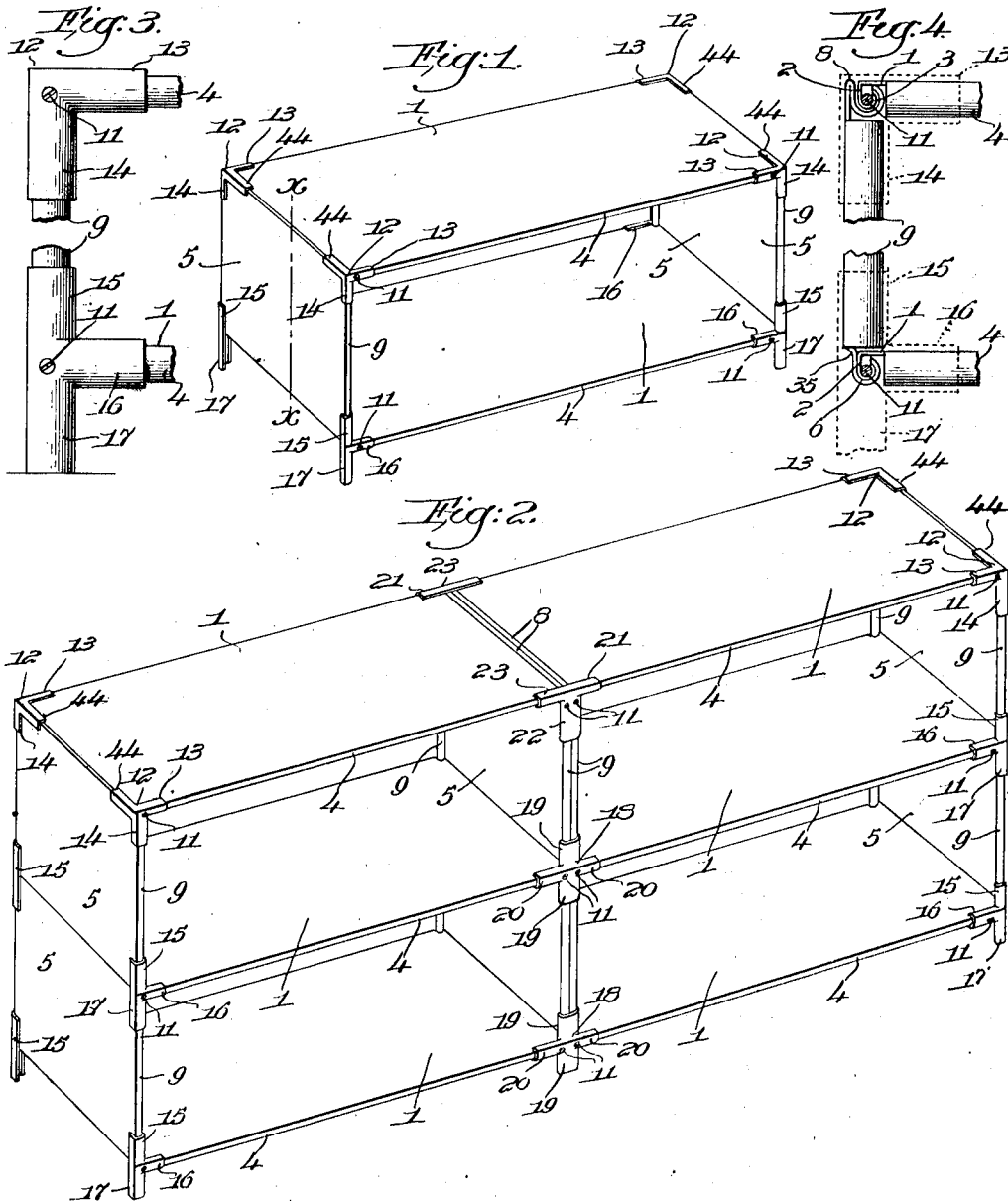


P. L. BRYNING.
SECTIONAL SHELVING.
APPLICATION FILED JULY 22, 1911.

1,040,270.

