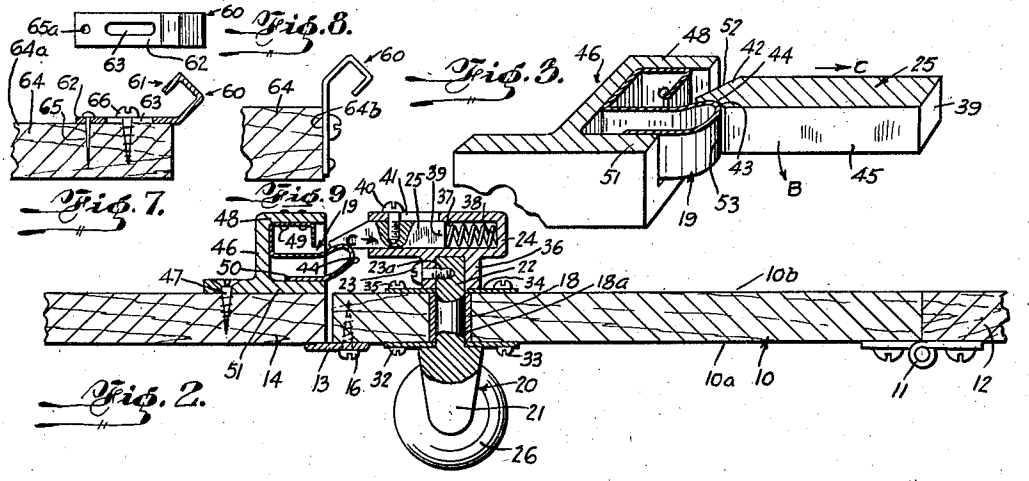
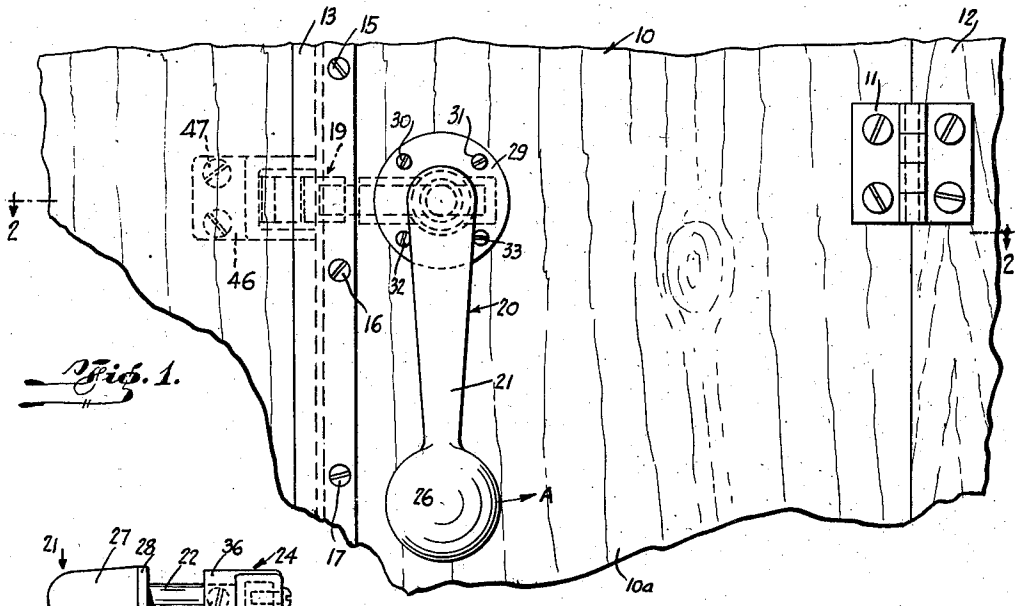
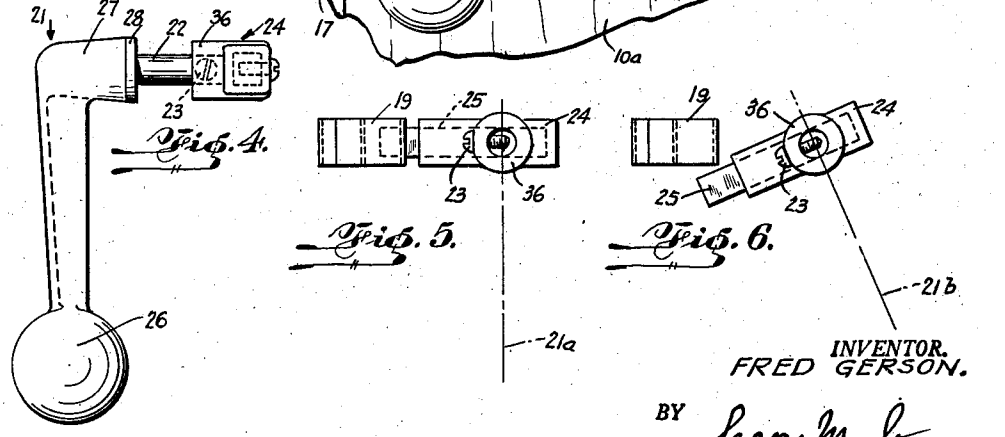
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SLIDING AND SWINGING CATCH FOR CLOSURES

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## SLIDING AND SWINGING CATCH FOR CLOSURES

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1 Claim. (Cl. 292—67)

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This invention refers to improvements in or relating to catch devices for use in doors, cabinets, drawers and the like.

