(No Model.)

K. MÜLLER.

WATCHMAN'S TIME RECORDER.

No. 564,709. Patented July 28, 1896.

Fig. 1.

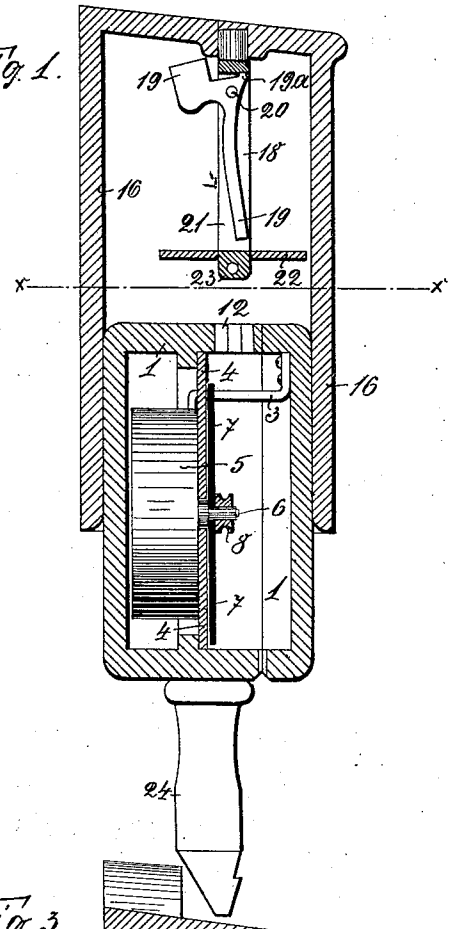


Fig. 2.

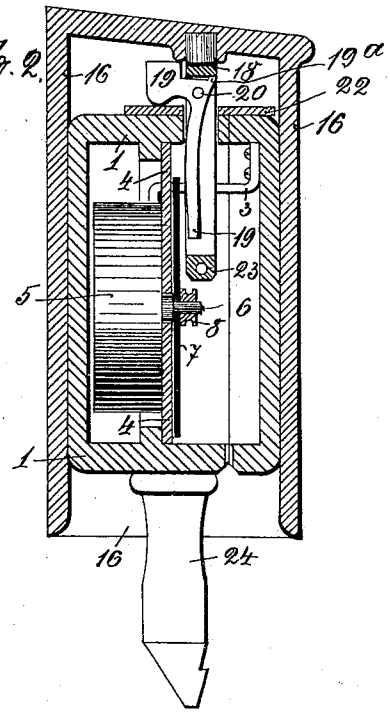


Fig. 3.

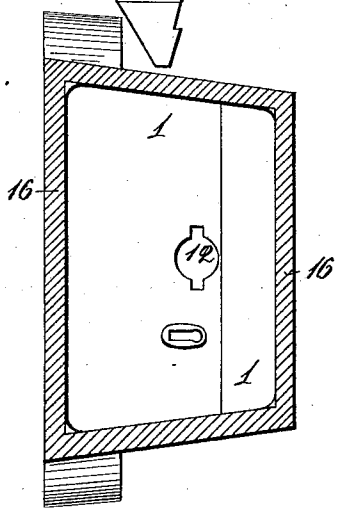
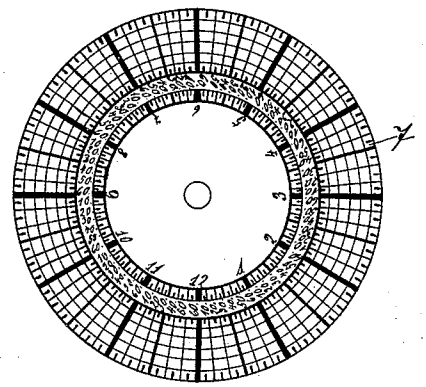


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

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WATCHMAN'S TIME-RECORDER.

SPECIFICATION forming part of Letters Patent No. 564,709, dated July 28, 1896.

Application filed September 19, 1895. Serial No. 562,990. (No model.)

To all whom it may concern:

Be it known that I, KARL MÜLLER, a subject of the King of Prussia, German Emperor, and a resident of Eberswalde, in the Province of Brandenburg, in the Kingdom of Prussia, German Empire, have invented certain new and useful Improvements in Watchman-Controlling Apparatus, of which the following is an exact specification.

This invention refers to watchman-controlling plants of the kind in which the controlling-clock proper (constantly carried by the watchman) is operated by being put into a casing fixed at the station to be controlled. There are thus in a plant of said kind as many fixed casings as there are stations, and they all coöperate generally with but one clock. The latter contains a disk which is provided with concentric circles and with radial lines, (the annular spaces between the former representing the stations and the wedge-like spaces between said radial lines representing the hours,) and which, further, is rotated once within twenty-four hours. Controlling-clocks of said type have become known by my United States Letters Patent No. 542,445, dated July 9, 1895; but to avoid taking reference to said patent I will give at this place a brief description of the clock in question.

