

(No Model.)

C. H. SHEPHERD.
SEWERAGE SYSTEM FOR BUILDINGS.

No. 372,494.

Patented Nov. 1, 1887.

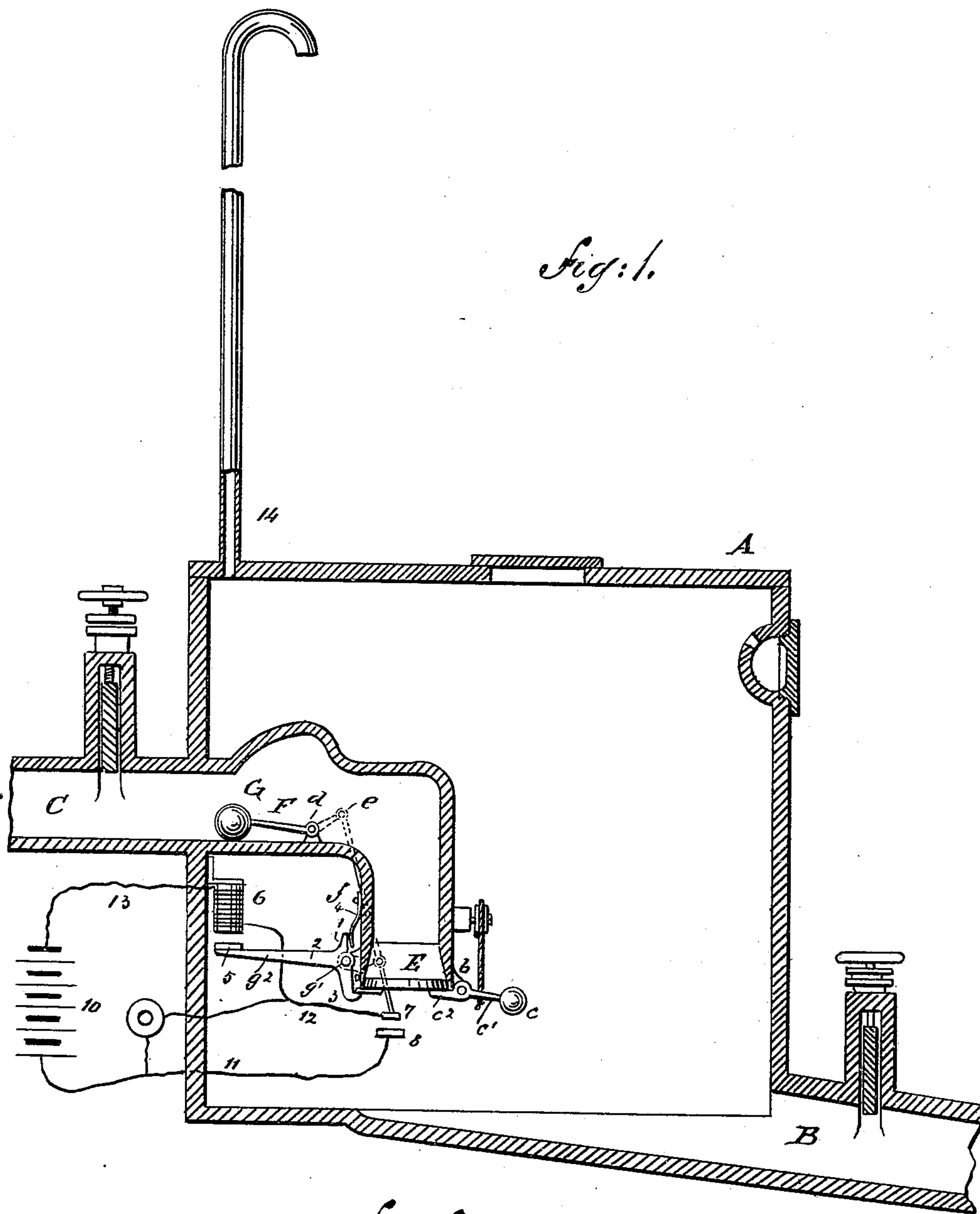
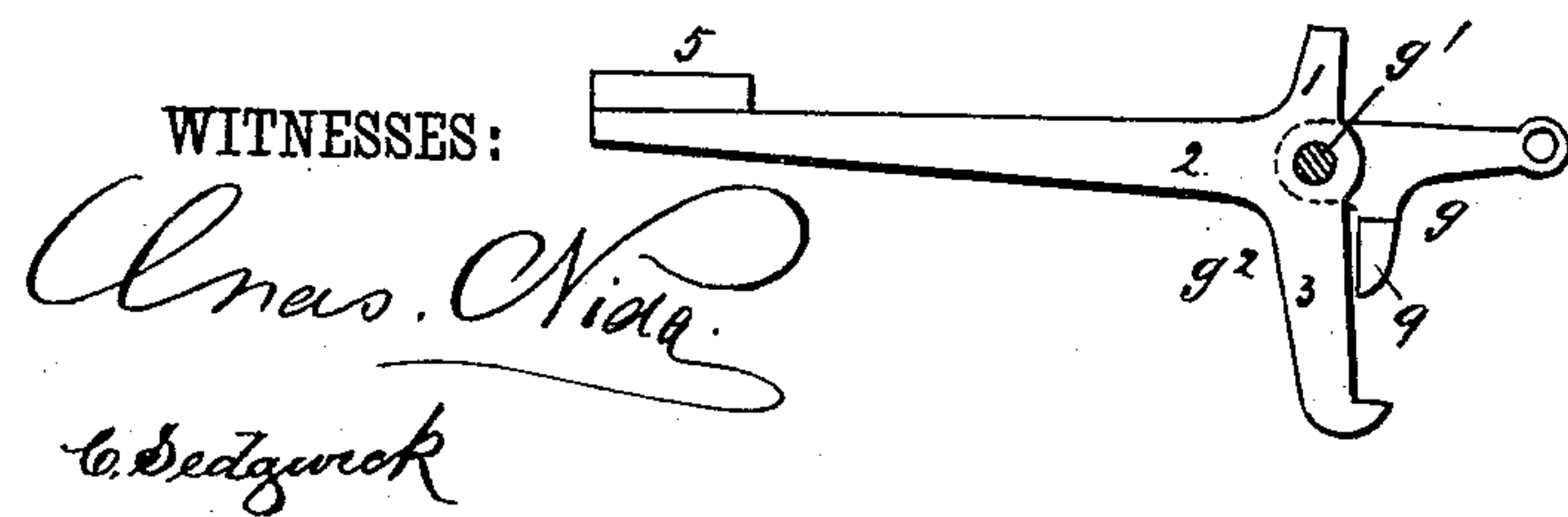


