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J. F. PIXLEY.

REGISTERING LOCKING BOLT FOR DOORS, &c.

APPLICATION FILED JAN. 30, 1905.

Fig. 1.

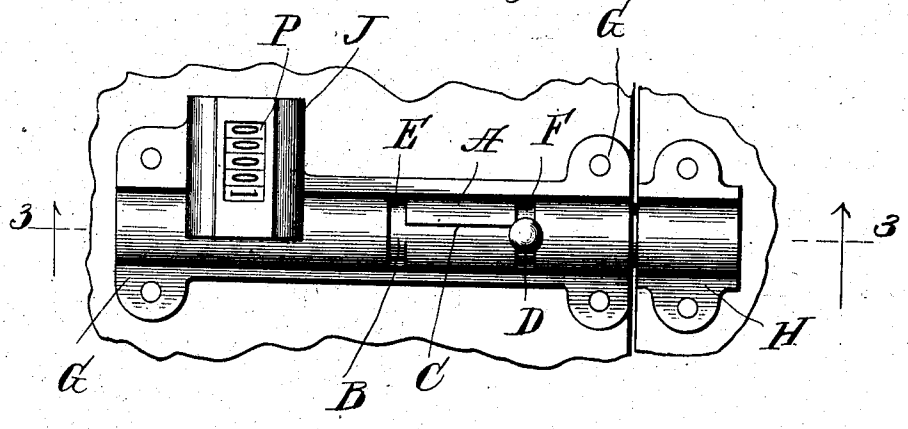


Fig. 2.

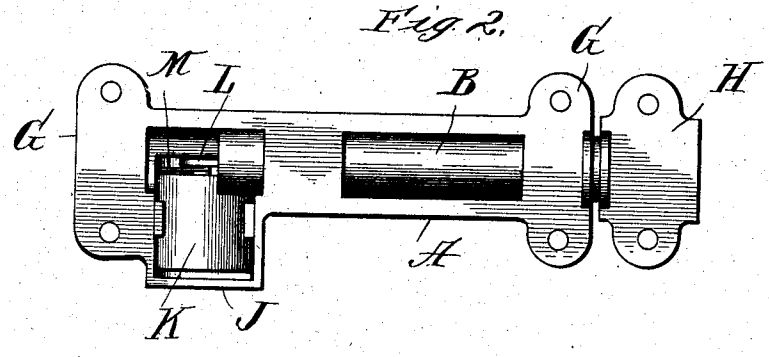
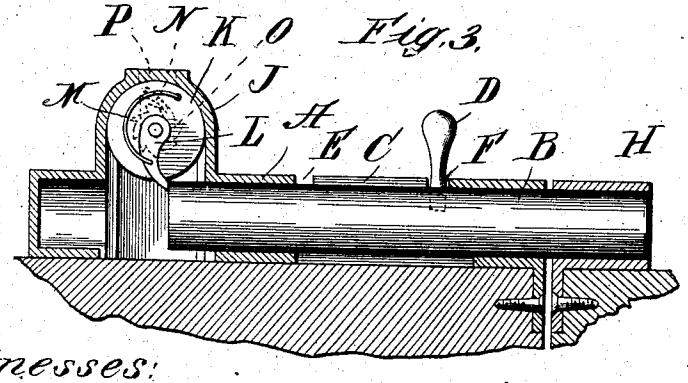


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

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REGISTERING LOCKING-BOLT FOR DOORS, &c.

No. 827,177. Specification of Letters Patent. Patented July 31, 1906.

Application filed January 30, 1905. Serial No. 243,189.

To all whom it may concern:

Be it known that I, JOHN F. PIXLEY, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented a new and useful Improvement in Registering Locking-Bolts for Doors or other Closures, of which the following is a specification.

This invention relates to registering locking-bolts for doors or other closures.

The object of the invention is to provide a construction of lock for doors or other closures wherein the locking-bolt is moved into and out of locking position and the movement thereof registered and wherein the bolt when in either projected or retracted position may be shifted or moved so as to be retained in such position without interfering with the registering mechanism.

Other objects of the invention will appear more fully hereinafter.

The invention consists, substantially, in the construction, combination, location, and relative arrangement of parts, all as will be more fully hereinafter set forth, as shown in the accompanying drawings, and finally pointed out in the appended claims.