A slide adapted to be moved in radial direction with regard to the center of the aforementioned disk carries an elastic arm with a cog-wheel. The teeth of the latter are pointed and produce upon said disk a radial dotted line, the length of which depends, as a matter of course, upon the extent of the displacement of said slide. The latter is displaced by pins arranged within the stationary casings. The lengths of the various pins are different, and there result thus different ways of the said slide and consequently different lengths of the dotted lines produced by the pointed cog-wheel upon the disk. It is, therefore, from the length of any dotted line to be seen, on which station that line has been produced; or, with other words, the number and the different lengths of the dotted lines show how many and which stations have been controlled. Moreover, also the time of each control is indicated by the radial lines printed upon the disk.

Although the system in question offers a great security against omission of the control or fraudulent manipulation with the clock, there is the drawback that if the stations controlled are in close proximity to each other the ends of the two or more dotted lines get very near one to the other, and there may sometimes arise doubts as to the station belonging to a certain line. The purpose of my improvements is to do away with this drawback, and I attain that object by the construction shown in the accompanying drawings, in which similar numbers of reference denote similar parts throughout the several views, and in which—

Figure 1 is a vertical section through a stationary casing and a clock, the latter being half shoved into said casing. Fig. 2 shows a similar view, the clock being fully introduced into the said casing. Fig. 3 is a horizontal section taken on line *x x* of Fig. 1, and Fig. 4 is a plan of the indicating-disk of said clock.

The construction of the controlling-clock is in general the same as that described in my prior patent mentioned in the preamble. The slide, with its elastic arm and the pointed cog-wheel, have, however, been dispensed with.

1 is the box with its cover or lid. The partition-wall 4 holds the wheelwork 5, the shaft 6 of which carries the indicating-disk 7. The latter is fixed to said shaft by the nut 8.

3 is an angular piece secured to the lid that takes below the rim of the disk 7. The purpose of said piece is to indicate any undue opening of the clock.

24 is the handle of the clock, which in the form of construction shown is formed into a whistle.

The marking mechanism proper is in my improved construction contained not within the box of the clock, but within the stationary casing, into which the clock is to be shoved. There are, therefore, as many marking mechanisms as there are stationary casings. Each casing contains a fixed pin 18, (known from my prior patent already,) which may enter the box 1 through an aperture 12, if said box is shoved into the casing 16. Said pin is not any more used for effecting the marking, as in my former construction, but supports, by

means of a small cross-pin 23, a loose disk 22, which serves to cover the marking mechanism proper from below. The latter cannot therefore be viewed from the open side of the casing, and the details of its construction are prevented from being easily found out by the watchman or any other person.

The pin 18 is slit and supports by means of the upper cross-pin 20 a double-armed lever 19, the lower arm of which is provided with a pointed pin 21, whereas the upper arm is formed into a weight. The latter tends constantly to keep the lower arm within the slit of the pin 18, and the whole lever is held in its proper position of rest by a projection 19^a. The various pins existing in the respective plant are, in contradistinction to my former system, all of the same length, but the lower arms of the levers 19 are of different lengths, in such a manner that each pin coöperates with a special annular space of the disk 7. To produce a mark or sign upon said disk, the box 1 need simply be pushed upward as far as possible into the casing 16, when the loose disk 22 will be raised so as to push upon the upper or horizontal arm of the lever 19. The latter is thereby turned so as to cause the pin 21 to approach the disk 7 and to produce a mark thereon. It is to be seen therefrom that there is not produced a series of dots, (as formerly,) but a single dot only, and as that dot is situated within a special one of the concentric annular spaces of the disk 7 there is no possibility whatever of a mistake as to the station upon which that dot had been produced.

I wish it to be understood that I do not confine myself to the use of a pin only, such as 21, but I may employ instead thereof any other suitable organ.

I prefer to provide the partition-wall 4 with as many concentric grooves as there are concentric spaces upon the disk 7. The purpose of said grooves is to facilitate the piercing of said disk.

Having thus fully described the nature of my said invention, what I desire to secure by Letters Patent of the United States is—

In a watchman-controlling plant a stationary casing open at one side, and adapted to receive a clock-box containing an indicating-disk, the combination with said casing, of a slit pin arranged opposite to said open side, and extending in the direction to the same; said pin carrying a bell-crank lever weighted at its horizontal arm, and having a marking device secured to its vertical arm; said latter arm being normally retained within the slit of the said pin; the latter carrying at its end a loose disk adapted to be raised by the clock-box, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

KARL MÜLLER.

Witnesses:
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FRITZ SPERLING.