

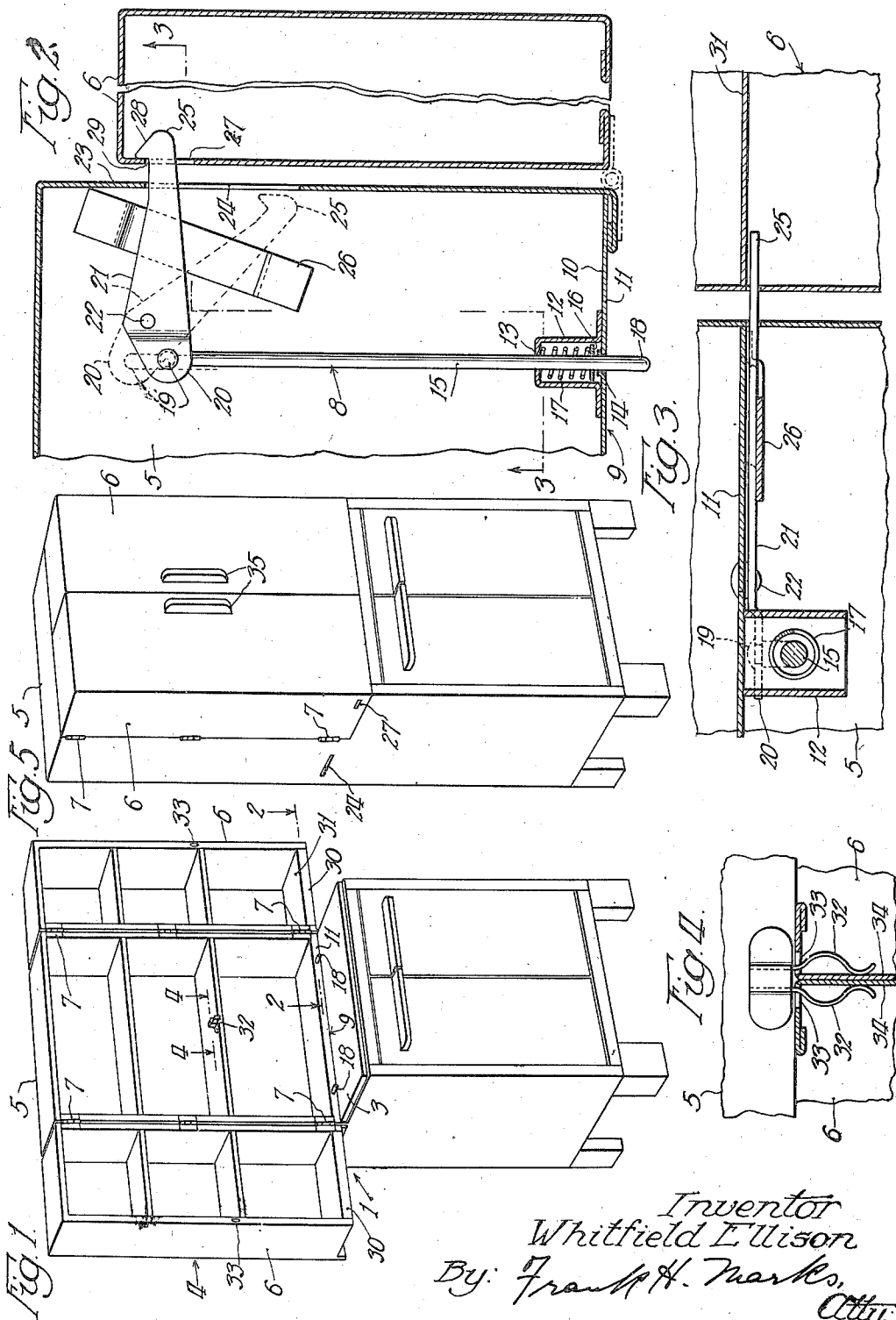
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CABINET LATCH

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CABINET LATCH

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This invention relates to cabinets and is concerned more particularly with means for retaining a cabinet open and closed, as desired.

It is an object of the invention to provide a cabinet with automatic latch means adapted to retain the cabinet door in open position.

It is also an object to provide for concealment of released cabinet door latch means incident to movement of the door.

A further object resides in the provision of means for automatically retracting latch means to a position of concealment.

Another object is to provide latch means which is substantially entirely concealed when the cabinet is open and when it is closed.

