No. 774,499. PATENTED NOV. 8, 1904.

J. SCHLENKER.

WATCHMAN'S TIME DETECTOR.

APPLICATION FILED MAR. 3, 1904.

NO MODEL.

Fig. 2.

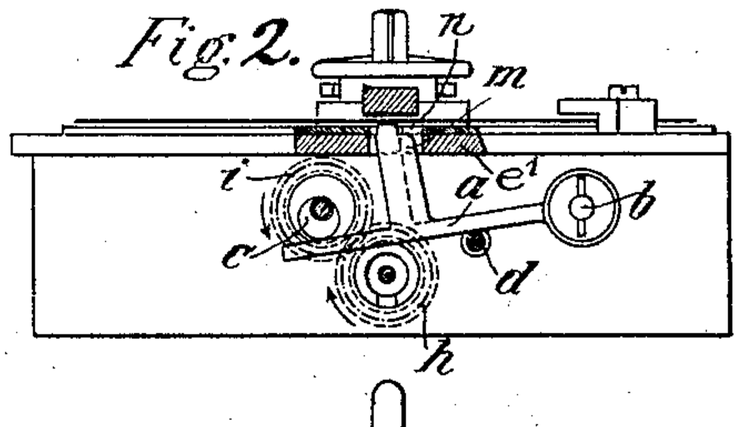


Fig. 3.

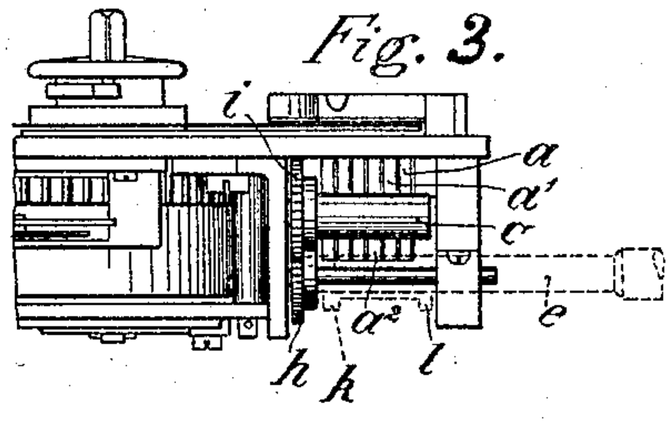


Fig. 1

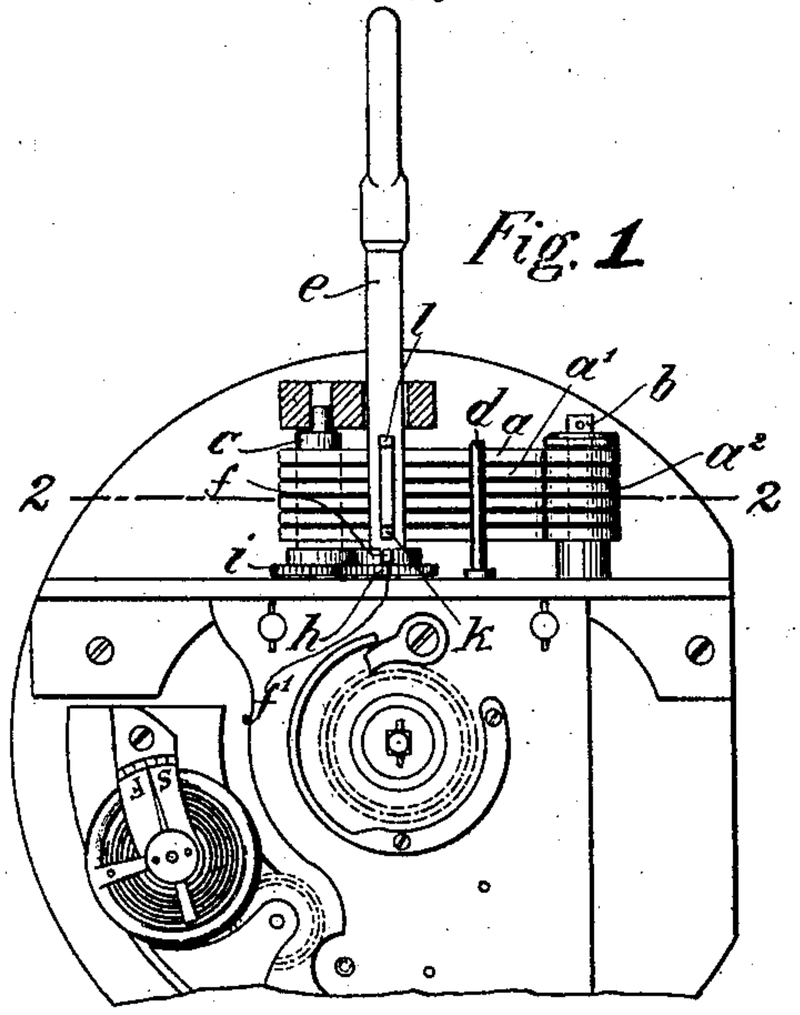


Fig. 4.

