S. BUHRER.
Stench-Trap.

No. 197,993. Patented Dec. 11, 1877.

Fig. 1.

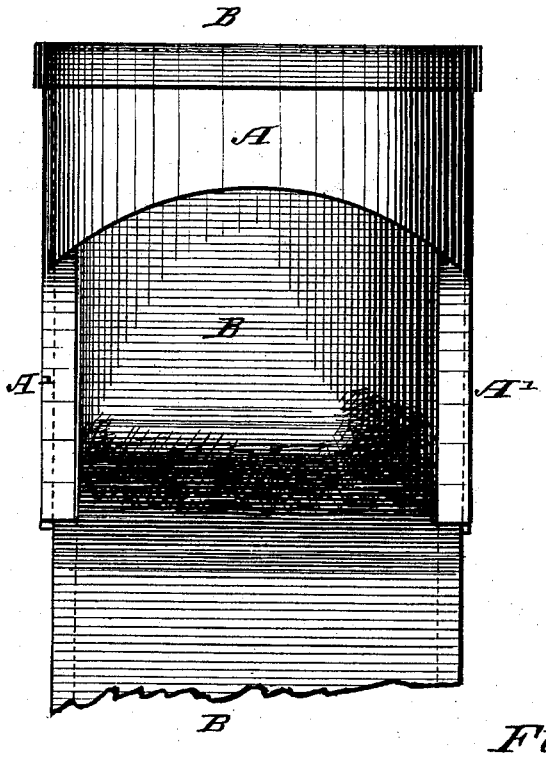


Fig. 3.

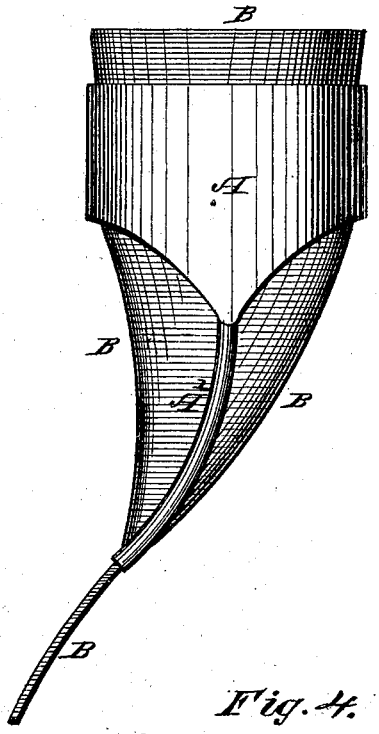


Fig. 4.

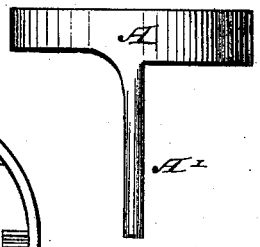
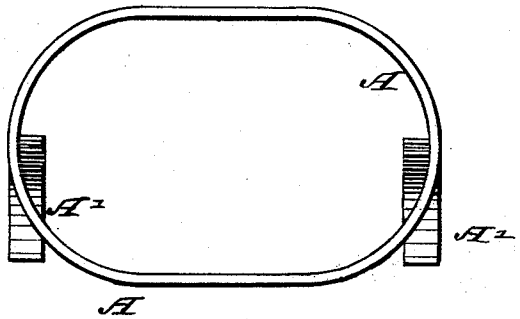


Fig. 2.



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UNITED STATES PATENT OFFICE.

STEPHEN BUHRER, OF CLEVELAND, OHIO.

IMPROVEMENT IN STENCH-TRAPS.

Specification forming part of Letters Patent No. **197,993**, dated December 11, 1877; application filed November 17, 1877.

To all whom it may concern:

Be it known that I, STEPHEN BUHRER, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Stench-Traps; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to stench-traps; and it consists in an improvement upon the device upon which I obtained United States Letters Patent No. 194,329, dated August 21, 1877. The device set forth in said patent was a stench-trap, consisting essentially of a rubber or flexible tubular valve, held or made to rest upon an incline from the perpendicular. This peculiar arrangement, while it permitted a free passage of matter in one direction through said tubular valve, prevented the passage of air, gas, or any tangible substance in the other direction, inasmuch as the inclined position of the valve kept it closed to everything excepting matter passing in the proper direction.

So far as the valvular function and operation is concerned, my first and patented device proves satisfactory. It has been found, however, that back pressure in sewers, such as occasioned by tides, rising waters, &c., would have a tendency and might operate to turn the said tubular valve wrong side out, so that sewer-gas and effluvia would be delivered through it into the apartments and locality where the trap is placed; and this my present invention, herein specified, has for its principal object the prevention of this liability of the tubular valve to turn wrong-side out and reverse itself on account of back pressure in the sewer-pipes.

In the drawings, Figure 1 is a plan view of my improvement; Fig. 2, a detached view of the valve-holder; Fig. 3, a side elevation of the valve, and Fig. 4 is a modification.

This invention consists in providing the flexible tubular valve with a frame that shall support and hold said valve a suitable distance down from its receiving-mouth.

A A′ is said frame or retainer, and B is the flexible tubular valve.

It will be observed that the frame A is adapted not only to spread and retain in position the receiving end of the tubular valve B, but it also grasps and retains the edges of said valve for a short distance below its receiving end.

The frame, as thus specified, may either be of a single piece, or of two, or multiple, pieces or parts, as desired.

I do not, in anywise, limit myself to any specific construction of my device, inasmuch as my invention comprehends, broadly, anything that shall hold, embrace, or retain one or more sides of the valve B at any part or portion below its receiving-mouth.

The retaining portion A′ of the frame A may be formed upon a curve or incline to the plane of the upper or ring portion; or it may be made not inclined, and the tubular valve secured in an inclined position by being made to rest upon an inclined surface, as shown in my previous patent aforesaid. When the device is constructed as shown in Figs. 1 and 2, it may or may not be provided with an inclined floor, inasmuch as the retaining-frame A′, being itself on an incline, compels a similar position as to the contained or retained tubular valve.

It is apparent that no force of pressure within the sewer-pipes could now turn the valve wrong-side out so long as one or two o its edges are held by the retaining-frame A′.

By actual test I have found that such a back pressure as would burst and rupture strong rubber tubing has no tendency whatever to turn the tubular valve wrong-side out when thus supported and held by the retainer A′.

It is not necessary that the holder or retainer A′ be made a part of the frame A, as it may be a portion of any surrounding or adjacent structure placed near to the tubular valve.

Moreover, the edges, one or both, may be fastened or anchored, in any suitable manner, to anything in the immediate vicinity.

It will be observed that the tube B is made to extend upward sufficiently beyond the top of the ring of the frame A as to fold over or flange out, and thus form a gasket or packing,

which I find an improvement upon the means heretofore employed in forming a tight joint between the upper end of the valve and its neighboring parts.

What I claim is—

1. The combination with a flexible tubular valve of a holder or retainer upon one or both of its edges, substantially as and for the purpose specified.

2. The frame A A′, in combination with a tubular flexible valve, substantially as and for the purpose shown.

3. The frame A and retainer A′, so arranged in relation to each other that when the part A rests upon a horizontal plane the part A′ shall be at an incline from the perpendicular, substantially as and for the purpose shown.

4. The tubular flexible valve B, made to extend above and beyond the ring of the frame A, and form a fold or flange for the purpose of a gasket or packing, substantially as and for the purpose shown.

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

STEPHEN BUHRER.

Witnesses:
F. TOUMEY,
W. E. DONNELLY.