

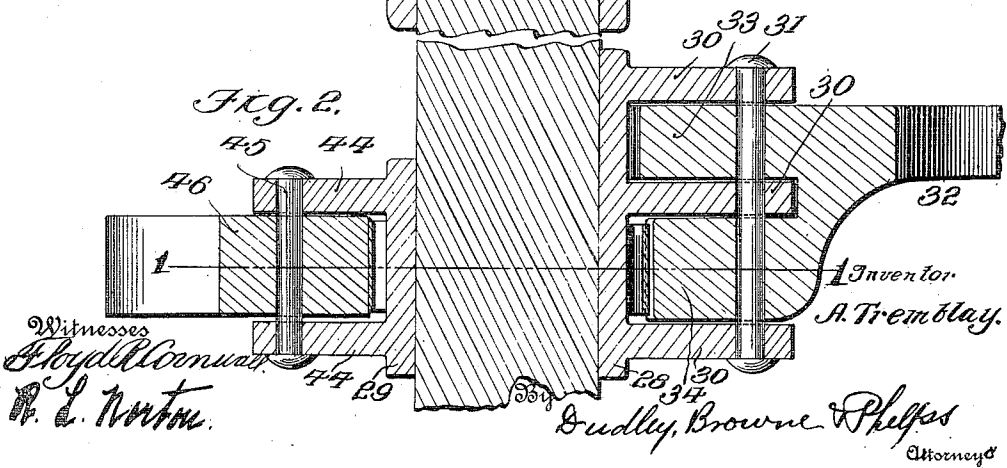
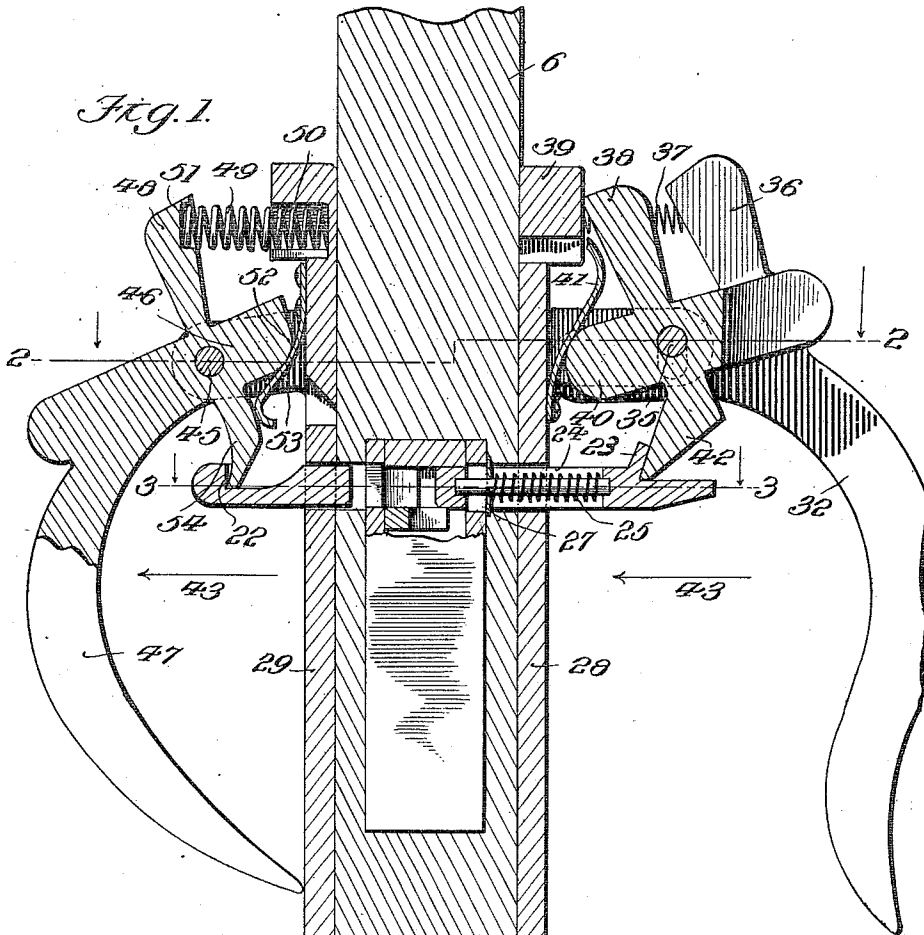
A. TREMBLAY.
DOOR LATCH.

