N. B. HURD.

LOCK AND LATCH MECHANISM.

APPLICATION FILED MAR. 21, 1917.

1,244,443.

Patented Oct. 23, 1917.

2 SHEETS—SHEET 1.

Fig 1

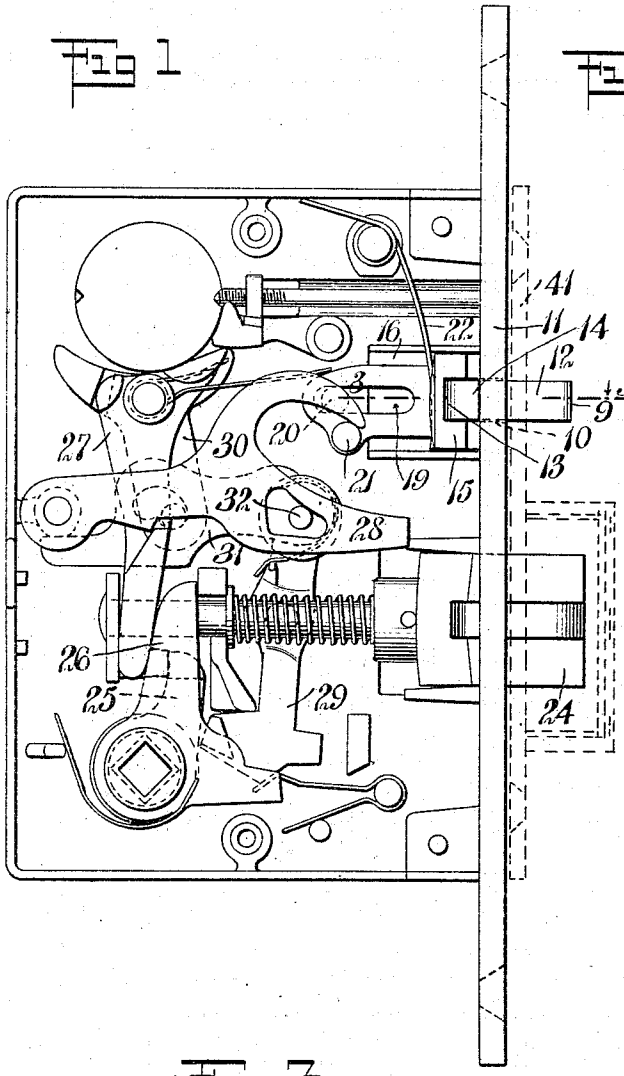


Fig 2

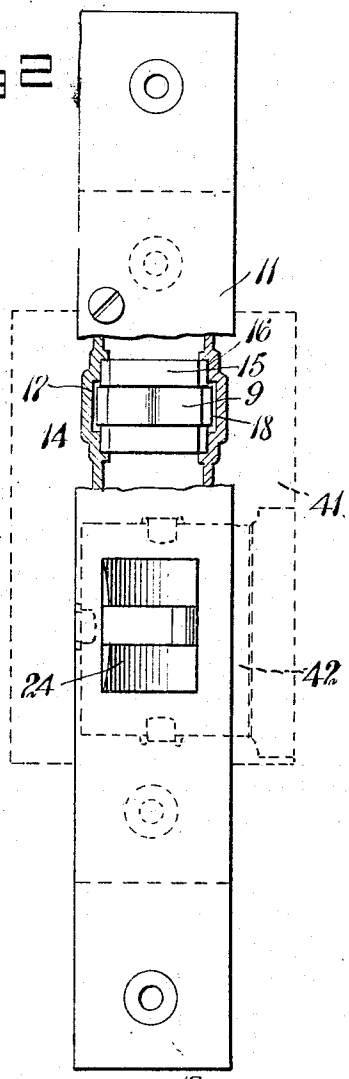


Fig 3

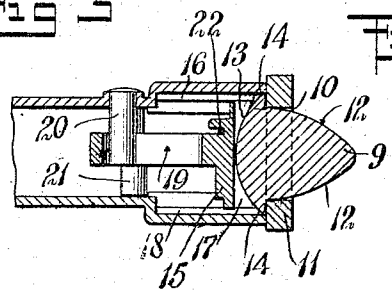
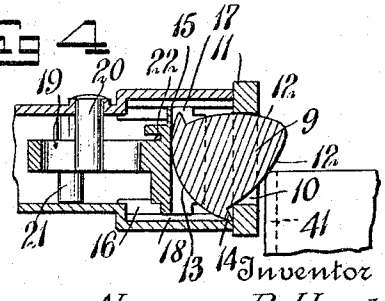


Fig 4



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2 SHEETS—SHEET 2.

