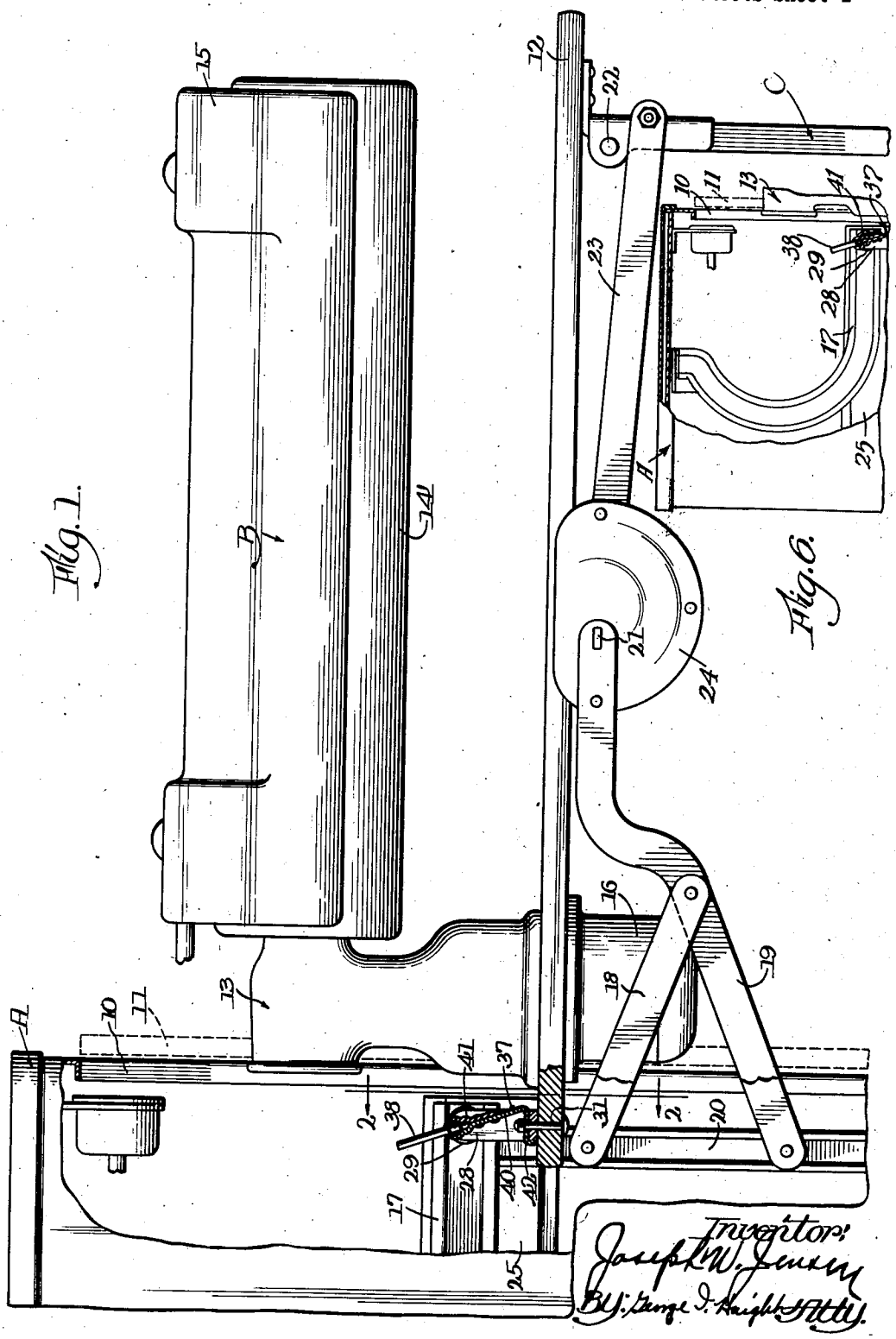
Sept. 27, 1938. J. W. JENSEN 2,131,286

LOCKING MEANS FOR IRONER SUPPORTING MECHANISM

Filed June 3, 1936 2 Sheets-Sheet 1



Inventor:
Joseph W. Jensen
By: George S. Knight Atty.

