Sept. 28, 1954 M. O. TEETOR 2,690,349

MAGNETIC DOOR CATCH

Filed March 26, 1951 2 Sheets-Sheet 1

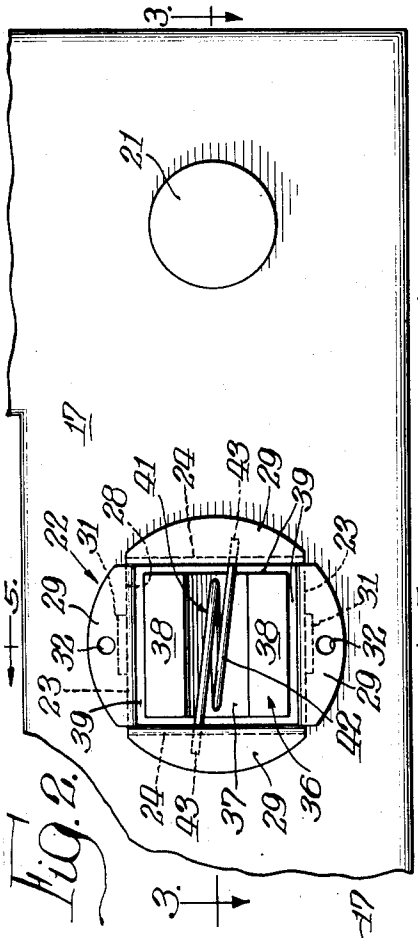


Fig. 2.

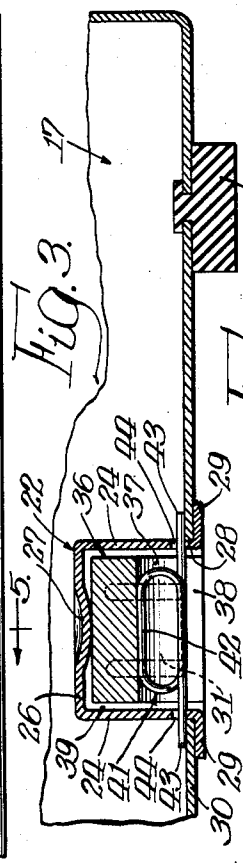


Fig. 3.

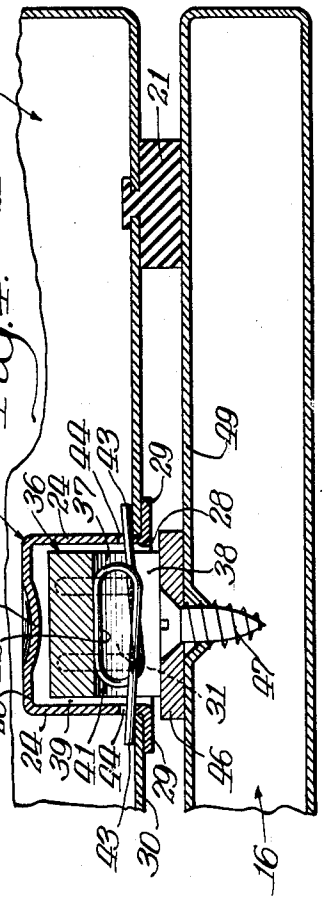


Fig. 4.

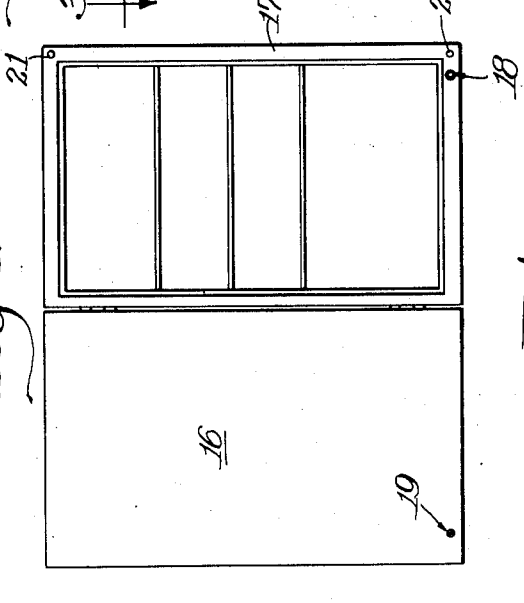


Fig. 1.

