J. A. GIESE.

LATCH.

APPLICATION FILED MAY 14, 1906.

927,231. Patented July 6, 1909.

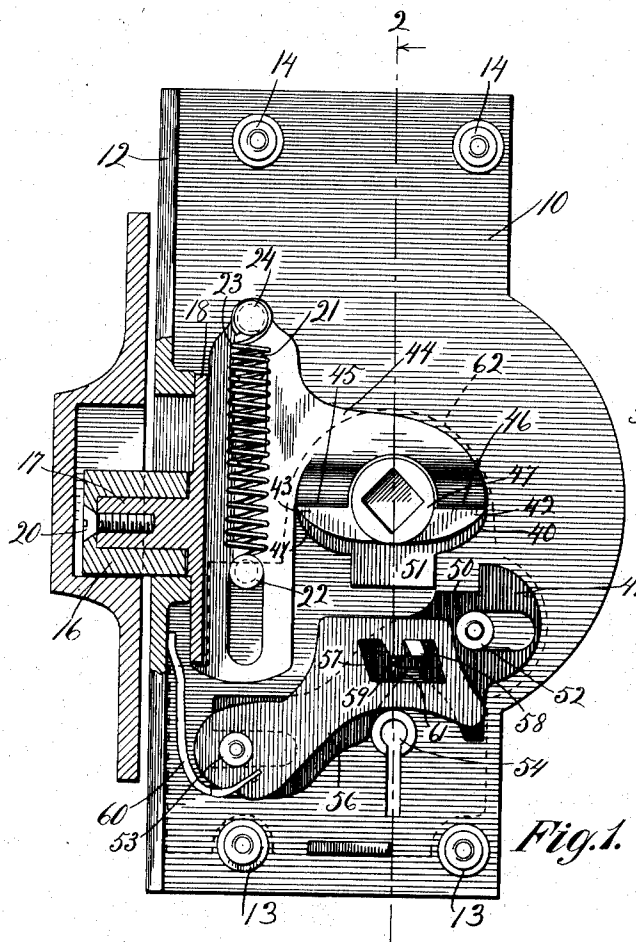

Fig. 1.

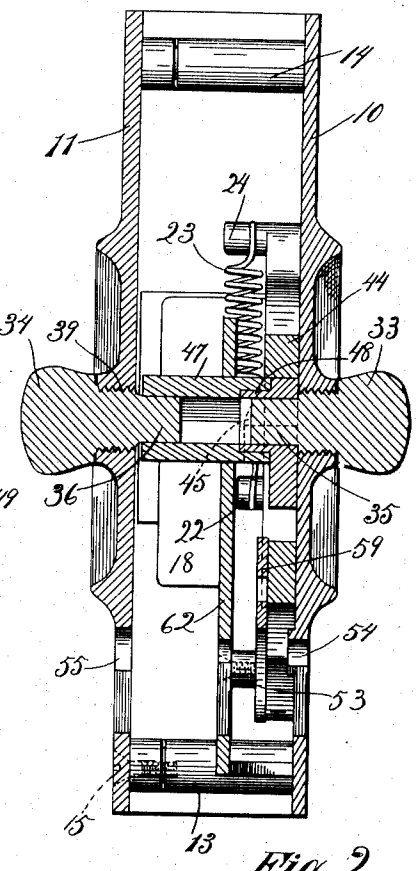

Fig. 2.

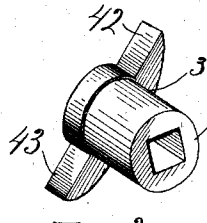

Fig. 3.

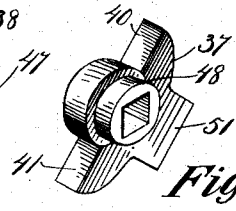

Fig. 4.

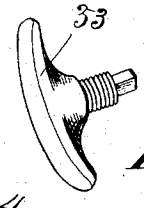

Fig. 5.

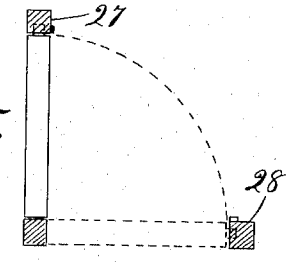

Fig. 9.

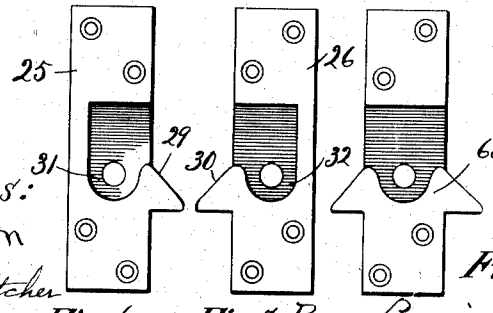

Fig. 6 Fig. 7 Fig. 8.

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UNITED STATES PATENT OFFICE.

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LATCH.

No. 927,231. Specification of Letters Patent. Patented July 6, 1909.

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To all whom it may concern:

Be it known that I, JAMES A. GIESE, a citizen of the United States, and resident of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Latches, of which the following is a specification, and which are illustrated in the accompanying drawings, forming a part thereof.

The invention relates to latches adapted for use on doors or swinging partitions, and operative with either right or left hand keepers. Such latches, while serviceable in many situations, are especially intended for use in connection with the swinging partition employed in motor cars for closing in the motorman's closet or for opening it for use by passengers when not required in driving the car.