Sept. 27, 1938. J. W. JENSEN 2,131,286

LOCKING MEANS FOR IRONER SUPPORTING MECHANISM

Filed June 3, 1936 2 Sheets-Sheet 2

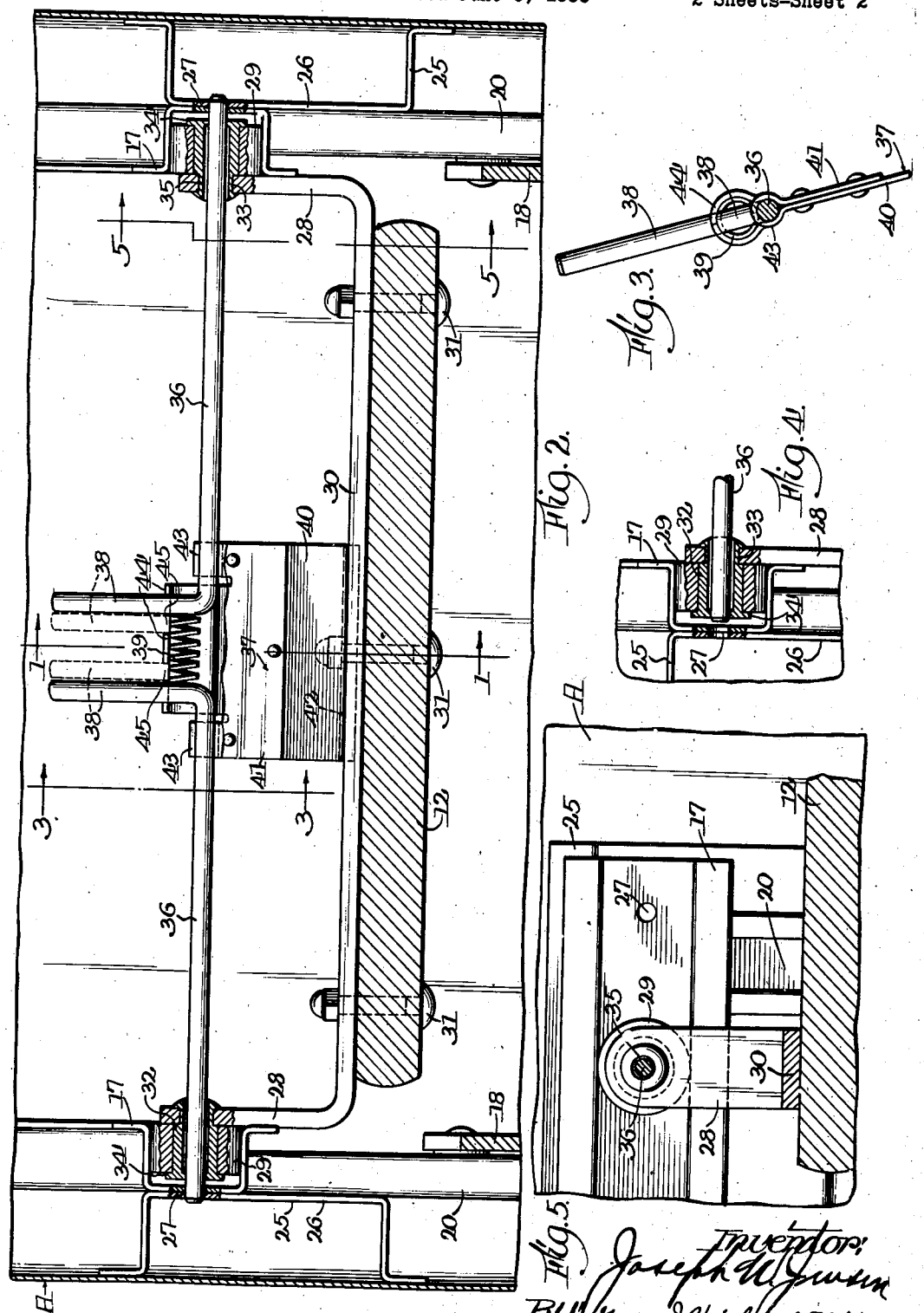


Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

Inventor:
Joseph W. Jensen
By George D. Haight Atty.

