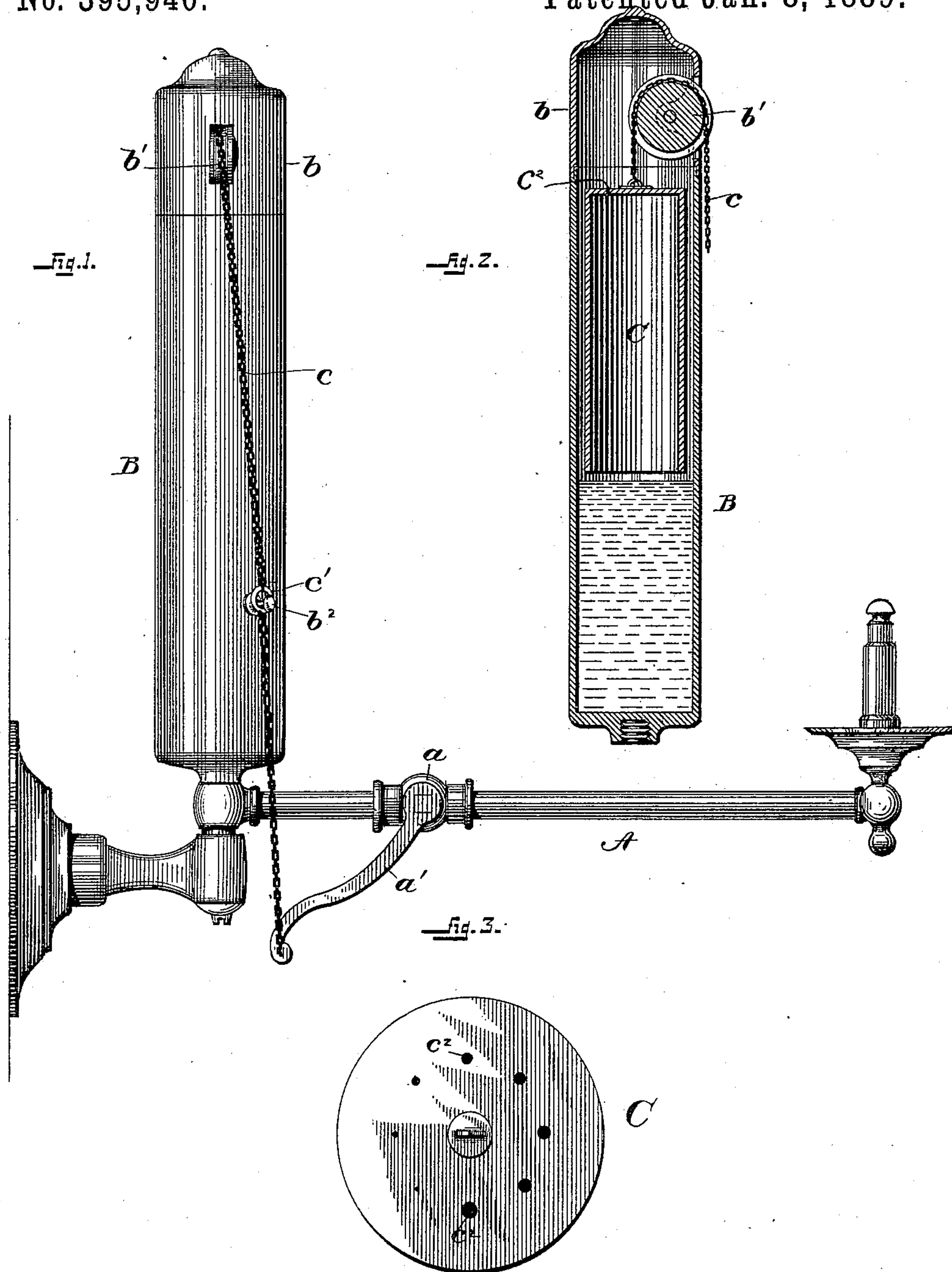


(No Model.)

C. L. ALEXANDER.
AUTOMATIC GAS EXTINGUISHER.

No. 395,940.

Patented Jan. 8, 1889.



Witnesses:

H. H. Martin
A. M. Allen

Inventor :

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UNITED STATES PATENT OFFICE.

CHARLES LEE ALEXANDER, OF CHARLOTTE, NORTH CAROLINA.

AUTOMATIC GAS-EXTINGUISHER.

SPECIFICATION forming part of Letters Patent No. 395,940, dated January 8, 1889.

Application filed December 21, 1887. Serial No. 258,608. (No model.)

To all whom it may concern:

Be it known that I, CHARLES LEE ALEXANDER, a citizen of the United States, residing at Charlotte, in the county of Mecklenburg and State of North Carolina, have invented certain new and useful Improvements in Automatic Gas-Extinguishers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates particularly to automatic light-extinguishers.

