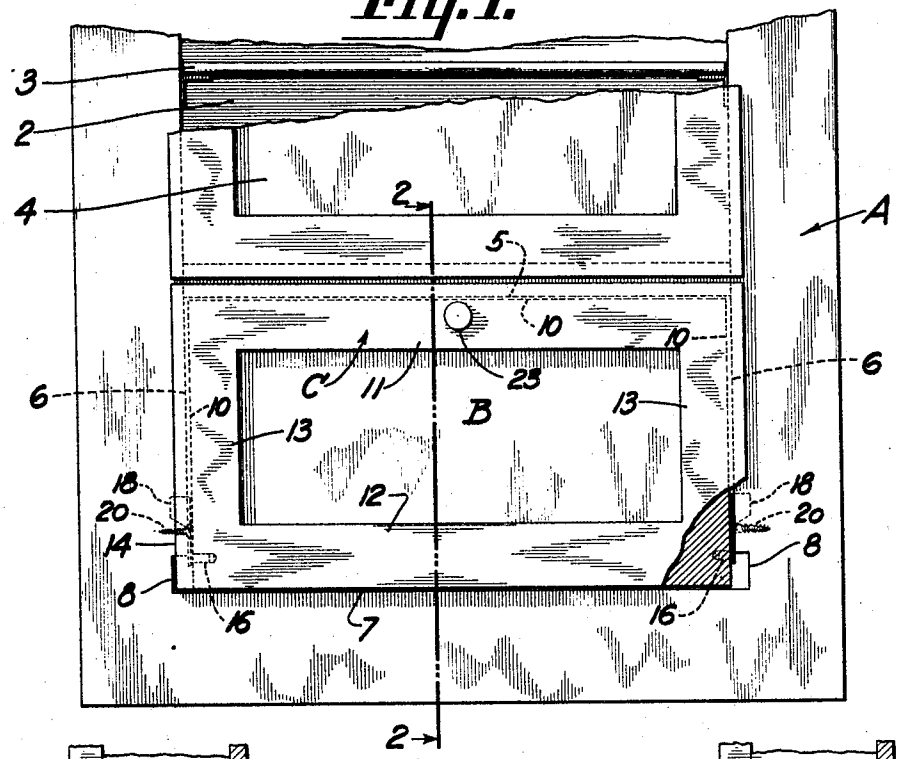
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COMBINATION SHELF AND DROP DOOR

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Fig. 1.



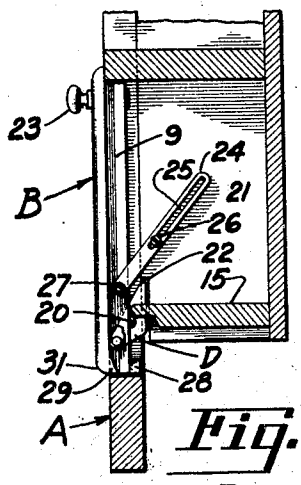


Fig. 2.

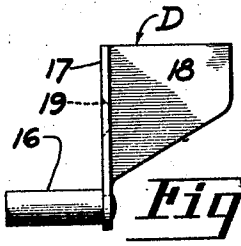


Fig. 4.

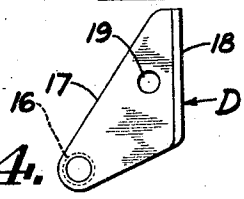


Fig. 5.

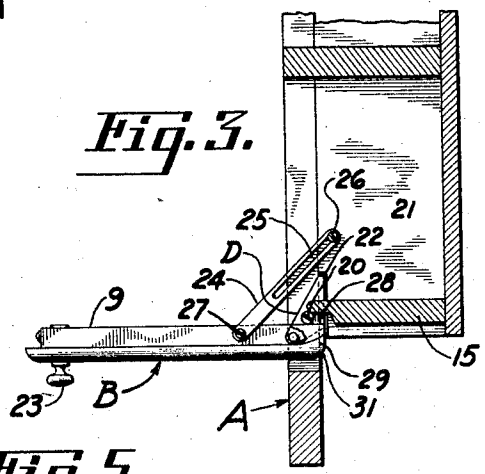


Fig. 3.

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Fig. 6.