Patented Sept. 27, 1938 2,131,286

UNITED STATES PATENT OFFICE

2,131,286

LOCKING MEANS FOR IRONER SUPPORTING MECHANISM

Joseph W. Jensen, Chicago, Ill., assignor to Electric Household Utilities Corporation, Chicago, Ill., a corporation of Illinois

Application June 3, 1936, Serial No. 83,236

16 Claims. (Cl. 312—28)

My invention relates to improvements in ironers or ironing machines of the domestic type, wherein the ironer is associated with a cabinet for containing the ironer when not in use, and from which the ironer is withdrawn to place the same in operating position, and my invention has more particular reference to means for locking the ironer against accidental or unintentional movement with respect to the cabinet.

One object of the invention is to provide in a foldaway ironer comprising a cabinet and an ironer unit adapted to be folded into the cabinet when not in use and adapted to be withdrawn from said cabinet and placed in operating position, simple and efficient automatically operated means for locking said ironer in operating position and against accidental movement with respect to the cabinet.

A further object of the invention is to provide locking means of the character set forth in the preceding paragraph, which effectively holds the ironer unit against accidental movement into the cabinet, and which may be readily released by the operator, when desired, to permit said ironer unit to be pushed into the cabinet.

A further object is to provide locking means which acts to prevent rattle or play between the parts, due to looseness which may develop between said parts.

Other objects of the invention will more clearly appear from the description and claims hereinafter following.

In the drawings forming a part of this specification, Fig. 1 is a side elevational view of an ironer and associated cabinet, illustrating my improvements in connection therewith, the ironer being shown as withdrawn from the cabinet and in operating position, the side wall of the cabinet being partly broken away to show the internal structure and certain parts at the inner end of the ironer being shown in vertical section, said vertical section corresponding substantially to the line 1—1 of Fig. 2.

Fig. 2 is an enlarged vertical sectional view corresponding substantially to the line 2—2 of Fig. 1.

Fig. 3 is a vertical sectional view corresponding substantially to the line 3—3 of Fig. 2.

Fig. 4 is a broken view of part of the structure at the left-hand end of Fig. 2, but showing the parts in different positions.

Fig. 5 is a vertical sectional view corresponding substantially to the line 5—5 of Fig. 2, but showing the parts in different positions.

Fig. 6 is a fragmentary view of the upper portion of the cabinet, with portions broken away to show the form of the guide rail.

In said drawings, A indicates a cabinet and B an ironer mechanism adapted to be housed within said cabinet when not in use. The ironer B is of the type generally known as domestic ironers and is a unit by itself in the sense that its parts are all related in such a manner that it can be bodily swung out from the cabinet into operating position or swung from said operating position back into the cabinet for storage.

The cabinet A is preferably made of sheet metal and is of rectangular boxlike form having a door opening 10, through which the ironer unit B is passed in moving the same into and out of the cabinet A. The opening 10 is adapted to be closed by a suitable door 11 indicated in dotted lines in Fig. 1.

The ironer unit B comprises a support or baseboard 12 in the form of a substantially rectangular table, a pedestal or head 13 mounted on the baseboard 12 at the inner end thereof, an ironer roll 14 and a cooperating ironer shoe 15 mounted on said head 13, and a housing 16 secured underneath the baseboard 12 containing an electric motor for driving the ironer roll and shoe, said motor being connected to said ironer parts by any suitable driving mechanism contained in said head or pedestal 13. The ironer roll 14 and the cooperating shoe 15 are in parallel relation with respect to each other and extend parallel to the baseboard 12. Suitable means is provided for supporting and guiding the unit B for movement into and out of the cabinet and for supporting the unit in horizontal operating position when withdrawn from the cabinet. The cabinet A, ironer unit B, and the means for supporting and guiding the unit B are substantially the same as the corresponding parts disclosed and described in the co-pending application of Alfred J. Shute, Serial No. 32,267, filed July 19, 1935, to which reference may be had, and therefore needs no further detailed description, as the structure thereof forms a part of the present invention only in so far as it is related to the improved locking mechanism.

