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F. L. HANLE

CLOSURE LOCKING DEVICE

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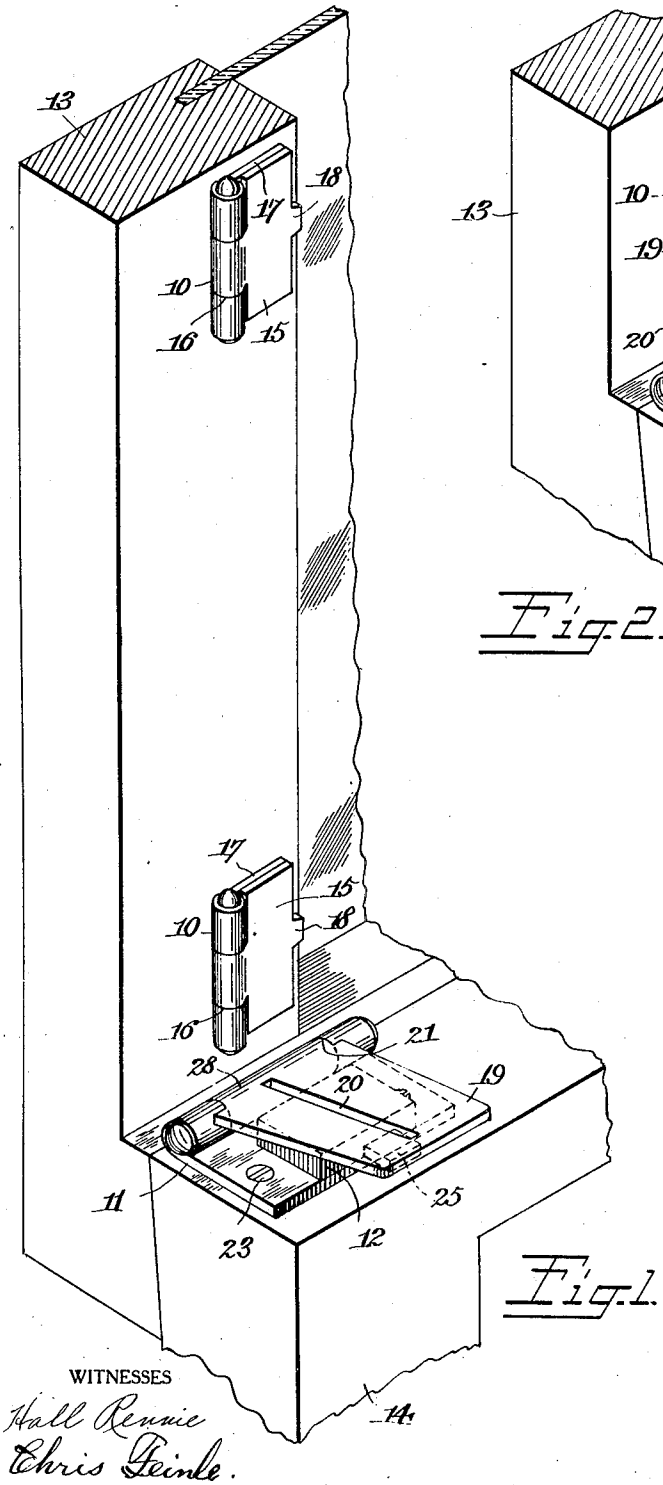


Fig. 1.

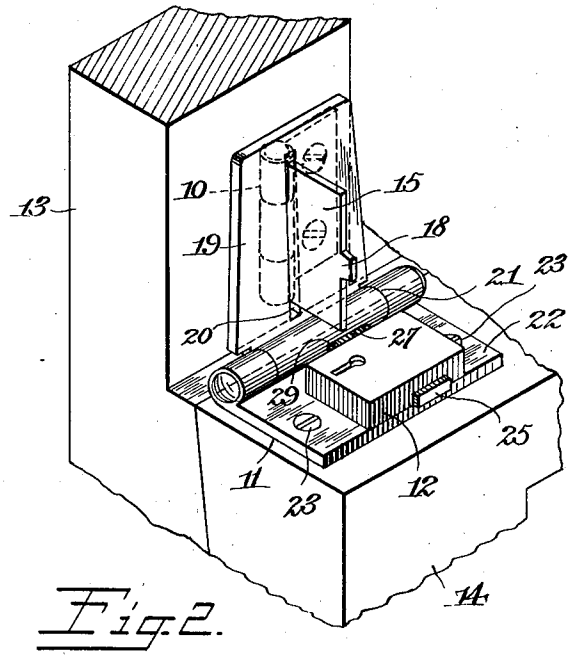


Fig. 2.

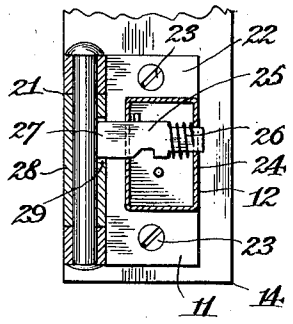


Fig. 3.

WITNESSES

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UNITED STATES PATENT OFFICE.

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CLOSURE-LOCKING DEVICE.

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This invention relates to closure locking devices.

One of the objects of the present invention is the provision of a plurality of parts capable of attachment, respectively, to a support and a closure, and coacting to prevent the movement of the closure with respect to the support.

