

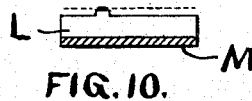
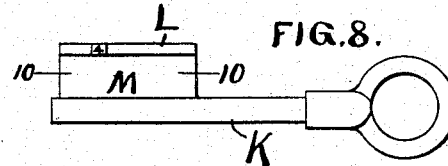
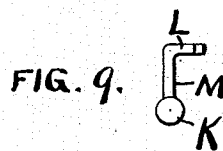
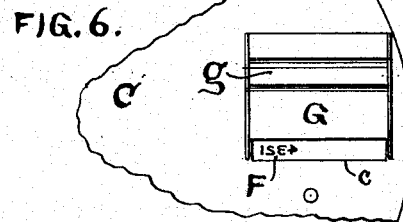
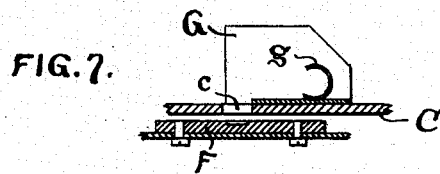
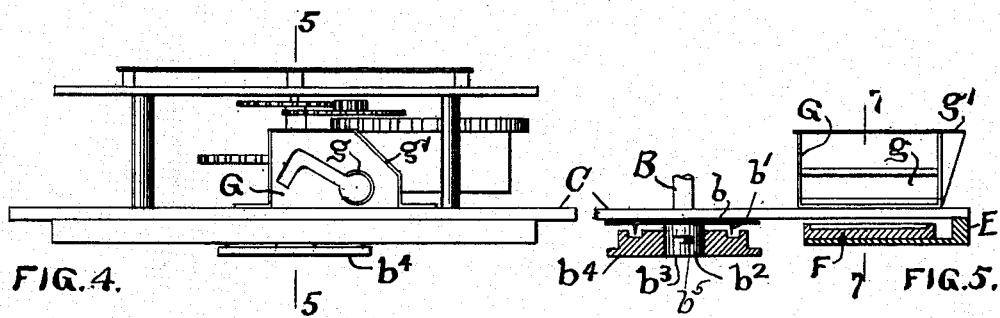
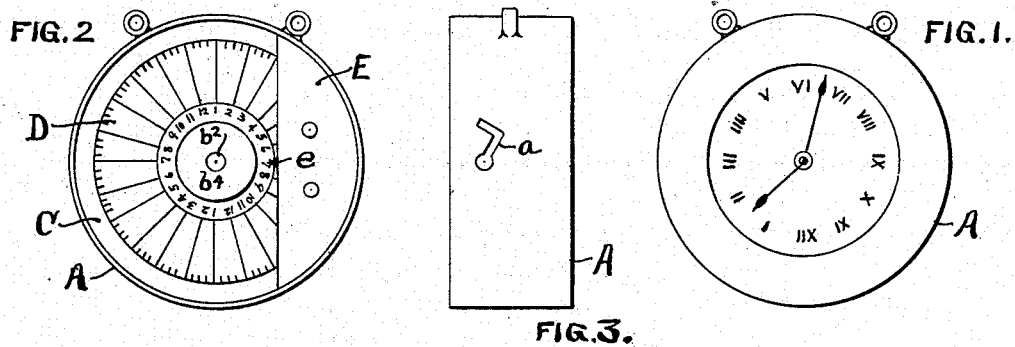
No. 676,764.

Patented June 18, 1901.

A. NEWMAN.  
WATCHMAN'S CLOCK.

(Application filed Dec. 9, 1899. Renewed Dec. 24, 1900.)

(No Model.)



WITNESSES

*As. Sec. & Proxy*  
*W. P. Fisher*

INVENTOR:

*Abraham Newman*  
*By Casper L. Redfield.*  
ATTORNEY.

# UNITED STATES PATENT OFFICE.

ABRAHAM NEWMAN, OF CHICAGO, ILLINOIS.

