Oct. 1, 1929. H. P. NEPTUNE 1,729,840

CATCH

Filed May 14, 1928

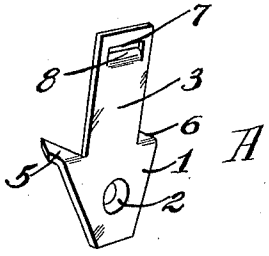


Fig. 5.

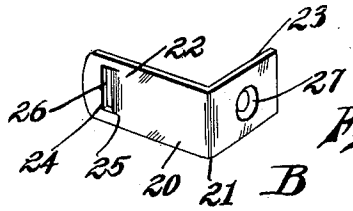


Fig. 6.

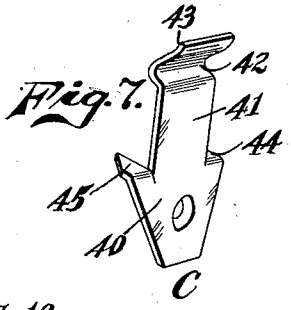


Fig. 7.

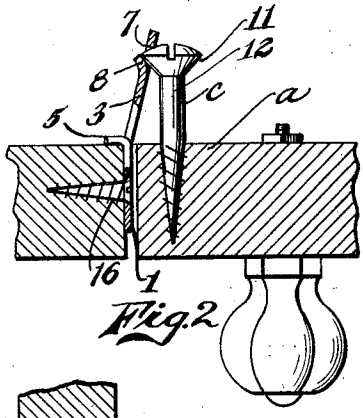


Fig. 2.

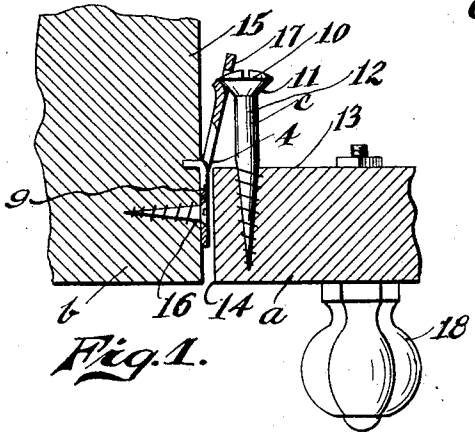


Fig. 1.

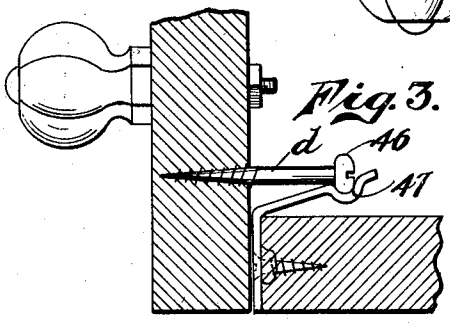


Fig. 3.

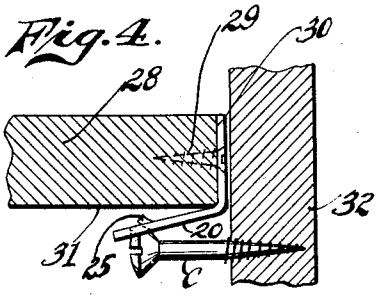


Fig. 4.

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UNITED STATES PATENT OFFICE

HERMAN P. NEPTUNE, OF SAN DIEGO, CALIFORNIA

CATCH

Application filed May 14, 1928. Serial No. 277,529.

This invention relates broadly to catches, and more particularly to a novel means adapted to perform various functions such as maintaining a door, gate, window, or the like in a closed relation to a frame. Various other relations may be assumed by the device in its numerous embodiments as it is adaptable for any purpose where two objects are to be releasably held together.

The invention has for an object the provision of a catch which is novel in construction, inexpensive of manufacture, easily applied, and which is generally superior.

In practicing the invention, I have provided in one embodiment of my improved catch a member which is formed with a slot, the wall bounding which is curved or lip shaped, and this member is adapted to be secured to a portion of a device, for instance, the side wall of a cupboard, while a separate device which may be in the form of a screw is adapted to be secured to a movable member, such as a door adapted to close entrance within such cupboard. Whether a screw is used or some other object is used, it is intended that the head of such object should have a cam-shaped end and this head is adapted to be received within said slot for engagement with the lip, and when the parts are in such co-acting relation, it is evident that the door is held closed. This construction is such that inward movement of the door is likewise limited due to the fact that the head of the object carried by the door will engage one wall bounding the slot in the other of said members.