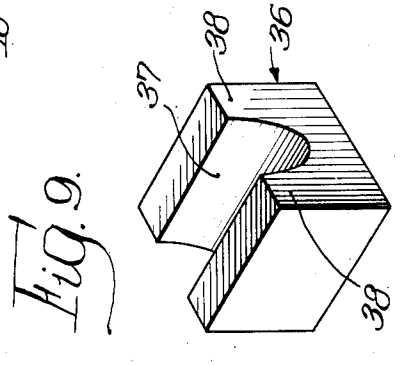


Fig. 9.

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MAGNETIC DOOR CATCH

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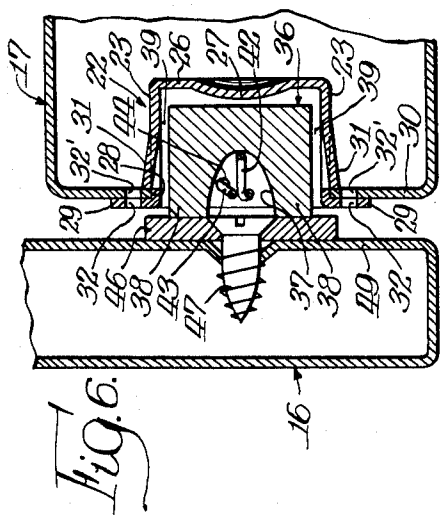


Fig. 6.

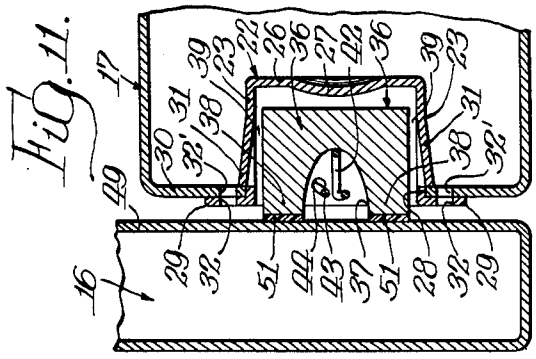


Fig. 11.

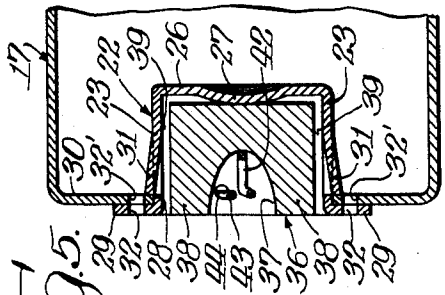


Fig. 5.

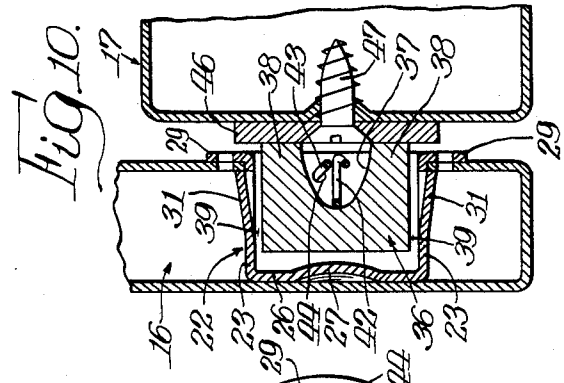


Fig. 10.

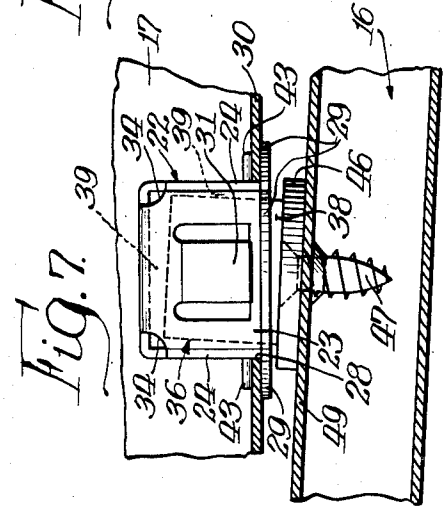


Fig. 7.

