L. SCHRAM.

INTERLOCKING KNOCKDOWN SECTIONAL BOOKCASE.

APPLICATION FILED JULY 22, 1912.

1,055,666.

Patented Mar. 11, 1913.

5 SHEETS—SHEET 1.

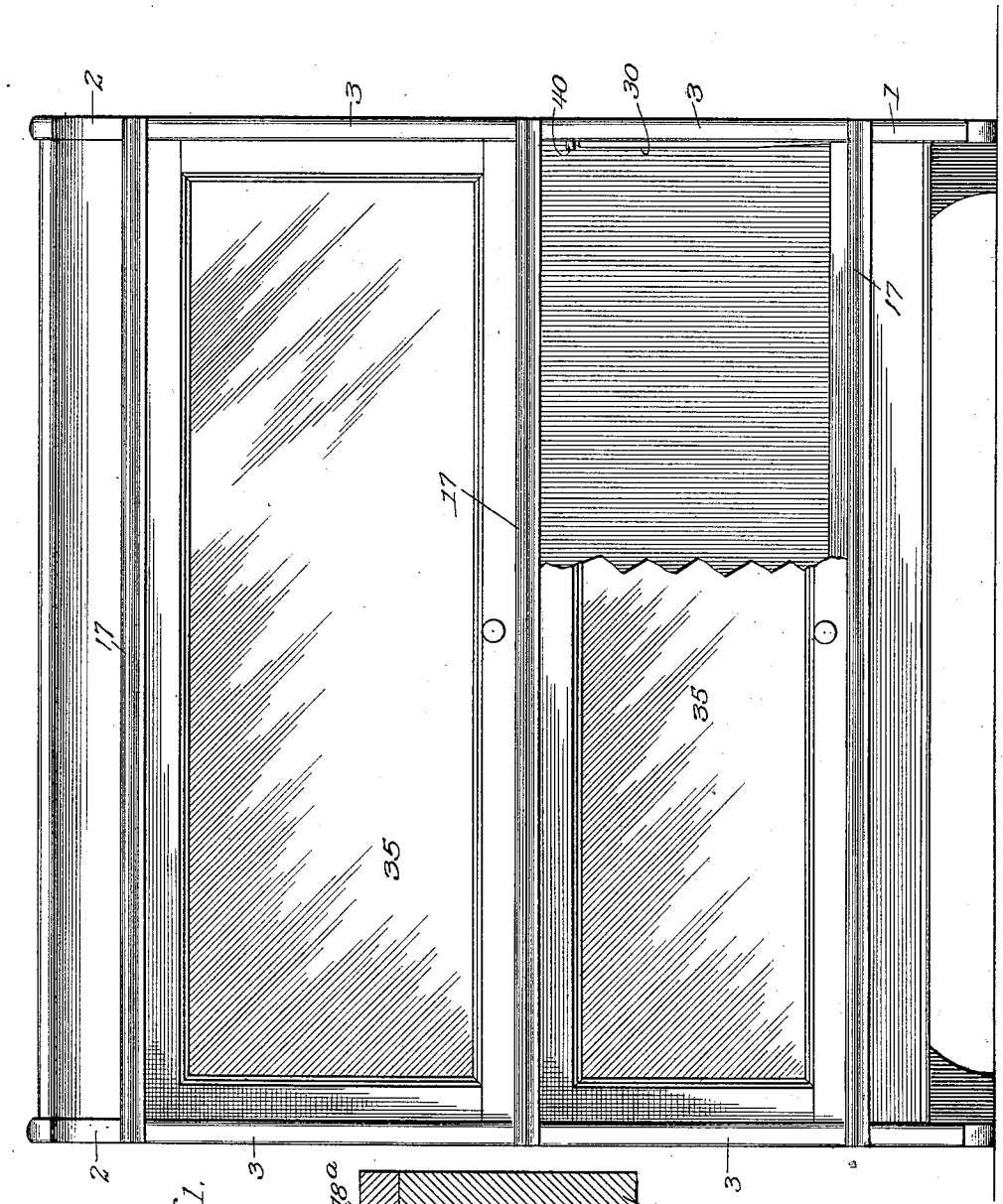

Fig. 1.