The means for supporting and guiding the unit B comprises a pair of guide rails or channels 17—17 fixed to the inner sides of the opposite side walls of the cabinet A and cooperating with means on the inner end of the baseboard 12 for guiding and supporting said end of the unit B while being moved into and out of the cabinet. The guide rails 17—17 are of such a form as to direct the inner end of the baseboard 12 backwardly and upwardly into the cabinet. The movement of the ironer unit B into and out of the cabinet is further controlled by links 18 and 19, which cooperate with guide rails or channels 20—20 and the baseboard 12. This structure and the operation thereof are fully described in said co-pending application and need no further description in connection herewith, the structure referred to forming a part of the present invention only in so far as it cooperates with and is related to the locking means. How-

ever, it might be pointed out that the guide rails 20—20 are fixed to the inner sides of the opposite side walls of the cabinet A below the outer ends of the guide rails 17—17, that the link 19 has its lower end guided for vertical movement and has its upper end pivoted to the baseboard 12, as indicated at 21, and that the link 18 is pivoted at its outer end to the midsection of the link 19 and at its inner end to the guide rail 17 to pivot about a fixed axis. The movement of the links 18 and 19 as controlled by the guide rails 20—20, together with the movement of the inner end of the unit B as controlled by the rails 17—17, is such that the ironer unit B will be swung or rotated to vertical position within the cabinet while being moved into the same with the pedestal or head end of the unit uppermost, and will be rotated to horizontal position when withdrawn from the cabinet. The inner or head end of the baseboard 12 is supported by the guide rails 17—17, and the outer end of said baseboard is supported by a leg C when the ironer unit B is in horizontal operating position. The leg C is hinged to the baseboard 12, as indicated at 22, to permit said leg to be folded against the under side of said baseboard when the unit B is moved into the cabinet. The folding of the leg C is automatically effected when the unit is moved into the cabinet A by means comprising a cam rod 23 pivotally connected to said leg and operated by a cam member 24 actuated through movement of the link 19. This means for actuating the leg to move it to folded and unfolded position does not form a part of the present invention and, therefore, needs no further description.

As shown in Figs. 1 and 2, the outer end portions, that is, those portions of the guide rails 17 nearest the door opening 10 of the cabinet A, are disposed horizontally and are fixed to supporting brackets 25—25 secured to the opposite side walls of the cabinet. Each bracket 25 is in the form of a bent plate or bar having a vertical section 26 offset from the corresponding side wall of the cabinet, to which the outer end of the corresponding rail 17 is secured. The rear wall of each rail 17, adjacent to the outer end of said rail, and the vertical section 26 of the corresponding bracket 25 are provided with aligned openings, which together form a locking or latch seat or opening 27 for a purpose hereinafter described.

At its extreme end adjacent to the head or pedestal 11, the baseboard 12 has a pair of upstanding arms or hangers 28—28, at opposite sides thereof, which carry rollers 29—29 adapted to ride in the guide channels of the rails 17—17. As most clearly shown in Fig. 2, the arms or hangers 28—28 are provided on a bar 30 extending transversely of the baseboard 12 and secured to the top thereof, the opposite end portions of the bar 30 being bent upwardly at right angles to said bar to form said arms or hangers. Any suitable means may be provided for securing the bar 30 to the baseboard 12 and, as herein shown, this means is in the form of bolts 31—31 extending through said bar and baseboard 12. Each roller 29 is rotatably journaled on a trunnion member 32 having a reduced stem portion 33, at the inner end, extending through an opening at the upper end of the corresponding arm 28. The extremity of the reduced stem portion 33 is riveted over, as shown, to secure the trunnion to the arm 28. At the outer end, the trunnion is provided with an annular flange 34, which serves to retain the roller in position on the trunnion. Each trunnion member 32 is provided with an axial guide opening 35 for a purpose hereinafter described.

