

C. PFISTERER.
Watchmen's Time-Checks.

No. 154,414.

Patented Aug. 25, 1874.

Fig. 1.

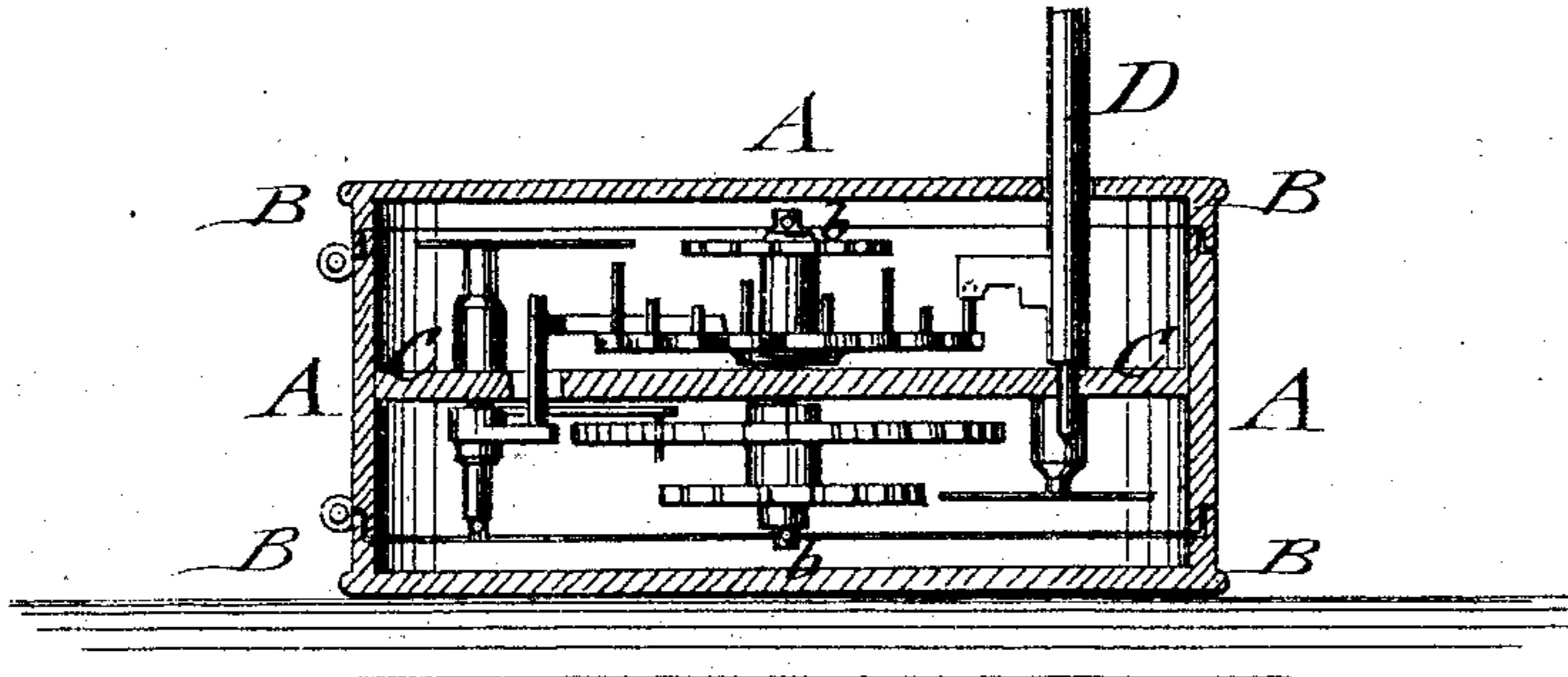


Fig. 2.

Fig. 3.