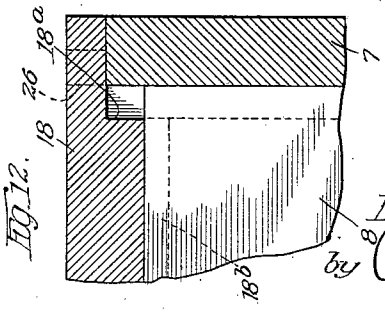

Fig. 2.

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Arthur Carson

Inventor:
Louis Schram.
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Attys:

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

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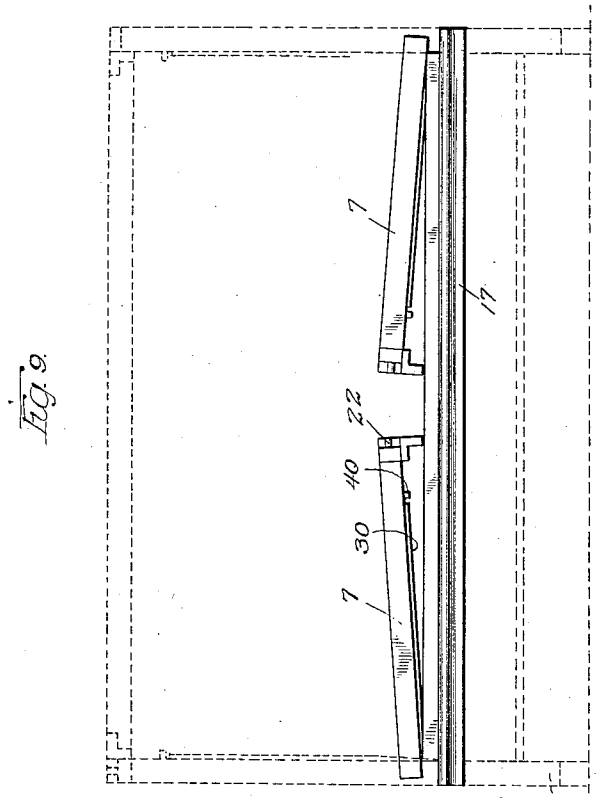

Fig. 9.

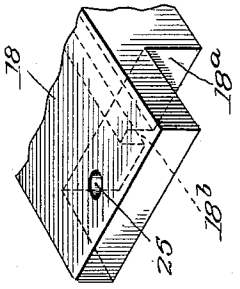

Fig. 11.

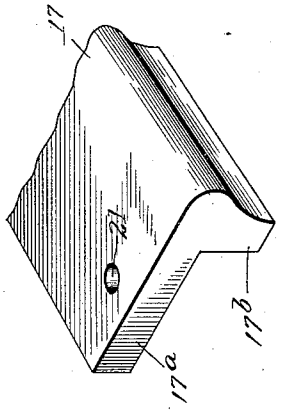

Fig. 10.

