

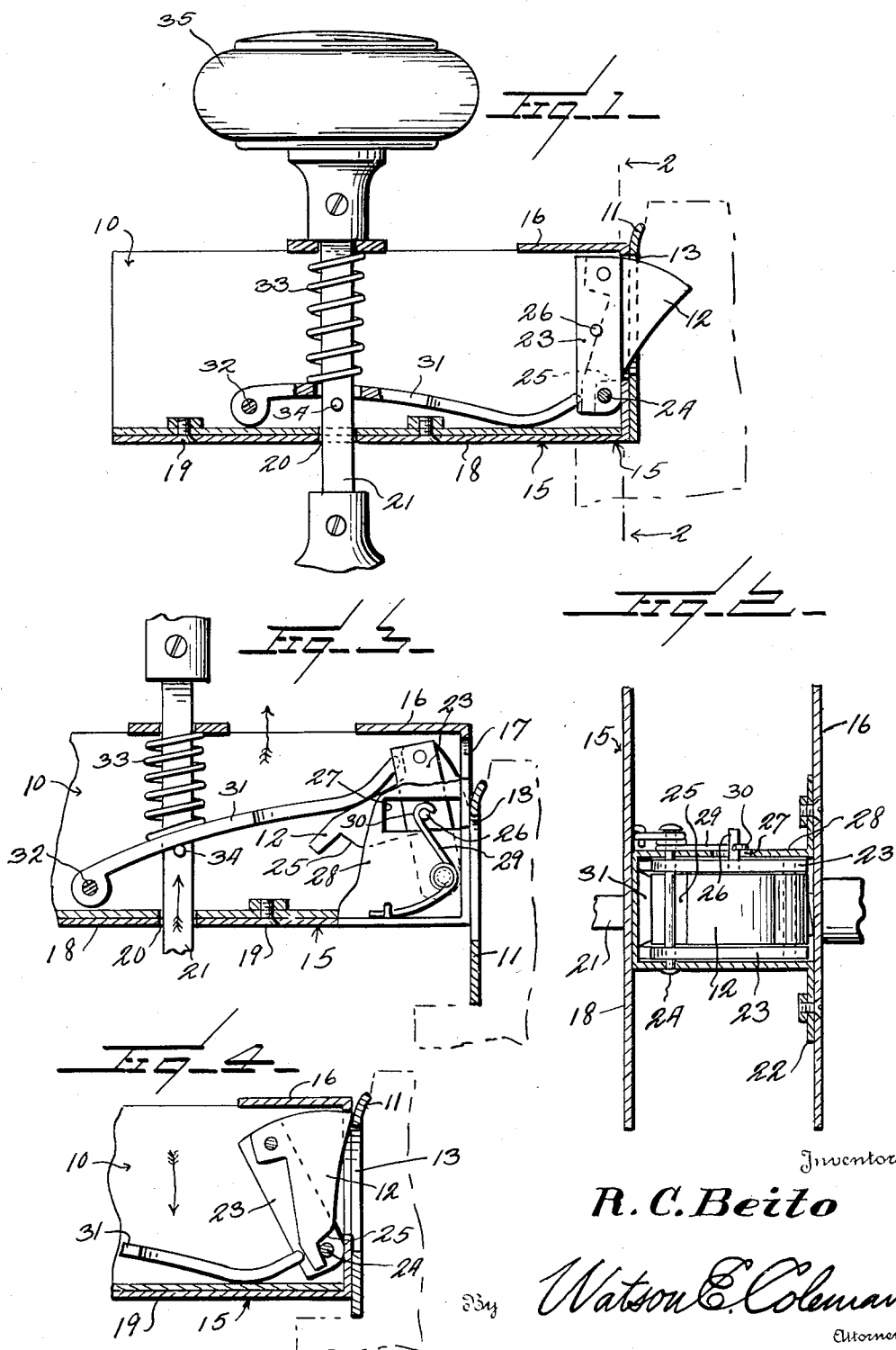
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DOORLATCH

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DOORLATCH

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3 Claims. (Cl. 292—221)

This invention relates to door latches and more particularly to a door latch operated by a member movable transversely of the opposite sides of the door.

5 An object of this invention is to provide a door latch which will eliminate the necessity of turning the knob of the door while at the same time holding the door against movement when it is in closed position.

10 Another object of this invention is to provide an exceedingly simple door latch which may be used with doors of various kinds so as to permit the movement of the door from open to closed position under the action of a transversely movable operating member to which the conventional door knobs may be attached.

The above and various other objects and advantages of this invention will in part be described and in part be understood from the following detailed description of the present preferred embodiment, the same being illustrated in the accompanying drawing wherein:—

20 Figure 1 is a horizontal section partly in detail of a latch constructed according to the preferred embodiment of this invention.

25 Figure 2 is a sectional view taken on the line 2—2 of Figure 1.

Figure 3 is a fragmentary longitudinal section partly in detail showing the bolt retracted under the action of the bolt operating member.

30 Figure 4 is a view similar to Figure 3 but showing the bolt retracted on the turn of the door to closed position under the action of the keeper in the door frame.

35 Referring to the drawing wherein like numerals of reference designate corresponding parts throughout the several views, the numeral 10 designates generally a housing or casing which is adapted to be embedded or secured in a door as by mortising or the like, and the numeral 11 designates generally a keeper provided with a bolt opening 13. This keeper may be secured to the frame about the door.