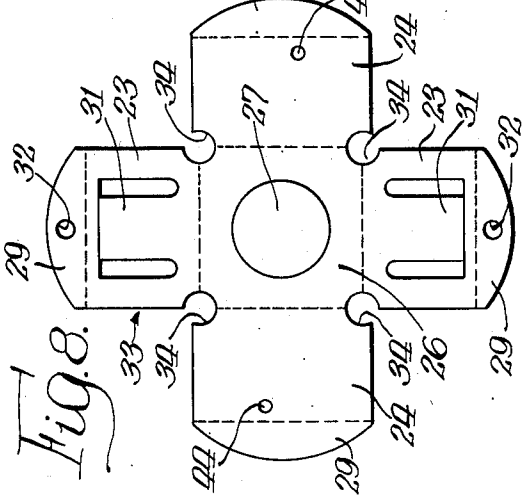


Fig. 8.

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MAGNETIC DOOR CATCH

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Application March 26, 1951, Serial No. 217,609

8 Claims. (Cl. 292—251.5)

1

This invention relates to a device for retaining a door or other closure member in closed position by magnetic attraction and more particularly to a magnetic catch particularly adapted for use on steel cabinets.

It is common experience in the case of wood cabinets that considerable difficulty is often encountered with the operation of the cabinet latch or catch because of warpage or sagging of portions of the cabinet after the initial installation. In the usual type of cabinet catch, one of the catch elements is fastened to the door and the companion catch element is mounted in coacting position on the cabinet frame or shelf. Consequently, even a slight degree of change in the relative positions of the cabinet frame and door will result in improper contact between the catch elements which can usually be corrected only by removing one or both catch elements and remounting them in properly aligned positions.

Although in steel cabinets there are no problems due to warpage, nevertheless, it is often difficult to obtain uniform and satisfactory operation of the usual friction type catch or other mechanical catch used on steel cabinets. This difficulty stems first of all from the fact that the wall surface of the average room is far from level or even. As a result, the cabinet installer must resort to the use of shims or other expedients to insure substantially straight and level mounting of the steel cabinet. Otherwise, it has been found that the catch elements will be misaligned and will not function as intended.

In addition, even if the steel cabinet is perfectly mounted on the wall, it is still difficult to obtain the necessary horizontal and vertical alignment of the catch elements per se. The conventional steel cabinet catch comprises a projection on the door which is inserted into and is gripped by a resilient clip or friction element on the cabinet frame when the door is closed. For proper operation, it is necessary that the projection enter the friction element at the exact center thereof. Even a slight off-center condition will make the door difficult to open and close. Consequently, it will be seen that the conventional steel cabinet catch requires great care and accuracy both in the installation of the catch elements on the cabinet and in the mounting of the cabinet on the wall.

The present invention is directed to a novel door catch of the magnetic type which is particularly adapted for use on steel cabinets and which permits both the cabinet and the catch to be installed without the high degree of exactitude and care previously found to be necessary in order to insure proper operation of the ordinary friction type or other mechanical cabinet catch. As will hereinafter appear, the magnetic door catch of the present invention possesses many of the advantages and operating characteristics broadly

2

described and claimed in my prior U. S. Patent No. 2,508,305 issued May 16, 1950.

Accordingly, a primary object of the present invention is to provide a novel door catch which is especially adapted for use on steel cabinets and the like and which substantially eliminates the need for extreme care and exactitude in the installation of the cabinet and the catch which has heretofore been necessary in order to insure proper operation of the cabinet catch.

A further object of the invention is to provide a novel magnetic catch which is particularly suitable for use on steel cabinets and the like.

Another object of the invention is to provide a novel combination of a pair of cooperating door and frame members and a magnetic catch with means for spacing the door and frame members to insure proper operation of the catch when the door is in closed position.

Other objects and advantages of the invention will become apparent from the subsequent detailed description of the invention taken in connection with the accompanying drawings, wherein:

Fig. 1 is a front elevational view, on a reduced scale, of a steel cabinet provided with a magnetic door catch comprising one embodiment of the invention and showing the relative location of the various cooperating parts of the device;

Fig. 2 is a fragmentary front elevational view, on an enlarged scale, of the lower right-hand corner portion of the cabinet frame illustrated in Fig. 1 and showing one of the catch elements mounted thereon;

Fig. 3 is a horizontal sectional view taken along the line 3—3 of Fig. 2 and showing the position of one of the catch elements when the cabinet door is open;

Fig. 4 is a view similar to Fig. 3 but with the cabinet door in closed position;

Fig. 5 is a vertical sectional view taken along the line 5—5 of Fig. 2;

Fig. 6 is a vertical sectional view similar to Fig. 5 but showing the cabinet door in closed position;

Fig. 7 is a horizontal sectional view similar to Fig. 4 but showing the manner in which the catch elements compensate for misalignment of the cabinet door and frame members;

Fig. 8 is a plan view of a preformed sheet metal blank adapted to be folded to form a housing for the magnet element of the device;

Fig. 9 is a perspective view of the magnet element of the device;

Fig. 10 is a vertical sectional view showing a modified form of the invention; and

Fig. 11 is a view similar to Fig. 6 but showing another modification of the invention.

