

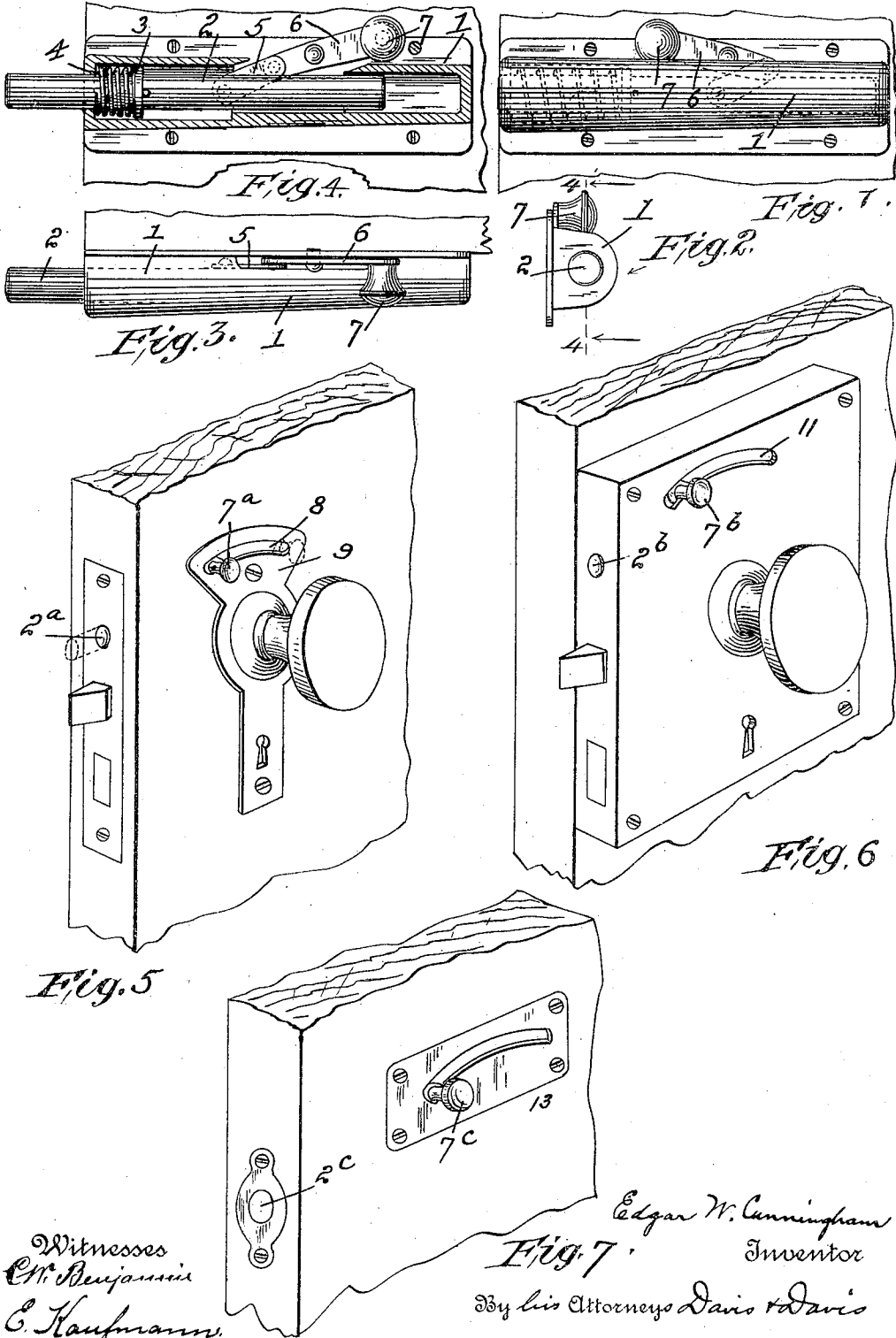
No. 810,918.

PATENTED JAN. 30, 1906.

E. W. CUNNINGHAM.
DOOR BOLT.

APPLICATION FILED MAY 6, 1905.

2 SHEETS—SHEET 1.



No. 810,918.

PATENTED JAN. 30, 1906.

E. W. CUNNINGHAM.

DOOR BOLT.

APPLICATION FILED MAY 6, 1905.

2 SHEETS—SHEET 2.

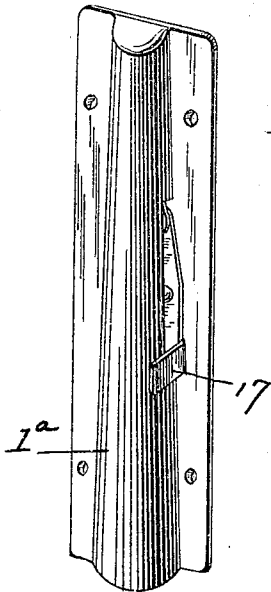


Fig. 8.

Fig. 9.

