No. 742,881. PATENTED NOV. 3, 1903.

O. C. LITTLE.

LATCH.

APPLICATION FILED MAR. 11, 1903.

NO MODEL.

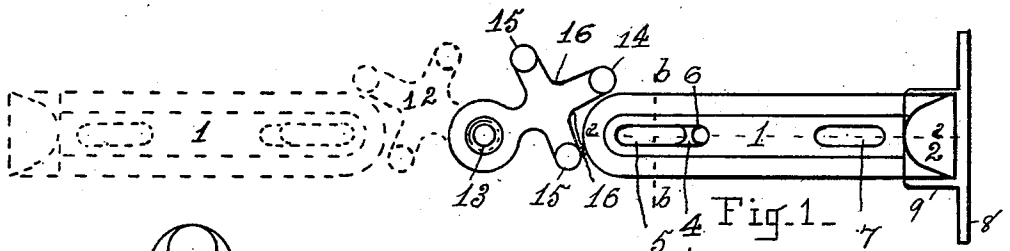


Fig. 1.

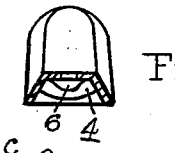


Fig. 4.

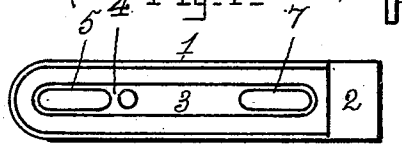


Fig. 2.

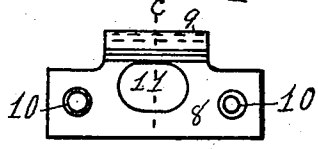


Fig. 5.

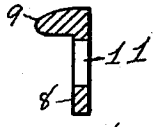


Fig. 6.

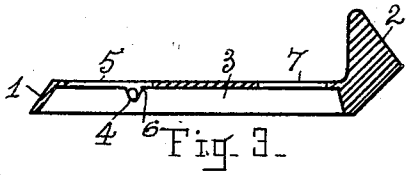


Fig. 3.

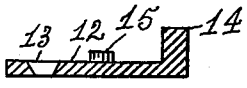


Fig. 7.

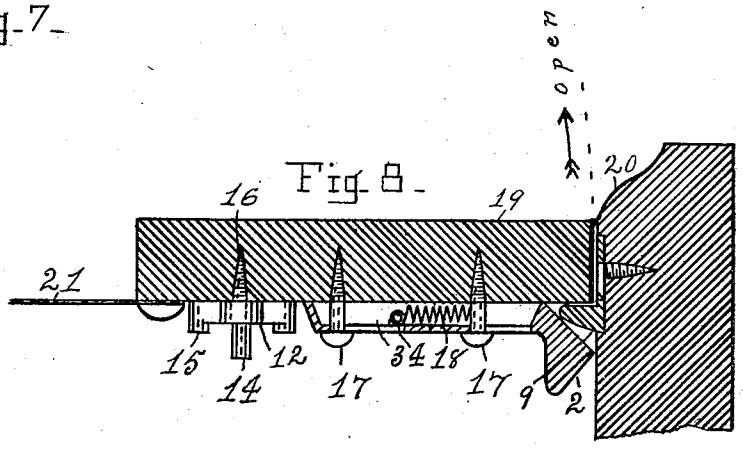


Fig. 8.

Witnesses.

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No. 742,881. Patented November 3, 1903.

UNITED STATES PATENT OFFICE.

ORTON C. LITTLE, OF MENASHA, WISCONSIN.

LATCH.

SPECIFICATION forming part of Letters Patent No. 742,881, dated November 3, 1903.

Application filed March 11, 1903. Serial No. 147,212. (No model.)

To all whom it may concern:

Be it known that I, ORTON C. LITTLE, a citizen of the United States, and a resident of Menasha, in the county of Winnebago and State of Wisconsin, have invented a new and useful Improvement in Latches, of which the following is a specification.

My invention relates to a metallic door bolt, catch, and locking-button which comprises a spring-actuated sliding bolt, a catch and button, particularly applicable to cupboard-doors and screen and storm doors of buildings, either with or without the locking-button, and are made of iron, brass, or any suitable combination of metals in a suitable mold by casting or drop-forging each piece complete and are immediately applicable upon a door upon their removal from the mold and the removal of any fins, sprues, or molding-sand and without their requiring any mechanical labor in preparing them for said use, excepting possibly in some cases the grinding smooth of the beveled end of the bolt, the bolt and catch-piece being so shaped that when applied to a door and its jamb a single push or pull will open or close the door, the invention being illustrated in the accompanying drawings, in which—

Figure 1 is a plan of the sliding bolt, an edge view of its catch, and a plan of its locking-button, at the left of which in dotted lines is shown a sliding bolt in the reverse position from the one shown in heavy lines and the locking-button turned into position for locking said second bolt. Fig. 2 is a plan of the bottom side of the sliding bolt. Fig. 3 is a vertical section longitudinally of the bolt upon the line *a a* of Fig. 1. Fig. 4 is a vertical section transversely of Fig. 1 upon the line *b b*. Fig. 5 is a plan of the catch-piece. Fig. 6 is a vertical section upon the line *c c* of Fig. 5. Fig. 7 is a vertical section of the locking-button, longitudinally thereof. Fig. 8 shows in section a door-jamb with a door-catch thereon, one of the door-stiles of a screen-door shut against or into said door-jamb, and a door-bolt of my improvement secured upon said stile, with a rear view of a locking-button arranged in the rear of said bolt for locking the door upon the inside against its being opened from the outside, said figure being upon a smaller scale than the previous figures.

