F. H. PIAGET.

Watchmens' Time-Check Clocks.

No. 147,684. Patented Feb. 17, 1874.

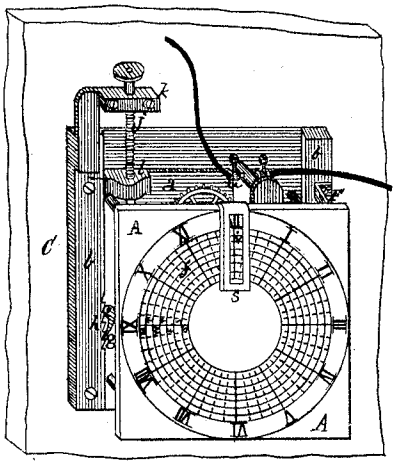

Fig. 1.

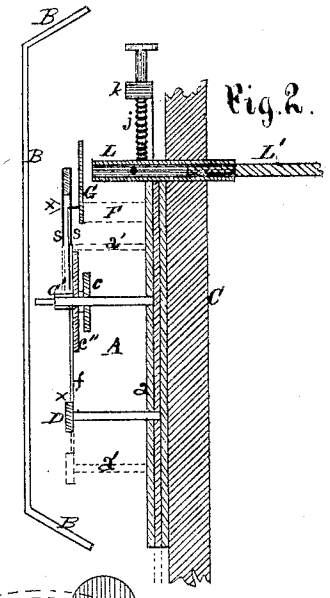

Fig. 2.

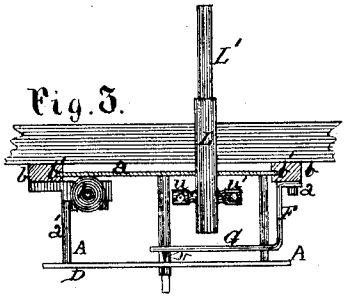

Fig. 3.

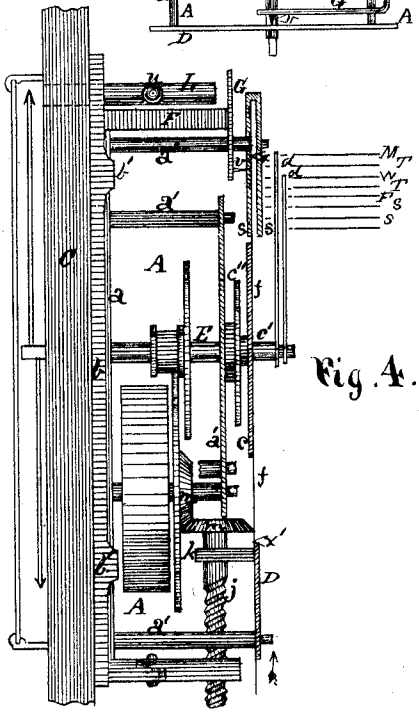

Fig. 4.

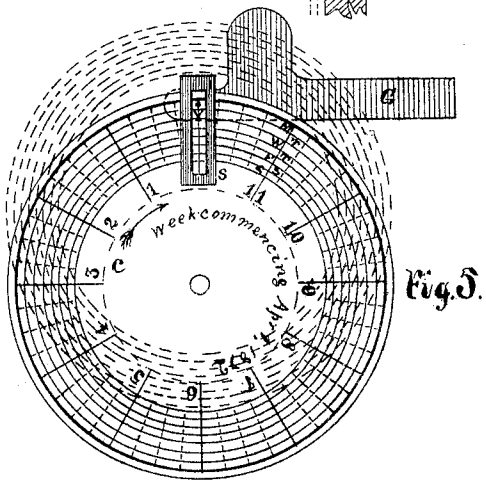

Fig. 5.

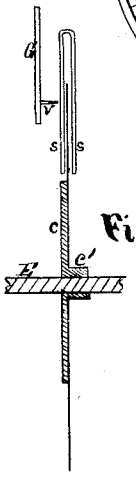

Fig. 6.

Witnesses. { Geo. A. Thompson. Chas. J. Selkirk.

Francis H. Piaget Inventor.

UNITED STATES PATENT OFFICE.

FRANCIS H. PIAGET, OF ALBANY, NEW YORK.

IMPROVEMENT IN WATCHMEN'S TIME-CHECK CLOCKS.

Specification forming part of Letters Patent No. **147,684**, dated February 17, 1874; application filed August 28, 1872.

