Aug. 8, 1933. W. C. MILLER 1,921,690

CABINET SAFE

Filed Jan. 28, 1933 4 Sheets-Sheet 1

Fig. 1.

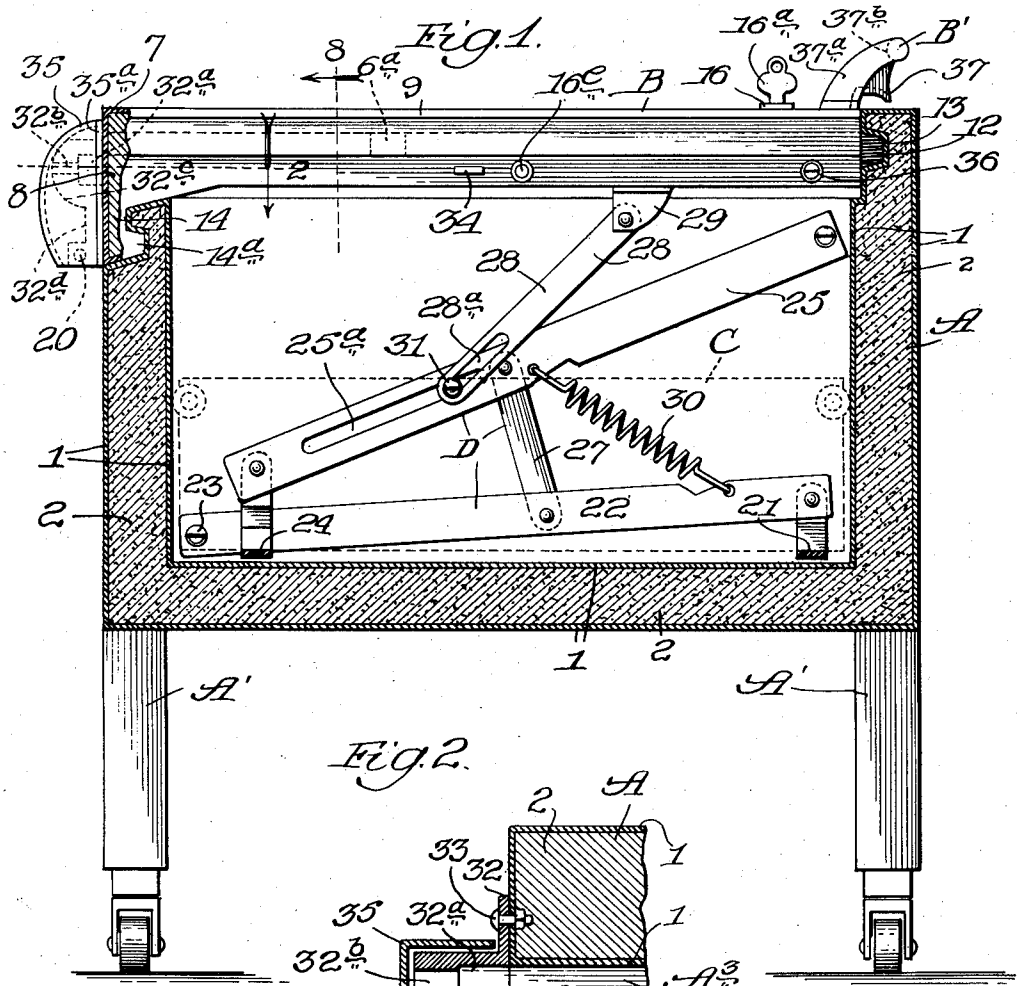


Fig. 2.

Fig. 4.

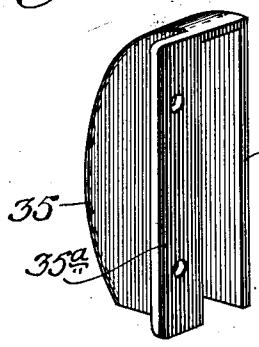
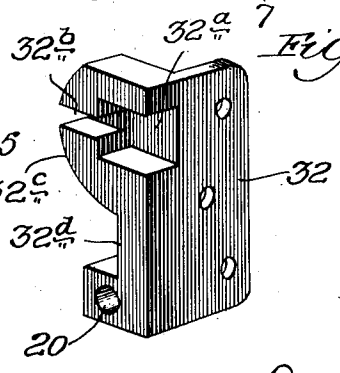


Fig. 3.