## WATCHMAN'S CLOCK.

SPECIFICATION forming part of Letters Patent No. 676,764, dated June 18, 1901.

Application filed December 9, 1899. Renewed December 24, 1900. Serial No. 40,972. (No model.)

*To all whom it may concern:*

Be it known that I, ABRAHAM NEWMAN, a citizen of the United States of America, and a resident of Chicago, county of Cook, State of Illinois, have invented certain new and useful Improvements in Watchmen's Clocks, of which the following is a specification.

My invention relates to the kind of watchmen's clocks which are carried around from station to station, and has for its object a form of construction which is simple, convenient, and accurate and which cannot easily be tampered with by a dishonest watchman.

In the accompanying drawings, Figure 1 is a front elevation of the clock in the position in which it is carried by the watchman. Fig. 2 is a rear elevation with the back cover removed. Fig. 3 is a side elevation showing the opening through which the registering-keys are inserted. Fig. 4 is an enlarged elevation with the inclosing case removed and part of the ordinary clock-gears omitted. Fig. 5 is a partial section, partly in elevation, on line 5 5 of Fig. 4. Fig. 6 is a plan of part of Fig. 5, the key-box cover being removed. Fig. 7 is a section on line 7 7 of Fig. 5, the key-box cover being removed; and Figs. 8, 9, and 10 are details of one of the station-keys.

In the said drawings, A is a clock-case, in one side of which is an L-shaped aperture  $a$  for the insertion of the station-keys K. A central spindle B of the clockwork extends through the plate C toward the rear face of the clock and is geared to make one revolution in twenty-four hours. On the outer (rear) end of the spindle B is a thin disk  $b$ , provided with two needle-points  $b'$ . The extreme end of the spindle B is enlarged, as shown at  $b^2$ , and is provided with a slot  $b^3$ . On the head  $b^2$  is mounted a button  $b^4$ , which is provided with a pin  $b^5$ , which enters the slot  $b^3$ , said pin and slot acting to make an ordinary bayonet-lock. The inner face of the button  $b^4$  is provided with an annular groove which gives clearance for the needle-points  $b'$ . A paper dial D fits over the head  $b^2$  and is pressed down on the points  $b'$  by the button  $b^4$ . When so secured, the dial D rotates once in twenty-four hours with the spindle B. The said dial is graduated and numbered, as shown in Fig. 2.

Secured to the plate C is a segment E,

which is cut away on the inside, so that the edge of the dial D may be inserted under it. Secured to the inner face of the segment E is a matrix-plate F, provided with a series of female dies. (Partly shown in Fig. 6.) The corresponding male dies are on a series of keys K, which are located at the different stations which the watchman must visit in performing his duties. Opposite the female dies in the matrix-plate F is a slot  $c$  in the plate C, and on the opposite side of said plate is a key-box formed of a bent plate G, having a key-hole in one upturned end and a portion of a tube  $g$  between the two upturned ends for guiding the stem of the key. Over the key-box thus formed is a cover  $g'$ , which completely incloses said box and prevents any dirt that may enter from getting into the clock-works. As thus made the key-box consists of a socket forming a substantial guide for the stem of the key and an inclosed space within which the key works. It will be observed that the key-box is placed within the works-space, while the dial, upon which the key directly acts, is placed within the lid-space, and that the only openings in said key-box are the exterior one through which the key is inserted into the box and the interior one through which the key engages the dial in the lid-space. As thus made and placed the key-box performs a triple function, as follows: First, it furnishes a substantial guide along the stem of the key opposite every possible point at which the keys may engage the dial; second, it locates that guide within the works-space, thereby saving something in the thickness of the clock, and, third, it furnishes dust protection to a clock having the key so located.