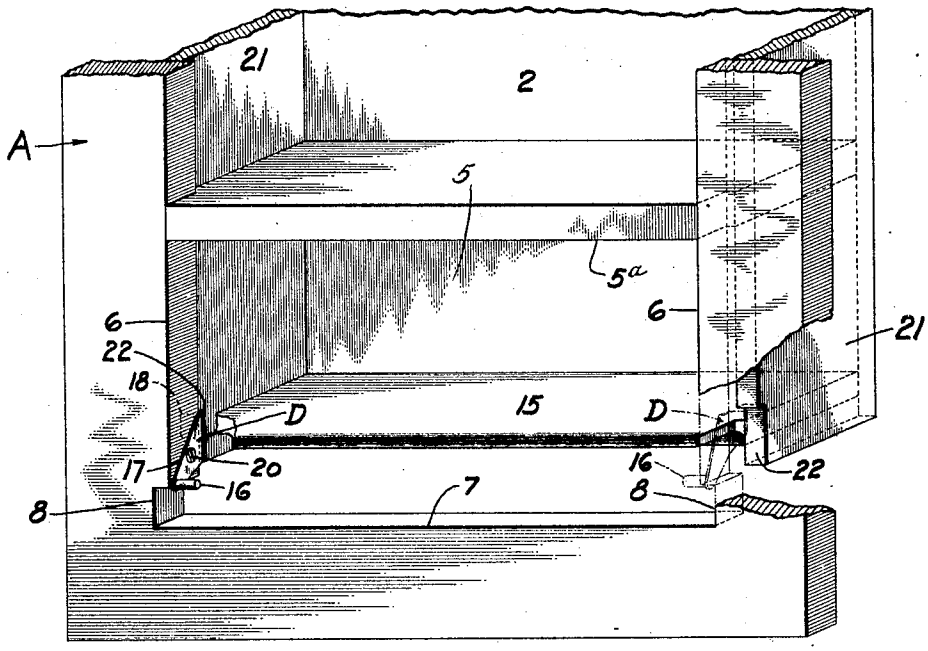
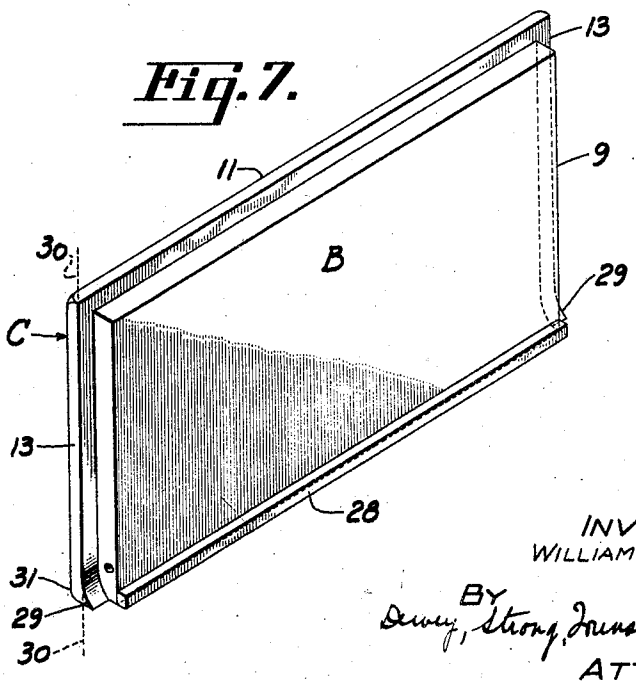


Fig. 7.



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UNITED STATES PATENT OFFICE.

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COMBINATION SHELF AND DROP DOOR.

Application filed May 21, 1924. Serial No. 714,861.

This invention relates to built-in fixtures, such as kitchen cabinets, lockers, disappearing shelves, medicine cabinets and the like, and especially to a door structure so hinged and supported that it may also serve as a shelf.

The object of the present invention is to generally improve and simplify the construction and operation of structures of the character described; to provide a combination door and shelf structure which permits the use of an exterior ornamental molding or lip adapted to completely conceal the door opening when the door or shelf assumes a closed position; to provide a door or shelf structure which may be opened or closed without danger of rubbing or marring the paint or other finish applied to the surface of the surrounding woodwork; to provide an interior shelf with which the door is adapted to cooperate to form an auxiliary or extended shelf; to provide a pair of pivots for the door positioned adjacent its lower end and about which it will swing to a lowered horizontal position; to provide an extended portion on the door below the pivots which will swing in under the inner shelf and form a tight joint therewith; to provide an extended lip or lug on each side of the door and below the pivot to guide the lower extended portion of the door into the door opening and in under the inner shelf; and further, to provide a pair of brackets whereby the door pivots may be supported and whereby the door may be rigidly attached and secured to the structure, of which the door forms a part.

One form which my invention may assume is exemplified in the following description and illustrated in the accompanying drawings, in which—

Fig. 1 is a front view of a built-in fixture, such as a medicine cabinet or the like, showing the application of the invention; this view being partly broken away and partly in section.