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CABINET SAFE

Filed Jan. 28, 1933 4 Sheets-Sheet 2

Fig. 5.

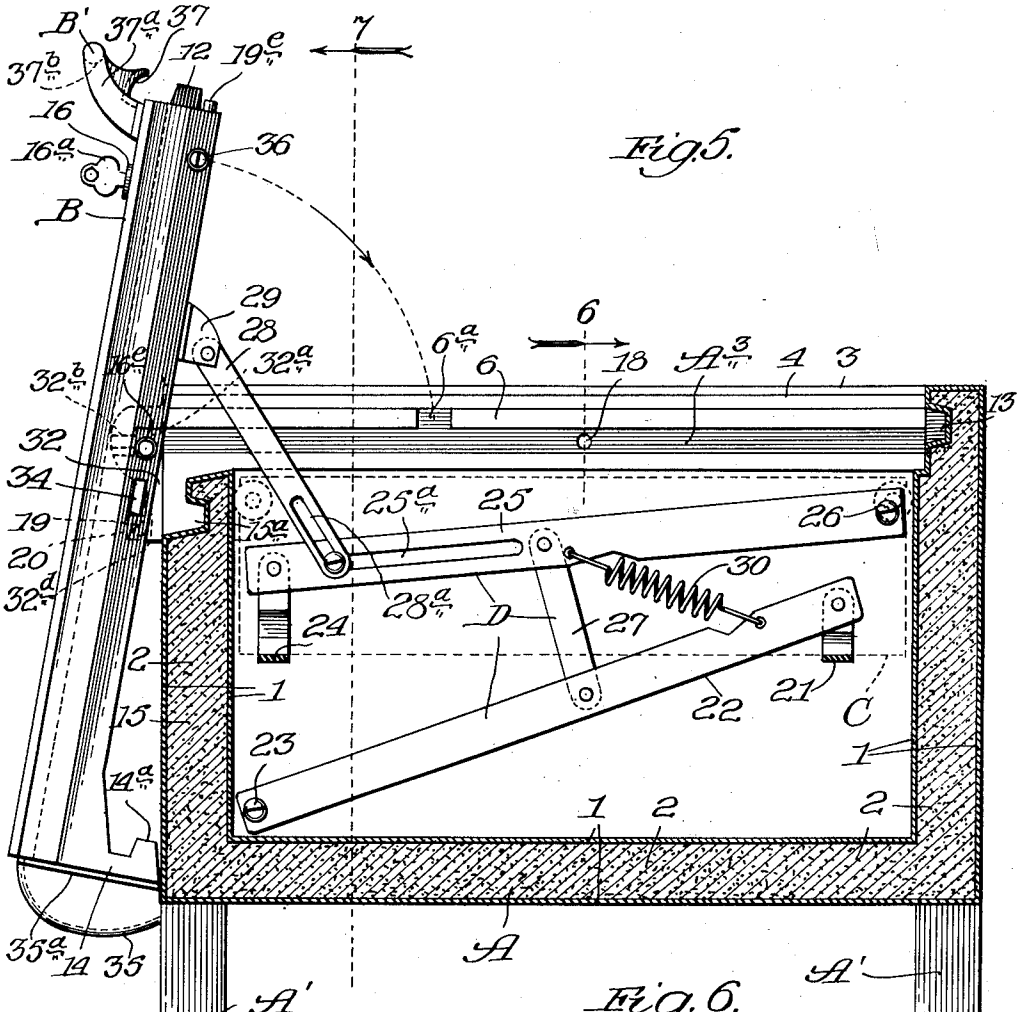
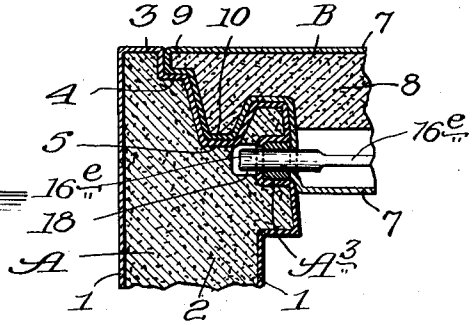


Fig. 6.



