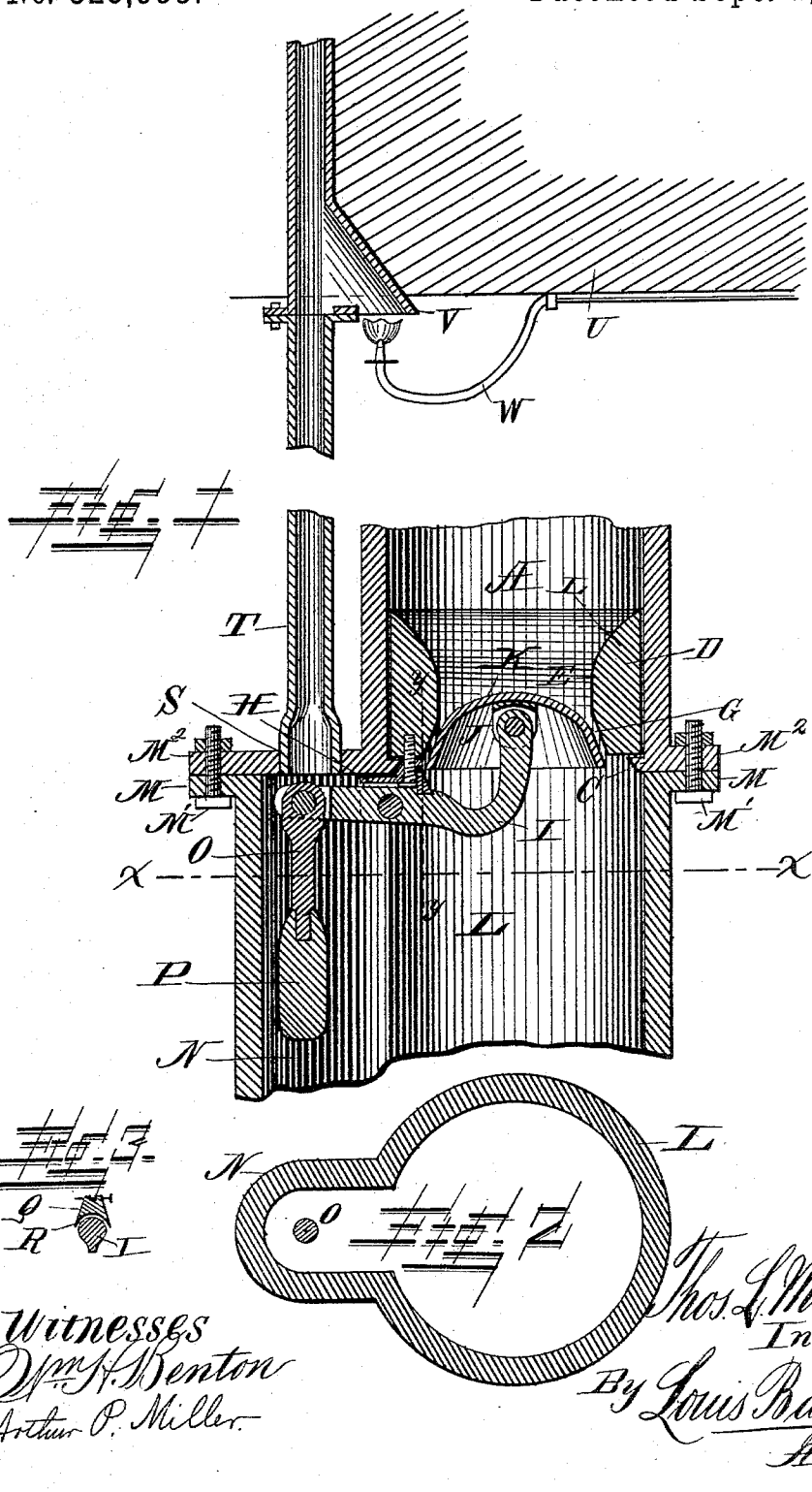
(No Model.)

# T. L. McKEEN.

## AUTOMATIC VALVE FOR SEWER PIPES.

No. 325,553. Patented Sept. 1, 1885.




Witnesses
Wm. F. Benton
Arthur P. Miller.

Thos. L. McKeen,
Inventor,
By Louis Bagger & Co.,
Attorneys

N. PETERS, Photo-Lithographer, Washington, D. C.

# UNITED STATES PATENT OFFICE.

THOMAS L. McKEEN, OF EASTON, PENNSYLVANIA.

## AUTOMATIC VALVE FOR SEWER-PIPES.

SPECIFICATION forming part of Letters Patent No. 325,553, dated September 1, 1885.

