(No Model.)

A. H. BROWN.

LEAK DETECTOR FOR PIPES.

No. 401,409. Patented Apr. 16, 1889.

Fig. 1.

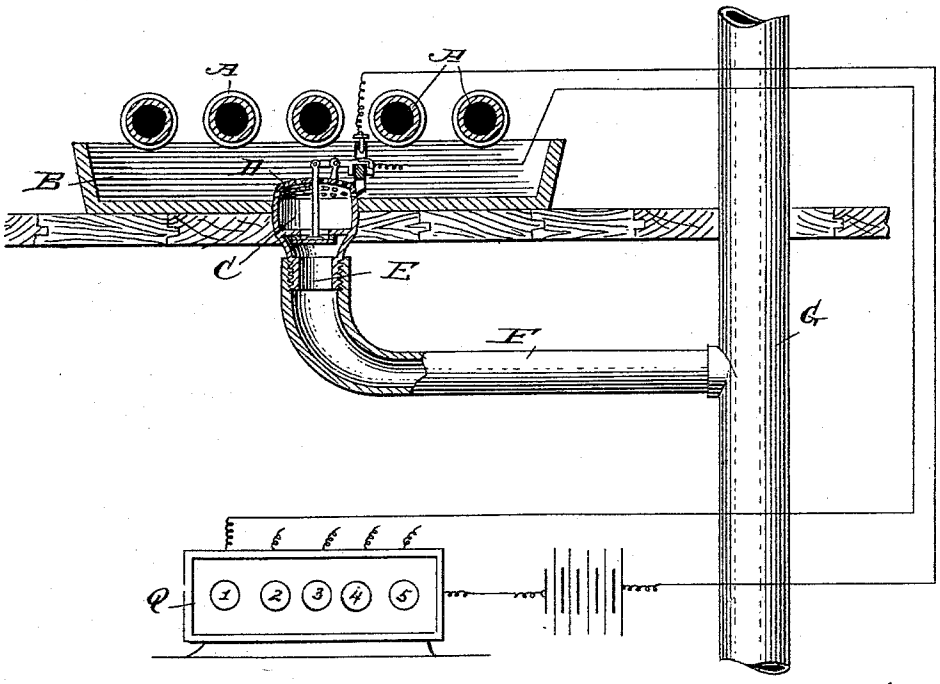
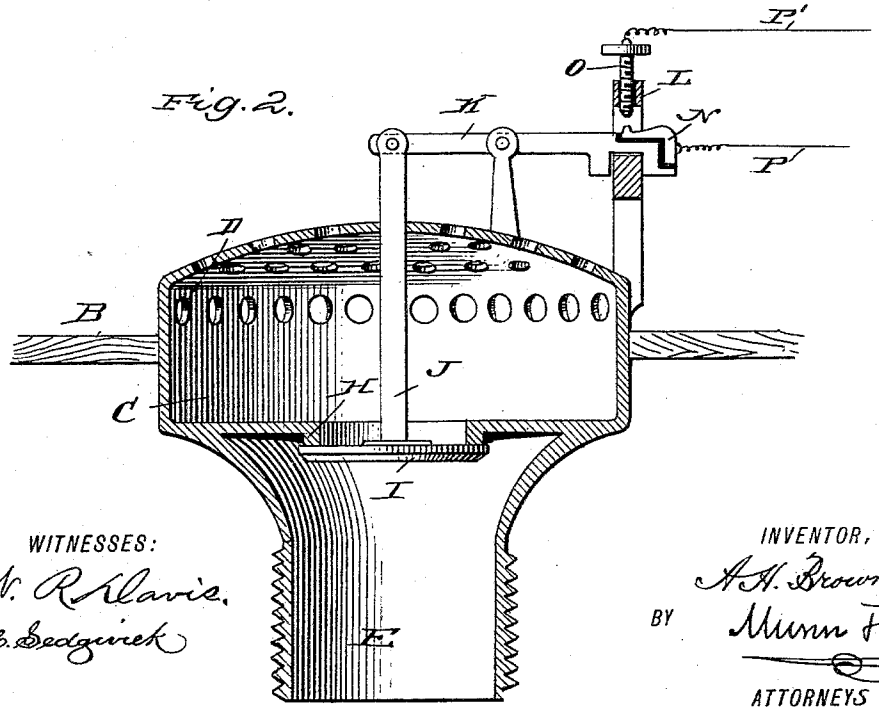


Fig. 2.



WITNESSES:

W. R. Davis.

C. Sedgwick

INVENTOR,

A. H. Brown

BY Munn & Co.

ATTORNEYS

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

UNITED STATES PATENT OFFICE.

ANDREW H. BROWN, OF NEW YORK, N. Y.

LEAK-DETECTOR FOR PIPES.

