

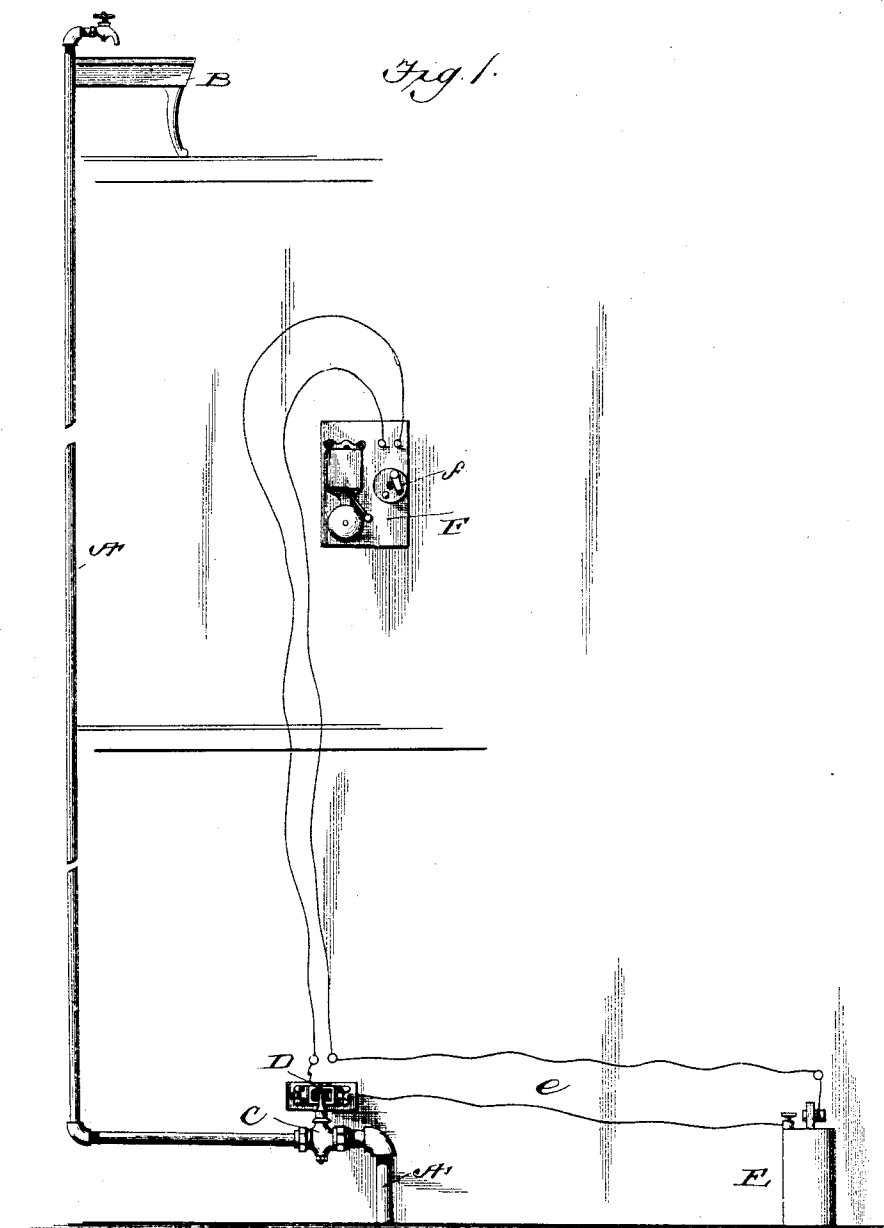
(No Model.)

2 Sheets—Sheet 1.

C. HEYMAN.
STOP COCK LOCK.

No. 542,642.

Patented July 16, 1895.



Inventor

Charles Heyman

Witnesses

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By

Benjamin S. Minor,
his Attorney

(No Model.)

2 Sheets—Sheet 2.

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Fig. 2.