In accordance with the general features of the invention, a wall or shelving of the cabinet may be recessed to house the latch mechanism, which may include a keeper adapted to be sprung as by a snap action into a concealed position where it releasably connects a door of the cabinet in open position. The keeper may be released by manually actuating the mechanism at an exposed point, and may be withdrawn to a shielded position in response to actuation of the mechanism by the closing of the door. The door may be retained in closed position by concealed releasable means, as by friction.

Further objects and advantages of the invention will appear as the description proceeds.

An embodiment of the invention is illustrated in the accompanying drawing and hereinafter more fully described.

Figure 1 is a perspective view of a cabinet with doors held open by means embodying the invention.

Figure 2 is an enlarged fragmentary sectional plan view of details of the latch and release mechanism of the invention, taken as indicated by the line 2-2 in Figure 1.

Figure 3 is an enlarged fragmentary sectional plan view taken substantially as indicated by the line 3-3 in Figure 2.

Figure 4 is an enlarged fragmentary sectional plan view taken as indicated by the line 4-4 in Figure 1, and shows in addition portions of the doors in closed positions.

Figure 5 shows how the cabinet appears when closed.

Referring now more particularly to the drawing, there is illustrated at 1 a cabinet such as may be used in kitchens and offices, among other places. The cabinet may have a substructure 2 providing, if desired, a work table 3, and a superstructure 4 providing a relatively stationary body portion 5

and complementary door portions 6, all of which portions may be shelved, as shown.

The doors are hinged as at 7 to the body and, when fully opened, constitute in effect partitioned wings or extensions of the body.

To the end that the doors may be releasably yet effectively retained in their open positions, there is provided a latch mechanism indicated generally at 8, housed in and substantially concealed by a wall 9 of the cabinet. The cabinet may be made of any suitable material, but preferably is formed of sheet material such as metal. The various walls and shelves may be made of single thicknesses or, like the wall 9 containing the latch mechanism, may be hollow.

To the inner face 10 of the front edge 11 of the wall 9 is secured, as by welding or otherwise, a U-shaped guide bracket 12 having an opening 13 spaced from and aligned with an opening 14 in said edge. An actuator or release bar 15 passes thru the openings 13 and 14, the fit being such as to allow free reciprocation and slight swing of the bar as will appear later. A collar 16 is welded or otherwise suitably secured to the bar between said openings, and a spring 17 surrounds the bar and is disposed between the opening 13 and said collar.

The end 18 of the bar adjacent the collar 16 projects free in front of the wall 9. The other end of the bar is pivotally connected at 19 to an end 20 of a keeper or catch lever 21, fulcrumed at 22 to the wall 9. The side 23 of the wall 9 has a slot 24 thru which the hook end 25 of the lever is adapted to pass, as will be explained hereinafter. A strap 26 welded or otherwise suitably secured to the wall 9 cooperates with said wall in straddling the lever 21 and affords a guide for said lever.

Each door 6 has a slot 27 adapted, when the door is swung to substantially its extreme open position, to register with the body slot 24, to receive the hook 25. Said hook has a cam edge 28 which is held by the spring 17 in the path of the door, and is adapted to be cammed forward by the edge 29 of the slot 27 until the hook passes beyond said edge 29 and snaps into interlocked or latched relation to the door, retaining it as shown in Figs. 1, 2 and 3.

To release the door, the end 18 of the release bar 15 is thrust rearwardly against the action of the spring 17, swinging the hook 25 forward free of the door edge 29. The door is then free to be swung forward clear of the hook and, when this is done, the bar 15 may be released, whereupon it is pressed by the spring to its forward position, as shown. Upon closing of the door, the surface

30 of the bottom wall 31 of the door strikes the end 18 of the plunger 15 and forces the latter rearward to such an extent as to retract the hook 25 thru the slot 24 fully inward of the side 23 of the body as shown in dotted lines in Fig. 2. The door thus conceals the latch when the door is open and also conceals the release means and causes the latch to be concealed when the door is closed.

The door is yieldably held in closed position by any suitable means such as friction resulting from the use of means such as a retainer spring 32 secured as by welding or otherwise to the body as seen in Figs. 1 and 4. The door is slotted at 33 to allow entry of the spring into resilient frictional engagement with the adjacent inner surface 34 of the door. When the doors are closed, the spring retaining means is concealed. The doors may be provided with handles 35.

When each door is opened, the plunger 15 is moved forward by the spring 17, swinging the latch 21 to the full line position as shown in Fig. 2, where it is ready to be snap-hooked automatically to the door as explained above.

Fig. 2 is taken looking down from a plane below the hinge 7, which accordingly is shown dotted.