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CABINET SAFE

Filed Jan. 28, 1933 4 Sheets-Sheet 3

Fig. 8.

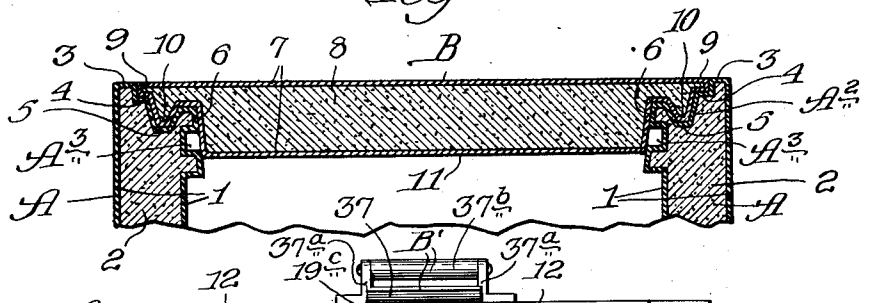
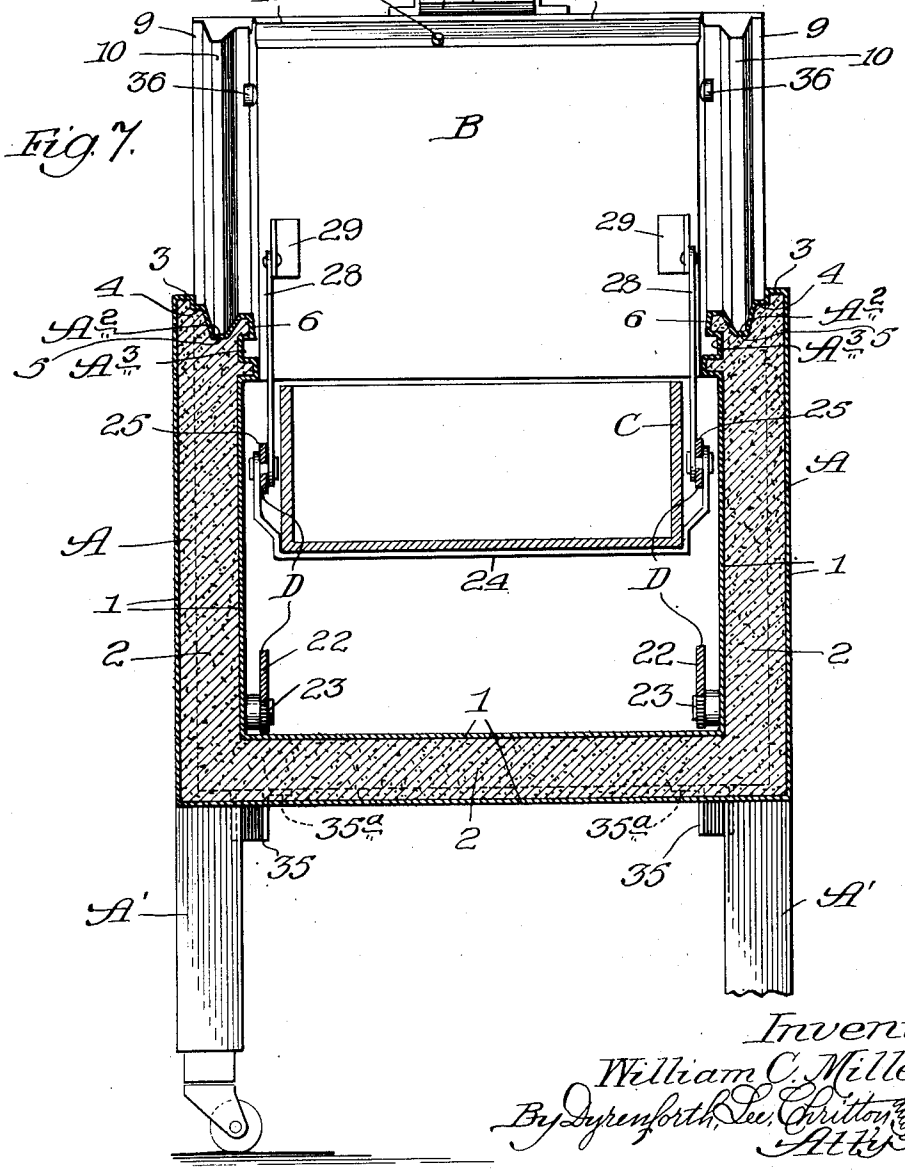


Fig. 7.



