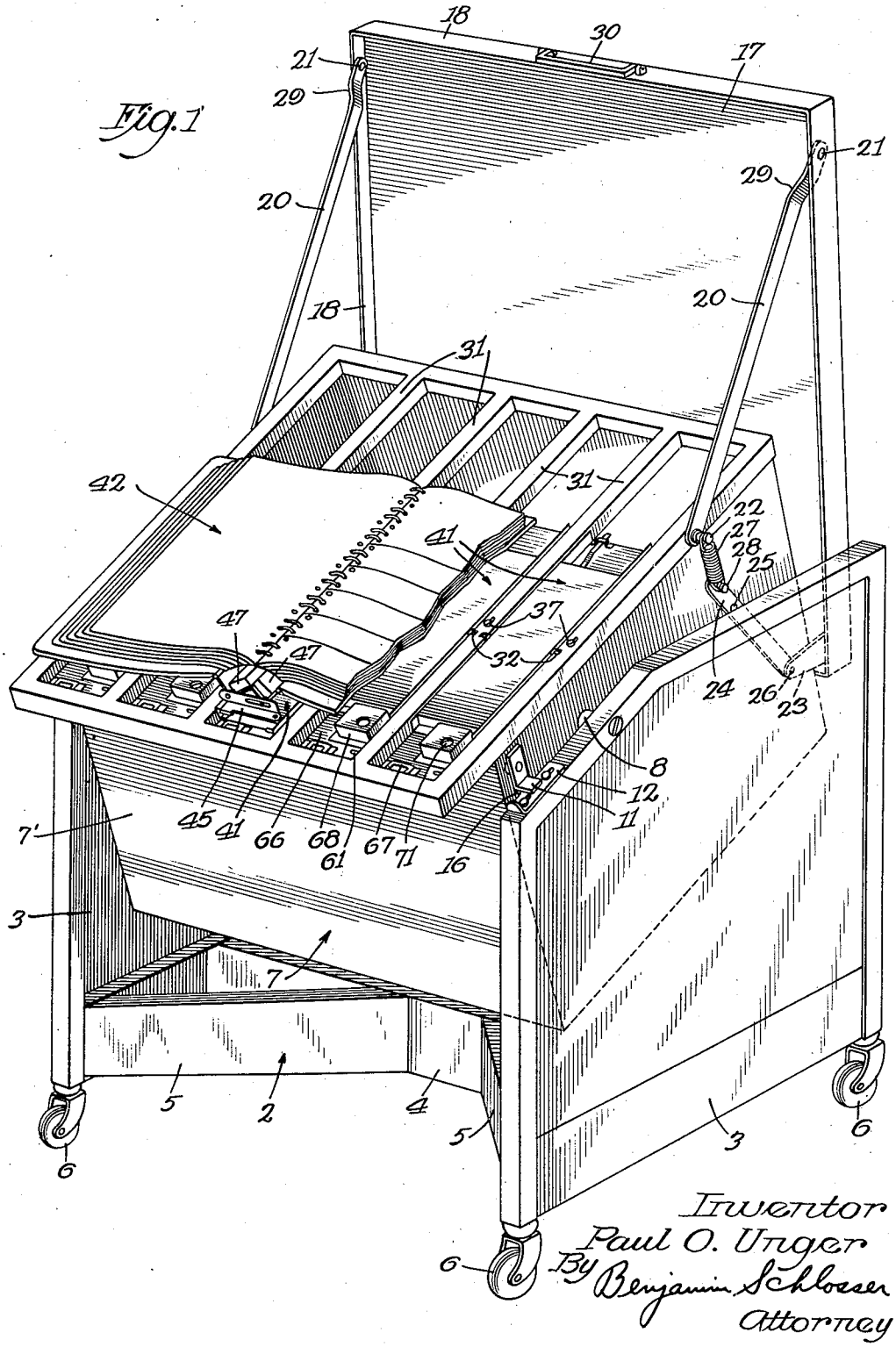
Dec. 26, 1939. P. O. UNGER 2,184,822

CABINET

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Fig. 