Fig. 2 is a vertical cross-section on line 2—2, Fig. 1.

Fig. 3 is a similar section showing the door in open and lowered position.

Figs. 4 and 5 are side and end elevations, respectively, of the pivot supporting brackets.

Fig. 6 is a front view of a cabinet such as shown in Fig. 1, this view showing the door detached and removed.

Fig. 7 is a perspective view of the door.

Referring to the drawings in detail, and particularly to Figs. 1, 2 and 3, A indicates, in general, a built-in fixture, such as a medicine cabinet or the like, 2 an upper compartment in which is mounted one or more shelves such as shown at 3, and 4 a door therefor. Formed below the door 4 is an opening 5 (see Fig. 6) and forming a closure for said opening is a combination shelf and drop door, generally indicated at B.

The door opening is substantially rectangular in shape, the upper end of the opening being indicated by the line 5^a, the sides of the opening by the lines 6, and the bottom of the door opening by the line 7. By again referring to Fig. 6, it will be noted that the sides 6 are cut away, as indicated at 8, and the door opening is for this reason enlarged at its lower end for purposes hereinafter to be described.

The door B may be constructed in any suitable manner. It preferably consists of a rectangular shaped member 9, the outside dimensions of which are substantially equal to the inside dimensions of the door opening; that is, the member 9 is adapted to swing into the opening as shown in Figs. 1 and 2, and as such fits within the side sections 6 of the door opening, the upper portion 5 and the bottom portion 7; the dotted line 10 indicating the outline of the door member.

The outline of the door indicated by the dotted line 10 shows that it does not extend into the enlarged side portions 8 of the door opening and a considerable clearance is, therefore, allowed at the lower end of the door. These clearance spaces would naturally show and detract from the general appearance of the structure, unless they were covered, and the door is for this reason provided with an ornamental molding or projecting lip such as generally indicated at C; the molding consisting of an upper section 11, a lower section 12, and side sections 13. Overhang or projection of the molding is only permitted as far as the side sections 13 and the upper section 11 are concerned. The molding 12 is flush with relation to the bot-

tom of the door member 9 and the reason for this structure will later appear. The overhang, as far as the side sections are concerned, is approximately equal to the enlargements 8 formed in the lower ends of the side sections 6 of the door opening. This is clearly illustrated in Fig. 1. The dotted line 10 indicates the side of the inner door section 9; the full line 8 the enlarged portion of the side of the door opening, and the full line 14 the amount of projection permitted, as far as the side sections of the molding are concerned.

The enlargement in the lower end of the door opening is provided for the purpose of permitting the lower end of the door to swing into the door opening and in under an interior shelf such as indicated at 15. It is for this reason that the overhang of the molding strips 13 is limited so that it may fit and swing into the lower enlarged portion of the door opening, and it is for the same reason that the molding strip 12 is flush with the lower edge of the door as it would otherwise form an obstruction and prevent the swinging movement desired.

To support the door, and to permit swinging movement thereof, a pair of pivot pins 16 is provided. These pins are positioned adjacent the lower end of the door and they extend into the side portions thereof; the door swinging about the pivots while these are stationary. The pivot pins are riveted or otherwise secured to a pair of angle brackets generally indicated at D (see Figs. 4 and 5); these brackets consisting of side sections 17 and end sections 18. The side section of each bracket is drilled or perforated as at 19 and a screw or like fastening means, such as indicated at 20, is passed therethrough to secure the brackets to the woodwork. A single screw is all that is required as the end sections extend behind the woodwork, as shown in Figs. 2 and 3, and as such prevent rocking or pivotal movement of the brackets about the fastening screws 20. The side sections 21 of the cabinet are slotted as at 22 to permit the end sections 18 on the brackets to pass therethrough and to engage the rear side of the woodwork; the woodwork referred to being the front section of the cabinet indicated at A in Figs. 1, 2 and 3.

The door is otherwise provided with a knob 23 whereby it may be grasped to open or close the same, and it is also provided with a pair of stop links 24. These links are slotted as shown at 25; the slotted portion engaging stationary pins or screws in the sides of the casing as indicated at 26, and the opposite ends being pivotally secured to the sides of the door as at 27. The links assume the position shown in Fig. 2 when the door is closed and the position shown in Fig. 3 when the door is opened or lowered; the links serving the function of supporting the door in its open position when it serves as an auxiliary or extended shelf, and the links also serve the function of supporting the door or shelf in its extended position.

