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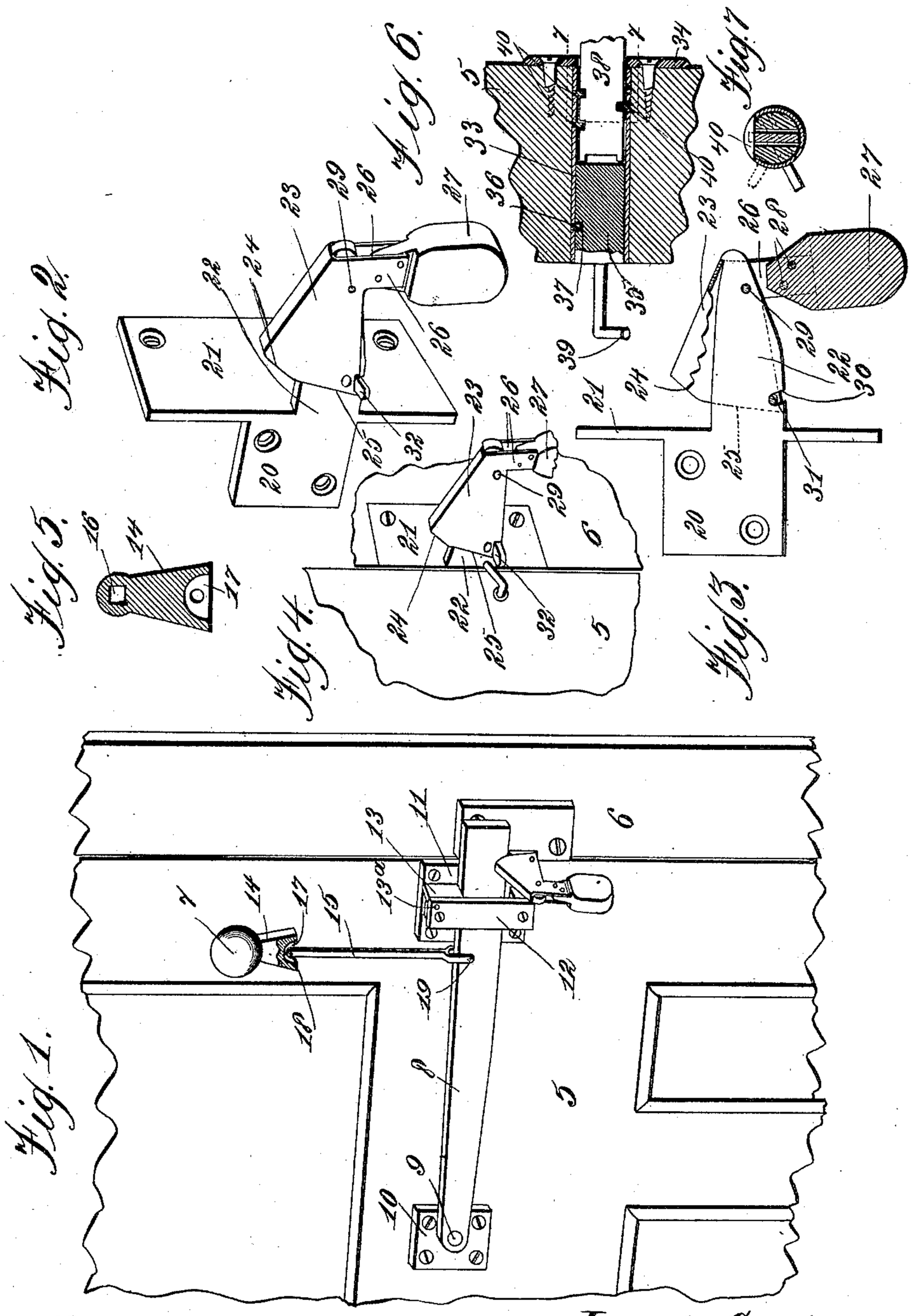
J. COUTURE.

LATCH.

(Application filed May 4, 1901.)

(No Model.)



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JOSEPH COUTURE, OF MONTREAL, CANADA.

LATCH.

SPECIFICATION forming part of Letters Patent No. 688,934, dated December 17, 1901.

Application filed May 4, 1901. Serial No. 58,690. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH COUTURE, a citizen of the United States of America, residing at Montreal, Province of Quebec, Canada, have invented certain new and useful Improvements in Latches; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in latches; and the objects in view are to provide an improved construction by which the door may be opened by a person on the outside of a room without lifting the latch-bar, and also to provide a key-actuated device arranged to unfasten the latch-bar from the outside and also without lifting the same.