APPLICATION FILED JULY 18, 1910.

994,800.

Patented June 13, 1911.

2 SHEETS—SHEET 1.



A. TREMBLAY.

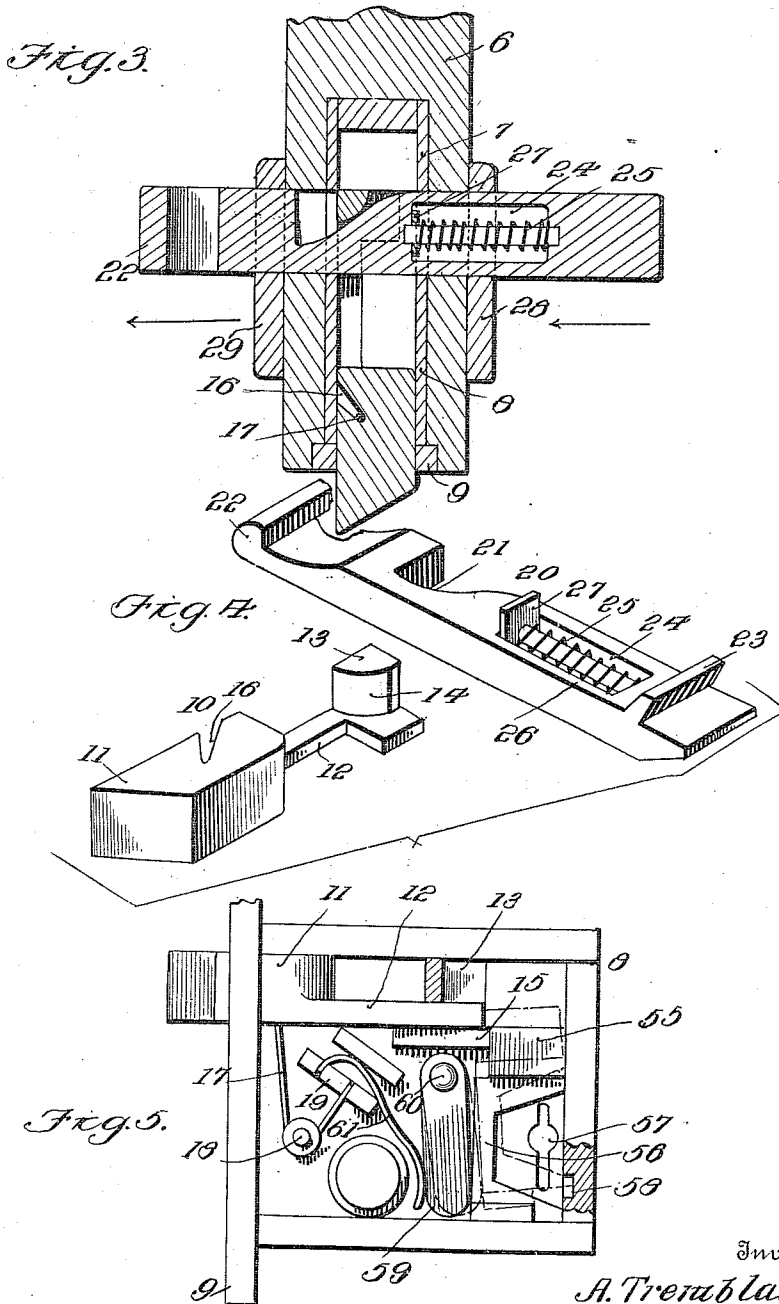
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

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DOOR-LATCH.

994,800.

Specification of Letters Patent. Patented June 13, 1911.

Application filed July 18, 1910. Serial No. 572,564.

To all whom it may concern:

Be it known that I, ALFRED TREMBLAY, a citizen of the United States, residing at Manchester, in the county of Hillsboro and State of New Hampshire, have invented certain new and useful Improvements in Door-Latches, of which the following is a specification.

