A. A. NEWMAN.

WATCHMAN'S TIME REGISTER.

APPLICATION FILED DEC. 14, 1907.

901,462. Patented Oct. 20, 1908.

Fig.1

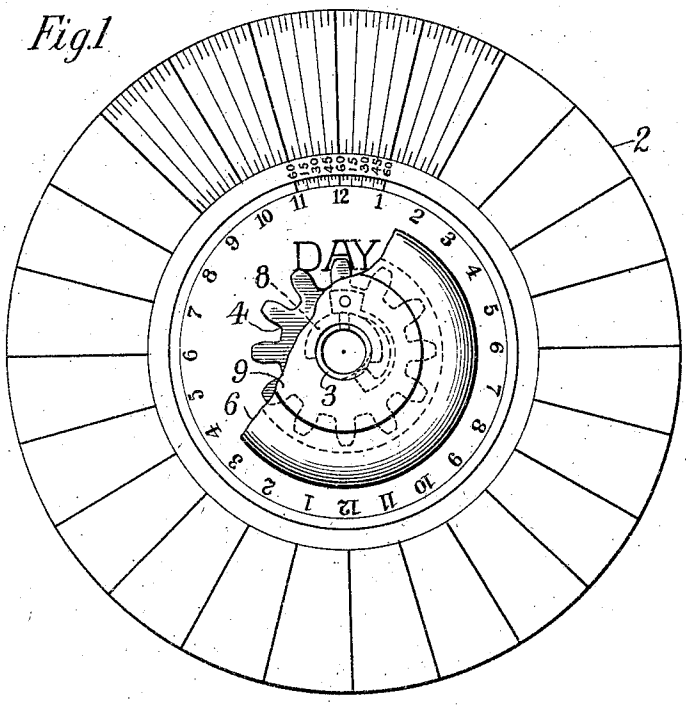


Fig.2

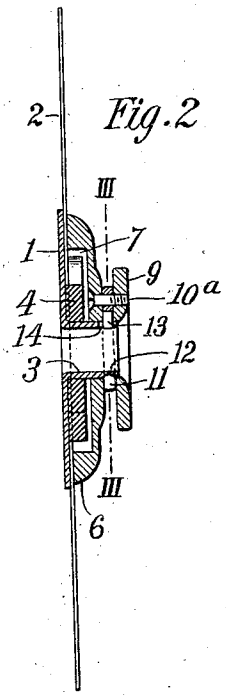


Fig.3

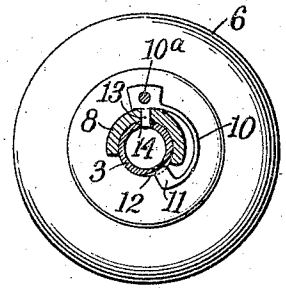
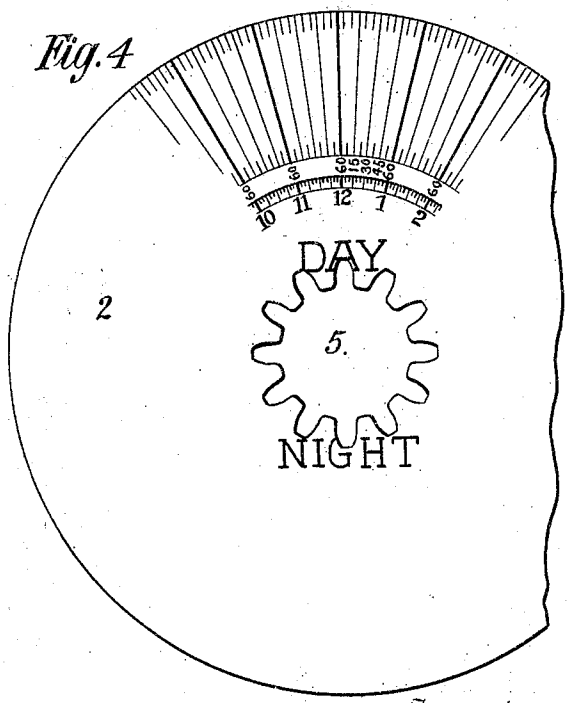


Fig.4



Witnesses:
Raphael Netter
S. S. Dunham

Inventor
A. A. Newman
By his Attorneys
Kerr, Page & Cooper

UNITED STATES PATENT OFFICE.

