

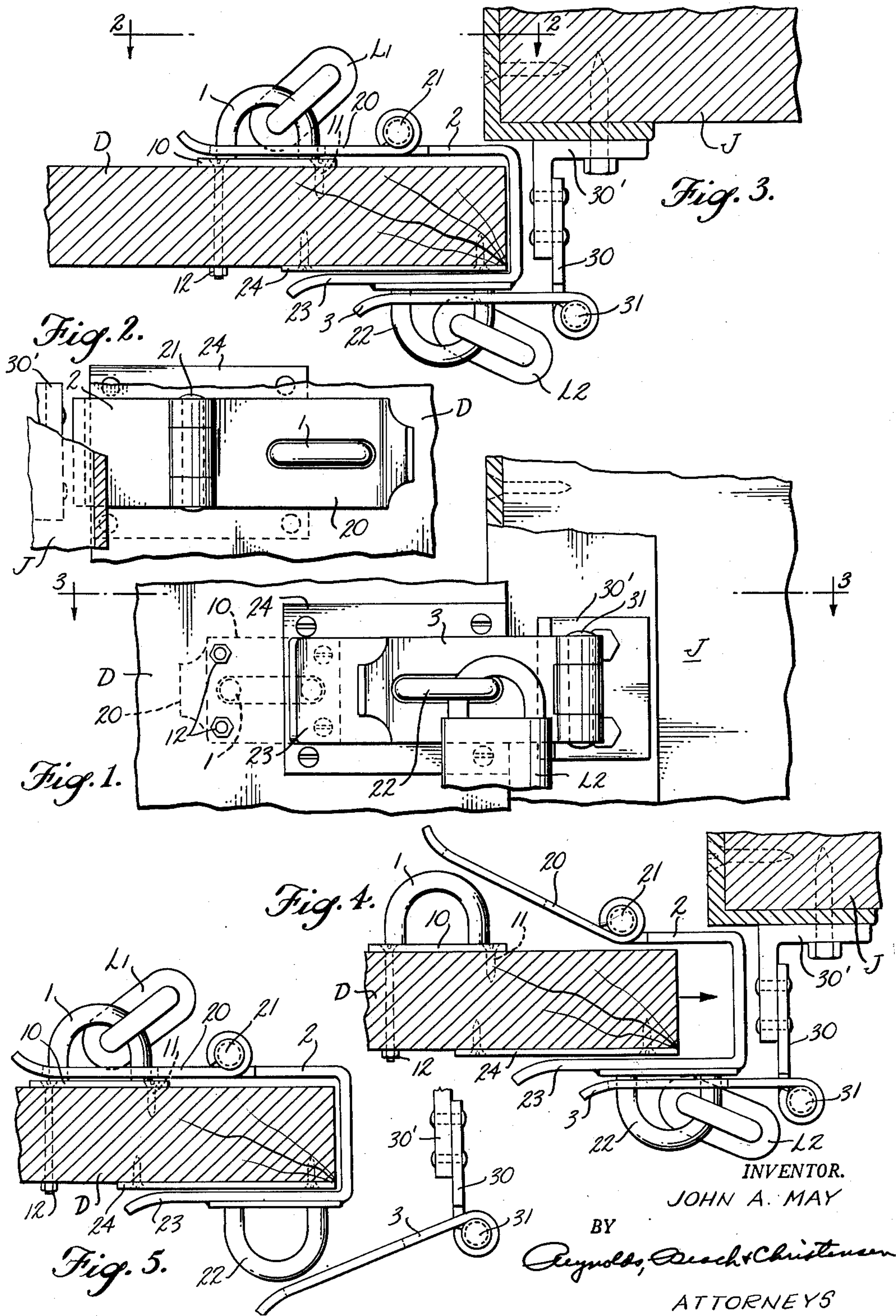
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SLIDING DOOR LOCKING MECHANISM

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SLIDING DOOR LOCKING MECHANISM

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The mechanism to which this invention pertains may be employed to interconnect and lock a sliding door to a door jamb, and the particular advantage of the securing mechanism is that it can be locked or unlocked from either side of a sliding door.