Referring first to Fig. 1 of the drawings, a steel cabinet of a conventional type is shown comprising a door 16 hingedly secured at one edge thereof to a cabinet frame 17. The cabinet is

provided with a magnetic door catch embodying the features of my invention and consisting of a magnet unit 18 mounted adjacent the lower right-hand corner of the cabinet frame 17 and a cooperating armature unit 19 secured at a corresponding location on the door 16. It will be understood that the magnet unit 18 and the armature unit 19 are thus mounted in coacting positions on the cabinet frame and door, respectively, so that the armature unit 19 engages the magnet unit 18 when the door 16 is in closed position against the cabinet frame 17. For the purposes described hereinafter, the outer edge of the frame 17 is also provided with a plurality of bumpers in the form of circular rubber pads 21 secured to the cabinet frame in spaced relation thereon. Although two such bumpers 21 are shown in Fig. 1, it will be understood that the number of bumpers may be altered to fit the circumstances of each installation and, in addition, the bumpers may be secured to the door rather than the cabinet frame.

Although as shown in the drawing, the magnet unit 18 is secured to the cabinet frame and the armature unit 19 is secured to the cabinet door, it will be understood that the two units may be mounted in reverse locations. Also, the magnet and armature units need not necessarily be mounted in the exact positions on the cabinet structure illustrated in Fig. 1. For example, the catch elements may be positioned adjacent the top or central portions of the cabinet structure if desired.

Referring now to Figs. 2 to 9 inclusive, the magnet unit 18 of the device is shown as comprising a cup-shaped sheet metal housing, indicated generally at 22, having a generally rectangular or square cross-sectional shape. The housing 22 is formed with a pair of upper and lower walls 23, a pair of oppositely disposed side walls 24 and a bottom wall 26 having a hump or inwardly bulged portion 27. The housing 22 is adapted to be received within a square aperture 28 provided in the steel cabinet frame 17, and a plurality of outwardly extending flanges 29 are integrally formed at the front edges of the walls of the housing for flatwise engagement with the outer panel or face, indicated at 30, of the cabinet frame 17. The upper and lower walls 23 of the housing 22 are formed with a pair of outwardly-struck resilient "punch-outs" or integral retainers 31 which are adapted to about the panel 30 at the inside thereof in clamping relation with the flanges 29. It will thus be seen that the magnet housing 22 can readily be installed merely by inserting the housing in the opening 28 of the cabinet frame and pressing the housing inwardly until the retainers 31 snap into position against the inside of the panel 30 and the flanges 29 are thereby tightly retained flatwise against the outside of the panel 30. The flanges 29 on the upper and lower walls 23 of the housing 22 are provided with a pair of apertures 32 adapted to be superimposed over similar apertures 32' in the panel 30 to permit insertion of a punch or like tool for pressing back the retainers 31 when it is desired to remove the housing 22.

In order to insure proper operation of the magnet unit of the device, the housing 22 is formed from a non-magnetic material, such as brass, zinc, aluminum, or plastic, so that the magnet element will not be attracted to the surrounding steel cabinet structure. In Fig. 8 I have shown an integral one-piece blank 33 of a suitable non-magnetic sheet metal. The blank 33 is punched, as at 34, with corner apertures to facilitate folding of the housing walls, and in addition the wall portions 23 are also suitably punched to form the resilient retainers 31. By folding the sheet metal blank 33 along the dotted lines indicated in Fig. 8, the housing 22 having the structure illustrated may be readily formed.

The magnet element (Fig. 9) of the catch is in the form of a substantially square metal block 36 having an elongated groove 37 of U-shaped cross-section and extending inwardly from one face of the block. The magnet 36 is formed from a magnetic metal or alloy and I particularly prefer the alloy comprising essentially aluminum, nickel, and cobalt which is available commercially under the trade-mark "Alnico." The elongated groove 37 is preferably so oriented with respect to the magnetism of the block 36 that the groove in effect divides the magnet into pole pieces or legs 38 of opposite polarity in much the same manner as a conventional horseshoe type magnet.