Patented Oct. 8, 1912.

3 SHEETS—SHEET 1.



Witnesses,
Edward H. Allen.
Warren O'Neil.

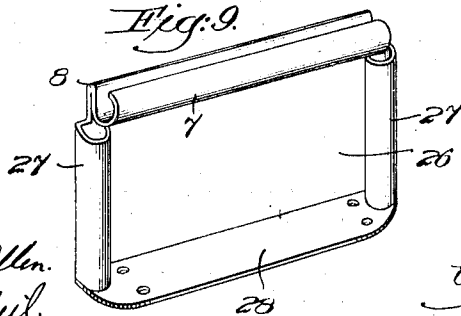
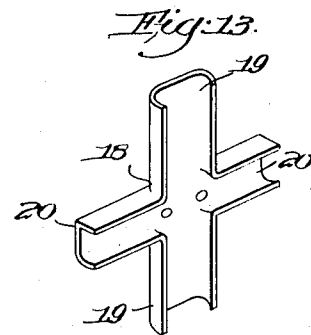
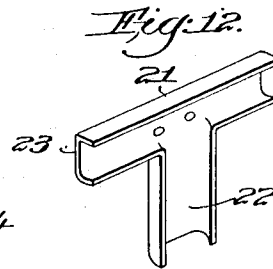
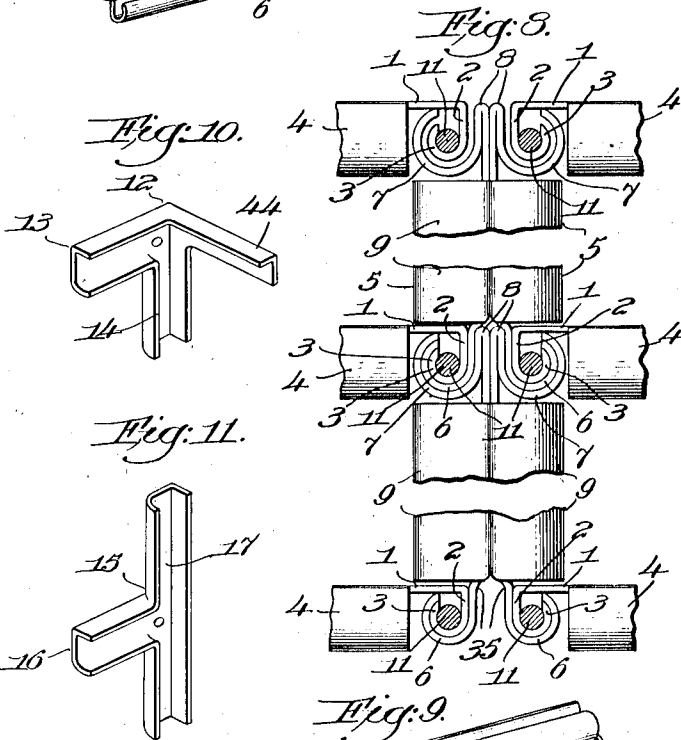
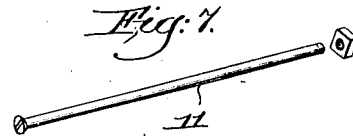
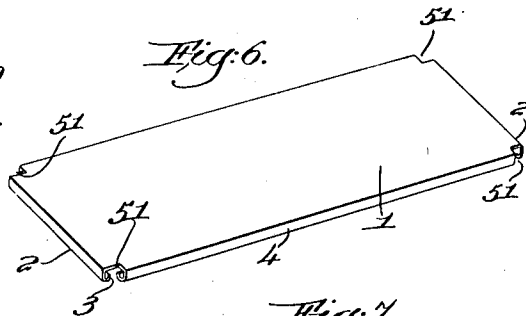
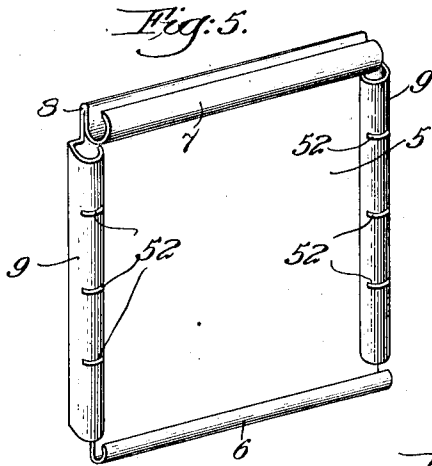
Inwerton,
Percy L. Bryning,
by Edwards Hand & Smith,
Attys.

