(No Model.)

J. H. DATES.

STOP CLOCK.

No. 428,717. Patented May 27, 1890.

Fig. 1.

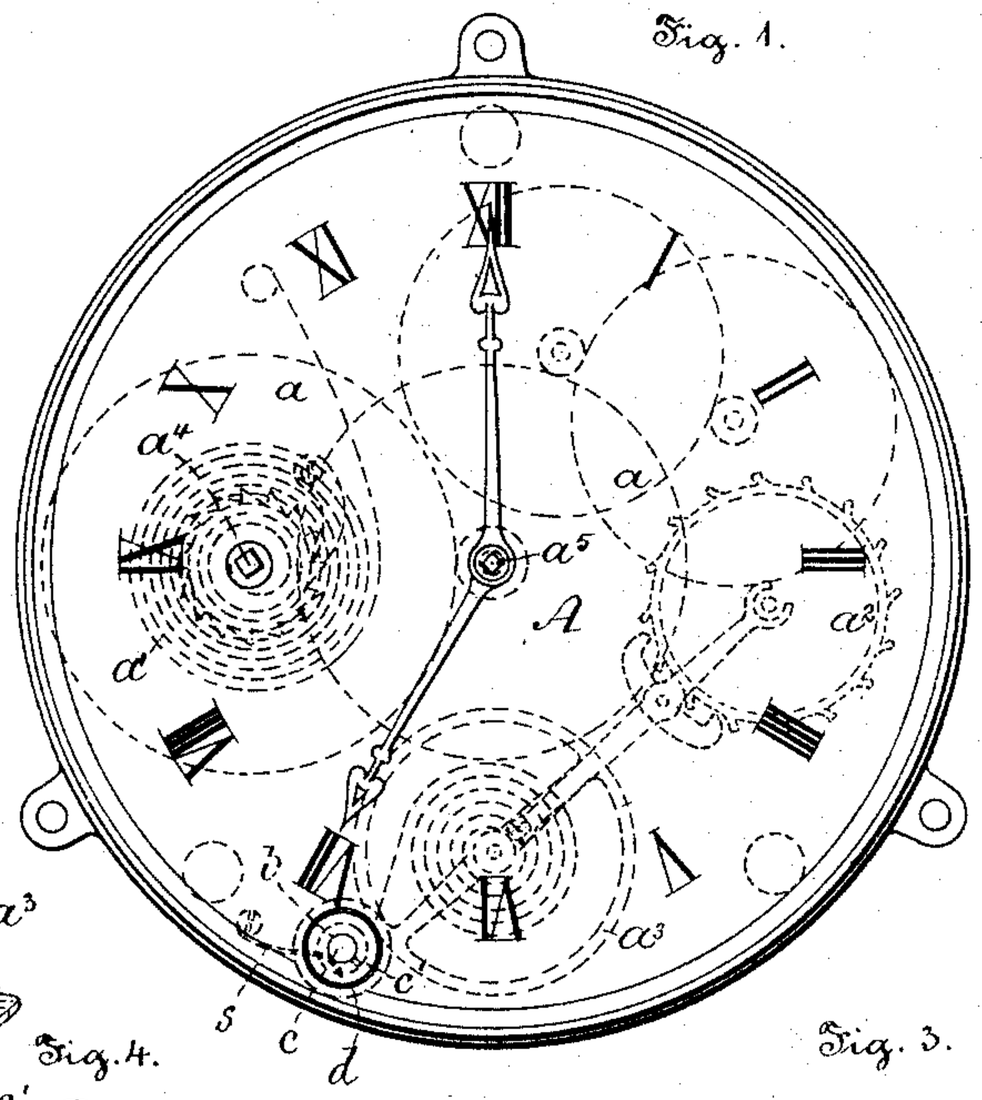


Fig. 2.

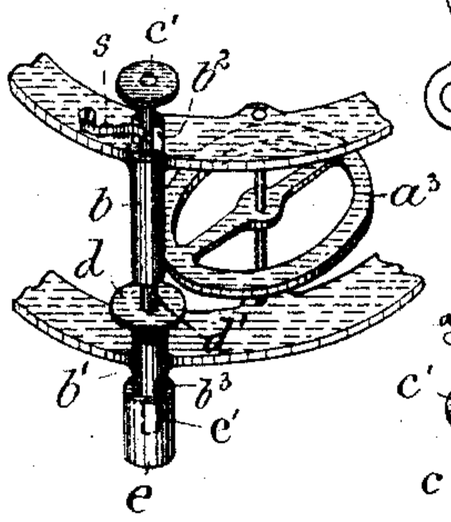


Fig. 4.

