward movements by a body of air, which, being compressed, would have a great tendency to impede the rapid and free discharge of the waste-water through the trap. Another advantage of the vent is that a full atmospheric pressure is exerted at all times to keep the valve in its seat, and thus not only cuts off the ascent of any gases through the eduction-pipe, but also through the vent-pipe.

The point of attachment of the apparatus is intended to be upon the soil-pipe leading from the basement of the house to the street-sewer. As a rule, this would require the adjustment of the apparatus in the position represented in Fig. 2, thus giving a backward and downward inclination of the barrel, to cause the valve automatically to gravitate into its seat.

As the intention is to have the valve act automatically, it will be obvious that any position of adjustment of the apparatus that permits this result is included within the practical operations of it, and is purposed being so applied and used, to adapt it to the varying situations of sewer, sink, and soil pipe connections in houses.

Having now described my invention, I will set forth what I claim and desire to secure by Letters Patent of the United States.

I claim—

1. The barrel A, having its rear end constructed as described, in combination with the mouths of the induction and eduction pipes, forming a part of the internal curvature thereof, whereby a single spherical gravitating valve will simultaneously open or close them, substantially as described.

2. The combination of the barrel A, arranged at an obtuse angle to the eduction-pipe F, with the spherical valve C and induction and eduction pipes, all constructed substantially as described, and for the purposes set forth.

LEVI H. COLBORNE.

Witnesses:
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