

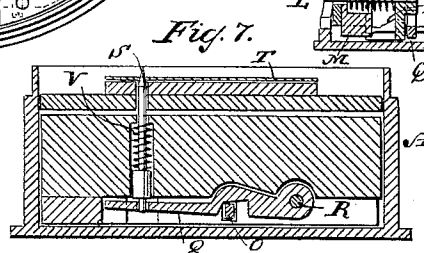
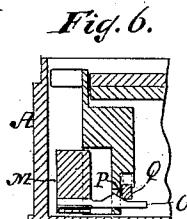
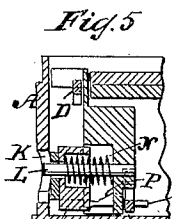
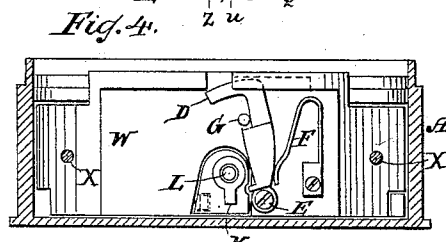
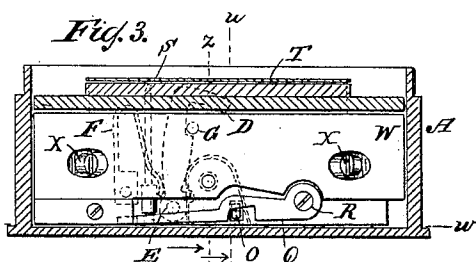
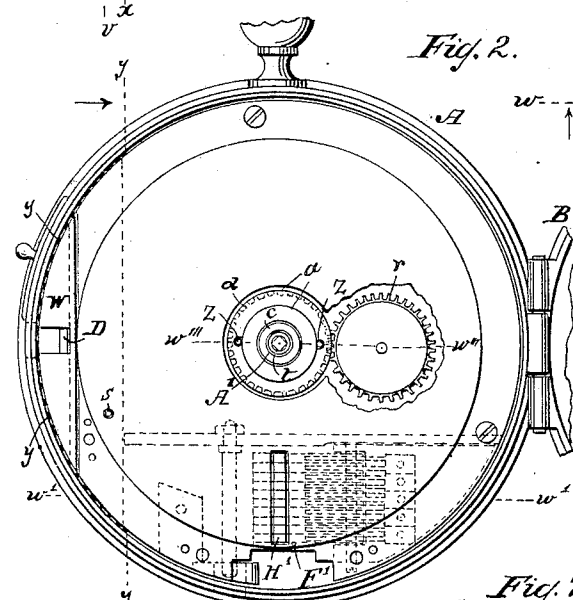
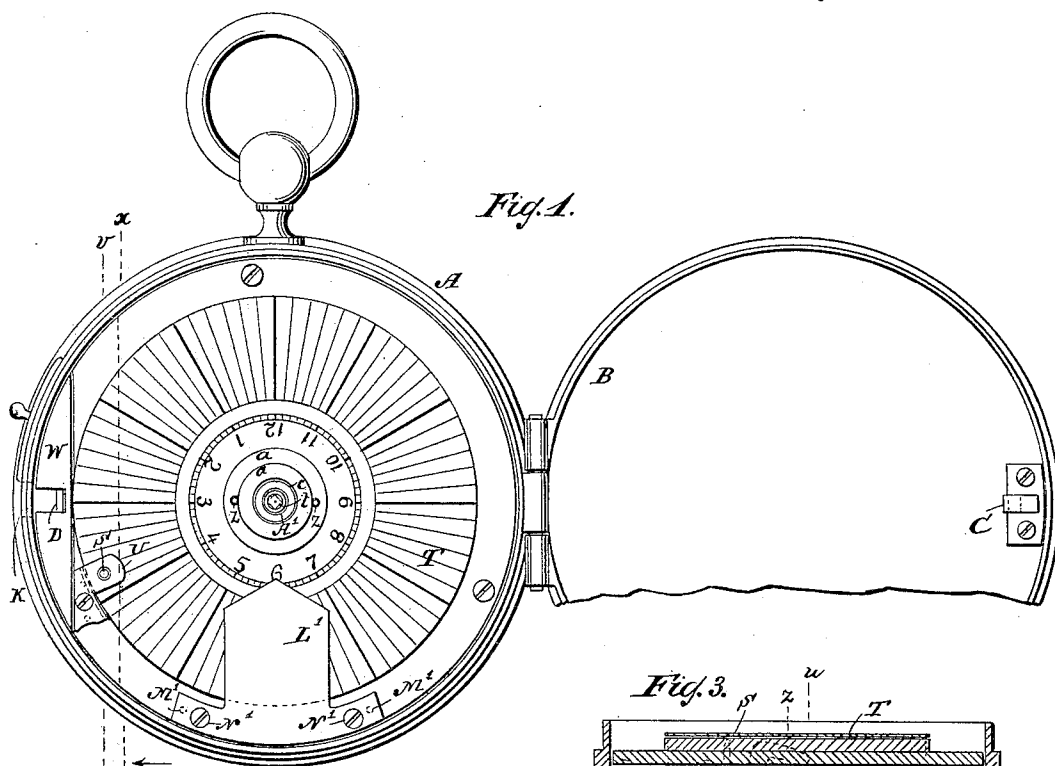
(No Model.)

