L. ALDRIDGE.

WATCHMEN'S TIME-CHECK.

No. 169,942. Patented Nov. 16, 1875.

Fig. 1.

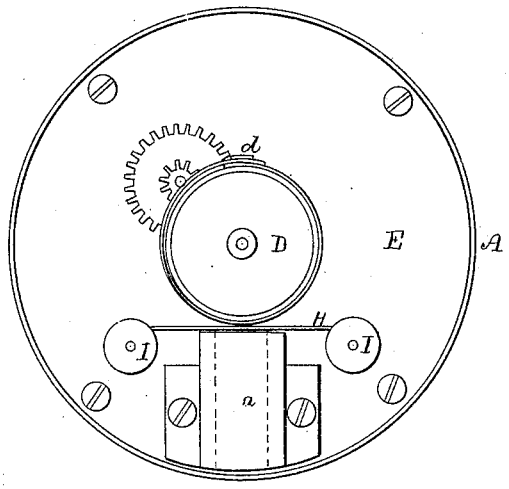
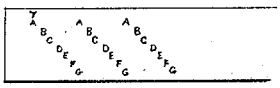


Fig. 4.



Scale.

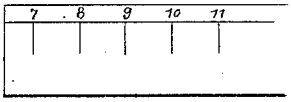


Fig. 2.

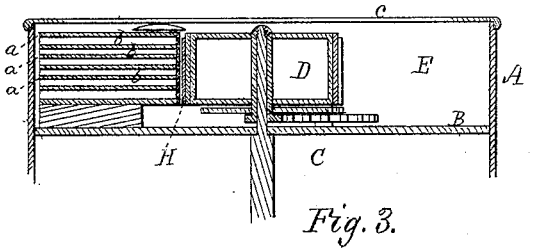
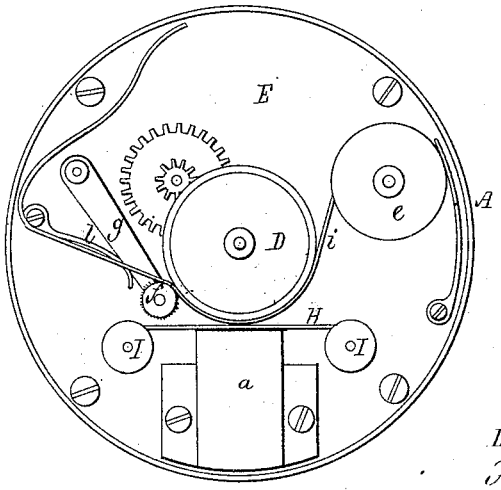


Fig. 3.



WITNESSES.
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UNITED STATES PATENT OFFICE.

LIBERTY ALDRIDGE, OF BOSTON, ASSIGNOR TO HIMSELF AND E. BAKER WELCH, OF CAMBRIDGE, MASSACHUSETTS.

IMPROVEMENT IN WATCHMEN'S TIME-CHECKS.

Specification forming part of Letters Patent No. **169,942**, dated November 16, 1875; application filed September 16, 1875.

To all whom it may concern:

Be it known that I, LIBERTY ALDRIDGE, of Boston, Suffolk county, Massachusetts, have invented an Improved Watchman's Time-Register, of which the following is a specification:

The drawings accompanying this specification represent, in Figure 1, a plan, and in Fig. 2 a section, of an instrument embodying my improvements, while Fig. 3 is a plan of certain modifications, to be hereinafter explained; and Fig. 4, a view of the tell-tale strip.

In these drawings, A represents a short cylindrical box or case, divided centrally, or thereabout, by a plate, B, the inner or rear chamber C, created by this plate or shelf B, serving to contain a clock-movement, or other suitable motive power for rotating the barrel D, which serves as an abutment, against which the paper is pressed by the types, as hereinafter explained.

I have not deemed it necessary to introduce this clock-movement into the accompanying drawings, otherwise than to represent its winding-ratchet, and the train of wheels which outlie the plate B, and transmit the power of the clock-movement to the barrel D. This barrel D is represented as disposed centrally within the outer chamber E of the case A, and mounted upon and revolving with the arbor of the hour-wheel of the watch-movement, such arbor being extended into the chamber E for this purpose. Upon one side of the chamber E, and alongside the barrel D, I locate a series of radial guides or shelves, *a a*, &c., which create a series of channels, *b b*, &c., open at both ends, and between the inner ends of these guides and the barrel D I dispose an inking-ribbon, H, which is wound upon bobbins I I, pivoted to the shelf B, and is placed in immediate proximity to the periphery of the said barrel D, and so that when a type is introduced into some one of the channels *b*, and pushed inward, the character upon the type, whether a letter, figure, or otherwise, is, through the agency of the interposed ribbon, impressed or engrossed upon the paper which surrounds or is placed against the periphery of the drum. This paper may entirely encircle the periphery of the drum D, and be secured to it in any proper manner, as shown in Fig. 1 of the accompanying drawings, and, if applied in this manner, is to be placed upon the drum daily by the watchman before beginning his night's round of duty.

The drum D describes one revolution in twenty-four hours, and the clock-movement is to be kept in time with a watch in the watchman's possession or any reliable time-piece open to his inspection, and the case A is to be provided with a cover, *c*, to prevent tampering with its contents, such cover being provided with a suitable lock, whose key is to be in the possession of the overseer, or other person authorized to open the case in the morning and remove the strip of paper containing the tell-tale record of the previous night.