ABRAHAM A. NEWMAN, OF CHICAGO, ILLINOIS.

WATCHMAN'S TIME-REGISTER.

No. 901,462. Specification of Letters Patent. Patented Oct. 20, 1908.

Application filed December 14, 1907. Serial No. 406,423.

To all whom it may concern:

Be it known that I, ABRAHAM A. NEWMAN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Watchmen's Time-Registers, of which the following is a specification.

My invention relates to watchmen's time-registers of the general type described in my prior patent No. 676,764, dated June 18, 1901, more particularly to the record sheet or card and the means for securing the same in operative relation to the recording devices.

In registers of the type referred to above, the record sheet is in the form of a disk of paper, graduated circumferentially by radial divisions corresponding to predetermined time intervals. For example, the disk or dial may be divided into twenty-four parts, corresponding to the hours of the day, and each hour-division may be divided into smaller divisions each corresponding to a certain number of minutes. This dial is operatively connected with the hour-arbor of a suitable clock in such manner that the two will rotate in unison, the dial thus making a complete rotation in twenty-four hours. The record dial is also arranged with its time graduations in register with those on the face of the clock. Recording devices are provided, arranged in fixed position relative to the rotating record-dial and constructed to be actuated by suitable keys to which the watchman has access. The recording devices include a marking device, for example a die or a punch, adapted to make a die-mark or a perforation in the record dial at each insertion and actuation of a key. The die-mark or perforation will then indicate at a glance the time at which the watchman used the register.

As previously stated, my present invention relates more particularly to the means for securing the record-dial in place. The dial is normally locked in the clock case so that the watchman cannot have access to it, but it is possible for a dishonest watchman, who may have acquired a key to the lock, to open the clock and substitute a fraudulent record-dial indicating a complete tour of duty when as a matter of fact such a tour of duty had not been performed. My present invention is intended to make such fraudulent practice so difficult or troublesome as to practically make it impossible.

The invention, which consists in the novel features of construction, arrangements of parts, and combinations of elements hereinafter described and claimed, is shown in its preferred form in the annexed drawings in which:

Figure 1 is a front view of the record-dial and the devices for securing it in position, part of the latter devices being broken away. Fig. 2 is a vertical cross section of the same. Fig. 3 is a section on line III—III of Fig. 2. Fig. 4 is a plan view of the record-dial, but showing only a portion of the time-graduations.

The circular plate 1, Fig. 2, is the member which supports the record-dial, 2, and is provided with a neck or tubular stem 3 adapted to fit tightly the hour-arbor of a clock or some other suitable arbor rotating in unison therewith. The plate 1 is preferably permanently fixed to its arbor in any convenient manner not shown.

Rigidly fastened on the plate 1 around the neck or stem 3 is a member 4 having projections from its periphery to engage the edges of a correspondingly shaped aperture 5 in the center of the record-dial. This member is preferably shaped like a spur or gear-wheel, as shown, with, say, twelve teeth. The engaging member 4 thus engages the dial at a number of points and by thus distributing the strain on the paper lessens the liability of the paper to tear.