The magnet element 36 is disposed loosely within the housing 22 with the legs 38 extending outwardly therefrom. As will be quite clear from Figs. 2, 3 and 4, the dimensions of the magnet 36 are slightly less than the internal dimensions of the housing 22 whereby to provide a suitable clearance or space 39 between the outside of the magnet and the interior of the housing. As will be described hereinafter, this clearance 39 is of sufficient extent to permit the magnet 36 to assume a cocked or angular position within the housing 22. The dome-shaped projection or hump 27 in the bottom wall 26 of the housing 22 forms a stop or retainer upon which the magnet 36 rests at its inner face when in retracted position (Fig. 3) thereby avoiding any danger of the magnet becoming caught or stuck in the folded or rounded corner edges of the housing 22. The extent of the hump 27 is correlated with the depth of the housing 22 and the depth of the magnet 36 so that the outer faces of the magnet legs 38 are substantially flush with the outer surfaces of the peripheral flanges 29 when the magnet is in its normal retracted position.

A spring member, indicated generally at 41, is disposed within the groove 37 of the magnet 36 and coacts between the latter and the housing 22 for normally retaining the magnet in its retracted position as illustrated in Fig. 3. The spring member 41 comprises in this case an elongated piece of non-magnetic resilient material such as phosphorus bronze spring wire. The length of wire is bent to provide a generally rectangular loop portion 42 at the center of the spring member 41 and oppositely disposed straight end portions 43 extending outwardly on each side of the loop 42. As will be readily seen from Figs. 3 and 4, the spring member 41 thus resembles generally a paper clip. The straight end portions 43 of the spring member 41 are disposed in an angular or outwardly slanted manner relative to the plane of the loop portion 42 (Fig. 2) and extend through a pair of oppositely disposed apertures 44 provided in the side walls 24 of the housing 22. The extreme outer ends of the spring member 41 are thus disposed against the inside of the outer panel 30 of the frame 17 in clamping relation with the corresponding flanges 29 at the outside of the panel 30. By reason of the location of the apertures 44 on opposite sides of the plane of the loop portion 42 and by the action of the angularly disposed end portions 43 extending through the

apertures 44, it will be seen that the spring member 41 is thereby retained in operative position with respect to the magnet 36 and furthermore that the plane of the loop portion 42 is thereby maintained upright within the depth of the groove 37 and substantially coincident with the longitudinal axis of the groove, Because of the resilient nature of the spring wire forming the spring member 41, the ends 43 of the spring are retained in abutment with the edges of the apertures 44, and the inner longitudinal edge of the loop 42 is retained in direct coacting engagement with the magnet 36 at the base of the groove 37 intermediate the legs 38 whereby the magnet 36 is normally retained in its retracted position with the rear face thereof abutting the hump 27 at the base of the housing 22.

The magnet unit 18 may be assembled in the following manner. First, the housing 22 is inserted in place in the opening 28 of the panel 30 by pressing the housing inwardly until the retainers 31 snap into clamping relation as hereinbefore described. The magnet 36 is then inserted loosely in position in the housing 22. Finally, the spring member 41 is installed by inserting first one of the ends 43 and then the other in the apertures 44 with the loop portion 42 extending outwardly or away from the magnet groove 37. The spring member is then rotated about a longitudinal axis and the loop portion 42 pushed into operative position in the magnet groove 37 to obtain the assembled relation shown in Figs. 2-4.

The armature unit 19 comprises a flat centrally apertured circular washer 46 formed from a magnetic metal such as iron or steel having a diameter sufficient to permit complete contact with the outer faces of the magnet legs 38. The washer 46 is secured to the door 16 by means of a sheet metal screw 47 threaded into the inner panel member, indicated at 49, of the door. The head portion of the screw 47 is countersunk within the washer 46 whereby to present a flush outer contact surface for full face contact with the magnet 36. It will be understood that the force resulting from the magnetic attraction between the magnet 36 and the washer 46 is greater than the tension exerted by the spring 41 thus permitting outward movement of the magnet 36 into engagement with the washer 46 when the door is closed. However, when the door 16 is in open position, the spring 41 retracts the magnet 36 into the housing 22 in the manner hereinbefore described.

