

Jan. 7, 1947.

W. R. SCHLAGE

2,413,732

LOCK STRUCTURE

Original Filed July 15, 1941

Fig. 4.

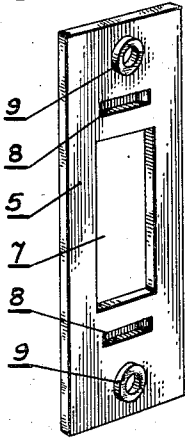


Fig. 5.

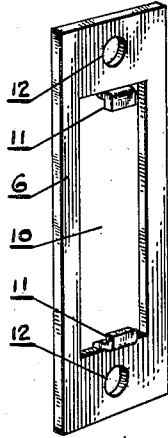


Fig. 3.

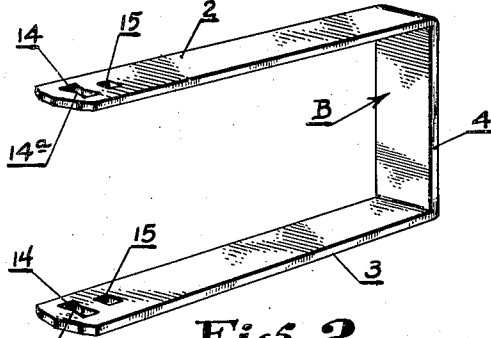


Fig. 2.

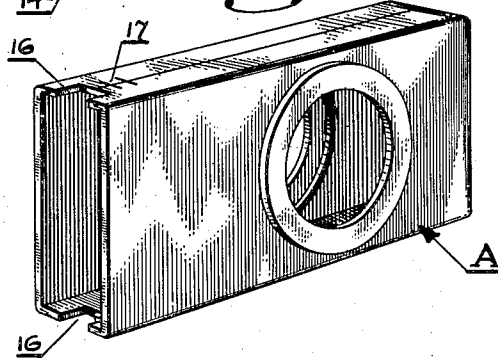


Fig. 1.

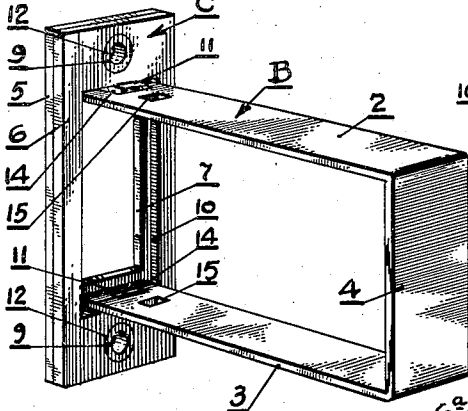


Fig. 6.



Fig. 7.

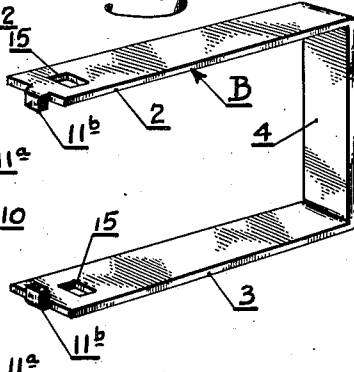


Fig. 8.

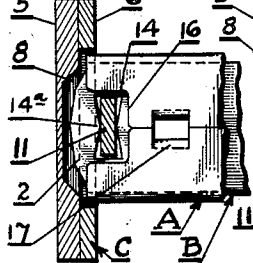
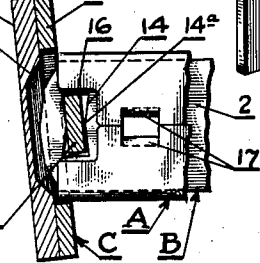


Fig. 9.



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UNITED STATES PATENT OFFICE

2,413,732

LOCK STRUCTURE

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Original application July 15, 1941, Serial No. 402,450. Divided and this application March 15, 1944, Serial No. 526,833

1 Claim. (Cl. 292—337)

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This invention relates to a lock structure, and especially to a lock housing and an adjustable face plate therefor, the present application being a division of my co-pending application entitled "Lock structure" filed July 15, 1941, Serial Number 402,450.

The object of the present invention is generally to improve and simplify the construction and operation of lock structures of the character described; to provide a lock housing to which a face plate is pivotally attached to permit the face plate to be adjusted to the bevelled edge of a door; to provide a structure embodying a face plate, a frame and a lock housing, and in which the housing is secured to the frame, and the frame is pivotally connected to the face plate; to provide a frame which is substantially U-shaped and in which the arms of the U-shaped frame are sufficiently resilient and spring-like in construction to permit springing of the arms to attach or release the frame from the pivotal connection with the face plate; and further, to provide a housing which may be constructed of comparatively light sheet metal and, when secured to the U-shaped frame, will be reinforced thereby.