My invention relates to certain new and useful improvements in door latches and locks, and the object of my invention is to produce a latch for a door which may be operated by a pull from one side of the door and a push from the other side of the door without the necessity of turning any knob or other part as is common practice.

A further object of my invention is to provide a construction in which the latch may be locked in its outer position by a key, so that the door can not be opened until the latch has been released by the insertion and turning of the key.

A further object of my invention is to provide a device of this character which is simple in construction, composed of few parts and not likely to get out of order.

With these and other objects in view my invention consists in certain constructions, combinations and arrangements of parts the preferred form of which will be first described in connection with the accompanying drawings and then the invention particularly pointed out in the appended claims.

Referring to the drawings wherein the same part is designated by the same reference numeral wherever it occurs, Figure 1 is a sectional view of a door provided with a lock constructed in accordance with my invention, the section being taken on line 1, 1, Fig. 2; Fig. 2 is a section taken on line 2, 2 of Fig. 1, looking in the direction of the arrow; Fig. 3 is a section taken on line 3, 3 of Fig. 1 and looking in the direction of the arrow; Fig. 4 is a perspective view of the bolt and its actuating slide in separated relation; Fig. 5 is a side view of the lock with one side of the lock casing removed and the actuating slide shown in section.

6 designates a door of any desired construction and is provided with the usual mortise 7 into which the lock is inserted in the usual manner. In the mortise 7 of the door 6 is placed the housing 8 which is re-

tained in position in the mortise by means of a front plate 9 in the usual manner.

10 is a latch, the head 11 of which is adapted to project through an opening formed in the plate 9. This latch is formed with the rearwardly projecting portion 12, and on the rear end of the portion 12 is a block 13 curved on its forward side to form a cam face 14, and 15 is a guide formed on the inner side of the casing 8 to support and guide the rear end of the latch. The head 11 is also provided with a slot 16 into which projects one end of the spring 17, shown as encircling a post 18, and having its other end secured in a block 19, projecting from the inner surface of one of the side plates in the casing 8. The spring 17 operates to hold the latch in its outward or latching position. 20 designates the actuating slide for the latch, said slide passing through the door and projecting out from each side thereof. The slide in its central portion is provided with a cut-away portion 21, which forms a cam face to cooperate with the cam face 14 on the latch to draw the latch into the casing and against the tension of the spring 17. The slide 20 is provided at one end with the lip 22 and adjacent the other end with the projection 23, said parts being adapted to be engaged by the actuating handles as will be hereinafter described.

In order to firmly hold the actuating slide in position to permit the latch to stand in locking position I have provided the slide with the cut-away portion 24, in which is mounted a pin 25 surrounded by a spring 26, and 27 is a plate which is provided with an opening surrounding the pin against which one end of the spring 26 bears, the plate being held against the outer face of the door so that the spring will tend to hold the deep portion of the notch 21 in line with the cam-carrying projection 13.

In order to reciprocate the actuating slide to operate the latch I preferably provide a pair of plates 28, 29 which are secured to the faces of the door on which the slide operating levers or handles are pivoted. Projecting from the plate 28 are three perforated lugs 30 through which passes a pin 31 by means of which the operating handle 32 is pivoted, the handle being provided with a bifurcated end portion forming the arms 33, 34, which extend between the lugs 30.

Preferably and as shown the perforations 35 in the lugs 30 are elongated in order to permit of a vertical play of the pivot pin 31. The head 33 carries the upwardly projecting arm 36 to which is connected one end of a spiral spring 37, the other end of the spring being connected to the plate whereby the handle 32 will be normally held in the position shown in Fig. 1. The head 34 is formed with an upwardly projecting portion 38 which is adapted to strike against an abutment 39 formed on the plate 28 to limit the movement of the handle 32 under the influence of the spring 37. The head 34 is also extended to form a rounded projection 40, adapted to engage the face of a leaf spring 41 which acts as a cushion in the operating movement of the handle. The head is also provided with a downwardly projecting toe 42 adapted to engage behind the projection 23 on the actuating slide 20 to move the slide in the direction of the arrows 43 in Fig. 1, when the actuating handle 32 is pushed toward the door.