P. L. BRYNING.
SECTIONAL SHELVING.
APPLICATION FILED JULY 22, 1911.

1,040,270.

Patented Oct. 8, 1912.

3 SHEETS-SHEET 2.



Witnesses,
Edward F. Allen.
Walter O. Neil.

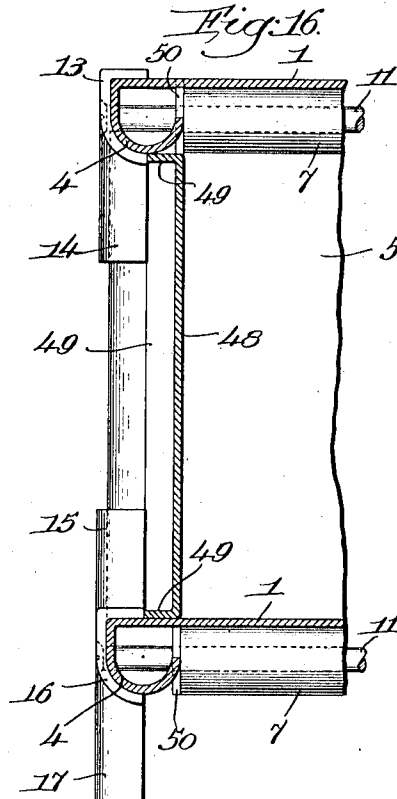
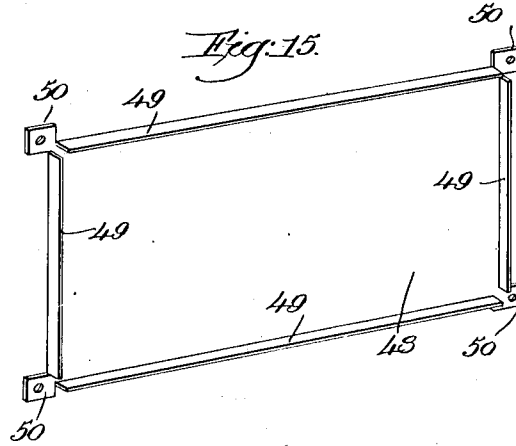
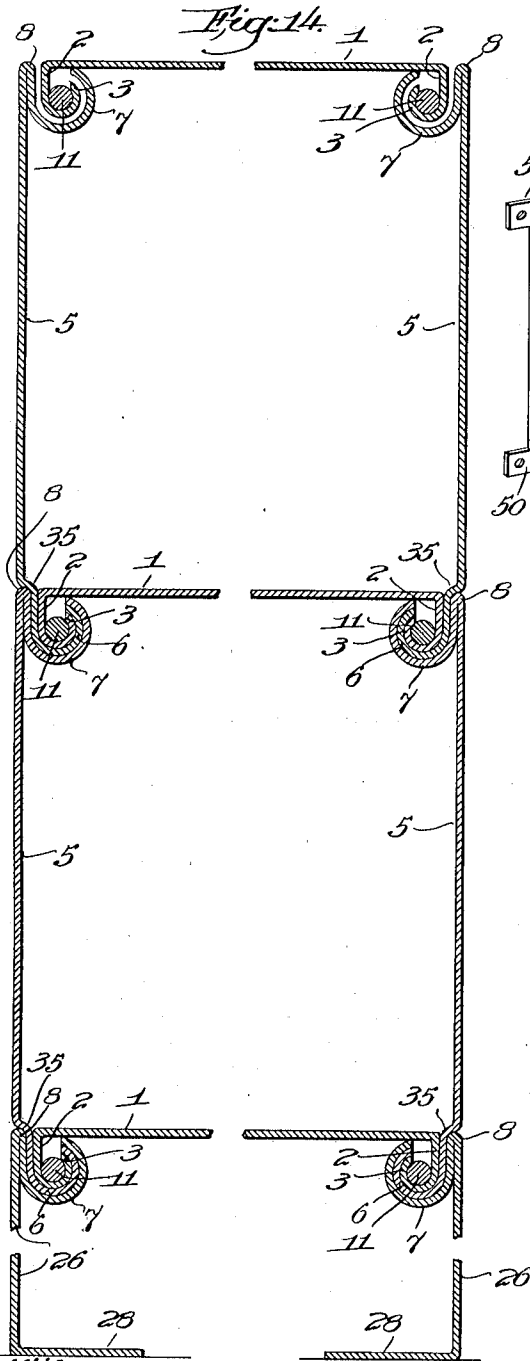
Inventor,
Percy L. Bryning.
by Edwards Hand & Smith,
Attys.