With the above mentioned objects and uses of the invention in view, the invention consists in the novel and useful provision, formation, construction, association, and relative arrangement of parts, members and features, all as shown in certain embodiments in the accompanying drawing, described generally, and more particularly pointed out in the claims.

In the drawing:

Figure 1 is a cross sectional view of a door and a side wall of a cabinet with one form of my improved means between said door and wall of the cabinet for maintaining the door releasably locked closed,

Figure 2 is a view similar to Figure 1 and showing a method of securing one member of the invention, the cabinet being of a different form,

Figure 3 is a modified form of the invention from the showing of Figures 1 and 2,

Figure 4 is a further modified form of the invention,

Figure 5 is one form of the invention utilized in practicing the embodiment shown in Figures 1 and 2,

Figure 6 is a perspective view of one portion of the invention utilized in that form and adaptation of the invention shown in Figure 4, and

Figure 7 is a perspective view of a modified form of the invention.

Corresponding parts in all the figures are designated by the same reference characters.

Referring now with particularity to the drawing, the forms of the invention shown in Figures 5, 6, and 7 are designated as entireties by A, B, and C, respectively. The form A is preferably formed of sheet metal having inherent spring-like quality and which member includes a base portion or plate 1 provided with a transverse bore 2, and a connected or integrally formed member 3 extending from the plate 1 and at an angle to said plate, as illustrated in Figure 1, at 4. Said plate 1 is provided with a pair of members 5 and 6 at substantially right angles to said plate. These members perform various functions as will hereinafter appear. The member 3 is formed with a transverse slot 7 adjacent the outer end of said member and one wall of said member bounding said slot, as shown at 8, is curved to provide a lip.

Illustrating an adaptation of this form of the invention, reference is had to Figures 1 and 2. In said figures *a* is a door and *b* a portion of a cabinet which may be a side wall bounding and joined to such cabinet. The door *a* would be hinged to the cabinet in the usual manner whereby the door may be swung outwardly or inwardly to close entrance within the cabinet. In the instance shown in Figure 1, it is intended that the

member A should be secured to the side wall of the cabinet, as shown at 9. Adapted to cooperate with the device A is a means *c* which, in this instance, will comprise a screw formed with a head 10. This head is conventional in form having the usual conical or beveled part 11 where it joins with the shank 12. In order to accurately locate the position at which the screw is to be associated with the part *a*, I may place the plate 1 upon the surface 13 of the door and in such a position that the members 5 and 6 overlap and bear against the end wall 14 of said door. Having done this, I may make a mark on said door surface 13 by passing some instrument through the opening 2. After this is done, the screw *c* is secured to said door at said mark. The member A is next secured to the wall 15 of the cabinet and its position is, of course, marked relative to the position of the member *c*. The parts 5 and 6 would be embedded within the side wall, as shown, and a screw or similar means passed through the opening 2, as shown at 16, for securing the device A to said cabinet wall. It is next important to determine the position of the screw head 10 relative to where said head engages the slot 7 of the device A. If the head is placed too far from the surface 13 of the door, the door may not close even or flush with the outer surface of the cabinet. It is evident that such adjustment is easily accomplished by merely turning the screw to adjust the position of the head. Thus, when the door closes, due to the angular relation existing between the parts 1 and 3 of the device A, the head 10 will slide along the surface of the part 3 to where the head is received in the slot 7. One wall bounding said slot, as shown at 17, is abrupt or at right angles to the surface of the member 3, with the result that the top surface of the head by engaging said abrupt wall, limits further inward movement of the door *a*. Likewise, it will be noted that the curved lip 8 will engage the conical surface 11 of the head. The conical surface of the head of the screw plus the curved lip cooperate to permit the part 3 to be sprung away from the head when the door is pulled outwardly. Thus the door is positively held against movement beyond a determined point in one direction and releasably held to permit the door to open in a second direction. When the device A is applied, as shown in Figure 2, the parts 5 and 6 overlap the inner surface of the cabinet and act as a means for determining the position of said member A as shown in the figure. It is thus evident that a skilled workman is not necessary for the installation of the device just described. The usual handle or knob 18 may be secured to the door whereby the door may be swung open or closed.

