HIDDEN DRAWER AND DOOR LATCH

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ABSTRACT
A hidden latch has a resilient integral catch element that is secured to a drawer or door of a cabinet. The catch element has a base member and a planar member extending at an acute angle from the base member, with a curved end portion having a slot that is resiliently biased by the base member and planar member into hooking contact with a rigid projection, such as a screw or the like that is fixed to the internal surface of the cabinet. Force applied to the planar member in a direction away from hooking engagement with the projection member, allows the drawer or door to be opened.

8 Claims, 6 Drawing Figures
HIDDEN DRAWER AND DOOR LATCH

BACKGROUND OF THE INVENTION

The problem of small children opening drawers and doors to cabinets and the like in households is well known. Such inquisitive children can often injure themselves by opening such drawers and doors, and generally cause a disruptive disarray in the household. Thus it is advantageous to provide a simple, inexpensive and yet substantially foolproof and kid-proof means for latching the drawers or doors and yet allowing adults to easily and quickly open such drawers or doors even though the latch means is positive. While there are prior devices that provide latching, these devices suffer from being relatively expensive and complex to use, do not provide assured closing, are sporadic in operation, and are breakable or are not resilient or durable in construction.

It is therefore an advantage to provide a new and improved latch means that prevents the entrance of small children into household cabinets, cupboards and closets without the necessity of providing unsightly and inconvenient door bolts, locks, and the like.

SUMMARY OF THE INVENTION

In a preferred embodiment of this invention, the latch comprises a resilient integral catch element that has a base member with a planar member integral therewith bent at an acute angle. The planar member has an upper surface with an end portion, which end portion comprises an upwardly curved portion and a downwardly curved terminating end of the catch element. The upwardly curved portion has a slotted space. A rigid projection, such as a wood screw or the like, is inserted inside the cabinet into a wall adjacent the drawer or door opening. The metal catch element is then secured at its base to the drawer or door with the planar member extending in a manner to bias the curved end portion in a direction towards the cabinet wall, wherein the upper edge of the slot engages the enlarged head or hooked edge portion of the projection means or wood screw. The catch element is made of sheet steel and is rigid and durable in construction. Yet the catch element is sufficiently flexible and resilient that pressure upon the planar member will bend the planar member downwardly relative to the base, thus moving the curved end portion and slot away from the hook edge portion of the wood screw and allowing the drawer to be opened.

So the hidden latch is positioned completely inside the drawer or door and hidden from sight. It will attach to any cabinet drawer or door, clothes closet, or other similar type drawer door of wood or metal construction. If installed into a metal cabinet, then the screw projection is replaced by a flat sheet metal element having a raised portion for engagement with the slotted opening of the catch element. This sheet metal plate may be bonded by adhesive, cement or the like to the metal surface. It is therefore an object of this invention to provide a new and improved hidden kiddy-proof latch for drawers, doors and the like.

Other objects and many attendant advantages will become more apparent upon a reading of the following detailed description and an examination of the drawing, wherein like reference numerals designate like parts throughout and in which.

FIG. 1 is a perspective view of the resilient catch element.

FIG. 2 is a perspective view of one form of the projecting element.

FIG. 3 is a side elevational view, with portions cut away, of a typical installation of the catch element and projection member.

FIG. 4 is a sectional view taken on line 4--4 of FIG. 3.

FIG. 5 is a view similar to FIG. 4, illustrating the method of releasing the catch element.

FIG. 6 is a sectional view of a catch element installation using the projection retainer plate of FIG. 2.

Referring now to the drawing, the hidden latch includes a metal catch element 10 that is made of flexible and resilient metal, that is preferably hard stainless steel sheet stock. It will be observed that the catch element is integral and has substantially a uniform thickness and width. The catch element has a base portion 14 for being secured, for example, to the inside surface of a drawer 36 by wood screws 34 projecting through holes 24. Integral with the base portion 14 is a planar portion 16 that projects at an acute angle from the base portion, the bend being reinforced by channelled gussets 17 and 19 pressed or formed in the sheet metal.

The planar portion has a curved end that includes an upwardly angled portion 18 and a downwardly projecting portion 20 relative to the planar surface of the planar member 16. The upwardly angled portion 18 has a slot opening 22 with an upper V-shaped edge 23 that functions to engage the wood screw 30 fixed in the top wall of the cabinet 32, see FIG. 3. The planar member 16 has a base 14 resiliently bias the curved end portions 18 and 20 into a position whereby the slot edge 23 hooks over the head portion of the wood screw 30.

When it is desired to open the drawer, pressure force is applied against the upper planar surface of planar member 16, in the manner illustrated in FIG. 5, causing the curved end portion to drop downwardly free from contact with the head portion of the wood screw 30. The upper surface 25 of downwardly curved portion 20 abuts against the head of wood screw 30 when closing drawer 36, thus camming the planar member 16 downwardly until the edge 23 of slot 22 clears the hook edge head of the screw 30, wherein planar member 16 then resiliently moves the curved end portion upwardly to the drawer closed position illustrated in broken line in FIG. 3.

In another embodiment where it is desired to install the hidden latch member on metal drawer or doors, a retainer in the form of a flat metal sheet 12, see FIGS. 2 and 6, has a downwardly projecting member 28 from a slot 26. The metal plate 12 is bonded such as at 44 to a metal surface of a cabinet 40 with the projection 28 projecting downwardly to contact the edge 23 of slot 22 in the manner previously described, the catch element 10 being secured to the metal door or drawer front by sheet metal screws 46, or when necessary, bonded by suitable adhesive to the metal surface.

Having described my invention, I now claim:

1. A resilient metal catch element for preventing opening of drawers or doors in cabinets or the like comprising:
means for providing a rigid projection that projects in a given direction and has a hook edge portion inside a cabinet adjacent to a drawer or door.
a metal catch element having a base end for being secured to the inside surface of a drawer or door,
said catch element having a substantially planar portion with an upper surface,
said planar portion and said surface being normal to said given direction,
said planar portion being integral with and extending a slot in the upwardly curved portion for passing over the projection means with the projecting means passing through said slot with the hook edge portion hooking through the slot on the upward side in a downward direction and being positively hooked through and locked over the edge of the slot,
said integral catch element being resilient whereby a pressing force against the upper side of the planar portion downwardly will bend the planar portion downwardly moving the slot edge away from hooking contact with the projecting means and allowing the drawer or door to be opened relative to the cabinet,
and said planar portion and said slot having a width that is several times the width of the projection means to assure catching the projection means even where there is slight misalignment between

the projection means and the catch element.
2. A resilient catch element as claimed in claim 1 wherein,
said metal catch element being made of sheet metal having a substantially uniform thickness.
3. A resilient catch element as claimed in claim 2 wherein,
said catch element is constructed of stainless steel sheet stock.
4. A resilient metal catch element as claimed in claim 1 wherein,
said rigid projection means comprises a screw having an enlarged head.
5. A resilient metal catch element as claimed in claim 1 wherein,
said slot extending from substantially the base of said upwardly curved portion to the end of the upward projection of said upwardly curved portion.
6. A resilient metal catch as claimed in claim 5 wherein,
said planar portion extending at an acute angle from said base end.
7. A resilient catch element as claimed in claim 1 wherein,
said projection means comprises a flat plate having a projection from the surface thereof.
8. A resilient catch element as claimed in claim 7 wherein,
said plate has a cut out section that is bent out to project below the surface of said plate member.

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