The lock structure of the present invention is shown by way of illustration in the accompanying drawing, in which

Fig. 1 is a perspective view showing the frame pivotally attached to the face plate;

Fig. 2 is a perspective view of the lock housing;

Fig. 3 is a perspective view of the frame;

Figs. 4 and 5 are perspective views of the front and rear sections, respectively, of the face plate;

Fig. 6 is a perspective view showing a modified form of face plate;

Fig. 7 is a perspective view showing a modified form of frame;

Fig. 8 is a plan view, partially in section, and partially broken away, showing the pivotal connection between the frame and the face plate; and

Fig. 9 is a similar view showing the face plate tilted.

Referring to the drawing in detail, and particularly to Figs. 1 to 5, inclusive, A indicates a housing which is adapted to receive the knob spindle, the rollback mechanism, and the latch bolt of a door lock. The housing shown is preferably formed from comparatively light gauge sheet metal, as it is reinforced and materially stiffened by a frame, generally indicated at B (see Figs. 1 and 3). This frame is formed from fairly heavy strip steel and bent to form a pair of arms 2 and 3, and an integral end section 4.

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The forward ends of the arms are perforated, as at 14 and 15, and the function of these perforations will hereinafter be described.

The frame B, besides functioning to reinforce and stiffen the housing A, also serves the function of forming a pivotal connection between the housing and a face plate generally indicated at C. This plate is formed of two sections, 5 and 6; the section 5, to be known as the outer plate, has a rectangular opening 7 formed therein to receive and guide the latch bolt in the lock. It has two recesses 8 formed at opposite ends of the opening 7, and it is punched to form two tubular rivets 9. The plate 6, to be known as the inner plate, has a larger rectangular opening 10 formed therein, and is perforated at opposite ends, as indicated at 12, to receive the tubular rivets 9, and it is provided with two pintle lugs 11.

In actual practice, the outer ends of the arms 2 and 3 forming a portion of the reinforcing frame are pressed together a distance sufficient to permit them to be inserted in the opening 10 of the plate 6, and to clear the inner ends of the lugs 11. The arms are then released and will spring outwardly, and the lugs will thus enter the openings 14 of the arms and as such will form a pivotal connection between the plate 6 and the frame B. The outer plate 5 is next applied, and the rivets 9 are clinched over, as shown in Fig. 1, thus permanently assembling the outer and inner plates of the face plate. At the same time that the outer plate is applied to the inner plate, the recesses 8 will extend partially over the outer ends of the arms 2 and 3 of the frame, and it is thus secured against being sprung inwardly after the assembly has been made. The outer ends of the arms 2 and 3, or the corners, are cut off, as shown, to permit free pivotal movement, and the slots or perforations 14 are preferably provided with high points on opposite sides, as shown at 14a, to permit free pivotal movement.

After the frame has been attached to the inner face plate, and this in turn has been permanently secured to the outer face plate, the housing A may be slipped over the U-shaped frame. The forward end of the housing is notched, as shown at 16, to clear the pintle lugs 11, and back of said notches are formed pairs of lugs 17, which are bent inwardly and downwardly into the slots 15 in the arms, thus securing the housing against endwise removal from the arms of the frame. In Figs. 8 and 9, this assembly is clearly shown, and it is obvious therefrom that the face plate is given sufficient pivotal movement to take care of

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any bevel which may be formed on the edge of the door. That is, most doors are bevelled to permit a snug fit between the jamb and the door when the door is closed. In such instances the face plate will adjust itself to the bevelled face and it will there be permanently secured by passing screws through the tubular rivets into the edge of the door.

In Fig. 6 the face plate indicated at 6a is modified. In place of forming the pintles 11 thereon, strap-like members 11a are formed, and the pintles proper, indicated at 11b, are formed on the outer ends of the arms of the frame (see Fig. 7). The pivotal connection is thus formed by a mere reversal of the parts.

While these and other features of my invention have been more or less specifically described and illustrated, I wish it understood that various changes may be resorted to within the scope of the appended claim, and that the materials and

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finish of the various parts may be such as the experience of the manufacturer and varying conditions of use may demand.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

In a lock structure of the character described, a frame comprising a pair of spaced parallel arms connected at one end, said arms being flexible and perforated at their outer ends, a lock housing supported by the arms, a face plate for the housing, pintle members carried by the face plate and adapted to enter the perforated ends of the flexible arms to form a pivotal connection, a second plate secured to the face plate, and means on the second plate engageable with the other perforated ends of the arms to prevent flexing of the same and thereby disengagement of the flexible arms with the pintles on the face plate.

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