R. L. G. PALM.

EMERGENCY EXIT DOOR FASTENER.

APPLICATION FILED SEPT. 15, 1911.

1,029,626. Patented June 18, 1912.

Fig: 1.

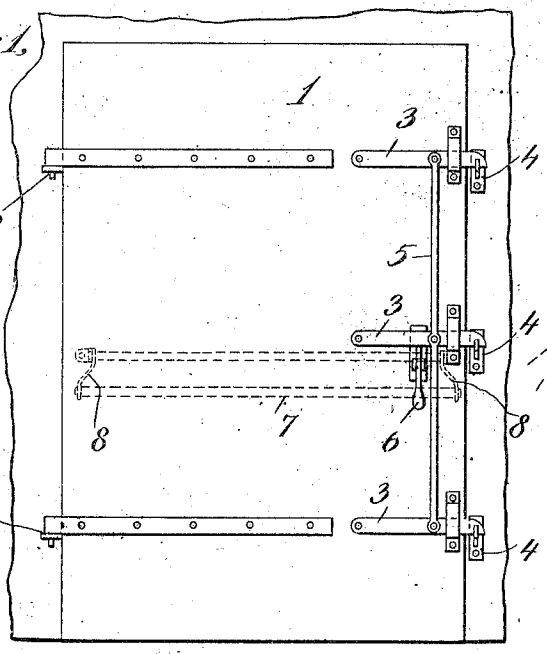


Fig: 3.

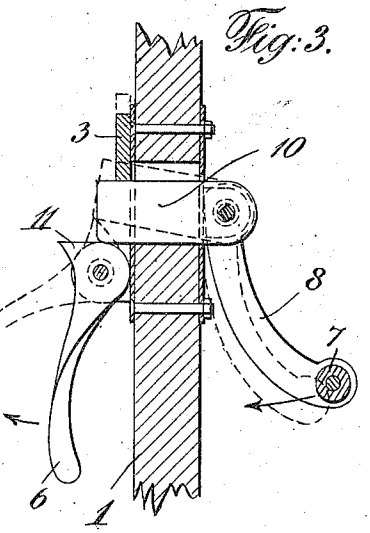


Fig: 2.

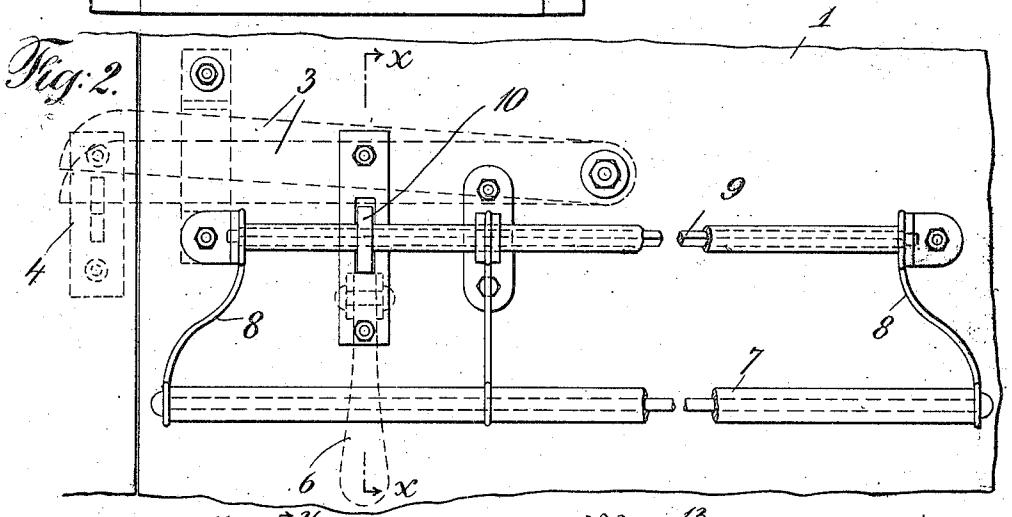


Fig: 4.

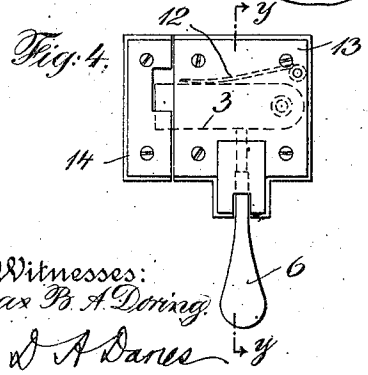
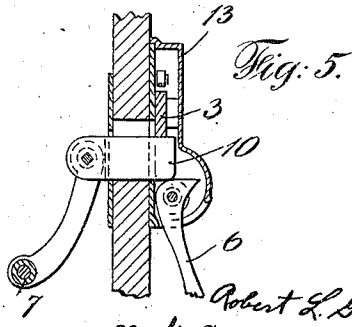


Fig: 5.



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UNITED STATES PATENT OFFICE.

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EMERGENCY-EXIT-DOOR FASTENER.

1,029,626. Specification of Letters Patent. Patented June 18, 1912.

Application filed September 15, 1911. Serial No. 649,452.

To all whom it may concern:

Be it known that I, ROBERT L. G. PALM, a citizen of the United States of America, and resident of Verona, county of Essex, and State of New Jersey, have invented a certain new and useful Emergency-Exit-Door Fastener, of which the following is a specification.

My invention relates to door latches, and particularly to the latches of emergency doors, such as fire-exit doors of theaters, factories, etc.

My invention comprises latch-operating mechanism, the operating members of which, on opposite sides of the door, are both arranged to be operated to raise the latch, *i. e.*, to release the door, by movement of the operating member in the direction in which the door swings to open.

