Dec. 20, 1932. R. A. FURLONG 1,891,381

VISIBLE INDEX CABINET

Filed Oct. 23, 1930 2 Sheets-Sheet 1

Fig. 1

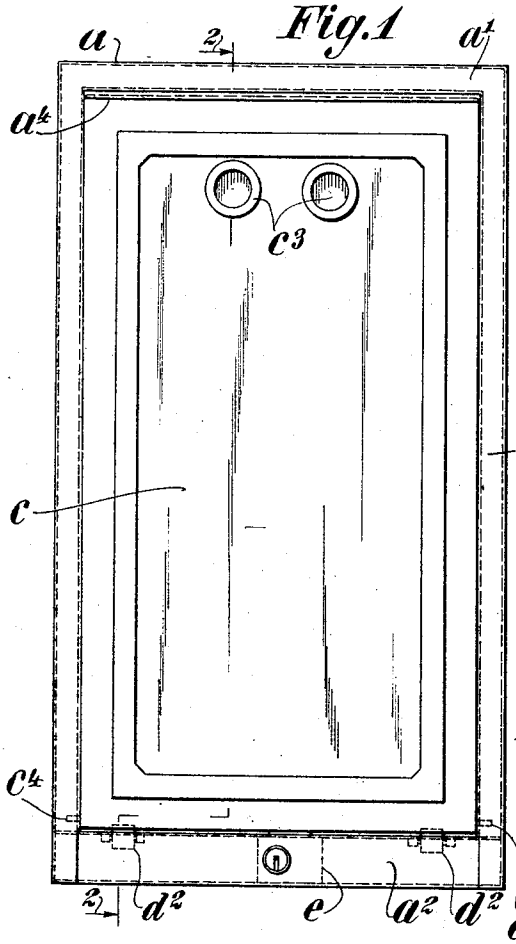


Fig. 2

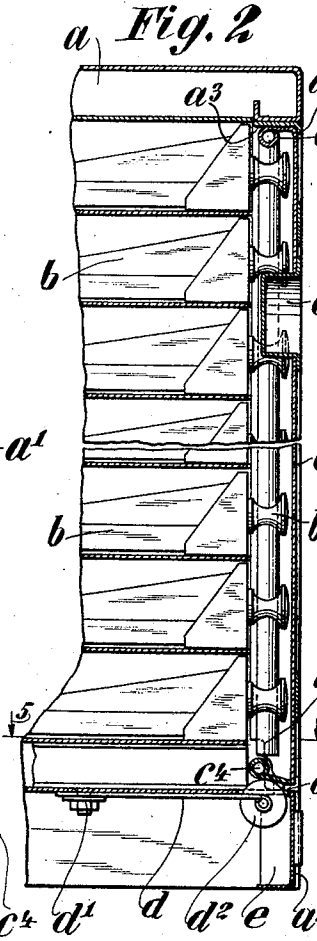


Fig. 3

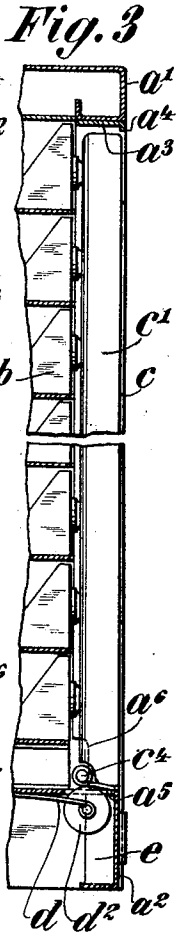


Fig. 5

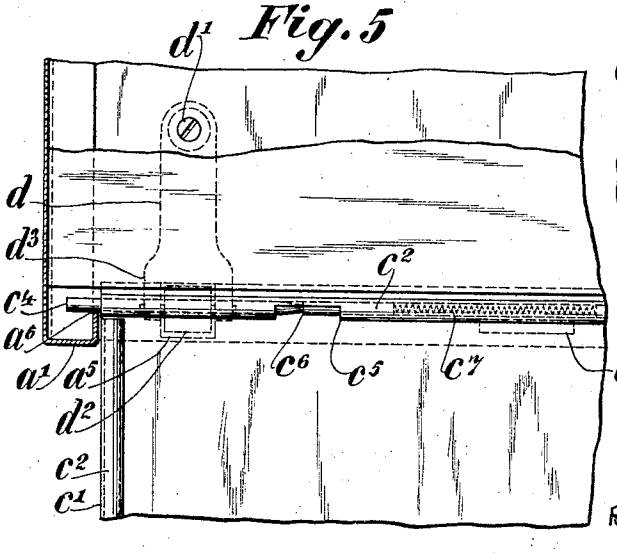
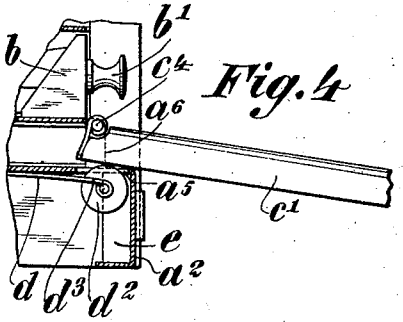


