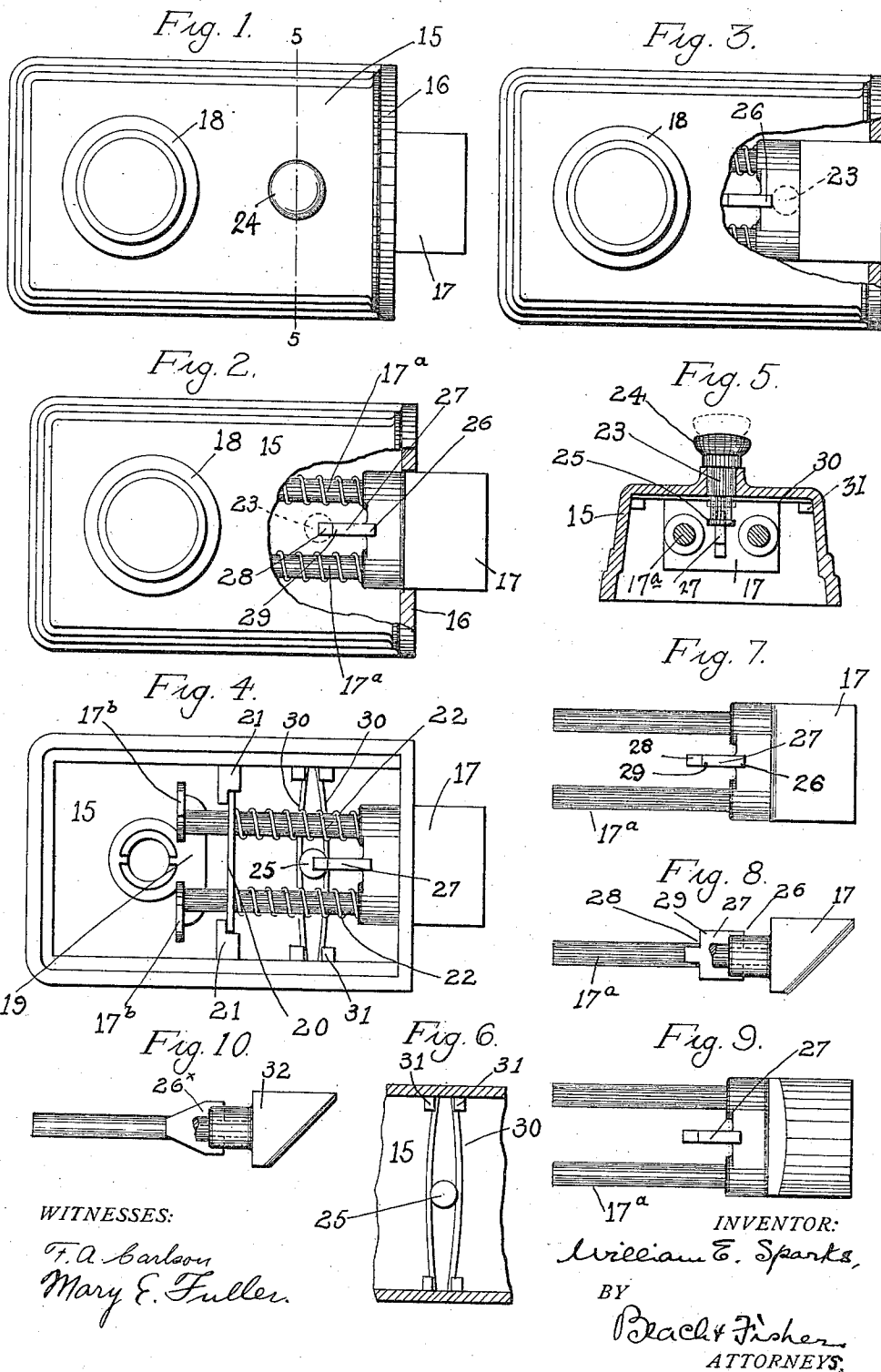


W. E. SPARKS.
NIGHT LATCH.
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1,059,915.

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UNITED STATES PATENT OFFICE.