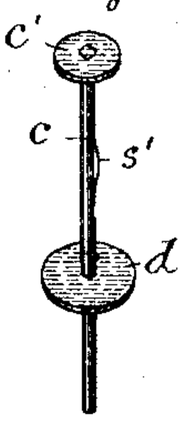
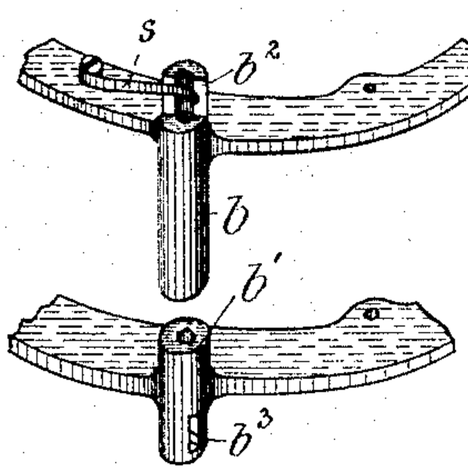


Fig. 3.



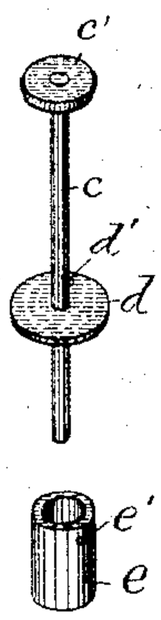
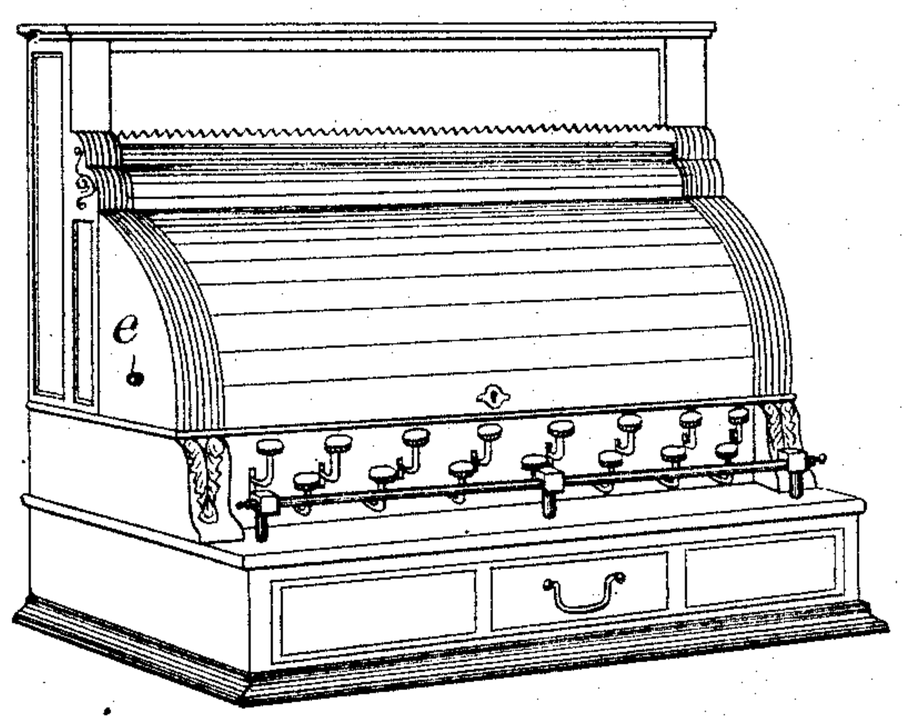


Fig. 5.



Witnesses:
Hermann Bormann.
Thomas M. Smith.

Inventor:
John H. Dates,
by J. Walter Douglass.
Att'y.

UNITED STATES PATENT OFFICE.

JOHN H. DATES, OF PHILADELPHIA, PENNSYLVANIA.

STOP-CLOCK.

SPECIFICATION forming part of Letters Patent No. 428,717, dated May 27, 1890.

Application filed January 25, 1890. Serial No. 338,142. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. DATES, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Time-Detectors for Cash-Registers and other Purposes, of which the following is a specification.

My invention relates to a detector for recording the time when a clerk or other employé arrives at the store or office, and for preserving the record for subsequent examination by the employer.

Heretofore time-detectors have been operated and controlled by complicated and delicately-adjusted electrical mechanism, and although these detectors have been advantageously employed in mills and other large establishments, still their excessive cost precluded their employment in small stores and offices.

The principal object of my present invention is to provide a compact, durable, inexpensive, and accurate time-detector especially adapted for use in connection with cash-registers, but also applicable to other appliances.

The nature and characteristic features of my invention will be more fully understood from the following description, taken in connection with the accompanying drawings, forming part hereof, and in which—

Figure 1 is a front elevation of a time-detector embodying the particular features of my invention. Fig. 2 is a perspective view of a portion of the time-detector, showing the balance-wheel thereof, and also the stop mechanism for controlling the same. Figs. 3 and 4 are detached views of the parts or details constituting the mechanism illustrated in Fig. 2, with the balance-wheel removed. Fig. 5 is a perspective view of a cash-register, showing the push-button of the time-detector projecting through the side wall of the cover or lid thereof.