1



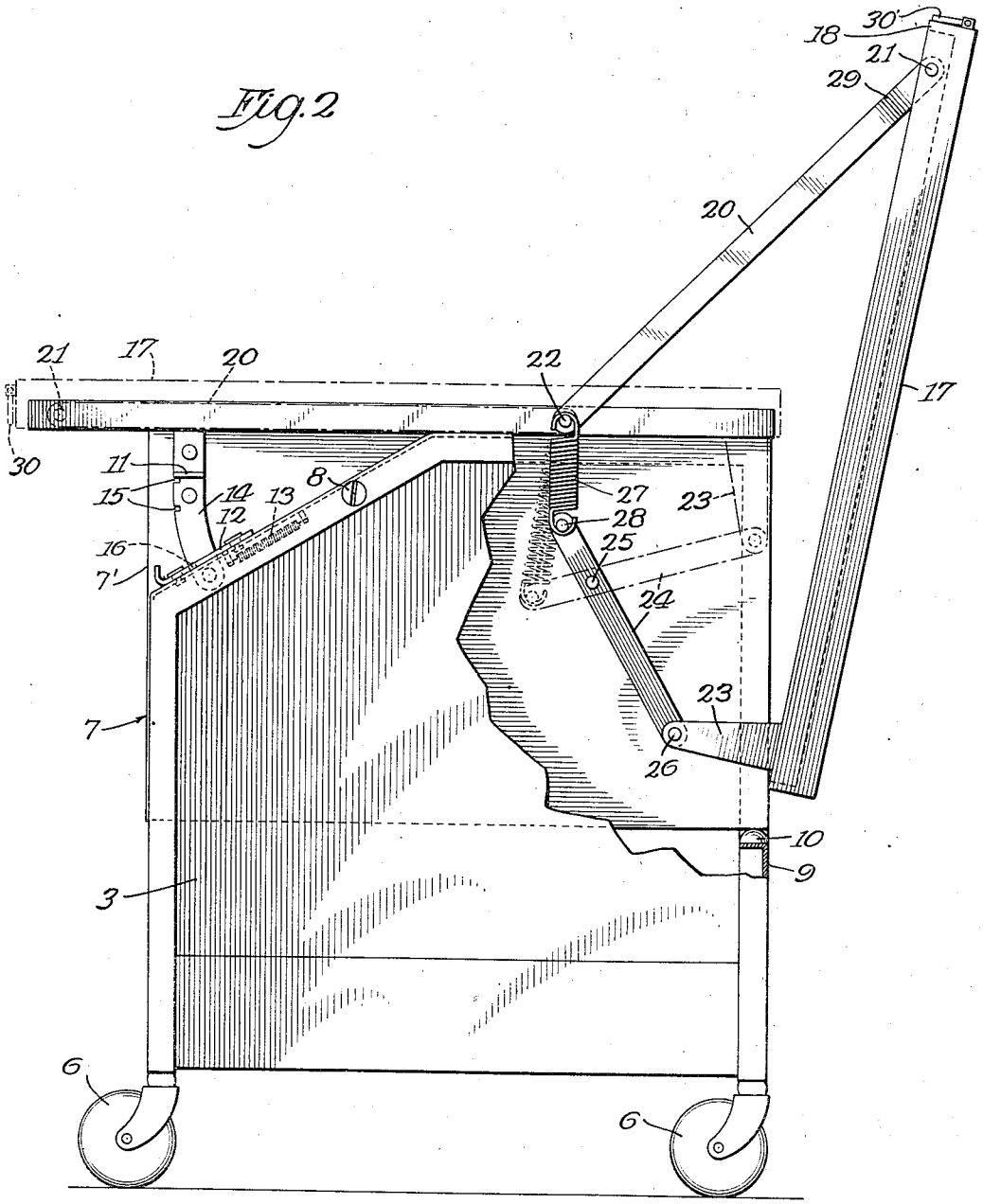
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Fig. 2



