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3,050,324

TRIPLE FACE MAGNETIC CATCH

Filed Nov. 23, 1959

3 Sheets-Sheet 1

FIG. 1

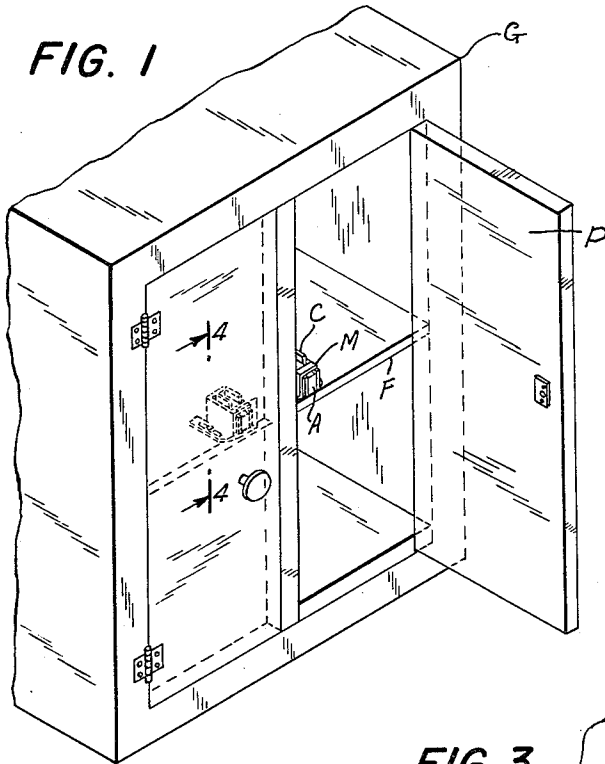


FIG. 6

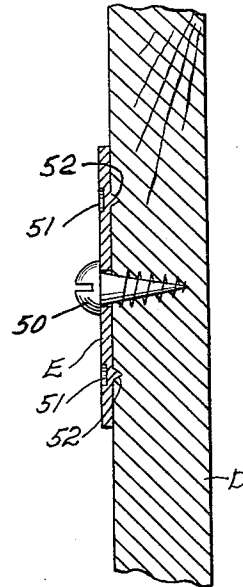
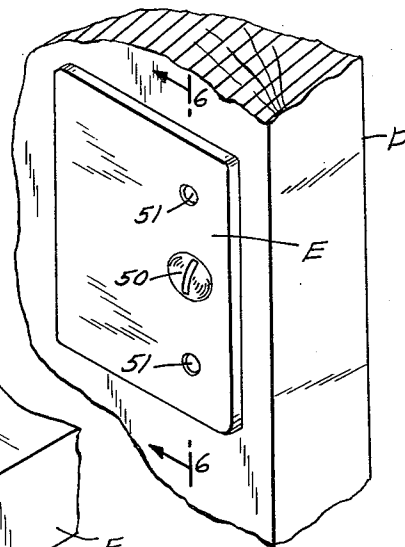
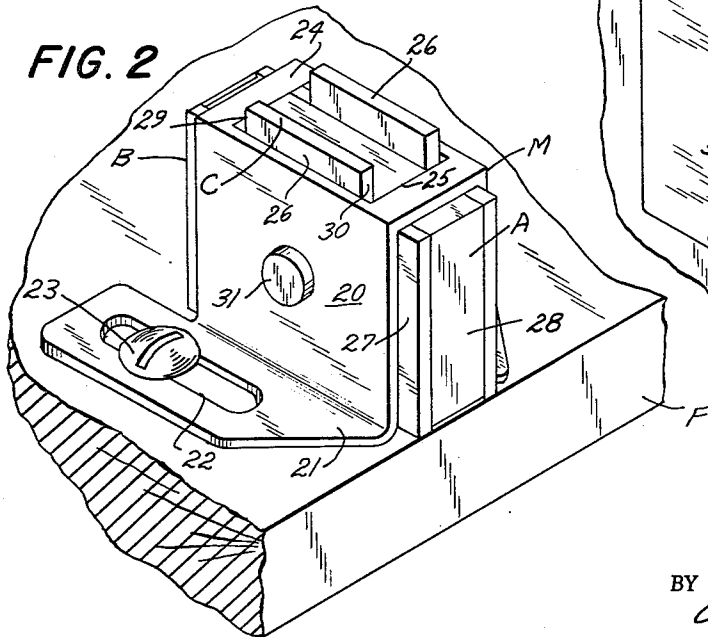