Projecting from the plate 29 are a pair of lugs 44 between which, by means of the pin 45, is provided the head 46 of the actuating handle 47. This head is provided with the upwardly projecting portion 48 between which and the plate 29 is confined the spring 49, the spring being shown as entering a socket 50 in the plate 29, and a socket 51 in the head 48, whereby the handle 47 will be normally held in the position shown in Fig. 1. The head 46 is also extended to form a projection 52 which is adapted to contact with the leaf spring 53 secured at one end to the plate 29. The contacting of the projection 52 with the leaf spring 53 acts to cushion the operation of the handle when the handle is pulled away from the door to operate the latch. The head 46 is also provided with the downwardly projecting toe 54 which is adapted to engage the hook 22 on the actuating slide to draw the slide in the direction of the arrows 43 when the handle 47 is pulled away from the door.

In order to lock the latch 10 against movement by the handles 32 and 47 I provide a block which is adapted to be moved up behind the rear end of the latch by a suitable key and thus prevent the reciprocation of the latch until said block has been withdrawn from the path of the rear end of the latch by the key. This block I have designated as 55, and is mounted between and guided by the rear end of the guide 15 and the back of the casing 8. Projecting downwardly from the block 55 is a yoke shape part 56, the legs of which straddle the key-hole 57, so that when a key is inserted through the key-hole and turned in one direction it will engage one of the legs of the yoke to force the yoke upward, and when turned in the opposite direction will

engage the other leg of the yoke to move the yoke outwardly and downwardly. The lower leg of the yoke is adapted to engage a recess 58 formed in the rear plate of the casing 8 when the block is in its upper position as shown in dotted lines in Fig. 5. In order to force the end of the lower leg of the yoke into the recess 58 to hold the same there and thus hold the block in locking position I provide an arm 59 pivoted at 60 and held against the front face of the yoke by means of a leaf spring 61 secured at one end in the projection 19 and having its other end in contact with the side of the arm 59.

I realize that considerable variation is possible in the details of construction and arrangement of parts without departing from the spirit of my invention, and I therefore do not intend to limit myself to the specific form shown and described.

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

1. In a latch for doors, the combination with a door, of a housing mounted therein, a latch slidably mounted in the housing and adapted to project beyond the edge of the door, an actuating slide mounted at right angles to the latch and extending beyond each side of the door, two actuating handles one mounted on each side of the door and adapted to engage the actuating slide to reciprocate the same, and co-acting parts on the slide and latch to cause the slide to actuate the latch when the former is moved in one direction.

2. In a latch for doors, the combination with a door, of a housing mounted therein, a latch slidably mounted in the housing and adapted to project beyond the edge of the door, a cam face projection carried by the latch, an actuating slide mounted at right angles to the latch and extending beyond each side of the door, a side face on said slide adapted to engage with the cam face projection on the latch, two actuating handles one mounted on each side of the door and adapted to engage the actuating slide to reciprocate the same.

3. In a latch for doors, the combination with a door, of a housing mounted therein, of a latch slidably mounted in the housing and adapted to project beyond the edge of the door, an actuating slide mounted at right angles to the latch and extending beyond each side of the door, shoulders formed adjacent the ends of the slide, two actuating handles pivotally mounted on each side of the door and each provided with a projecting toe adapted to engage a shoulder on the slide to reciprocate the same, and co-acting parts on the slide and latch to cause the slide to actuate the latch when the former is moved in one direction by the operation of either one of the handles.

4. In a latch for doors, the combination
with a door, of a housing mounted therein,
a latch slidably mounted in the housing and
adapted to project beyond the edge of the
5 door, an actuating slide mounted at right
angles to the latch and extended beyond
each side of the door, two actuating handles
one mounted on each side of the door and
adapted to engage the actuating slide to re-
10 ciprocate the same, co-acting parts on the

slide and latch to cause the slide to actuate
the latch when the former is moved in one
direction and key actuated means to lock
the latch against movement.

In testimony whereof I affix my signature 15
in presence of two witnesses.

ALFRED TREMBLAY.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