WILLIAM E. SPARKS, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO SARGENT & COMPANY, OF NEW HAVEN, CONNECTICUT, A CORPORATION OF CONNECTICUT.

NIGHT-LATCH.

1,059,915.

Specification of Letters Patent.

Patented Apr. 22, 1913.

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To all whom it may concern:

Be it known that I, WILLIAM E. SPARKS, a citizen of the United States, residing in New Haven, county of New Haven, State of Connecticut, have invented certain new and useful Improvements in Night-Latches, of which the following is a specification.

This invention relates to night latches and particularly to rim night latches of the well known form in which the latch bolt is manipulated by a knob or thumb-turn member turning in the casing of the latch.

The primary object of the invention is to provide an improved and simplified device for locking the latch bolt in a fixed position.

More particularly it is proposed to provide a night latch having a push button mounted in the front wall of the case to move in and out, the latch bolt being reversible and having shoulders on opposite sides to cooperate with said push button in the respective adjustments of the latch bolt. I also contemplate the provision of a simple form of detent for the latch bolt which will likewise serve as a deadlocking means for the latch bolt, all as hereinafter described and claimed.

In the accompanying drawing, Figure 1 is a front elevation of a night latch embodying the invention, with the latch bolt in the normal protracted position, Fig. 2 is a similar view with the case broken away to show the cooperation of the push button with the latch bolt in deadlocking the bolt, Fig. 3 is a view similar to Fig. 2, but showing the relative positions of the parts when the push button serves as a detent for the latch bolt, Fig. 4 is a rear view of the parts as shown in Fig. 1 with the back plate omitted, Fig. 5 is a section on line 5-5, Fig. 1, Fig. 6 is a fragmentary rear face view of the front wall of the case, Fig. 7 is a side elevation of the latch bolt, Fig. 8 is an edge view of the same partially broken away, Fig. 9 is a reverse view of Fig. 7, and Fig. 10 is an edge view of a modified form of latch bolt for use in a night latch in which there is no deadlocking action.

Referring to the drawing, the case 15 of the usual rim type, having a face plate 16, contains a latch bolt 17 movable through the face plate and manipulated by a knob or thumb-turn 18 rotatable in the front face of the case. The latch bolt 17 preferably has

parallel shanks or stems 17^a provided with cross-heads 17^b cooperating with a rollback 19 attached to the shank of the knob 18 in the usual manner. The stems 17^a of the bolt are guided in a plate 20, detachably set in notched lugs 21 formed on the wall of the case, and providing an abutment for the springs 22 which embrace the stem 17^a between the plate 20 and the head of the bolt. The latch bolt 17 is reversible as usual.

The construction so far described is more or less customary and may be varied without departing from the scope of my invention.

According to my invention, I provide a push button 23 mounted in the front wall of the case to move in and out and adapted to act as a detent for the latch bolt. The button 23 is provided with an outer manipulating head 24 and its inner end 25 is adapted to engage a shoulder 26 on the latch bolt in such a manner as to hold the latch bolt retracted against the action of the springs 22. The shoulder 26 is preferably formed by providing the latch bolt head with a rearwardly directed tail 27 the forward end of which joins the latch bolt head in such a manner as to form an abrupt shoulder for engagement with the inner end 25 of the push button. At the rear end of the tail 27 the same is also preferably provided with a notch 28 forming another shoulder 29 adapted to cooperate with the inner end of the push button in order to deadlock the latch bolt, as shown in Figs. 2 and 5.