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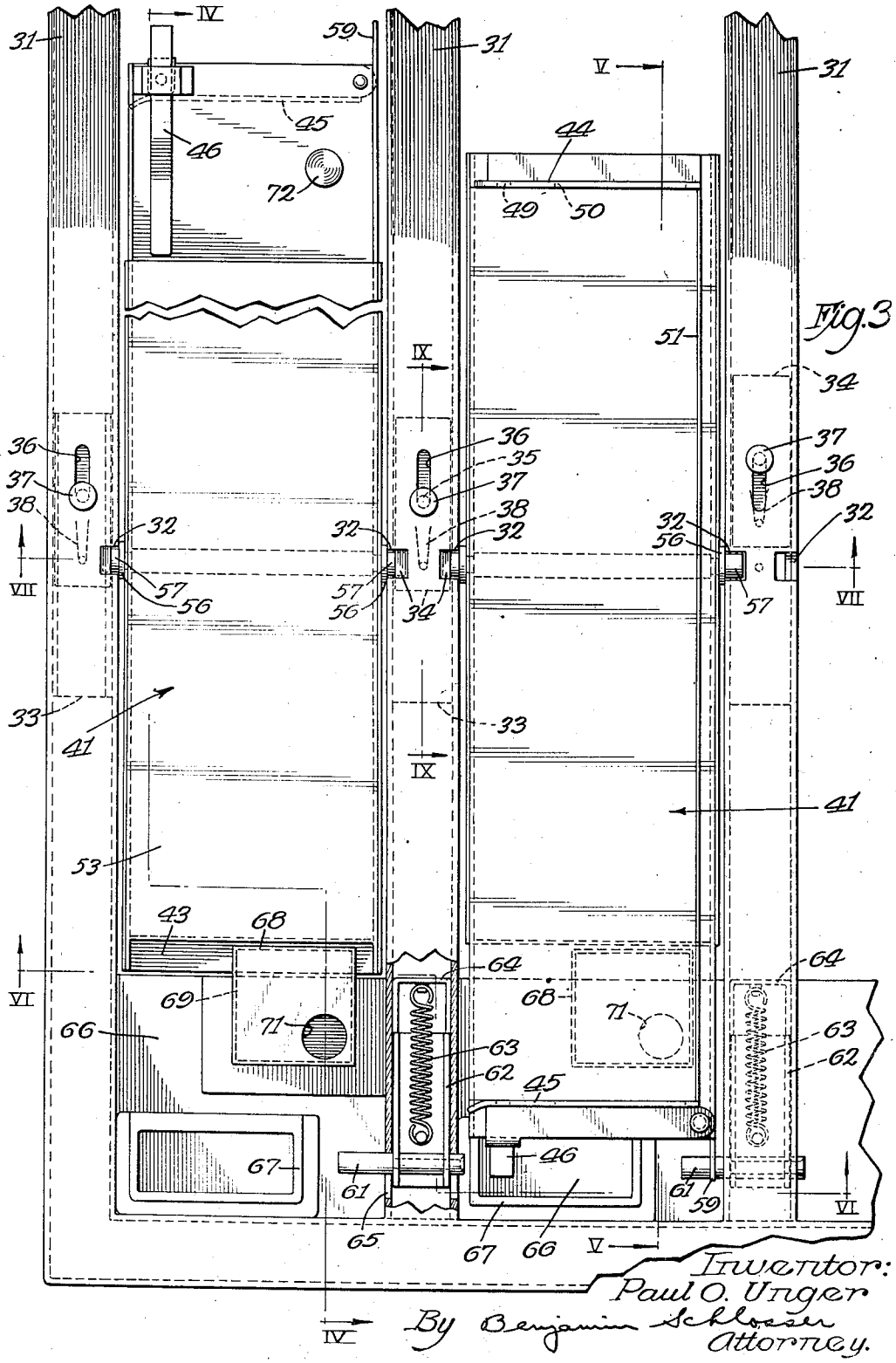


Fig. 3

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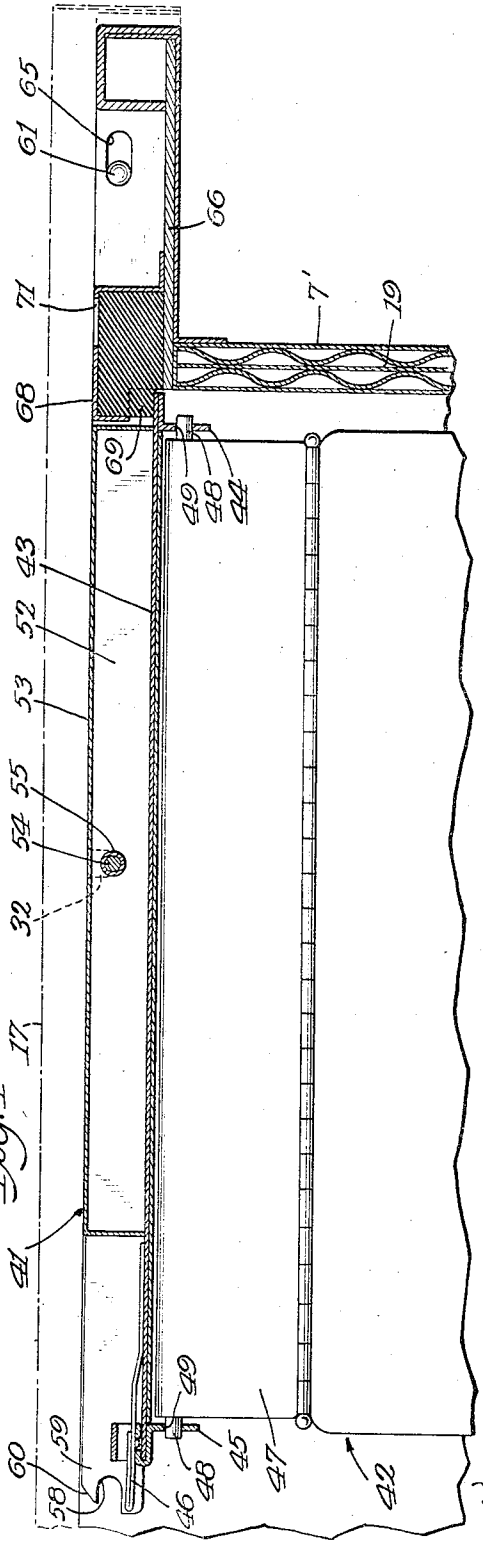