Another object of the invention is to provide a plurality of similar parts capable of attachment to a closure, and another part carried by a second closure and capable of coacting with the first-mentioned plurality of parts to prevent the movement of the closures with respect to each other.

Another object of the invention is to produce means for coupling two closures and for locking the closures in coupled relationship.

With the foregoing, other objects of the invention will appear from the embodiment of the invention which, by way of example, is described in the following specification and illustrated in the accompanying drawings, in which:

Figure 1 is a view illustrating the application of the present invention to a plurality of closures, such as window sashes, fragments of which are shown, the application of the invention being such as to show the relative disposition of the parts constituting the invention and showing that the closures or window sashes may be moved in the ordinary manner in the application of the invention;

Fig. 2 illustrates the manner in which the closures are locked against movement with respect to each other;

Fig. 3 is a detail sectional view showing the locking feature of the present invention.

Referring now more particularly to the several views of the drawing, it will be apparent that the present invention contemplates the use of a plurality of main constituents or parts 10, 11 and 12. In the present application of the invention, a plurality of parts 10 are attached to one closure 13 in the form of an upper window sash, and associated parts 11 and 12 are attached to a closure 14 in the form of a lower window sash. The part 11 has a means which coacts with means of the parts 10 for setting up a coupled relationship between the closures 13 and 14, and the part 12 has means which coacts with means of the part 11 for maintaining the coupled relationship of the closures 13 and 14 in locked condition.

To carry out the results mentioned, each part 10 consists of a hinge construction in which a member 15 is hingedly connected as at 16, to a member 17, the latter having openings therein for the reception of fastening elements, such as screws, by virtue of which the part 10 is attached, as in the present instance, to the side stile of the window sash 13. The member 15 is provided with a finger-piece 18 for facilitating the movement of the member 15.

The part 11 is in the nature of a hinge construction and consists of a member 19 having a slot 20 and said member 19 is hingedly connected, as at 21, to a member 22. The member 22 is provided with openings for the reception of fastening elements, such as screws 23, by virtue of which the part 11 is attached to the window sash 14 on the top rail thereof, so as to be disposed for coaction of the member 19 with the members 15 of the parts 10.

The part 12 is in the nature of a lock which includes a casing 24 attached in any suitable manner to the member 22 of the part 11 and a bolt 25 which is key-operable and is also under the influence of a spring 26. The extremity of the bolt 25 is held against the lug 28 of the member 19 by the spring 26. The lug 28 has a hole 29 therein and said hole is so located that when the member 19 is disposed substantially at a right angle with respect to the member 22, the extremity 27 of the bolt 25 will automatically be projected into the hole 29, thus locking the member 19 against movement. The extremity 27 is withdrawn from the hole 29 upon the movement of the bolt 25, which is effected by the use of a suitable key (not shown).

The coupling and locking of the sashes 13 and 14 is accomplished by first moving the member 15 of the part 10 at a right angle with respect to its member 17, whereupon the member 19 of the part 11 is moved to a position in which it will be disposed substantially at a right angle with respect to the member 22, and in moving the member 19 the member 15 will extend transversely through the member 19 by virtue of the slot 20, as shown most clearly in Fig. 2. Meanwhile the extremity 27 of the bolt 25 will have been projected into the holt 29 in the

lug 28 of the member 19. The window sashes 13 and 14 will now be locked against movement with respect to each other. By employing more than one part 10, the window sashes 13 and 14 may be coupled and locked in different adjusted relationships, and it will therefore be understood that the window sashes may completely or partly close the window opening in which they move when not controlled by the parts of the present invention.

It is to be understood that the invention is not restricted to the precise arrangement of parts shown and described, as details of construction may be modified and the parts may be rearranged without departing from the spirit of the invention, the scope of which is limited only by the terms of the appended claims. For instance, the parts may be used in conjunction with a closure in the form of a door—the parts 11 and 12 in such case would be attached to the door frame and a part 10 would be attached to the door. Under such arrangement of the parts, the door could be locked against movement.

What is claimed is:

1. The combination of a support, a closure movable with respect to said support, a coupling member carried by said closure, and a coupling and locking device carried by said support, said device comprising a slotted plate, means for supporting said slotted plate for movement to active and inactive positions, said coupling member being receivable in the slot in said slotted plate when the latter is in its active position to couple said coupling member and plate to prevent the movement of the closure with respect to the support, and means for locking said slotted plate against movement while it is in its active position, said locking means being operable to release said slotted plate for movement so that it may be disengaged from said coupling member.

2. For use in conjunction with a movable member on a closure, a unitary device comprising a slotted plate, attaching means for movably supporting the slotted plate, said movable member being receivable in the slot in said slotted plate, and means for locking said slotted plate against movement when said member is received in said slot.

3. For use in conjunction with a movable member on a closure, a device comprising a slotted plate, attaching means for movably supporting the slotted plate, said movable member being receivable in the slot in said slotted plate, and a lock including a key-operable spring-actuated bolt, a portion of said bolt being automatically engageable with a portion of said slotted plate to lock the latter against movement when said member is received in the slot in said slotted plate.

4. The combination with two closures, of a member carried by one of said closures and being movable with respect thereto, a unitary device carried by the other of said closures, said unitary device comprising a plate having a slot therein, a fixed plate to which the plate having the slot therein is hingedly connected, said member being receivable in the slot in the hingedly connected plate to couple said member and plate, and means for locking said hingedly connected plate against movement to maintain the coupled relationship of said member and hingedly connected plate.

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