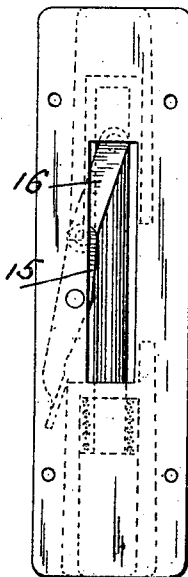
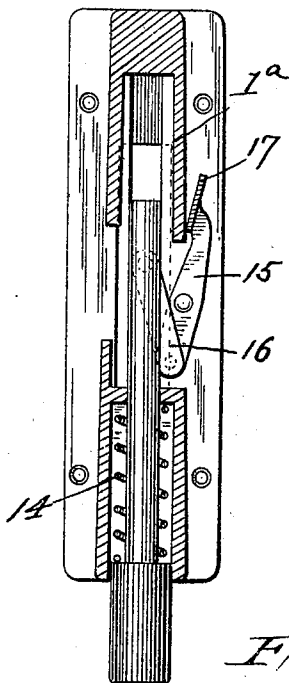
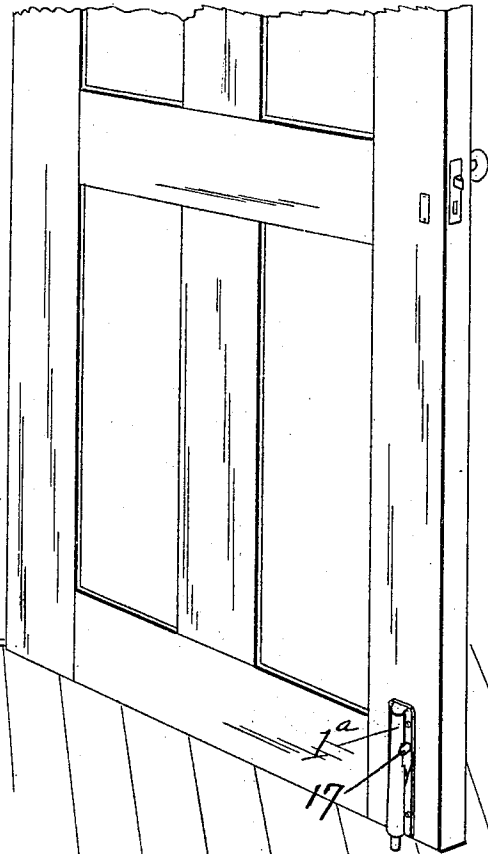


Fig. 10.

Fig. 11.

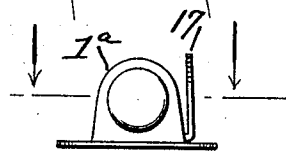


Fig. 12.

Witnesses
C. H. Benjamin
C. Kaufmann.

Edgar W. Cunningham
Inventor

By his Attorneys, Davis & Davis

UNITED STATES PATENT OFFICE.

EDGAR W. CUNNINGHAM, OF ROSELLE, NEW JERSEY.

DOOR-BOLT.

No. 810,918.

Specification of Letters Patent.

Patented Jan. 30, 1906.

Application filed May 6, 1905. Serial No. 259,094.

To all whom it may concern:

Be it known that I, EDGAR W. CUNNINGHAM, a citizen of the United States, residing at Roselle, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Door-Bolts, of which the following is a specification, reference being had therein to the accompanying drawings, in which—

10 Figure 1 is a front view; Fig. 2, an end elevation; Fig. 3, a plan view; Fig. 4, a vertical sectional view showing the bolt in its locked position; Fig. 5, a view showing the bolt applied to a mortise-lock; Fig. 6, a detail showing the bolt embodied in a rim-lock adapted to be secured to the outer surface of a door; Fig. 7, a detail showing the invention used as a mortise-bolt; Fig. 8, a perspective view of the device designed for use as a door-securer; 20 Fig. 9, a detail view showing this latter form of the device applied to a door; Fig. 10, a vertical sectional view of the form of device shown in Fig. 8; Fig. 11, a rear elevation thereof, and Fig. 12 a bottom view.

25 One of the many objects of this invention is to provide a spring-actuated bolt with operating means of such construction that when said means is operated to move the bolt against the spring-pressure the bolt will be 30 locked in position against the action of said spring.

Another object of the invention is to provide a spring-actuated bolt of simple construction which will be durable, easily operated, and efficient and wherein the bolt will be locked against the spring-pressure by the 35 actuating means whether the spring is tending to force the bolt inward or outward.

Another object of the invention is to provide 40 a bolt of simple construction which may be adapted for many uses.