To all whom it may concern:

Be it known that I, FRANCIS H. PIAGET, of the city and county of Albany, State of New York, have invented certain new and useful Improvements in Watchmen's Visitation-Recorder; and I do hereby declare that the following is a description thereof, reference being had to the accompanying drawings forming a part of this specification, in which—

Figure 1 represents a perspective view of a clock embodying the improvements in this invention. Figure 2 is a sectional elevation of the same, with parts of the gear left out. Fig. 3 is a vertical view from above of the same. Fig. 4 is a side elevation of the same on an enlarged scale, illustrating some of the features of the invention. Fig. 5 is a front view of some of the parts of the invention, illustrating the same. Fig. 6 is a cross-sectional view of the same.

My invention relates to a watchman's visitation-recorder, intended to be fixed to some place in or on a building, which may be operated at all times by the watchman; and it consists in the employment, with an ordinary eight-day clock-work, of certain devices and arrangements of elements which will render the clock capable of operating a recording-disk intended to receive punctures or perforations for two or more successive days in circles to correspond with indicated days, and exhibit in such circles the time when the said punctures were made by the watchman in attendance; the object of this part of my invention being to register in a true and permanent manner, for a successive number of days, the number and times of the visitation of the watchman to the building or room he may allege he has visited. It further consists in the employment of certain devices with the clock which will signal at a distant place by electricity the act of the watchman's indicating his visitation to the building or room at the time his record is being made; the object of this part of my invention being to inform the distant proprietor, or the superintendent of the police, or other proper person, of the visitation of the watchman to the premises he is to care for. It further consists of the employment of several other devices in combination with the clock, whereby the operations of the clock, and its associate tell-tales, are preserved from being misrepresented.

To enable others skilled in the art to make and use my invention, I will proceed to describe it in reference to the drawings and the letters of reference marked thereon, the same letters indicating like parts.

In the drawings, A A A represent any suitable clock capable of running for several days, being preferably an eight-day clock, of ordinary make. B B B is a case made to cover and protect the same. C is a section of a door-casing, stile, or other part of a building, to which the clock is attached or secured in a permanent manner. In this invention, *a a' a' a'* represent the frame-work in which the works of the clock are fixed, in which frame-work the pieces *a a* and the back-supporting pieces are to work easily in the ways or guide-piece *b b*, Figs. 1 and 3, or in the holding-lips *b' b'*, made with the holding-pieces *b b*, Fig. 4. The guide-pieces *b b*, Fig. 1, or the holding-pieces *b b*, with their lips *b' b'*, are attached to the door, or equivalent, piece C in a secure manner by screws, as shown in Fig. 1. Being thus arranged, the clock A A A is held in place by the pieces *b b* holding by their grooves *b' b'*, Figs. 1 and 3, or lips *b' b'*, Fig. 4, the frame portion *a a*, and the clock with its frame, is rendered capable of being moved or slid in a direction longitudinally with the ways or holding-pieces *b b*, which may be in either a vertical or horizontal direction, as may be desired. D is the face of the clock, bearing the several time-indicating characters, arranged in the usual circle, as shown in Fig. 1, which face is provided with a large circular central opening, extending in its diameter from *x* to *x*, as in Figs. 1, 2, and 4. On the shaft E, bearing the hands *d*, is slipped the disk *c*, (shown by full lines in Figs. 2, 4, and 6, and by dotted lines in Fig. 5,) having a sleeve, *c'*, attached to its upper face, and a gear, *c''*, to its under side, as shown in Figs. 2 and 4, which gear *c''* is to be actuated by any other suitable gear, properly located, (not shown,) so as to cause the disk to revolve once in twelve hours, or once in twenty-four hours, as may be desired. The said disk *c* is intended to receive and carry the recording-disk *f f*, which is made of paper, and may be secured to the said supporting

disk by gum or pins, or any other device which will hold the said paper disk in position. The said recording-disk is made of a diameter equal to the diameter of the opening in the face D between the points *x x*, and is provided with several spaces and lines, (shown in Figs. 1 and 5,) the said spaces being in number equal to the number of days the said disk is to serve, preferably being seven, each of which is to answer for some one day of the week—as space M to answer for Monday, and T for Tuesday, and W for Wednesday, and in like manner through the whole of the seven days of the week, each space serving for its day. F is a standard secured to the fixed way or guide piece *b*, as in Figs. 1, 3, and 4, to which is secured the spring-piece G bearing the perforating or puncturing pin *r*, which is to be permanently located at some given point, to be opposite to, and correspond with, the space on the recording-disk *f f*, indicating the first day, as the space M, indicating Monday, in Fig. 5. When the said puncturing-pin is pushed forward toward and against the paper disk *f*, it will enter the said recording-disk within the said space M at some hour and minute indicated on both the face D by the usual time figures, and on the time-marks indicated on the disk *f f*. It is intended in some cases to have the disk *e* to revolve by suitable gears once in twelve hours, and in other cases once in twenty-four hours, in which latter case the circle of spaces M T W, &c., on the paper disk will be divided in two sets of time figures, from 1 to 12, one set to answer for the time a. m., while the other set will answer for the time p. m.

