No. 816,310. PATENTED MAR. 27, 1906.

W. I. FOX.

LOCK INDICATOR.

APPLICATION FILED NOV. 11, 1904.

Fig. 1.

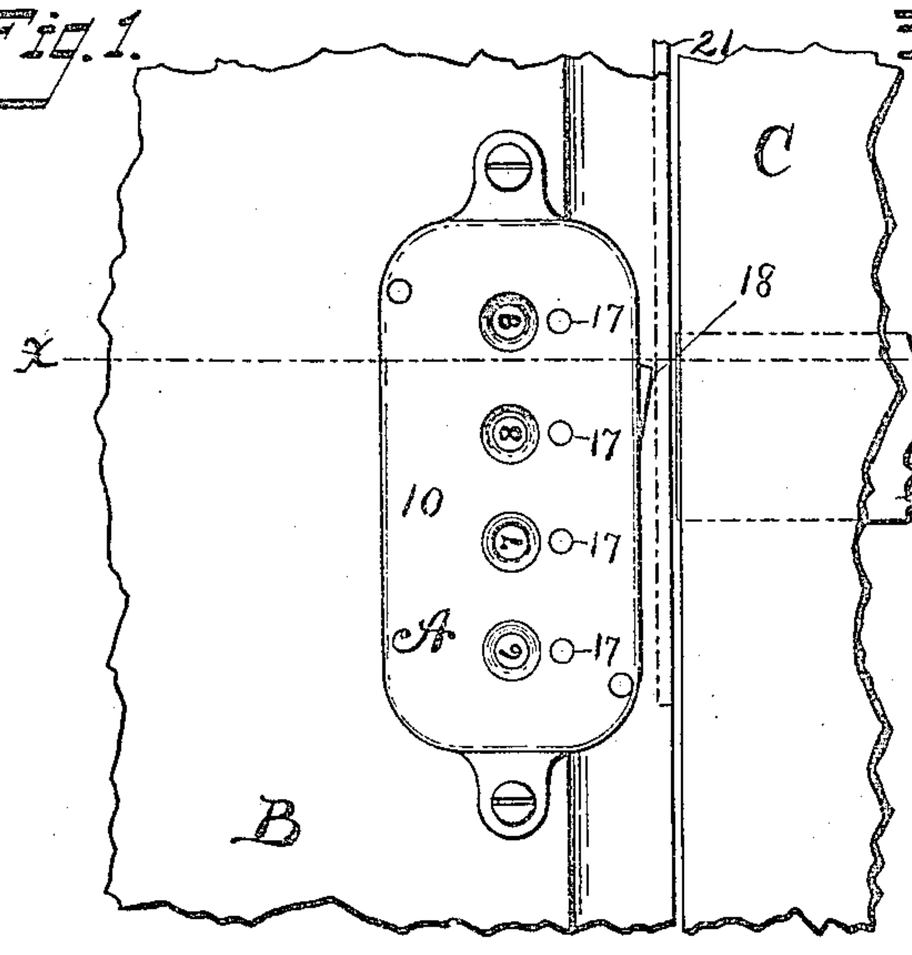


Fig. 2.