The form of the invention shown in Figure 6 and designated by B operates in substantially the same way as the device A. The said device B includes a strip 20 bent at 21, to provide two portions 22 and 23 which are in angular relation. This angle is at any degree other than 90°. That portion 22 is provided with a transverse slot 24 having a curved lip portion 25 and with the wall bounding one part of the slot abrupt in form, as shown at 26. The portion 23 is provided with a bore 27 whereby the said member may be secured to an object 28 through the medium of a screw 29. In particular, it is to be observed that the device B in the instance shown in Figure 4 is secured to a member which is not movable and that the member B has that portion 23 secured to an end of the member 28, as shown at 30. The part 22 projects outwardly at an angle to the surface 31 of said member. The means *c* as shown in Figure 1 is also utilized in combination with the present device B, and said means is secured to the movable member 32 which may be a door. The head of the means *c* is received within the slotted portion as in the case for the showing of Figures 1 and 2, and limits the inward movement of the member 32 relative to the member 28, and likewise the relation is such that the head is easily cammed from said slot due to the curved lip 25. It is apparent to the most casual observer that the angularity assumed by the member 22 relative to the surface 31 may be easily varied by moving said member 31 outwardly or inwardly so that a positive engagement with the head of the member *c* is at all times assured. This principle is likewise true for any of the devices depicted.

The form of the invention designated by C and shown in Figure 7 does not depart in any manner from the spirit of the invention as described. This invention utilizes certain of the elements shown in Figure 5 which is to say it is provided with a plate 40 having a portion 41 extending therefrom and at an angle to said plate, which portion 41 adjacent its end is channeled or given a U-shaped curve, as shown at 42, finally terminating in a lip portion 43 lying substantially in the plane of the member 41. The plate 40 is likewise provided with two outstanding members 44 and 45. In use of this form of the invention, the same would be secured to any member in the manner substantially as shown in Figures 1 and 2, it being evident that the only distinction between the members A, B and C lies in the fact that the members A and B are provided with slots, whereas the member C is provided with the channeled end 42. In place of the means *c*, I would utilize a means *d* of the form shown in Figure 3, and which means would constitute a screw, the head of which is flattened and provided with a curved side wall 46. This curved side wall would correspond to the curvature of the channel 42.

In Figure 3, I have shown a further modification of my invention following the general nature of the invention designated as B and in place of providing a slot 24, I have provided a channeled extremity 47 of a nature similar to the channel 42 for the member C. The head 46 of the means *d* is adapted to be received within the channel 47. Likewise this member would be secured in the same manner as shown for that form of the invention B in Figure 4.

The several devices depicted in the drawing are of simple construction and yet very efficient in actual use. The several means are so formed that it is not necessary to resort to measuring distances to make sure that the several parts are properly secured to the door or the cabinet, in that the devices A to C, inclusive, are in a way self-measuring in that the said device may be turned so that the members 5 and 6 for the device A or the members 44 and 45 for the device C and the line of demarcation or the line bounding the angular parts designated as 21 for the device B may be placed adjacent the end wall of the door in each instance and by means of a marker passed through openings 2, 27, etc., the exact position for the screw may be ascertained. The members A, B and C, respectively, are of course located upon the cabinet with relation to said screw so that when the door is closed the screw will at all times be received either within the slot or in the curved extremity as the case may be. It is further evident that the degree of closing of the door is readily compensated by simply turning the screw to adjust the relative position of the head to the slot or channel. Thus warpage of the door is readily compensated.

It is obvious that various changes and modifications and variations may be made in practicing the invention in departure from the particular showing of the drawing without departing from the true spirit thereof.

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

1. The combination with a pair of relatively movable members, of a catch comprising a plate formed with a slot and a member provided with a head and adapted to be adjustably secured to the other relatively movable member; said head being adapted to be received in the slot of the plate to limit movement of said head in one direction.

2. The combination with a pair of relatively movable members, of a catch therefor comprising a plate having two angularly related portions, one portion thereof being formed with a slot, and a curved lip portion extending outwardly from said slot, and an adjustable member provided with a head secured to the other movable member; said head being adapted to be received within the slot of the first member and bear against the curved lip portion.

In testimony whereof, I have signed my name to this specification at San Diego, California, this 14 day of April, 1928.

HERMAN P. NEPTUNE.