The object of the invention is to simplify and increase the efficiency of latches of this character; and it consists, broadly, in a rotatable bolt, and more specifically in various details of construction as hereinafter described and as illustrated in the accompanying drawings, in which—

Figure 1 is an interior view of the latch casing, some of the parts being shown in section; Fig. 2 is a sectional view on the line 2—2 of Fig. 1; Figs. 3 and 4 are perspectives of the roll-backs used in the latch; Fig. 5 is a perspective of one of the latch handles; Figs. 6, 7 and 8 are details of the several forms of keepers with which the latch may be used; and Fig. 9 is a conventional representation of the manner of mounting the swinging door or partition upon which the latch is to be used.

The latch is housed in a suitable casing comprising the side plates 10, 11, and the face or edge plate 12, which may be integral with one of the side plates. A plurality of spacing posts, as 13, 14, rise from the side plates, as shown these posts being sectional, one section rising from each plate, and suitable screws, as indicated at 15, enter these posts through one of the side plates and unite their sections, thus securing the latch casing together.

The bolt 16 is cylindrical in form and apertured from one end to fit upon a post 17 projecting through a suitable aperture in the face plate 12, from a carrier plate. This carrier plate is angular in form, comprising one leaf 18 in sliding contact with the inner face of the plate 12, and a leaf 19 in sliding contact with the inner face of one of the side plates, as 10. The bolt 16 is held to the post 17 by means of a screw 20, setting through the outer ends of both, and the bolt is free to revolve on the post and the head of the screw and may take a bearing at its inner end on the plate 18, but preferably, as shown, is not in actual contact therewith. The leaf 19 of the carrier plate is longitudinally slotted to engage a pair of guide posts 21, 22, rising from the plate 10. These posts are alined parallel with the face plate 12, thereby providing for vertical movement of the bolt and carrier plate. A retractile spring 23 reacts between the lower post 22 and a stud 24 formed on the upper end of the carrier plate, this spring holding the bolt at the lower end of its path of movement.

A pair of right and left hand keepers, 25, 26, are secured to door casings, as 27, 28, at the opposite limits of the travel of the door or partition on which the latch is to be used, these keepers being provided with inclined striker plates 29, 30, on which the bolt 16 may freely roll, the sockets 31, 32, of the keepers being so formed as to retain the bolt against frictional dislodgment.

The bolt is preferably controlled by a pair of independently operating handles 33, 34, suitably secured to the plates 10 and 11 and having angular stems 35, 36, for engaging the sockets of the roll-backs 37, 38. As shown, the handles are secured in the plates 10, 11, by threads, represented at 39, the handles turning in these threads during the limited movement incident to the raising of the bolt. The roll-backs 37, 38, are, generally speaking, of usual form, each being provided with a socketed hub to receive the spindle of the handle and having wings 40, 41, 42, 43, for raising the bolt. The plate 19 is provided with a rearwardly extending arm 44, having bearing faces 45, 46, for engagement with the wings of the roll-backs. The hub 47 of the roll-back 38, and which coöperates with the handle 34, is counterbored at its inner end to receive the reduced end of the hub of the roll-back 37, the two hubs being in rotative engagement, thereby permitting each roll-back to be actuated independently of the other.

A lock is provided for controlling the handle 33, and consists of a key-controlled bolt

49, having a shoulder 50, movable into engagement with a stem 51 depending from the hub of the roll-back 37, thereby preventing the oscillation of the roll-back. This locking bolt 49 reciprocates over the inner face of the plate 10 and is guided by a pair of studs 52, 53, rising therefrom and engaging suitable slots in the bolt. The bolt is thrown by means of a suitable key, not shown, which may be inserted through either of the keyholes 54 or 55, one in each of the side plates. The locking bolt 49 is held in either of its positions by means of an oscillating tumbler 56, pivoted upon the stud 53 and seated upon the face of the bolt 49. The tumbler 56 is apertured, as shown at 57, to receive a stud 58 projecting from the face of the bolt 49, and a detent 59, carried by the tumbler, projects into the aperture 57, crossing the path of the stud 58 and thus securing the bolt against movement from either of its extreme positions. The tumbler is normally held, by means of a spring 60, in such position as to bring its detent into engagement with the stud 58.

Assuming the parts to be in the position as represented in Fig. 1, the key, inserted through the keyhole and turned, will first move the tumbler 56 upwardly until its detent 59 is out of engagement with the stud 58 and then, entering the notch 61 in the bolt 49, carries the bolt to the left, bringing its shoulder 50 into engagement with the stem 51 of the roll-back. As the key is further turned the tumbler is allowed to descend, thereby preventing the return of the locking bolt.

The latch casing being of the type known to the trade as the half mortised latch, is of the same thickness as the door to which it is to be applied, and, as shown, is wider than required to accommodate the working parts. They are therefore located adjacent to one of the side plates, and in order to prevent their displacement a shield or cover plate 62 is used and may be secured in place by screws entering the studs 52, 53.

Should it be desired to employ the latch on what is known as a swinging door, that is to say, one which opens in both directions, a double lipped keeper 63, as shown in Fig. 8, will be employed.

I claim as my invention—

1. In a latch, in combination, a vertically reciprocable angle plate having a post projecting from one leaf, a hollow cylindrical latch-member rotatably mounted on the post, and means acting upon the other leaf for reciprocating the angle plate.

2. In a latch, in combination, a vertically reciprocable angle plate having a post projecting from one leaf and an arm projecting from the other leaf, a hollow cylindrical latch-member rotatably mounted on the post, and a roll-back acting on the arm of the plate to raise it.

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