Referring to the accompanying drawings, and to the various views and reference-signs appearing thereon, Figure 1 is a view in front elevation of a registering locking-bolt embodying the principles of my invention, showing the application thereof to a door or other closure, the locking-bolt being shown in locking position and ready to be either withdrawn or shifted into position to be retained in locking position. Fig. 2 is a view of the reverse side of the bolt and its casing detached from the door or other closure. Fig. 3 is a view in longitudinal central section on the line 3 3, Fig. 1, looking in the direction of the arrows.

The same reference-sign designates the same part wherever it occurs throughout the several views.

In the accompanying drawings I have shown my invention as applied to a common form of locking-bolt adapted to be applied to a door, gate, or other closure and embodying in its general construction a bolt, a casing in which the bolt is mounted for movement both longitudinally and rotarily, the longitudinal movement of the bolt carrying the same into and out of engaging relation with respect to a keeper, the bolt-casing and keeper being secured in proper relation, the one on the door or other closure and the other on a convenient part of the jamb, sash, post, or frame in which the door or other closure is mounted. To the bolt is connected a knob or handle arranged to extend through a slot in the casing and by means of which the bolt is operated in the usual manner. The casing is slotted longitudinally to accommodate the knob or handle during the movements of the bolt into and out of locking relation. At the respective ends of the longitudinal slot in the casing are formed transverse slots to accommodate the knob or handle when the bolt is axially rocked, said transverse slots serving to receive the knob or handle, and thereby to hold the bolt in its locking or withdrawn positions, as the case may be. Associated with the locking-bolt and arranged within the casing thereof is a registering mechanism designed to register the movements of the bolt, so that the number of times the bolt is operated may be readily ascertained.

I will now specifically describe the construction and arrangement shown in the drawings and above described in general terms.

In the drawings reference-sign A is a casing having a chamber in which is received and operates a bolt B. The casing is slotted longitudinally, as at C, to permit an operating knob or handle D, which is connected to the bolt, to extend therethrough. Transverse slots E F are formed through casing A at the respective ends of slot C, said transverse slots serving to receive the handle or knob D when said knob or handle is moved in a direction transverse to the length of the bolt, and thereby serving to retain and lock the bolt against endwise movement until the knob or handle D is again brought into register with the longitudinal slot C of the casing. The casing is provided with flanges G, by means of which it may be readily secured to a door, gate, window-sash, or other closure, or to the jamb, post, frame, or the like in which such door, gate, window, or other closure is mounted. A keeper H is arranged to be secured in proper relation and alinement with respect to the casing A to receive the end of the bolt B when the latter is projected endwise from the casing, it being the purpose to secure the bolt-casing and keeper the one on the door or other closure and the other upon a convenient part of the jamb or framing in which the door or other closure is mounted.

The casing A is provided with an enlarged extension J, forming a chamber in which is mounted a suitable register mechanism K, which may be of ordinary construction of register-wheels arranged side by side and carrying numerals on the peripheries thereof, one wheel being a "units-wheel," the next a "tens-wheel," the next a "hundreds," and so on in the usual manner. An arm or finger L is pivotally mounted within the extension J of the casing and has the free end thereof arranged to extend into the path of the inner end of the bolt B, as clearly shown in Fig. 3, to be engaged by such end when the bolt is shifted longitudinally in a direction to retract the same into unlocked position, whereby said arm or finger is rocked or swung against the tension of a spring M bearing thereon. A pawl N (indicated in dotted lines) is carried by or connected with the arm or lever L to be actuated thereby when said arm or lever is rocked by the bolt. This pawl engages with the teeth of a ratchet-wheel O, (indicated by dotted lines in Fig. 3,) whereby said ratchet-wheel is rotatively displaced one step at each withdrawal movement of the bolt. By connecting this ratchet-wheel with the register-wheel of "units" denomination it will be seen that each withdrawal movement of the bolt is registered, each complete revolution of the units-wheel imparting one step of rotary displacement to the tens-wheel, and so on in the ordinary manner. The register numbers carried on the peripheries of the register-wheels may be disclosed through an opening of the extension J in the ordinary manner and as indicated at P, Fig. 1.

From the foregoing description it will be seen that I provide an exceedingly simple and compact registering device for locking bolts which is economical in manufacture and well adapted for use in connection with cheap bolts, such as are ordinarily placed on back or other doors of residences, business houses, sheds, closets, gates, windows, and the like.