40 A door bolt 12 is disposed within the housing 10 at the forward end thereof and projects through a plate generally designated as 15 having a substantially U-shaped forward end portion 16 provided with an opening 17 through which the bolt 12 projects for engagement with the opening 13 of the keeper when the door is closed. The plate 15 has a relatively wide body portion 18 extending longitudinally of the housing and is secured thereto as by bolts 19 or the like. The body portion 18 has an opening 20

through which a bolt operating member 21 is slidable.

The housing 10 is constructed of substantially U-shaped form and provided on the free legs thereof with outwardly extending flanges 22 by means of which one side of the housing 10 may be secured to the door whereas the plate 15 provides a means for securing the other side of the housing to the door. The bolt 12 is pivotally secured at one end to a pair of bars 23 which are disposed in the housing 10 and the opposite ends of the bars 23 are secured as by a shaft 24 to the housing 10. The free end of the bolt 12 is recessed, as at 25, so as to permit the free or reduced end of the bolt 12 to partially engage about the shaft 24.

A pin 26 projects outwardly of the housing 10 through a slot 27 provided in one of the free legs 28 of the housing 10 and this pin 26 is secured to one of the side bars 23. A spring 29 engages about an extended portion of the shaft 24 and has a hook portion 30 engaging the pin 26 whereas the other end of the spring 29 is anchored relative to the housing 10 so that the bars 23 and the pivoted end of the bolt 12 are urged outwardly through the opening 17.

A bolt locking lever 31 which is pivoted, as at 32, to the housing 10 has its free or forward end disposed in substantially contacting relation with the free or reduced end of the bolt 12 at the inner side thereof so that the lever 31 will prevent free swinging movement in an inward direction of the free end of the bolt 12 whereas the pivoted end of the bolt 12 with the bars 23 may swing inwardly of the housing 10 against the resistance of the spring 29.

A spring 33 is disposed about the lever operating member 21 within the housing 10 and constantly urges this lever 31 to a position locking the free end of the bolt 12. A pin 34 extends through the lever operating member 21 on the side of the lever 31 opposite from the adjacent end of the spring 33 so that the operating member 21 when moved in one direction will force the lever 31 to rock on the pivot 32 in a manner to carry the free end of the lever 31 away from the free end of the bolt 12 and movement in the opposite direction is effected by the spring 33.

In the use and operation of the door latch hereinbefore described, conventional door knobs may be mounted on each end of the operating member 21 on the opposite sides of the door in which the housing 10 is mounted. The door may be moved to open position by pushing the operating member 21 to swing the lever 31 to

released position and the pressure applied to the operating member 21 will at the same time apply pressure to the door and this pressure will cause the bolt 12 at its free end to swing inwardly of the housing as shown in Figure 3. At the same time that the free end of the bolt 12 swings inwardly of the housing 10, the pivoted end of the bolt 12 which is pivoted to the bars 23 will also swing inwardly a slight distance until the bolt 12 is forced into the housing 10 by contact with the marginal portions of the opening 13 in the keeper 11. When the door is closed, the operating member 21 may be in released position with the lever 31 engaging against the free end of the bolt 12. In this position the bars 23 and the bolt 12 will rock on the shaft 24 against the tension of the spring 29.

What is claimed is:—

1. A door latch, comprising a housing, a bolt, a pair of links pivotally secured at one end to said bolt and disposed one on each side thereof, means for pivotally securing the other end of the links to the housing, the free end of the bolt engaging said pivot means and said links providing a means whereby either end of the bolt may be swung inwardly of the housing, yieldable means constantly urging the pivoted end of the bolt outwardly, a bolt locking lever extending longitudinally of the housing and having one end engaging against the free end of the bolt, means engaging the other end of the lever for pivotally securing the lever in the housing, and a biased lever operating member extending transversely of the housing.

2. A door latch, comprising a housing, a bolt in the housing, a pair of links pivotally secured at one end to said bolt, a shaft extending transversely of the housing and pivotally engaging the other ends of the links, a laterally extending pin secured to one of said links and extending outwardly through a side of the housing, said hous-

ing being provided with an elongated opening in the side thereof through which the pin projects, a spring disposed about said shaft and having one end thereof engaged with the pin to urge said bolt and links to locked position, a lever having one end thereof pivotally secured in the housing and the other or free end thereof engaging against the free end of the bolt and adapted to normally hold said free end of the bolt against inward swinging movement, and yieldable operating means slidable transversely of the housing and engaging the lever to rock the lever into released position.

3. A door latch, comprising a housing, a bolt in the housing, a pair of links disposed one on each side of the bolt in the housing and having one end thereof pivotally secured to an end of the bolt, a shaft extending transversely of the housing, said links having the opposite end thereof pivotally mounted on the shaft, said bolt at its free end having a recessed portion to engage about the shaft, a laterally extending pin carried by one of the links, a spring engaging said pin and constantly urging said bolt and said links in a forward direction, a bolt locking lever mounted within the housing, means for pivotally securing one end of the lever in the housing, the opposite end of the lever engaging against the free end of the bolt and normally holding said free end against swinging movement, a transversely slidable operating member extending through the housing, said lever having an opening there-through to slidably receive said operating member, a spring disposed about the operating member and having one end thereof fixed relative to the housing, the opposite end of the spring engaging against the lever, and a pin extending through the operating member on the side of the lever opposite from the spring.

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