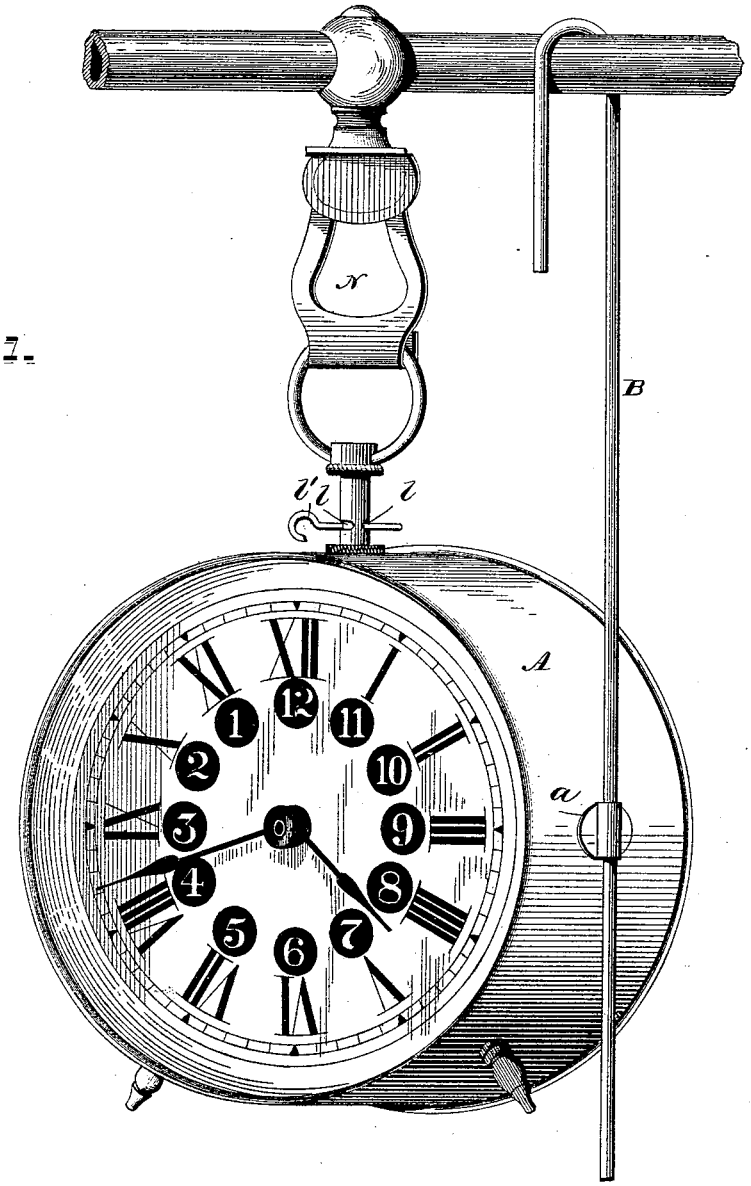
(No Model.) 2 Sheets—Sheet 1.

C. E. BURNHAM.

CLOCK MECHANISM FOR OPERATING GAS COCKS.

No. 346,399. Patented July 27, 1886.

Fig. 1.



WITNESSES

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 4.

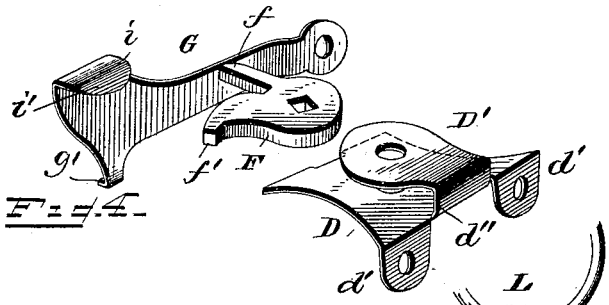


Fig. 7.

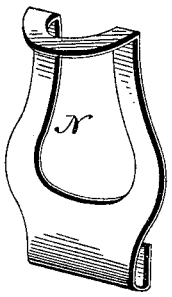


Fig. 2.