FIG. 3

FIG. 2



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FIG. 9

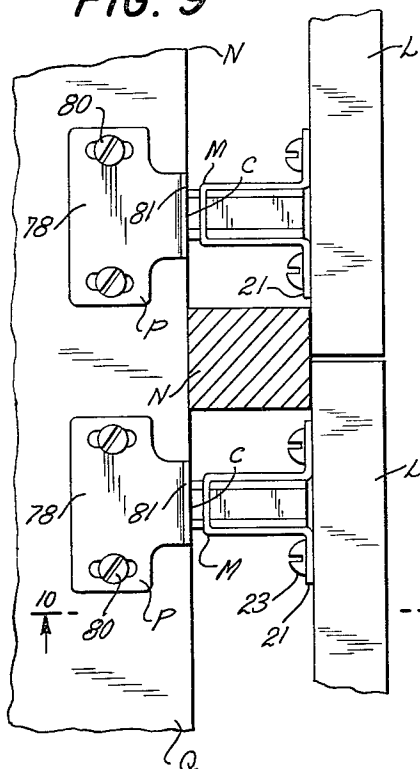


FIG. 10

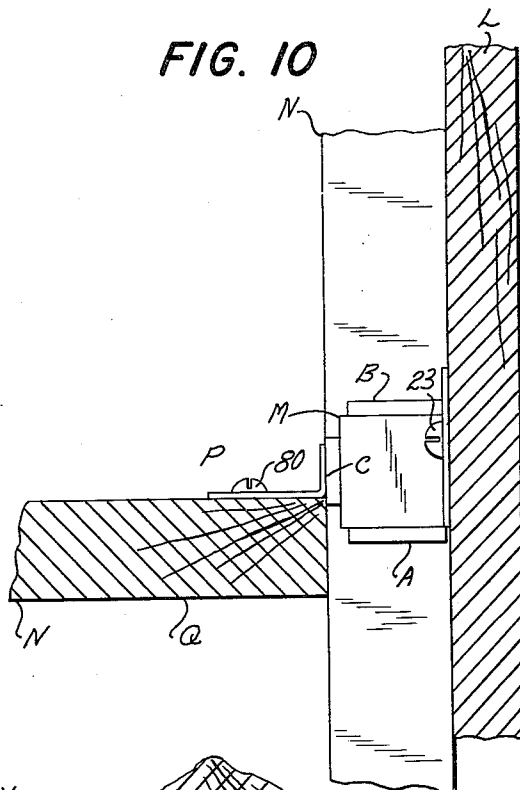


FIG. 11

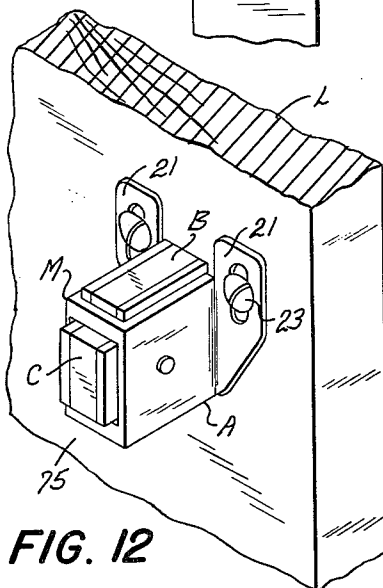
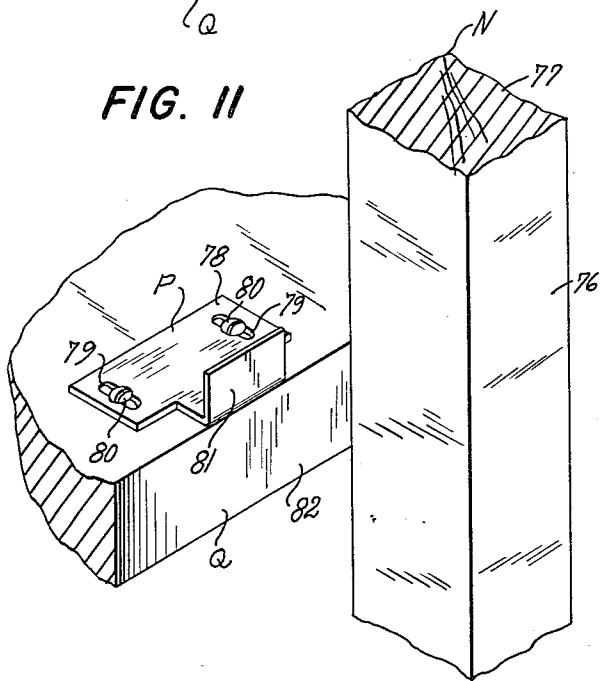