P. L. BRYNING.
SECTIONAL SHELVING.
APPLICATION FILED JULY 22, 1911.

1,040,270.

Patented Oct. 8, 1912.

3 SHEETS—SHEET 3.



Witnesses,
Edward F. Allen.
Nathan O'Neil.

Inwitness
Percy L. Bryning.
by Edmunds, Howard & Smith,
Attys.

UNITED STATES PATENT OFFICE.

PERCY L. BRYNING, OF BROOKLINE, MASSACHUSETTS, ASSIGNOR TO BRYNING SHELF COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

SECTIONAL SHELVING.

1,040,270.

Specification of Letters Patent.

Patented Oct. 8, 1912.

Application filed July 22, 1911. Serial No. 639,898.

To all whom it may concern:

Be it known that I, PERCY L. BRYNING, a citizen of the United States, and resident of Brookline, county of Norfolk, State of Massachusetts, have invented an Improvement in Sectional Shelving, of which the following description, in connection with the accompanying drawing, is a specification, like characters on the drawing representing like parts.

This invention relates to sectional shelving and has for its object to provide a novel shelving construction which is made up of individual units and can therefore be expanded to any desired extent by adding individual units, which can be cheaply and inexpensively manufactured and in which the individual units are so connected together that a stack of shelves made up of a plurality of units constitutes a rigid structure.

Referring to the drawings in which I have shown some embodiments of my invention, Figure 1 is a perspective view of an individual unit; Fig. 2 is a perspective of a plurality of units connected together; Fig. 3 is a fragmentary front view showing some of the corner fastenings; Fig. 4 is an enlarged section on substantially the line $x-x$, Fig. 1; Fig. 5 is a perspective view of one of the sections of the end supports or uprights; Fig. 6 is a perspective view of one of the shelves; Fig. 7 shows the locking rod; Fig. 8 is a vertical sectional view taken through the meeting ends of two shelf units; Fig. 9 is a perspective view of a special foot section; Fig. 10 is a perspective view of one of the corner fastenings; Figs. 11, 12 and 13 are views showing other corner fastenings employed at different places in the shelf construction; Fig. 14 is an enlarged vertical section through a series of superposed shelf units; Fig. 15 is a perspective view of a back section; Fig. 16 is a vertical sectional view showing the back section in place.

My improved shelving is in some respects similar to the shelf shown in my co-pending application Serial No. 621,440, filed April 17, 1911, in that the shelves are provided at each end with a downwardly projecting flange to enter behind a laterally and upwardly directed lip upon the end support or upright and in which means are provided

for locking the flange and the lip together. In my present improvement, however, the end supports or uprights are made in sections so as to permit a plurality of sections to be assembled, thereby to make a stack of shelves of any desired height, and the shelves act as braces between the uprights to hold them in proper position.