Referring to the various parts by numerals, 1 designates the bolt-casing, in which the bolt 2 is mounted to reciprocate. Within 45 the casing and near its forward end the bolt is provided with an annular collar 3, and between said collar and the forward end of the casing is confined a coil-spring 4, said spring normally holding the bolt within the casing, 50 as shown in dotted lines in Fig. 1. Pivoted on the rear end of the bolt is a short upward and inward extending link 5. On the bolt-casing is pivoted an operating-lever 6, whose inner end is pivotally connected to the upper 55 end of the link 5, the outer end of said lever being provided with a forward projecting fin-

ger-piece 7. The upper side of the casing 1 is slotted, as shown in Figs. 3 and 4, to permit of the connection of the link 5 with the bolt and the operating-lever. The lever is so 60 pivoted on the casing that the finger-piece 7 will contact with the casing when the inner end of the lever has reached a point slightly above a line drawn through the center of the pivot of the lever and the pivot of the link 65 5. The object of this is to prevent the spring throwing inward the bolt 2. It will be readily seen that in this position of the parts the spring, acting through the bolt, tends to force upward the link, and as said 70 link is held by the lever 6 the bolt will be retained in its outer position. When it is desired to retract the bolt, the lever 6 is thrown on its pivot until the upper end of the link 5 is below the line drawn through the pivot of 75 the lever and the link, thereby permitting the spring to force the bolt inward. When the bolt is in its inner position, the parts assume the position indicated in dotted lines in Fig. 1. When the device is constructed as 80 shown in Figs. 1 to 4, inclusive, the spring tends to force the bolt to its inner position and the operating mechanism locks the bolt in its outer position against the tension of the spring. It will also be noted that the bolt is 85 held against rotation and that it will be impossible to throw the bolt back by any inward pressure on the outer end thereof, so that it cannot be retracted except by manipulating the operating mechanism. The 90 bore of the casing is preferably enlarged toward the forward end thereof to receive the spring and the collar and is contracted from said forward end to said rear end, the rear end being of substantially the same diameter 95 as the diameter of the rear end of the bolt in order that the bolt may be centered at its rear end, and practically all friction between the bolt and the inner wall of the casing will be avoided. In Fig. 5 the invention is 100 shown as applied to a mortise-lock, the bolt 2^a being adapted to be projected from the edge of the door and the finger-piece 7^a being arranged to move in a slot 8, formed in the door-plate 9.

105 In Fig. 6 the invention is shown as arranged in what is known as a "rim-lock." This form of lock is adapted to be secured to the face of the door. In this arrangement the finger-piece 7^b is arranged to move in a 110 slot 11, formed in the outer wall of the lock-casing, and the bolt 2^b is adapted to be pro-

jected through the end wall of the lock-casing.

In Fig. 7 the invention is shown as arranged for a mortise-bolt, the finger-piece 5 7° being arranged to reciprocate in a slot 12, formed in a small face-plate 13, the bolt 2° being adapted to be projected through the edge of the door.

In Figs. 8 to 12, inclusive, the invention is 10 shown as arranged for use as a door-holding bolt—that is, a bolt adapted to be secured to the lower end of the door and to be projected downward to engage the floor and hold the door in its adjusted position. In this form 15 of the device a spring 14 is arranged to force the bolt outward, as shown clearly in Fig. 10, and the lever 15 and link 16 are arranged to retract the bolt against the action of the spring. The lever and the link are so 20 ranged that when the bolt is retracted and the spring compressed the point of connection between the link and the inner end of the lever will be outside of a line drawn through the pivot of the link on the bolt and 25 the center of the pivot of the lever, so that the tension of the spring will be acting to force said point of connection outward. The finger-piece 17 of the lever will be then forced against the side of the casing 1^a, and a down- 30 ward or outward movement of the bolt will be prevented. It will of course be readily understood that when the outer side of the lever is raised sufficiently to throw slightly inward the point of connection between the 35 link and the lever the spring will project the bolt beyond the casing and move the operating-link and lever to the position shown in Fig. 10. This form of the device constitutes a very efficient door-holding means which 40 may be foot-operated when placed at the lower edge of the door.

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

45 1. A door-bolt comprising a casing, a reciprocable bolt therein, a spring in the casing and adapted to force said bolt in one direc-

tion, a link pivoted to said bolt and lying within the casing, an operating-lever pivoted on said casing, and having one of its 50 ends extending into the bolt-cavity, said inward-extending end being pivoted to the free end of the link, a finger-piece on the opposite end of said lever, and stops adapted to be engaged by said finger-piece at the ex- 55 tremes of its movements, one of said stops being so located that when it is engaged by the finger-piece the spring will be compressed and the pivotal point between the link and the lever will be on one side of a line running 60 through the pivot of the lever and the connection between the link and the bolt, whereby the pressure of the spring will hold the finger-piece against the stop and the movement of the bolt will be prevented.

2. A door-bolt comprising a casing, a reciprocable bolt therein, a spring surrounding said bolt and normally holding it retracted, a link pivoted to said bolt and lying within the casing, an operating-lever pivoted on said 70 casing, and having one of its ends extending into the bolt-cavity, said inward-extending end being pivoted to the free end of the link, a finger-piece on the opposite end of said lever, and stops adapted to be engaged by said 75 finger-piece at the extremes of its movements, one of said stops being so located that when it is engaged by the finger-piece the spring will be compressed and the bolt will be projected beyond the casing and the pivotal 80 point between the link and the lever will be on one side of a line running through the pivot of the lever and the connection between the link and the bolt, whereby the pressure of the spring will hold the finger-piece 85 against the stop and the movement of the bolt will be prevented.

In testimony whereof I hereunto affix my signature, in the presence of two witnesses, this 4th day of May, 1905.

EDGAR W. CUNNINGHAM.

Witnesses:

WM. R. DAVIS,
W. H. RUBY.