FIG. 12

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3,050,324

TRIPLE FACE MAGNETIC CATCH

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7 Claims. (Cl. 292-251.5)

The present invention relates to a triple face magnetic catch, and it particularly relates to a triple face magnetic catch designed for holding closures in position.

It is among the objects of the present invention to provide a simple readily installed, automatically adjustable magnetic catch arrangement which is adaptable to a wide variety of installations and which may be substantially universally employed without different constructions being required by different types of doors or closures.

Another object is to provide a magnetic catch arrangement which will be generally acceptable to flush door closures, lip door closures and overlay door closures without special constructions or with a wide variety of different models.

Another object is to provide a novel, adjustable magnetic catch which will readily adjust itself to different constructions and dimensions of swinging enclosures to assure an adequate contacting closure thereof even though there be variations in mounting due to changes in dimensions of the wood or base structure.

Still further objects and advantages will appear in the more detailed description set forth below, it being understood, however, that this more detailed description is given by way of illustration and explanation only and not by way of limitation, since various changes therein may be made by those skilled in the art without departing from the scope and spirit of the present invention.

In accomplishing the above objects according to a preferred embodiment of the present invention, there is provided an enclosure or carrier or box desirably consisting of a U-cross section bracket having outstanding ears or flanges which provide for an adjustable mounting thereof desirably on the fixed structure whether it will be a shelf of a closet or the frame of a door.

Desirably the swinging element will carry a flat plate consisting of a magnetic striker or armature which is designed to contact the magnetic element and be held in position against the magnetic element when the door or swinging closure element is closed.

In the preferred form of the invention, the magnetic structure consists of a central pole plate or central magnetic slab positioned between two side plates.

The unit will pivotally or adjustably be mounted in the box or enclosure so as to be readily adjustable.

The structure will readily accommodate the varying angles or faces of the doors or closures.

The doors or closures will vary and deviate from true horizontal and true vertical both due to inadequate installation and also due to variation with expansion of metal or wood used in the door or cabinet constructions.

The magnetic catch of the present invention will be so designed as to readily accommodate itself to these variations without need of reinstallation or replacement.

Furthermore, the unit is so arranged that it can be used for flush doors, on closets with the flat striker on the door and the magnetic catch on the shelf; or on lip door constructions with the flat striker on the door and the magnetic catch on the jamb or on overlay door constructions with the striker on the shelf and the magnetic catch on the door.

Desirably the box or enclosure will expose the magnet and the pole plates on three sides to enable a wider variety of mountings; and in the preferred form, the pole

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plates may extend on either one or more of the three available sides.

With the foregoing and other objects in view, the invention consists of the novel construction, combination and arrangement of parts as hereinafter more specifically described and illustrated in the accompanying drawings, wherein is shown an embodiment of the invention, but it is to be understood that changes, variations and modifications can be resorted to which fall within the scope of the claims hereunto appended.

In the drawings wherein like reference characters denote corresponding parts throughout the several views:

FIG. 1 is a front perspective view showing a closet according to the present invention with single doors, and showing in small scale two of the magnetic catches on the present invention located on a central horizontal shelf, one door being closed and the other door being opened.

FIG. 2 is a fragmentary top perspective view of one of the magnetic catches of FIG. 1 showing the mounting on the shelf upon an enlarged scale as compared to FIG. 1.

