

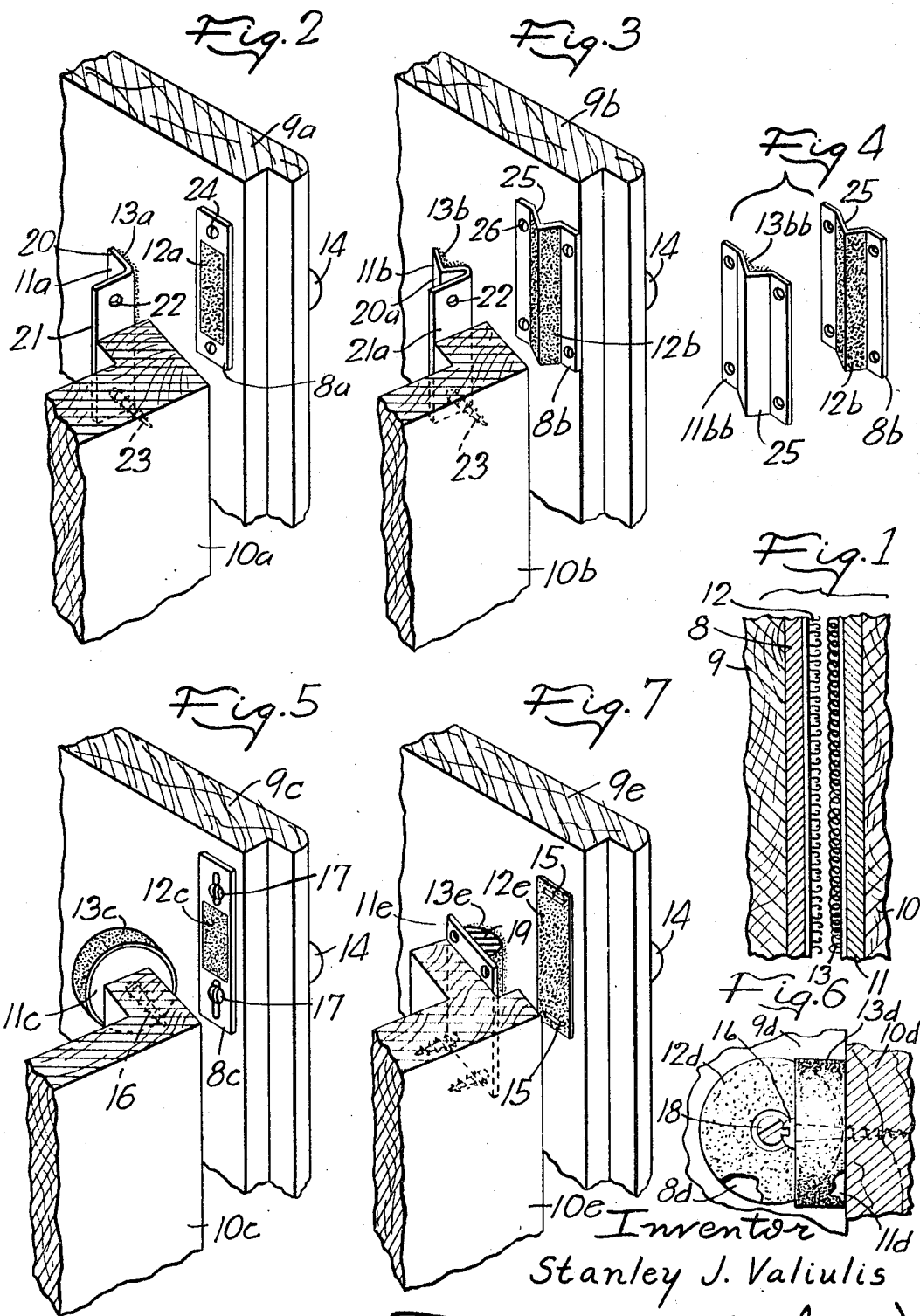
July 15, 1969

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3,455,589

DOOR CATCHES

Filed Dec. 17, 1965



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3,455,589

DOOR CATCHES

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Filed Dec. 17, 1965, Ser. No. 514,637

Int. Cl. E05c 19/00; F16b 11/00

U.S. Cl. 292-1

7 Claims

ABSTRACT OF THE DISCLOSURE

A door catch made from two pads of Velcro material. One of the pads is on the door and acts as a striker and the other pad is on the frame and acts as a keeper.

This invention relates to a new and improved form of door catches for holding closure members, such as doors, in closed position, the same utilizing the newly available material known as Velcro, disclosed in DeMestral Patent 2,717,437, this being a peculiar velvet-like fabric, made of synthetic resin material, which, when pieces are brought into contact with each other adhere quite tenaciously by virtue of the interengagement like burrs or thistles of numerous small fibrous hooks or loops and loops, thereby making it ideal for the present purposes replacing, as I believe it will, the more expensive magnetic type door catches, one Velcro pad being on the striker and another on the keeper.

