

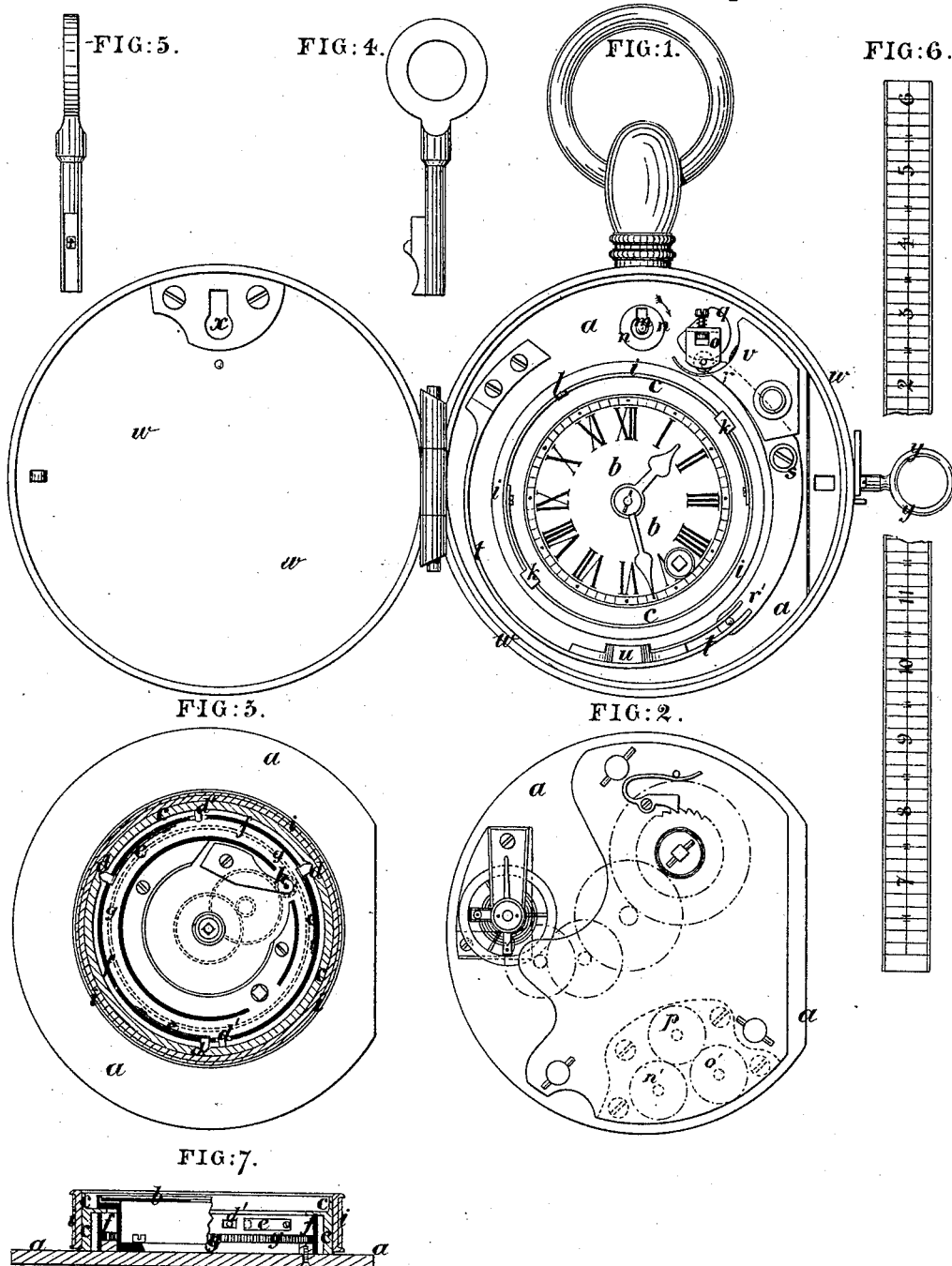
(Model.)

3 Sheets—Sheet 1.

W. BAUER
WATCHMAN'S TIME DETECTOR.

No. 305,882.

Patented Sept. 30, 1884.



Witnesses
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Hamilton D. Turner

Inventor
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(Model.)

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FIG. 8.