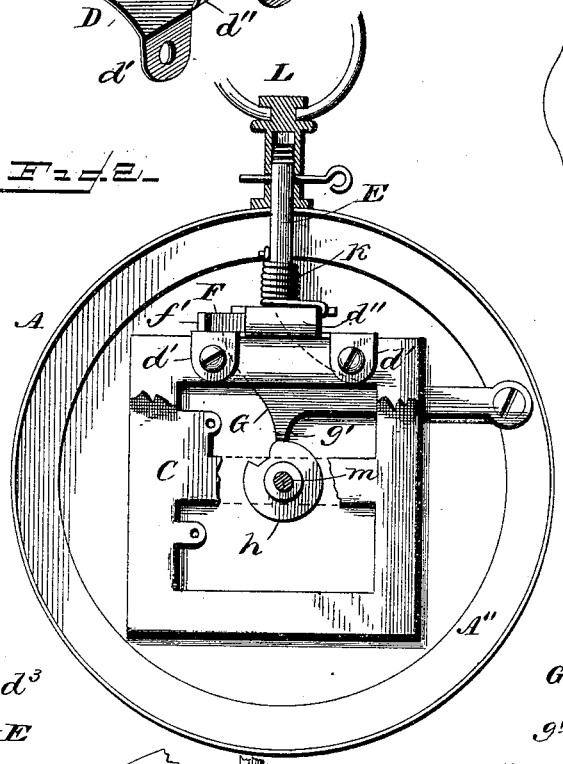


Fig. 6.

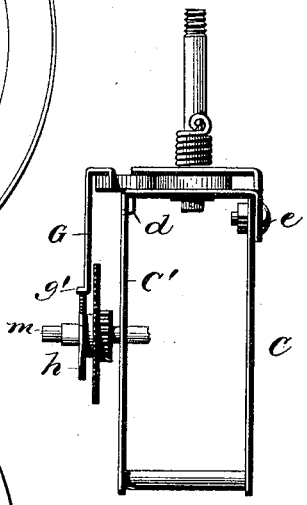


Fig. 5.

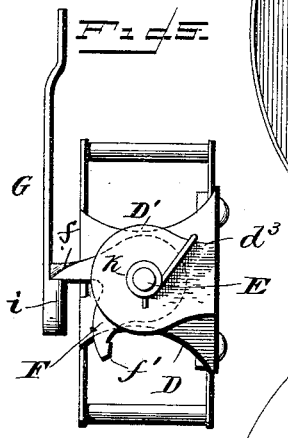
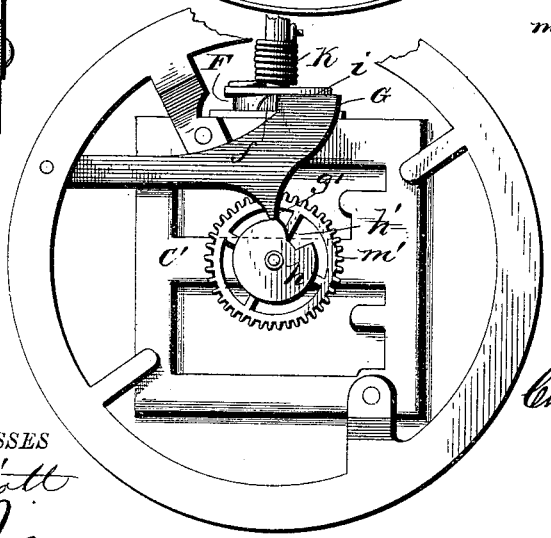


Fig. 3.



WITNESSES

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CLOCK MECHANISM FOR OPERATING GAS-COCKS.

SPECIFICATION forming part of Letters Patent No. 346,399, dated July 27, 1886.

Application filed April 22, 1886. Serial No. 199,813. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. BURNHAM, a citizen of the United States of America, residing at White Plains, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Devices for Operating Gas-Cocks; 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to certain new and useful improvements in devices for mechanically turning off the supply of gas from a burner at a premeditated time, the object of the same being to provide a mechanical time device which can be set and attached to a gas-supply pipe, so as to turn the stop-cock at a premeditated time; and to this end my invention consists in the construction, combination, and application of the parts, as will be hereinafter fully set forth and claimed.

In the accompanying drawings, which illustrate my invention, Figure 1 is a perspective view of a clock-case having my improvement applied thereto, and showing the same in position to turn the gas off. Fig. 2 is a rear view of a clock-case having the back and train of gearing removed therefrom. Fig. 3 is a front view showing the dial and hands removed. Fig. 4 is a detail perspective view of the means employed for attaching my improvement to the time or clock frame, a locking dog and catch, each of these parts being detached from each other. Fig. 5 is a top or plan view of the cock-operating mechanism. Fig. 6 is a side view, and Fig. 7 is a detail perspective view, of the suspension-hook.

A refers to the clock-case, which is provided on its sides with loops *a*, through which a rod, B, with a bent end, may be passed, so as to assist in holding the clock-case securely to the gas-supply pipe. If desirable, the loop *a* may have a set-screw or other equivalent device for holding the rod B securely in position. These loops *a* are located on each side of the clock-case, so that the supporting-rod B may be attached to the same at either side of the stop-cock.

