2 Sheets—Sheet 1.

A. WITT.

Watchman's Register.

No. 69,524. Patented Oct. 1, 1867.

Fig. 1.

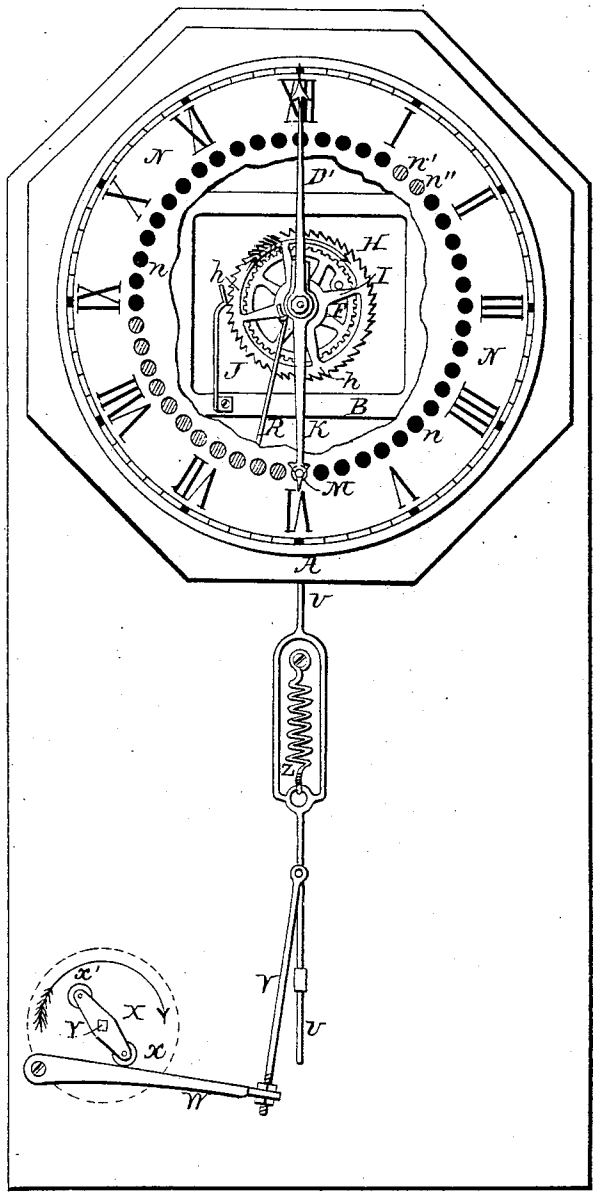
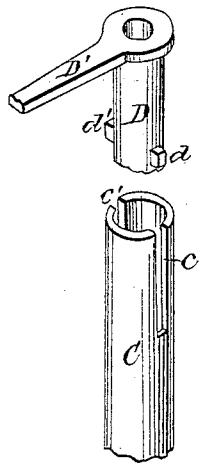


Fig. 5.



Witnesses.

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Frank Millward

Inventor.

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2 Sheets—Sheet 2.

A. WITT.

Watchman's Register.

No. 69,524. Patented Oct. 1, 1867.

Fig. 2.

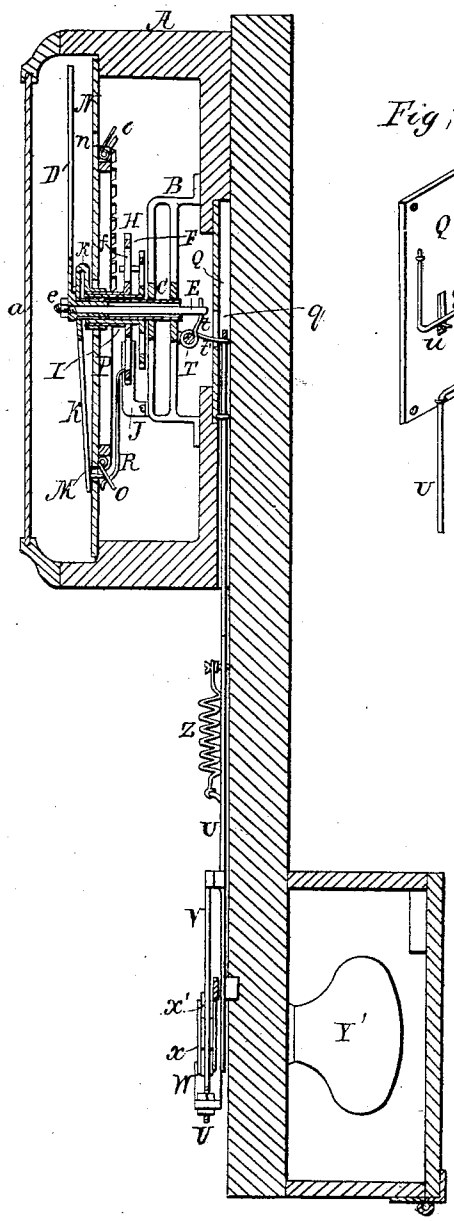
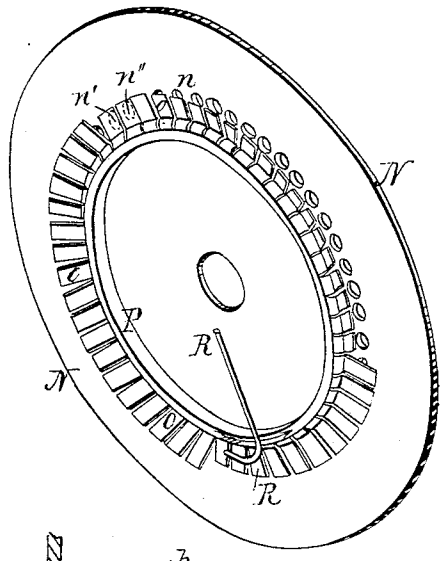