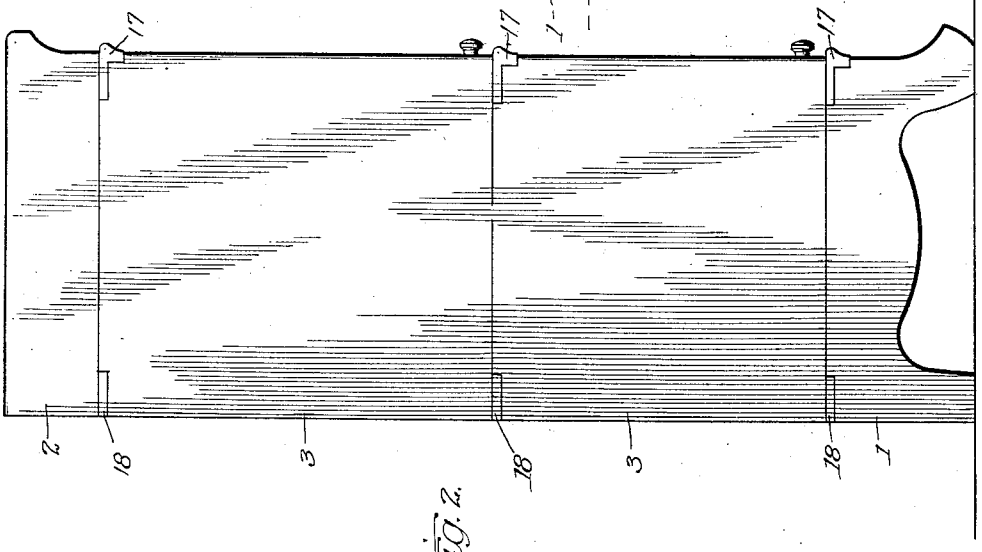

Fig. 2.

Witnesses:
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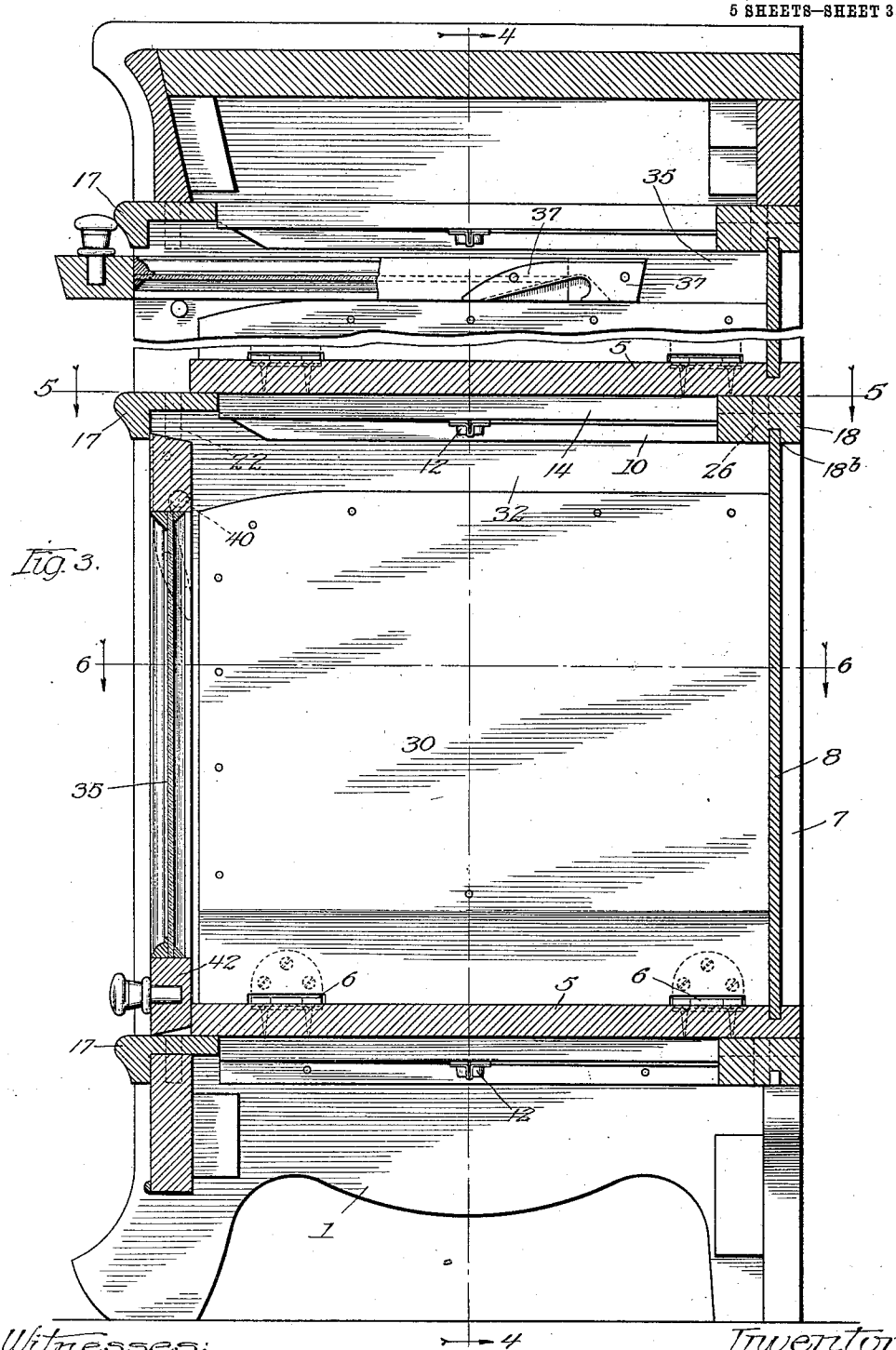