The dial of the clock is provided with two sets of numerals, which run in different directions, as shown in Fig. 1.

The time mechanism is of ordinary construction, and to the upper sides of the frames C and C′, which support the train of gearing and other operating parts, is attached a plate or support, D, which is preferably struck up of a single piece of flat metal. At the forward edge this plate D has a downwardly and outwardly projecting tongue, *d*, which enters a recess in the upper portion of the frame C′, while the rear edge thereof rests upon the upper edge of said plate. The downwardly-projecting tongues *d*′ of this plate D are provided with perforations, through which pass bolts *e*, for securing the same to the frame C of the time mechanism. Between these depending ears the plate D has an extended portion, which projects upwardly and then parallel with the body portion of said plate, this horizontally-extended portion being indicated by D′. The horizontal portions D and D′ are provided centrally with perforations, within which is secured a vertical shaft, E, which shaft at the portion between the plates D and D′ is squared, so that the latch F can be rigidly secured to the shaft E.

G refers to a dog, which is pivotally secured to the dial-supporting frame A″ of the clock-case, said dog having a downwardly-extending portion, *g*′, which will engage, when said dog is depressed, with a grooved disk, *h*, which is attached to the shaft of the time mechanism which carries the hands. The depending portion *g*′ of the dog has the lower portion thereof bent horizontally, as shown at *g*′, so that it will positively engage with the edge of the disk when it falls into the notch *h*′. The upper portion of the free end of the dog G is bent over upon itself, as shown in Fig. 4, the vertical portion being a straight edge, *i*, beneath which is located a projecting stop, *i*′, with which the projecting member *f* of the latch will engage, the front portion being curved, so that the latch may raise the same when the vertical shaft E is turned. The latch F, besides the projecting portion *f*, which engages with the dog, is also provided with a curved

projecting portion, f', which engages with or abuts against the vertical portion d'' of the plate which is attached to the upper edge of the clock-frame, so as to limit the rotation of the vertical shaft or spindle E. The vertical shaft or spindle E is encircled immediately above the plate D by a spiral spring, K, one end of which embraces a pin which projects from said spindle, while the other end engages with the side d''' of the plate D'. The upper part of the spindle E is provided with a perforation, through which passes a pin for securing the handle L thereto, the ring of said handle engaging with a socket which is provided on each side with slots $l\ l$, through which the pin l' passes. It will be seen by this construction that when the handle is turned the shaft or spindle E will be partially rotated, and will carry with it the latch F, said latch being normally held in an elevated position by reason of the projecting portion g' resting upon the periphery of the notched disk h, and said dog cannot be depressed so as to release the latch and turn the spindle until the notched portion h' of said disk comes immediately under the bent and depending portion g'. Thus it will readily be seen that by setting the disk h the latch can be released at any premeditated time. The edge of the projecting member f of the latch is slightly beveled, while the face i of the dog is similarly inclined. Thus the pressure of the spring upon the latch will cause the pivoted dog to be forced downwardly when the parts are in engagement, thus causing the portion g' of said pivoted latch to bear upon the periphery of the notched disk, this construction insuring the latch being depressed when the notch comes under the same, which would not be the case if the parts had simple straight edges. The disk h is attached friction-tight to the sleeve of the hour-hand, so as to rotate therewith, and the minute-hand is secured to the end of the shaft m, to which is attached the cog-wheel m'. One edge of the notch h' of the disk h is beveled or inclined, as fully shown in Figs. 2 and 3, so that the dog will ride upon the same as it rotates.

It will be evident that my improvement may be applied to any style of clock, as the only change or modification to the train of gearing will be the addition of the notched disk h, which is rigidly attached to the arbor which carries the hour-hand.

To secure my improvement to a gas-cock, I employ a suspension-hook, N, which may be made of a single piece of sheet metal, and is provided with a central opening, which is bent at its upper end at right angles with the body portion, so as to provide side pieces, and a cut-away portion which will embrace the upper portion of the stop-cock. The lower portion of this suspension-hook is bent, so as to engage with the handle L, which is attached to the shaft E.

It will be noted from the foregoing description that the disk h is provided with but a single notch. Therefore, in order to adjust the same so that the gas will be turned off at a premeditated time, it will be necessary to set said hands either backward or forward for a certain number of hours or fractions thereof, so that the notch in the disk will be moved under the dog at the proper time. The hands may be turned either backward or forward, though when turned backward it is desirable to reverse the clock, so that the dog will be held out of engagement with the disk by gravity.