One of the keys K is shown in Figs. 8, 9, and 10. It consists of a stem K, on which is a flange M, having a turned-up lip L. On the edge of the lip L is a male character, the location of which with respect to the end of the stem corresponds exactly to the location of the corresponding female character in the matrix-plate F with respect to the inner end of the key-box. The result of this construction is that when the key is inserted to its full extent in the keyhole and turned the paper dial D is caught between the male and female dies and has embossed on it the char-

acter which is on the key used. In making these keys I use a master-die, which forms by pressure (or rolling) an entire series of characters on the lip L of each key that will correspond exactly to the other characters in the matrix-plate. When thus formed, the characters form a continuous line. (Represented by the dotted line in Fig. 10.) I then cut away (on each key) all of the characters but one. By leaving a different character on each key and having as many keys as there are characters in the matrix-plate I have a combination by which all of the keys must be used to emboss on the dial all of the characters. These keys are then each secured by a chain and a suitable sealing process to a different point which the watchman is required to periodically visit. As he moves about from place to place, using the keys in succession, he makes a series of embossed characters on the revolving dial, the location of which characters with respect to the graduations shows the time when he visited the respective stations. The disk *b* is held to the spindle B by friction, so that the dial D may be set by hand to correspond to the time shown by the face of the clock. A small point *e* on the segment E serves as a guide for such setting, which setting is accomplished by turning the button *b*<sup>4</sup>.

The advantage of having the embossing characters directly upon keys located at different stations is that it would be practically impossible for a dishonest watchman to reproduce such a series of keys or make any device which would be a substitute for keys that match a matrix-plate. Such keys, however, are neither expensive nor difficult to make when the proper tools have previously been made and when the said keys are made by the process which I have described. It will therefore be apparent that I have devised a system for registering the movements of the watchman, which consists in making the registering-marks by two sets of cooperating dies, one set of which is carried by the watchman and the other set of which is divided into parts, the different parts being located at different points on the route which the watchman is required to periodically traverse.

What I claim is—

1. The combination with a graduated dial and a clock mechanism for moving it, of a matrix-plate provided with a series of female dies located adjacent to one face of said dial, a key-box located adjacent to the other face of said dial and opposite said matrix-plate,

and a series of keys each adapted to be inserted in said key-box and each being provided with a male die adapted to fit into and cooperate with one of the female dies in said matrix-plate.

2. The combination with a graduated dial, a clock mechanism for moving it, and a series of flanged keys, each key having a different character projecting from a different place on the edge of its flange, of a matrix-plate having a row of intaglio characters corresponding to the characters on the different keys and adapted to cooperate therewith to emboss characters on said dial.

3. The combination with a graduated dial, a clock mechanism for moving it, and a matrix-plate located adjacent to one face of said dial and provided with a series of female characters, of a key-box located adjacent to the other face of said dial and opposite said matrix-plate, a series of keys each having an L-shaped flange on the edge on which flange is a male character adapted to cooperate with one of the female characters in the matrix-plate, a plate as C located between said key-box and said dial and having a slot opposite the characters in the matrix-plate, and means whereby manual pressure applied to one of said keys will cause its L-shaped flange to pass through said slot and emboss a character on said dial.

4. In a watchman's clock, the combination with a series of keys, each key having an L-shaped flange thereon and each flange having a differently formed and placed character, of a key-box arranged for the reception and guidance of said keys and having a slot in one side for permitting the passage of the key-flanges therethrough, and a metallic matrix-plate located opposite the opening in said key-box, said matrix-plate having formed therein a series of characters corresponding in form and location to the characters in said keys.

5. The combination with a graduated dial and a clock mechanism for moving it, of a key having an L-shaped flange with a character formed on the edge thereof, and devices for receiving and guiding said key so that upon a partial rotation thereof said character will be impressed on said dial by the direct manual pressure applied to said key.

Signed by me at Chicago, Illinois, this 6th day of December, 1899.

ABRAHAM NEWMAN.

Witnesses:

LILLIE NEWMAN,  
ADELINE E. LUDWIG.