This Velcro material is well adapted for the new use herein contemplated, as it can be applied in flat form to the striker and keeper, or in a V form to interfitting striker and keeper parts, or will conform itself nicely to rounded surfaces, if it is desired to have the one part of a rounded form cooperating with the other part of flat form.

The invention is illustrated in the accompanying drawing, in which

FIG. 1 is an enlarged sectional detail illustrating two cooperating Velcro pads, one with the pile thereof formed by loops and the other by hooks, this view being intended, of course, to illustrate diagrammatically the interaction of two Velcro pads however the same may be manufactured;

FIG. 2 is perspective view showing a door catch utilizing flat Velcro pads on a striker and keeper;

FIG. 3 is a similar view showing V-shaped pads of Velcro material on the striker and keeper;

FIG. 4 is a perspective view related to FIG. 3 showing the same V-shaped form of striker plate as in FIG. 3 but a modified form of V-shaped keeper plate;

FIG. 5 is a view similar to FIGS. 2 and 3 showing a third form which provides for adjustability both of the striker and the keeper for longer service in the event the Velcro material shows wear at the points of contact;

FIG. 6 shows a fourth form in which a flat, circular, strike disc is rotatably adjustable and cooperates with a keeper of cylindrical form that is also rotatably adjustable, both striker and keeper being, of course, covered with Velcro pads, and

FIG. 7 shows a fifth form in which the keeper is in the form of an elongated vertical semi-cylindrical strip of sponge or soft rubber having a Velcro pad on its rounded surface cooperating with a flat Velcro pad as the striker.

Similar reference numerals are applied to corresponding parts throughout these views.

Referring first to FIG. 1, let us assume that the reference numeral 8 is the striker plate on a closure 9 that is movable toward and away from the stationary support 10 on which the keeper plate 11 is secured, the support 10 being either a door frame, or a door jamb, or a part of a cabinet for which the door 99 is a closure and 12 and 13 are cooperating pads of Velcro material arranged to be brought into abutment with one another so as to inter-

engage the multiplicity of hook-shaped projections on the exposed face of one pad with similarly hook-shaped or looped projections on the cooperating exposed face of the other pad. The interengaging pads may be of any desired shape and of any desired size, the size varying depending upon how firmly it is desired to hold the door or closure closed. Thus, fairly small size pads will suffice on the door catch of a small or medium sized cabinet, where the door or closure is fairly small and light and one would not expect to have to pull very hard on the knob 14 to open it. Usually, though not necessarily, the striker pad is glued or cemented to a metallic striker plate, as at 8 in FIG. 1 or 8a-8b in FIGS. 2 to 6, respectively, but, for a more economical application, a Velcro pad like that shown at 12e in FIG. 7 may be fastened to the door or closure by staples, as indicated at 15, or glued or cemented directly to the inside surface of the door or closure 9e. In like manner, the cooperating pad of Velcro material is usually glued or cemented to a metallic keeper plate shown at 11 in FIG. 1, or 11a-11b in FIGS. 2 to 4, respectively. The cylindrical roller 11c shown in FIG. 5 and 11d shown in FIG. 6, on the periphery of which the pads 13c and 13d are glued or cemented, may be of metal, wood, plastic, or other material, these keepers being designed to be rotatably adjustable about their axially disposed supporting screws 16. The rotatably adjustable wheels or rollers 11c and 11d permit line contact of the Velcro pads carried thereby with the cooperating flat Velcro pads 12c and 12d on the strikers 8c and 8d, respectively, the thought being that if the Velcro material, due to numerous opening and closing operations of the door or closure, should show evidence of wear, it will then be possible by a slight rotary adjustment of the keeper part 11c and 11d to present a new and unworn portion of the keeper pad for service. With a similar thought in mind adjustability may also be provided for the striker pad, as by endwise adjustability of the striker plate 8c, indicated by the slot and screw fastenings at 17 in FIG. 5, or by rotary adjustment of the circular keeper plate 8d about its central fastening screw 18, as shown in FIG. 6, thereby greatly increasing the service life of the door catch.

The plate 11e in FIG. 7 has cemented or glued to the outer face thereof a vertical, semi-cylindrical, elongated strip 19 of sponge or soft rubber with a pad 13e of Velcro material glued or cemented to the rounded periphery thereof. The rubber strip 19 is of advantage from the standpoint of its acting as a door silencer and also because it compensates for any out of parallel condition between the keeper and striker, permitting tight closing of the door or closure despite such a condition.