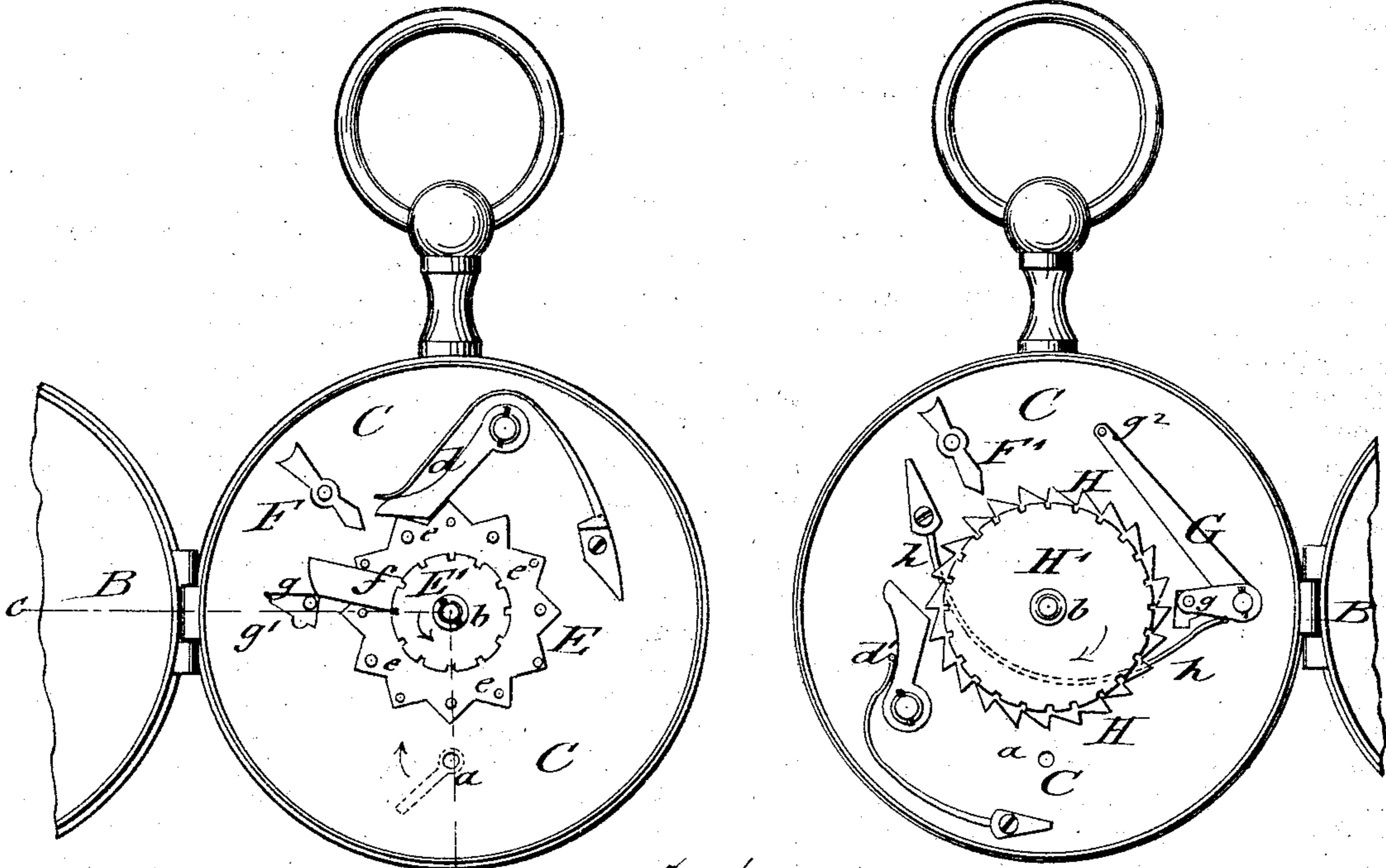
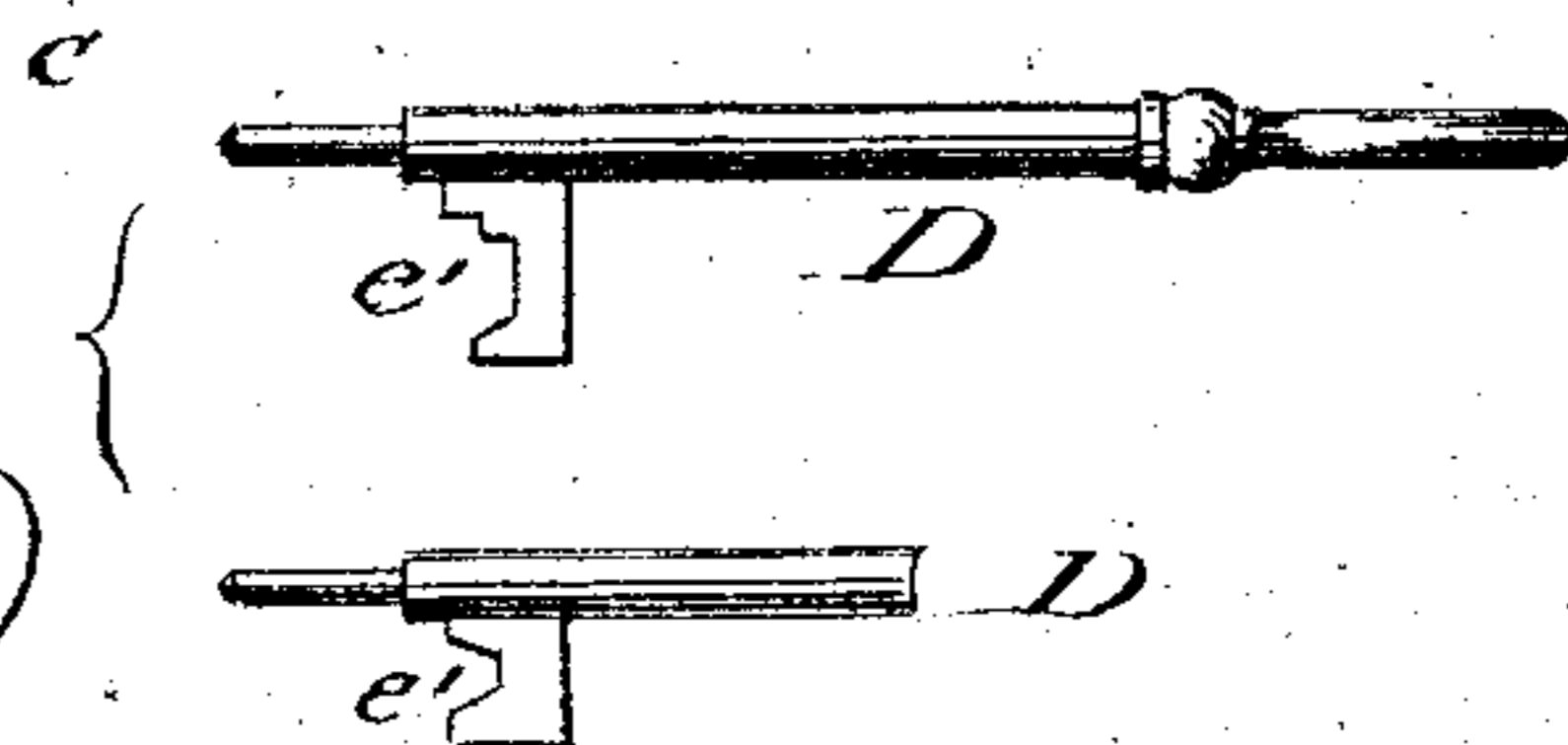