2 Sheets—Sheet 1.

J. MATUSCH.
WATCHMAN'S TIME DETECTOR.

No. 522,911.

Patented July 10, 1894.



WITNESSES:

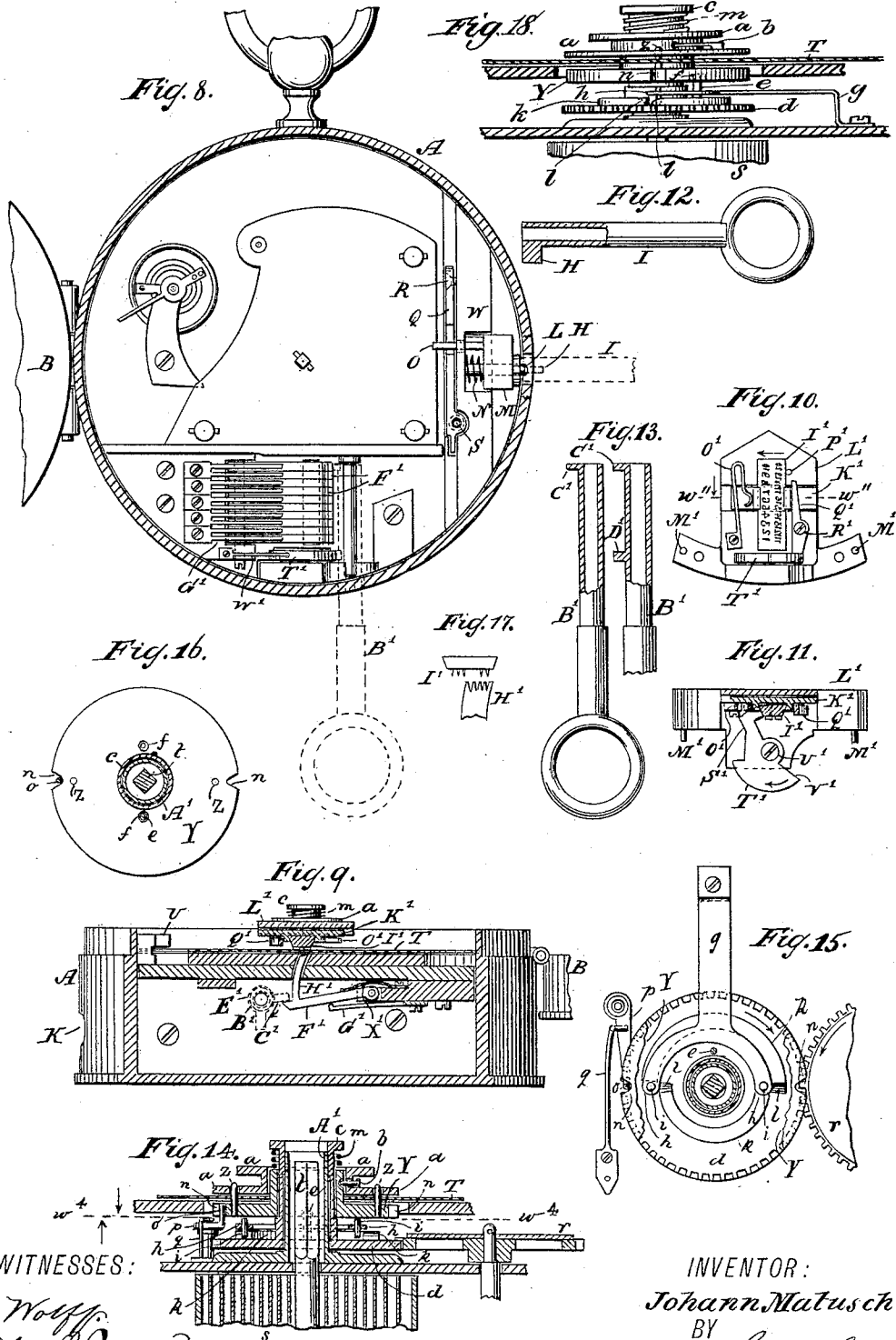
E. Wolff.
Chas. C. Poensgen

INVENTOR:
Johann Matusch.
BY *Hauß & Hauß*
ATTORNEYS.