FIG. 3 is a fragmentary perspective view showing the flat striker of FIG. 1 upon an enlarged scale as compared to FIG. 1.

FIG. 4 is a fragmentary transverse sectional view taken upon the line 4-4 of FIG. 1, upon an enlarged scale as compared to FIG. 1 showing a side elevational view of the magnetic catch as mounted upon said central shelf.

FIG. 5 is a fragmentary top view taken upon the line 5-5 of FIG. 4 showing the magnetic catches in side by side position.

FIG. 6 is a fragmentary transverse sectional view taken upon the line 6-6 of FIG. 3 showing the manner of fixing the magnetic striker upon the swinging door or closure member.

FIG. 7 is a fragmentary top plan sectional view of an alternative form of the invention showing the striker mounted on the door, and the magnetic catch on the jamb in connection with a lip door structure.

FIG. 8 is a fragmentary top perspective view of the mounting of the magnetic catch of FIG. 7 upon the jamb.

FIG. 9 is a top view of an alternative construction with an overlay type of door with the magnetic catch of the present invention being mounted upon the shelf of the cabinet or closet.

FIG. 10 is a fragmentary transverse sectional view taken upon the line 10-10 of FIG. 9 showing the doors in closed position.

FIG. 11 is a fragmentary side perspective view showing the position of the L-shaped magnetic striker on the shelf or vertical partition member of the closet.

FIG. 12 is a fragmentary side perspective view showing the manner of mounting the magnetic catch upon the swinging door member.

Referring to FIGS. 1 to 12, the magnetic catch M as shown in the various embodiments of FIGS. 1 to 6, 7 and 8, and 9 to 12 has three effective faces indicated by A, B and C.

In FIGS. 1 to 6, the A face is shown in combination with a flush door D construction with a flat striker E on the door, and the magnetic catch on the horizontal shelf F of the closet G.

In the form of the invention shown in FIGS. 7 and 8, the opposite or B face of the magnetic catch M is utilized in connection with a lip door H on the cabinet J.

The magnetic strikers K may be of the same construction as shown at E in FIGS. 3 and 6, and they will be mounted on the doors H.

In the embodiment shown in FIGS. 9 to 12, the top or face C of the catch M is effective, and the magnetic

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catch M is mounted on the swinging overlay doors L on the closet N with the L-shaped magnetic striker P being mounted upon the shelf Q.

The magnetic catch M has three effective faces, A, B and C with the face A being preferably used with flush doors as shown in FIGS. 1 to 6; the face B being used with lip doors as shown in FIGS. 7 and 8; and the face C being used with overlay doors as shown in FIGS. 9 to 12.

Desirably the catch may be readily mounted upon the shelf or partition which is shown horizontal but which also may be vertical in FIGS. 1 to 6 and 7 and 8, but because it is light and occupies little space, it also may be positioned on the swinging member as shown in the embodiment of FIGS. 9 to 12.

Referring specifically to FIGS. 1 to 6, the magnetic catch M has the side walls 20 and the side flanges or side legs 21 which have slotted openings 22 receiving the attaching screws 23.

These slots 22 permit an adjustment so that the magnetic catch will be properly positioned on the shelf or partition F.

The top wall 24 which is integral with the side walls 20 and the flanges 21, has a cutout 25 through which the projecting portions 26 of the pole plates 27 may extend.

It will be noted that the central magnetic block 28 is positioned between the pole plates 27, and it may consist of a permanent magnetic alloy, such as aluminum-nickel-cobalt alloy known commercially as Alnico or other suitable permanent magnetic compositions.

The construction as shown in FIGS. 1 to 6 essentially involves a box which forms the magnetic catch M with a top wall or side 24, a front side which is open and through which the magnetic face A projects, a back side which is open and through which the magnetic face B projects, a bottom side which is also open and which is closed by the shelf or partition F and the lateral sides or the side walls 20 which terminate in the outstanding mounting flanges 21 flush with the open bottom side.

The pole plates on the other hand have cutouts as indicated at 29 and 30 so that they fit under the portions of the top wall 24 on each side of the opening 25 and project beyond the top wall 24 as well as the side edge faces of the box or U-cross section enclosure 20—21—24.