Fig. 4.



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CARL PFISTERER, OF EHINGEN ON THE DANUBE, ASSIGNOR TO THEODORE HAHN, OF STUTTGARDT, GERMANY.

IMPROVEMENT IN WATCHMEN'S TIME-CHECKS.

Specification forming part of Letters Patent No. 154,414, dated August 25, 1874; application filed May 16, 1874.

To all whom it may concern:

Be it known that I, CARL PFISTERER, of Ehingen on the Danube, in Würtemberg, Germany, have invented a new and Improved Watchman's Time-Check, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a vertical transverse section of my improved watchman's time-check on the line *c c*, Fig. 2. Figs. 2 and 3 are front and rear views of the same, with the lids thrown open to show interior parts, and Fig. 4 is a side view of different-sized keys for working the time-check.

Similar letters of reference indicate corresponding parts.

The object of this invention is to simplify the construction of watchman's control apparatus or time-checks, in such a manner that the expensive and space-consuming clock-trains hitherto used in such detectors may be dispensed with, and the same effect produced by mechanical devices, which are simple in their operation and easily repaired, as each part may be kept in stock and be readily replaced. The inconveniences arising from the breaking of parts, or injury by inadvertence or intention, may therefore quickly be remedied, and the use of such checks be greatly encouraged.

The invention will first be fully described, and then pointed out in the claims.