Fig. 4

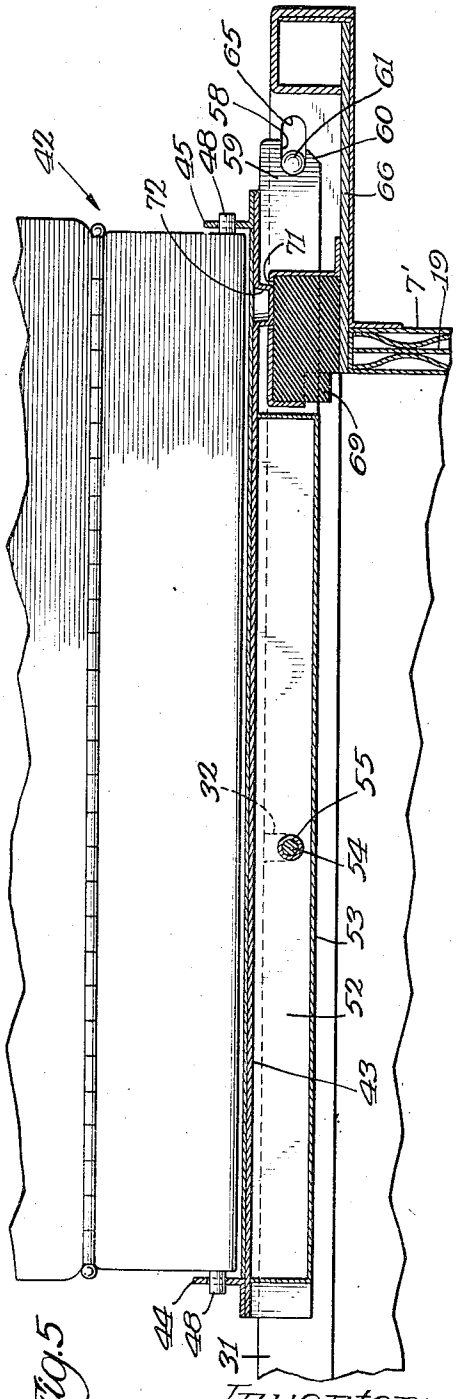


Fig. 5

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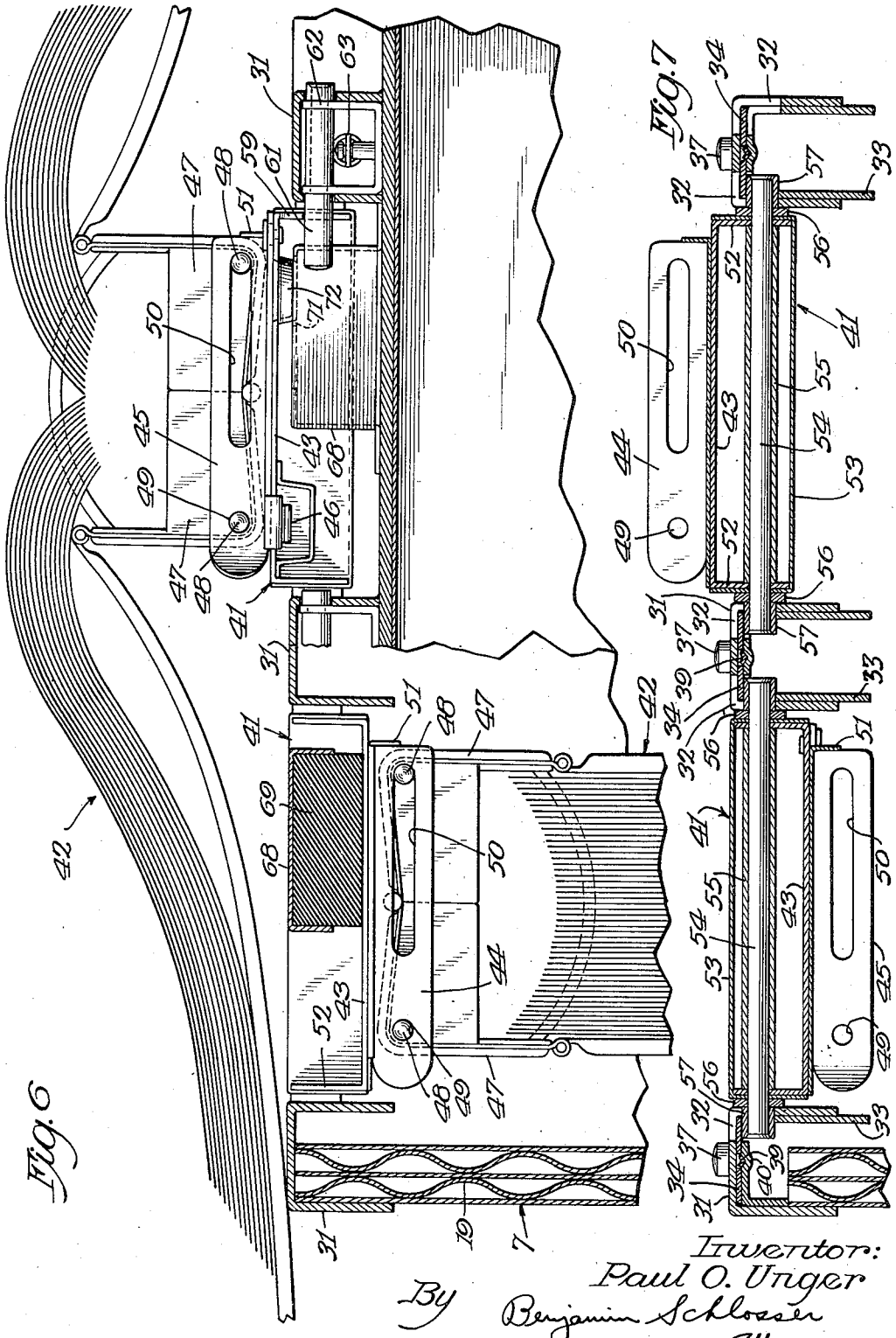