The two plates or elements consisting of the pole plates 27 and the magnetic block 28 are pivotally mounted on a stud or bolt 31 having the head 32 as shown in FIG. 5 with the peened end 33 to permit a certain amount of pivotal motion of the magnetic pull piece unit 27—28 inside of the enclosure 20—24.

Normally, on face A, the central magnetic block 28 and the side edges of the pole plates 28 will be flush, and the same will also be true of the magnetic face B.

However, on the magnetic face C, the pole plate 27 will have the projection 26 up through the opening 25.

Inasmuch as the pole plates 27 and the magnetic block 28 all have slight pivotal movement on the pin 31 and inasmuch as the pole plates 27 and the magnetic block 28 will all have slight relative movement in respect to the side wall 20 and the top wall 24 of the enclosure or box, they will readily accommodate themselves to normally slight deviations in the face of the doors or swinging members in respect to horizontal or vertical as happens in installation and to expansion and contraction with aging and with varying climatic conditions whether the cabinet or door structures are formed of metal, wood or plastic compositions.

Desirably the magnetic laminated structures 27—28—27 should readily fit within the box 20—24 so that this automatic adjustment is possible, and there should be sufficient space for such an adjustment at the recess portions 29 and 30 of the pole plates 27 and the flush edge of the pole plates and the magnet block 28 adjacent to the top wall 24.

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In respect to the striker E, this desirably is held in position by a screw 50 (see FIGS. 3 and 6), and by two indentations 51 which form prongs or points 52 projecting into the body of the swinging member or door D.

Referring to FIGS. 7 and 8, there is shown an embodiment in which opposite face B is effective.

In this case, the legs or flanges 21 will extend toward the edge or corner 60 of the jamb or vertical member 61 of the closet or cabinet J.

The face B as shown in FIGS. 7 and 8 will be inside of the face 62 of the jamb and the recesses 63 of the lip door will engage or fit around the corners 60 of the jamb 62 so that the magnet plates K will contact the face B of the magnetic catch M substantially inside of the outside face of the jamb 62.

As best indicated in FIG. 7, the spacings 64 and 65 will permit relative movement between the pole plates 27 and the magnetic slab 28 in respect to the box 20—24 which will accommodate varying slight misalignments which may occur upon initial installation or during operation.

In the embodiment of FIGS. 9 to 12, the top faces C of the magnetic catches are employed.

As shown in FIGS. 9, 10 and 12, the legs 21 are mounted by the screws 23 upon the inside faces 75 of the swinging doors L.

The doors L when closed will abut the face 76 of the vertical jamb member 77 of the closet structure N.

The closet structure N will have a horizontal shelf or partition Q, which carries the L-shaped strikers P having base flanges 78 with the slots 79 and the adjustment screws 80.

The upright portion 81 will project forwardly and then upwardly, and desirably will be flush with the face 82 of the shelf Q.

The angle face 81 will contact the face C of the magnetic catch in the embodiment of FIGS. 9 to 12.

It is thus apparent that the applicant has devised a substantially universal magnetic catch arrangement readily mounted in a wide variety of positions on shelves or partitions of closets or cabinets, and either upon the swinging element whether it be a door or a fixed element whether it be a shelf, partition or jamb with the other striker element being conveniently lodged on the opposite swinging or fixed member as the case may be.

The magnetic catch has three active faces which permits its ready adaption to flush doors, lip doors or overlay doors, and the pivotal mounting of the pole plates or pieces and of the magnet block will permit the accommodation to various misalignments or changes in the position of the contacting closure surfaces upon installation or during usage.

The magnetic block 28 is desirably of a magnetic alloy, and the pole plates 27 as well as the striker plates E, K, or P are of magnetic material, such as iron or steel.

The box 20—24—21 which is stamped out integrally in its U-shaped structure is desirably of a non-magnetic material.

As many changes could be made in the above triple face magnetic catch and many widely different embodiments of this invention could be made without departing from the scope of the claims, it is intended that all matter contained in the above description shall be interpreted as illustrative and not in a limiting sense.