A pair of spring-actuated, sliding, locking or latch bars or rods 36—36 are carried by the baseboard 12 at the inner end thereof and cooperate with the locking seats 27—27 to lock the ironer unit B against movement when the latter is in the horizontal operating position shown in Figs. 1 and 2. These locking bars or rods are supported at their inner ends by a bracket 37, in which they are guided. The bracket 37 is located at the central portion of the inner end of the baseboard 12. The outer ends of the rods 36—36 are guided in the openings 35—35 of the trunnion members 32—32. Each rod 36 has the inner end portion thereof bent upwardly at right angles to provide a finger piece or grip 38, by which the same may be manipulated. The two rods or bars 36—36 are yieldingly forced apart by a compression coil spring 39 interposed between the upstanding finger pieces or grips 38—38 thereof. The supporting bracket 37 is of two-piece construction and comprises a pair of plates 40 and 41, which are riveted together, as most clearly shown in Figs. 1 and 3. The plate 40 has a base portion 42, which is mounted on the bar 30 and is secured thereto by one of the bolts 31, which extends through said base portion. As shown in Fig. 1, the upstanding main body portion of the plate 40 is inclined rearwardly. The guide bracket 37 is provided with guide sleeve portions 43—43, at opposite sides thereof, within which the rods 36—36 are supported and guided. These guide sleeve portions are split, half of each sleeve being formed on the plate 40 and the other half on the plate 41. Between the guide sleeves 43—43, the bracket 37 is formed with an upstanding, substantially cylindrical casing portion 44, which forms a seat or housing for the spring 39. The casing portion 44 is also split, half of said casing being formed on each plate 40 and 41. The top of the casing portion 44 is provided with a pair of transversely aligned slots 45—45, through which the finger pieces 38—38 of the rods 36—36 project and in which they are guided. The outer end walls of these slots form limiting stops for restricting the separation of the rods or bars 36—36. The slots 45—45 are of sufficient length to permit the necessary amount of longitudinal movement of the rods 36—36 toward each other to withdraw the locking ends thereof from the seats 27—27.

When the ironer unit is not in use, it is stored in the cabinet A in folded vertical position, as hereinbefore stated. To withdraw the ironer unit from the cabinet, the operator grasps the lower end portion of the unit and pulls the same outwardly. During this action, the unit is swung from vertical to substantially horizontal position guided by the rails 17—17 and the links 18—18 and 19—19. At the same time, the leg C is unfolded to place it in vertical supporting position, as shown in Fig. 1. During the last portion of the movement of the ironer unit out of the cabinet A, the supporting guide rolls 29—29 travel along the horizontal end portions of the rails 17—17 until the parts reach the position shown in Fig. 1 and the locking rods 36—36 come into alignment with the locking seats 27—27 of the rails and snap into these seats through the expanding action of the spring 39 of the locking mechanism. As will be obvious, the rods 36—36 are in engagement with the vertical bottom walls

of the guide channels of the rails 17—17 during this outward movement of the ironer unit and travel along said walls, as shown most clearly in Fig. 5, until they reach the openings or seats 27—27. When the parts are in the position shown in Figs. 1 and 2, with the outer ends of the locking bars or rods 36—36 engaged in the seats 27—27 of the rails 17—17, the ironer unit, which includes the baseboard 12, is held against accidental movement inwardly of the cabinet A. The locking means hereinbefore described effectively prevents accidental movement of the ironer unit into the cabinet, which might otherwise occur if pressure is applied to the outer end of the baseboard 12 or any other part of the ironer unit. It also functions to impart more rigidity to the structure and prevent any tendency to rattling in the supporting linkage due to looseness which may develop therein. When it is desired to replace the ironer unit within the cabinet A, the locking means comprising the rods 36—36 is released by grasping the finger pieces 38—38 of said rods and pressing the same inwardly toward each other against the resistance of the spring 39. The outer ends of the locking bars or rods 36—36 are thus completely withdrawn from the seats 27—27 on the rails 17—17, as clearly shown in Fig. 4. The ironer unit is thus free to be moved into the cabinet and the same is moved inwardly by pushing or pressing on the outer end thereof. During the inward movement of the ironer unit, the same will be swung to vertical position by the guide mechanism hereinbefore described and the leg C will be folded against the baseboard 12.

I have herein shown and described what I now consider the preferred manner of carrying out my invention, but the same is merely illustrative and I contemplate all changes and modifications that come within the scope of the claims appended hereto.