In FIG. 2, the keeper plate 11a is of L-shaped form in section with the keeper pad 13a glued or cemented to one flange 20 disposed parallel to the striker plate 8a, while the other flange 21 has holes 22 provided therein to receive fastening screws 23. The striker plate 8a is fastened to the inside of the door or closure 9a by screws 24 at its opposite ends. With this construction, it is, of course, a simple matter to adjust the keeper plate 11a into a parallelism with the striker plate 8a before the two screws 23 holding the keeper plate are tightened.

With the construction of FIG. 3 a much better holding action is obtainable due to the interfitting of the V-shaped Velcro pads 12b and 13b, this V-formation of the pads being obtained by forming a V-groove in one flange 20a of the L-shaped keeper plate 11b, the other flange 21a of this keeper plate being fastened by screws 23, similarly as in FIG. 2. The striker plate 8b is formed to provide a V shaped rib 25 lengthwise of the middle thereof, matching the V groove in the flange 28, the plate 8b being fastened to the inside of the door by screws 26 on opposite sides of the rib portion.

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As shown in FIG. 4, the keeper plate 11bb may be interchangeable with the striker plate 8b, but have the Velcro pad 13bb on the opposite side thereof in the V-groove 25, but, of course, this would require cutting a V-groove 25 in the door jamb to which the keeper plate 11bb is secured.

The constructions of FIGS. 5, 6, and 7, it is believed have been described sufficiently above.

The operation in each of the five forms shown in FIGS. 2, 3, 5, 6, and 7 is very similar, the interengaging Velcro pads giving the desired good holding action, as good as, if not better than, that obtainable with magnetic door catches that are much more expensive.

It is believed the foregoing description conveys a good understanding of the objects and advantages of my invention. The appended claims have been drawn to cover all legitimate modifications and adaptations.

I claim:

1. In combination in a door catch, a striker mounted on a swinging door and having an adhesion pad thereon, and a keeper mounted on a fixed door jamb and having a mating adhesion pad thereon arranged to have its active surface portion make mechanical connection with the active surface portion of the first mentioned pad on said striker when the door is closed whereby the door will be held detachably in closed position by the mechanical connection of said pads to one another, the striker and keeper being in the form of plates, one having a generally V-shaped rib projecting therefrom arranged to engage in a generally V-shaped groove defined in the other plate, the adhesion pads secured to said plates covering at least a portion of the outer face of the V-shaped rib and at least a portion of the V-shaped groove for interengagement of said pads when the striker plate has abutment with the keeper plate.

2. The combination as set forth in claim 1 wherein the two plates are alike and interchangeable except for the reverse location of the adhesion pads thereon.

3. In combination, a striker having an adhesion pad thereon, and a keeper having a mating adhesion pad thereon, whereby the striker will be held detachably in closed position by the adhesion of said pads to one another, one of said striker and keeper being in the form of a flat plate having the adhesion pad on its flat outer face, the other of said striker and keeper being in the form of a cylindrical member mounted for rotary adjustment on its axis and to have line contact on its periphery with the aforesaid plate, the periphery of said cylindrical member having the other adhesion pad thereon, which, in the rotary adjustment of said cylindrical member, has differ-

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ent areas of the pad exposed for contact with the first pad.

4. The combination as set forth in claim 3 wherein the plate is elongated in the same plane as said cylindrical member and is adjustable endwise in said plane so as to dispose different areas of the pad thereon for contact with the other pad.

5. In combination, a striker having an adhesion pad thereon, and a keeper having a mating adhesion pad thereon, whereby the striker will be held detachably in closed position by the adhesion of said pads to one another, one of said striker and keeper comprising a flat circular plate mounted for rotary adjustment about the center thereof and having the adhesion pad thereon of circular form, the other of said striker and keeper being in the form of a cylindrical member mounted for rotary adjustment about its axis and arranged to have line contact on the periphery thereof with the pad on said plate on one side of the center thereof, the periphery of said cylindrical member having the other adhesion pad mounted thereon.

6. In combination, a striker having an adhesion pad thereon, and a keeper having a mating adhesion pad thereon, whereby the striker will be held detachably in closed position by the adhesion of said pads to one another, one of said striker and keeper being substantially flat with one of said adhesion pads mounted thereon, the other said keeper and striker arranged to engage said pad having an elongated strip of soft resilient material mounted thereon and carrying the other pad on its exposed face for engagement with the first mentioned pad.

7. The combination as set forth in claim 6 wherein the strip of soft resilient material is substantially semi-cylindrical in form and mounted on its flat side and has the adhesion pad covering at least a portion of its curved side.

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U.S. Cl. X.R.

24—204