

(No Model.)

J. J. LAWLER.
ELECTRICAL SEWER GAS INDICATOR.

No. 465,278.

Patented Dec. 15, 1891.

Fig. 1.

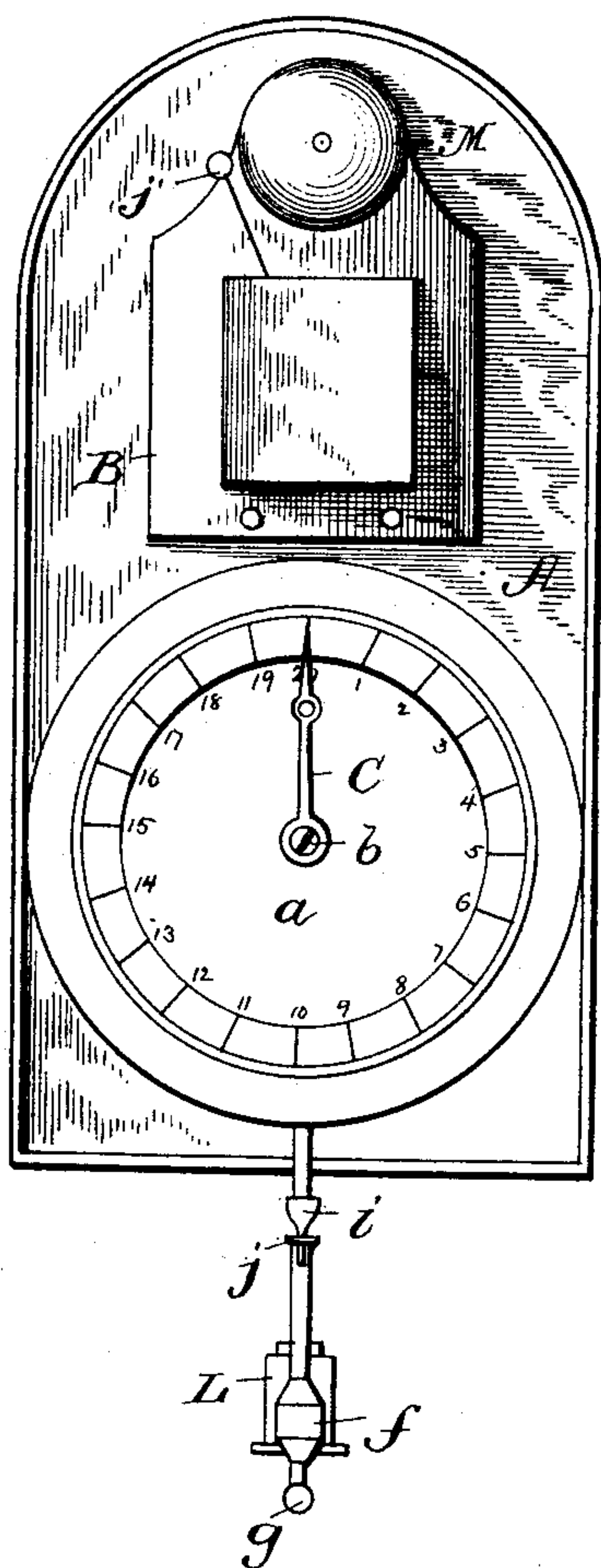
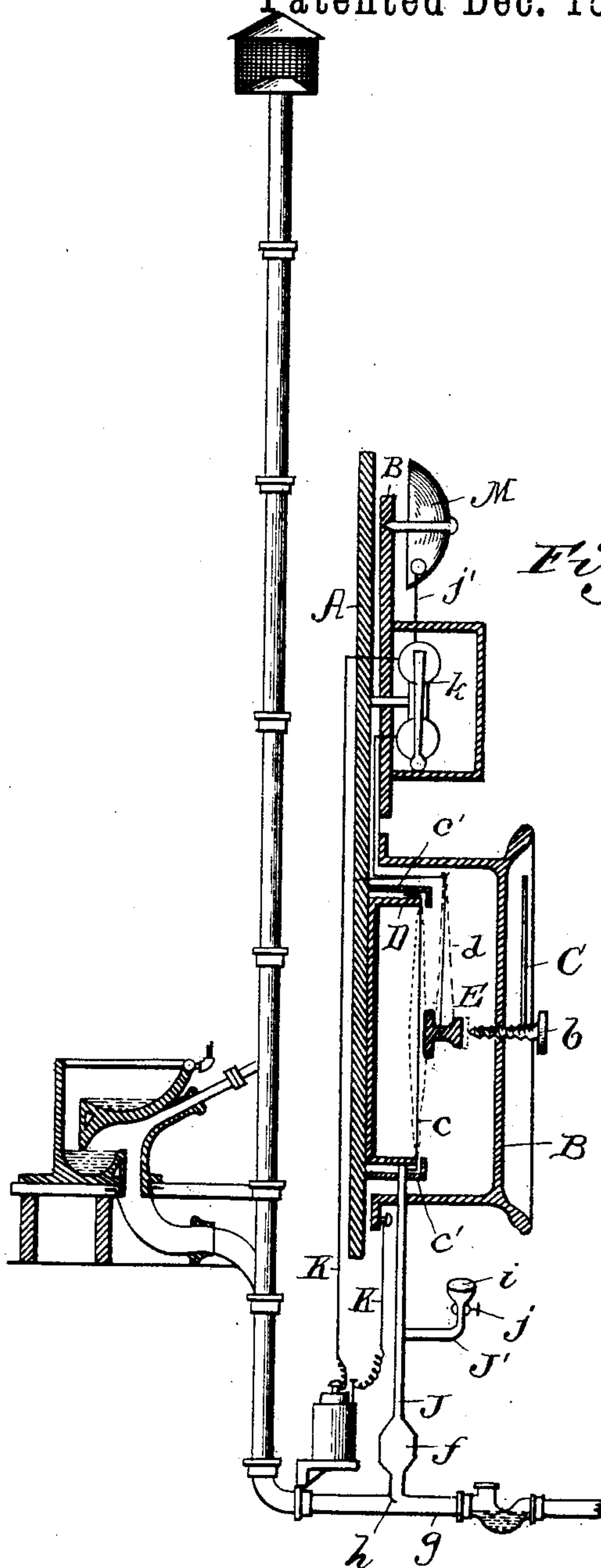