I claim:

1. In a structure of the class described, the combination with a cabinet; of an instrument support adapted to occupy a vertical position within the cabinet or a horizontal position exteriorly of the cabinet; means connecting the support to the cabinet for guiding the support for movement into and out of the cabinet, said means being formed and arranged for causing the inner end of the support to move in an upwardly and inwardly path into the cabinet, or in a downwardly and outwardly path out of the cabinet; and cooperating locking means on said support and cabinet for locking the unit against unintentional movement with respect to the cabinet.

2. In a structure of the class described, the combination with a cabinet; of an instrument support movable into and out of the cabinet; cooperating guide means on said support and cabinet for guiding the support into and out of the cabinet, said means being formed and arranged for causing the inner end of the support to move in an upwardly and inwardly path into the cabinet, or in a downwardly and outwardly path out of the cabinet; and releasable locking means for automatically locking said support in position with respect to the cabinet.

3. In a structure of the class described, the combination with a cabinet; of an instrument support movable into and out of the cabinet; cooperating guide means on said support and cabinet for guiding the support into and out of the cabinet, said means being formed and arranged for causing the inner end of the support to move in an upwardly and inwardly path into the cabinet, or in a downwardly and outwardly path out of the cabinet; and cooperating releasable locking means on said support and cabinet for locking said support in extended operating position with respect to said cabinet.

4. In a structure of the class described, the combination with a cabinet; of an instrument support movable outwardly and inwardly of said cabinet; means for anchoring said support to the cabinet and guiding it into and out of the cabinet, said means being formed and arranged for causing the inner end of the support to move in an upwardly and inwardly path into the cabinet, or in a downwardly and outwardly path out of the cabinet; releasable locking means for automatically locking said support against movement with respect to the cabinet when said support is withdrawn from the cabinet and placed in extended operating position to hold said support in said operating position; and means for holding said locking means in inoperative condition while said support is moved to and from said extended operating position.

5. In a structure of the class described, the combination with a cabinet; of an instrument support adapted to be stored in said cabinet, said support being movable outwardly and inwardly with respect to the cabinet; guides on said cabinet for guiding said support into and out of the cabinet, said means being formed and arranged for causing the inner end of the support to move in an upwardly and inwardly path into the cabinet, or in a downwardly and outwardly path out of the cabinet; and cooperating interengaging locking elements on said support and guides for auomatically locking said support against movement with respect to said cabinet when the support is fully withdrawn from said cabinet and placed in operating position.

6. In a foldaway structure, the combination with a cabinet; of a baseboard carrying an operating mechanism, said baseboard and mechanism carried thereby being foldable into the cabinet with the inner end thereof moving in an upwardly and inwardly path and being movable out of said cabinet to extended horizontal operating position with said inner end moving in a downwardly and outwardly path; and cooperating releasable locking means on said cabinet and baseboard for automaticaly locking the baseboard and mechanism carried thereby against movement with respect to the cabinet in said extended operating position.

7. In a foldaway structure, the combination with a cabinet; of a baseboard carrying an operating mechanism, said board and the operating mechanism carried thereby being foldable into the cabinet with the inner end thereof moving in an upwardly and inwardly path and being movable out of the cabinet from said folded position to extended horizontal operating position with said inner end moving in a downwardly and outwardly path; a latch seat on said cabinet; and a sliding latch member on said baseboard engageable with said seat to lock said baseboard and the operating mechanism carried thereby in extended horizontal operating position.

8. In a foldaway structure, the combination with a cabinet; of a baseboard carrying an operating mechanism which is secured thereto, said baseboard and operating mechanism being foldable into the cabinet and being movable out of said cabinet from folded position to extended

horizontal operating position; a guide rail on said cabinet for guiding said baseboard in its movements into and out of the cabinet with the inner end of the baseboard moving in an upwardly and inwardly path, or in a downwardly and outwardly path respectively; a locking seat on said rail; and releasable spring-actuated locking means on said baseboard engageable with said seat for holding said baseboard and mechanism carried thereby in said extended operating position.

9. In a structure of the class described, the combination with a cabinet; of a support movable outwardly and inwardly of the cabinet, said support being movable to extended horizontal position with respect to said cabinet with the inner end of said support moving in a downwardly and outwardly path; and means for locking said support in said extended position against movement with respect to the cabinet, comprising locking seats at opposite sides of said cabinet, a pair of laterally separable, longitudinally movable locking bars on said support engageable with said seats, and spring means for forcing said locking bars apart.