Fig. 3.

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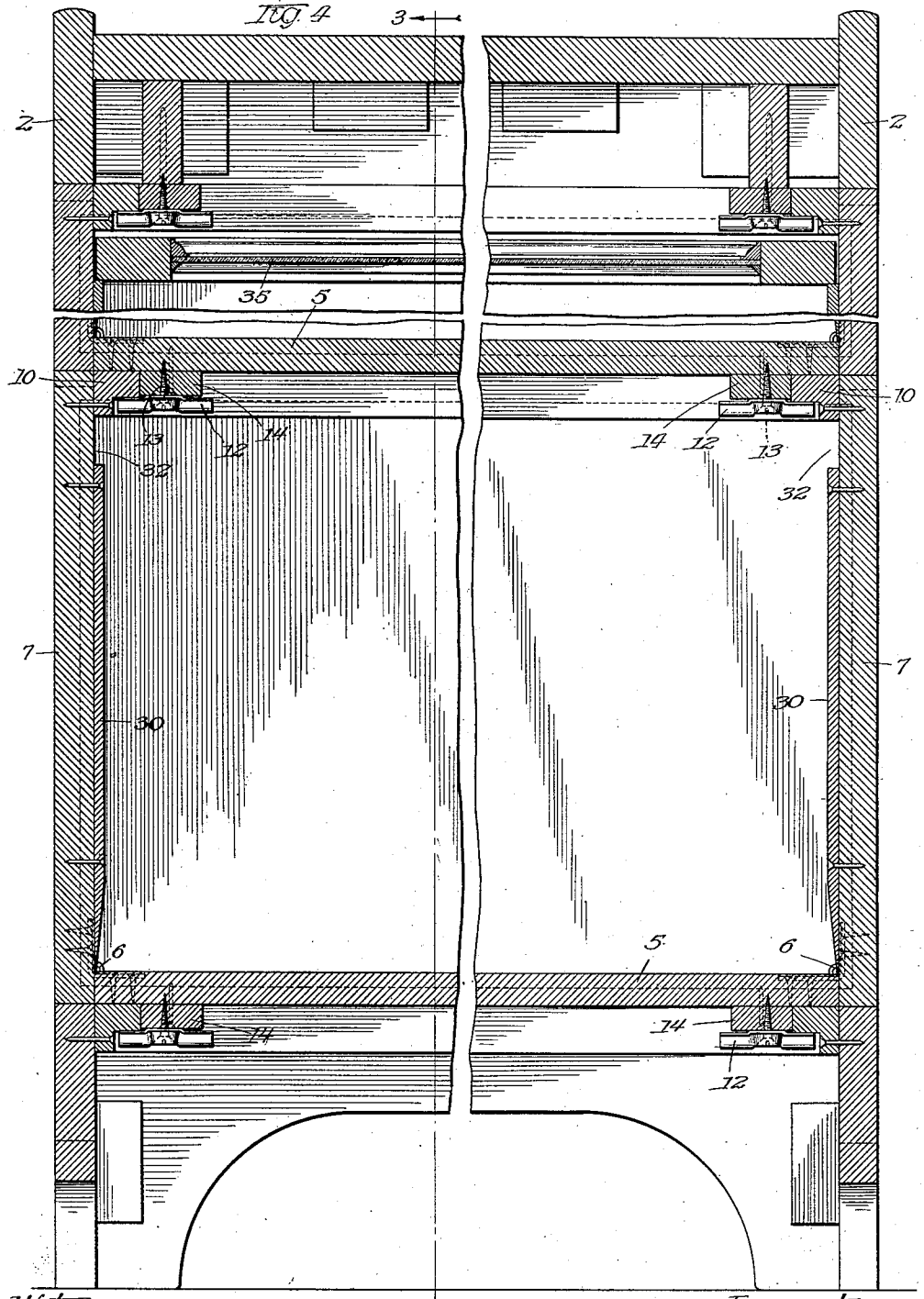
5 SHEETS—SHEET 4.