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UNITED STATES PATENT OFFICE.

JOHANN MATUSCH, OF DANVILLE, VIRGINIA.

WATCHMAN'S TIME-DETECTOR.

SPECIFICATION forming part of Letters Patent No. 522,911, dated July 10, 1894.

Application filed August 17, 1893. Serial No. 483,373. (No model.)

To all whom it may concern:

Be it known that I, JOHANN MATUSCH, a subject of the Emperor of Austria-Hungary, residing at Danville, in the county of Pittsylvania and State of Virginia, have invented new and useful Improvements in Watchmen's Time-Detectors, of which the following is a specification.

This invention relates to an improvement in watchmen's time detectors and the invention consists in the novel features of construction set forth in the following specification and claims and illustrated in the annexed drawings, in which—

Figure 1 is a face view of the detector open. Fig. 2 is a view similar to Fig. 1 with parts removed to expose underlying portions. Fig. 3 is a section along $x x$ Fig. 1. Fig. 4 is a section showing part of the case cut off as indicated by the curved line $y y$ Fig. 2. Fig. 5 is a section along $z z$ Fig. 3. Fig. 6 is a section along $u u$ Fig. 3. Fig. 7 is a section along $v v$ Fig. 1. Fig. 8 is a section along $w w$ Fig. 3. Fig. 9 is a section along w' Fig. 2. Fig. 10 is a detail inverted plan view of the number plate. Fig. 11 is a section along w'' Fig. 10. Fig. 12 is a detail view of a key for unlocking the case. Fig. 13 shows two keys for effecting a marking of the dial. Fig. 14 is a section along w''' Fig. 2. Fig. 15 is a section along w^4 Fig. 14. Fig. 16 is a section along w^4 Fig. 14 looking in the opposite direction from that in Fig. 15. Fig. 17 shows a modified marking arrangement; and Fig. 18 is a sectional view taken on the line w^5-w^5 , Fig. 14.

In the drawings the letter A indicates a case or housing to which is hinged a cover B adapted to be held locked by its hook or catch C being engaged by a hook or catch D (Figs. 3 and 4). This hook D is pivoted or jointed at E and is moved to its locking position by spring F holding the hook D toward the stop G. In order to allow the cover to move to its closing or opening position the hook D must be held back against the force of spring F by means of the ward H on key I (Fig. 12) and which key is inserted through key hole K in case A.

To lock or unlock the cover B the key I is inserted and turned until its ward H strikes hook D to swing the latter against the press-

ure of spring F so that the hook C can pass the hook D either in the opening or closing movement of the cover or lid B. When the key I is withdrawn the spring F returns hook D to its engaging position. The key I when inserted slips onto the pin L serving as an axis for the key when turning and in being inserted said key I presses on a plate M sliding on pin L so that said plate M is slid inward against the resistance of spring N.

The plate M is provided or formed integral with an arm O having a shoulder or ridge P (Fig. 6) and the sliding of plate M on pin L causes the shoulder or elevation P to pass under arm Q so as to swing said arm upward about its pivot or joint R. On the arm Q is a pin or marker S which by the upward movement of arm Q is caused to mark or prick dial T so as to indicate that the key I has been inserted, thus enabling the detection of any attempted tampering or opening of the lid B by unauthorized persons.

The dial T is shown in form of the well known paper dial of watchmen's time detectors and said dial T at part of its edge passes under the overhanging arm U having an eye or hole for the passage of pin or pricker S. This arm U holds down that part of the dial edge where the pricker S strikes so as to enable the latter to thoroughly pierce or mark the dial. When relieved the pricker S is moved away from dial T by the spring V (Fig. 7).

The locking mechanism and the marking mechanism or pricker S are advantageously inclosed in a separate housing W secured by screws or fastenings X to a suitable part of case A.