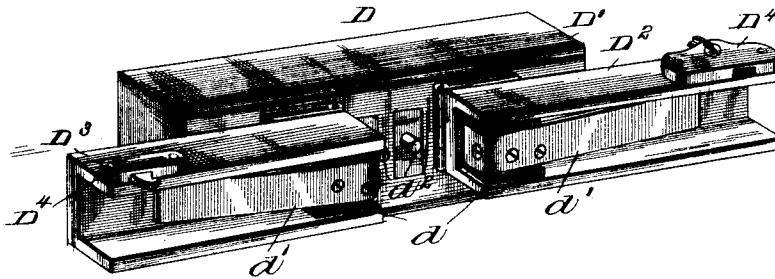


Fig. 3.

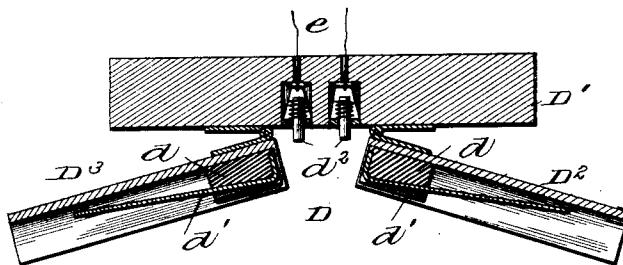
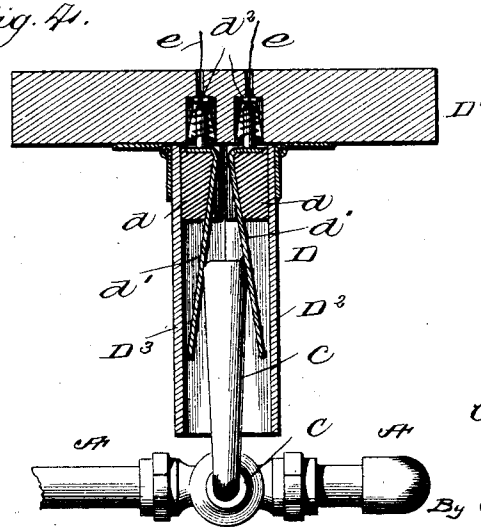


Fig. 4.



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UNITED STATES PATENT OFFICE.

CHARLES HEYMAN, OF NEW YORK, N. Y.

STOP-COCK LOCK.

SPECIFICATION forming part of Letters Patent No. 542,642, dated July 16, 1895.

Application filed March 20, 1895. Serial No. 542,736. (No model.)

To all whom it may concern:

Be it known that I, CHARLES HEYMAN, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Stop-Cock Locks; and I do hereby declare the following to be a full, clear, and exact description of my invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings.

In the winter season when service-pipes are liable to freeze, and at other times when faucets have been carelessly left open, floors and ceilings are often damaged by unchecked flowing of water in vacant buildings and valuable goods are injured during the night-time when no one is about to check the flow.

My invention is an improvement in stop-cock locks, faucet-locks, and the like, and is designed not only to insure the proper shutting off of water at times when it is not needed in residences, factories, store-houses, and the like, but also to provide means whereby such proper shutting off of the water may be indicated at any desired portion of the building—for instance, in the janitor's room, in the hall for the watchman, or elsewhere—without the necessity of personally inspecting the stop-cock itself; and it has, further, for its objects to provide a device which will lock only when the stop-cock is completely turned and the water entirely shut off, and to provide a device which when the stop-cock is turned and the water shut off will, by means of an electrical connection, announce that fact elsewhere when desired.

With these objects in view the invention consists in the various novel details of construction, in the combinations of the parts, and in the device as a whole.

I have illustrated my invention in the accompanying drawings, to which reference is hereby made, and which form a part of this specification.