An object of my invention is to provide locking mechanism for a sliding door of the type indicated which can be mounted easily and securely on a door jamb alongside a doorway to receive a sliding door, and which will embrace opposite sides of the door. By incorporating a securing or locking element at each side of the door, the mechanism may be disengaged from either side of the door and secured from each side of the door, irrespective of which side of the mechanism was last secured or released.

It is a particular object of the invention to provide such locking mechanism, securable at opposite sides of a sliding door, which will be equally applicable to new sliding door installations or installations made previously without contemplating use of the particular locking mechanism of this invention. Moreover, such mechanism can be installed quickly with a minimum amount of carpentry modification, yet will be mounted securely so that it cannot be removed readily.

In general, the locking mechanism is of the hasp type, and a particular feature of it is the provision of hinge elements of the mechanism at opposite sides of the door, with the provision of only a single staple mounted upon the door. As far as the installation on the door is concerned, therefore, it is necessary to mount only one staple, and on the jamb the equivalent of one hasp, in securing the benefit of a double-sided locking mechanism.

Additional advantages and objects of the preferred construction shown in the drawings will be discussed in the following detailed description.

Figure 1 is an elevation view of the locking mechanism seen from one side of the door, and Figure 2 is a side elevation view of the mechanism seen from the other side of the door.

Figure 3 is a horizontal sectional view through a fragment of the door and door jamb, taken on line 3—3 of Figure 1 and showing the locking mechanism in plan locked at both sides of the door, while Figure 4 is a similar view showing the mechanism locked at only one side of the door, and Figure 5 is a similar view showing the mechanism locked only at the other side of the door.

The double locking or securing mechanism as shown in Figures 1 to 5, inclusive, incorporates

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three principal parts. On the surface of the door D is mounted in usual fashion a conventional staple 1. The mounting plate 10 is shown secured in place, preferably by two screws 11 and two bolts 12. Use of bolts passing entirely through the door will prevent the staple being easily pried off the door.

At the opposite side of the door from the staple 1 is a jamb-mounted member, and interconnecting this jamb-mounted member and the door-mounted staple 1 is a rigid U-shaped yoke 2, on one end of which is mounted a hasp 20 by a hinge 21, so that when the yoke is in the door-embracing position shown in Figure 3, the hasp 20 may be swung about its hinge 21 into engagement with the staple 1, as shown in Figure 3, or away from the staple to a position such as shown in Figure 4. The side of the U-shaped yoke remote from hinge 21 and hasp 20 is arranged for connection to the jamb-mounted member, such for example as by having a staple 22 rigidly mounted on it. The end of the staple-carrying side of the yoke has its end 23 bent away from the opposite side of the U-shaped member to widen the door-receiving opening. To prevent abrasion of the door a scuff plate 24 may be mounted on it adjacent to this side of the U-shaped yoke, so that if there is contact between the door and the yoke, the scuff plate will scrape on the yoke instead of the door scraping on it.

The jamb-mounted member includes an element connected to the yoke 2 which is shown as the hasp 3 engageable over the yoke-carried staple 22. This yoke-connected element is pivotally connected or secured to a jamb-mounted plate 30 by hinge 31.

In the particular construction shown in Figures 1 to 4, inclusive, the plate 30 is mounted on an angle member 30', which in turn is suitably secured to the jamb J. In this instance the jamb does not overlap the edge of the door, but merely lies alongside the door edge, requiring the angle element to span the offset between the face of the jamb and the side of the door remote from it. An alternative type of construction where the jamb J extends across the edge of the door, would enable the plate 30 to be secured directly to the jamb face.