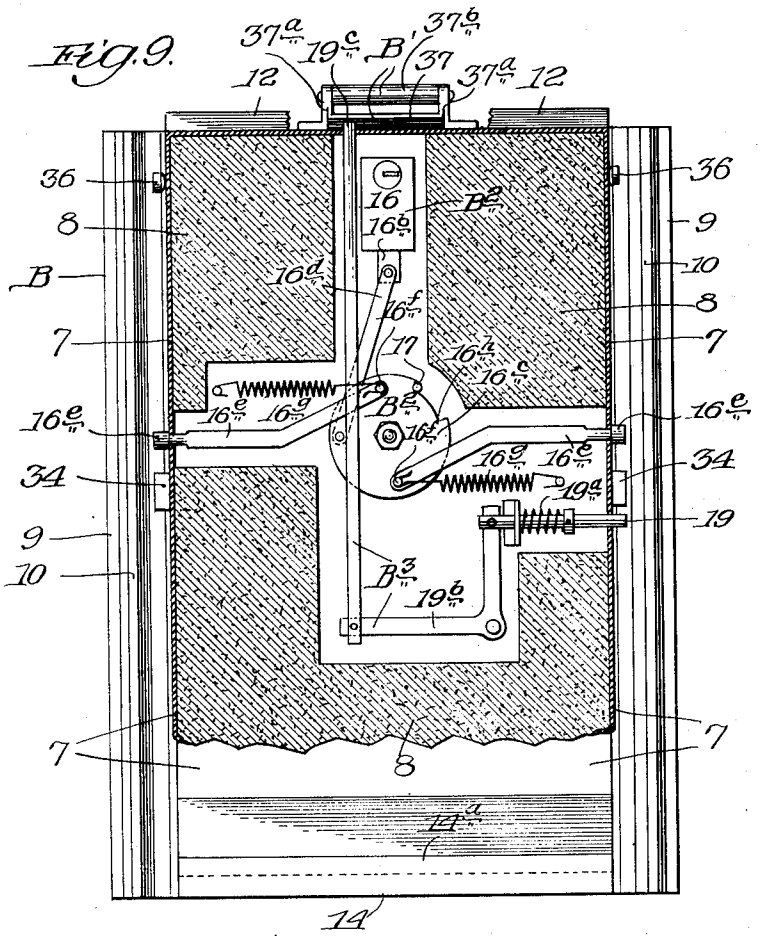
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CABINET SAFE

Filed Jan. 28, 1933 4 Sheets-Sheet 4

Fig. 9.



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UNITED STATES PATENT OFFICE

1,921,690

CABINET-SAFE

William C. Miller, Canton, Ohio, assignor to Diebold Safe & Lock Company, Canton, Ohio, a Corporation of Ohio

Application January 28, 1933. Serial No. 654,025

21 Claims. (Cl. 45—2)

This invention relates particularly to a substantially fire-proof cabinet-safe of the type employing a top-closure and a vertically movable support or tray adapted to hold record-cards, record-sheets and the like.

The primary object is to provide an improved cabinet-safe of this character which is simple in construction and operation, readily manipulated, fire-resistant, and secure.

The invention is illustrated in a preferred embodiment in the accompanying drawings, in which—

Fig. 1 is a vertical sectional view of the cabinet-safe embodying the invention, the top-closure being shown in elevation and having a portion broken away at one end; Fig. 2 is a broken horizontal sectional view taken as indicated at line 2 of Fig. 1; Fig. 3, a perspective view of one of a pair of pivot-members with which the rear portion of the cabinet is equipped; Fig. 4, a perspective view of one of a pair of housing-members secured to the rear end of the closure; Fig. 5, a view similar to Fig. 1, but showing the closure in the open position and the tray (shown in dotted lines) in elevated position; Fig. 6, a broken vertical sectional view taken as indicated at line 6 of Fig. 5, assuming the closure to be in closed and locked position; Fig. 7, a vertical sectional view taken as indicated at line 7 of Fig. 5; Fig. 8, a broken vertical sectional view taken as indicated at line 8 of Fig. 1; and Fig. 9, an inner face view, partly in section, of the closure, illustrating a latching-device for holding the closure in the position shown in Fig. 5 and a key-controlled locking device for securing the closure in the position shown in Fig. 1.