As we have before described, the clock proper, with its frame-work, *a a' a'*, is rendered capable of being moved in a direction longitudinal with the ways *b b*. The disk *e*, bearing the paper recording-disk *f f*, being attached to the said clock, will be carried in either direction with the clock as it may be moved. To move the clock and its attached adjuncts the distance required for bringing each day-space before the puncturing-point *r*, as may be required, and to support the same for the day intended, a variety of devices and mechanical arrangements may be used, one form of arrangement being that of a dog, *g*, attached to the frame *a* of the clock, and acting with a rack, *h*, made on the edge of the guide-piece *b*, as shown in Fig. 1, the teeth of which rack are made in spaces apart equal to the day-spaces on the recording paper disk *f f*. By this arrangement of devices the proprietor will only need each day to push the clock along in its ways *b b* to one notch, when the clock and its recording paper disk will be held in position with the day-space M T W, or other day-space, opposite to the puncturing-point *r*, to remain that day. Thus each day's space can by this arrangement be brought before the pointer, and when the several days' spaces have been in as many days brought opposite the several points, and have been used, the clock is to be moved back to its first set by throwing back the dog from the rack, when the used-up recording paper disk is to be removed, to be replaced by another, to be operated with in the same manner. Again, the said movement of the clock part of this apparatus, to bring each of the several day-spaces of the recording-disk to receive the day record opposite to the puncturing-point *r*, may be effected by a screw, *j*, Figs. 1, 2, 3, 4, and 5, supported by any suitable bearing, *k*, connected with the fixed guide-piece *b* and working into any proper nut, *l*, fixed to the sliding frame *a*, as in Figs. 1 and 2, which screw may be operated once each day to move the clock and its recording-disk to a distance equal to a day-space, as with the dog and rack; or the screw may be supported by a suitable bearing, *k*, attached to the clock-frame, and working into a nut, *l*, attached to the guide-frame *b*, as in Figs. 4 and 5, which screw may be actuated by any suitable gears *m m*, attached to the shaft of the main wheel *n*, which revolves once in twenty-four hours, and the clock be thus made to operate the said screw automatically to bring the day-spaces in proper position before the puncturing-point *r*. In such an arrangement I would make the nut *l* split, as in Fig. 5, so that when the several day-spaces of the recording-disk have been used, the clock can be readily lowered by throwing the halves of the said nut apart to permit the whole to move back to its first set. And, again, a wedge or cam can be used to operate the said movement, as also can be a gear working into a rack, any of which arrangements would secure the desired movement, any and all of which devices are old and well adapted to effect the desired movement of the recording-disk, attached to the clock, to opposite the puncturing-point at each day-space in their proper order. L is a tube secured to the fixed frame *b*, in any proper manner, opposite the spring G, bearing the puncturing-point *r*, which tube may be permitted to project back so as to enter the wood of the door C, or equivalent piece. The said tube is intended to guide the key L' to the spring G, carrying the point *r*, so that the said key will be truly guided in its movement to the said spring when it is pushed in: and the key L', thus guided, when pushed against the said spring by the watchman or other person, will cause the puncturing-point *r* to pass through the paper and record, by perforation or puncture, the time the said key was made to operate with the said spring and its point. When the key has been withdrawn the spring will withdraw its point, and stand ready for effecting a successive puncture at a subsequent similar operation. With the said tube L is arranged the battery connecting-cups *u u'*, having their usual set-screws. The said cups are to receive each an insulated copper or other suitable wire, one of which is to connect with a battery on the premises, while the other is to connect with any proper

signaling apparatus at a distant station-house, or other place, when each puncture is to be signaled, which signaling will be effected, when the key L′ is inserted in the tube L, by the sides of the said key contacting with the ends of the wings *o o*, which will form the required connection or circuit.

This part of my invention is intended to operate as an informer to a person at a distance, (who may be a superintendent of police or the proprietor of the premises being watched,) of the regularity or irregularity of the visitations and recordings of the watchman.

To keep the portion of the recording-disk *f f* firm before the recording-point *v*, to receive a puncture from the same, and a withdrawal of the said point, I employ the guards *s s*, which are secured to the outer frame *a′* of clock face-plate, so that one of the said guards will support the back of the recording-disk *f f*, and the other support the front of the said disk before the perforating-point *v*, as shown in Figs. 1, 2, 4, 5, and 6, when the same is thrown in or withdrawn.