In operation the rigid U-shaped yoke 2 may be moved over the edge of the door to embrace it in the manner shown in Figure 5, and the hasp 20 swung about its hinge 21 over the staple 1 while the door is open. The hasp may then be secured to the staple 1 by the lock L1 fastened through the staple. The door D may then be slid into

the position shown in Figure 3, in which the face of the door carrying staple 1 somewhat overlaps the jamb J, making it difficult for a wedging bar to be inserted between the edge of the door and the jamb to pry the door open. Since the hinge 21 carried by the U-shaped yoke is set back a considerable distance from the edge of the door, the amount of overlap between the door and jamb may be rather substantial. Depending upon the amount of overlap desired, the angle element 30' will be secured in an appropriate position on jamb J to constitute a stop engageable by the web of the channel yoke. When the door has been moved substantially into this limiting position, the hasp 3 may be swung over the staple 22 mounted on the yoke and locked in place by a padlock L2, as shown in Figure 3.

Alternatively, the yoke 2 may first be mounted on the hasp 3 while the door is open in the manner indicated in Figure 4. Thus with this hasp swung over the staple 22 the yoke will be secured to the jamb-mounted member by the padlock L2. When thus supported, the yoke 2 may be swung freely about hinge 31, and its swung position may be controlled by a person grasping the hasp 20 so as to align its opening with the door D. The door will then be slid in the direction indicated by the arrow in Figure 4 until the aperture of hasp 20 can be swung over staple 1, whereupon the door may be secured to the yoke by the padlock L1.

To open the door from the side of staple 1, it will be evident that it is merely necessary to unlock lock L1, remove it from the staple, and swing hasp 20 into the position shown in Figure 4. Thereupon the door may be slid in the direction opposite that indicated by the arrow to withdraw it from the yoke 2, and the yoke will remain supported by the hasp 3, hinge 31 and plate 30. Alternatively, the door may be opened from the side of staple 22 by unlocking padlock L2 and swinging hasp 3 away from staple 22, such as into the position shown in Figure 5. Thereupon the door D again may be slid away from the plate 30 into open position, but in this instance the yoke 2 will remain supported upon the door by the staple 1, and locked to such staple by the padlock L1.

While the foregoing description pertains to the securement of a single sliding door to a door jamb, the same type of locking mechanism may be used to lock together adjacent edges of two sliding doors. In such an installation the member 30, referred to above as a jamb-mounted member in Figures 1 to 5, inclusive, would be mounted on the edge of the other sliding door adjacent to the door D. The member 30 may therefore be designated generally an anchor member.

An advantage of the present sliding door locking mechanism is that whether it is used to lock a single sliding door or to lock a double sliding door it may be moved completely out of the doorway when the door is opened. Thus, whichever side of the locking mechanism is unlocked first, when it is desired to leave the door open, the hasp 20 may be disengaged from the staple 1, as shown in Figure 4, so that the door may be slid completely out of the yoke 2. In order to remove this yoke and hasp 20 from the doorway, it is not necessary to unlock the lock L2 and store the yoke 2 somewhere, but the hasp 3, staple 22, yoke 2 and hasp 20 may all conveniently be retracted out of the way behind the jamb-mounted anchor plate 30 by swinging this assembly about hinge 31 through 180 degrees. If the plate 30 is mounted on an adjacent sliding door, the parts 2, 20 and 2 may still be swung about pivot 31 sufficiently to retract these members back of the edge of the sliding door, so that they cannot be caught by a projection passing through the doorway.

I claim as my invention:

1. Locking mechanism for securing a slidable door to structure adjacent to such door comprising a rigid U-shaped yoke adapted to embrace the edge of the door with its web portion spanning the door edge and its leg portions extending along opposite faces of the door, respectively, a hasp pivotally mounted on the end of one leg of said yoke remote from its web portion, a staple mounted on the door for engagement by said hasp, an anchor member carried by the structure adjacent to the door, to which the door is to be secured, latching means connected to the other leg of said yoke and operable to support said yoke thereby, including a second staple and a second hasp, and hinge means interconnecting said latching means and said anchor member and guiding said latching means for swinging to move said yoke from door edge engaging position into retracted position out of the doorway defined by the structure adjacent to such door.

2. The sliding door locking mechanism defined in claim 1, in which the second staple is mounted rigidly on the other leg of the yoke, and the hasp is swingable about the hinge means.

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