In the construction illustrated, A designates a cabinet-body supported on legs A' and having the upper portions of its lateral walls provided with upwardly presented guides A^2 and below the plane thereof with inwardly-open guides A^3; B, a rearwardly and forwardly slidable closure forming a top for the cabinet, said closure being equipped at its front end with a handle B' and being suitable to house a key-controlled or combination-controlled locking-mechanism B^2 and a latching-device B^3; C, a tray or record-support which is vertically movable from the dotted line position shown in Fig. 1 to the dotted line position shown in Fig. 5, and vice versa; and D, tray-actuating mechanism mounted in the cabinet-body and operatively connected with the closure.

The cabinet-body A preferably comprises a hollow shell 1 and a filling 2 of refractory, fire-resistant material such as a suitable cement composition. If desired, a mineral wool composition may be employed as a filling. The sheet metal employed to form the shell 1 is suitably shaped to provide the upwardly presented guides A^2 at the upper edges of the lateral walls and the inwardly presented guides A^3, the latter being in the form of inwardly open internal guide-grooves.

Preferably the guides A^2 are such as to provide a marginal portion 3 flush with the top surface of the closure, a depressed seat-portion 4, a deep groove-portion 5, and an inner marginal tongue-portion 6 which is somewhat below the level of the seat-portion 4. The tongue-portion 6 is of such form as to form the top-wall of the guide-groove A^3; and, as shown in Fig. 5, the tongue-portions 6 are provided some distance back of the center of the cabinet-body with narrow vertical grooves 6^a, forming recesses through which the lateral guide rollers with which the front end portion of the closure is equipped may pass in the operation of swinging the closure to the position shown in Fig. 5.

The closure B is shown as comprising a hollow shell 7 and a filling of fire-resistant, refractory material 8. The filling material is suitably recessed to accomodate the locking mechanism B^2 and the latching device B^3.

The lateral edge portions of the closure are provided with a downwardly presented configuration which corresponds with the configuration at the upper edges of the side walls of the cabinet-body. Thus, the closure has lateral margins 9 adapted to the depressed seats 4, and has longitudinal depending tongues 10 adapted to the longitudinal grooves 5. The closure also has a main portion 11 which fits between the upper portions of the side walls of the cabinet and extends across the internal grooves A^3. The front end of the closure is provided with a tongue 12 which is adapted to fit into an internal groove 13 in the front wall of the cabinet-body, it being noted that the upper edge of said front wall is flush with the upper surface of the closure.

The rear end of the closure is provided with a depending portion 14 which is equipped with a tongue 14^a. The upper portion of the rear wall of the cabinet is cut away, thus leaving a shortened rear wall 15 which is provided at its upper portion with a groove 15^a adapted to receive the tongue 14^a. Thus, the members 14 and 15 are complemental and together form the rear wall of the cabinet when the closure is in the closed, locked position.

As will be understood from Figs. 1, 6 and 9, the key-controlled locking-mechanism B^2 comprises a lock 16 equipped with a key 16^a; a plunger 16^b adapted to be actuated by said key; a pivotally mounted disk 16^c adapted to be actuated by the plunger 16^b through the medium of a link 16^d; transversely disposed locking bolts 16^e having their outer ends extending into the grooves A^3 and having their inner ends pivotally connected with pins 16^f with which the disk 16^c is equipped; and springs 16^g which tend always to thrust the locking bolts 16^e outwardly. The disk 16^c is provided with a segmental slot 16^h whose ends coact with a fixed stud 17 with which the closure is equipped. In Fig. 9, it is to be understood that the locking bolts 16^e have been withdrawn against the tension of the springs 16^g. However, when the closure is in the closed position, the locking bolts may enter sockets 18 in the bottom of the grooves A^3, as will be understood from Fig. 6.