Fig. 6.

Fig. 3.



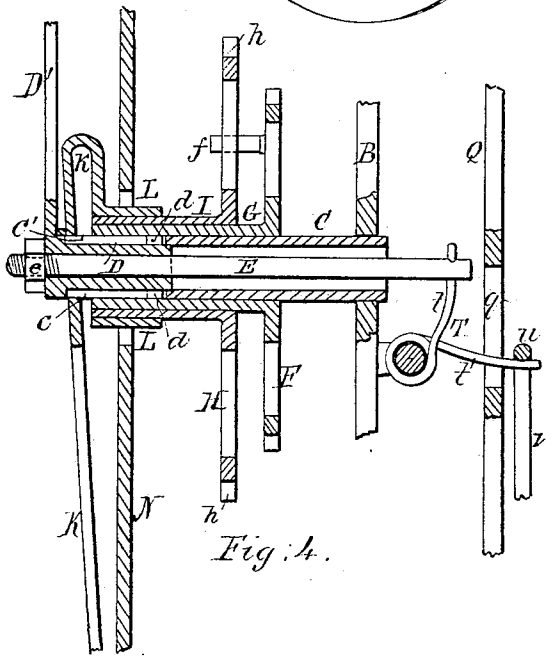


Fig. 4.

Witnesses,

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United States Patent Office.

ADOLPH WITT, OF CINCINNATI, OHIO.

Letters Patent No. 69,524, *dated October* 1, 1867.

WATCHMAN'S REGISTER.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, ADOLPH WITT, of Cincinnati, Hamilton county, Ohio, have invented a certain new and useful Watchmen's Register; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of the specification.

My invention relates to that class of horological apparatus known as watchmen's registers or tell-tale clocks, which are employed for the purpose of detecting and recording any negligence on the part of a watchman, and my improvements consist in constructing the instrument in such a manner that it can be operated from the outside of the building in which it is located, thereby preventing the watchman from altering or obliterating any indication of neglect of duty which the apparatus may have registered against him. In the accompanying drawings—

Figure 1 is a front elevation of a watchman's register, embodying my improvements, a portion of the dial-plate being broken away so as to exhibit the operative mechanism.

Figure 2 is a vertical axial section of the same.

Figure 3 is a perspective view of the rear side of the dial-plate and its accessories.

Figure 4 represents the operating parts as shown in fig. 2 on an enlarged scale.

Figure 5 is a perspective view of the device for communicating motion to the minute-hand; and

Figure 6 is a perspective view of the slotted plate through which the operating bell-crank or trigger projects.

A represents a clock-case, having the covering-glass *a* and plate B, for the support of the customary train of wheels, which wheels may be propelled either by a spring or weight. Journalled within the plate B is the centre-shaft C, and this shaft, instead of being solid, is tubular, and is provided with two slots, *c c'*, for the reception of lugs *d d'*, which project from the stem D of the minute-hand D'. This stem D is also hollow, and it is adapted to receive a rod, E, whose duty will be hereafter described. F is the hour-wheel of the clock, which wheel is driven by the customary pinion, and this wheel has a sleeve, G, which turns freely upon the centre tubular shaft C. Projecting forward from the hour-wheel F is a stud, *f*, which causes the rotation of an extra wheel, H, which I term the intermittent wheel, on account of its moving the hour-hand at stated intervals of time. The wheel H has a sleeve, I, which surrounds the other sleeve G, and around which it revolves with comparative freedom; and the periphery of this wheel is provided with forty-eight ratchet-shaped teeth, *h*, and a spring, J, is constantly bearing against one of these teeth in such a manner as to cause an instantaneous movement of the wheel as rapidly as each of the teeth escapes from the spring. In the present case, this wheel is provided with forty-eight teeth because it is the intention to have the register operated every quarter of an hour; but when it is desired the wheel may have thirty-six, twenty-four, twelve, or other number of teeth, so as to be worked every third, half, or whole hour, or other interval of time. The hour-hand K has a collar, L, which fits tightly upon the sleeve I of wheel H, and this hour-hand has a bent portion, *k*, which acts as a spring, so as to keep both the hour and minute-hand clear of the dial-plate N. The indicating end of the hour-hand has a rearwardly-projecting stud, M, which is adapted to enter either of the apertures *n* of the dial-plate N, and thereby open one of the shutters O, which shutters are pivoted to a ring, P, on the rear side of said dial-plate. The apertures *n* in the dial-plate should always correspond in numbers with the teeth on the wheel H. The shutters O are closed automatically by a follower, R, which is attached to and revolves with the wheel H. The rod E occupies an axial position within the tubular shaft C and stem D, and its outer end is screw-threaded, and provided with a nut, *e*, which bears against the minute-hand D', whilst its inner end has attached to it one arm, *t*, of the spring bell-crank T, whose other arm, *t'*, projecting through a slot, *q*, in the plate Q, engages under the horizontal portion *u* of the vertical rod U. V is a link, which connects the rod U with a lever, W, and this lever is operated with a cam, X, attached to a shaft, Y, which passes through the wall of the building, and outer end of said shaft has a knob, Y', by which the shaft may be rotated in either direction. Z is a spring, by which the rod U and lever W are retracted after being depressed by the cam. The cam X may be furnished with anti-friction pulleys *x x'*, so as to facilitate its action. The knob or handle Y' may be enclosed within a suitable box, having a lock and key, so as to prevent its being tampered with by any unauthorized person.