The tail 27 is preferably formed on the latch bolt head between the stems 17^a and extends rearward for a certain distance between said stems. The tail 27 furthermore, extends on opposite sides of the latch bolt in symmetrical fashion, as shown in Fig. 8, in order to provide for the same cooperation of the button with the latch bolt in both adjustments of the latter *i. e.* when the latch bolt is set for the ordinary or for the reverse bevel. After the push button 23 has once been set in position, it will be retained frictionally in its adjustment by means of springs 30 the ends of which are set in notched lugs 31 at the top and bottom of the case adjacent the front wall. The shank of the push button is interposed between these springs and bows or spreads them apart thereby flexing them to a certain extent so that they bind tightly against the push but-

ton shank on opposite sides and tend to hold it firmly in its inner or outer position, as the case may be.

The operation of the device will be more or less obvious from the foregoing description. If the latch bolt 17 is in the normal protracted position, as shown in Fig. 1, it may be easily deadlocked in that position by pushing in the push button 23, the end of which will be thereby engaged with the shoulder 29. Hence the latch bolt in being blocked against retraction will serve substantially the function of a dead bolt. The release of the latch bolt from the deadlocked position may be readily effected by pulling out the push button 23 into the position shown in dotted lines in Fig. 5, so that the extremity 25 of the push button will clear the shoulder 29, as will be understood. When it is desired to hold the latch bolt in its retracted position, the knob 18 is manipulated to retract the bolt and the button 23 is then pushed in, as shown in Fig. 3, thereby engaging the front face of the shoulder 26 and preventing the bolt from shooting out into its protracted position.

In Fig. 10 I have shown a modified form of latch bolt 32 in which the tail 26* is beveled at the rear end in order to prevent deadlocking of the bolt when the push button is pushed inward. The detent function of the push button is, however, still retained.

While the foregoing description is necessarily a detailed one in so far as it concerns the particular embodiment of my invention selected for illustration, I wish to have it understood that numerous modifications may be adopted within the scope of the claims.

What I claim is:

1. In a night latch, a case, a push button mounted in the front wall of the case to move in and out, and a reversible sliding latch bolt movable through the face of the case and having means at opposite sides for coöperative engagement with said button; substantially as described.

2. In a night latch, a case, a reversible latch bolt therein, a push button in the front wall of the case, and shoulders on opposite sides of said latch bolt to coöperate with said push button in deadlocking the latch bolt and in holding the same retracted; substantially as described.

3. In a night latch, a case, a latch bolt therein, a tail on said latch bolt extending on opposite sides of the latter and present-

ing detent shoulders, and a push button movable axially in the front wall of the case into engagement with the opposing shoulder; substantially as described.

4. In a night latch, a case, a latch bolt therein, a tail on said latch bolt extending on opposite sides of the latter and having detent shoulders and deadlocking shoulders, and a push button movable axially in the front wall of the case into and out of engagement with the opposing shoulders; substantially as described.

5. In a night latch, a case, a latch bolt therein movable through the face of the case, a push button movable axially through the front wall of the case, a shoulder on the latch bolt head for engagement with the inner end of said push button, and means for frictionally holding said push button in its inner and outer positions; substantially as described.

6. In a night latch, a case, a latch bolt therein, a push button mounted in the wall of the case to move into and out of engagement with said latch bolt, and a pair of springs held in approximate parallelism by lugs on the case and between which the shank of said push button is interposed; substantially as described.

7. In a night latch, a case, a latch bolt therein, lugs on opposite sides of the case adjacent the inner surface of the front wall thereof, a pair of approximately parallel springs extending across the front wall of the case and positioned against said lugs, and a push button mounted in the front wall of the case to coöperate with said latch bolt and interposed between said springs so as to bow or flex them, whereby said springs press upon opposite sides of the push button shank to hold the push button frictionally in adjusted position; substantially as described.

8. In a night latch, a case, a latch bolt therein, a push button having a shank movable axially through the wall of the case and engageable with said latch bolt, and a spring within the case engaging the shank of said push button to hold it in the adjusted position; substantially as described.

In witness whereof, I have hereunto set my hand on the 25th day of July, 1912.

WILLIAM E. SPARKS.

Witnesses:

JOHN H. SHAW,
BERTHA RAY.