My invention relates to improvements in door latches and the object of my improvement is to provide an automatic latch for doors. Further objects are to provide a latch which will securely hold shut two doors, and which will release both upon the mere turning of a knob. A still further object is to provide a latch that may be attached to doors without mortising.

In the drawing—

Figure 1 is a perspective view of the assembled latch,

Figure 2 shows the keeper in perspective,

Figure 3 is a rear elevation of two doors held shut by the attached latch and keeper,

Figure 4 is a perspective view of two doors showing the knob on the outside,

Figure 5 is an elevation of the latch plate with casing removed, and working parts in operative position,

Figure 6 is an elevation with latch bolt in operative position,

Figure 7 is an end view of latch plate, flat spring, and button,

Figure 8 is a rear edge view of latch plate and latch bolt member.

The double doors 1 and 2 swing against the stop 3. To door 1 is attached the keeper 4, having a tongue 5 and an operative projection 6.

A latch casing consisting of a box portion 7 and a plate 8 is attached to door 2 preferably by screws 9. The casing is held together by rivets 10, hollow to accommodate screws 9.

Within the casing a latch bolt 11 is swiveled upon a square shank operated by the knob 13.

The latch bolt 11 is provided with a rear offset arm 14, having a slot or aperture 15 which detachably engages a stud 16 upon the flat spring 17. The spring 17, riveted at one end to the case plate 8, is provided at the opposite end with a button 18 projecting through an aperture 19 in the lower corner of the casing 7. A wire spring 20 encircling the knob shank 13, is attached at one end to the casing rivet 10, and at the other to the latch bolt member 11-14.

Figure 3 shows the doors held shut with latch bolt 11 dropped behind the tongue 5 of keeper 4. This position of the latch member is also shown in Figure 5. Turning knob 13 raises the latch bolt 11 to the vertical position shown in Figure 6. As the latch bolt 11 rises, the offset arm 14 swings round until stud 16, pressed out by flat spring 17, is engaged in aperture 15. The latch bolt is now locked in a vertical position, and both doors may be opened.

In latching, door 1 is first closed against stop 3, bringing the operative projection 6 of the keeper 4 into position. As door 2 is then swung shut, button 18 is depressed by projection 6. This withdraws stud 16 from aperture 15 and releases the offset arm 14. Coil spring 20 then brings latch bolt 11 down into engagement with the keeper 4, and the doors are securely latched.

The latch may be used upon a single door with the keeper attached to the door casing, and other modifications made without departing from the spirit of the invention.

I claim:

1. In a latch, the combination with a knob shank of a latch bolt swiveling upon said shank and having an offset arm containing an aperture, a flat spring having a stud for engagement with the aperture in the offset arm of said latch bolt and carrying also a button, a wire spring encircling said knob shank and tending to throw said latch bolt, and a keeper for said latch bolt having a projection for depressing the button upon said flat spring.

2. A latch of the character described comprising a casing, a latch bolt pivotally mounted in the casing, resilient means normally urging the latch bolt to an extended position, a rotatable handle disposed without the casing and connected to the latch bolt for retracting it, an extension member formed integrally with the latch bolt and having an aperture formed therein, a resiliently mounted stud disposed within the casing and engageable with said aperture to maintain the latch bolt in a retracted position, and means operable from the exterior of the casing for releasing the latch bolt.

3. A latch of the character described comprising a casing, a latch bolt pivotally mount-
ed in the casing, resilient means normally urging the latch bolt to an extended position, a rotatable handle disposed without the casing and connected to the latch bolt for retracting it, an extension member formed integrally with the latch bolt and having an aperture formed therein, a flat spring disposed within the casing, a stud carried by said spring and engageable with said aperture to maintain the latch bolt in a retracted position, and a button member carried by the spring and extending to a point without the casing adapted to release the latch bolt upon being depressed.

4. A latch mechanism of the character described comprising a housing having a slot formed therein, a latch bolt pivotally mounted within the housing and extending through said slot, said bolt being movable from an operative to an inoperative position and being formed on an angle whereby one of its edges will be flush with the edge of the housing when it assumes an inoperative position, resilient means normally urging the bolt to its operative position, spring actuated means for dogging the bolt in its inoperative position, and a keeper cooperating with the bolt and having an extension formed thereon for engaging said dogging means to release the bolt when it is in position to engage the keeper.

5. In a door latch of the character described, a casing, a latch bolt adapted to be extended and retracted with relation to the casing, resilient means urging the bolt to an extended position, handle means for retracting the bolt, an extension member formed integrally with the latch bolt and having an aperture formed therein, a resiliently mounted stud disposed within the casing and engageable with said aperture to maintain the latch bolt in a retracted position, and means operable from the exterior of the casing for releasing the latch bolt.

In testimony whereof, I hereby affix my signature.

JOSEPH D. STASSART.