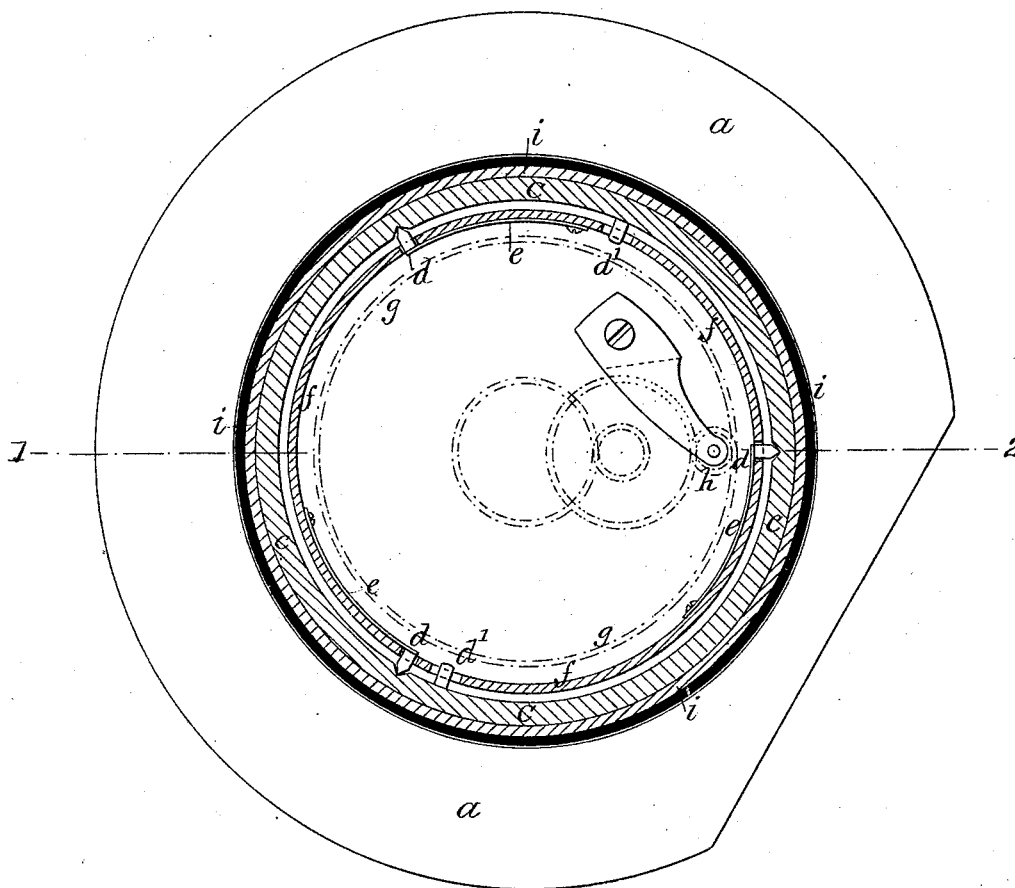
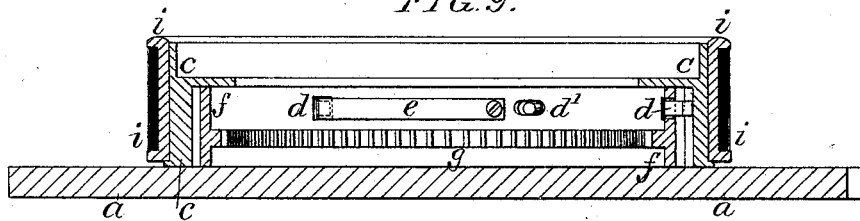


FIG. 9.



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FIG. 10.

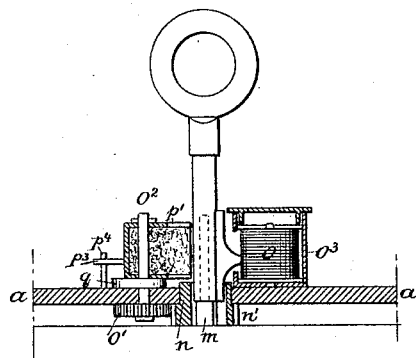
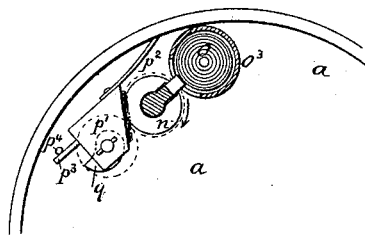


FIG. 11.