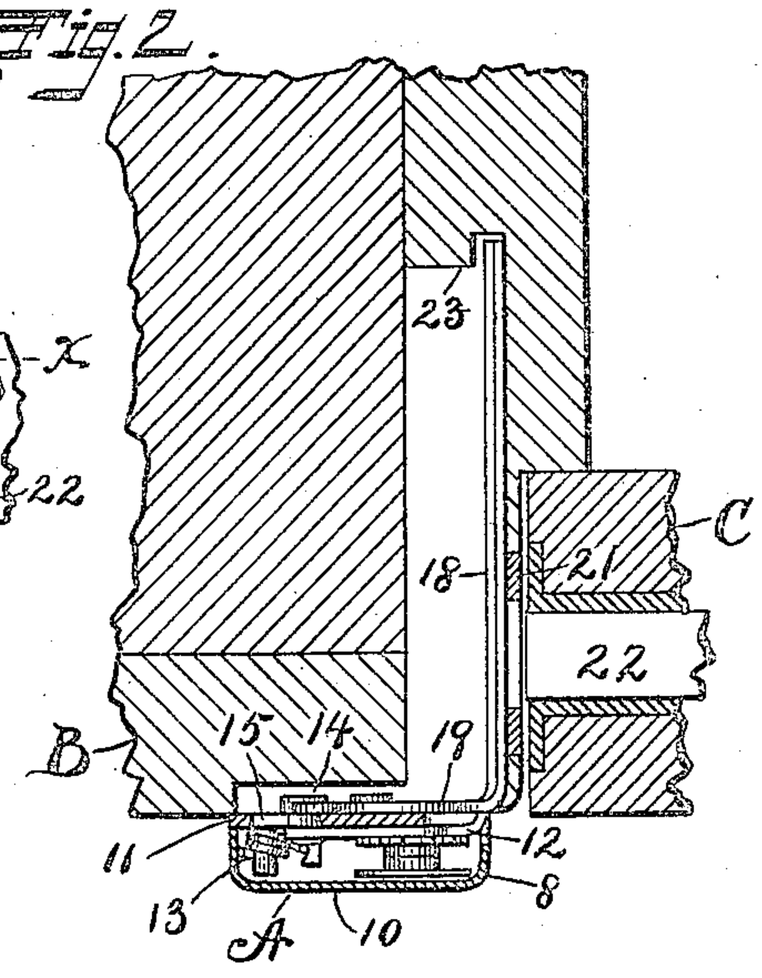


Fig. 3.

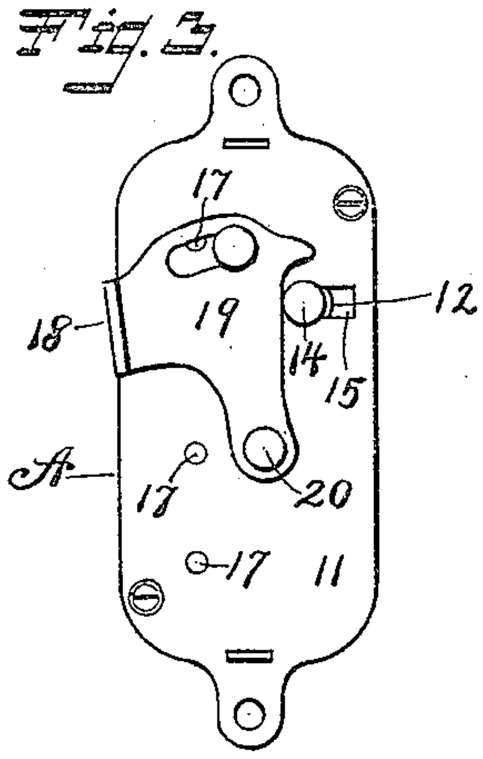
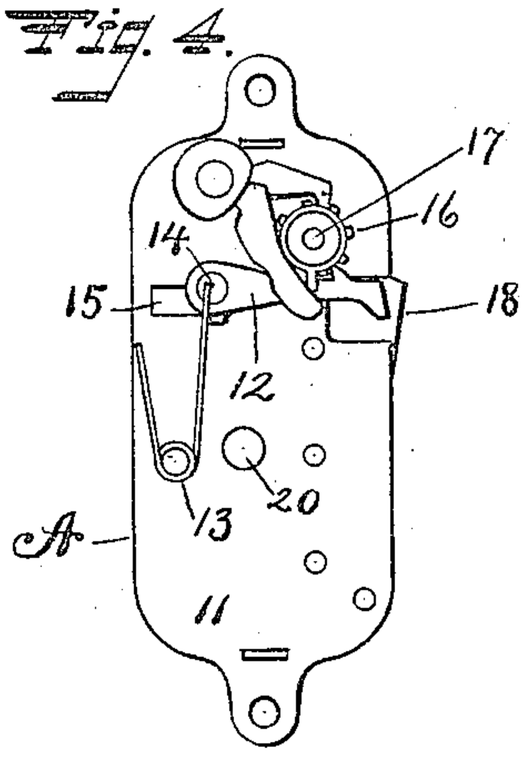


Fig. 4.



Witnesses.

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LOCK-INDICATOR.

No. 816,310. Specification of Letters Patent. Patented March 27, 1906.

Application filed November 11, 1904. Serial No. 232,327.

To all whom it may concern:

Be it known that I, WASHINGTON I. FOX, a citizen of the United States, residing at Burlington, in the county of Chittenden and State of Vermont, have invented certain new and useful Improvements in Lock-Indicators, of which the following is a specification.

My invention relates to improvements in lock-indicators; and the object of my improvement is to provide an indicator for an ordinary door-lock to show whether or not it has been tampered with after having been locked by the proper custodian.

In the accompanying drawings, Figure 1 is a front elevation of my indicator, together with a portion of the door and door-casing to which it is applied in position to be acted upon by the lock-bolt. Fig. 2 is a horizontal section of the same on the line *x x* of Fig. 1, together with a plan view of a portion of an ordinary lock-bolt. Fig. 3 is a detached rear view of the indicator. Fig. 4 is an inner face view of the rear plate of the indicator and enough of the internal mechanism to show the connection of the operating-arm therewith.