SPECIFICATION forming part of Letters Patent No. 401,409, dated April 16, 1889.

Application filed January 2, 1889. Serial No. 295,122. (No model.)

To all whom it may concern:

Be it known that I, ANDREW H. BROWN, of New York, in the county of New York and State of New York, have invented a new and Improved Leak-Detector for Pipes, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved automatic device for detecting leaks in water-pipes in hotels and apartment and other houses and for preventing foul gases from passing from one room or apartment to another by means of the waste-pipe.

The invention consists of a valve held in a closed position until sufficient leak-water accumulates on the valve to open the same, so that the valve closes an electrical circuit connected with an annunciator.

The invention also consists in certain parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is a sectional side elevation of the improvement as applied, and Fig. 2 is an enlarged sectional side elevation of the improvement.

The water-pipes A of a room, or of the several rooms of a floor, or of one compartment are passed over a drip-pan, B, so that on any leak occurring in any one of the pipes A in or near the respective room, floor, or apartment the water accumulates in the said pan. In the bottom of the latter is held a head, C, provided with a strainer, D, on its top, and in the pan B, so that the water dripping into the pan B passes through the strainer D into the head C. The latter is connected at its lower end, E, with a pipe, F, leading to a vertical pipe, G, passing through the several floors of the house, and into which lead similar pipes, F, from the several rooms, floors, or apartments of the building. The lower end of the pipe G terminates, preferably, a short distance above the cellar-floor, so that the leak-water passes down the pipe G and flows into the cellar until the leak is stopped.

In the head C is held an apertured partition, H, which forms a valve-seat for the valve I, held on the under side of the partition H, and secured on a stem, J, passing through the strainer D, and pivotally connected at its outer end to a lever, K, fulcrumed on a suitable post secured on the strainer D. The outer end of the lever K plays in a saddle, L, and is provided with an insulated contact-point, N, adapted to be thrown in contact with the lower end of a set-screw, O, screwing in the top of the saddle L. The insulated point N and the screw O are connected by the wires P and P′, respectively, with an annunciator, Q, of any approved construction and preferably located in the cellar or in the office of the janitor of the building.

The operation is as follows: When a pipe, A, in one of the rooms, the apartment, or floor leaks, then the water drips into the pan B, from which it flows through the strainer D and into the waste-water head C. As soon as sufficient water has accumulated in the head C on top of the valve I, the latter opens by overbalancing the free end of the lever K, and the latter consequently swings upward at its free end, whereby the insulated contact-point N is thrown in contact with the screw O, and an electric circuit is established by the wires P and P′ with the annunciator Q. The alarm given by the annunciator attracts the attention of the janitor or other person in charge of the building, and at the same time indicates in which room, apartment, or floor the leak has occured, so that preparations can be made immediately to stop the leak in the respective compartment.

It is understood that the free end of the lever K can be weighted to any extent, so as to hold the valve I on its seat H until a considerable quantity of water has accumulated in the head C above the partition H. It will further be seen that the valve I is always held on its seat H until a leak occurs, and consequently foul gases in the pipe G are prevented from passing into any room, floor, or apartment by the pipe F and the head C.

As the water flows into the cellar through the pipe G, the janitor or other attendant of the building is obliged to have the leak repaired as soon as possible.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A leak-detector for pipes, comprising a head into which passes the leak-water, a valve held in the said head and opened by the accumulated leak-water, and an annunciator connected with the said valve and actuated when the latter opens, substantially as shown and described.

2. A leak-detector for pipes, comprising a drip-pan over which pass the various pipes, a head held in the said drip-pan and connected with a pipe, a valve held closed in the said head until a sufficient amount of water accumulates in the said head, and a lever supporting the said valve and weighted to hold it on its seat in the head, substantially as shown and described.

3. A leak-detector for pipes, comprising a drip-pan over which the various pipes pass, a head held in the said drip-pan and connected with a waste-pipe, a valve held closed in the said head until a sufficient amount of leak-water accumulates in the said head, a lever supporting the said valve and weighted to hold it on its seat in the head, a contact-point held on the said lever, a screw held above the said contact-point, and an annunciator connected with the said contact-point and the said screw to establish an electric current when the said valve is opened, substantially as shown and described.

4. The combination, with a drip-pan, a head held in the said drip-pan, and a waste-pipe connected with the said head, of a valve held on its seat in the said head, a lever pivotally connected with the said valve and weighted to hold the valve closed, a saddle in which the free end of the said lever plays, a screw screwing in the said saddle, wires leading from the said screw in the said lever, and an annunciator connected with the said wires and actuated when the said valve opens and throws the free end of the said lever in contact with the said screw to establish an electric current, substantially as shown and described.

ANDREW H. BROWN.

Witnesses:
WILLIAM LIPPIATT,
JOHN J. ENNIS.