In the drawings, throughout which like letters of reference indicate corresponding parts, Figure 1 is a diagrammatic view illustrating my invention as ordinarily applied in a warehouse. Fig. 2 is a perspective view of the stop-

cock lock itself, showing the sections of the lock and casing opened or thrown apart. Fig. 3 is a horizontal sectional view taken on a plane passing through the central portion of Fig. 2. Fig. 4 is likewise a horizontal sectional view of the locking device, but shows the casing in position and the stop-cock properly locked and closing the electrical circuit, as hereinafter described.

In the drawings the letter A indicates the ordinary service-pipe supplying water to a building. As shown in Fig. 1, a storehouse or factory is indicated, in which a sink or basin is located on one of the upper floors and is marked B. The stop-cock, indicated by the letter C, is placed in the usual situation—that is, in the cellar or in one of the lower floors of the building. By the letter D, I designate my stop-cock lock, suitably placed with reference to the stop-cock itself. At E, I have indicated an electric battery connected through the alarm or bell-ringing device F with the stop-cock lock D in the manner hereinafter described.

The stop-cock lock D consists of a bed portion or base D', the lock-casings D² and D³ being hinged so as to oppose each other and to meet and form a hollow tube when thrown at right angles to the base D'. It is to be noted that the lock-casings D² and D³ have their inner ends squared, and consequently cannot be moved toward each other more than ninety degrees. In other words, when these sections of the lock or lock-casings are at right angles to the base to which they are hinged, their inner ends are flush with and rest upon the same, and further movement is impossible. The base D' is usually made of wood or other non-conducting material; but if suitable precautions for the insulation of the parts hereinafter mentioned are taken this base may be made of other material. The sections or lock-casings D² D³ are usually made of metal, such as brass or the like, and are provided at any proper point with a lock or catch device. (Indicated by D⁴ in Fig. 2.) This lock D⁴ insures the proper alignment of the parts and their retention in position, these being its only purposes. The base D' has mounted in it between the hinged sections D² D³ the electric contact devices, metal buttons, or spring-

pressed pins d^2 , which are suitably connected by means of the wires e with the battery and the bell-ringing device F.

Within the sections or casings D^2 D^3 and near their inner squared ends I secure in any suitable manner blocks of insulating material, such as wood, hard rubber, or the like d ; to which are fastened the L-shaped metal spring-tongues d' , which extend forward obliquely within the casings far enough to embrace the stop-cock handle c , as shown in Fig. 4. These spring-tongues d' by means of their bent-up portions impinge upon and are electrically in contact with the electric contact devices, metal buttons, or spring-pressed pins d^2 whenever the casing-sections D^2 D^3 are brought together and the lock D^4 is fastened; but as they are insulated from the casing-sections and do not touch each other no current can pass unless at such time the stop-cock handle c is in contact with them, as before described.

The bell-ringing mechanism F is of any ordinary or approved construction and may be provided with the switch f .

The operation of the device is as follows: Whenever the stop-cock handle e has been turned so as to shut off the stop-cock C, and thus stop the flow of the water, (as shown in the drawings this is arranged to take place when the handle is at right angles to the line of the pipe, as is usually the case,) the locking device D may be closed thereupon in the manner shown in Figs. 1 and 4, thereby preventing its accidental turning or displacement, and providing means whereby a person at a point distant from the stop-cock can inform himself that the same has been shut off. This is accomplished in the following way: One pole of the battery is connected by suitable wire with one of the electric contact devices, metal buttons, or spring-pressed pins d^2 , and the other pole of the battery is connected with one of the binding-posts of the electric bell F. The other binding-post of this electric bell is connected by means of a suitable wire with the other electric contact device, metal button, or spring-pressed pin d^2 . As has been said before, there is a switching device f in connection with the electric bell. Now, looking at Figs. 1 and 4 still, we see that as soon as the current is closed by turning the switch f it will pass from the battery, say, to the contact device or pin d^2 on the right, from that pin to the spring-tongue d' on the same side, from the spring-tongue d' on the right through the stop-cock handle c to the spring-tongue d' on the left, and from this spring-tongue to the corresponding contact device or pin d^2 , and thence through the wire to the electric bell F and back to the battery E, thereby ringing the bell F and indicating that the parts are in proper position and the water turned off.

