F. E. HOWARD.

DOOR CATCH.

APPLICATION FILED AUG. 1, 1914.

1,139,869. Patented May 18, 1915.

Fig. 1.

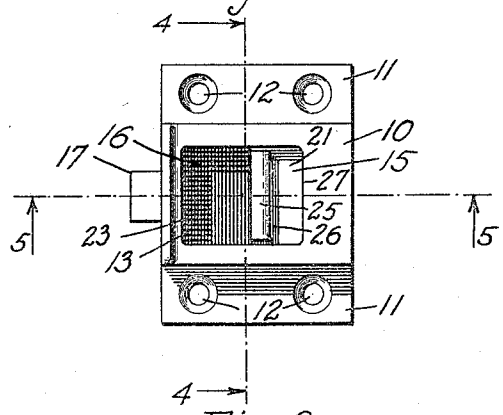


Fig. 3.

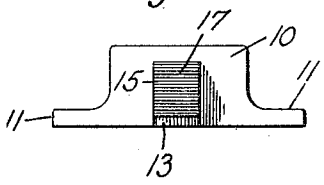


Fig. 2.

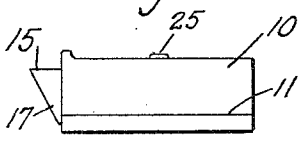


Fig. 4.

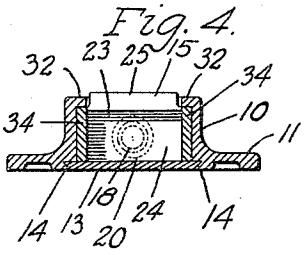


Fig. 5.

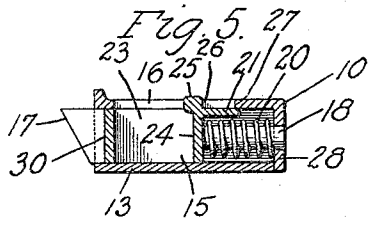


Fig. 6.

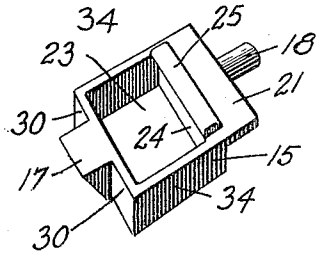
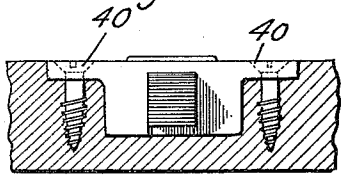


Fig. 7.



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UNITED STATES PATENT OFFICE.

FRANK E. HOWARD, OF HARTFORD, CONNECTICUT, ASSIGNOR TO JAMES L. HOWARD & COMPANY, OF HARTFORD, CONNECTICUT, A CORPORATION OF CONNECTICUT.

DOOR-CATCH.

1,139,869. Specification of Letters Patent. Patented May 18, 1915.

Application filed August 1, 1914. Serial No. 854,536.

To all whom it may concern:

Be it known that I, FRANK E. HOWARD, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented new and useful Improvements in Door-Catches, of which the following is a specification.

This invention is an improved catch for doors, windows, drawers and similar articles or elements of construction.

The object of the invention is to provide a simple, compact, inexpensive but effective catch, having a minimum of projecting parts, particularly on the latch portion itself to catch into the clothing or to strike against the sides of the building or other structure when the door is swung open.

Figure 1 of the drawings is a face view and Fig. 2 is an underneath view of a preferred embodiment of the invention. Fig. 3 is a front end view projected from Fig. 2. Fig. 4 is a rear end view also projected from Fig. 2, in section taken on the line 4—4 of Fig. 1. Fig. 5 is an underneath view in section taken on the line 5—5 of Fig. 1. Fig. 6 is an isometric view of the latch separate from the casing. Fig. 7 is a front end view of a modified construction adapted for flush setting or construction.

