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2,510,582

CATCH

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FIG. 1.

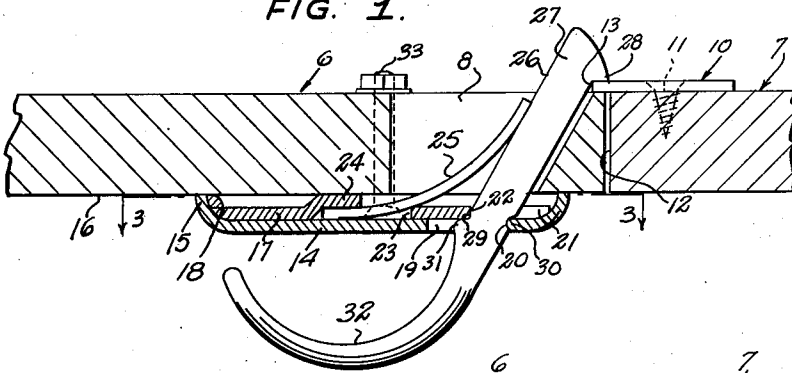


FIG. 2.

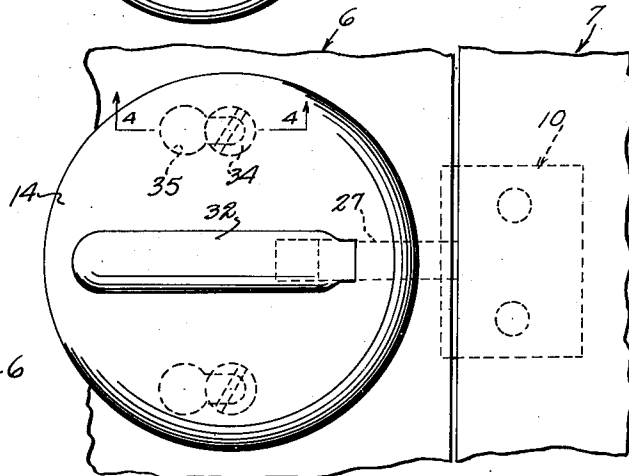


FIG. 4.

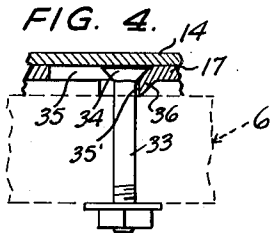


FIG. 5.

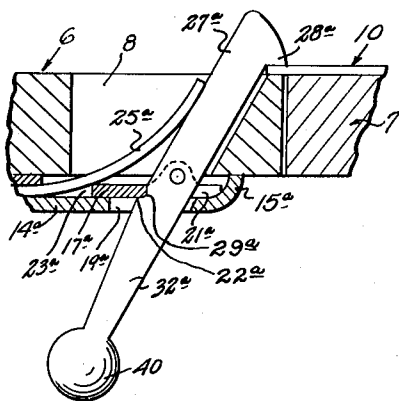
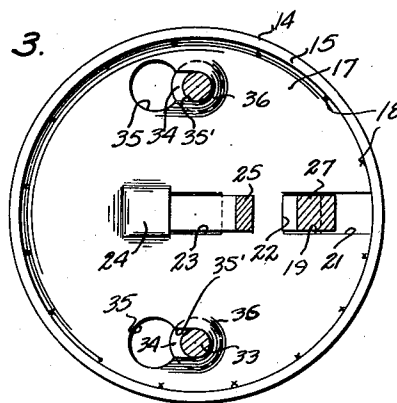


FIG. 3.



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# UNITED STATES PATENT OFFICE

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CATCH

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4 Claims. (Cl. 292—128)

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This invention relates to improvements in door catches of the type mounted in openings in the doors near but not opening through the free edges of the doors and involving a spring pressed handle means swingable to one side to release the hook of the catch means from the keeper on the door jamb or other structure in which the door is mounted.

The primary object of the invention is to provide an improved catch of the above indicated character which is substantially simplified as to structure and manner of operation, being composed of a minimum number of parts which are simple, easily manufactured, and easily assembled, so that the cost of production is relatively low.

Another important object of the invention is the provision of a highly efficient and easily operated catch of the above indicated character which affords an unusually neat and unobtrusive appearance when installed.

Other important objects and advantageous features of the invention will be apparent from the following description and accompanying drawings, wherein for present purposes of illustration only, specific embodiments of the invention are set forth in detail.

In the drawings:

Figure 1 is a fragmentary horizontal sectional view taken through the free edge of a door and its jamb in closed position, showing one form of catch installed and in locked or latched position.

Figure 2 is a front elevation of Figure 1.

Figure 3 is a longitudinal vertical section taken on the line 3—3 of Figure 1.

Figure 4 is an enlarged sectional detail taken on the line 4—4 of Figure 2, and;

Figure 5 is a view similar to Figure 1 of a modified form of catch.

Referring in detail to the drawings, and first to Figures 1 through 4 thereof, the numeral 6 generally designates the free edge portion of a door, shown in closed relation alongside and in line with a door jamb or the like structure 7, the door being formed with a hole 8 located in spaced relation to the free edge 9. The jamb or the like 7 is provided on one side thereof with a keeper plate 10 secured in place by suitable means such as a screw 11 and overhanging the jamb edge 12, as indicated at 13.

The catch mechanism comprises a circular flat outer or face plate 14 having an inturned peripheral edge or rim 15 arranged to engage the door surface 16 and space the plate 14 outwardly therefrom, as shown in Figure 1, to accommodate

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the inner plate 17. The inner plate 17 is smaller in diameter to fit within the rim 15 and is secured in place within the outer plate 14 by spot welds 18 or other suitable means.

