J. GANTER.

SEWER-TRAP.

No. 187,002 Patented Feb. 6, 1877.

Fig. 1.

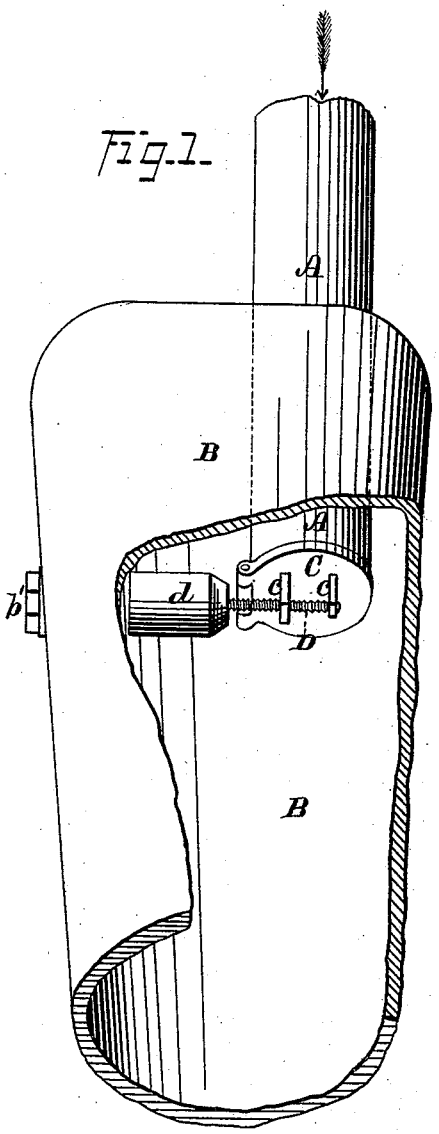
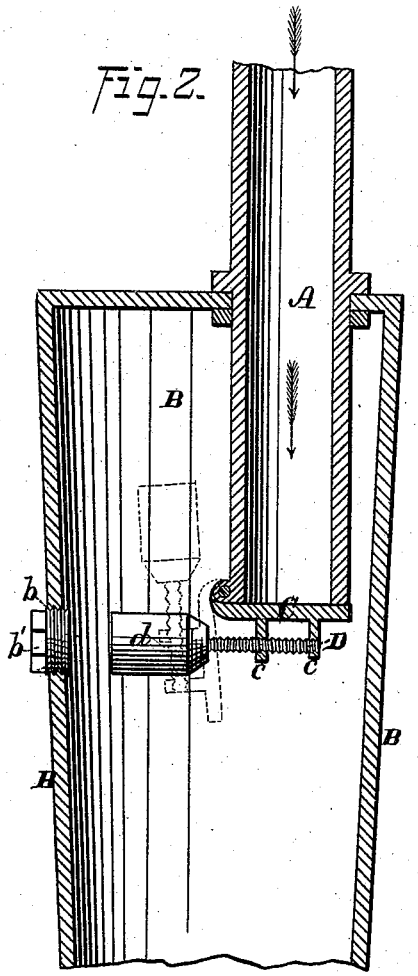


Fig. 2.



WITNESSES:

Jas. E. Hutchinson

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UNITED STATES PATENT OFFICE.

JACOB GANTER, OF NEW YORK, N. Y.

IMPROVEMENT IN SEWER-TRAPS.

Specification forming part of Letters Patent No. **187,002**, dated February 6, 1877; application filed June 8, 1876.

To all whom it may concern:

Be it known that I, JACOB GANTER, of New York city, in the county of New York, and in the State of New York, have invented certain new and useful Improvements in Sewer-Traps; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view of my improved trap, a portion of one wall being broken away so as to show the interior construction; and Fig. 2 is a central longitudinal section of the same.

Letters of like name and kind refer to like parts in each of the figures.

The design of my invention is to prevent the entrance of sewer-gas into buildings through the waste-pipes of water-closets, sinks, &c.; and it consists in combining, with the hinged valve named, a weighted arm which may be adjusted toward or from the axial center, so as to increase or diminish the pressure required for opening said valve, substantially as and for the purpose hereinafter shown.

It consists, secondly, in a sewer-trap in which the waste-pipe is closed by means of a weighted valve that is capable of adjustment, so as to cause it, when closed, to retain any desired quantity of water within said pipe, substantially as and for the purpose hereinafter set forth.

In the annexed drawing, A represents a waste-pipe, which, at its lower end, extends for a short distance into a casing, B, that forms part of or is connected with a sewer. Hinged to or upon the lower open end, at one side of the pipe A, is a valve, C, which may be turned upward against said pipe end, and when in such position effectually closes the same, so as to prevent the upward passage of gas or water. Upon the lower side of the valve C is provided one or more lugs, *c*, within which are provided horizontal threaded openings, that receive a correspondingly-threaded rod, D, which rod extends outward beyond the hinged end of said valve, in a line with its plane of motion, and at its outer end is provided with an enlargement, *d*, that operates as a weight.

The weight of the enlargement *d* is greater than the weight of the valve C, so that the former operates to close the latter over the mouth of the pipe A, and to return said valve to such position after having been opened.

By turning the rod in a forward or backward direction, its weight end will be moved toward or from the axial bearing of said valve, and the resistance of said weight to the opening of said valve correspondingly decreased or increased. If, now, water is permitted to flow downward through the pipe A, its momentum and weight will cause the valve C to open, so as to allow said water to pass into the sewer, after which said valve will be automatically closed by the operation of the weighted arm, and all communication between said sewer and waste-pipe cut off.

By adjusting the weighted arm as described, the exact degree of upward pressure upon the valve necessary for the proper closing of the same can be secured, and no unnecessary resistance offered to the downward passage of the water.

If it is desired that the lower end of the waste-pipe should be sealed by water, as well as by the valve, the weighted arm should be moved outward until the weight of the desired quantity of water is counterbalanced, after which said valve will close whenever no more water remains in the waste-pipe than the quantity used for sealing purposes, which quantity may be increased or diminished at will by adjusting said weighted arm.

In order that the adjustment of the arm D may be easily effected, an opening, *b*, is provided in and through the wall of the casing B, in rear of the enlargement *d*, through which the latter may be grasped and turned by means of a pair of pliers or tongs. A screw-plug, *b'*, fitted into said opening *b*, enables the same to be closed when not in use.

I am aware that a balanced valve has before been located at the mouth of a waste-pipe, and I do not, therefore, broadly claim such a construction; but,

Having thus fully set forth the nature and

merits of my invention, what I claim as new is—

1. In combination with a valve located at the mouth of a waste-pipe, and provided with depending screw-threaded lugs *c c*, the balancing-weight *d*, having screw-stem D, which is adjustable through said lugs, as and for the purposes set forth.

2. In a sewer-trap, the combination of the waste-pipe, provided with a valve having an adjustable weight attached thereto, and the casing B, provided with opening *b* and screw-plug *b'*, to afford access to said weight, the whole being arranged to operate substantially as and for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 8th day of June, 1876.

JACOB GANTER.

Witnesses:

GEO. S. PRINDLE,

WILLIAM FITCH.