Fig. 4



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Fig. 6

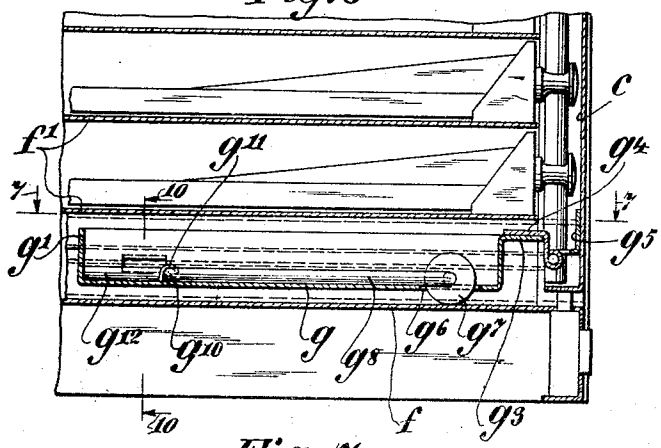


Fig. 8

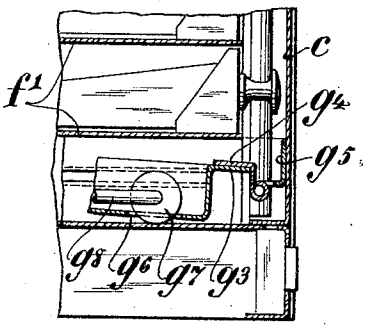


Fig. 7

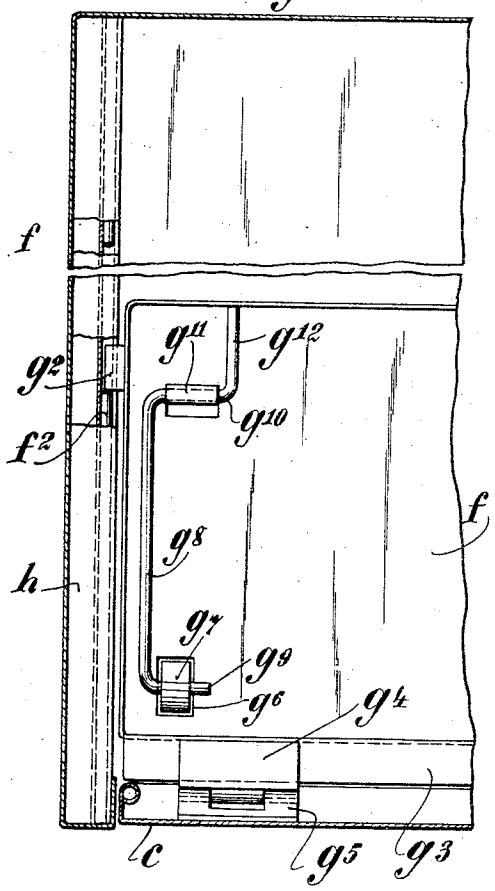


Fig. 9

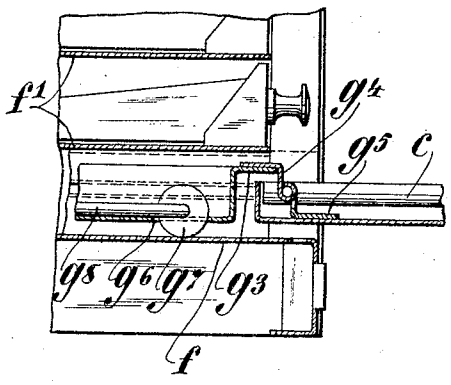
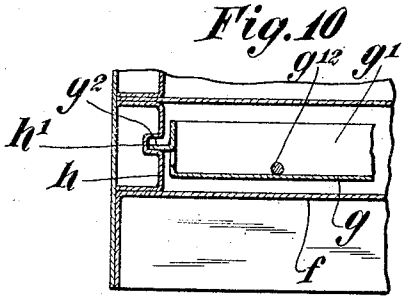


Fig. 10



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UNITED STATES PATENT OFFICE

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VISIBLE INDEX CABINET

Application filed October 23, 1930. Serial No. 490,591.

The present invention relates broadly to closures for cabinets and the like and embodies, more specifically, an improved spring-mounted door for cabinets, such door normally being maintained in its closed position by the yielding pressure of a spring, which pressure is overcome by an initial movement of the door in its own plane prior to the actual opening thereof.