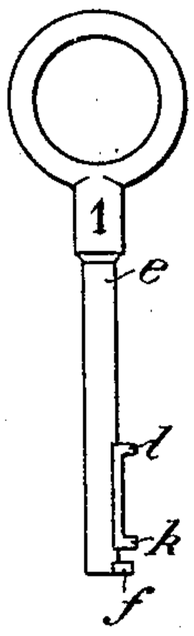


Fig. 8.

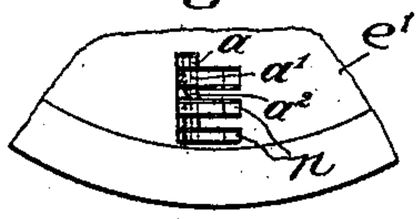


Fig. 5.

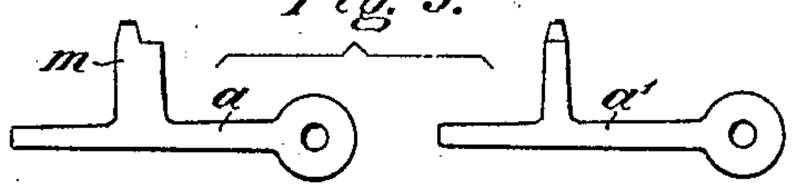


Fig. 6.

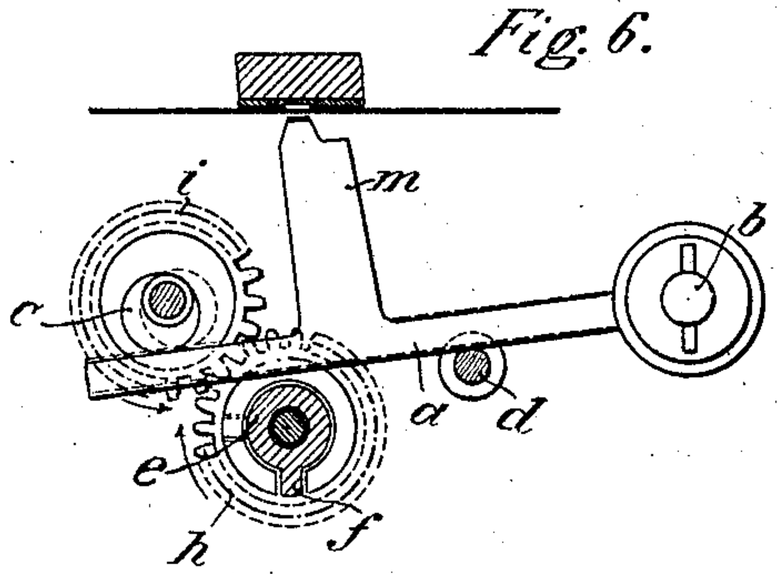
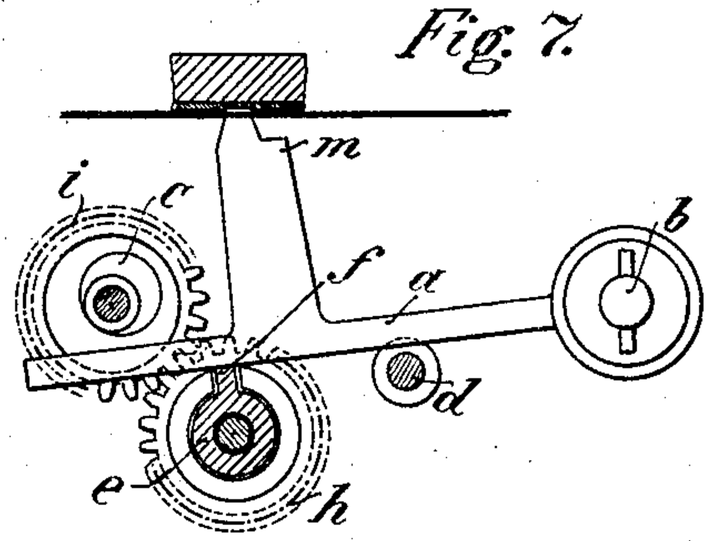


Fig. 7.



Witnesses
J. Henry Glesner.
Henry J. Lubker.

Inventor
Jakob Schlenker,
By his Attorneys,
Goepel & Niles.

No. 774,499. Patented November 8, 1904.

UNITED STATES PATENT OFFICE.

JAKOB SCHLENKER, OF SCHWENNINGEN, GERMANY.

WATCHMAN'S TIME-DETECTOR.

SPECIFICATION forming part of Letters Patent No. 774,499, dated November 8, 1904.

Application filed March 3, 1904. Serial No. 196,469. (No model.)

To all whom it may concern:

Be it known that I, JAKOB SCHLENKER, a citizen of the Empire of Germany, residing in Schwenningen, in the Kingdom of Würtemberg and Empire of Germany, have invented certain new and useful Improvements in Watchmen's Time-Detectors, of which the following is a specification.