Figs. 4 and 6 illustrate the relative positions of the magnet 36 and the spring 41 when the door is in closed position. When the door 16 is closed and the armature 19 is thus moved into coacting position with the magnet unit 18, the loop portion 42 of the spring 41 flexes in the manner indicated in Fig. 4 and the magnet 36 moves outwardly under the force of magnetic attraction into engagement with the washer 46. It will be seen from Fig. 4 that flexing of the spring member 41 takes place primarily at the curved ends of the loop portion 42, i. e. by pivoting of the straight end portions 43 at the bends adjacent the opposite ends of the elongated loop 42.

It will be understood that as the cabinet door 16 approaches a closed position when being moved at a normal rate of closure, the magnet 36 moves outwardly from the housing 22 into engagement with the washer 46 and this engagement normally occurs an instant before the door 16 reaches its finally closed position. Thereafter, the final closure and retention of the door in closed position is accomplished solely by the action of the spring member 41 which is then under tension (Fig. 4). When the door 16 is opened, the spring 41 having its ends 43 retained by the edges of the apertures 44 in the housing 22 and having its loop portion 42 in direct engagement with the magnet 36 intermediate the legs 38 thereby serves as a breaker for disrupting the magnetic bond between the magnet and armature units.

During the movement of the door 16 to closed position, the rubber bumpers 21 serve to prevent noisy slamming closure of the steel door. However, it is also an important feature of my invention that the bumpers 21 also serve to space the magnet and armature units to insure proper operation of the catch. The thickness of the bumper 21, as shown in Fig. 4, is sufficient to insure that the washer 46 will be spaced a proper distance outwardly from the magnet unit so that the magnet 36 must move to its outwardly extended position with the spring 41 under tension in order to engage the washer 46. By means of this arrangement, it will be seen that the magnet 36 merely adheres to or establishes a firm contact with the door but the actual retention of the door in closed position is accomplished by the resilient action of the spring 41. In this manner, proper functioning of the magnetic catch is realized and undesirable looseness or rattling of the closed door is completely avoided.

The provision of the bumper 21 in the manner just described also accomplishes another objective, namely, the protection of the magnet 36 against severe slamming impact with the armature 46. The magnetic alloys are in most cases quite brittle and low in impact resistance, and as a result of these properties it is desirable to avoid direct impact between the magnet and armature elements. Although the legs 38 of the magnet 36 in its normally retracted position (Fig. 3) are substantially flush with the housing flanges 29, it will be seen from Fig. 4 that even when the door 16 is slammed with severe force, the washer 46 cannot possibly engage the magnet legs 38 with a slamming impact because of the presence of the bumper 21. In other words, the spacing effect of the bumper 21 is such that the magnet 36 must always move outwardly against the action of the spring 41 in order to effect magnetic engagement with the armature element.

As hereinbefore mentioned, an important advantage of the magnetic catch comprising the present invention resides in the fact that the catch operation is such that extremely accurate and aligned mounting of the cabinet on its supporting structure is unnecessary. This advantage results because of the self-adjusting operation of the catch elements one of which is rigidly mounted and the other of which is loosely and resiliently mounted for combined outward and angular movement toward the rigidly mounted element. Thus in Fig. 7 the door 16 is shown in non-parallel misaligned position relative to the frame 17 as a result of uneven mounting of the cabinet or other causes. However, because the magnet 36 is loosely and resiliently mounted within the housing 22, angular or twisting movement of the magnet 36 occurs within the clearance 39 between the magnet and its housing whereby to permit full surface flatwise engagement between the outer pole faces of the magnet 36 and the washer 46. In Fig. 7 the misalignment between the door

and frame structure is shown in a horizontal plane, but it will be quite apparent that the clearance 39 extends around all sides of the magnet 36 so that even if the misalignment is in a vertical plane, a corresponding angular or cocked movement of the magnet 36 can occur in a vertical plane to compensate for the misalignment. Hence, the magnetic forces in my device are utilized to their fullest extent at all times, the self-adjusting feature of the movably mounted catch element compensating for all types of misalignment between the door and frame. Thus, it is unnecessary to exercise any excessive degree of care in mounting a steel cabinet when the cabinet is equipped with catches of the present type.