A designates an indicator, which is of an ordinary construction and for which any other ordinary indicator may be substituted as an equivalent therefor. In the particular example shown the indicator comprises four dial-wheels 6, 7, 8, and 9, mounted on shafts 17, a box-like case 10, a rear plate 11, an actuator 12, a spring 13 for returning the actuator, and ordinary connecting-gearing for imparting movement to the several dials through the said actuator. The dial-wheels each have the nine digits and a cipher marked thereon in position to show through proper openings in a case in a manner too well known to require a specific description, so that when the actuator is moved a given distance the first dial is moved one-tenth of a revolution and the combined dials read together indicate a different number every time the actuator is moved a full stroke. One end of this actuator 12 is mounted on a headed stud 14, which stud moves in the slot 15 of the rear plate 11 and permits the said actuator to reciprocate longitudinally and engage the wheel 16 on the dial-shaft 17 of the first dial-wheel 9 to move that wheel one tooth or division, as in ordinary indicators or counting-registers of this class. The dial is removed from its shaft 17 in Fig. 4 in order to more clearly show the other parts. On the back of the plate 11 I arrange an angle-plate, which constitutes a combined operating arm and plate. The operating-arm 18 extends rearwardly from the rear plate 11 at substantially a right angle thereto while the operating-plate 19 is parallel to the said rear plate 11, to which it is pivoted by means of the pin 20, with one edge of the said operating-plate in a position to engage the projecting end of the headed stud 14 and push the actuator in the direction to operate the wheel 16, the said actuator and operating plate and arm being returned by the spring 13.

The indicator is mounted on the door-casing B with its operating-arm 18 extended inwardly just inside of the bolt-mortise in the keeper 21 for the lock-bolt 22 on the door C, the said lock-bolt being that of an ordinary lock and adapted to be thrown with a key in the ordinary manner. The wood may be cut away to permit the parts that are sunk below the surface to operate properly. I prefer to make the operating-arm quite long, so as to make it applicable to a very thick door. If applied to a thin door, the end may be cut off; but I have purposely left it long in the drawings and have also left a supporting-abutment 23 in the wood for the outer end of this long arm to strike against. When the lock-key is turned to throw the lock-bolt 22 into the keeper 21, the end of the said bolt will engage the operating-arm and move the actuator, so as to operate the first dial-wheel and indicate one more on the indicator every time that the door is locked. When the lock-bolt is withdrawn to unlock the door, the spring 13 returns the actuator 12 and operating-arm 18. If the lock-bolt engages the operating-arm at a point adjacent to the rear plate 11, the said arm will be forced back to move the actuator without any supporting-abutment for engagement with its outer end. If the point of engagement is far from the rear plate 11 and the supporting-abutment 23 is present, the operating-arm being resilient will bend until its outer end engages the said abutment, and after that the pressure of the lock-bolt will move the plate end of the operating-arm while its outer end is thus resting on the said abutment. The resiliency of the metal permits this arm to so act in connection with this abutment, whereas without the

said support if the bolt acted on the outer end of the arm 18 the said arm might be deflected far enough to permit the lock-bolt to be thrown without operating the actuator.

By my improvement the indicator may be applied to an ordinary mortise door-lock, and when applied a record may be kept of the indicator at the time of locking the door, so that the custodian of the key may know by the indicator if the lock-bolt has been operated during his absence.

I claim as my invention—

1. An indicator for mortise-locks comprising a box-like case adapted to be placed on the face of a door-casing adjacent to the lock-bolt keeper, a rear plate for the said case, a counting-register, an actuator, and a combined operating plate and arm movably mounted on the said rear plate of the case in position to have the operating-plate engage the said actuator, and with the operating-arm extending rearwardly across the path of the lock-bolt just inside the bolt-mortise in the lock-bolt keeper.

2. An indicator for locks, comprising an ordinary counting-register having a rear plate and an actuator, an operating-arm projecting rearwardly from the said rear plate, and a right-angular plate by which the said operating-arm is movably mounted on the rear of the indicator in position to have the said arm acted upon by the lock-bolt and to have the said plate act upon the said actuator.

3. An indicator for locks, comprising a counting-register, a resilient operating-arm connected with the said counting-register in position to be acted upon by a lock-bolt, an abutment for the outer end of the said operating-arm to act upon and prevent undue deflection and a part carrying the said abutment and supporting it in its proper position relatively to the said operating-arm.

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