The casing 10 is provided with suitable flanges 11 provided with screw holes 12 for attaching the casing in position upon a door or sash. The casing is of hollow box-like form for receiving the latch 15, and the spring 20. Preferably the casing is initially made open on its under side for the insertion of the latch and the spring, after which the casing is closed and the parts held in position by a plate 13, which may be held in position by upsetting the edges of the casing, as at 14 at two or more places. The face of the casing is provided with an aperture 16 for the insertion of the finger in operating the latch. The front edge of the casing is apertured to allow the nose or holding portion 17 of the latch to project through the casing; and the rearward edge of the casing is also preferably apertured to receive a stem 18 of the latch.

The body of the latch is of box-like form fitted to slide in its seat in the casing. The nose 17 of the latch projects forwardly from the box-like body and is beveled on the side appropriate for engaging with a keeper to push back the latch when the door or sash or drawer is closed. A stem 18 is preferably provided on the rearward end of the latch to assist in guiding the latch, and also for receiving and guiding a spring 20, which engages between the rearward side of the latch and the inner wall of the casing, as shown in Fig. 5, tending to hold the latch in its forward or closed position. The stem 18 and the opening for it in the casing, may, however, be omitted, the spring being held in position by the inclosing walls of the latch and casing. A shelf-like extension 21 of the latch projects backwardly far enough to close the face or finger aperture 16 of the casing, as shown in Fig. 5, when the latch is in its closed position. The finger aperture 23 in the latch is preferably extended entirely through the latch as shown in Figs. 4 and 5 to give ample depth for an adequate finger hold. The front and side edges of the latch aperture preferably coincide with the corresponding edges of the finger aperture in the casing when the latch is in its closed position. The rearward wall 24 of the finger aperture is preferably undercut or shouldered as shown in Figs. 5 and 6 to give a better hold for the finger in pulling open the door after retracting the latch. This enables the door to be unlatched and pulled open by a continuous movement of one finger, thus combining the advantages of simple, compact construction with the functions of the customary projecting knob or ring. A projecting rib 25 of the latch preferably extends upwardly into and through the finger aperture 16 of the casing, so as to deepen the finger hold to that extent, and the rearward side 26 of this rib may serve as a stop for the open position of the latch by colliding against the edge 27 of the finger aperture, or the end of the shelf 21 may abut against the inner side of the rearward wall 28 of the casing, and thus serve as a stop. The forward shoulders 30 of the latch abut against the inner side of the forward wall 31 of the casing, and thus serve as stops for the forward or closed position of the latch.

The face wall of the casing is preferably turned or shouldered inwardly at 32 over the side walls 34 of the latch, as best shown in Fig. 4, so as to make a smooth construction; and also to serve as guides for the latch.

Fig. 7 illustrates one of various ways in which the catch or its casing may be modi-

fied to suit different conditions. In this case the flanges 40 for receiving the holding screws are flush with the face side of the latch casing, so that the latter may be mortised flush into a door or sash. The nose or holding projection of the latch is beveled on any side suitable for retracting the latch by the closing movement of the door.

I claim as my invention:—

1. In a door catch, the combination of a casing provided with a seat for receiving and guiding a sliding latch, a latch mounted in the said seat for sliding movement in the casing, and a finger aperture extending through the latch from front to back, and surrounded by a wall, the outer sides of which form sliding surfaces of the latch.

2. In a door catch for swinging doors, the combination with a casing, of a latch slidably mounted in the casing and having a finger aperture extending through the latch, the rearward wall of the aperture being undercut to provide a finger hold for pulling the door open after sliding the latch back.

3. In a door catch, the combination of a casing having a finger aperture in its face and apertures in its front and rearward ends, and a latch slidably mounted in the casing, with its ends projecting through the said end apertures of the casing, and having a finger aperture, the sides of which approximately coincide with the sides of the aperture in the casing.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses this 30th day of July, 1914.

FRANK E. HOWARD.

Witnesses:
WILLIAM H. HONISS,
CAROLINE M. BRECKLE.

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