The face plate 14, as shown in Figures 1 and 3, is formed on a diametrical line with an outer diametrically elongated slot 19 having a rounded outer edge 20, and the inner plate 17 is formed, on the same diametrical line, with an outer slot 21 opening through the edge of the inner plate and having an inner squared edge 22 located between the ends of the face plate slot 19.

The inner plate 17 is further formed on said diametrical line with an inner slot 23, with an outwardly projecting tab 24 extending from the inner edge of the slot 23 and laterally offset to provide with the subjacent part of the face plate 14, a pocket for seating one end of a leaf spring 25, which is aligned with the length of the slot 23 and projects outwardly therefrom, as toward the right in Figure 1.

The outer end portion of the leaf spring 25 is tensioned against the back or inner edge 26 of a straight bar 27 terminating in an outwardly directed hook 28 arranged to engage over or behind the keeper plate 10 for locking the door in closed position. The inner end of the bar 27 has grooves or notches 29 and 30 in its inner and outer edges, respectively, to make hinge engagement with the mentioned slot edges 22 and 20, respectively, the notch 29 on the bar 27 being completed at one side by rounded shoulder 31 arranged to rockably engage the adjacent outer or forward side of the inner plate 17 near the slot edge 22 and retain the bar 27 normally in a position angulated toward the right, as shown in Figure 1, under the tension of the spring 25. The forward end of the bar 27 merges into a transversely curved handle portion 32 lying close to the face plate 14 but providing ample purchase for fingers inserted therebehind to draw the handle forwardly and toward the right, and thereby pivot the bar 27 toward the left on the slot edges 22 and 20 and withdraw the hook 28 from the keeper plate 10 to free the door to be opened.

The catch is secured to the door portion 6 by bolts 33, 33 traversing the same and terminating at their forward ends in flared heads 34 received in keyhole slots 35, 35 formed in the inner plate 17, whereby the face plate 14 conceals the bolt heads 34, the material of the inner plate 17 around the smaller ends 35' of the keyhole slots 35, 35 being upset as indicated at 36 to accommodate the bolt heads.

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In the form of the invention shown in Figure 5 a hinge pivot arrangement for the catch lever or bar 27a is provided, which includes spaced ears 37 on the inner plate 17a and a pivot 38 carried by the ears and traversing the bar 27a near its forward end. Only one notch 29a is provided in the bar 27a to engage the slot edge 22a of the inner plate 17a to limit the swing of the bar 27a by the spring 25a. In addition, a straight handle 32a, aligned with the bar 27a is provided, which has a knob 40 on its forward end to be grasped in the hand in operating the catch, by swinging the handle 32a toward the left in Figure 5 to release the catch.

What is claimed is:

1. A catch comprising a base adapted to be secured to a support, said base comprising a face plate having means for engaging the surface of the support to space the face plate therefrom, an inner plate positioned between said face plate and said surface and secured to said face plate, said face plate and said inner plate being formed with partially registered slots, a catch lever extending through said slots having a handle projecting outwardly from said base, means on said base pivoting said lever thereon for retraction to a less angulated position from an angulated locking position, a stop on one side of said lever for engaging the outer side of said inner plate in the locking position of said lever, said inner plate being formed with a spring slot, a leaf spring having one end supportedly inserted in said spring slot and its opposite end bearing against the adjacent side of said lever and yieldably holding said lever in its locking position with said stop engaged with said inner plate.

2. A catch comprising a base adapted to be secured to a support, said base comprising a face plate having means for engaging the surface of the support to space the face plate therefrom, an inner plate positioned between said face plate and said surface and secured to said face plate, said face plate and said inner plate being formed with partially registered slots, a catch lever extending through said slots having a handle projecting outwardly from said base, means on said base pivoting said lever thereon for retraction to a less angulated position from an angulated locking position, a stop on one side of said lever for engaging the outer side of said inner plate in the locking position of said lever, said inner plate being formed with a spring slot, a leaf spring having one end supportedly inserted in said spring slot and its opposite end bearing against the adjacent side of said lever and yieldably holding said lever in its locking position with said stop engaged with said inner plate,

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said pivot means comprising an edge of the face plate slot, the side of said lever opposite said spring being formed with a notch pivotally engaging said face plate slot end.

3. A catch comprising a base adapted to be secured to a support, said base comprising a face plate having means for engaging the surface of the support to space the face plate therefrom, an inner plate positioned between said face plate and said surface and secured to said face plate, said face plate and said inner plate being formed with partially registered slots, a catch lever extending through said slots having a handle projecting outwardly from said base, means on said base pivoting said lever thereon for retraction to a less angulated position from an angulated locking position, a stop on one side of said lever for engaging the outer side of said inner plate in the locking position of said lever, said inner plate being formed with a spring slot, a leaf spring having one end supportedly inserted in said spring slot and its opposite end bearing against the adjacent side of said lever and yieldably holding said lever in the locking position with said stop engaged with said inner plate, said pivot means comprising transversely spaced ears projecting inwardly from said inner plate, pivot means journalling said lever on and between said ears.

4. A catch comprising a base comprising a face plate, an inner plate secured to one side of said face plate, said inner plate being formed with a spring slot and a portion spaced away from said face plate forming a pocket, a leaf spring having one end thereof inserted in said pocket and the other end extending away from said inner plate, said face plate and said inner plate being formed with partially registered lever openings with opposite sides of said lever openings providing spaced edges, a lever positioned through said lever openings, means pivoting said lever on said base, the said other end of said spring being engaged with the adjacent side of said lever at one side of said pivot means whereby the adjacent side of said lever at the opposite side of said pivot means is normally engaged with the edge of the inner plate opening with the lever angulated in locking position.

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#### REFERENCES CITED

The following references are of record in the file of this patent:

#### FOREIGN PATENTS

Number	Country	Date
52,667	Norway	June 12, 1933