For the purpose of providing a tight joint between the inner shelf 15 and the door or shelf when extended and lowered as shown in Fig. 3, a cross-strip 28 is employed. This strip does not serve the function of a stop member even though it does engage the lower surface of the inner shelf, but it merely serves the function of a filler for the space formed between the two shelves; this space being produced due to the offset positioning of the shelves; the filling strip being of considerable importance as it avoids the loss of hair pins, combs, and other toilet articles, which might be accidentally lost.

By referring to Figs. 2, 3 and 7, it will be noted that the molding strips 13 are slightly enlarged at their lower ends, as indicated at 29. These enlargements form lips which project into the enlarged lower end of the door opening. The lips 29 are so extended that they engage the enlarged side walls 8 of the door opening when the door is closed; this being perhaps best illustrated in Figs. 2 and 7.

By referring to Fig. 2 it will be noted that the lips are in engagement with the enlarged side walls 8, and by referring to Fig. 7, the dotted line 30 indicates the enlarged side wall 8, and it can there be seen that a considerable portion of the lip 29 extends into this portion of the door opening. This is of considerable importance as the lips form guide members which direct the lower portion of the door into the enlarged door opening when the door is being swung to open or lowered position. In other words, a portion of the lower edge of the door is always within the enlarged door opening and accidental breaking or splintering of the woodwork is thus avoided. The lower edge of the door is similarly rounded as indicated at 31 and a snug joint is thus maintained between the lower edge of the door and the door opening, and the appearance of the structure as a whole is materially improved, as the outer edges of the side molding strips 13 and the upper strip 11 may similarly be rounded to give the same finish and appearance.

The structure here shown is simple and economical to manufacture. The pivot brackets employed are quickly and readily attached and they form a substantial support for the door both when in open and in closed position. The structure as a whole permits an ornamental finish, due to the fact that moldings may be employed, and also due to the fact that these moldings may be extended so as to overlap the major portion of the door opening. The lower enlarged portion of the door opening lies flush with the lower edge of the door and the side molding strips 13, and an exceedingly small clearance may be

maintained due to the provision of the extended lips 29 which, at all times, remain within the door opening and as such serve as guides for the lower edge thereof. The woodwork or, in other words, the paint or finish applied thereto, cannot be rubbed or marred with the structure here employed.

While certain features of the present invention are more or less specifically illustrated, I wish it understood that various changes in form and proportion may be resorted to within the scope of the appended claims. I similarly wish it understood that the materials and finish of the several parts employed may be such as the experience and judgment of the manufacturer may dictate or various uses may demand.

Having thus described my invention, what I claim and desire to secure by Letters Patent is—

1. The combination with a cabinet having a door opening formed therein, said opening being enlarged at each side at the bottom of the opening, a door forming a closure for the opening and fitting all of the opening except the enlarged lower side portions, a projecting molding surrounding the door and overlapping the sides of the door opening and the upper end thereof, the outer edge of said molding fitting the bottom of the door opening and the enlarged sides thereof, a pair of pivots adjacent the enlarged lower side portions of the door opening, said pivots permitting the lower portion of the door to swing into the enlarged lower portion of the door opening, and means for stopping swinging movement of the door and for supporting the door when it reaches a horizontal position.

2. The combination with a cabinet having a door opening formed therein, said opening being enlarged at each side at the bottom of the opening, a door forming a closure for the opening and fitting all of the opening except the enlarged lower side portions, a projecting molding surrounding the door and overlapping the sides of the door opening and the upper end thereof, the outer edge of said molding fitting the bottom of the door opening and the enlarged sides thereof, a pair of pivots adjacent the enlarged lower side portions of the door opening, said pivots permitting the lower portion of the door to swing into the enlarged lower portion of the door opening, means for stopping swinging movement of the door and for supporting the door when it reaches a horizontal position, and a pair of side lips on the lower end of the door and projecting into the enlarged portion of the door opening, said lips engaging the side walls of the enlarged portion of the door opening and forming a guide for the lower end of the door.

3. The combination with a cabinet having a door opening formed therein, said opening being enlarged at each side, at the bottom of the opening a door forming a closure for the opening and fitting all of the opening except the enlarged lower side portions, a projecting molding surrounding the door and overlapping the sides of the door opening and upper end thereof, the outer edge of said molding fitting into the enlarged bottom portions of the opening, a pair of pivots pivotally mounting the door with relation to the opening for horizontal swinging movement, the axes of said pivots being above the enlarged opening at the bottom of the door whereby the lower edge of the door will swing into said opening when the door is lowered, a shelf disposed within the cabinet and substantially in horizontal alignment with the door when it is swung to its horizontal position, and means for supporting the door when it reaches its horizontal position.

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