The dial T is rotated by clock work as well known. Said dial is placed on a rotating drum Y (Fig. 14) having pegs Z which pierce or penetrate the dial when placed on drum Y so that the dial will rotate with the drum. The dial is held down by a sleeve a slipped onto drum Y and having a catch or tongue b which snaps or springs into a suitable notch in drum Y so as to hold the sleeve a against accidental dislocation.

The drum Y is loosely mounted on a sleeve c rising from gear wheel d which is rotated as hereinafter described. From gear wheel d rises a pin e which by engaging one of the

holes *f* (Fig. 16) in drum *Y* will cause said drum to rotate with the wheel *d*. As these detectors are generally in use only at night, there is no need of having the dial *T* rotate during the day time, and by having such dial at rest in day time a dial can be made to last longer. By having the pin or catch *e* rotate the drum *Y* say for example for twelve hours and then having said drum lifted automatically out of engagement with pin *e* and having said drum stand still while the pin *e* rotates through the distance from one hole *f* to another, or say for twelve hours, and then allowing the drum *Y* to again drop so as to bring a hole *f* into engagement with pin *e*, the drum *Y* with dial *T* will alternately move and stand still. By having the dial divided for example into sections of twelve hours each, the markings for each period of twelve hours can be kept separate on the dial.

The drum *Y* is moved out of and into action by the following releasing mechanism: Fixed to one of the frame plates of the device is a spring arm *g* (Fig. 15) having its end forked as at *h h* (Fig. 14) and provided with pins *i*. The tendency of spring arm *g* is to hold its pins down toward the wheel *d*. On said wheel are rims or elevations *k* having their ends *l* inclined so that as the wheel *d* rotates the inclines *l* will respectively raise the pins *i* until the latter rest on the rims *k*. On being thus elevated the pins *i* lift the drum *Y* so as to raise the latter clear of the pin *e* thereby disconnecting drum *Y* from wheel *d*, leaving the latter to continue its rotation while drum *Y* stops. When the rims *k* have passed from under pins *i* the spring arm *g* presses the pins *i* toward wheel *d* and the spring *m* (Fig. 14) presses drum *Y* toward the pin *e* on wheel *d* so as to make a hole *f* of drum *Y* engage said pin *e* when the drum again begins to rotate.

On the edge of drum *Y* are notches *n* adapted to be engaged by stop *o* when the drum *Y* is freed from pin *e* so that the drum *Y* is held against accidental movement while freed from pin *e*. The stop *o* projects from swinging arm *p* pressed by spring *q* toward drum *Y* and when the pin *e* engages into a hole *f* the force of the rotating wheel *d* is sufficient to cause the drum *Y* to rotate so as to press stop *o* against the resistance of its spring *q* out of notch *n*. Said notches *n* are inclined or V-shaped to allow the stop *o* to ride into and be pressed out of the notches *n* with sufficient ease while at the same time said stop *o* when in engagement will hold the drum *Y* against accidental shifting.

The gear wheel *d* is rotated by gear wheel *r* driven by any suitable clock work train of wheels (not shown) actuated by the spring or motor *s* whose stem *t* is adapted for a key to wind up the spring or actuator *s*. The stem *t* projects through a sleeve *A'* rising from a frame plate of the device and about this sleeve *A'* rotates the wheel *d*.

The visits or rounds of the watchman are

recorded by means of keys *B'* (Fig. 13). Two sets of keys are shown each set having what may be called a main ward *C'*, and one set having also what may be called a supplemental ward *D'* for a purpose presently explained. The keys *B'* are to be inserted through the key hole *E'* (Fig. 9) in case *A*. When turned the ward *C'* will act on swinging arm *F'* so as to draw or move the latter against the action of spring *G'* until the ward *C'* has passed and freed arm *F'* when the spring *G'* will cause said arm *F'* to snap or fly toward the dial *T* the spur or prong *H'* on arm *F'* striking the dial *T* so as to force the latter against the plate *I'* carrying a number or mark which by the impact is dented or reproduced on the dial. By having a series of arms *F'* and a series of numbers on the plate *I'*, each arm adapted to strike its own distinctive number, the records made by the keys can be varied by changing the location or size of ward *C'* so that each key will actuate a different arm *F'* or a different combination or number of arms.