10. In a structure of the class described, the combination with a cabinet; of a support movable outwardly and inwardly of the cabinet, said support being movable to extended horizontal position with respect to said cabinet with the inner end of said support moving in a downwardly and outwardly path; means for locking said support in said extended position against movement with respect to the cabinet, comprising locking seats at opposite sides of said cabinet, a pair of laterally separable, longitudinally movable locking bars on said support engageable with said seats, and spring means for forcing said locking bars apart; and means for disengaging said locking means, comprising finger pieces on said bars for pressing said bars together.

11. In a structure of the class described, the combination with a cabinet; of a support movable inwardly and outwardly of the cabinet; interior guide rails on opposite sides of the cabinet; means for guiding said support in its movements including rollers on said support guided by said rails; a locking seat on each rail; and spring-actuated locking bars extending through said rollers and engageable with said seats for locking said support in extended position with respect to the cabinet.

12. In a structure of the class described, the combination with a cabinet; of an elongated baseboard movable into and out of the cabinet, said baseboard being adapted to occupy a horizontal position outside of the cabinet; a pair of interior guide rails on opposite sides of the cabinet; latch seats at opposite sides of the cabinet; guide rollers on said baseboard engaging said rails to guide said unit in its movements; trunnions supporting said rollers; and transversely disposed sliding latch members at opposite sides of said baseboard guided in said trunnions and engageable with said latch seats to lock said baseboard in said horizontal operating position.

13. In a structure of the class described, the combination with a cabinet; of an elongated baseboard movable into and out of the cabinet and adapted to occupy a horizontal operating position outside of said cabinet; a pair of interior guide rails on opposite sides of said cabinet; locking seats on said rails; trunnions fixed to said baseboard; rollers carried by said trunnions and guided on said rails; latch bars at opposite sides of said baseboard in sliding engagement with guide openings provided in said trunnions; and spring means for forcing said bars apart and into locking engagement with said seats to lock said baseboard in said horizontal operating position.

14. In a structure of the class described, the combination with a cabinet; of an elongated baseboard movable into and out of the cabinet; means for guiding said baseboard in its movements including interior guide rails at opposite sides of said cabinet and rollers on said baseboard guided by said rails; locking seats on said rails; fixed trunnions on said baseboard at opposite sides thereof on which said rollers are journaled, said trunnions having axial guideways therethorugh; a pair of latch rods at opposite sides of said baseboard having their outer ends guided for longitudinal movement in said guideways of the trunnions; and a spring reacting between the inner ends of said rods for urging the same outwardly into locking engagement with said locking seats of the rails.

15. In a structure of the class described, the combination with a cabinet; of an elongated baseboard member movable into and out of the cabinet; interior guide rails on opposite sides of the cabinet; transversely aligned locking seats at the outer ends of said guide rails; upstanding hangar arms at opposite sides of said baseboard; outwardly projecting, transversely aligned trunnions on the outer ends of said arms, said trunnions having aligned guide openings therethrough; rollers journaled on said trunnions and guided on said rails; and laterally expandible, spring-actuated latch means carried by said baseboard including projectable latch rods slidingly guided in the guide openings of said trunnions and engageable with said locking seats, said latch means being manually compressible to withdraw said latch rods from locking engagement with said seats.

16. In a structure of the class described, the combination with a cabinet; of an elongated baseboard member movable into and out of the cabinet; interior guide rails on opposite sides of the cabinet; transversely aligned locking seats at the outer ends of said guide rails; upstanding hanger arms at opposite sides of said baseboard; outwardly projecting, transversely aligned trunnions on the outer ends of said arms, said trunnions having aligned guide openings therethrough; rollers journaled on said trunnions and guided on said rails; and laterally expandible latch means carried by said baseboard including a pair of aligned latch rods extending in opposite directions and having their outer ends guided in the openings of said trunnions, a spring means for forcing said latch rods apart to engage said seats, said latch rods having their inner ends bent upwardly to provide finger pieces for operating said rods to release the same, and spring means interposed between the inner ends of said rods for yieldingly forcing the same apart and into engagement with said locking seats.

JOSEPH W. JENSEN.