Application filed February 3, 1885. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS L. McKEEN, a citizen of the United States, and a resident of Easton, in the county of Northampton and State of Pennsylvania, have invented certain new and useful Improvements in Automatic Valves for Sewer-Pipes; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a vertical sectional view of a portion of a waste-pipe equipped with my improved automatic valve. Fig. 2 is a horizontal sectional view of the same, taken on the line *x x* in Fig. 1, and Fig. 3 is a cross-section of the lever, taken on the line *y y* in Fig. 1.

The same letters refer to the same parts in all the figures.

This invention relates to an improved automatic or self-acting valve for sewer-pipes, having for its object to prevent the sewer-gas from ascending through the pipe into the rooms of the building from which the said pipe is an outlet; and it has for its object to provide a device of this class which shall possess superior advantages in point of simplicity, certainty of action, and general efficiency.

With these ends in view the invention consists in the improved construction and arrangement of parts which will be hereinafter fully described, and particularly pointed out in the claim.

In the drawings hereto annexed, A designates a pipe-section, of cast-iron or other suitable material, the upper end of which is flanged to receive the upward continuation of the waste-pipe, and the lower end of which has an inward-projecting annular bead or flange, C, adapted to support an annular casting, D, having a central vertical passage, E, rounded or beveled top F, and beveled valve-seat G, formed below the central passage, E. To the lower edge of the said casting are secured, by screw-threaded bolts or otherwise, downwardly-extending lugs H H, between which is pivoted a lever, I, the inner end or arm of which is bent upward and connected pivotally with the under side of the valve J. The latter consists of an inverted cup formed to fit the seat G, and having a rounded upper surface, K, which will not only readily shed water, but also prevent solid substances, such as paper and the like, from lodging thereon.

The pipe-section L, next below the section A, is provided at its upper edge with a flange, M, connected by bolts M′ with a flange or lugs, M², at the lower end of the said section A. Said section L is formed with a laterally-extending vertical bulge or recess, N, into which the outer end or arm of the lever I extends. Suitably connected to the said outer arm by means of a rod, O, is a weight, P, the upper end of which is tapering and rounded, in order to prevent solid substances from lodging thereon. With a like object in view the lever I is, in cross-section, shaped as will be seen in Fig. 3 of the drawings, with an upper oval or rounded surface and with concave curved sides and a narrow bottom. The weight P should be so proportioned as to slightly overbalance the valve and keep the latter automatically in a closed position.

Q designates a small apron or deflector, which is hinged in a transverse position directly in front of the lugs H H, between which the lever I is hinged. The lower edge of the said apron is curved or concave, as shown at R, so as to conform to the upper curved surface of the lever I, on which it rests. This apron or deflector serves effectually to prevent paper and other solid substances from lodging between the lugs H H and the hinge of the lever I.

The upper end of the bulge or recess N of the pipe section L is provided with an opening, S, from which a pipe, T, may lead to a chimney or to some other outlet for the noxious gases. This escape-pipe will usually lead through the bath-room, where the water-closet is situated, and under the ceiling of this room, (shown at U in Fig. 1 of the drawings.) The said pipe is provided with an inverted funnel, V, under which is located a gas-jet, W, or other source of heat, which creates an upward draft or current through the funnel and escape-pipe that serves to ventilate the room and to carry off all unpleasant odors.

The operation and advantages of this invention will be readily understood from the foregoing description, taken in connection with the drawings hereto annexed. When

the pipe is flushed, the weight of the waste-water upon the valve will overbalance the weight P, and cause the valve to swing open, thus permitting the water and waste material to escape. The valve will then again be automatically closed by the action of the weight P at the outer end of lever I. The device is simple in construction and easily placed in position for operation.

In the detailed construction of this device, various alterations may be made without materially altering the result. Thus, for instance, the pipe-sections A and L might be combined in a single piece or casting. I would therefore have it understood that I do not limit myself to the precise construction herein described, but reserve to myself the right to all such modifications as may be resorted to without departing from the spirit of my invention.

I am aware that it is not new to construct weighted and hinged lever-valves for sewer-pipes, and I do not claim such construction, broadly; but,

I claim and desire to secure by Letters Patent of the United States—

The combination of the sewer-pipe, the valve-seat ring arranged in the same and having downward-extending lugs, the valve-carrying lever pivoted between the said lugs, and an apron or deflector hinged in a transverse position directly in front of the said lugs, and having concave or curved lower edge resting loosely upon the correspondingly-shaped upper surface of the valve-carrying lever, substantially as and for the purpose herein set forth.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

THOMAS L. McKEEN.

Witnesses:
L. L. FISLER,
JOHN S. NOBLE.