Fig: 2.



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SEWERAGE SYSTEM FOR BUILDINGS.

SPECIFICATION forming part of Letters Patent No. 372,494, dated November 1, 1887.

Application filed March 19, 1887. Serial No. 231,584. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. SHEPHERD, of the city, county, and State of New York, have invented a new and Improved Sewerage System for Buildings, of which the following is a specification, reference being had to the annexed drawings, forming a part thereof, in which—

Figure 1 is a vertical transverse section of my improvement, and Fig. 2 is a detail view of the armature-lever of the valve-actuating mechanism.

Similar letters of reference indicate corresponding parts in both views.

The object of my invention is to improve the construction of the devices shown in my application for a patent for an improvement in a sewerage system for buildings, filed September 30, 1886, Serial No. 215,034.

My present invention relates to devices for securing the ventilation of the sewerage-receiver, and to electro-magnetic appliances for releasing the discharge-valve of the sewer-pipe.

The receiver A, which is preferably made square, is connected near one of its corners with the sewer-pipe B. The waste-pipe C of the building to which the improved system is applied extends into the receiver a short distance, and is turned downward, with its mouth opening near the bottom of the receiver. A valve, E, is pivoted to ears *b*, projecting from the side of the mouth of the pipe, and is closed by a counter-weight, *c*, on the lever *c'*, mounted on the pivot of the valve E, and provided with an arm, *c''*, which presses the back of the valve E.

In the horizontal portion of the pipe C, within the receiver A, is placed a float-lever, F, carrying at its free end a float, G. The lever F is secured to one end of the shaft *d*, the other end of the shaft extending through the side of the pipe C, and carrying an arm, *e*, which is connected by the rod *f* with the trip-lever *g* on the shaft *g'*, journaled in ears projecting from the edge of the pipe C. Upon the same shaft *g'* is mounted a catch-lever, *g''*, provided with three arms, 1 2 3. The arm 3 engages the edge of the valve E, the arm 1 is pressed outward, so as to bring the catch into engagement with the valve by the spring 4,

and the arm 2 carries an armature, 5, which is within the influence of the electro-magnet 6, secured to the side of the receiver A.

The rod *f* is prolonged beyond its connection with the trip-lever *g*, and carries a contact-point, 7, which is capable of engaging the contact 8, supported in a fixed position in the receiver A. When the float G rises, (by the accumulation of water or sewage in the pipe C,) it pushes down the rod *f* and turns the lever *g*, bringing the toe 9 of the said lever into engagement with arm 3 of the lever *g''*, thereby pushing back the said arm and disconnecting it from the valve E; but just previous to the release of the valve E the contact-point 7 touches contact 8, when the current flows from the battery 10, through the wire 11, to the contact 8, contact-point 7, wire 12, magnet 6, and wire 13, back to the battery, thus completing the electric circuit and energizing the magnet 6, when the armature 5 will be drawn toward the magnet 6, assisting the float G in performing its work of releasing the valve E.

In wire 11 is inserted a push-button, which may be located in any part of the building, and by means of which the circuit may at any time be closed, so as to insure the opening of the valve E, whether the float G is operative or not.

In some cases where it is desirable to secure the frequent opening of the valve E, I place the float G in the vertical part of the pipe C nearer the valve, so that a smaller accumulation in the pipe will effect the opening of the valve.

In the top of the receiver A is inserted a ventilating-pipe, 14, which extends to the top of the building and prevents the accumulation of pressure in the receiver.

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

1. The combination, with the pipe C, the valve at the discharge end of the pipe, and a catch-lever holding the valve closed against the pressure within the pipe and provided with an armature, of the battery, the electro-magnet, the electrical connections, and the push-button, substantially as set forth.

2. The combination, with the pipe C, having a downward-opening valve, and a catch-

lever holding it closed, of a float within the pipe, intermediate connections between the float and the catch-lever for releasing the latter, and electrical devices assisting the float and its connections in releasing the catch-lever, substantially as set forth.

3. The combination of the pipe C and valve E, the float-lever F, carrying the float G, the rod *f*, carrying the contact-point 7, the trip-lever *g*, the catch-lever *g*², provided with the armature 5, the electro-magnet 6, contact 8, battery 10, the push-button, and the electrical connections, substantially as described.

4. The combination, with the pipe, the down-

ward-opening hinged valve closing said pipe, 15 and the pivoted weighted lever having an arm extending under the valve at its hinged end, of the float within the pipe, catch-lever engaging the free edge of the valve and holding it closed, the pivoted trip-lever having a toe en- 20 gaging the catch-lever, and a connection between the float and the trip-lever, substantially as set forth.

CHARLES H. SHEPHERD.

Witnesses:

E. M. CLARK,
C. SEDGWICK.