In the drawings, A is a small clock or watch, having a train of spur-wheels a for actuating the hands thereof. This train of spur-wheels a is driven by a mainspring a', and is automatically controlled by an escapement a^2, actuated by a balance-wheel a^3. The square end of the arbor a^4, carrying the mainspring a', projects slightly beyond the face of the clock, and may be turned by means of a suitable key for winding the clock or watch. The square end of the arbor a^5, supporting the hands of the clock A, may be turned in either direction with a key for setting the hands of the clock.

b and b' are bearings or hollow sleeves located parallel with the axis of the balance-wheel a^3, and secured to or formed integral with the frame or housing of the clock A. The sleeve b is cut away at the point b^2 for the reception of the spring s, and the sleeve b' is slotted in the direction of its axis at the point b^3, for a purpose to be hereinafter described.

c, Fig. 3, is a spindle, provided at the upper extremity thereof with a milled head c', and adapted to slide and revolve in the bearings b and b'.

d is a circular disk secured to the spindle c, and adapted to contact lightly with the periphery of the balance-wheel a^3.

d' is a stop or pin secured to the spindle c, for contacting with the bearing b' when the spindle c is slid toward the face of the clock. The spring s, contacting with the spindle c, increases the friction thereof in the bearings or sleeves b and b', for holding the spindle in proper position. The spindle may be held in position by means of a spring s', interposed between the spindle c and bearing or sleeve b, and preference is given to this latter construction of the spring for holding said spindle in position.

e is a cap or push-button loosely fitted over the sleeve b', and provided with an internally-projecting pin e', engaging in the slot b^3.

In use the clock or watch A is secured to the interior of a cash-register, Fig. 5, or of any other office-fixture susceptible of being closed and locked. The face of the clock A is exposed on the interior of the cash-register or other fixture, and the cap or push-button e projects outward through the housing or cover, as shown in Fig. 5.

The mode of operation of my invention, as hereinbefore described, is as follows: The cash register or other fixture is opened and the clock or watch A is wound, set, and started either by removing the crystal covering the face of the clock or by inserting the

keys through suitable apertures formed therein. The milled head c' is pushed toward the face of the clock, and the cash-register or other fixture is then closed and locked. Of course the clock or watch A will continue to run and indicate time in the usual manner until the clerk or other employé arrives at the store or office and presses the cap or push-button e toward the face of the clock A. This motion of the cap or push-button e shifts the spindle c horizontally until the disk d contacts with the periphery of the balance-wheel a^3, which stops the clock. When the spindle c is shifted, the pin or stop d', coming in contact with the edge of the bearing or sleeve b, prevents the disk d from forcing the axis of the balance-wheel a^3 from its centers or bearings, which would tend to injure or destroy the clock or watch. It is evident that the spindle c cannot again be moved from the outside of the housing by means of the cap or push-button e until the device is reset, because the pin e' slides freely in the slot b^3, and thereby permits the cap or push-button e to be moved without changing or in any wise affecting the position of the spindle c.

The exact time when the clerk or other employé stopped the clock A by pushing the cap or push-button e may be ascertained by unlocking and opening the cash-register or other fixture and inspecting the hands of the clock.

The device may be easily reset by pushing the milled head c' toward the face of the clock, whereby the spindle c, and with it the disk d, is shifted and the balance-wheel a^3 released. The clock A usually starts as soon as the balance-wheel a^3 is released; but if the balance-wheel is stopped on a dead-center the clock A will not start. However, the balance-wheel a^3 may be readily moved past the dead-center and the clock started by simply turning the milled head c' slightly toward the right or toward the left before pushing it in the direction of the face of the clock.

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

1. The combination, in a time-detector, of a clock having a balance-wheel, a spindle, a disk secured thereto, a head keyed to one extremity, and a push-button engaging with the opposite extremity and adapted to permit of said spindle being shifted only in one direction, substantially as described.

2. The combination, in a time-detector, of a clock having a balance-wheel, a spindle provided with a disk and with a stop or pin, a head attached to said spindle, and a push-button engaging with said spindle, said stop or pin contacting with the housing of said clock by the shifting of said disk into contact with said balance-wheel, substantially as described.

3. The combination, in a time-detector, of a clock having a balance-wheel, sleeves secured to the housing of said clock, a spindle adapted to be shifted in said sleeves, a disk and head secured thereto, a spring interposed in said bearings, and a push-button for shifting said spindle in one direction, substantially as described.

4. The combination, in a cash-register or other appliance, of a clock provided with a balance-wheel and having the face thereof exposed upon the interior of said register or appliance, a spindle supported in sleeves or bearings secured to the housing of said clock and extending beyond the face thereof and through the housing of the register or other appliance, a head keyed to the inner extremity of said spindle, a push-button engaging with the outer extremital portion of said spindle and provided with a pin sliding in a slot formed in one of said sleeves, and a disk secured to said spindle and contacting with said balance-wheel, substantially as described.

5. The combination, in a cash-register or other fixture, of a clock provided with a balance-wheel, a spindle supported in sleeves extending beyond the face of the clock and through the housing of said register or other fixture, a disk secured to said spindle and engaging with said balance-wheel, a milled head keyed to the inner end of said spindle, and a push-button engaging with the outer end of said spindle and adapted to permit of said spindle being shifted in but one direction, substantially as described.

In witness whereof I have hereunto set my signature in the presence of two subscribing witnesses.

JOHN H. DATES.

Witnesses:
GEO. W. REED,
THOMAS M. SMITH.