The clock selected for the illustration is one which is arranged in such a manner as to necessitate the attention of the watchman every quarter of an hour, and it will be observed that there are four apertures, *n*, in the

dial-plate, to each of the hour divisions of the same. In this case, the watchman is supposed to go on duty at 9 p. m. and to leave at 6 a. m., and it is also presumed that he is furnished with a watch, which is timed with the register on the inside of the building. At nine o'clock he turns the knob Y′, thus depressing the lever W and rod U, and as the horizontal portion *u* of this rod acts upon the spring bell-crank T, the axial rod E is drawn inwardly, thereby forcing the hour-hand K up close to the dial-plate N, and as the stud M passes through the aperture *n* it opens the shutter O, which is immediately under said aperture. As soon as the rod E has moved a sufficient distance to open the shutter, the rod *u* escapes over the arm *t′* of the bell-crank T, and the resilient action of the spring hour-hand at once restores the rod and the two hands to their original position. When the knob Y′ and its accompanying cam X have been turned a slight distance, the spring Z causes a retraction of rod U and lever W, the horizontal portion *u* of said rod passing freely over the spring-arm *t′* of the bell-crank T, after which the operative parts are in their proper position to be again acted upon. At fifteen minutes after nine o'clock one of the teeth *h* of the wheel H escapes from the spring J, by which means the hour-hand is made to jump quickly from the nine-o'clock to the next or quarter-past-nine aperture, and the hour-hand remains over this last aperture a sufficient length of time to allow of any slight variation of time between the register and the watchman's watch. If the watchman now turns the knob, the register will again operate as previously described, and at every quarter of an hour a shutter will be opened, provided the watchman performs his duty. The rapid manner in which the hour-hand jumps from one aperture to another prevents any possibility of injuring the apparatus by causing the stud M to strike that portion of the dial-plate between any of the two apertures *n*, in case the knob should be turned at the wrong moment by the watchman. By referring to fig. 1, it will be seen that two of the shutters *n′ n″* have not been opened, thus showing conclusively that the watchman was not on duty at quarter and half-past one o'clock. During the day-time, the follower R closes all of the shutters, so that they will be ready to be again operated on as soon as the watchman goes on duty in the evening.

One great advantage peculiar to my register consists in the fact that the watchman is not compelled to enter the house for the purpose of recording his movements, and the apparatus may be located in the upper part of a building, and be operated by a wire connecting with the lever W.

My register is very simple in its construction; not liable to get out of order; it can be repaired by any skillful mechanic, and it can be furnished at a very low price.

It makes no difference how often the knob may be turned, as the shutters can be opened but once; and if the knob should be turned repeatedly, the stud M would simply pass through the apertures, and could not injure any of the operating parts.

The extra friction arising from the addition of these parts to a clock will not impair its reliability as a time-keeper, as the registering mechanism is only in operation for a moment at a time, after which the clock is as free in its movements as ever.

The intermittent wheel H can be so arranged as to operate the hour-hand at any desired intervals of time, say from every five minutes to every two hours or more.

I claim herein as new, and of my invention—

1. The combination of the tubular centre-shaft C *c c′*, minute-hand, and stem D D′ *d d′*, axial rod E *e*, spring hour-hand K *k*, perforated dial-plate N *n*, shutters O, and closing follower R, the whole being arranged and operating substantially as herein described, and for the purpose specified.

2. I also claim the combination of the hour-wheel F *f*, intermittent wheel H *h*, and spring J, as and for the purpose set forth.

3. In combination with the seven described elements of the first clause, I further claim the spring bell-crank T *t t′* and rod U *u*, for the objects explained.

4. I claim the combination of lever W, cam X, shaft Y, spring Z, and operating-knob or handle Y′, or their equivalents, for the purpose described and set forth.

In testimony of which invention I hereunto set my hand.

ADOLPH WITT.

Witnesses:

EVAN E. Y. GIBBS,

JAMES H. LAYMAN.