Fig. 6

Fig. 7

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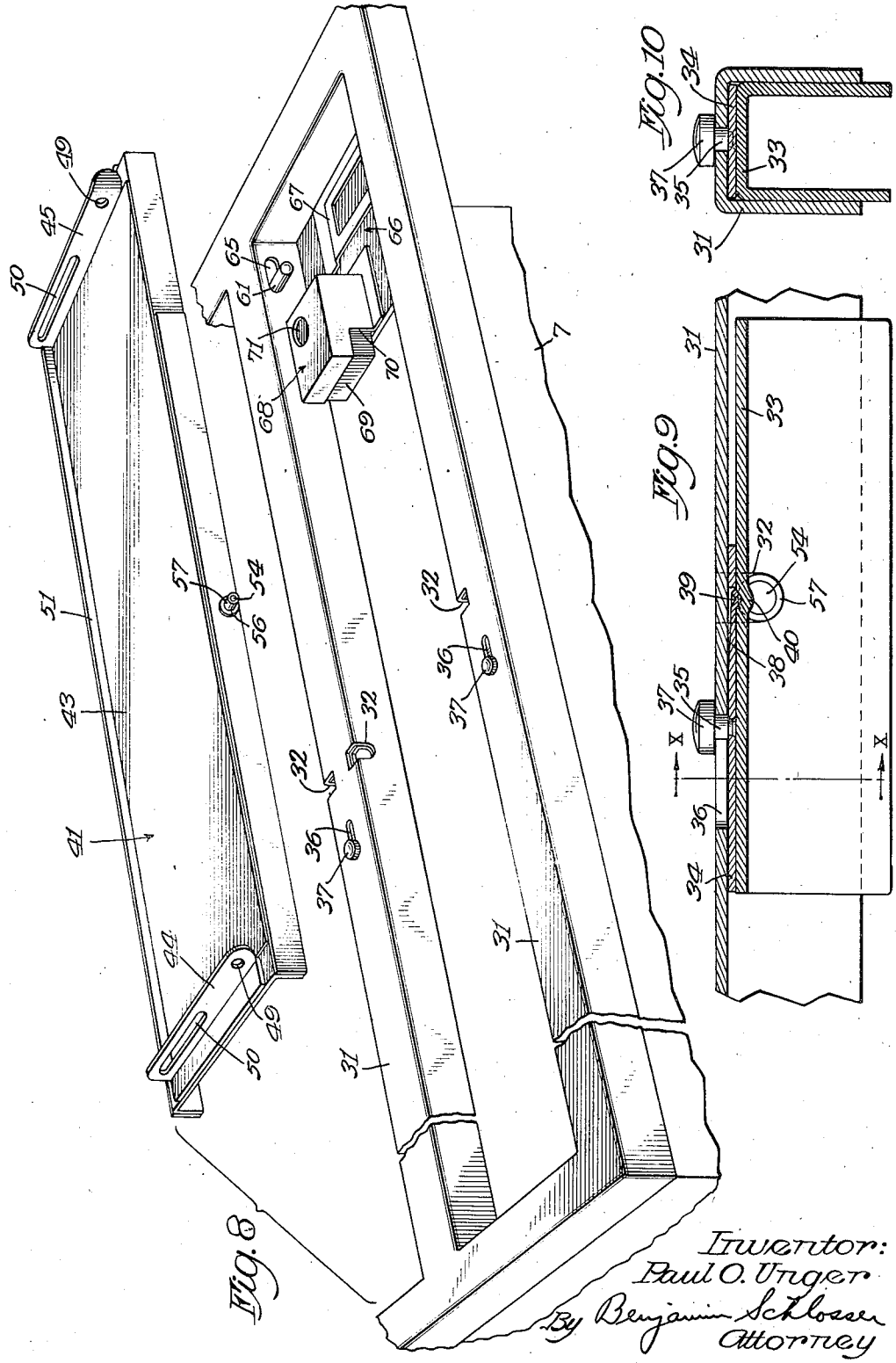