With these ends in view the invention consists in the novel combination, construction, and arrangement of parts which will be hereinafter fully described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a perspective view of a door, showing my improved latch mechanism. Fig. 2 is an enlarged perspective view of the jamb-plates and the keeper. Fig. 3 is a side elevation of the jamb-plates with a part of the keeper broken away and in section. Fig. 4 is a detail perspective view of a part of the door on a reduced scale and representing a key-actuated means for releasing the keeper. Fig. 5 is a detail sectional view of a latch-actuator adapted to be carried by the knob-spindle. Fig. 6 is a detail sectional elevation of the key-actuated means for moving the keeper to its inoperative position. Fig. 7 is a cross-section thereof on the line 7 7 of Fig. 6.

The same numerals of reference denote like parts in each of the several figures of the drawings.

5 designates the door, 6 the jamb, and 7 the knob, which is carried by a spindle and is shown by Fig. 1 as arranged some distance above the latch-bar 8, although the particular arrangement of these parts may be varied. This latch-bar has one end pivotally supported by a stud 9 on the plate 10, which is secured to the door, and the free end portion of this latch-bar extends across a face-plate 11, the latter being secured to the door at an edge thereof. (See Fig. 1.) This face-plate supports a parallel guide-plate 12, and between the face and guide plates is arranged the latch-bar 8, whereby the two plates cooperate in keeping the latch-bar in its operative position. A detent 13 is pivotally connected at 13ª between the face and guide plates 11 12, and this detent is arranged above the latch-bar, so that it may be turned down to the position shown by Fig. 1 for the purpose of engaging with the top edge of said latch-bar. In this position of the parts the detent serves to confine the latch-bar against movement, but normally the detent is turned upwardly and in a horizontal position in a manner to withdraw it from engagement with the latch-bar, and thereby permit the latter to have the desired movement on the axis afforded by the pivotal stud 9.

Any suitable means may be employed for lifting the latch-bar; but in Figs. 1 and 5 I have represented an actuator 14, which is adapted to be carried by the knob-spindle and has operative connection with the latch-bar through the link 15. The latch-actuator 14 is in the form of a plate having a polygonal opening 16, by which it may be fitted snugly on the knob-spindle in a manner to turn therewith, and the enlarged free portion of this actuator is formed with a recess 17. The upper end of the link 15 is adapted to fit within the recessed lower portion of the actuator and to be connected pivotally thereto by the pin 18 in Fig. 1, whereby the actuator and the link are united together in a way which permits the actuator to be turned with the knob-spindle in either direction until one edge or the other of the recessed portion 17 of said actuator impinges the link 15, thus making the link serve as a stop to limit the swing of the actuator. The lower end of the link 15 is forked, and it has pivotal connection at 19 with the latch-bar. (See Fig. 1.)

20 21 designate the jamb-plates, which are arranged at right angles to each other and are cast in a single piece of metal with a latch-plate 22. The jamb-plates are perforated for nails or screws to pass therethrough into the door-jamb, and these plates are adapted to fit against the inner edge and the face of the

jamb, while the latch-plate 22 extends inwardly from the door-jamb, so that it will occupy a position in the path of the free end of the latch-bar 8.

