H. J. FERRIS.

DOOR LATCH.

APPLICATION FILED APR. 10, 1917.

1,251,207. Patented Dec. 25, 1917.

Fig. 1.

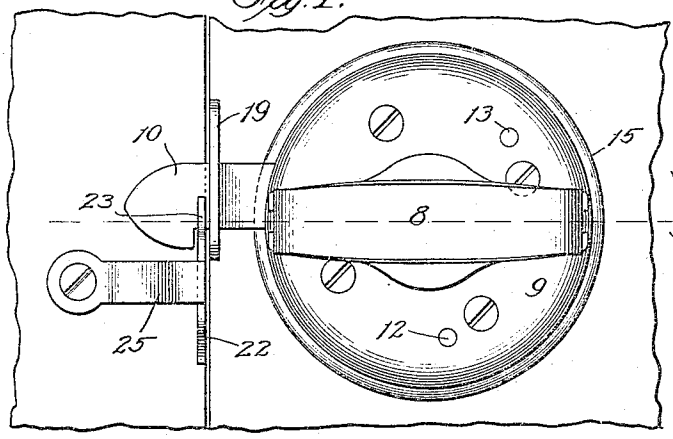


Fig. 5.

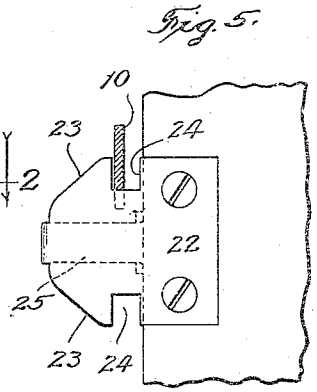


Fig. 3.

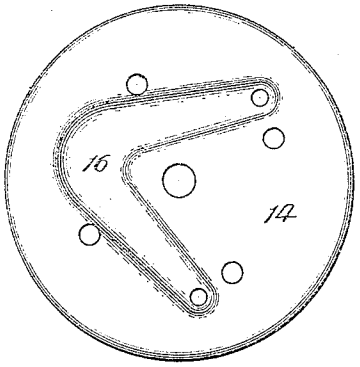


Fig. 4.

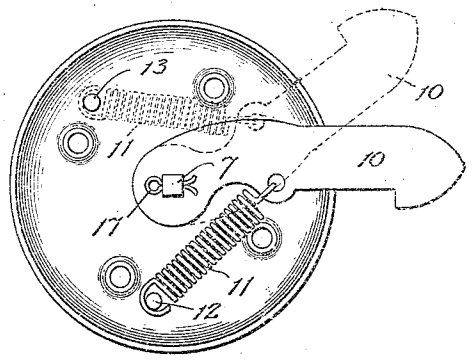


Fig. 2.

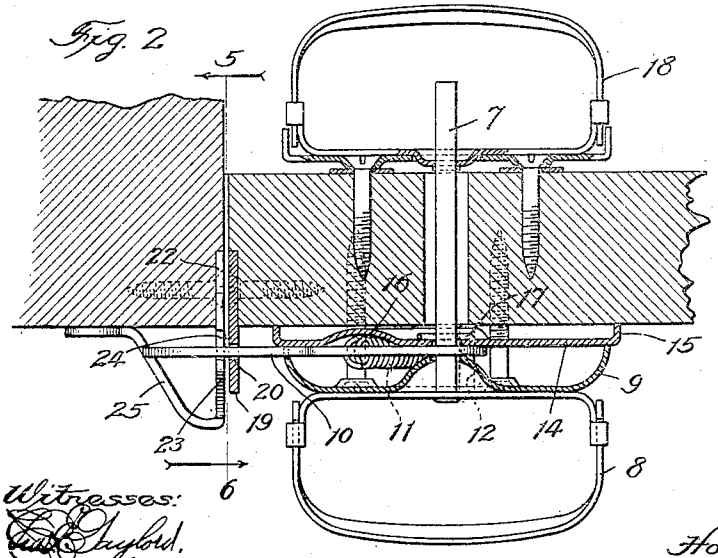
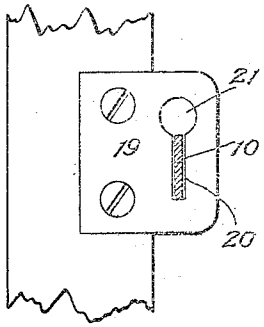


Fig. 6.



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UNITED STATES PATENT OFFICE.

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DOOR-LATCH.

1,251,207. Specification of Letters Patent. Patented Dec. 25, 1917.

Application filed April 10, 1917. Serial No. 160,999.

To all whom it may concern:

Be it known that I, HOWARD J. FERRIS, a citizen of the United States, residing at Harvard, in the county of McHenry and State of Illinois, have invented a new and useful Improvement in Door-Latches, of which the following is a specification.