The latching device B^3 is shown as comprising a latch-bolt 19 which projects at one lateral edge of the closure and which is adapted to engage a socket 20 (Figs. 3 and 5) to hold the closure in the open position; a spring 19^a tending to thrust the bolt 19 outwardly; a bell crank lever 19^b by means of which the bolt may be actuated; and a longitudinally disposed actuating rod 19^c which has its rear end pivotally connected with one arm of the lever 19^b and its front end projecting, like a push-button, beyond the front end of the closure. It will be understood from Fig. 5 that the finger-portion of the plunger 19^c is disposed in such position that the plunger may be readily actuated by the thumb when the operator grasps the handle B' for the purpose of closing the cabinet.

The tray C may be of any suitable form and equipped with any suitable device for holding record-cards, record-sheets, record-books, or the like. It is shown as having the form of an open-top rectangular box.

The tray-raising and lowering mechanism D may be of any suitable form. The mechanism shown is well adapted for the purpose. It comprises a stirrup 21 suspended from the forward end of a pair of levers 22 which are pivotally connected at points 23 with the lower rear portion of the cabinet body; a stirrup 24 suspended from the rear ends of a pair of levers 25 whose front ends are pivotally connected at points 26 with the upper front portion of the tray; links 27 connecting intermediate portions of the levers 22 and 25 at each side of the tray, respectively; and links 28 connecting rear portions of the levers 25 with clips 29 secured to the under surface of the closure B. Springs 30 connect the levers 22 and 25 in such manner as to have a slight tendency to swing the closure forwardly from the position shown in Fig. 5. These springs act as counter-balancing springs in the final portion of the movement of opening the closure. The links 28 are provided with slots 28^a, and the levers 25 are provided with slots 25^a. Pins, or screws, extend through these slots. Thus, the links 28 have lost-motion connection with the levers 25.

Attached to the rear edge of the upper portion of each lateral wall of the cabinet body is a pivot-member 32 (Figs. 2, 3 and 5). These pivot-members preferably are in the form of castings which are suitably secured in position, as by means of rivets or bolts 33. The members are provided at their inner lateral faces with slots 32^a which form extensions of the guides A^3. The rear walls of the slots 32^a are cut by relatively narrow slots 32^b, the purpose of which is to provide passages for laterally projecting stops 34 with which the closure is equipped. Preferably, the locking bolts 16^e serve as pivots, or trunnions, in the manner illustrated in Fig. 5. The stops 34 are in the form of flat projections which are adapted to pass through the relatively narrow slots 32^b. They are then adapted to act as steadying members which engage the curved rear surfaces 32^c with which the members 32 are provided; and, finally, the stops are adapted to rest in recesses 32^d which provide shoulders against which the stops abut when the closure is in the position shown in Fig. 5. In this position, the latch-plunger 19 enters the perforation 20 with which one of the pivot-members 32 is provided.

Attached to the rear end of the closure B are housing-members or shields 35. These are sector-like members adapted to house the projecting portions of the pivot-members 32 in a manner which will be understood from Figs. 1 and 2. The members 35 are equipped with attaching-flanges 35^a which are secured by rivets or bolts 35^b to the metal shell of the closure B.

Preferably, the closure B is equipped at the lateral edges of its front portion with guide-studs, or rollers, 36, which are adapted to travel in the guides A^3 and to pass through the vertical slots 6^a of the longitudinal tongues, or projections, 6, which form the upper walls of the guide-slots A^3. These rollers tend to balance the closure during its sliding movement, that is, while the closure is in the horizontal position. The rollers will pass through the vertical slots 6^a freely, however, to permit the swinging of the closure on the trunnions 16^e. These trunnions may be equipped with rollers, as shown, if desired.

A brief description of the operation will suffice. Normally, the closure B is locked in the position shown in Figs. 1 and 6. When access to the contents of the cabinet is desired, the operator turns the key 16^a and thereby retracts the locking bolts 16^e. These bolts then serve as traveling trunnions. The operator grasps the handle B' and pushes the closure rearwardly until the trunnions 16^e engage the rear ends of the slots 32^a, the steadying stops 34 in the meantime passing through the relatively narrow slots 32^b. The operator then swings the closure upwardly and rearwardly to the position shown in Fig. 5, in which position the latching device B^3 latches the closure in the standing position. In the operation of swinging the closure to the standing position, the closure, through the medium of the links 28, actuates the lever and link tray-actuating mechanism D, causing said mechanism to lift the tray to the elevated position shown in dotted lines in Fig. 5. When it is desired to close the cabinet, the operator grasps the handle B' and pushes the projecting thumb-piece of the rod 19^c, thus actuating the lever 19^b and withdrawing the plunger 19 from the socket 20 with which one of the pivot-members 32 is provided. The operator then swings the closure downwardly to the horizontal position, in which movement the rollers 36 pass through the vertical slots 6^a into the plane of the longitudinal guide-grooves A^3. The cover is then drawn forwardly to the closed position, whereupon the key 16^a is turned and the locking bolts 16^e enter the locking sockets 18, as shown