The object of my invention is to provide an improved, simple and effective latch operating mechanism, particularly adapted for use on emergency doors.

I will now proceed to describe my invention with reference to the accompanying drawings, wherein two embodiments thereof are illustrated, and will then point out the novel features in claims.

In the drawings: Figure 1 shows an exterior elevation of a door fitted with my improved latch-mechanism; Fig. 2 shows a fragmentary interior elevation, on a larger scale, of the portion of the door carrying such latch mechanism, and particularly illustrates the interior latch-operating device. Fig. 3 shows a fragmentary transverse section through the door and latch-operating mechanism, the section being taken on the line x—x of Fig. 2. Fig. 4 shows a side elevation of an alternative form of latch mechanism; and Fig. 5 shows a transverse section of such latch mechanism on the line y—y of Fig. 4.

Referring first to Figs 1, 2 and 3, 1 designates the door and 2, 2 hinges therefor. 3, 3 indicate ordinary gravity-depressed latch-bars for holding this door closed and 4, 4 illustrate the ordinary latch-bar catches or striking plates for these latch-bars. I have indicated that the three latch bars 3 are connected by a vertical link 5; this being a common arrangement for fire doors and the like, and being an advantageous arrangement in that one latch-operating mechanism serves for all three latch bars. 6 designates a handle for raising the latch from the oustide of the door, and 7 designates a handle or operating bar for raising the latch from the inside of the door, this bar 7 being a bar extending horizontally across the door, through a greater or less portion of its width, as preferred, said bar 7 being connected at its ends, by links 8, to a squared pivot-shaft 9 suitably supported and passing through a correspondingly squared orifice in a lever 10 extending transversely through the door directly beneath one of the latch-bars 3. It will be seen that motion of the interior operating member 7 in the direction of the arrow shown in Fig. 3, will raise the lever 10, and in so doing will raise the latch-bar or bars 3. It will also be seen that, normally, the weight of these latch-bars 3, and of their connecting link 5, acts downwardly upon the lever 10 to hold the bar 7 out and to hold the latch-bars 3 in locking position. The exterior operating member 6 is suitably pivoted to the door and is provided with a cam portion 11 arranged to act upon the under side of lever 10; whereby, when said member 6 is moved in the direction of the arrow, that is to say, in the direction in which the door swings when opening, the lever 10 is raised, so raising the latch-bar or bars 3. It will be seen therefore that whether the door is to be opened from the outside, or from the inside, the latch-operating member to be operated to open that door is moved in the direction in which the door is to move to open.

In the alternative construction, shown in Figs. 4 and 5, the latch-bar 3 is held depressed normally, not only by gravity, but also by the action of a spring 12. The latch operating mechanism is the same as that shown in Figs. 1, 2 and 3. This construction shown in Figs. 4 and 5 is desirable in some cases, since it permits the inclosure of the principal portion of the latch-operating mechanism, and also the inclosure of the latch, within a casing, 13, giving the latch the appearance of a rim lock. When such construction is used, it is generally preferable to inclose the latch-bar catch in a similar casing 14.

What I claim is:—

1. A door latch mechanism comprising in combination one or more latches adapted to be raised to release a door, and operating means therefor comprising a pivoted member extending transversely beneath one of said latches, and an operating member

connected to said pivoted member and arranged when moved in the direction of opening of the door to raise said pivoted member and thereby the latch or latches, and another operating member upon the opposite side of the mechanism pivotally supported and having a cam portion engaging said transversely extending pivoted member and arranged, when said second operating member is moved in the direction of opening of the door, to raise said transversely extending pivoted member, and thereby the latch or latches.

2. A latch operating mechanism comprising a latch adapted to be raised to release a door, a shaft adapted to be mounted upon a door and having mounted upon it a latch-operating member projecting transversely with respect to said shaft and adapted to engage said latch to raise the same, and an operating bar secured to said shaft and constituting a lever extension therefrom and adapted when moved to rock said shaft and thereby operate said latch-operating member.

3. A latch operating mechanism comprising a latch adapted to be raised to release a door, a shaft adapted to be mounted upon a door and having mounted upon it a latch-operating member projecting transversely with respect to said shaft and adapted to engage said latch to raise the same, and an operating bar secured to said shaft and constituting a lever extension therefrom and adapted when moved to rock said shaft and thereby operate said latch-operating member, and another operating member likewise pivotally mounted and having a cam portion engaging the underside of said latch-operating member and arranged when moved about its pivot to raise said latch-operating member.

4. A door-latch mechanism comprising a latch-lever adapted to be pivoted to the outside of a door and to be raised to release the door, a rock shaft, a latch-operating member thereon extending transversely with respect to said shaft and latch-lever, beneath said latch-lever, and adapted to be raised, by rotation of said shaft, to raise said latch lever, and an operating bar extending longitudinally with respect to said shaft and constituting a lever extension therefrom, and adapted to be moved to rock said shaft and thereby operate said latch-operating member.

5. A door-latch mechanism comprising a latch-lever adapted to be pivoted to the outside of a door and to be raised to release the door, a rock shaft, a latch-operating member thereon extending transversely, with respect to said shaft and latch-lever, beneath said latch-lever, and adapted to be raised, by rotation of said shaft, to raise said latch-lever, an operating bar extending longitudinally with respect to said shaft, connected to said shaft and constituting a lever extension therefrom, and adapted to be moved to rock said shaft and thereby operate said latch-operating member, and a pivoted hand lever located beneath said latch-lever and said latch-operating member, said hand lever having a cam portion engaging the underside of said latch-operating member and arranged when moved about its pivot to raise said latch-operating member and thereby the latch-lever.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

ROBERT L. G. PALM.

Witnesses:
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