Either set of figures on the dial may be used when setting the clock. As an example, a person leaving his place of business at eight o'clock in the evening wishes to burn the gas in his absence until the morning—say, for instance, four o'clock—he will, to accomplish that, set the hands at eight o'clock by the reverse figures on the dial, bearing in mind that the latch will be released when the hands arrive at 12 on the clock. Thus the gas will be left burning eight hours, or the time between eight in the evening and four in the morning. The form of this suspension-hook may be varied to admit the same being applied to different constructions of stop-cocks. It will also be noted that the shaft E, which turns the suspension-hook attached to the stop-cock, only makes one-quarter turn, thereby insuring the gas to be turned fully off. When the device is not employed for the purpose intended, the ring L will serve as a handle, and the clock may be used as an ordinary time-keeper.

To set the device it is only necessary to turn the handle so as to bring the latch in engagement with the pivoted dog.

The device hereinbefore described is simple in construction, effective in operation, and the parts are not liable to get out of order. Moreover, the same can be applied to clocks of ordinary construction without affecting their time-keeping qualities.

I claim—

1. In combination with a time-keeping device, a shaft attached thereto and provided with a turning-spring and means for releasing the same, a suspension-hook adapted to engage with a handle secured to said spring-shaft, and a bar for preventing the rotation of the clock-case, substantially as shown, and for the purpose set forth.

2. As a means for suspending a time-check to a gas-cock, the combination, with the suspension-hook N, adapted to engage with a cock and with the handle of the time mechanism, of a shaft or bent bar, B, secured to the case of the time mechanism and to the supply-pipe, substantially as shown.

3. The combination, with a clock-case having a time-check or shaft-turning mechanism connected thereto, a handle secured to said shaft, a suspension-hook adapted to engage with said handle, and a stop-cock, of the bar B, for holding the clock-case parallel with the supply-pipe, substantially as shown, and for the purpose set forth.

4. The combination, with a clock-case con-

taining a time mechanism and a time-check mechanism operated thereby and a spring-shaft extending through said clock-case and provided with a handle, of the suspension-hook N and bent bar B, adapted to engage with the supply-pipe and be secured to the clock-case, substantially as shown, and for the purpose set forth.

5. The combination, with a time mechanism provided with a notched disk, *h*, of a pivoted dog adapted to rest upon said disk, a latch secured to the time mechanism so as to engage with the pivoted dog, and the spring-bar having attached thereto means for turning the gas-cock, substantially as shown, and for the purpose set forth.

6. The combination, with a clock-frame of ordinary construction, of a disk secured to the cog-wheel which operates the hour-hand, a bent plate, D, attached to the clock-frame, and a latch mounted on the spring-shaft and pivoted dog, so that the latch will be released at a premeditated time, substantially as shown, and for the purpose set forth.

7. The combination, with a time mechanism having a notched disk, as shown, and a pivoted dog having a projecting portion adapted to enter the notch of the aforesaid disk, of a latch having a beveled arm projecting therefrom, so as to engage with a beveled catch portion on a pivoted dog, so as to force said dog downwardly upon the periphery of the disk and into the notch thereof, substantially as shown, and for the purpose set forth.

8. The combination, with a time-keeping mechanism having a notched disk, *h*, substantially as set forth, of a pivoted dog secured to the casing of said time-keeping mechanism, and provided with an inturned end, *g'*, and a beveled portion, *i*, with which the beveled projecting portion *f* of the latch engages, said latch being rigidly attached to a spring-bar which projects through the clock-casing, and is provided on its outer end with means for attaching the same to a stop-cock, substantially as shown, and for the purpose set forth.

9. The combination, with a frame, C and C', of a plate, D, struck up of a single piece, and provided with a projecting portion, *d*, depending ears *d'*, and vertical portion *d''*, an overlying portion, D', and a latch pivotally attached to said plate under the overlying portion, and to a shaft, E, which is provided with a spring, K, for turning the same, said latch being adapted to engage with a pivoted dog, which releases the same, substantially as shown, and for the purpose set forth.

10. The combination, with a time-keeping mechanism, a plate, D, constructed substantially as shown, and a latch, F, with projecting portions *f* and *f'*, of a spring-bar attached to said latch, and a pivoted dog, which engages with the notched disk which is carried by the hour-wheel of the time-keeping mechanism, the parts being organized substantially as shown.

11. The combination, with a time-keeping mechanism and time-check devices herein described, of a handle, L, adapted to be secured to a spring-actuated shaft so as to be turned quarter-way around at a premeditated time, substantially as shown, and for the purpose set forth.

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

CHARLES E. BURNHAM.

Witnesses:

WILSON BROWN, Jr.,

ERNEST E. CARPENTER.