Having now particularly described and ascertained the nature of the invention, and in what manner the same is to be performed, what is claimed is:

1. A magnetic catch construction comprising a box-like enclosure of U-shape cross section with side walls and a top wall having a large central rectangular opening and open front, back and bottom sides and outstanding slotted mounting flanges extending transversely outwardly from the bottom edges of the side walls and a movable magnetic sandwich positioned between and closely embraced by said side walls having a central rectangular

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lar magnet slab projecting through and beyond the front and back open sides of the enclosure in a fore and aft direction and one side plate on each side of said magnet slab of the same fore and aft dimension as the slab but also having an upwardly extending rectangular projection projecting upwardly through said rectangular opening and having lost motion in respect to said rectangular opening, said catch being effective on its top, front and back sides.

2. The catch of claim 1, said upwardly extending projections being of substantially less width in fore and aft direction than the width of said opening at said fore and aft direction and acting against the inside edges of the rectangular opening to limit the fore and aft movement of the sandwich, said side walls and said sandwich being perpendicular to the mounting flanges.

3. A three faced magnetic catch for ready mounting on a closure comprising a box having top, front, back, bottom and lateral sides and having mounting ears and a combination permanent magnet block with side pole plates projecting through said front, back and top openings, said mounting ears consisting of laterally transversely outwardly extending slotted flanges and said block and pole pieces being positioned in a plane transverse to the plane of said flanges and said block and pole pieces being mounted with lost motion within said box so as to be capable of fore and aft linear movement within said box between the front and back sides of said box.

4. A three faced magnetic catch for ready mounting on a closure comprising a box having top, front, back, bottom and lateral sides and having mounting ears and a combination permanent magnet block with side pole plates projecting through said front, back and top openings, said mounting ears consisting of laterally transversely outwardly extending slotted flanges and said block and pole pieces being positioned in a plane transverse to the plane of said flanges and said block and pole pieces being mounted with lost motion within said box so as to be capable of fore and aft linear movement within said box between the front and back sides of said box, said box having side walls and said combination magnetic block and side pole plates being pivotally mounted in respect to said side walls.

5. A three faced magnetic catch for ready mounting on a closure comprising a box having top, front, back, bottom and lateral sides and having mounting ears and a combination permanent magnet block with side pole plates projecting through said front, back and top openings, said mounting ears consisting of laterally trans-

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versely outwardly extending slotted flanges and said block and pole pieces being positioned in a plane transverse to the plane of said flanges and said block and pole pieces being mounted with lost motion within said box so as to be capable of fore and aft linear movement within said box between the front and back sides of said box, said box having side and top walls and said top walls having a rectangular recess through which extensions of said side pole plates project.

6. A three faced magnetic catch for ready mounting on a closure comprising a box having top, front, back, bottom and lateral sides and having mounting ears and a combination permanent magnet block with side pole plates projecting through said front, back and top openings, said mounting ears consisting of laterally transversely outwardly extending slotted flanges and said block and pole pieces being positioned in a plane transverse to the plane of said flanges and said block and pole pieces being mounted with lost motion within said box so as to be capable of fore and aft linear movement within said box between the front and back sides of said box, said magnet block and side pole plates having smaller dimensions than the openings in said box so that they may move within said box to accommodate misalignment of the doors.

7. A three faced magnetic catch for ready mounting on a closure comprising a box having top, front, back, bottom and lateral sides and having mounting ears and a combination permanent magnet block with side pole plates projecting through said front, back and top openings, said mounting ears consisting of laterally transversely outwardly extending slotted flanges and said block and pole pieces being positioned in a plane transverse to the plane of said flanges and said block and pole pieces being mounted with lost motion within said box so as to be capable of fore and aft linear movement within said box between the front and back sides of said box, said catch having forward and rear opposite faces in which the active faces of the pole plates and block are flush and having an intermediate top face in which the pole plates project beyond the magnet block.

References Cited in the file of this patent

UNITED STATES PATENTS

2,861,831	Loeb	Nov. 25, 1958
2,877,040	Curtiss et al.	Mar. 10, 1959
2,888,291	Scott et al.	May 26, 1959