My invention relates to certain new and useful improvements in door-latches, and is fully described and explained in the specification and shown in the accompanying drawings, in which:

Figure 1 is a front elevation of my improved device; Fig. 2 is a horizontal section on the line 2 of Fig. 1; Fig. 3 is a rear elevation of the rear plate of the latch case; Fig. 4 is a rear elevation of the operative parts of the latch with the rear plate removed, the reversing arrangement being shown in dotted lines; Fig. 5 is a section on the line 5 of Fig. 2, and Fig. 6 is a section on the line 6 of Fig. 2.

Referring to the drawings, 7 is a square main shaft, carried by a handle 8. 9 is a hollow front plate through which the square shaft passes. This plate is slightly dished as illustrated and its margin is notched for the passage of a latch 10 having a square hole which fits the shaft. The latch 10 can, by the removal of the shaft, be turned over in the case so as to occupy either the position shown in the various figures of the drawings in solid lines, or the positions shown in dotted lines in Fig. 4, in which case the structure is adapted without change for use upon the other side of the door opening, or upon a door opening in the opposite direction. By this simple change the structure becomes an interchangeable right and left latch. The latch is held in its normal position by a spring 11 hooked on a pin 12, and when the latch is shifted to the dotted-line position shown in Fig. 4, the spring is shifted over to a pin 13. 14 is a rear plate, the structure of which is clearly shown. It is provided with a backwardly extending flange 15 which spaces it slightly away from the door and it is provided with a V-shaped depression 16 to partially contain the spring 11, the two branches of the V being in position to register with the spring in its two possible positions. The shaft is removably held in position by a cotter pin 17 behind this rear plate, and between it and the door. 18 is a rear handle engaging the square shaft and this, as far as my present invention is concerned, may be of any suitable construction.

Attached to the edge of the door is a plate 19 having a slot 20 through which the latch passes, the slot having an enlargement 21 at its upper end so that a padlock may be passed therethrough to lock the latch down and to hold the door closed. 22 is a latch-engaging piece adapted to be placed upon the door jamb or upon the other door, if there be two. The main part of this piece lies at right-angles to the plane of the door and is provided with beveled edges 23 at top and bottom and with latch-receiving notches 24. The portion 25 extends backward and to the surface of the building to brace this piece in position.

It will be seen that this latch is not only adapted for right and left use by the simple expedient hereinbefore described, but, furthermore, it will work interchangeably both upon sliding and swinging doors. It will be seen that part of the latch is beveled, and if the door be a sliding one, the proper engagement will be produced in an obvious manner. If the door be a swinging one, the latch simply rides up on the upper beveled edge 23 of the part 22, finding the proper notch. This part, being symmetrical at top and bottom, is adapted for either right or left hand use.

I realize that considerable variation is possible in the details of this construction without departing from the spirit of my invention; therefore I do not intend to limit myself to the specific form herein shown and described except as pointed out in the following claims, in which it is my intention to claim all the novelty inherent in the construction as broadly as is permitted by the state of the art.

What I claim as new and desire to secure by Letters Patent, is:

1. In combination, a latch case having a main operating shaft, a latch reversibly mounted thereon and beveled at its point, a latch spring, a reversibly beveled strike plate having latch receiving notches on its upper and lower edges adapted to coöperate with the latch in either of its settings in the case.

2. In combination, a latch case, a main operating shaft, a reversibly mounted bev-

eled latch carried by said shaft, and a reversibly beveled strike plate provided with latch receiving notches on its upper and lower edges adapted to be engaged by said latch, and a latch spring adapted to coact with said latch and engage with two different points in the case with the varying settings of the latch to either urge the latch into one notch or the other notch according to its location on a right or left hand door.

3. In combination, a flat disk-like hollow case and operating shaft extending therethrough, handles associated with the opposite ends of said shaft, a latch reversibly mounted upon the shaft and extending outwardly through a slot in the case, two pins in the case, a spring engaged with the latch at one end and with one of said two pins at the other in accordance with the setting of the latch, one face of the case having a V-shaped groove to receive the spring in either position.

4. In combination, a flat disk-like hollow case, operating shaft extending therethrough, handles associated with the opposite ends of said shaft, a latch reversibly mounted upon the shaft and extending outwardly through a slot in the case, two pins in the case, a spring engaged with the latch at one end and with one of said two pins in accordance with the setting of the latch, and a strike plate adapted to be secured to the door jamb and provided with a notch into which said latch is adapted to be moved by said spring according to its setting upon said shaft.

5. In combination, a flat disk-like casing having a slot at one side, a shaft extending therethrough, handles on the ends of said shaft, a latch reversibly mounted on said shaft and extending out through said slot, two attaching means in said case at opposite sides of said shaft, a spring coacting with said latch at one end and with one of said attaching means at the other in accordance with the setting of the latch on either a right or left hand door, and a reversible and beveled latch plate with which said latch may coact.

In testimony whereof, I have hereunto set my hand this 2d day of April, 1917.

HOWARD J. FERRIS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."