Fig. 2.



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UNITED STATES PATENT OFFICE.

JAMES J. LAWLER, OF SCRANTON, PENNSYLVANIA.

ELECTRICAL SEWER-GAS INDICATOR.

SPECIFICATION forming part of Letters Patent No. 465,278, dated December 15, 1891.

Application filed March 4, 1891. Serial No. 383,806. (No model.)

To all whom it may concern:

Be it known that I, JAMES J. LAWLER, a citizen of the United States of America, residing at Scranton, in the county of Lackawanna and State of Pennsylvania, have invented certain new and useful Improvements in Electrical Sewer-Gas Indicators, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to certain improvements in indicators or signals for water-closet or sewerage systems for buildings or dwellings; and it consists in the novel combination and arrangement of parts, substantially as set forth.

In the accompanying drawings, Figure 1 is a front elevation of my improved indicator, and Fig. 2 is a sectional elevation thereof as applied for use.

In carrying out my invention I arrange upon a suitable base or board A a closure or case B, preferably circular and having upon its face or dial *a* a series of figures or numbers ranging, say from 1 to 20, or any other arbitrarily-selected series of figures or numbers may be employed, and upon said dial is also an equally subdivided circular space *a'*, the subdividing-lines of which coincide with said figures or numbers, about which more will be stated farther on.

C is an index or hand fixed to a preferably circular-headed screw *b*, engaging a screw-threaded aperture in the dial or face *a* of the closure or case B and having an inner tapering end, said index being adapted by turning it with the hand to register with any one of the figures or numbers and the corresponding subdividing-line of the circular space *a'* on the dial *a*.

