This invention relates to magnetic catches of the type in which a magnet fastened to a door abuts against the armature of a strike mounted on the frame of the door, the magnetic attraction between the magnet and the strike holding the door closed. More particularly, the invention relates to a catch in which the armature swivels universally so that it is aligned automatically with the magnet when the door is closed. Within the field of the present invention, the armature is of the side in which a catch is a novel and improved strike which may be used with different types of door and door frame arrangements and which always fully engages the magnet regardless of the type of door on which it is employed.

A more detailed object is to construct a strike with two armatures mounted on a support in such a manner that the support may be fastened easily to different door frames and, in this case, one of the armatures faces the magnet on the door and is tilted into alignment with the magnet when engaged by the latter. For each case, the leg 25 is fastened to the support 23 which is perpendicular to the door opening, such as the side of the shelf 15, the side of the frame 15*, and the edge of the frame 15**, and extends either toward or away from the door opening depending upon the particular type of door with which the strike is used. Thus in the case of the double-door cabinet and the flush type door, the leg extends away from the door and the armature plate 25 faces outwardly while, when the strike is applied to the frame of an overlapping door, the position of the leg 25 is reversed to present the other armature 25* to the magnet.

Means is provided for supporting the armature plates 25 and 25* on the leg 27 for universal swiveling about centers adjacent the leg 27 so that the plate to be engaged by the magnet 10 will be balanced between the magnetic face when the door is closed. Herein this means comprises a pin such as a rivet 32 projecting loosely through an aperture 33 in the leg 27 and through center apertures 34 and 34* in the armature plates 25 and 25*, the apertures 33, 34 and 34* being normally aligned and slightly larger in diameter than the rivet 32. The central portions of the plates are depressed around the apertures 34 and 34* forming bosses 35 and 35* on the outer surfaces of the armature plates where they do not interfere with the magnet as it engages the plates. With this construction, the plates may pivot universally on the rivet 32 about their own centers and also the rivet may rock in a similar manner about a point at the center of the leg aperture 33, either of these motions or a combination of the two being effective to produce the swiveling movement of the armature plates 25 and 25*.

To hold the armature plates 25 and 25* at the ends of the rivet 32, axially compressible spacers 38 are inserted between the plates and the leg 27 and permit the plates to swivel freely while providing a bearing for the plates when they are engaged by the magnet 10. As shown in the drawings, the spacers 38 are in the form of rubber rings the center holes 39 of which are aligned with 34 and 34* to hold the plates parallel to the leg 27 and hence parallel to the door opening in general alignment with the magnet 10 and, since the springs are resiliently yieldable, they are compressed against the leg 27 when
the armature plates are tilted into true alinement with the magnet. The rings also serve to space the armature plates away from and out of contact with the leg 27 so that the plates may tilt through a relatively large angle.

According to another aspect of the invention, the arrangement of the armature plates 25 and 25a and the rings 38 on the leg 27 is utilized to mount the plates for a comparatively large degree of universal swiveling movement while using rings which effectively hold the plates against unnecessary wobbling and shifting. For this purpose, the rings are fabricated from firm, solid rubber and are substantially smaller in diameter than the plates 25 and 25a. Since the rings are smaller than the plates, the latter bear against the rings near the rivet 32, in this case at the edges of the bosses 35 and 35a, while the magnet 10 contacts the plates near the outer periphery to exert the alining force. That is, each radial segment of the plates acts as a lever fulcrumed on the rivet 32 with the alining force 26 applied to a lever arm a which is longer than the lever arm b of the restoring force 40 exerted by the rings. Although the solid rubber rings hold the plates firmly on the rivet, the resulting mechanical advantage makes it easy to tilt the plates into alinement with the magnet.

It will be observed that a strike constructed in accordance with the present invention may be used with a wide variety of door types and in every case one of the armature plates 25 and 25a faces the magnet 10 on the door and swivels to become aligned with the magnet end 12 automatically when the door is closed. By using rubber rings 38 which are smaller than the armature plates, the rings may be made of comparatively hard rubber so that the plates may be fastened firmly to the support while still being capable of substantial swiveling.

We claim as our invention:

1. In a magnetic catch or the like, the combination of, an L-shaped support having legs disposed at right angles to each other, two parallel plates of magnetic material disposed on opposite sides of a first leg of said support and having center apertures therethrough, the part of each plate surrounding said aperture being depressed to form a boss on the inner side adjacent said first leg and a recess on the outer side, two rings of resiliently yieldable material respectively disposed on the opposite sides of said first leg between the latter and said bosses, said rings and said first leg having apertures alined with said first mentioned apertures, and a pin extending loosely through all of said apertures and having heads at opposite ends disposed within said recesses below the planes of the outer surfaces of said plates.

2. A strike for a magnetic catch comprising, in combination, an L-shaped support having legs disposed at right angles to each other and an aperture through a first one of said legs, rings of resiliently yieldable material disposed on opposite sides of said first leg, each of said rings having an aperture alined with the aperture in said first leg, a plate of magnetic material disposed on one side of said first leg and parallel thereto with the inner side of said plate abutting against one of said rings, a similar plate parallel to the first and disposed on the other side of said first leg with its inner side abutting against the other of said rings, a pin extending outwardly from said support, said plate being coaxial with each other and spaced from said first leg, a spacer of resiliently yieldable material disposed between one plate and said first leg, a second similar spacer disposed between the other plate and said first leg, and means joining said plates and said spacers to said first leg and supporting each of said plates for universal swiveling about a center adjacent said leg.

3. In a magnetic catch or the like, the combination of, an L-shaped support having legs disposed at right angles to each other, two parallel plates of magnetic material disposed on opposite sides of a first leg of said support, said plates being coaxial with each other and spaced from said first leg, a spacer of resiliently yieldable material disposed between one plate and said first leg, a second similar spacer disposed between the other plate and said first leg, and means joining said plates and said spacers to said first leg and supporting each of said plates for universal swiveling about a center adjacent said leg.

4. In a magnetic catch or the like, the combination of, a support having a generally flat surface, a plate of magnetic material spaced from said surface and disposed in a plane parallel to the plane of the surface, said plate having a center aperture and being depressed around said aperture to form a circular boss on the inner side adjacent said support and a recess on the outer side, a ring of resiliently yieldable material substantially smaller than said plate and disposed coaxially with said boss between the latter and said surface, said ring and said support having apertures alined with said first mentioned aperture, and a pin extending loosely through all of said apertures to mount said plate and ring on said support and having a head at the outer end thereof disposed within said recess below the plane of the outer surface of said plate.

5. A strike for a magnetic catch comprising, in combination, a support having a generally flat surface, a plate of magnetic material spaced from said surface and disposed in a plane parallel to the plane of the surface, a circular spacer of resiliently yieldable material disposed centrally of said plate between the latter and said surface, the portion of said spacer engaged by said plate being substantially smaller than the plate, and means joining said plate and said spacer to said support and supporting said plate for universal pivotal movement about a center adjacent said surface.

6. In a magnetic catch, the combination of, a support, a pivot pin mounted on and projecting outwardly from said support, a disk of magnetic material mounted on said pin for a universal swiveling, and an annulus of yieldable material smaller in diameter than said disk encircling said pin and compressed between said support and the back of the disk.

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