H. J. ILES.

Door-Bolt.

No. 167,338. Patented Aug. 31, 1875.

FIG. 1.

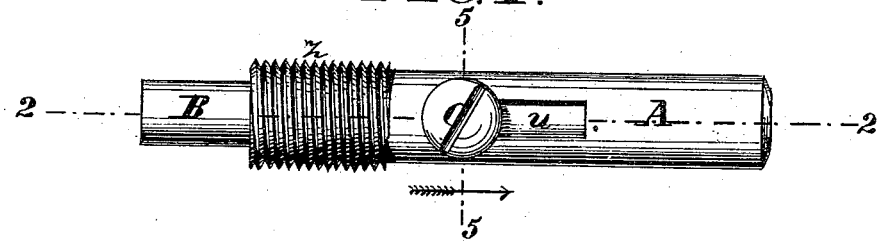


FIG. 2.

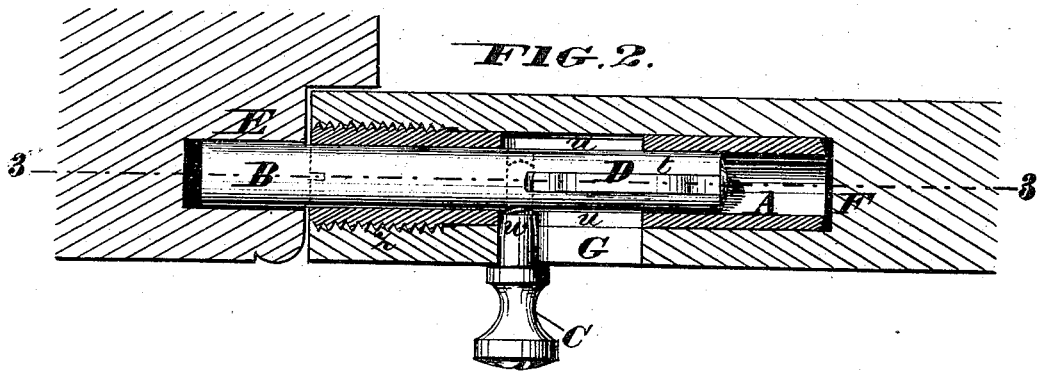


FIG. 3.

FIG. 4.

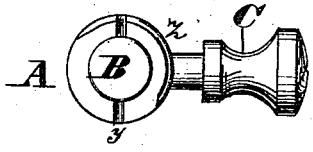
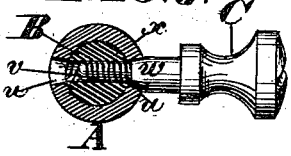


FIG. 5.



WITNESSES

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UNITED STATES PATENT OFFICE.

HENRY J. ILES, OF SEYMOUR, ASSIGNOR TO HIMSELF AND HENRY MAIDEN, OF BRIDGEPORT, CONNECTICUT.

IMPROVEMENT IN DOOR-BOLTS.

Specification forming part of Letters Patent No. **167,338**, dated August 31, 1875; application filed July 17, 1875.

To all whom it may concern:

Be it known that I, HENRY J. ILES, of Seymour, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Door-Bolts, of which the following is a specification:

This invention relates to mortise-bolts for hinged or sliding doors.

The invention consists in a knob for working and fastening a sliding bolt screwed laterally into the sliding bolt, and constructed with a conical wedge on its shank, in combination with longitudinal slots in the shell, constructed with beveled walls, to provide for locking the projected or retracted bolt in position by simple means.

Figure 1 is an elevation of this improved door-bolt, showing the bolt proper, as projected. Fig. 2 is a view in a plane at right angles to that of Fig. 1, showing the shell and contiguous portions of the door and its frame in section on the line 2 2, Fig. 1. Fig. 3 is a vertical longitudinal section of the bolt and shell on the line 3 3, Fig. 2. Fig. 4 is an end elevation. Fig. 5 is a transverse section on the line 5 5, Fig. 1.

A tubular shell, A, is employed, and this is constructed of cylindrical shape and with external screw-threads *z*, and a driving nick or groove, *y*, at one extremity, which is its outer end when inserted in the door, as shown in Fig. 2. It is thus adapted to be screwed axially into a recess formed by an ordinary auger of proper diameter. Its position in the door may be either horizontal or vertical. A bolt proper, B, preferably cylindrical, slides within the shell A, and is projected, as shown in Figs. 1 to 3, to lock the door. For operating the bolt a knob, C, is provided, and this is constructed with a screw-threaded extremity, *x*, and a conical wedge, *w*, adjoining the same at the extremity of the shank. A transverse threaded orifice, *v*, in the bolt B receives the threaded end *x*, and longitudinal slots *u* in the shell provide for the longitudinal movement of the knob with the bolt. Slots in opposite sides of the shell are employed, as in the illustration, to insure bringing one of them into position for use with the face of the shell flush with the surface of the door. More than two slots may be employed, if preferred. The walls of the slots *u* are beveled to correspond with the conical wedge *w* of the knob-shank, and the bolt B is securely fixed in projected or retracted position by simply turning the knob, and thus screwing the wedge *w* between these walls.

To prevent the accidental movement of the bolt by centrifugal force when the door is suddenly opened or closed, or by gravity, or jarring, a frictional spring, D, is applied within a groove, *t*, in one side of the bolt, and is held in position by pressing the metal of the bolt over the ends of the same. This spring is applied longitudinally and at right angles to the knob-socket, *v*, so as to be in line with solid portions of the shell. More than one can be employed, if preferred. A mortise-socket, E, in the jamb or sill of the door receives the effective end of the bolt B. This, with a cylindrical recess, F, in the door to receive its shell A, is adapted to be cut of complete shape by means of an auger, and a slot, G, in the face of the door to accommodate the knob or its shank completes the provisions for the reception of the improved door-bolt.

I am aware that a mortise door-bolt, broadly considered, is not new, and I also disclaim as old provision, broadly considered, for locking a sliding bolt in its different positions by means of its knob.

The following is claimed as new, namely:

The knob C, constructed with a screw-threaded extremity, *x*, and a conical wedge, *w*, in combination with the shell A, having longitudinal slots *u*, with beveled walls, and the bolt B, having a transverse screw-threaded socket, *v*, substantially as and for the purpose specified.

HENRY J. ILES.

Witnesses:

LEWIS A. CAMP,

H. P. FOWLER.