A. ARENS.

LATCH BOLT DOGGING MECHANISM.

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924,528. Patented June 8, 1909.

Fig. 1.

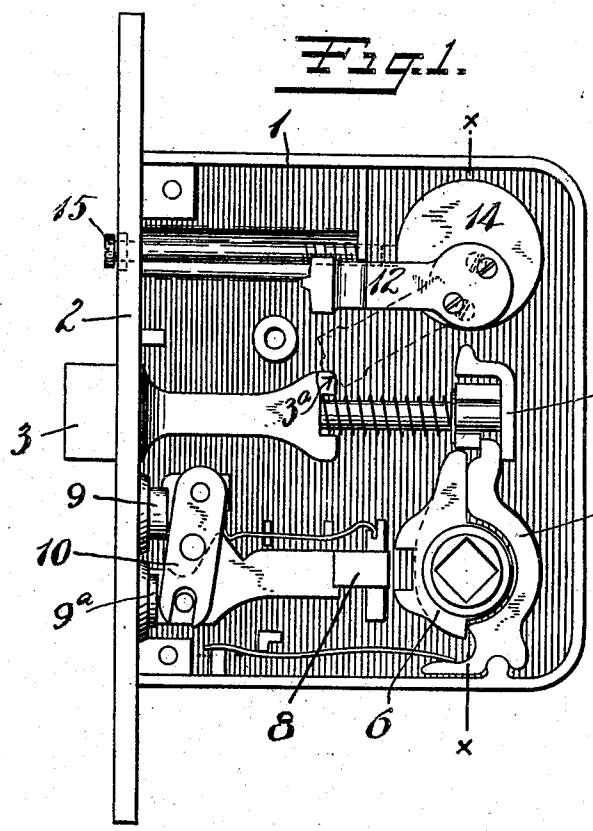


Fig. 2.

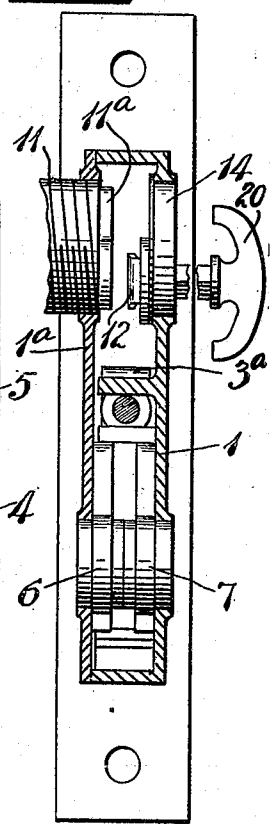


Fig. 3.

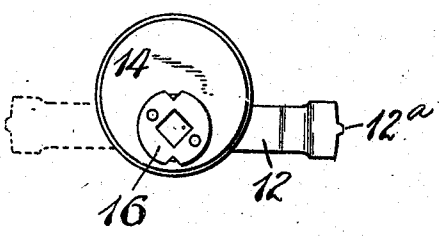


Fig. 4.

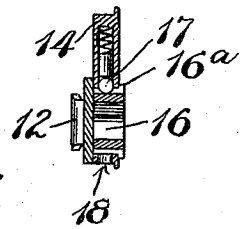
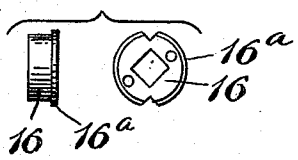


Fig. 5.



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LATCH-BOLT-DOGGING MECHANISM.

No. 924,528. Specification of Letters Patent. Patented June 8, 1909.

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To all whom it may concern:

Be it known that I, AUGUST ARENS, a citizen of the United States, residing at New Britain, county of Hartford, State of Connecticut, have invented certain new and useful Improvements in Latch-Bolt-Dogging Mechanism, of which the following is a full, clear, and exact description.

My invention relates to improvements in locks and latches and is of particular value in that class of locks in which the spring latch bolt is also relied upon for dead-locking the door.

One important object is to provide a simple and inexpensive construction whereby the latch-bolt may be simply and effectively dogged so as to prevent all possible repression or contraction of the bolt until the dog is released, the construction being such that the dogging device may be easily applied to either side of the lock, thereby making the device either right-handed or left-handed.