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APPLICATION FILED JULY 22, 1912.

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5 SHEETS—SHEET 5.

Fig. 7.

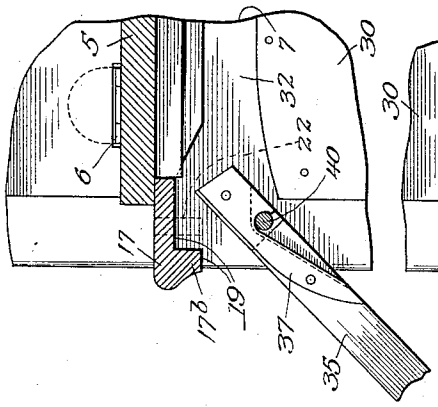


Fig. 8.

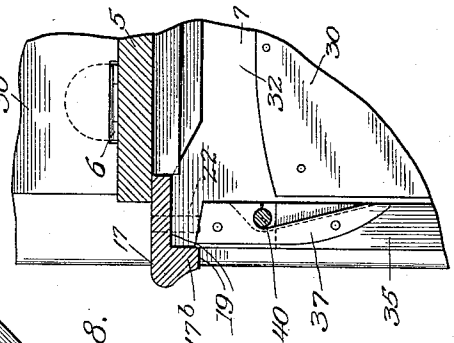


Fig. 6.

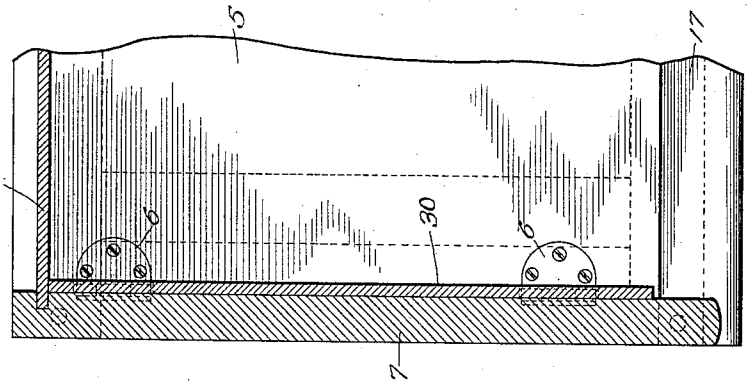
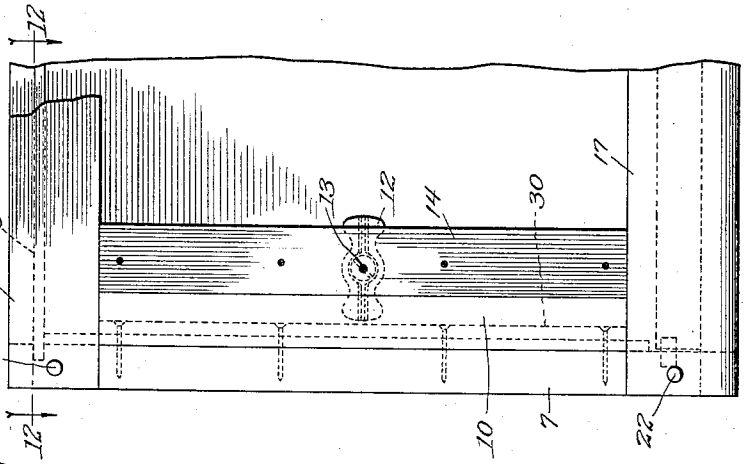


Fig. 5.