It will be appreciated that the mechanism is applicable to a variety of latch installations, and could be reversed as between the body and the door or doors, and may be located variously within the scope of the invention.

I am aware that many changes may be made and numerous details of construction may be varied thru a wide range, without departing from the principles of this invention, and I therefore do not purpose limiting the patent granted hereon otherwise than necessitated by the prior art.

I claim:

1. A pair of relatively movable parts, a latch member carried by one of said parts and adapted to project therefrom and releasably engage the other part, and means operable to release said member from said other part, said parts being arranged to retract said member, upon relative movement of said parts, into a non-projecting position.

2. A pair of relatively movable parts, a latch member adapted to project from one of said parts and engage the other part, yieldable means for releasably holding said member engaged with said other part, one of said parts, upon release of said member, being movable in opposition to said means to retract the released member to a non-projecting position.

3. A pair of relatively movable parts, a latch member mounted within one of said parts and adapted to protrude therefrom and engage the other part, release means mounted within said one part and operable to effect disengagement between said latch member and said other part, said means being adapted to be actuated by movement of said other part after such disengagement to retract said member to a non-protruding position.

4. A cabinet or the like comprising a pair of sections, a latch member carried by one of said sections and adapted to be substantially fully concealed thereby, means for releasably projecting said member from said one section into engagement with the other section, said other section being recessed to receive said member to substantially shield said member during such engagement, and means for releasing said member from said other section to allow relative movement of said sections, said means being arranged to retract said member into substantially fully

concealed position in said one section in response to a predetermined extent of such relative movement.

5. A cabinet or the like comprising a pair of sections, one of which has a hollow shelf, a latch member mounted within said shelf and adapted to be substantially fully concealed thereby and to project therefrom thru the outer wall of said one section to engage the other section, said other section having an enclosure open only at the outside of said other section to receive said member, so as to substantially shield said member during such engagement, and latch release means operatively connected with said member and almost entirely concealed within said shelf, said means being operative to substantially fully retract said member in response to a predetermined extent of relative movement of said sections.

6. A cabinet or the like comprising a body, a door adapted to be releasably held in open and closed positions relative thereto, releasable means substantially concealed by said body and door when said door is in one of said positions and operative to releasably retain said door in said one position, and means, operative as said door moves to the other position, to effect concealment of the first means within said body, said body and door concealing the second means when said door is in said other position.

7. A cabinet or the like comprising a body having a shelf and an end wall, a door for said body, releasable latch means carried under said shelf and unexposed to the interior of said body and having a portion adapted to project thru said end wall and automatically engage and be concealed by said door as said door is moved to and while it remains in its open position, said means being automatically operative by said door upon movement of said door to closed position, to retract said portion to a concealed position under said shelf.

8. Cabinet construction comprising shelved body means, shelved door means therefor adapted to be disposed in end-to-end relation to said body means to afford substantially a continuation thereof, said door means being movable to bring the open side portion thereof in juxtaposition to that of the body means, latch mechanism carried by one of said means and including a yieldably projected releasable latch part disposed at one of the end and side portions of said one means for engagement with the complementary one of the end and side portions of the other means, and a yieldably urged latch retracting part operatively connected with said latch part and disposed at the other of said end and side portions of said one means and arranged to be actuated by the complementary other of said end and side portions of said other means after release of said latch part as the last mentioned complementary portions of both means are brought into juxtaposition with each other, to move said latch part to a non-projecting position.

9. Cabinet construction comprising a body, a pair of doors mounted at the ends of the body and of a combined length substantially equal to the length of said body, latches retractably projectable from said body to hold the doors open, means movable to release said latches from said doors and also movable upon closing of the doors for retracting said latches, said means being concealed when the doors are closed, and means for holding the doors closed, the last means being concealed when the doors are closed.

10. A pair of relatively movable parts, a retractible latch adapted to project from one of said parts into engagement with the other part to maintain said parts in one relation, and spring
5 pressed means movable against such pressure to release said latch from such engagement and, upon approach of said parts to another relation therebetween, to retract said latch, said means,
10 upon change of said other relation, being spring actuated to project said latch preparatory to its engagement with said other part.

11. A pair of relatively movable parts, a retractible latch adapted to project from one of

said parts into engagement with the other part to maintain said parts in one relation, and spring pressed means movable against such pressure to release said latch from such engagement and, upon approach of said parts to another relation
5 therebetween, to retract said latch, said means, upon change of said other relation, being spring actuated to project said latch preparatory to its engagement with said other part, said latch and
10 other part having a cam relation enabling said latch to engage said other part automatically as they are brought together.

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