In cabinets containing visible indexes and the like, as well as other cabinets of like character, it is desirable to design the structure thereof in such manner that they may be manufactured relatively inexpensively, at the same time being sufficiently rugged in construction to withstand the severe usage to which they are generally put without requiring an undue amount of repair. In addition to the factors enumerated above, it is quite essential that these structures be easily manipulated and where, as in the present invention, a closure is provided for such cabinets, it is also desirable that such closure may be effectively maintained in either open or closed position.

With the foregoing factors in view, the present invention has been designed to afford a closure for cabinets and the like, such closure being effectively maintained in a closed position and being readily manipulated into either an open or a closed position.

A further object of the invention is to provide a closure which automatically secures itself in a closed position and is held therein without requiring a positive manipulation, such as the operation of a latch, etc.

A further object of the invention is to provide a closure of the above character which is readily mounted and dismounted from the structure with which it cooperates.

A further object of the invention is to provide a cabinet for visible index trays, such trays having hand pulls, the cabinet being provided with a closure which is so constructed that in its closed position, it lies in a telescoping position with respect to the hand pulls.

A further object of the invention is to provide a closure for cabinets of the above character, such closure being shiftable in its own plane to release the same for movement to an open position, locking means being provided to prevent such shifting.

A further object of the invention is to incorporate in a closure and locking means of the above character, a spring mechanism for the closure which yieldingly resists such shifting movement.

Further objects, not specifically enumerated above, will be apparent as the invention is described in greater detail in connection with the accompanying drawings, wherein:

Figure 1 is a view in front elevation, showing a cabinet provided with a closure constructed in accordance with the present invention.

Figure 2 is a view in section, taken on line 2—2 of Figure 1, and looking in the direction of the arrows.

Figure 3 is a view in section, similar to Figure 2, but showing the closure in full side elevation, such closure having been shifted to a position in which it disengages the means which normally maintains the same closed.

Figure 4 is a segmental view, similar to Figure 3, showing the closure after it has been moved to its open position.

Figure 5 is a view in section, taken on line 5—5 of Figure 2, and looking in the direction of the arrows.

Figure 6 is a view, similar to Figure 2, showing a modified form of the invention.

Figure 7 is a view in section, taken on line 7—7 of Figure 6, and looking in the direction of the arrows.

Figure 8 is a view in section, similar to Figure 3, showing the modified construction.

Figure 9 is a view similar to Figure 4, showing the modified construction.

Figure 10 is a view in section, taken on line 10—10 of Figure 6, and looking in the direction of the arrows.

Referring to the above drawings, a cabinet is shown at a, the cabinet having a front frame a' and a longitudinal sill member a^2. In the preferred construction, the cabinet and associated elements are formed of metal

but the specific material used, of course, forms no part of the present invention.

The cabinet may be utilized in any desired fashion, the cabinet shown herein being provided with a plurality of trays b having hand pulls b' which are received within a closure c. The upper sill of the front frame a' is provided with a plate a^3 formed with a downwardly extending detent or flange a^4. The function of the foregoing detent will appear more particularly as the invention is described hereinafter.

The closure or door c, referred to above, is preferably formed with rearwardly extending sides c' which may terminate in rolled extensions c^2. The rolled extension on the upper side of the closure engages against the detent a^4 and cams the door downwardly in its own plane to permit the upper side of the door to ride under the edge of the detent. When the door is not in its fully closed position, as shown in Figure 3, it is forced upwardly by a spring or springs d which are secured at d' to the lower wall of the cabinet and are provided, at their forward ends with rollers d^2 as shown in Figure 5, the springs preferably having bifurcations d^3, between which the rollers d^2 are journaled. Apertures a^5 are formed in the upper surface of the sill a^2 and permit the rollers d^2 to extend therethrough. In this manner, the rollers engage the lower edge of the door c and force the same upwardly in order that the detent a^4 may normally prevent the opening of the door.

A suitable lock e is mounted in the sill a^2 and designed to prevent, when locked, the downward movement of the door c. This condition is illustrated in Figure 2, wherein the lock is shown as having been manipulated to prevent the opening of the door.

As described above, the hand pulls b' are received within the door c and lie approximately in the median plane thereof. Upon either side of this plane, finger recesses or wells c^3 are provided. These wells may be formed by flanged ferrules or the like, as shown in Figure 2 and may be suitably secured to the door upon opposite sides of the hand pulls b'. To open the door, the lock e is released and a finger or fingers are inserted in the finger wells c^3. The door is then shifted downwardly in its own plane until the upper edge is free of the detent a^4 and the door is then pulled outwardly to the position shown in Figure 4.