Witnesses:
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Inventor:
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UNITED STATES PATENT OFFICE.

LOUIS SCHRAM, OF CHICAGO, ILLINOIS.

INTERLOCKING KNOCKDOWN SECTIONAL BOOKCASE.

1,055,666. Specification of Letters Patent. Patented Mar. 11, 1913.

Application filed July 22, 1912. Serial No. 710,937.

To all whom it may concern:

Be it known that I, LOUIS SCHRAM, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Interlocking Knockdown Sectional Bookcases, of which the following is a specification.

My invention is embodied in an interlocking knock down or collapsible sectional bookcase and the general object of the invention is to produce a bookcase of this kind in which the parts of a section are interlocked when set up, thus producing rigidity in the sections, and a case in which the different sections may be interlocked with each other so that the sections will become a single unified structure. This object is obtained by a number of novel expedients which can be more readily understood from the detailed description hereafter given.

Ancillary to the general object it is my purpose to provide a construction such that the books may be readily inserted and withdrawn without interference with any of the fastening devices by which the several elements of the case are held together.

Another object is to provide a construction whereby the case when closed will be completely dust proof.

Another object is to provide simple and effective means whereby the user may be afforded a choice as to whether he will completely remove the door from the case or simply swing the door from non-acting to closed position.

Another object of the invention is to provide a construction in which the parts may be readily assembled and disassembled and at the same time present an attractive appearance.

I obtain my objects by the construction illustrated in the accompanying drawings in which—

Figure 1 is a front elevation of two book sections, a top section and a base forming a bookcase embodying my invention. Fig. 2 is an end elevation of the case shown in Fig. 1. Fig. 3 is a front to rear sectional elevation taken on the line 3—3, Fig. 4. Fig. 4 is an end to end vertical section taken on the line 4—4, Fig. 3. Fig. 5 is a plan view taken on the line 5—5 Fig. 3. Fig. 6 is a plan section taken on the line 6—6 Fig. 3. Fig. 7 is a detailed sectional elevation showing the manner of hinging the doors. Fig. 8 is similar to Fig. 7 but shows the door in closed position instead of the semi-closed position shown in Fig. 7. Fig. 9 is a front elevation illustrating the appearance of a book section when collapsed. Figs. 10 and 11 are fragmentary views showing in perspective the ends of the connecting strips. Fig. 12 is a sectional detail taken on the line 12—12, Fig. 5.

Similar numerals refer to similar parts throughout the several views.

In common with ordinary sectional bookcases, my case comprises a base 1, a top 2 and any desired number of book sections 3, the present drawings showing two of the latter. The base and top sections occupy but a small amount of space and hence need not be collapsible, the collapsible features being exhibited in the book sections, 3, 3. The base and top therefore need not be described in detail it being sufficient to state that the top of the base section in its general features is like the top of a book section, and the bottom of the top section in its general features is like the bottom of the book section to enable the parts to be assembled with a universal interchange of book sections.

Each book section comprises a floor 5 secured by hinges 6 to the end walls 7. The floor and end walls are grooved at the rear to receive the back 8. A rabbet molding 10 is secured to each end wall and extends horizontally with its upper edge flush with the upper edge of the wall, as best shown in Fig. 4. Said moldings extend from a point near the front to a point near the rear as clearly shown in plan in Fig. 5. In the preferred form these rabbet moldings are L shape, the depending vertical leg affording stock through which nails may be passed while the under surface of the inwardly extending horizontal leg is engaged by the turn buttons 12. Said buttons are secured by screws 13 or other suitable pivots to cleats 14 secured to the under side

of the floors 5 adjacent to the inner edge of the rabbet moldings. The buttons aforesaid when in acting position prevent one book section from being lifted from the one beneath. As a result the sections may all be securely locked together thus making a single unit of the entire case, a characteristic which will be appreciated by those who have attempted to move or increase or to decrease the number of sections in the ordinary sectional bookcase. By preference the inwardly extending leg of the rabbet molding is beveled in a fore and aft direction with the greatest thickness at the location of the adjacent turn button. This causes the button to engage the molding snugly and obtain rigid interlocking.