The channels *b b* are to be provided in such number that one exists to each apartment to be visited, and a series of types, corresponding in number to the channels, is to be furnished. Each type has a different character cut upon its end, and the series are placed in the different apartments, one to each, where they are to be permanently kept, thus each room being designated by a given character.

In the present instance I employ alphabetical letters, A B C, &c., and it is desirable that the types should be so distributed throughout the various apartments to be visited by the watchman as to be presented upon the paper in regular succession, as shown in Fig. 4 of the drawings.

The operation of my instrument is as follows: A piece of paper is placed about the periphery of the drum D, and its ends placed behind a spring-plate, *d*, attached to one side of said barrel, or otherwise secured to the latter, and the case A locked. The watchman takes the instrument, and at the designated hour—say nine p. m.—begins his rounds of hourly visits to the various apartments, having a prearranged time for visiting each, which he ascertains by his watch, which, as before stated, must be kept in time with the clock-movement in the case A. The watchman visits each apartment in succession at the proper period of time or fractions of an hour, and taking the type in each apartment inserts

it endwise in the channel in which it belongs, and pushes it inward until its character has been impressed upon the strip of paper encircling the drum through the agency of the interposed inking-ribbon. In the morning the strip of paper is removed by the proper person, and the position and order of the characters upon it will indicate, at a glance, to what extent the watchman has performed his duty. If the entire series of types are impressed upon the paper at intervals of space corresponding to the distance which the paper would travel in an hour's time, it will be apparent that the watchman has made his hourly visits, while any omissions or irregularities in these impressions will be equally apparent.

As the various positions of the imprints upon the paper indicate exactly what periods of time elapse between the various visits of the watchman to his various posts throughout an hour, if he is punctual to a moment these imprints will be arranged in lines diagonally of the strip of paper and at regular distances asunder, while otherwise they will depart more or less from this regularity.

In order to determine the relative positions of the tell-tale impressions upon the record-paper, it has been customary heretofore, in watchman's detecters, to divide the paper into regular divisions representing hours, the paper itself thus bearing upon its face the divisions of time.

For certain reasons I have found it desirable that the paper strip should not contain this feature; and, in order that the hourly positions of the characters which have been impressed upon the paper during the night may be determined, I employ a strip of metal, upon the face of which I engrave a scale of divisions which indicate the twelve hours of time, and correspond to the space about the periphery of the drum D. By laying the strip of paper upon this scale the positions of the characters upon the paper, as regards time, are instantly determined, while without the scale the paper is comparatively unintelligible.

In lieu of attaching the paper strip to the drum every day, I have contemplated employing a long ribbon, *i*, of paper, which I coil about a spool, *e*, pivoted to the plate B alongside the drum D, as shown in Fig. 3 of the drawings, thus providing a reserve to be drawn upon for some time. The end of this reserve ribbon of paper is conducted partially about the periphery of the drum D, or that portion of such periphery adjacent to the guides *b b*, and pressed against such periphery by a roughened roller, *f*, pivoted to a swinging arm, *g*, which in turn is pivoted to the shelf B, and pressed toward the drum by a spring, *l*, as shown in said Fig. 3 of the drawings. In the morning so much of the ribbon of paper as has passed beyond the drum D and received the impressions of the types is to be cut off and preserved.

In the use of bolts operated by keys, as heretofore practiced, it has become a practice among watchmen to operate the entire series of bolts with one and the same key without changing his position.

One great advantage of my use of types consists in the fact that this dishonesty cannot be practiced, as the character upon each type is different from its fellows, and a repetition of any one out of its legitimate order would be at once apparent.

As a substitute for the metallic gage, to which I have referred as determining the position of the characters upon the paper strip, I have it in contemplation to provide the watchman, in addition to the types before named, with a series of types having numerical figures; and as the watchman begins his round of duty—say, at 7 p. m.—he first uses his character-type to designate the room in which he begins, and impresses this figure upon the paper strip, as before explained. He next takes a type bearing the figure 7, and impresses this figure 7 upon the paper, the types being so constructed that this figure 7 shall not obstruct the previous letter, but be a slight distance from it, the figure 7 thus designating the hour, and avoiding the use of the metallic scale, as in many instances may be desirable.

The numerical figures are to be used, preferably, in the first apartment visited by the watchman, and the types bearing them are to be deposited permanently in such apartment.

The inking-ribbon may be dispensed with, and the ink may be applied to the types in other well-known ways before they are inserted in their proper places for making the record.

What I claim, and desire to secure by Letters Patent, is—

1. The combination, in a watchman's time-register, of a rotary drum impelled by a clock-movement or equivalent motor, a ribbon of paper or other suitable material traveling therewith, and a series of type-receiving channels, *b*, through which types may be projected against the periphery of the drum, to impress or mark the ribbon intermediate between the periphery of said drum and the inner ends of the type-receiving channels, as and for the purposes shown and set forth.

2. As a means of determining the proper positions of the printed characters upon the strip of paper, an independent scale, substantially as and for purposes stated.

LIBERTY ALDRIDGE.

Witnesses:
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