in Fig. 6. It is understood, of course, that the tray is supported in the stirrups 21 and 24 in the manner illustrated in Fig. 7.

Referring again to the lateral stops, or steadying members 34, with which the closure is equipped, it may be remarked that after these members pass through the slots 32^b (Fig. 3) in the opening operation, the guide rollers 36 are in position to swing upwardly through the recesses 6^a (Fig. 1) in the upper walls of the guides A^3. In the swinging movement, the members 34 engage the rear curved surfaces 32^c, so that the trunnions 16^e (locking bolts) of the closure are held properly in position in the rear portions of the slots 32^a, where the pivoting action occurs.

The handle B' is equipped with a guard-web 37 which is disposed close to the upper surface of the front end-wall of the cabinet when the closure B is in the locked position. The handle itself comprises bracket-arms 37^a and a grip-portion 37^b. The web 37 connects the bracket-arms below the handle and is in such position as to guard the fingers against being caught between the front end of the closure and the front wall of the cabinet-body in the operation of sliding the closure forwardly.

The construction described is simple, easily operated, and very secure. Because of the tongue and groove joints employed between the closure and the cabinet-body, it is impossible for flame to enter the cabinet, in case of fire. The contents of the cabinet-safe are well insulated against heat, moreover.

The foregoing detailed description has been given for clearness of understanding, and no unnecessary limitations should be understood therefrom, but the appended claims should be construed as broadly as permissible in view of the prior art.

What I regard as new and desire to secure by Letters Patent is:

1. A structure of the character set forth comprising an open-top cabinet-body having its upper portion equipped with longitudinal guides; a forwardly and rearwardly slidable top-closure having the intermediate portions of its lateral edges equipped with pivot-members slidably engaging said guides and serving as trunnions when positioned at the rear end of said guides; a vertically movable tray in said cabinet-body; and tray-raising and lowering mechanism in said cabinet-body having members connected with and actuated by said closure.

2. A structure as specified in claim 1, in which said pivot-members are in the form of locking-bolts equipped with actuating means.

3. A structure as specified in claim 1, in which said longitudinal guides comprise guide-slots in the lateral walls of the cabinet-body and extensions projecting from the rear end of the cabinet-body.

4. A structure as specified in claim 1, combined with co-acting members on said closure and the rear end of said cabinet body for steadying the closure during the operation of swinging it on its trunnions.

5. A structure of the character set forth comprising a cabinet-body having longitudinal lateral guides and pivot-members at the rear ends of said guides; a rearwardly slidable closure having intermediately located lateral pivot-members movable in said guides and adapted to engage and co-act with said first-mentioned pivot-members; a vertically movable tray in said cabinet; and tray-actuating mechanism mounted in said cabinet and linked to said closure in front of said pivot-members.

6. A structure as specified in claim 5 supplemented by lateral guide-members near the front end of said closure engaging said guides and disconnectible therefrom when the closure reaches the rear end of its sliding movement.

7. A structure as specified in claim 5, in which the pivot-members connected with the closure comprise locking bolts which normally engage sockets in the cabinet-body when the structure is in the closed condition.

8. A structure of the character set forth comprising a cabinet-body having lateral walls and a front wall of the same height and a rear wall having its upper portion cut away; a slidably mounted closure having its rear portion equipped with a member which is complemental to the rear wall of the cabinet-body, said closure having tongue-and-groove connections with the cabinet-body at all edges of the closure; intermediate pivot members projecting laterally from the closure; co-acting pivot members at the rear end of said cabinet-body; a vertically movable tray within said cabinet-body; and tray-actuating mechanism connected with and actuated by said closure.

9. A structure as specified in claim 8, in which said first-mentioned pivot-members comprise locking bolts, and said locking bolts are controlled by a key-controlled lock disposed near the front end of said closure.