The object is to provide a device which will automatically operate to cut off at a predetermined time supply to a burner or other point of use of a fluid or liquid.

The invention consists in a cylinder adapted to contain water, oil, glycerine, or similar liquid, and a bell working within said cylinder, connected with and operating a cock or key on a pipe or conduit, whereby supply of fluid or liquid to the point of use may be automatically cut off. Furthermore, the invention consists in a cock or key on a pipe or conduit having an arm extending from it, a cylinder adapted to hold water, oil, glycerine, or similar liquid, and a bell within said cylinder, movable therein and connected to the arm upon the cock or key by means of a cord or chain, the bell having an opening in or near its top to permit the escape of air and allow the bell gradually to descend into the liquid, thus operating the cock and by degrees decreasing supply of fluid or liquid to a point of use; and, finally, the invention consists in various novel details of construction, whereby its objects are attained.

In the accompanying drawings, in which like letters of reference indicate corresponding parts in all the figures, Figure 1 represents an embodiment of the invention, showing the relation of the various parts when the cock is open. Fig. 2 represents a vertical sectional view of the cylinder detached, the bell being raised to the position it occupies when set for operation. Fig. 3 represents an enlarged plan view of the bell, showing it provided with a number of holes of various sizes, by means of which the rapidity of descent of the bell may be regulated. Any other suitable device may be used for this purpose.

In the drawings, A designates an ordinary wall gas-fixture, provided with a cock or key, *a*, suitably located, rigidly secured to and extending from which is an arm, *a'*, by means of which the cock may be turned and the supply of gas to the burner be regulated. A cylinder, B, is conveniently placed upon the fixture, and is provided with a cap, *b*, in which is journaled a grooved pulley, *b'*, a portion of which extends partially beyond the side of the cap, the edge of its periphery being in the center of the cylinder. A bell, C, is hung within the cylinder, the cord or chain *c*, by which it is suspended, passing over the pulley *b'*, its opposite end being attached to the end of the arm *a'*. A ring, *c'*, is linked in the chain, so that when the cock is opened to its full extent and the chain is drawn down by the arm *a'* the ring *c'* may be made to engage a button, *b²*, upon the side of the cylinder, to hold the bell suspended and keep the cock open. The cylinder is partly filled with water, oil, glycerine, or other liquid—the denser the liquid the more suitable for the purpose—just sufficient liquid being placed in the cylinder to allow the bell, when raised to its full extent, to be upon or above its surface. The top of the bell is provided with a perforation, *c²*, through which the air may escape, so that when the bell is released it will descend in the liquid. This opening being very small, the escape of the air is necessarily slow, and the descent of the bell and consequent operation of the cock will be considerably retarded. The rapidity of the descent of the bell is dependent upon the size of the air-escape opening, and by making a series of these openings varying in size, each provided with a plug, the length of time the light is to burn, or flow of any fluid or liquid is to continue, may be easily regulated and the device be caused to operate in given periods of time. It is not necessary to the operation of this device that the cylinder should be placed above the fixture. It may be placed beneath the fixture, in which instance a pulley would be unnecessary.

It will at once be seen that by the herein-described device gas may be effectually extinguished, giving a person ample time to retire after he has released the chain to shut off the supply to the burner.

This device is especially adapted for use in

connection with street-lamps, since, the openings being of different sizes, the length of time the lamp is to remain lighted may easily be regulated and the gas be extinguished at a predetermined time. Thus by setting the device to operate to extinguish the light about the hour the moon rises the necessity of the midnight round of an attendant would be obviated.

10 Although I have particularly described my invention as used in connection with gas-burners, I do not wish to be understood as limiting myself to its use solely in that position, as, obviously, it may be utilized in connection with electric and other lights or to cut off flow of liquid.

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

20 1. An automatic light-extinguisher comprising a valve or cut-off, a receptacle adapted to be partially filled with liquid, and a suspended hollow body open at its lower portion, provided with a vent and connected with the valve or cut-off, substantially as described.

2. An automatic light-extinguisher comprising the receptacle partially filled with liquid, a hollow body suspended therein, provided with air-vents at its top and open at its lower portion, a valve or cut-off provided with an operating-lever, and a connection between the hollow body and the lever, substantially as described.

3. In an automatic light-extinguisher, a valve or cut-off provided with an operating-lever, a receptacle partially filled with liquid, a hollow body suspended therein, provided with air-vents at its top and open at its lower portion, a chain or the like for connecting the suspended body and the lever, and a projection or button on the outside of the receptacle to engage the chain or the like, substantially as described.

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

CHARLES LEE ALEXANDER.

Witnesses:

MURRAY HANSON,
WILLIAM H. BERRY.