Similar numerals indicate like parts in all the views.

1 indicates the door-bolt, having the end 2 beveled in two directions and the recess 3 upon its lower side, the bridge-piece 4 across said recess, the screw-hole slot 5, extending longitudinally of the bolt and over said bridge-piece, and thereby forming the perforation 6, 7 being a second screw-hole slot.

8 indicates the catch-piece, having the nose 9 and two screw-holes 10, the opening 11 being only for lessening the weight of the catch.

12 indicates the locking-button, provided with its securing-screw hole 13, operating-finger 14, and locking contact-fingers 15, an angle 16 being formed between the fingers 14 and 15, into which the rear end of the bolt is seated when the button is turned into its locking position, as shown in Fig. 1.

In its normal position the finger 14 hangs downward, but is adapted to be turned over nearly three-fourths of a revolution in either direction, as the door-bolt may be upon the right or left of the button for locking the bolt from being slid backward whenever it is desired to secure the door against being opened by a push or a pull thereon.

16 is a screw for securing the button in position, and 17 screws for holding the sliding bolt upon the door, and upon which it slides longitudinally of the bolt.

18 represents a coiled spring, one end of which is secured around the forward screw 17 and the other around the bridge-piece 4, the action of the spring being to return the bolt to its outward position whenever it is retracted by the action of opening and closing the door.

As will be observed in Fig. 8, the bolt and its locking-button are applied to the door 19, the former with two screws 17 and the latter with a single screw 16 and with no cutting of the door, the only work necessary being the boring of holes for the three screws. The catch-plate may require to be seated in the jamb 20 the thickness of the plate, two screws being necessary for securing it thereto.

21 indicates the wire-cloth of the door.

This door-catch may be applied to either

the outer or inner side of a door as its particular use and purpose requires. In either case a push or a pull upon the door will open or close the same and the catch will hold the door closed against a light force; but when it is desired to make the door secure against opening by the turning of its locking-button over against the bolt, as is shown in Fig. 1, the door will be securely locked.

It will be noted that the forward movement of the door-bolt for its engagement with its catch-piece is produced by the retractive force of its spring and not by its compression, as is usual in bolts for this purpose, and in consequence of this arrangement thereby holding said spring at all times free from contact with the sides of the cavity in which it is located, whereas if its compression acted to throw the bolt into engagement with its catch-piece the spring would be liable to buckle and the coils of the wire to engage the sides of its receiving-cavity and be worn off by their rubbing contact therewith, and also the friction of said coils in contact with said sides would lessen the effective force of the spring. For these reasons it is essential that the spring is suspended from its ends instead of resting upon the coils of the wire and that the sliding backward of the bolt extends instead of compresses the spring, so that the retractive force of the spring throws the bolt forward into engagement with the catch-piece.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A caseless door-bolt comprising a sliding bolt having a cavity arranged upon its lower side longitudinally thereof and a bridge-piece across said cavity intermediate the upper and lower sides of said cavity having a passage entirely around said bridge-piece, said cavity, bridge-piece and passage, being formed in the casting or drop-forging of said bolt, a suitable catch-piece for said bolt, a coiled spring arranged along said cavity having one end thereof hooked over said bridge-piece and the other connected with a fixed part upon the door to which the bolt is applied, whereby, upon the sliding backward of said bolt from its engagement with its catch-piece, said spring will be extended in length and the retraction thereof will slide said bolt forward into engagement with its catch-piece, substantially as described.

2. In a caseless locking door-catch, a bolt therefor consisting of a single piece having its catch-engaging end beveled in two directions, two fastening-screw-holding slots therein, a screw for each slot, a cavity upon the lower side of said bolt longitudinally thereof, a coiled spring arranged along said cavity, a bridge-piece formed across said cavity in casting or drop-forging said bolt adapted to have one end of said spring secured to said bridge-piece and the other to the forward fastening-screw aforesaid, a catch-plate suitably arranged with which the engaging end of said bolt is adapted to be engaged for holding a door closed, and the reversible locking-button 12, having the operating-finger 14 and two bolt-locking fingers 15 secured to the door in the rear of said bolt for holding the door locked by the partial revolution of said button and the engagement of its locking-fingers with the rear end of said bolt, substantially as set forth.

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Witnesses:
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