Over the toothed engaging member 4 is a flat cap 6, having on its under side a circular recess 7 to receive the said member. The cap has a short neck-portion 8 surmounted by a finger piece 9 which may be conveniently grasped for removal of the cap. To retain the cap removably in position an arc-shaped spring catch 10 is provided, rigidly fastened to the cap at one end, as by a screw 10^a, and having its other end formed with an inwardly extending finger 11. The finger is rounded at its end and extends into a rounded groove 12 in the neck 3 of the supporting plate 1, the neck of the cap being cut away to permit the finger 11 to enter its groove. A firm pull on the finger piece 9 will cam the spring-finger out of its groove, thus releasing the cap, while a firm push in replacing the cap will first spring the finger outward until the upper or outer lip of the

groove is cleared. The various parts are preferably so proportioned that when in position the cap will bear with some firmness on the record-dial and therefore hold the same firmly against the plate 1. In order to insure register of the finger 11 and groove 12 in replacing the cap a stud 13 is provided, extending from the fixed end of the spring 10 into a notch or slot 14 in the top of the neck 3. Thus the cap cannot be pushed down into place until the stud and notch are in register and consequently the finger 11 and groove 12 also.

By the devices above described the record-dial is held securely on the rotating part. At the same time, it is evident that only a record-dial whose central aperture corresponds in size and shape exactly with the toothed engaging member 4 can be successfully used. Thus if the attempt is made to place a dial with a differently shaped opening on the plate the replacement of the cap will cause the edges of the dial aperture to be torn or crumpled, thereby giving unmistakable and permanent evidence of the improper use. The considerable number of the teeth on the member 4, and their uniformity also, are important, though not indispensable, features. While properly apertured dials can with suitable dies or similar tools be made very easily, it is a most tedious operation to cut the required apertures by hand. In fact, cutting the teeth by hand with the necessary regularity and uniformity is so troublesome and tedious as to be practically prohibitive. The number of teeth, and their size, etc., can be varied indefinitely. In fact it is desirable to make the retaining member 4 different, as to number of teeth, or their size or shape, etc., for each clock, thus effectually preventing a watchman from using in his own clock record-dials which were made for another clock and of which he may have surreptitiously obtained possession. It will therefore be seen that my invention possesses marked utility in that it not only furnishes effective means for securing the record-dial in operative relation to the clock and the recording devices, but also provides protection against fraudulent use of improper dials.

What I claim is:

1. In a time register, the combination of an engaging member having angular peripheral projections, adapted to be rotated by a clock-driven arbor, a record dial having a central aperture provided with angular indentations corresponding in size and contour to the angular projections on the said engaging member, and means for securing the said dial in position on the engaging member.

2. In a time register, the combination of a supporting member adapted for connection with a clock-driven arbor, an engaging member rigidly secured to the former member and having peripheral projections, adapted to receive a suitably apertured record dial, and removable means for holding the dial in position.

3. In a time-register, the combination of a supporting member adapted for connection with a clock-driven arbor, an engaging member rigidly secured to the former member and having uniform peripheral projections, adapted to receive a suitably apertured record-dial, and means for retaining the dial in position.

4. In a time-register, the combination of a supporting member having a tubular neck adapted to fit over a clock-driven arbor, an engaging member having rigid connection with said neck and concentric therewith, said engaging member being provided with uniform projections from its periphery, and a cap removably seated over said engaging member.

5. In a time register, the combination of a supporting member having a tubular neck adapted to fit a clock-driven arbor, an engaging member in rigid conection with said neck, and a cap covering said engaging member and having a catch yieldingly engaging said neck.

6. In a time-register, the combination of a supporting plate having a tubular neck, and a toothed engaging member concentric with the said neck and in rigid connection therewith.

7. In a time register, the combination of a supporting plate having a tubular neck, an engaging member rigidly mounted on the said plate concentrically with the neck thereof and provided at its periphery with uniform engaging teeth, a cap having a recess to receive the engaging member and a central aperture to receive the said neck, and a finger piece surmounting the cap and having a spring catch yieldingly engaging the said neck whereby the cap may be readily removed and replaced.

ABRAHAM A. NEWMAN.

Witnesses:
GEO. F. BALDRY,
F. W. BARNES.