In order that the door may be conveniently and securely mounted to provide for such motion, the inner sides of the frame a', adjacent the door, are formed with cut away portions a^6. Pintles c^4 are mounted within the rolled portion c^2 at the lower side of the door and extend outwardly to engage the cut away portions a^6. To facilitate the removal of the door, the lower rolled portion is cut away at c^5 and the pintles are formed with shoulders c^6 which may be engaged by the finger nail or other suitable device in order that the pintles may be shifted axially toward the median plane of the door. In this manner, the pintles are withdrawn from engagement with the cut away portions a^6 and the door may be readily removed. A spring c^7 is preferably carried within the bottom bead and serves normally to urge the pintles outwardly into engaging position with respect to the cut away portions a^6. The bead within which the pintles are received preferably engages the same with sufficient friction to prevent the loss thereof when the door is removed.

While the invention has been described with specific reference to the form of cabinet shown herein, it will be readily apparent that the broad principles thereof may be applied to cabinets and other devices of various types. By means of the foregoing structure, the cabinet door may be readily moved to and from open and closed positions. The structure is eminently well suited for rugged service and is readily manufactured and assembled.

As an illustration of a modified construction, reference is made to Figures 6, 7, 8, 9, and 10, wherein the cabinet is provided with a bottom plate f spaced below the superposed shelves f' and adapted to receive, in such space, a carriage g which slides in a fore and aft direction in the cabinet. This carriage is preferably formed with sides g' to resemble a tray, ears g^2 being struck up from the sides to serve as stops to limit the movement of the carriage. The cabinet is preferably formed with suitable shoulders f^2 to engage the stops and thus limit movement of the carrier in an obvious fashion.

Upon the forward side of the carriage a horizontal flange g^3 is formed, this flange receiving one member g^4 of a hinge, the mating member g^5 thereof being carried within the door of the cabinet. Within the bottom of the carriage spaced apertures g^6 are formed, rollers g^7 being received in these apertures to engage the bottom f of the cabinet and maintain the carriage in spaced relationship to the bottom. Spring arms g^8 have turned-over portions g^9 to journal the rollers g^7 and offset portions g^{10} which are adapted to be engaged by an upset flange g^{11} on the bottom of the carriage to secure such arms thereto. The rearwardly extending portions g^{12} of the arms serve as a bearing member to tension the springs sufficiently. It will thus be seen that the carriage and door are normally maintained in the position shown in Figure 6. When the door is moved downwardly, the spring arms g^8 are tensioned, as clearly shown in Figure 8. The carriage is subsequently elevated to the position shown in Figure 9 by the springs g^8 to facilitate the movement of the carriage and door within the cabinet.

As shown in Figures 7 and 10, a U-shaped

strip h may be mounted within the cabinet and formed with grooves h' within which the ears g^2 engage. The shoulder f^2 may be formed by inserting any solid piece of metal or other equivalent means within the grooves to limit movement of the carriage therein. It will thus be seen that the carriage and door are readily moved to and from a retracted position, the rollers engaging the bottom of the cabinet and facilitating such movement.

While the invention has been described with specific reference to the accompanying drawings, it is not to be limited, save as defind in the appended claims.

I claim as my invention:

1. In combination with a cabinet carrying a plurality of visible index trays and having an opening, the trays having a plurality of projecting portions within the opening in the median plane thereof, a closure, means to mount the closure in the opening, said closure being formed with sides telescoping with the projecting portions, and finger wells in the closure upon opposite sides of the median plane thereof.

2. In combination with a cabinet for visible indexes having an opening and a closure therefor, means to mount the closure in the opening with provision for movement thereof in the plane of the opening, a plate carried by the cabinet at one side of the opening therein, a flange on the plate projecting into the opening, an aperture in the cabinet on the opposite side of the opening from the flange, a leaf spring secured to the cabinet, and a roller on the spring projecting through the aperture and engaging the closure to urge the latter normally against the plate.

3. In combination with a cabinet for visible indexes having an opening and a closure therefor, means to mount the closure in the opening with provision for movement thereof in the plane of the opening, a plate carried by the cabinet at one side of the opening therein, a flange on the plate projecting into the opening, a leaf spring secured to the cabinet, and a roller on the spring engaging the closure to urge the latter normally against the plate.

4. In a cabinet for visible indexes having an opening, a door mounted vertically within the opening with provision for movement vertically in its own plane, a plate carried by the cabinet at the upper edge of the opening, a flange on the plate projecting into the opening, a spring secured to the cabinet and engaging the door to urge it normally against the plate, and a rolled bead at one edge of the door adjacent the plate to engage the flange when the door is closed and cam the door away from the flange against the spring so that the door may ride over the flange.

5. In a cabinet for visible indexes having an opening, a door mounted vertically within the opening with provision for a movement of translation in its own plane, means to support the door for swinging movement, means to retain the door against swinging movement, and spring means to hold the door yieldingly in engagement with said retaining means.

This specification signed this 1st day of October A. D. 1930.

ROLAND A. FURLONG.