Within the case or closure B is arranged or secured to the base or board A a supplemental closure or chamber D, also preferably circular and fitted with an elastic or highly-flexible diaphragm or membrane *c*, held thereon by a band or hoop *c'*, slipped around the same. Disposed directly in front of the membrane or diaphragm *c*, and so as to normally rest or press upon it about at its center, is a metal contact-piece or circuit maker and breaker E, suspended out of plumb with the diaphragm or membrane for the aforesaid pur-

pose by means of a wire *d* or other suitable means, connected at its lower end to said contact-piece and having its upper end connected to a pin driven into the base or board A. The contact-piece E stands directly opposite to the inner tapering end of the screw *b*, but normally out of engagement therewith.

The supplemental closure or chamber D has connected to it and communicating therewith a tube J, also passing through the closure or case B. The tube J terminates at or has its lower end connected to an air-chamber *f*, itself connected by a neck or reduced terminal thereof to the water-closet or sewer-pipe *g*, said air-chamber permitting the ready displacement of air necessary to allow the ready entrance of the backing-up water or sewer-gas from said pipe in event of the failure thereof to escape in the regular channel or outlet. Yet in order to prevent the water from entering the chamber *f* and passing into the tube J, as it would tend to do in case the capacity of the sewer-pipe should be overtaxed, the neck portion of said chamber is provided with a deflector or inclined guard *h*, slanting in said pipe and just below the latter and in the direction of the discharge or flow of the water.

The deflector or guard, it will be seen, would have the effect to produce an eddy or whirlpool in the water which would produce a downward suction thereat, urging the onward flow of the water, thus preventing its backing up into the tube J. The tube J has a branch or arm *J'*, provided with a cock *j* and terminating at its outer end into a cup *i* to permit of the convenient pouring or introduction therein of an aromatic liquid substance or oil—as, for instance, the essence of peppermint—the escape of the odor of which would, were any leakage present in the pipes, discover to the senses the defect in the pipes and allow it to be remedied.

The outer closure or case B is disposed in an electrical circuit formed by the current-wires K K connecting with the battery L, suitably supported and connected in the usual manner with the flanged portion or base of said closure. Suitably secured upon the base A is the gong or bell M, with its hammer *j'*, adapted to be actuated by the armature *k*,

also included in the aforesaid electrical circuit. It will therefore be seen that in the event of the backing up into the tube J of the sewer-gas or water in the sewer or water-closet pipes from failure to escape in the proper channel or outlet, the gas or water, as the case may be, will dilate or flex the diaphragm or membrane c, whose flexure or dilation will move the contact-point E into engagement with the tapering point of the screw b and make the circuit through the outer case B, the armature k, and the wires K, and thus sound the gong or bell, indicating the fact of the backing up of the sewer gas or water, allowing for the remedying of the trouble. In order to break the circuit and prevent the exhaustion of the battery, the hand or index C is turned so as to remove the screw b out of engagement with the contact-point E. After remedying the trouble, the hand or index by reason of the marked-off circular space a' can be turned back to its exact original position, being caused to register with the subdividing-line of said space where it previously stood, thus providing for the instant resetting or disposing of the screw the required distance or interval from the contact piece or point E. Having thus fully described my invention,

what I claim, and desire to secure by Letters Patent, is—

1. The indicator or signal connected to a sewer or water-closet pipe and having a flexible or elastic diaphragm or membrane, in combination with a suspended contact-point, and the screw adapted to engage said contact-point and to be manipulated by hand, and means for sounding an alarm as the contact-point and screw come into engagement, substantially as set forth.

2. The indicator or signal connected to a sewer or water-closet pipe and having a flexible or elastic diaphragm or membrane, in combination with a suspended contact-point and the hand or index having a screw connection with the closure or case inclosing said diaphragm or membrane and adapted for engagement with said contact-point and the electrical circuit-wires with the gong and its hammer-armature, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES J. LAWLER.

Witnesses:

THOS. J. CONWAY,
J. ELLIOT ROSS.