In the drawing, A represents the case or housing of my improved watchman's time-check, made of cylindrical or other shape, and provided with front and rear lids B B, hinged, by preference, on the same side of the case, for locking the same in suitable manner at the opposite side, and preventing the opening and tampering of the watchman with the interior of the instrument. C is a circular plate, placed centrally within case A, to which the different parts are applied. The front lid B is provided with a key-hole, through which the keys D are introduced, which enter them with their forward-projecting pin-shaped ends, a corresponding hole, *a*, of plate C, on which the thicker parts of keys D rest, guiding them, in connection with the key-hole of the lid, steadily toward the pins of main ratchet-wheel E.

The ratchet-wheel E turns freely on a pin, *b*, fixed centrally to plate C, and is provided with as many teeth as there are stations to be visited by the watchman. A spring-pawl, *d*, secures the regular motion of wheel E, as produced by the action of the keys D on pins *e*, which are set at different heights and varying distances from pin *b* into the teeth of the wheel. The wards *e'* of keys D are constructed in such a manner that each key reaches and strikes only its corresponding pin *e*, preventing thereby the overlooking or neglecting of any station, as the watchman is compelled to return to that station to produce the forward motion of the ratchet. The time-detector may be arranged for any number of stations, as the number of combinations between pins and keys is almost unlimited; but it is desirable to keep within a certain limit, to give sufficient play for the keys. A disk, E', on which the numbers of the stations are stamped, is cast or otherwise connected to wheel E, and set by placing the number of the highest station against a stationary arrow or index, F. A lug, *f*, is affixed to wheel E, projecting beyond the same so as to strike a lever-pin, *g*, at the same time when disk E' has completed its revolution and places the number of the last station against the arrow F. The outer end of lug *f* is curved eccentrically, so that wheel E may pass pin *g* in one direction, but not in the other, permitting the continuous rotation of the ratchet-wheel only in one direction. The lever-pin *g* is applied to a bell-crank shaped lever, G, pivoted at the under side of plate C, and allowed to move in a recess or slot, *g'*, of the same. A spring, *h*, acts on the shorter arm of lever G, throwing its longer arm outward till lug *f* carries pin *g* forward, by which the longer arm with a short pin, *g''*, is forced to act on ratchet-wheel and dial H H', applied in similar manner to center-pin *b*, at the rear side of plate C, as wheel and dial E E' at the front side. A spring-pawl, *d'*, secures the regular forward motion of wheel H, while a fixed arrow, F, points toward the numerals stamped on dial H'. Each numeral indicates one revolution of ratchet E, and there are as many numbers as rounds required. The ar-

row indicating the number of stations is required to be set against the starting number of the station-dial, while the arrow for indicating the number of rounds may be placed against the highest number shown thereon; or, to prevent any changing of the time-check by the watchman to any desired number thereon, the number of rounds to be counted therefrom.

A main point of my invention consists in the exact and regular working of the second ratchet-wheel by the bell-crank lever, for transmitting correctly the revolutions of the station-ratchet to the dial indicating the trips or rounds of the watchman.

The manner of using this instrument is substantially the same as that of similar instruments already in use. The control apparatus is set in the manner described, and the several keys are secured in the places or stations to be visited by the watchman, who carries the clock with him, introducing each key in the regular order into the case till all stations have been visited. The rounds will be indicated on the second dial as each trip is completed. Should any station be omitted the next key will not work the instrument, and compel, therefore, the watchman to return to that station for bringing the time-check in regular motion.

The watchman can in this manner be fully

controlled by a simple apparatus having no clock-train, in which all the parts are easily repaired and kept in order.

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

1. The ratchet-wheel E with dial E', provided with pins *e*, of different sizes and distances from the center pin, to be acted upon by the corresponding keys D, in the manner substantially as set forth.

2. The circular central plate C, having guide-hole *a* for keys D, and recess or slot *g*¹ for the pin *g*, as set forth.

3. The combination of ratchet-wheel and station-dial E E', lever G, and spring *h*, with ratchet-wheel and dial H H', for registering the revolutions of the former, in the manner set forth.

4. The combination of the parts of the preceding clause with the indexes F F', circular plate C, case A, and keys D, constructed and operated for the purpose substantially as described.

The above specification of my invention signed by me this 21st day of October, 1873.

CARL PFISTERER.

Witnesses:

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J. B. KAPP.