This invention relates to certain improvements in watchmen's time-detectors with indirect marking systems in which the return of the marking-lever is not produced by means of a spring, but positively by the motion of an eccentric.

It is well known that springs are not reliable, as they frequently break or lose their tension. Sometimes it happens that when a spring loses its elasticity the type which has been pressed into the paper is caught by the same, so that either the stoppage of the driving clock-train of the detector or the tearing of the paper is produced. A further objection is that the ward of the key is subjected to a constant pressure, by which the same is quickly worn out.

The object of this invention is to overcome these objections. This is effected in such a manner that the type-levers are returned after the marking is accomplished by an eccentric into their normal position without the use of springs; and the invention consists of a watchmen's time-detector in which the marking-levers are operated by the keys and returned into their normal position by the action of an eccentric operated by a suitable connection with the housing of the key, as will be fully described hereinafter and finally set forth in the claims.

In the accompanying drawings, Figure 1 represents a bottom view of my improved watchmen's time-detector, partly in section, with the bottom of the casing removed. Fig. 2 is a vertical transverse section of the same on line 2 2, Fig. 1. Fig. 3 is a side elevation of the portion of the time-detector shown in Fig. 2, showing the eccentric for returning the marking-pieces. Fig. 4 is a side view of one of the keys suspended at the different stations. Fig. 5 is a side elevation of two different type-levers employed. Figs. 6 and 7 are sectional side elevations showing one of the type-levers respectively in normal position before marking and in position for marking; and Fig. 8 is a plan view of a portion of the time-detector, showing the faces of a number of marking-levers.

Similar letters of reference indicate corresponding parts.

The type-levers a a' a^2 are pivoted to a stud-shaft b and form contact at their forward end with an eccentric c, while the rear ends of the shanks of the type-levers rest on a transverse pin d when the keys are in a normal position of rest. The keys e, of which one is provided for each station, are provided at the end with a projection f, which serves to enter into a corresponding recess of a bushing provided with a gear-wheel h, that is supported on one of the partition-walls of the casing of the time-detector. With the gear-wheel h meshes a second gear-wheel i, which is located on the shaft of the eccentric c, said eccentric being supported in bearings of the partition of the casing and a supporting-block, as shown in Fig. 3. By one single rotation of the key the gear-wheels h and i will be turned and simultaneously the type-levers oscillated by the eccentric. The marking of the type into the paper disk operated in the well-known manner by the clock-train of the time-detector is accomplished by a ward k on the key, said ward being made of such a shape and at such a distance from the projection f at the end of the key as required by the special type-lever that is to be called into action by the key, the type-lever being operated by the action of the ward k, while by the turning of the gear-wheels the eccentric c is simultaneously turned. After the marking type lever or levers are operated all the levers are returned by the eccentric into normal position of rest on completion of the rotation of the eccentric, which is accomplished by the further rotation of the key. The key is further provided with a third projection l, which is, like the projection f, used in all keys and serves for the better guiding of the key in the keyhole to the gear-wheel h. Only the ward k changes in position on the different keys, while the projections f and l remain the same in all the keys.

When the key is once inserted in the casing, it cannot be withdrawn until its full rotation is completed. The ward of the key is only used during the short time while the lifting action of the type-lever takes place. No other pressure of any kind is exerted on the type-lever. If desired, springs may be used in connection with the type-levers, so as in connection with the eccentric *c* to return the levers into normal position; but it is not necessary, as the type-levers are returned by the full rotation of the eccentric.

To prevent the lateral shifting of the type-levers, alternate levers are provided each with a projection *m*. This projection is arranged, for example, on the first, third, and fifth type-levers, the second, fourth, sixth, &c., type-levers not requiring the same. The top plate *e'* is provided with recesses *n* opposite the alternate enlarged levers, as shown in Fig. 8, which permit the passage of said type-levers provided with the projection *m* and provides a positive means of guiding the type-levers at their upper ends. It has been found that by this arrangement the friction and strain due to the tendency of the type-levers to lateral displacement instead of being localized in the two end levers are uniformly distributed, so that all the type-levers are operable with equal facility. In place of type-levers other devices, such as levers with marking-points, may be employed.

The described arrangement of the marking construction has the advantage of great simplicity and durability, inasmuch as all sensitive parts, which are liable to become weak or useless, are entirely avoided without impairing the accurate functioning of the type-levers. Even the corrosion of the visible parts of the detector will not render the same inoperative.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A marking device for watchmen's time-detectors, consisting of oscillating type-levers, a key for raising the same, and an eccentric acting on said type-levers and operated by the turning of the key for returning the type-levers into normal position of rest.

2. A marking device for watchmen's time-detectors, consisting of oscillating type-levers, a key for raising the same, an eccentric acting on said type-levers and operated by the turning of the key for returning the type-levers into normal position of rest, a bushing for the key, and means between said bushing and the eccentric for transmitting rotary motion to the latter.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

JAKOB SCHLENKER.

Witnesses:
SIEGFRIED FELS,
ERNST ENTENMAN.