The practical utility of my device will appear from the following facts: No mere closing together of the parts D^2 D^3 , even if they are locked in position by D^4 , will form an

electrical connection between the two pins d^2 , which are insulated from each other, unless the stop-cock handle c has been turned to the proper angle, is within the tube formed by D^2 and D^3 , and forms the circuit-closer through the spring-tongues d' . If the stop-cock should be turned only part of the way it could not form a circuit-closer or complete the electrical connection between the parts for the following reasons, to wit: The sections of the casings D^2 D^3 cannot be moved beyond ninety degrees toward each other, and therefore, though one of the spring-tongues d' might touch the half-turned handle c , the other tongue could not touch it, and there would be a gap in the circuit.

While I have described my device in connection with the stop-cock of the service-pipe used for water, it is not to be understood that I desire to limit myself in any manner. The device may be used not only for water-pipes, but for gas-pipes, and in fact to insure the proper performance of any mechanical duty and to give notice of such performance at a distance by means of an electric bell, as before described.

I have described and shown the spring-pressed pins d^2 as my preferred form for contact-making between the metal spring-tongues d' and the wires e , when in point of fact any suitably-insulated contact devices would do, and therefore I do not wish to be understood as limiting myself to this particular form or arrangement.

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

1. A stop cock lock consisting of a rigid base, lock-casings or sections hinged thereto, the said casings having squared inner ends adapted to fit flush against the base, the casings adapted to meet and form a hollow tube when placed at right angles to the base and a catch or locking device adapted to hold the said casings together.

2. In a stop-cock lock, a base, casings hinged thereto having metal spring tongues secured and insulated within them, contact devices mounted in the base between the said casings and adapted to touch the metal spring tongues when the casings are closed.

3. The combination with a stop-cock having an elongated handle, of a stop-cock lock consisting of opposite sections hinged to a rigid base, adapted to meet and inclose the said handle and a catch or locking device secured to the sections and adapted to hold them together.

4. In a stop-cock lock, the combination with the base D' provided with the spring pressed pins d^2 insulated from each other, of the casings D^2 D^3 hinged to the base, and the metal spring tongues d' secured within the said casings, and insulated therefrom by the blocks d , substantially as and for the purpose set forth.

5. In a stop-cock lock, the combination with

the base D' , provided with the spring pressed pins d^2 , insulated from each other, of the casings D^2, D^3 , hinged to the base, and capable of being moved until they are at right angles to the base, the metal spring tongues d' secured within the said casings and insulated therefrom by the blocks d , a battery connected by means of wires through an electric bell to the spring pressed pins d^2 , a circuit closer such as c , and a switch f all substantially as and for the purpose set forth.

6. In a stop-cock lock, the combination with a base, provided with spring pressed pins insulated from each other, lock casings hinged to the base having a catch D^4 , metal spring tongues secured within the said casings and insulated therefrom, a circuit closer connecting the said metal spring tongues, and wires connecting the aforesaid spring pressed pins with a battery and an electric bell.

7. The combination with a stop-cock lock consisting of a base, lock-casings or sections

having squared inner ends hinged to the base and adapted to meet and form a hollow tube when placed at right angles to the base the said lock casings being provided with metal spring tongues mounted within them and insulated from each other and from the casings, contact devices mounted in the base between the said casings and insulated from each other, the said contact devices bearing upon and being in electrical connection with the metal spring tongues when the casings are at right angles with the base, a circuit closer in electrical connection with the aforesaid metal spring tongues, and an electric circuit uniting the contact-devices.

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

CHARLES HEYMAN.

Witnesses:

FRANK M. KNIGHT,
JACOB CHADEAYNE.