23 designates a keeper, which is made in the form of a clasp and is tapered from one end to the other. This clasp-shaped keeper is provided at its wide inner portion with a beveled edge 24 and a straight edge 25, and said keeper is fitted to the latch-plate 22 so as to partly embrace the same, although the inner edges 24 25 lie at such a distance from the jamb-plate 21 that the latch-bar may fit between the jamb-plate and said edges of the keeper, said latch-bar resting upon the top edge of the latch-plate 22 and having engagement with the straight inner edge 25 of said keeper. The smaller end portion of the keeper is provided with depending lugs 26, to which is firmly secured a counterpoise 27—as, for example, by means of the rivets or screws 28—although the counterpoise may be made an integral part of the keeper, as desired. This keeper is yieldably mounted on the latch-plate 22 by the pivotal pin 29, which passes through the sides of the keeper at a point near the lugs 26, said pivotal pin being supported by the latch-plate 22 near the outer end thereof. This latch-plate is provided in its lower edge and near the jamb-plate 21 with a notch 30, into which is adapted to fit the stop pin or screw 31, which is secured to the lower edges of the sides forming the yieldable counterpoised keeper 23. The pin or screw 31 connects the lower edges of the sides of the keeper, so as to serve as a reinforcement therefor, and when the pivoted keeper is raised by the counterpoise to assume its normal position said pin or screw 31 enters the notch 30 and serves as a stop to limit the upward movement of the inner free portion of the keeper. I have also devised means by which the keeper may be positively moved to its inoperative position by key-actuated devices, and according to this embodiment of the invention the yieldable keeper is provided at one side thereof with an outwardly-extending stud 32. The key is adapted to be thrust into a barrel or cylinder 33, which is arranged in a suitable opening provided in the door 5 near the edge thereof. (See Fig. 6.) This barrel cooperates with the face-plate 34, that is secured to the outside of the door, and inside of the barrel is revolubly fitted a plug 35, the latter being held from endwise movement by a stud-pin 36, that is arranged to play in a groove 37 of the plug, also as shown by Fig. 6. The plug is adapted to turn on its axis when properly and detachably engaged by the key 38, and the inner end portion of this plug is provided with a bent finger 39, that extends inwardly from the door and is arranged to engage with the lug 32 of the pivoted keeper. (See Fig. 4.) The barrel or cylinder 33 is formed with suitable stops 40, that are arranged in such position as to prohibit the introduction of the key 38 except in a certain predetermined position, said stops permitting the key to pass between them when first introduced into the barrel and allowing the notches of the key to receive the said stops when the key is partly turned in the barrel and assumes the position shown by Fig. 6. At this time the key has interlocking connection with the turning plug 35, and by turning the key in the barrel the plug is made to move therewith and to thereby actuate the bent finger 39, so that it will engage with the lug 32 and depress the pivoted keeper sufficiently for the latch-bar 8 to pass thereover.

The latch-bar is intended to be lifted normally by turning the knob-spindle in either direction, and thereby swinging the actuator to the right or left and making it elevate the latch-bar, whereby the latter will be lifted above the top of the keeper 23 and the door may be opened. At night the detent 13 may be turned down into engagement with the latch-bar, and thus prevent the latter from being raised by the action of the knob-spindle, the latch thus serving as a means for keeping the door in its closed locked position. A servant or other person within the house may, however, lift the counterpoise 27, and thereby turn the keeper 23 on its pivot so as to depress the free end of the keeper sufficiently for the latch-bar to pass thereover, whereby the door may be opened notwithstanding the latch-bar is held in its locked position by the detent 13. A person having the proper key may insert the same into the barrel and into engagement with the plug, and then by turning the key and plug in the proper direction the bent finger 39 is made to engage with the lug 32 and to depress the yieldable keeper below the latch-bar, thereby also permitting the door to be opened from the outside without manipulating the knob-spindle and the latch-bar and while the latter is in its locked position. The latch-bar on closure of the door is adapted to ride upon the top inclined edge of the keeper, which turns or swings automatically on its pivot until the latch-bar rides against the inner edge 24 and engages with the straight edge 25 of said keeper, whereby the keeper is automatically engaged with the latch-bar and the latter is held in its locked position by the action of the keeper.

Changes within the scope of the appended claims may be made in the form and proportion of some of the parts, while their essential features are retained and the spirit of the invention is embodied. Hence I do not desire to be limited to the precise form of all the parts as shown, reserving the right to vary therefrom.

Having thus described my invention, what I claim as new is—

1. The combination with a pivoted latch adapted to be operated from the inner side only of the door; of a pivoted keeper for said latch, said keeper being movable to permit of the disengagement of the keeper and latch, whereby the door may be opened without dis-

turbing the position of the latch; and key-operated means for imparting movement to said keeper from the outer side of the door.

2. In a door-latch, the combination with a pivoted latch-bar, of a knob-spindle latch-actuator provided with a recess, a link pivoted in said recessed actuator and connected with the latch-bar, means for locking the latch-bar against movement on its pivot, and a keeper yieldably mounted in the path of the latch-bar, substantially as described.

3. In a door-latch, the combination with a latch-bar, and means for locking the same against movement, of a keeper-support, a keeper yieldably mounted on the support, and key-actuated means arranged to deflect the keeper from the path of the latch-bar, substantially as described.

4. In a door-latch, the combination with a latch-bar, and means for locking the same against pivotal movement, of a keeper-support, a keeper yieldably mounted on the support and provided with an offstanding lug, a cylinder or barrel adapted to be mounted in the door, and a key-actuated plug fitted in said cylinder or barrel and provided with a finger adapted in one position to engage with the lug on the keeper, as and for the purposes set forth.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

JOSEPH COUTURE.

Witnesses:
J. A. MARION,
JAMES SMITH.