It is one of the primary objects of the invention to provide means which facilitate operation of doors, drawers and the like in a very simple and efficient manner whereby the same may be at will quickly opened, as well as safely maintained in closed position.

It is a further object of the invention to provide means which afford swinging, as well as rectilinear or sliding movements relatively to and for cooperation with a strike to bring about smooth and positive opening and closing actions of the catch mechanism.

Still a further object of the invention is to provide handle means for operating the catch mechanism which may be either spring-actuated or may function due to its own weight when said handle means is moved by the hand of an operator out of its perpendicular position.

It is another object of the invention to provide means whose simplified construction necessitates only a minimum number of parts, permits of superior production facilities and yields a highly efficacious catch mechanism at reduced cost.

Still another object of the invention is to provide means which may be applied to flush as well as to overlapping doors and the like and which lends itself to a ready and easy adjustment of the mechanism of the catch device relatively to the strike with which said mechanism coacts.

Yet, a further object of this invention is to provide means which offer speedy installation and fixation of the catch device in doors, drawers and the like without the necessity of determining and prearranging the relative positioning of a plurality of parts as is required in known and conventional structures; the novel catch device being devoid of any complicated parts.

Still a further object of this invention resides in the provision of a novel strike which cooperates with the catch mechanism, the strike being of extremely simplified construction and being shaped to effectively work in two different positions, namely, either when applied to one of the faces of a wall of a cabinet or door frame, cupboard or like receptacles or to the end of such wall which faces the door or drawer carrying the catch mechanism.

The foregoing and other objects and features of the invention will become more clearly apparent from the following description, which is descriptive of a preferred embodiment of the invention illustrated in the accompanying drawing.

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However, the embodiment herein shown and described being for purposes of illustration only, it is to be understood that such modifications may be made when desired, within the scope and spirit of the invention as claimed.

In the drawing:

Fig. 1 is a front-elevational view of parts of a door having incorporated therein the catch device made in accordance with this invention.

Fig. 2 is a cross-sectional view through the catch device shown in Fig. 1.

Fig. 3 is a diagrammatic and perspective view of detailed parts employed in the catch device made in accordance with this invention.

Fig. 4 is a side-elevational view of the handle together with the housing containing the slide of the catch device.

Figs. 5 and 6 show different views of the slide of the catch device with respect to the strike with which said slide cooperates.

Fig. 7 is a cross-sectional view of the strike shown in modified form and as applied to the portion of a wall.

Fig. 8 is a top plan view of the strike illustrated in Fig. 7.

Fig. 9 shows the strike of Fig. 8 as applied to a wall in a different position.

Referring now in greater detail to the attached drawing, there is shown a door 10 connected for swinging movement by means of a hinge 11 to a fixed wall indicated by numeral 12. Door 10 abuts by means of ledge 13 against fixed wall 14 when door 10 is in closed position (Fig. 2). Ledge 13 is secured to door 10 by means of screws 15, 16, 17. It is well understood, that door 10 may be differently shaped and may have a wooden lip or ledge integrally united with said door.

Carried by door 10 and held in position in a single opening 18 thereof is catch device 20 adapted for cooperation with strike 19. Catch device 20 comprises handle 21 with spindle 22, on which is fixedly attached by means of screw 23 a housing 24 carrying the bolt 25.

As seen in Fig. 4, handle 21 terminates into a ball-shaped end piece 26. End piece 26 may be made heavy enough to ensure the perpendicular position of handle 21 relatively to door 10, as indicated in Fig. 1. Handle 21 has the upper curved end 27 terminating into a ring member 28 for abutment against a gasket 29 fixed by means of screws 30, 31, 32, 33 to the outer surface 10a of door 10. Within opening 18 of door 10, there is located a tubular member 18a forming a bearing for spindle 22, the latter projecting beyond the inner surface 10b of door 10, as can be seen in

Fig. 2. Tubular member 18a is further held in position by means of a gasket 34, which may be of similar construction as gasket 29 and which is secured to door 10 by means of screws 35. Against gasket 34 abuts the flat end of extension 36 of housing 24, the latter being secured to spindle 22 by set screw 23, as mentioned hereinabove.

Hollow housing 24 slidably supports bolt 25 which is outwardly pressed by means of a coil spring 37 placed between the inner wall 38 of housing 24 and end 39 of bolt 25. As can be realized from Fig. 2, slide 25 carries an abutment part in form of a screw 40 which is guided in slot 41 of housing 24 for a purpose described hereinafter.

Bolt 25 has a forwardly inclined portion 42 which is provided with a curved portion 43 forming a rest for the forward end or portion 44 of strike 19. The curved rest 43 is recessed with respect to surface 45 of bolt 25 which comes to lie opposite the inner surface 10b of door 10.