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UNITED STATES PATENT OFFICE.

WILHELM BAUER, OF VIENNA, AUSTRIA-HUNGARY.

WATCHMAN'S TIME-DETECTOR.

SPECIFICATION forming part of Letters Patent No. 305,882, dated September 30, 1884.

Application filed September 22, 1882. (Model.) Patented in England July 27, 1882, No. 3,555; in Germany September 16, 1882, No. 21,794; in Austria October 31, 1882, No. 28,472, and in Hungary October 31, 1882, No. 43,495.

To all whom it may concern:

Be it known that I, WILHELM BAUER, a subject of the Emperor of Austria, and residing at Vienna, in Austria-Hungary, have invented Improvements in the Construction of Apparatus known as "Watchmen's Tell-Tales," of which the following is a specification.

This invention relates to the construction of "watchmen's tell-tales" or clocks, designed for the purpose of indicating, on a strip of paper or other material, the times at which a watchman has visited certain parts of his rounds during the night, one of the advantages of the improved construction being that it precludes the possibility of the indication being tampered with, the mechanism for producing the marks not being (as in other clocks of this kind) in the clock itself; but the mark is produced by a type projecting from the bit on a key, in connection with a self-acting color-box, and thus the number of stations may be increased by simply providing a correspondingly-increased number of keys without any alteration to the clock being necessary.

The invention will be readily understood from the following description thereof, and on reference to the accompanying drawings—

Figure 1 is a plan view of the apparatus with the case open. Fig. 2 is a plan view of part of the works beneath the plate *a a*. Fig. 3 is a sectional plan view of part of the works above the said plate *a a*, showing the method of fixing and actuating the ring which carries the slip of paper (shown at Fig. 6) upon which the indications are to be made. Figs. 4 and 5 are views of one of the marking or indicating keys. Fig. 7 is a transverse section of Fig. 3, with a part of the ring which supports the dial removed. Fig. 8 is an enlarged sectional plan view similar to Fig. 3, but with the dial-plate and supporting-ring removed. Fig. 9 is a transverse section of the same on the line 1 2, Fig. 8. Fig. 10 is a plan view, partly in section, of a modified form of inking device, and Fig. 11 a vertical section of the same.

The clock has a time-dial, *b b*, and two fingers, like an ordinary clock, and round the dial is fitted a flat ring, *c c*, connected to the works of the clock by springs and revolving

at the same speed as the hour-hand. This is effected in the following manner: The ring *c c* has small wedge-shaped grooves or notches *d d* formed in its inner surface, into which notches fit a similar number of projecting wedges, each fixed upon springs *e e*, attached to a second ring, *f f*, which is provided with an internally-toothed spur-wheel, *g g*, driven by the pinion *h*, (see Fig. 3,) which is actuated from the hour-hand mechanism. The projections *d' d'* on the ring *c c*, passing through slots in the ring *f f*, limit the springing motion of the said ring *c c*.

Outside the ring *c c* is a movable ring, *i i*, held in place by spring-clips *k k*, Fig. 1, and a notch in the ring *c c*, into which fits a projection or pin, *l*, on the ring *i i*. The outer surface of this ring *i i* is provided with a padding of thin india-rubber or other suitable material, over which is fixed the slip or band of paper upon which the indications are to be marked. This slip (see Fig. 6) is marked with a printed division of hours and minutes corresponding with those on the dial, and the types on the keys are so arranged that they can print over or under a line which runs the length of the slip in the center; or in some cases, where the stations are very numerous, more than one longitudinal line may be marked on the slip or band, and thus prevent the marks from the keys from running into one another and being confused.

A key-pin, *m m*, is fixed in the case in such a position that upon inserting a key, made as shown at Figs. 4 and 5, and turning it round, it makes an impression of the type (which it carries) on the slip in revolving, itself receiving ink or color from a self-acting inking pad or roller, also put in motion by the key in the following manner: The key fits into the boss *n n* of a spur-wheel, *n' n'*, (see Fig. 2,) beneath the plate *a*, and causes it to revolve as it (the key) turns on the pin *m m*. The inking apparatus *o o* is driven in the same direction by means of the spur-wheel *o' o'* and the carrier-wheel *p p*, Fig. 2.