While I have shown one illustrative form of my invention, it is to be understood that my invention is not to be limited or restricted to the exact details of construction and arrangement shown, as the principles thereof may well be embodied in other forms and constructions without departure from the spirit and scope of my invention.

It will be observed that in the specific construction shown only the withdrawal movements of the bolt are registered; but I do not regard this as essential, nor do I desire to be limited in this respect.

It will also be observed that when the register operating arm or finger L is engaged at the free end thereof by the end of the bolt said arm or finger is rocked or swung backwardly until its free end rides over upon the exterior surface of the bolt, thereby permitting the bolt to be turned axially to carry the handle or knob D into the transverse locking-slot E of the casing without disturbing the register mechanism, and similarly when the arm or finger occupies its normal position when the bolt is projected, as seen in Fig. 3, said bolt is free to be rocked axially without disturbing the registering mechanism so as to carry the knob or bolt D into the transverse locking-slot F.

Many variations and changes in the details of construction and arrangement of parts would readily occur to persons skilled in the art and still fall within the spirit and scope of my invention.

Having now set forth the object and nature of my invention and a construction embodying the principles thereof and having explained such construction, its purpose, function, and mode of operation, what I claim as new and useful and of my own invention, and desire to secure by Letters Patent, is—

1. The combination with a casing and a keeper, of a locking-bolt rotatively journaled and operating in said casing and adapted to be projected into or withdrawn from said keeper, an arm or finger arranged to project into the path of said bolt to be rocked when said bolt is moved endwise said arm or finger being independent of said bolt to permit rotative movement of the latter, and a registering mechanism operated by said arm or finger.

2. The combination with a casing having a cylindrical chamber, and a chambered extension, of a register mechanism arranged in the chamber of the extension, a bolt journaled to rotate axially and endwise movable in the cylindrical casing, and an arm or finger connected with the register mechanism and arranged to extend freely into the cylindrical chamber and in the path of the bolt.

3. The combination with a casing having a chamber and a chambered extension, the wall of said chamber being slotted longitudinally of the chamber of a bolt mounted for rotative and longitudinal movement in said chamber, a handle or knob connected to the bolt and extending through the slot in the casing, and a register mechanism arranged within the chambered extension and independent of the bolt to permit of the rotative movement of the latter, and adapted to be engaged by the bolt when moved longitudinally to register such longitudinal movements.

4. The combination with a chambered longitudinally and transversely slotted casing having a chambered extension, of a bolt mounted in the chamber of said casing for both rotative and longitudinal movement therein, a knob-handle connected to the bolt and extending through and operating in the slot in said casing, a registering mechanism arranged within the chambered extension of the casing and independent of the bolt to permit of the rotative movement of the latter and means arranged to be engaged and actuated

by the bolt when moved longitudinally for operating the registering mechanism to register such longitudinal movement.

5. The combination with a casing having a chamber and a chambered extension, of a bolt fitting said chamber and arranged for longitudinal and axially rotative movement therein, means for moving said bolt both longitudinally and axially, means for locking said bolt when it is moved axially, and means arranged within the chambered extension of the casing for registering the longitudinal movements of the bolt.

6. The combination of a casing having a chambered extension and a keeper, an axially-rotative bolt mounted in said casing for movement longitudinally into and out of locking relation with respect to the keeper, an arm or finger independent of but arranged to extend into the path of longitudinal movement of the bolt to be engaged and rocked thereby, a register mechanism arranged within said chambered extension and actuated by said arm or finger, and means connected with the bolt for moving the same.

7. The combination with a chambered casing having a chambered extension, a register mechanism arranged in the chambered extension, and including a spring-pressed arm or finger, said arm or finger having its free end extending into the casing-chamber, a bolt mounted in the casing-chamber, means connected to said bolt for rocking it axially and for moving it longitudinally, a keeper into and out of engagement with which said bolt is moved longitudinally, and means operative when the bolt is moved axially for holding the bolt against longitudinal movement.

In witness whereof I have hereunto set my hand, this 25th day of January, 1905, in the presence of the subscribing witnesses.

JOHN F. PIXLEY.

Witnesses:
HOWARD C. PARK,
C. W. DRAKE.