Fig 5

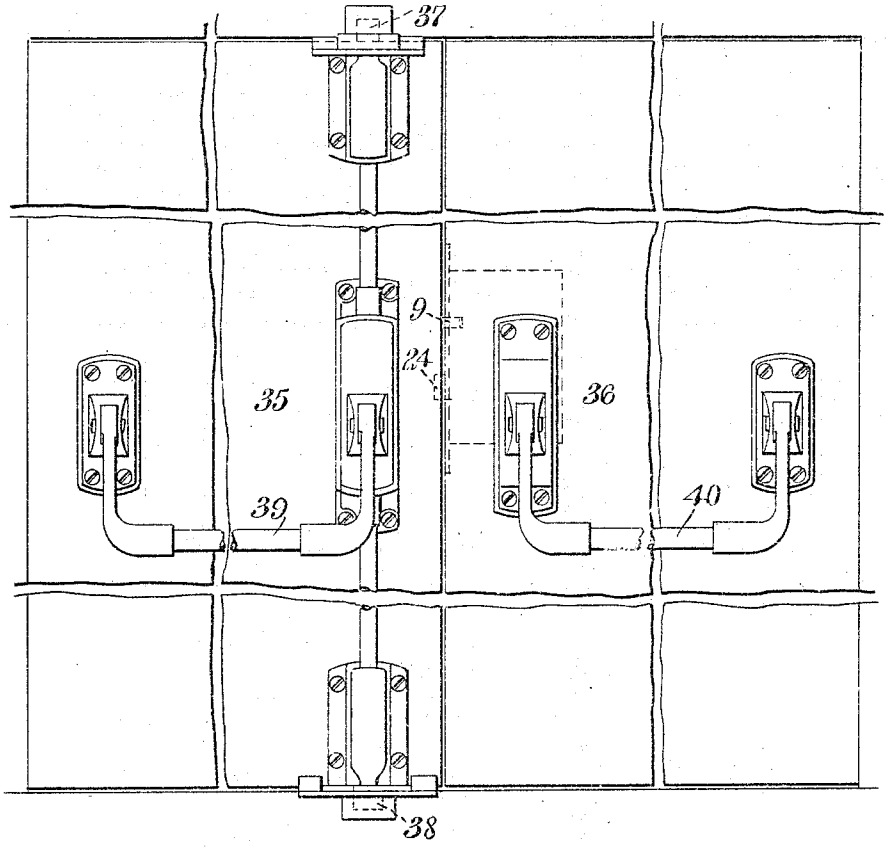
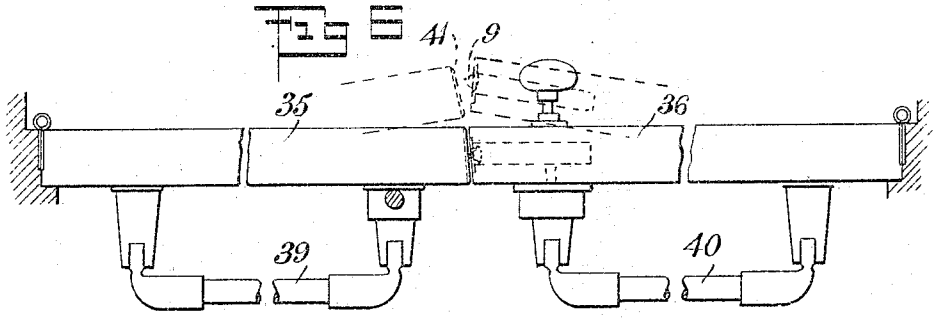


Fig 6



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UNITED STATES PATENT OFFICE.

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LOCK AND LATCH MECHANISM.

1,244,443. Specification of Letters Patent. Patented Oct. 23, 1917.

Application filed March 21, 1917. Serial No. 156,262.

To all whom it may concern:

Be it known that I, NORMAN B. HURD, a citizen of the United States of America, residing at New Britain, Hartford county, Connecticut, have invented a new and useful Lock and Latch Mechanism, of which the following is a specification.

The main object of my invention is to provide an easy action latch which can be operated by swinging in either direction.

It is particularly adapted to the auxiliary latch of what are commonly termed panic bolt locks, and I have shown the invention as applied to a lock and its use with a pair of doors, so that either door may be operated independently of the other door.