Upon the axle of the inking apparatus *o o* is fixed an eccentric, *q q*, against which works one end, *r*, of a strong lever, *r r'*, the pivot or fulcrum of which is at *S*. (See Fig. 1.) The other end, *r'*, of this lever is provided with a

pin held between two arms at the end of a strong spring, *tt*, upon which is fixed a block, *uu*. As the key is turned in the direction of the arrow, the inking apparatus *oo* meets it when it has made about a quarter of a revolution, and supplies color to the type on the bit of the key, which, as it revolves still farther, causes the eccentric or cam *qq*, fast thereon, to revolve also, thus pushing away the end *r* of the lever and causing the end *r'* to move outward from the center of the clock. When the key has made half a revolution and the type is facing the indicating-ring *ii* and the slip of paper, the eccentric or cam *qq* has pushed away the end *r* of the lever to its farthest point, and at the moment the lever is released by the flattened part of the eccentric or cam and springs back somewhat violently the block *uu* on the spring *tt* knocks against the ring *ii*, causing it to spring slightly out of its position and come into contact with the type on the key, and thus receives the impression therefrom. It immediately returns to its normal position by the action of the springs *ee*, which tend to keep the ring in the concentric position, Fig. 8, but allow a limited vibration when it is struck by the block *u* on the spring *t*, as already described. The key continues its revolution until it and the inking-rollers have reached their first positions, the latter having received a further supply of color from the pad of the color-box *vv*.

Instead of employing a positively-rotating inking-pad, I prefer, however, to employ the inking device illustrated in Figs. 10 and 11. In this case, as before described, the key is adapted to fit into the boss *n* of a spur-wheel, *n'*, causing it to revolve when the key is turned on its fixed center-pin *m*. This spur-wheel *n'* gears in this case directly into the pinion *o'*, to the axis *o''* of which is secured the cam *q* for operating the lever *r*; but instead of securing the inking-pad *o* to this axis *o''* it is made in the form of a spool free to turn in a cylindrical case, *o''*, having an open side next the key, and fixed to the plate *a* on the opposite side of the key-pin from the cam *q*. On this axis *o''* is freely mounted a yielding wiping-pad, *p'*, which consists of a case containing some fibrous material for the key-number to come into contact with after it has made its impression. This pad is acted on by a spring, *p''*, which tends to keep the pin *p''* on the pivoted case in contact with the fixed pin *p'* on the plate *a*, but yielding under the pressure of the key-number as the key is turned. The keys may be so arranged that they will print any other signs than numbers, and different keys may be used by different watchmen, which would

be especially useful in large establishments where more watchmen are kept than one.

It will be seen on the drawings that the whole mechanism is inclosed in a locked case, *ww*, and the watchman can have no access whatever to any portion thereof, except the key-hole *xx*, by inserting one of the keys in which and turning it round it will distinctly and in an indelible ink or color mark its number or other sign on the minute of time, as shown, on the slip, and it will therefore be impossible to tamper with the impression thus obtained, as the slip can only be removed by the person who possesses the key *yy* of the outside case. The slips *f*, pasted subsequently in a reference-book, will at all times afterward admit of investigation, like a printed book.

The watchmen's stations can, in conformity with the above-described arrangements, be multiplied to an unlimited number without interfering with one another, which is not the case with tell-tale clocks of the ordinary construction; nor will the operation of the keys in any way interfere with the going of the clock.

The slips are preferably made of paper and fixed onto the ring *ii* by small pins, and the keys are of a metal that will not rust.

I claim as my invention—

1. In a watchman's time-detector, the combination of an impression-key and a spring-ring, *c*, carrying the marking-slip, and free to vibrate or be moved laterally, as well as to rotate, with a spring-lever adapted to strike the said ring against the impression-key, substantially as set forth.
2. The combination of an impression-key and a rotary spring-ring, *c*, carrying the marking-slip, and free to vibrate or be moved laterally, with a curved lever, *r r'*, spring *t*, and an operating-cam, *q*, acted on by the key to cause the vibration of the ring at the moment of giving the impression.
3. The combination of the rotary ring carrying the marking-slip and a marking-key, with an inking apparatus, *o*, for the key, substantially as described.
4. The herein-described key for a watchman's time-detector, said key having a bit or bits provided with projecting type to make the impression on the slip, substantially as set forth.

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

W. BAUER.

Witnesses:

WILLIAM HÜNING,
JAS. THANNUP.