The plate *I'* is shown as having two sets or rows of numbers (Fig. 10). By properly shifting said plate the spurs or strikers *H'* will strike the dial *T* against one or another of the series of numbers. The plate *I'* can be shifted as follows: Said plate is shown secured to a slide *K'* dovetailed or set into a way in the overhanging arm *L'* secured to a frame plate of the device by dowels or pins *M'* (Figs. 1, 10 and 11) and screws or fastenings *N'*. A spring *O'* on plate *I'* holds the slide *K'* and plate *I'* against stop *P'*, the plate *I'* now having one row of its numbers, as for example the row 1 to 10 in position to be struck by the prongs or hammers *H'*. When the plate *I'* is shifted sufficiently against the pressure of spring *O'* the row of numbers 11 to 20 is brought into position to be struck by the prongs *H'*. The shifting of the plate *I'* is effected by the lever *Q'* fulcrumed at *R'* to arm *L'*. Said lever *Q'* is arranged to be swung by the one arm of lever *S' T'* fulcrumed at *U'* to plate *L'*. The lever arm *T'* has an inclined face *V'* placed in the path of the supplemental ward *D'*. When a key of the set having this ward *D'* is inserted and turned the ward *D'* gliding over face *V'* will swing lever *S' T'* and lever *Q'* so as to move plate *I'* against the force of spring *O'* into position for the row of numbers 11 to 20 to be struck by the prongs *H'*. The lever *S' T'* when free is returned to its starting point by spring *O'* pressing plate *I'* back against stop *P'*. A spring *W'* (Fig. 8) prevents the lever *S' T'* from dropping or swinging out of contact with lever *Q'* but said spring *W'* is not strong enough to overcome the action of spring *O'*. The arms *F'* as already noticed are snapped by springs *G'* toward the dial *T* and after having struck the dial the arms *F'* are returned by springs *X'* (Fig. 9) to the starting point so as not to press on the dial.

The numbers instead of merely denting the

dial might be made to pierce the dial, the numbers for this purpose being composed of suitably arranged piercers or needle points either on plate I' or on prongs H', and the prongs H' or plate I' being then in that case suitably dented or pitted for the entrance of the needle points to allow the latter to effectively pierce the dial as seen in Fig. 17. Of course the marks made on the dial are not necessarily numbers since for example letters or other distinguishing impressions might be employed for marking the dial.

The invention can be applied to a variety of clocks or detectors as for example, portable, electric, or others as readily understood.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a case provided with a lock or catch, a key, a dial, and a marker or point, of a movable arm or shoulder P arranged in the path of the key, and devices operated by the arm or shoulder for actuating the marker or point, substantially as described.

2. The combination with a case provided with a lock or catch, of a key, a dial, a marker or point, a movable support Q for the marker, a movable arm or shoulder P made to actuate the point, and a spring N for moving the arm or shoulder away from the point carrying support, said arm being placed in the path of the key to be actuated by the latter substantially as described.

3. The combination in a watchman's time detector, of a drum carrying a dial, driving mechanism for rotating the drum, and automatically operating mechanism for intermittently shifting the drum out of and into operative connection with the said driving mechanism, substantially as described.

4. The combination with a dial of an actuating mechanism or clock work for the dial, a pin or catch *e* for connecting the dial and actuating mechanism, a releasing arm *g* for moving the dial out of engagement with the actuating mechanism, and a cam or rim *k* for actuating the releasing arm substantially as described.

5. The combination with a dial of an actuating mechanism or clock work to which the dial is releasably connected, a spring arm *g* normally moved toward the actuating mechanism, and a cam or rim *k* for moving the arm with the dial away from the actuating mechanism substantially as described.

6. The combination with a dial of an actuating mechanism or clock work for the dial, a spring arm *g* normally moved toward the actuating mechanism and having a forked portion placed in proximity to the dial, and separate cams or rims *k* for the branches of said fork for moving the latter with the dial away from the actuating mechanism substantially as described.

7. The combination with a dial of an actuating mechanism or clock work for the dial, a releasing mechanism substantially as described for intermittently starting and stopping the dial, and a detent or stop *o* for holding the dial when stopped substantially as described.

8. The combination with a moving dial of a movable or shiftable number or mark plate I' and a hammer or striker H' for moving the dial toward the plate substantially as described.

9. The combination with a moving dial of a movable or shiftable number or mark plate I', a hammer or striker H', for moving the dial toward the plate and a key for actuating the hammer and plate substantially as described.

10. The combination with a moving dial of a movable or shiftable number or mark plate I', a hammer or striker H', actuating levers for the plate, and a supporting arm F' for the hammer, said levers and arm F' being adapted for the engagement of a key for actuating the hammer and plate substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JOHANN MATUSCH.

Witnesses:

O. F. STURMER,
CHAS. J. HUEG.