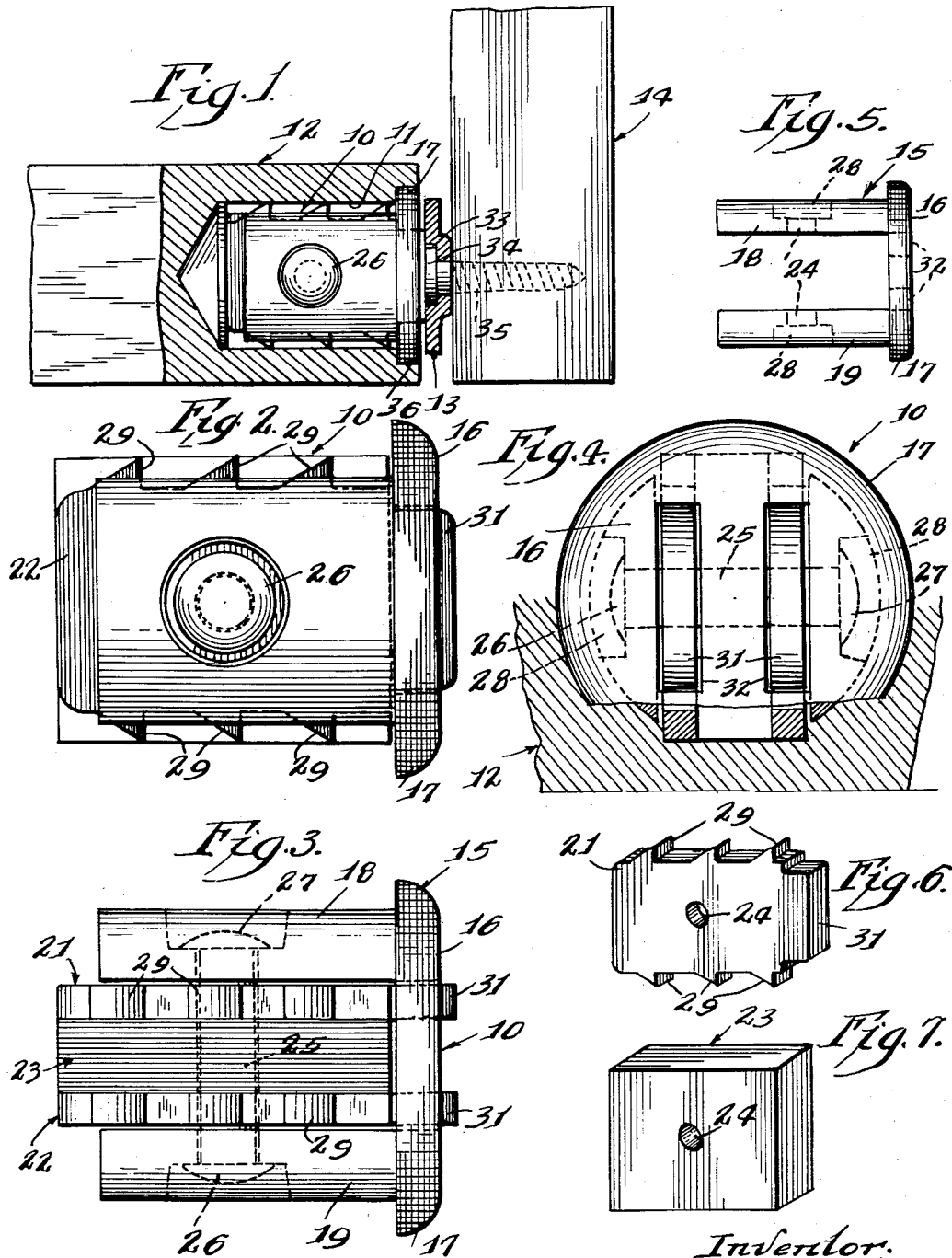


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MAGNETIC DOOR CATCH
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MAGNETIC DOOR CATCH

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The present invention relates to a novel door catch and more particularly to a novel magnetic catch assembly for a door or other closure.

Among the more important objects of the present invention is the provision of a novel magnetic door catch unit adapted to be bodily inserted and retained in a novel manner in a bore or opening of a supporting member.

Another object of the present invention is the provision of a novel magnetic catch unit so constructed and contoured as to be conformably received in a preformed bore or opening in a supporting member and provided with novel anchoring means for effectively retaining the assembly in anchored position.

A further object of the present invention is the provision of a novel magnetic door catch having self-anchoring means whereby to facilitate and simplify the mounting of the door catch in its support.

The present invention further comprehends the provision of a novel magnetic catch assembly insertable into a bore of a wooden support, such as a mullion or shelf, and including a housing provided with a permanent magnet and pole pieces with the pole pieces having projecting barbs or serrations adapted to dig into or be embedded in the wood about the bore and thereby anchoring the assembly in operative position in a support.

A further object of the present invention is the provision of a novel magnetic catch unit for magnetically coupling and retaining a door in closed position against a shelf or mullion containing a bore into which said unit is mounted, including a housing having a face plate and spaced inwardly projecting legs between which is mounted a permanent magnet of the ceramic type, a pole piece at each side of said magnet with the outer end of these pole pieces projecting through spaced slots in the face plate of the housing for contact with a metal strike on the door whereby to retain the door in closed position.

Further objects are to provide a construction of maximum simplicity, efficiency, economy and ease of assembly and operation, and such further objects, advantages and capabilities as will later more fully appear and are inherently possessed thereby.