10. A structure as specified in claim 8, in which said first-mentioned pivot-members comprise locking bolts and said closure is equipped at its front end with an actuating handle and adjacent thereto with a key-controlled lock.

11. A structure of the character set forth comprising a cabinet-body having lateral walls provided at their upper portions with internal guide-grooves, the upper walls of said guide-grooves being recessed to afford passages; a rearwardly and forwardly slidable closure forming a top for said cabinet-body, said closure being equipped with intermediately disposed trunnions working in said guide-grooves and with forwardly located guide-studs moving in said guide-grooves and adapted to be swung upwardly through said passages after the closure has been moved rearwardly; a vertically movable tray on said cabinet-body; and tray-actuating mechanism actuated by said closure.

12. In a structure of the character set forth, a cabinet-body having a front wall and side walls of substantially equal height and having a rear wall cut away at its upper portion, said side walls having their upper edges provided with longitudinal grooves, and said front and rear walls being provided with rearwardly open grooves; a slidable closure forming a top for said cabinet-body, said closure having its lateral edge portions provided with depending tongues engaging said first-mentioned grooves and having its front and rear end-portions equipped with tongues engaging the grooves in said front and rear walls; means for enabling said closure to be swung rearwardly and upwardly after it has been moved rearwardly through a portion of its length; a vertically movable supporting member within said cabinet; and actuating mechanism for said supporting member actuated by said closure.

13. A structure as specified in claim 12, equipped with a latching-device serving to latch the closure in the open position, said latching-

device having an actuating rod equipped with a thumb-piece accessible at the upper portion of the closure when the closure is in the open position.

14. A structure of the character set forth comprising a cabinet-body; a slidable closure forming a top for said body; pivot-members at the rear end of said body and co-acting pivot members at the lateral edges of an intermediate portion of said closure; a handle connected with the front end portion of said closure; a vertically movable tray within said cabinet-body; and tray-actuating mechanism connected with and actuated by said closure.

15. A structure as specified in claim 14, in which said tray-actuating mechanism comprises a pair of longitudinal levers having their rear ends pivotally connected with the rear lower portion of said cabinet-body; a stirrup carried by the front end of said lever; a second pair of longitudinal levers having their front portions connected with the front upper portion of said cabinet body and having their rear ends equipped with a stirrup; links connecting said levers; and links pivotally connected with said closure and having lost-motion connections with said second-mentioned pair of levers.

16. In a structure of the character set forth, a cabinet-body equipped with longitudinal guides; a rearwardly slidable closure forming a top for said cabinet-body and equipped at the lateral edges of an intermediate portion with trunnions; pivot-members adapted to be engaged by said trunnions after said closure has been moved rearwardly a portion of its length; a vertically movable tray within said cabinet-body; tray-actuating mechanism mounted in said body; and links connected with said tray-actuating mechanism and connected with said closure in front of said trunnions.

17. A structure as specified in claim 16, embodying locking-means for securing the closure in completely closed position, said locking means having a lock equipped with a key-barrel accessible through the upper surface of the front portion of said closure.

18. In a structure of the character set forth, a cabinet-body having its lateral walls provided with longitudinal guide-slots; a slidable closure mounted on said cabinet-body and forming a top therefor, said closure having intermediately disposed trunnions slidable in said guide-slots; and separately formed pivot-members secured to the rear end of the cabinet-body and having slots forming extensions of said guide-slots, said pivot-members being adapted to afford clearance for said closure when it is swung upwardly and rearwardly after it has been moved rearwardly a portion of its length.

19. A structure as specified in claim 18, in combination with a vertically movable support within said cabinet-body, mechanism for actuating said support, and connections between said mechanism and a portion of said closure in front of said trunnions.

20. A structure as specified in claim 18, characterized by housing-members carried by the rear end of said closure and serving to house said pivot-members when the closure is in the completely closed position.

21. A cabinet-structure comprising: an open-top cabinet-body; a closure forming a top for said cabinet-body having a sliding movement through a portion of its length only; pivot-means arresting such sliding movement and enabling the closure to swing to substantially upright position with its upper portion projecting above the cabinet-body; a movable support within the cabinet-body; and actuating means for said support, actuated by said closure in the swinging movement thereof.

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