The cleats 14 engage the moldings 10 at the side and at the ends they engage the connecting strips 17 and 18 hereinafter mentioned. This is best shown in Fig. 5. Hence the cleats prevent relative movement of the sections in any direction in a horizontal plane while the turn buttons prevent movement in a vertical direction and in consequence the parts are snugly interlocked in all directions when the case is set up.

The front connecting strip 17, the end of which is shown in perspective in Fig. 10, has a horizontal leg 17^a and at the front a depending leg 17^b, the latter forming a finishing strip which adds to the appearance of the case. The end walls are cut back at the point 19 at the front upper edge as shown in Figs. 7 and 8, thus bringing the top of the connecting strip flush with the top of the molding 10 and bringing the front edge of the strip a little less into prominence. Another object in thus cutting back the end walls is to bring the leg 17^b far enough back to contact the door and make dust tight connection therewith when the door is closed as shown in Fig. 8.

The front strip 17 has an aperture 21 at each end which fits over a dowel pin 22 at the cut away portion 19 of the end walls 7, (see Figs. 7 and 8). The front strip therefore assists in holding the end walls in true vertical position when the parts are assembled.

The parts are obviously simple in construction and the pins which form the fastening means are also simple and avoid the use of moving parts.

The back strip 18 above mentioned, the end of which is shown in perspective in Fig. 11, is similar to the front strip 17 in that it is provided at the ends with apertures 25 adapted to fit over the dowel pins 26 located near the back of the end walls 7. The end walls are cut away for the back strip as they are for the front strip and the back strip is rabbeted at the point 18^a (see Fig. 11), in consequence whereof the top surface is flush with the top of the end walls and with the rabbet molding 10. The back strip has a longitudinal groove 18^b on its under side for receiving and holding the upper edge of the back 8. When the parts are assembled the shoulder 18^a abuts the inner sides of the end walls and holds them firmly apart while the pins 26 in the aperture 25 hold the end walls from spreading outward. The parts are thus bound together very securely and the sections are just as rigid for all practical purposes as if they were not collapsible.

The insides of the end walls are provided with panels 30 of equal or slightly greater thickness than the barrels of the hinges 6. These panels are beveled away at their lower ends so as not to prevent the end walls from folding down approximately flat upon the floor of the section when the section is in collapsed condition. One of the useful purposes served by the panels is to space the books away from the hinge barrels which would otherwise catch upon the book covers and mar them and prevent the books from being readily slipped into position if the section were more or less completely filled. In other words, if it were not for the said panels the books adjacent to them would be interfered with by the hinges which would decrease the utility of the case. Said end panels perform another useful function by terminatiing a suitable distance below the lower edge of the rabbet moldings 10, thereby forming grooves or guide channels 32 for receiving the ends of the sliding doors 35. The grooves mentioned are best shown in Figs. 3, 4, 7 and 8.

The doors are preferably made of glass framed in marginal strips in the ordinary manner. Said doors are provided at the upper end of the sides with hook plates 37 adapted to hook over the fulcrum pins 40 projecting inward from the end walls as best shown in Figs. 3, 7 and 8. Said hook plates are no thicker from front to rear than the marginal strips of the door and consequently do not project either to the front or rear of the door. The fulcrum pins are substantially flush with the upper edges of the panels 30 and the parts are so constructed and proportioned that if a door is drawn straight forward from its horizontal or non acting position, the upper edges of the panels will support the door high enough to permit the hook plates to clear the fulcrum pins and thus admit of the door being completely removed from the section. If, however, after the door has been drawn forward part way the front lower edge is tilted down slightly as shown in Fig. 7, the hook plates will engage the fulcrum pins and cause the door to swing down into closed position, as shown in Fig. 3. When the door is in non-acting position it will be supported at the

front by said fulcrum pins and at the back by the upper edge of the panels 30.