In the accompanying drawings, Figure 1 is a view of a lock with the cap of the case removed to reveal the internal construction. Fig. 2 is a section on the line *x*—*x* showing the cap in place and the inner end of a cylinder lock applied thereto. Fig. 3 is a front elevation of certain details of construction, detached. Fig. 4 is a vertical section of the parts shown in Fig. 3. Fig. 5 is a side and rear elevation of a detail.

1 is a lock case, 2 the front plate, through which projects a spring latch-bolt 3.

4 is a lever hinged to the case 1 and having its free end arranged to engage the tail 5 of the latch bolt 3.

6—7 are alined roll-backs carried by the case 1 and adapted to be independently operated respectively by opposite knobs (not shown). In this particular instance, 6 may represent the roll-back adapted to the outer knob of the door, and 7 is the roll-back adapted to the inner knob of the door. By operating either of these roll-backs, the lever 4 is swung back, retracting the bolt 3 through the medium of the connection with the latch tail 5. The outer roll-back is notched, as indicated in Fig. 1, so as to receive a stop 8 operated by any suitable "night-latch" operating mechanism, such as the buttons 9—9[a] connected to walking beam 10, whereby, when one button is pushed in, the other will be pushed out, and vice versa, thus advancing or retracting the stop 8. This feature of construction is so well known as to require no further description. When the stop 8 stands in one position, the outer roll-back 6 is dogged against movement and hence no one could enter from the outer side of the lock by turning said roll-back. In such cases, however, it is customary to have means on the outer side of the lock for admitting entry. In this instance, this means is represented by cylinder lock 11 arranged to screw into the case 1, or into the cap 1[a] thereof as in this particular instance (see Fig. 2), so that the key-controlled cam 11[a] will assume such position relatively to the tail 5 of the latch that when said cylinder lock is operated by a proper key, said latch tail 5 will be engaged by the roll-back 11[a] and retracted.

In locks of this character, it is customary to provide a threaded opening in each side of the lock case, said openings being ordinarily in line whereby said cylinder lock 11 can be attached to either side of the case thus furnishing a reversible construction adapted to a right or left-hand door. As the lock obviously occupies only one of these openings, I utilize the other one for the reception of latch dogging mechanism which not only performs the dogging function, but also serves to close-in the otherwise open or unoccupied opening, thereby preventing the admission of dust or dirt within the lock to the impairment of the operative mechanism therein contained.

This dogging mechanism comprises a swinging latch dogging arm 12 pivoted on plate 14, the latter being preferably of a suitable shape to closely fit the unoccupied case opening, as best seen in Figs. 1 and 2. It should be stated that in locks of this character, screws accessible at the face 2 of the lock are employed to hold the cylinder lock in place after adjustment. One of these screws is shown retracted at 15, Fig. 1. In this particular instance, this screw 15 may be utilized to engage the edge of the plate 14 and hold it in place, as shown in Fig. 2. The latch dogging arm 12 swings in such an arc that when in one position it will stand free of the rear end of the latch-bolt 3 (see solid lines Fig. 1), while in another position it will stand directly to the rear of the latch 3 or a projection 3[a] therefrom (see dotted lines Fig. 1) to prevent all possible retraction or repression of said bolt.

By the use of the foregoing means, it is apparent that when it is desired to absolutely lock the door, the user at the inside may simply turn the arm 12 to the position indicated in dotted lines Fig. 1, so as to hold the latch 3 projected and render the lock inoperative until said arm is again released. The means for turning this arm 12 may be the usual well-known thumb-turn 20 and to that end the outer end of the hub of said arm 12 may have a squared opening as best seen in Fig. 3 to receive the spindle of said thumb-turn.