Another characteristic of the catch described herein which renders it particularly suitable for use on steel cabinetware is the fact that the catch does not depend for its retention effect on the frictional engagement of a projecting element with a resilient clip or the like as is the case with conventional steel cabinet catches heretofore used. As pointed out above, in such a friction type catch it is essential that the catch elements be perfectly aligned with each other in order to obtain satisfactory operation of the catch. My invention avoids such difficulties because, as will be readily apparent, it is unnecessary that the washer 46 be in exact center-to-center alignment with the magnet 36 in order to obtain effective magnetic contact between the magnet and armature elements. In other words, the washer 46 can be off-center either vertically or horizontally relative to the magnet 36 without affecting the operation of the catch.

In Fig. 10 I show a modified mounting of the magnetic catch hereinbefore described. In this embodiment the magnet unit 18 is mounted on the door 16 and the washer 46 comprising the armature unit is secured to the cabinet frame 17. The rubber bumper (not shown) may likewise be reversed, as compared with Fig. 4, and mounted on the door 16. Although the mountings of the catch and armature elements on the door and frame have been reversed as compared with the structure shown in Figs. 2 to 9, it will be apparent that the operation of the device is otherwise exactly the same.

Fig. 11 illustrates still another modification of my invention wherein I have omitted the use of a separate armature element such as the washer 46. In this form of the invention, the steel door 16 acts per se as an armature for the magnet 36 and the rubber bumper (not shown) may be of diminished thickness as compared with the bumper 21 in the other forms of the invention because of the omission of the washer 46. Steel cabinetware of this type is commonly finished with a white or other light-colored enameled coating, and in order to protect the inner enameled surface of the door 16 from the repeated abrasive action of the magnet 36, I preferably coat the contact faces of the magnet legs 38 with a suitable wear-resistant coating of plastic or the like as indicated at 51. The coating 51 is, of course, sufficiently thin to avoid interference with the magnetic attraction between the magnet 36 and the steel door 16. In addition to protecting the enameled door surface, the coating 51 also diminishes the noise which occurs during operation of the catch. Otherwise, the operation of the device is the same as in the previous forms of the invention, the magnet 36 moving outwardly against the action of the spring 41 to permit flatwise engagement of the coated contact faces of the magnet legs 38 with the inner face of the steel door 16.

Although the invention has been described in detail herein in connection with certain specific embodiments, it will be understood that various modifications and equivalent structures may be resorted to without departing from the scope of the invention as defined in the appended claims.

I claim:

1. A magnetic catch for holding a closure member in closed position adjacent a frame member, said catch comprising a magnet housing adapted to be rigidly affixed to one of said members, a permanent magnet element loosely disposed in said housing and adapted to move outwardly therefrom by magnetic attraction toward an armature means associated with the other of said members, said magnet element having an elongated groove at its outer face, and an elongated one-piece spring member disposed in said groove, said spring member having a looped central portion in engagement with said magnet element and having its opposite end portions extending through and retained by the adjacent end walls of said housing whereby said magnet element is normally retained in retracted position within said housing by the resilient action of said spring member.

2. A magnetic catch for holding a closure member in closed position adjacent a frame member, said catch comprising armature means associated with one of said members, a magnet housing adapted to be rigidly affixed to the other of said members, a permanent magnet element loosely disposed in said housing for outward movement therefrom by magnetic attraction toward said armature means, said magnet element having an elongated groove at its outer face, and an elongated one-piece spring member disposed in said groove, said spring member having a looped central portion in engagement with said magnet element and having its opposite end portions extending through and retained by the adjacent end walls of said housing whereby said magnet element is normally retained in retracted position within said housing by the resilient action of said spring member, said housing being slightly larger than said magnet element thereby providing clearance therebetween and whereby to permit simultaneous outward and limited angular movement of said magnet element for facilitating full surface contact with said armature means even when said closure and frame members occupy non-parallel misaligned positions.

3. A magnetic catch for holding a closure member in closed position adjacent a frame member, said catch comprising an armature element adapted to be rigidly secured to one of said members, a magnet housing adapted to be rigidly affixed to the other of said members, a permanent magnet element loosely disposed in said housing for outward movement therefrom by magnetic attraction toward said armature element, said magnet element having an elongated groove of generally U-shaped cross-section extending therethrough at the outer face thereof, and an elongated one-piece spring member disposed in said groove, said spring member having an elongated generally rectangular loop portion with the plane of said loop portion extending longitudinally along substantially the center of said groove and the innermost side of said loop portion being disposed in engagement with the bottom of said groove, and said spring member having substantially straight end portions extending through

said housing on opposite sides of said loop portion whereby said magnet element is normally retained in retracted position within said housing by the resilient action of said spring member but is free to move outwardly toward said armature element by flexing movement of said spring member.