In the simple form illustrated herein, there is a spring pressed slide guided in the lock casing, and an operating member or latch loosely carried by the slide and projecting through the face of the lock. This latch member is provided with two lugs which serve as fulcrums for the latch so that it can be readily turned to the right or to the left, a combined locking and sliding connection being maintained between the latch and the slide.

Figure 1 is a side view showing the latch as applied to one form of mechanism.

Fig. 2 is a front view of the same showing the front plate broken away and the casing in section adjacent the latch controller.

Fig. 3 is a horizontal section of the latch on the plane of the line 3—3 of Fig. 1, showing the latch controller protruding.

Fig. 4 is a section on the same plane indicating the method of operation of the latch controller.

Fig. 5 is a vertical projection showing the latch mechanism as applied to a pair of doors, and

Fig. 6 is a plan view of the same.

The controller 9 normally protrudes through an opening 10 in the face plate 11, which opening is but slightly larger than that part of the controller normally seated within it. Two side edges 12—12 are beveled preferably on curved lines, as shown in Figs. 3 and 4. The rear 13 of the controller is also preferably curved. Lugs or shoulders 14—14 are provided to limit the outward protrusion of the controller and to serve as fulcrums when the controller is operated as indicated in Fig. 4. The slide 15 is preferably guided in grooves 16—16 in the walls of the casing. The slide is provided with a horizontal groove 17 to receive the rear of the controller. The grooves 18 in the sides of the casing allow for the in and out sliding movement of the shoulders 14 of the controller. In the form shown, the slide has a slot 19 in its shank guided on the stud 20 which is secured in the casing. The slide may also be steadied in its rear portion by the part 21 between the sides of the casing. Normally the spring 22 presses the slide and controller outwardly.

The controller or latch may be used in connection with many different forms of mechanism. The form herein shown includes a spring pressed bolt 24, the inner and outer roll backs 25 and 26, the key operated retracting member 27, the dogging member 28, the rocking member 29 for dogging the outer roll back, the members 30 and 31 for operating the member 29 and the pin 32 for holding the dogging member 28 out of the path of movement of the bolt 24.

I have shown the mechanism as applied to a pair of doors 35 and 36 adapted to swing outwardly. The door 35 carries upper and lower bolts 37 and 38 adapted to be retracted by means of an operating handle 39. The latch mechanism heretofore described as embodying my invention is secured to the door 36 and of course moves with it as the door is swung outward or closed. The bolt 24 may be retracted in any suitable manner by means of the handle 40 when it is desired to swing the right hand door outwardly. The left hand door carries a striker plate 41 with a pocket 42 which opens toward the inside so that when the bolts 37 and 38 are retracted by operation of the handle 39, the door 35 may be swung outwardly without disturbing the right hand door 36, and the left hand door may be swung inwardly when the right hand door is closed. If the right hand door is closed and the left hand door is open and is being closed, the inner edge of the striker plate will engage the outer beveled face of the controller 9 and operated in the manner shown in Fig. 4 so as to push the controller inwardly. In case the left hand door is closed and the right hand door is open and is being closed, the inside face of the controller will engage the outer edge of the striker plate 41 and operate the controller in the reverse manner. In either case the

construction of the controller and its method of support permits it to be forced inwardly with but little resistance no matter which door it is that is being closed. By the use of such a construction either door may be operated independently of the other door, the controller 9 operating with equal ease in either direction.

The operation of the mechanism will be understood by one familiar with this art. When the upper end of the rocker 29 is drawn to the left by the lever 30 and slide 31, the dogging member 28 is free to fall in the path of movement of the bolt 24 whenever the slide 15 and part 21 are moved inwardly. The slide is operated by the controller 9 being forced inward by engagement with the striker plate 41. The striker plate tilts the controller 9 about one of its shoulders 14 as a fulcrum, as indicated in Fig. 4 and thus brings it into a position where the continued pressure of the striker plate can readily force the controller and slide inwardly. It will be noted that the controller has a rocking and sliding engagement between its rear curved face and the abutting wall of the groove in the slide. The ogival shape of the nose of the controller facilitates the rocking and sliding action of the controller no matter toward which side the door or the striker plate is moved.

I claim:

In a latch mechanism, a casing having oppositely disposed upper and lower guide grooves and oppositely disposed intermediate guide grooves between said upper and lower guide grooves, a face plate having an opening narrower than the space between said intermediate grooves, a latch controller having beveled front edges guided in said opening and lateral rear projections guided in said intermediate grooves, and a slide cooperating with said latch controller and guided in said upper and lower guide grooves.

NORMAN BOLLES HURD.