It is desirable that the lower marginal strip 42 of the door be inwardly beveled as shown in Fig. 3. This causes it to ride up onto the connecting strip 17 of the section beneath and lift the door up slightly off of the fulcrum pins 40. The weight of the door thus holds the door into close contact with the front strip and effectually excludes dust. The dust is further excluded by the floor 5 which extends above the upper surface of the strip 17 and forms an abutment for the back of the door. Dust is excluded at the top of the door by the depending vertical leg of the front strip 17 of the section of which the door forms a part, the parts being so proportioned that the door when closed will make close contact with the inner face of said depending leg, as shown in Figs. 3 and 8.

From the foregoing it will be obvious that a case of my construction may be readily knocked down and when knocked down will occupy but small compass, thus saving in freight and storage charges. When set up it will be rigid in every direction and furthermore will, by means of the turn buttons 12, be held together as a single unit and may be handled as if it were a single rigid structure. It will be noted that the front and back connecting strips 17 and 18 are, with the exception of the door, the only separable parts of the book section, all the remaining parts being permanently fastened in place and hence avoiding the danger of being lost. Another advantageous characteristic of my case is that when set up it bears no evidence of being collapsible when viewed from the outside with the minor exception that one of the leaves of each of the hinges is visible on the inside of the case if a section is empty. The turn buttons 12 are in each instance hidden by the floor of the section above and the dowel pins 22, 26 are covered in each instance by the section above.

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

1. In a knock down sectional bookcase, book sections each having a floor, walls hinged thereto provided with upwardly extending dowel pins near the front and back, connecting strips at the front and back adapted to fit over said pins, the parts being rabbeted whereby the top of the strips comes flush with the top of the end walls rabbet moldings secured to the inside of the end walls flush with the top thereof and extending from the front to the back strip, and cleats on the under side of the floor of each section adapted to engage the rabbet moldings, the floor of the section above being adapted to rest upon said strips and molding to thereby hold the parts assembled.

2. In a knock down sectional bookcase, book sections each having a floor, end walls, front and back connecting strips detachably attached to the walls for holding the same in upright position, a horizontal molding secured to the inside of each end wall at the top thereof, and cleats secured to the under side of the floor of each section parallel to the end walls and each adapted to contact both the molding and the front and back strips of the section beneath for preventing relative movement of two book sections horizontally in any direction.

3. In a knock down sectional bookcase, book sections each having a floor, end walls, detachable means for holding the end walls in upright position, a horizontal molding strip secured to the inside of each end wall at the top thereof, cleat strips secured to the under side of each floor in position to engage the molding strips for preventing relative lateral movement of two superimposed sections, and turn buttons mounted on one of said strips and adapted to engage the adjacent strip for locking one book section to the one beneath.

4. In a knock down sectional bookcase, book sections each having a floor, end walls, front and back connecting strips detachably attached to the walls for holding the same in upright position, horizontal moldings secured to the inside of the end walls at the top thereof, cleats secured to the under side of the floor of each section parallel to the end walls, and each adapted to contact the molding and the front and back strips of the section beneath and turn buttons rotatably mounted on the under side of said cleats and adapted to engage the under side of said moldings for locking a book section to the one beneath.

5. In a knock down sectional bookcase, book sections each having a floor, end walls, detachable means for holding the end walls in upright position, a horizontal molding secured to the inside of each end wall at the top thereof, cleats secured to the under side of each floor in position to engage the said molding for preventing relative lateral movement of two superimposed sections, and turn buttons mounted upon said cleats and adapted to engage the adjacent moldings for preventing one book section from being lifted from the one beneath, said moldings having a fore and aft bevel such that the molding is thicker at the point adjacent to the turn buttons for causing the turn buttons to snugly engage the moldings.

6. In a knock down sectional bookcase, book sections each having a floor, end walls hinged thereto, detachable means for holding the walls upright, horizontal moldings

secured to the inside of the walls flush with the top thereof, panels on the inside of said walls each having a horizontal upper edge somewhat beneath said molding and thereby forming in conjunction with said molding a guide channel, and doors adapted to slide in said guide channel.

In witness whereof, I have hereunto subscribed my name in the presence of two witnesses.

LOUIS SCHRAM.

Witnesses:
ELLSWORTH F. NORTON,
H. F. SYNDERGAARD.