Now, referring to Figs. 3 to 5, the plate 14 is shown as preferably shouldered to aid in steadying the same in the opening of the lock case. The hub of the stop arm 12 is indicated at 16 and the latch dogging arm may be secured thereto by screws or any other suitable fastening. 16[a] is a flange at the inner end of the hub 16, which coöperates with a flange, formed by the edge of the arm 12, in holding the hub 16 to plate 14. Suitable means is provided to cause the arm 12 to normally assume the unlocked position shown in Fig. 1 and in the preferred form of this holding means, the same comprises a spring-pressed pawl or retainer 17 arranged in a recess or bore formed diametrically in the plate 14. This bore may be formed very simply and economically by entering a drill at the lower edge of the plate, as indicated in Fig. 4 at 18, the drilling being done before the hub 16 is put in place. The edge of the hub 16 may be notched or recessed, as shown, to receive the end of said retainer 17.

The apparatus thus far described may be made reversible so that the arm 12 will stand in a position indicated in solid lines Fig. 3, or in dotted lines in the same figure. By this means, the invention may be applied to either a right or left-hand door lock.

To reverse the parts from that shown in Figs. 1 and 2, one would simply reverse the position of the roll-backs 6 and 7, also the position of the cylinder lock 11 and the plate 14. He would also turn the arm 12 from the position indicated in solid lines to that indicated in dotted lines. When the parts are thus arranged and assembled, (assuming the lock was first adapted to right-hand door), it would, by these changes, be adapted to a left-hand door. The arm 12 may have a small nose 12[a] (Fig. 3) midway at its forward end to limit the downward swing. This dogging device is always available to deadlock the latch-bolt 3, whether or not the "stop-work" first described is in the locking position. In latches of this character provided with stop-work, it has been found that unlawful entry can be effected past such a lock by simply inserting a thin blade between the door and the door casing, thereby forcing back the latch-bolt, even though the stop-work is on so as to block admission by the turning of the outer knob; another method of attack has been to insert a thin crooked instrument such as a button-hook between the edge of the door and the door casing so as to reverse the stop-work and release the outer knob. By my improvement, neither of these methods can be successfully practiced because the dog arm 12 serves to directly block the repression and the latch-bolt, and even if the stop-work had first been applied, so as to prevent the outer knob from being turned, success would not attend an effort aiming to reverse the stop-work by the method last described because even in that case the outer knob could not be turned inasmuch as it is a pre-requisite that the latch is capable of retraction which, as explained, is impossible so long as the dogging device 12 blocks the same.

What I claim is:

1. In combination, a lock case, a latch-bolt, said lock case having an opening in each side arranged to receive a cylinder lock, a cylinder lock adapted to close one opening, a plate adapted to the other opening, and a dogging arm carried by said plate and arranged to dead-lock said latch-bolt.

2. In combination, a lock case, a latch-bolt, said lock case having an opening in each side arranged to receive a cylinder lock, a cylinder lock adapted to close one opening, a plate adapted to the other opening, a dogging arm carried by said plate and arranged to dead-lock said latch-bolt, and means carried by said plate for frictionally holding said stop in its inoperative position.

3. In a lock, a latch-bolt, a case, two alined openings in opposite sides thereof, a plate adapted to be wholly held in one or the other of said openings, a reversible dogging arm carried by said plate and rotatably mounted thereon and arranged to operatively engage and dog said latch-bolt when in one position and being free of said latch-bolt when in another position.

4. In a lock, a latch-bolt, a case, two alined openings in opposite sides thereof, a plate adapted to be wholly held in one or the other of said openings, a reversible dogging arm carried by said plate and mounted therein to oscillate and arranged to operatively engage and dog said latch-bolt when in one position and being free of said latch-bolt when in another position, and means carried by said plate for frictionally holding said arm in the last mentioned position.

5. In a lock, a latch-bolt, a case, two alined openings in opposite sides thereof, a removable plate adapted to said openings, a dogging arm carried by said plate and mounted thereon to oscillate and arranged to operatively engage and dog said latch-bolt when in one position and being free of said latch-bolt when in another position, means

carried by said plate for frictionally holding said arm in the last mentioned position, said arm being reversible to adapt said plate and arm to be held in either of said openings.

6. In a lock, a latch-bolt, a case, two openings in opposite sides thereof, a reversible latch dogging arm, reversible and removable plate support for said arm, and means for securing said plate in either of said openings leaving the other opening free for another purpose.

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