If desired, the opposite side or back of the clock may be furnished with a dial-face and time-hands, as shown in Fig. 4, so that time may be given to both sides, when this arrangement is to be let in any part of the building, the works of the clock being properly arranged to indicate on each side the time. A suitable case, B, made preferably of iron, is also intended to be used to cover and protect the instrument and its tell-tale adjuncts from being operated with by parties other than those under whose care the instrument is placed; and, if additional security against access by parties other than the watchman to the recording-disk is desired, any suitable lock, arranged to throw its bolt across the outside opening of the tube L, may be used to close the said tube from the key L′, or other equivalent instrument, in which case the watchman would be provided with a proper lock-key to unclose the tube prior to the recording of his time of his visitation.

The manner in which the several parts of this instrument are to be operated is as follows: The instrument is to be set up in any proper place, and, if the premises are to be watched from the outside, the face of the instrument opposite the recording-disk will be placed to face the outside of the building by being inserted into the door-frame, casement, or against the same, so that the recording-disk will be inside; or, if the instrument is to be used inside a building, it will, by any proper case, be secured to the wall or other part of the room, which case should be hinged to the said wall for convenience of access to the several parts of the instrument. When the instrument is properly set up, the recording-disk is to be placed in position, and secured to the disk *c*, as before described, and, as shown in Figs. 1, 5, and 6, when the movable part of the clock is slid in either direction, so as to bring the day-space M T W, or other space, in position before the puncturing-point *v* as will correspond with the day the instrument is to be set up. The clock part is then wound up, if run down, and the instrument is set going, when the disk *c* will be made to revolve, by its suitable gears, in the direction indicated by arrows in Fig. 5, and independent of the usual hands, though in concert with the same. If a twelve-space recording-disk is used, the wires *o o* are also properly connected with the cups *u u′*, care being taken that the inserted ends of the wires are properly insulated, and that their ends will surely touch the sides of the key L′ when it is inserted in the tube L, thus forming a circuit or connection. Being thus arranged in all its parts, the instrument is ready, at all times, to receive the recording of the several visitations of the watchman at whatever time such visitations may be made, which recordings are made by the watchman inserting the key L′ into the tube L, and pushing its ends against the spring G bearing the recording-point *v*, so as to cause the said point to enter the paper disk *f f* to puncture or perforate the same at some point within the day-space running opposite the said recording-point. And all operations by the watchman with the said key will be recorded in the said given day-space, and at points which will correspond with the time or times each recording has been made; and, at the time of each insertion of the said key, a circuit will be formed and a signal will be given at the police station, or at the residence of the proprietor, or other proper place, at the time each register is made by the watchman.

If the instrument is constructed to act automatically to move the clock, with its recording-disk bearing the several day-spaces, as required each day to bring the subsequent day-space before the recording-point, as the days arrive, no further attention need be given the instrument, except the winding of the clock and the replacing of the used-up recording-disks by new ones; but, if the instrument is to be moved by hand to bring the day-spaces before the recording-point, the proprietor will effect such necessary movement each day at a given time—say, either at 6 or 12 o'clock a. m., or 6 o'clock p. m., or other regular time—by pushing the clock part along one notch in the ways *b b*, or by operating the screw *j* once around, when the necessary movement of the recording-paper to the distance of one day-space will be effected over the recording-point *v* for another days' recording.

By the improvements in this invention, the several visitations of the watchman for each of the several consecutive days will be recorded in an ineffaceable manner, and at points which will, in all subsequent time, indicate the true and actual time the several visitations and recordings were made.

This invention is simple, and renders the recording-disk ready at all times for recording as well as signaling any visitation of the watchman, and can be readily applied for operation from the outside of a building, or in

any room inside, and can be used with advantage on railroads for recording the time of the movements of a switch by the switchman, and also on vessels and other places where certain operations are to be performed at stated intervals.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The fixed guide-pieces *b b*, to be secured to the door of a building, screw *j*, and bearing *k*, secured to the said ways, in combination with the nut *l*, attached to the clock B B by some portion of its frame *a a*, and the recording-disk *f f*, arranged to move independent of the hands of the clock, substantially as and for the purpose set forth.

2. In combination with the perforating-pin *r*, carried by the spring G secured to the fixed guide-piece *b*, and clock B B, capable of moving in the guide-pieces *b b*, the recording-disk *f f*, having the several day-spaces M T W, &c., and carried by the disk *c*, operated by the usual clock-work, and the guards *s s*, supported by the face of the clock, substantially as and for the purposes set forth.

3. The key-tube L and connecting-cups *u u'*, in combination with the clock-work A A A carrying and revolving the recording-disk *f f f* over the recording-point *r*, substantially as and for the purpose set forth.

FRANCIS H. PIAGET.

Witnesses:

GEO. A. THOMPSON,

CHAS. J. SELKIRK.