FIG. 8

FIG. 9

FIG. 10

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2,184,822

UNITED STATES PATENT OFFICE

2,184,822

CABINET

Paul O. Unger, Elmhurst, Ill., assignor to Wilson-Jones Company, Chicago, Ill., a corporation of Massachusetts

Application April 17, 1936, Serial No. 74,918

8 Claims. (Cl. 45—85)

This invention relates to a cabinet adapted to house a plurality of books so as to protect them when they are not in use, and to make them easily accessible for use.

It is an object of this invention to provide a cabinet with a cover adapted to form a completely closed case and a plurality of individually removable book supports capable of rotation through a vertical plane to conceal the books entirely within the case or to expose them on top of the case for ready reference.

It is a further object of this invention to provide a cabinet with an offset top to allow a maximum of leg room and to bring the book being used as far forward as possible.

It is a further object of this invention to provide a cabinet with a cover having a spring adapted to hold it in either closed or fully opened position.

It is a further object of this invention to provide a cabinet with an individual shock absorbing member adjacent the top of the cabinet for each book support.

Other objects of this invention will become apparent upon reading the following description taken in conjunction with the accompanying drawings, in which

Figure 1 is a perspective view of a cabinet embodying the invention;

Figure 2 is a side elevation of the cabinet with parts broken away to show the link mechanism secured to the cover;

Figure 3 is a fragmentary top plan view of the cabinet with one support in book concealing position and one support in book exposing position;

Figure 4 is a longitudinal sectional view taken along the line IV—IV of Figure 3 but showing a portion of a book secured to the book support;

Figure 5 is a longitudinal sectional view taken along the line V—V of Figure 3, but showing a portion of a book secured to the book support;

Figure 6 is a cross sectional view taken along the line VI—VI of Figure 3, but showing a portion of a book secured to each book support;

Figure 7 is a cross sectional view taken along the line VII—VII of Figure 3;

Figure 8 is a fragmentary perspective view of one compartment of the cabinet with a book support disassociated therefrom;

Figure 9 is a longitudinal sectional view taken along the line IX—IX of Figure 3; and

Figure 10 is a cross sectional view taken along the line X—X of Figure 9.

In the drawings, the reference numeral 2 indicates a base member comprising a pair of side members 3 reinforced in any desired manner and tied together by channel members 4 and 5. The base member is provided with a plurality of casters 6. A cabinet 7 is pivotally supported on the sides 3 by means of trunnions 8. A cross bar 9 (Figure 2) having a cushioning member 10, upon which the cabinet rests when it is in its horizontal position, prevents pivotal movement of the cabinet in one direction. A stop member 11 secured to one side of the cabinet 7 limits the pivotal movement of the cabinet in the other direction by contact with one side member 3. The side member 3 has a latch 12 slidably secured thereto and a spring 13 adapted to pull the latch in one direction. The side of the cabinet 7 is provided with an arcuate plate member 14 having a plurality of notches 15 adapted to receive a projection 16 on the latch 12 to stop the cabinet in any predetermined position.

The cabinet is provided with a cover 17 having depending flanges 18 on all four sides adapted to fit over the top of the cabinet to form a complete enclosure for books contained inside the cabinet. The cover 17 and the sides of the cabinet 7 are preferably of double walled construction and are provided with fire resisting insulation of any desired type, as indicated at 19. The front wall of the cabinet is set back, as indicated at 7' to provide additional leg room for the operator. The link mechanism, at each side of the cabinet for securing the cover to the cabinet is the same, so only one mechanism will be described. A link 20 is pivoted at one end to the flange 18 near the front edge of the cover, as indicated at 21, and at its other end to the side of the cabinet by means of a stud 22. A bracket 23 is rigidly secured to the flange 18 adjacent the rear edge of the cover. A link 24 pivoted intermediate its ends to the side of the cabinet, as indicated at 25, has one end pivotally secured to the bracket 23, as indicated at 26. A spring 27 has one end secured to the stud 22 and its other end to a stud 28 carried by the free end of the link 24.