It can thus be seen that bolt 25 is capable of performing a circular movement by means of handle 21 about bearing 18a, as well as a rectilinear movement within housing 24 against action of spring 37 and independent of handle 21.

Strike 19 may be held in position in suitable housing 46 by means of one or more screws 47 on wall 14, as can be seen in Fig. 2. Strike 19 may be spot-welded to wall 48 of housing 46 or may be secured by means of rivets 49 therein. The outwardly extending curved forward end or portion 44 of strike 19 is designed to engage with bolt 25 at 43, as depicted in Fig. 3. In order to provide for sufficient spring effect, the end 50 of strike 19 may be free to slide along the inner face of wall 51 of housing 46.

In order to operate the catch device made in accordance with this invention, all that is to be done is to grasp handle 21 and to swing the same in direction of arrow A so as to cause swinging movement of bolt 25 in the direction of arrow B whereby rest portion 43 of bolt 25 will be disengaged from the forward portion 44 of strike 19. Thus, bolt 25 will be swung in a position (as indicated by Fig. 6) in which the bolt clears strike 19 whereupon the door 10 may be swung open about hinge 11.

When handle 21 is now released from the hand of the operator, the handle will swing back by its own weight to its normal perpendicular position, as seen in Fig. 1. The door 10 may then be moved again to its closed and locked position in which the aligned position with walls 14 and 12 is brought about. During this latter movement, bolt 25 will first abut with the inclined surface 52 of forward portion 42 against projecting portion 53 of strike 19 to thereby cause bolt 25 to move in the direction of arrow C against the action of spring 37 until bolt 25 moves past strike 19 and curved rest 43 is brought into abutting engagement with portion 44 of strike 19. Thus, bolt 25 is capable of being moved independently of handle 21 when said door is moved to its closed position.

In Figs. 5 and 6 the relative position of handle 21, to which housing 24 is fixedly attached, with respect to strike 19 is indicated by numerals 21a, 21b, illustrating the stroke of the handle from closed to opened position of bolt 25.

Figs. 7 to 9 illustrate a modified form of strike. Strike 60 has a square-shaped portion 61 provided with a base 62 having a slot 63. Base 62 may be fixed on wall 64 by means of one or more nails



65 passing through opening 65a of base plate 62 and screw 66, the slot 63 being employed to adjustably position strike 60 with respect to slide member 25.

The formation of strike 60 is such that the same may be either secured to the rear face 64a of wall 64 or to the end face 64b, as it is illustrated in Fig. 8. It can thus be seen that the strike 60 may be easily adjusted to the fixed wall and relatively to the bolt 25 with which strike 60 cooperates. Since housing 24 may also be easily adjusted and disposed relatively to spindle 22 and strike 60, a simplified construction of the catch device is obtained which necessitates only a single bore or opening, such as 18, for accommodating therein the spindle 22 of handle 21.

It is well understood that instead of one opening 23a, several openings may be provided in spindle 22 for engagement with threaded bolt of set screw 23. Thus, the installation of the catch device according to this invention which may be applied to various shapes of doors, drawers and the like is made unusually simple and effective and affords only a minimum amount of time to be adjusted for operation.

The strike is so constructed that it always returns to its initial position and assures a positive locking engagement with the bolt whose coacting, grooved or recessed portion is shaped similar to the effective portion of said strike.

It can thus be seen that there has been provided according to this invention a catch device comprising a bolt, a recessed portion on said slide member for engagement with a strike in closing position of said catch device, a counterweighted handle, an extension connecting said handle with said bolt, a holder and spring means actuating said bolt in said holder to cause a movement of said bolt lengthwise of said holder and independent of said handle, said handle and said extension for causing swinging movement of said bolt relatively to said strike, whereby said recessed portion may be moved past said strike for the opening position of said catch device.

While there has been shown and described and pointed out the fundamental novel features of the invention as applied to the above embodiment, it will be understood that various omissions and substitutions and changes in the form and details of the device above described and illustrated and the operation thereof may be made by those skilled in the art without departing from the spirit of the invention.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent, is:

A catch for attachment to a door, drawer and the like, having a panel with a front face and a rear face and forming part of a cabinet, cupboard and similar receptacle carrying a strike; comprising a substantially horizontal spindle for passing through a horizontal opening of said door to extend through the panel thereof from the front face to the rear face thereof, a counterweighted handle connected at right angle to one end of said spindle and depending in normal position from said one spindle end to overlie the front face of said door panel, a bolt, a housing slidably supporting said bolt, said housing including an extension fitted for engagement with the other end of said spindle and for removal therefrom, spring means within said housing for actuating said bolt to reciprocably move the latter relatively to said housing in a rectilinear path, and a formation including a wedge-shaped end

provided on the free end of said bolt and adapted for engagement and disengagement with said strike, said door being maintained in closed position upon engagement of said bolt with said strike, said bolt when swung from its horizontal position about said horizontal axis of said spindle by means of said handle clearing said strike for opening said door.

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