4. A magnetic catch for holding a closure member in closed position adjacent a frame member, said catch comprising an armature element adapted to be rigidly secured to one of said members, a substantially rectangular magnet housing adapted to be rigidly affixed to the other of said members and formed from a non-magnetic material, a substantially rectangular permanent magnet loosely disposed in said housing for outward movement therefrom by magnetic attraction toward said armature element, said magnet having an elongated groove along its outer face and extending inwardly therefrom and said housing being provided with a pair of apertures adjacent the opposite ends of said groove, and spring means disposed in said groove and comprising an elongated one-piece resilient member having a central loop portion engaging the bottom of said groove and having end portions extending through said apertures whereby said magnet is normally urged inwardly of said housing by the action of said resilient member.

5. A magnetic catch for holding a closure member in closed position adjacent a frame member, said catch comprising an armature element adapted to be rigidly secured to one of said members, a magnet housing adapted to be rigidly affixed to the other of said members, a magnet element loosely disposed in said housing for outward movement therefrom by magnetic attraction toward said armature element, said magnet element having an elongated groove of generally U-shaped cross-section along its outer face, and an elongated one-piece spring member disposed in said groove, said spring member having an elongated central loop portion disposed with the plane of the loop portion extending upright within the groove and substantially coincident with the longitudinal axis of the groove whereby the innermost edge of said loop portion engages the bottom of the groove, said housing having the portions thereof adjacent the ends of said groove provided with a pair of apertures spaced on opposite sides of the plane of said loop portion, and said spring member also having straight end portions slanting outwardly at opposite ends of said loop portion and extending through said apertures whereby said loop portion is retained in upright position within said groove for normally urging said magnet element inwardly of the housing but permitting resilient outward movement thereof.

6. A magnetic catch for holding a closure member in closed position adjacent a frame member, said catch comprising an armature element adapted to be rigidly secured to one of said members, a generally rectangular cup-shaped magnet housing adapted to be rigidly affixed to the other of said members, peripheral flange portions at the outer edge of said housing and adapted to seat flatwise against the outer face of said other member, a permanent magnet element loosely disposed within said housing for outward movement therefrom by magnetic attraction toward said armature element, said magnet element having an elongated groove extending across its outer face, and an elongated one-piece spring member disposed in said groove and having a central loop portion in engagement with said magnet element at the bottom of said groove, said housing having its oppositely disposed side walls parallel to said groove formed with integral outwardly-projecting resilient portions adapted to engage the inner face of said other member in clamping relation with said flange portions and said housing having its oppositely disposed side walls adjacent the ends of said groove provided with apertures, and said spring member having substantially straight end portions extending through said apertures for normally engaging the adjacent portions of the inner face of said other member.

7. A magnetic catch for use on a steel cabinet having enameled steel door and frame members, said catch comprising a magnet housing of non-magnetic material adapted to be rigidly affixed to one of said members, a permanent magnet element loosely disposed in said housing for outward movement therefrom under magnetic attraction into engagement with the coacting surface of said other member when the door is in closed position, said magnet element having a contact face coated with a thin layer of wear-resistant protective material whereby to protect the enameled surface of said other member from wear during repeated operation of the catch and said contact face having an elongated groove therein, and an elongated one-piece spring member disposed in said groove, said spring member having a looped central portion in engagement with said magnet element and having its opposite end portions extending through and retained by the adjacent end walls of said housing whereby said magnet element is normally retained in retracted position within said housing by the resilient action of said spring member.

8. A magnetic catch for holding a closure member in closed position adjacent a frame member, said catch comprising a pair of cooperating permanent magnet and armature elements, one of said elements being adapted to be rigidly secured to one of said members, housing structure adapted to be rigidly affixed to the other of said members and having the other of said elements loosely mounted therein for outward movement therefrom by magnetic attraction toward the rigidly mounted element, said movably mounted element being provided with an elongated groove at its outer face, and an elongated one-piece spring member disposed in said groove, said spring member having a looped central portion in engagement with said movably mounted element at the base of said groove and having its opposite end portions extending through and retained by said housing structure whereby said movably mounted element is normally retained in retracted position within said housing by the resilient action of said spring member.

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