In the drawing:

FIGURE 1 is a view in side elevation of the novel magnetic catch assembly for retaining a pivoted door in closed position, the catch assembly being shown mounted in a support of a cabinet and the strike upon the door.

FIG. 2 is an enlarged view in side elevation of the novel magnetic catch assembly of FIG. 1.

FIG. 3 is an enlarged top plan view of the novel magnetic catch assembly or unit.

FIG. 4 is a fragmentary enlarged view in front elevation of the novel magnetic catch assembly, but with a portion of the housing broken away to show the manner of anchoring the assembly in operative position in the bore.

FIG. 5 is a top plan view of the housing for the magnetic catch assembly.

FIG. 6 is a perspective view of one of the pole pieces.

FIG. 7 is a perspective view of the permanent magnet.

Referring more particularly to the drawing and to the illustrative embodiment of the present invention, the novel assembled magnetic catch unit 10 is adapted to be mounted in a bore or opening 11 in a supporting mem-

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ber, such as a mullion or shelf 12 of a cabinet or the like for magnetic coupling to a strike 13 mounted upon a door or closure 14 whereby to retain the latter closed. In the illustrative embodiment, the mullion or shelf 12 and the door 14 are shown of wood or the like.

The novel catch unit 10 comprises an integral housing 15 having an outer face plate 16 provided with an external annular flange or shoulder 17, and rearwardly projecting, spaced and externally curved legs or sides 18 and 19 spaced apart to receive therebetween spaced pole pieces 21 and 22 and a permanent magnet 23 disposed between the pole pieces. The legs 18 and 19, pole pieces 21 and 22 and the magnet 23 are assembled as a unit with each provided with a transverse opening 24 to receive a rivet or connecting pin 25, the head 26 and the upset end 27 of the rivet or pin being disposed in a recess or countersunk hole 28 in the side pieces.

Each pole piece 21 and 22 is a flat or wafer member, preferably of relatively soft steel, having its opposite edges serrated to provide spaced barbs or teeth 29 for a purpose hereafter described, and its outer, forwardly projecting end 31 reduced and this reduced end projected through a slot 32 in the face plate 16 of the housing 15 to extend beyond the exterior of the face plate 16. This housing may be formed of a plastic or other suitable material.

The strike 13 comprises a cup-shaped member or annular metal plate having a countersunk opening 33 to receive the head 34 of a screw or other securing means 35 for anchoring the strike to the door or other closure 14.

The unit catch assembly, including the housing 15 with its face plate 16 and legs 18 and 19, the pole pieces 21 and 22 and the magnet 23 anchored between the legs 18 and 19 by the rivet 25, is adapted to be received in and substantially conform to the cylindrical bore 11 in the mullion, shelf or other stationary support 12 and securely anchored therein by the spaced teeth or barbs 29 of the serrated edges which bite into or become embedded in the wood about the bore or opening 11 when the catch assembly is driven or forced into this bore. To most effectively anchor the catch unit in the bore, it is preferably rotated slightly when fully inserted whereby the corners of these barbs or teeth bite or dig into or embed in the wood and thus prevent the catch assembly from being withdrawn.

While FIG. 1 of the drawing shows the face plate 16 with its annular flange or shoulder 17 countersunk into a recess or counterbore 36 in its support 12 whereby the face plate is substantially flush with the edge of the support and thus the space or gap between the support 12 and the closure 14 is reduced, this face plate and its flange need not be countersunk but may extend beyond the outer edge of the support 12.

The magnet is of the permanent, wafer type and preferably composed of a ceramic material. One such ceramic material for producing a permanent magnet suitable for use in the present assembly is produced by the Indiana Steel Products Company of Valparaiso, Indiana, and has as its basic ingredients barium carbonate and iron oxide and a chemical composition of $\text{BaFe}_{12}\text{O}_{19}$.

From the above description and the disclosure in the drawing, it will be apparent that the present invention comprehends a novel, preassembled magnetic catch unit so contoured as to be readily and easily inserted and permanently mounted in a preformed cylindrical bore provided in a wooden mullion, shelf or other supporting member, the unit being provided with novel self-anchoring means whereby to positively retain it assembled in its support.

Having thus disclosed the invention, I claim:

1. A magnetic door catch unit adapted to be mounted

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in a bore in a support, comprising a housing having a slotted face plate and spaced rearwardly projecting legs, a permanent magnet and a pair of pole pieces conformably received between said legs with a pole piece at each side of said magnet and an end of each pole piece projecting through a slot in said face plate, means connecting said pole pieces and magnet to said legs, said legs and intermediate magnet and pole pieces being so contoured as to be conformably received in said bore, and serrations on said pole pieces for anchoring said unit in the wall defining said bore.

2. A magnetic catch unit for mounting in a bore in a support for magnetically coupling and retaining a closure member closed against a supporting member, comprising a housing, a pair of pole pieces and an intermediate magnet mounted in said housing with an end of each pole piece projecting through and to the exterior of the housing, and serrations on said pole pieces with

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said serrations extending beyond the periphery of the housing to anchor said unit within said bore.

3. A magnetic catch unit as set forth in claim 2, in which the serrations project outwardly from opposed edges of the pole pieces and are embedded in the bore.

4. A magnetic catch unit as set forth in claim 2, in which the housing, pole pieces and intermediate magnet are provided with aligned openings, and a rivet projecting through said aligned openings with its ends anchored in the housing.

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