The link 20 is bent, as indicated at 29, because the cover 17 is slightly wider than the top of the cabinet. The side flanges 18 fit over the studs 22. The relationship of the spring 27 to the various pivot points is such that when the cover approaches its fully open position the spring 27 will exert force to complete the movement and to hold the cover in open position. As the cover approaches its closed position the link 24 completes its rotation in counter-clockwise direction

(as seen in Figure 2) and reverses its direction so that the spring 27 will also exert force to complete the movement of the cover to closed position and to hold it closed. The front edge flange 18 is provided with a drop handle 30 to facilitate manipulation of the cover.

A plurality of longitudinally extending bars 31 divides the top of the cabinet into a plurality of longitudinally extending compartments of equal area, with each compartment of a size suitable to receive one book. Since each of the compartments and associated structure is a duplicate of the others, only one structure will be described.

Each bar 31 is notched, as indicated at 32, to provide a pair of aligned bearings in each compartment. The bearings are positioned nearer the front of the cabinet than the rear. Each bar 31 is channel shaped, and is reinforced on its inner surface by a channel shaped member 33 which is notched to register with the notch 32. A sliding plate 34 is secured to the bar 31 between the members 31 and 33. The sliding plate 34 has a stud 35 rigidly secured thereto. The top surface of the bar 31 is provided with a slot 36 through which the stud 35 projects. The stud 35 is provided with a button head 37 to facilitate manipulation of the sliding plate 34. The bar 31 may be depressed adjacent the slot 36 so that the button head 37 may be flush with the top surface of the bar 31.

One end of the sliding plate 34 is adapted to cover the notched bearing 32 when in the position indicated in Figures 3 and 9. The sliding plate 34 is provided with a detent 38 having an embossment 39 adapted to engage an embossment 40 in the reinforcing member 33 when the sliding plate 34 is in closed position. The interengagement of the embossments 39 and 40 is sufficient to prevent accidental displacement of the sliding plate. When the sliding plate 34 is moved to the position indicated in Figure 8 the bearing 32 is open, and a book support 41 may be inserted or removed from the bearings without any difficulty.

The book support 41 and the method of supporting a book 42 is substantially the same as described in detail in the joint application of Paul O. Unger and Fred D. Wedge filed January 20, 1936 under Serial No. 59,826, and will not be described in detail. Broadly speaking, the book support 41 includes a supporting base 43 having a fixed transverse bracket 44 at one end and a pivoted bracket 45 at the other. A latch 46 serves to hold the pivoted bracket 45 in book supporting position. The book 42 has a pair of hinged back sections 47, each of which is provided with a pair of projecting studs 48 adapted to fit in apertures 49, 50 in the brackets. A longitudinal flange 51 serves to guide the book to facilitate engagement of the studs with the apertures.

The supporting base 43 has longitudinally extending depending flanges 52 and is reinforced by a wide channel shaped member 53. A shaft 54 extends transversely of the book support and passes through the flanges 52 and the sides of the reinforcing member 53. A sleeve 55 embraces the shaft 54 between the flanges 52 to provide reinforcement. A washer 56 is held against the outer surfaces of the side walls of the reinforcing member 53 by means of a pair of sleeves 57. The ends of the shaft 54 are spun over the ends of the sleeves 57 to secure the shaft 54 and the supporting sleeves together in a rigid unit.

The ends of the shaft 54 serve as trunnions to pivotally support the book support in the bearings 32 so that the book support may be rotated through a vertical angle of 180 degrees to expose a book or to conceal a book within the cabinet. The shaft 54 is spaced closer to one end of the book support than the other so that the book support is closer to the front of the cabinet when in book exposing position than when in book concealing position. As shown in Figure 1, this arrangement allows a maximum of leg room for the user and brings the book being used as far forward as possible.

The depending flange 52 on one side of the book support is provided with a recess or notch 58 in one end thereof. The notched end 59 of the flange 52 preferably extends beyond the end of the base 43 and is beveled, as indicated at 60. The notch 58 is adapted to engage a slidable latching pin 61 to hold the book support in book exposing position. The pin 61 is carried by a channel shaped member 62 slidably mounted in the bar 31. A spring 63 has one end secured to the member 62 and its other end secured to a member 64 rigidly secured in the bar 31.

The side walls of the bar 31 are slotted, as indicated at 65, and the pin 61 projects through said slots. The pin 61 may be moved against the action of the spring 63 to disengage the pin from the notch 58 so that the book support may be rotated through a vertical angle of 180 degrees to move the book support to book concealing position. The force of gravity will be sufficient to hold the book support in book concealing position because of the off center spacing of the shaft 54. When the book support is rotated to book exposing position the beveled edge 60 forces the pin in one direction and the spring then forces the pin into engagement with the notch 58 to hold the book support in book exposing position.

The cabinet is provided at its front edge with a shelf 66 having a label holder 67 and a metal housing 68 secured thereto. The metal housing encloses a cushioning shock absorbing member 69 of rubber, cork, leather or any suitable resilient material. The housing 68 has an open bottom and projects beyond the edge of the shelf 66 so as to expose the undersurface of the shock absorbing member 69 at one edge. The sides of the housing projecting beyond the shelf are cut away, as indicated at 70. The top wall of the housing 68 is apertured, as indicated at 71, to expose an area of the cushioning material encased in the housing.

The book supporting member 41 has a projection 72 adapted to contact the shock absorber 69 through the aperture 71 when the book support is moved to book exposing position. When the book support is moved to book concealing position one edge of the support engages the exposed portion of the under surface of the shock absorbing member.

From the foregoing it will be seen that I have designed a simple and efficient fire resisting cabinet for protecting a plurality of books when they are not in use and which permits the books to be quickly and easily moved to positions in which they can be used with facility. Each book support is adapted to be turned in a vertical plane independently of the other book supports so that only the desired books are exposed on the top of the cabinet. The pivots of the book supports

are off center so that the books are as close as possible to the front of the cabinet when in exposed position. The cabinet may be tilted to predetermined positions to increase the convenience of using the books.

The book supports are individually removable from the cabinet so that if one book support is damaged it may be replaced or repaired without disturbing the rest of the book supports and the books secured thereto. If the user desires to use a book on a reference stand or desk separate from the cabinet it is necessary only to move the buttons **37** to release the book support and the book and support may be immediately picked out of the cabinet and used wherever desired. When the book support is in the cabinet the plates **34** will retain it in position.

Although I have described the invention with particular reference to books of the loose leaf type having hinged back sections, it is obvious that many of the advantages of the structure may be retained with the cabinet designed for other kinds of loose leaf binders or even bound books. While only one embodiment of the invention has been specifically described, it will be understood that the description is illustrative, rather than restrictive, as many details may be modified or changed without departing from the spirit or scope of my invention. Accordingly, I do not desire to be restricted to the exact construction described, except as limited by the appended claims.

I claim:

1. In a cabinet, a plurality of bars extending longitudinally of said cabinet, said bars being notched to form bearings, a book support provided with a pair of laterally extending trunnions adapted to seat in said bearings, and a pair of plates being slidable over said trunnions to secure said book support against accidental displacement.

2. In a cabinet, a plurality of bars extending longitudinally of said cabinet, each of said bars being provided with a pair of notches, a plurality of book supports provided with trunnions seated in said notches to pivotally support said book supports in said cabinet, a plate slidably mounted on each of said bars, and means whereby said plates may be moved across said notches to retain said book supports in their pivotal mounting or to permit removal of said book supports from said notches.

3. In a cabinet, a plurality of bearings, a book support provided with a pair of laterally projecting trunnions intermediate its ends at a point spaced from its center, said trunnions being removably seated in said bearings, and sliding plates adapted to prevent accidental displacement of said book support.

4. In a cabinet, a book support pivotally supported at a point between its center and one end, a shelf positioned adjacent one edge of said cabinet, a housing secured to said shelf and projecting beyond one edge of said shelf, and a cushioning member positioned in said housing, a portion of the lower surface of said cushioning member being exposed, said book support having a portion adapted to engage the exposed area of said cushioning member when it is turned in one direction.

5. In a cabinet, a plurality of bars extending longitudinally of said cabinet, each of said bars being provided with a notch, a book support provided with a pair of laterally projecting trunnions intermediate its ends at a point spaced from its center, said trunnions being removably seated in said notches to pivot said book support to turn through a vertical angle of 180 degrees, a shock absorbing member positioned adjacent one edge of said cabinet and adapted to be engaged by said book support when said book support is turned in either direction to its extreme position.

6. In a cabinet, a book support pivotally mounted in said cabinet to turn through a vertical angle of 180 degrees, a shock absorbing member secured adjacent one edge of said cabinet, said book support engaging said shock absorbing member when it is turned in either direction to its extreme position.

7. In a cabinet, a book support pivotally mounted in said cabinet to expose or to conceal a book supported thereon, a shelf secured adjacent one edge of said cabinet, and a shock absorbing member secured to said shelf, said book support engaging one side of said shock absorbing member when said support is in book exposing position and the other side when in book concealing position.

8. In a cabinet, a book support pivotally mounted in said cabinet to turn through a vertical angle of 180 degrees, a shelf secured adjacent one edge of said cabinet, a shock absorbing element enclosed in metal and mounted on said shelf, an aperture in the top surface of said metal enclosure exposing a portion of said shock absorbing element, and a projection on one surface of said book support, said projection being adaped to enter said aperture and engage said shock absorbing element when said book support is turned to one position.

PAUL O. UNGER.