In the drawings each shelf section is designated 1, and it may conveniently be made of sheet metal which is stamped or pressed into shape to present at each end thereof the downwardly directed flange 2 that is bent laterally and then upwardly as at 3. The front and rear edges of each shelf will preferably be bent over to form the flanges 4 which may conveniently have a more or less ornamental shape and which not only stiffen the shelves but give a finish to them. The individual sections of the uprights or end supports are designated 5 and they will preferably be constructed as indicated in Fig. 5. Each of these sections is formed at its lower end with the laterally and upwardly directed lip 6 adapted to receive the flange 2 on the shelf end, and at its upper side with the trough-like support 7 adapted to receive the lip 6 on the section next above. This support 7 can be conveniently made by bending the metal back on itself as shown at 8, and then bending said metal laterally and upwardly. The flange or trough-like support 7 is of sufficient diameter and of the proper shape to closely embrace the lip 6 of the section 5 next above. These upright sections 5 may be made skeleton in shape in order to make the structure lighter. The front and rear edges of these upright sections are preferably formed with the curved flanges 9 which are made by bending the metal back on itself, and which not only give an ornamental appearance to the shelf structure when it is completed, but also furnish a beading to be embraced by the corner fastenings to be presently described.

The shelves 1 are locked to the upright sections 5 by means of locking bolts which are adapted to extend longitudinally of the flanges 2 and which also secure the corner fastenings in place.

In assembling the parts a shelf is connected to two upright sections by sliding

the flanges 2 on the shelf longitudinally into the lips 6 on the lower edges of the upright sections, and then other upright sections are superposed on the first sections by sliding the lips 6 of said other sections into the trough-like supports of the first named sections and then sliding a second shelf into the lips 6 of the additional sections, and repeating this process until the shelf structure has been built up to any desired extent. If a single shelf unit is desired, then one upright section only will be used at each end of the shelf and a shelf 1 or a molding may be used at the upper ends of the upright sections.

For rigidly connecting the parts so as to make a rigid structure I propose to use the corner fastenings shown in Figs. 10 to 13. The corner fastening 12 is intended to be used at the upper corner of the shelf structure and it comprises the three legs 13, 14 and 44 situated at right angles to each other, and each leg is parti-cylindrical in cross section. The leg 13 is adapted to fit over the front edge 4 of the shelf, and the leg 14 is adapted to fit over the bead 9 on the upright section and the leg 44 fits over the top edge of the upright section. These corner fastenings will be used at both the front and back of the shelf and they are held in place by a locking bolt 11 which extends through both of them and is embraced by the curved portion 3 of the flange 2. The corner fastening 15 is designed to be used at the end of the shelf whether the shelf structure is made with two or more superimposed units. This corner fastening is a T-shaped fastening having the horizontal leg 16 adapted to embrace the front edge 4 of the shelf and having the vertical leg 17 which overlies both of the superposed upright sections and embraces the edge 9 of both sections. This fastening is also held in place by a locking bolt 11. The corner fastening 18 is a cross shaped affair, and is adapted to be used at intermediate portions of the meeting ends of two adjacent sections where the shelf structure is two or more units high. This corner fastening has the oppositely disposed arms 19 of a size and shape to embrace the two adjacent ribs 9 of the upright sections and the other oppositely disposed arms 20 of a shape to embrace the meeting ends of the shelves 1. This corner fastening is also held in place by a locking bolt 11 as above described. The corner fastening 21 is also T-shaped and is designed for use at the top of the shelf structure where two adjacent units meet end to end. It is provided with the downwardly directed leg 22 to embrace the two ribs 9 on abutting upright sections and with the top member 23 of a shape to embrace the front edges of the meeting ends of two shelves. This corner fastening is also held in place by a locking bolt 11. All

of these corner fastenings are concavo-convex in cross section and they not only fit the edges of the shelf and the ribs 9 of the upright sections and thus rigidly tie the units together, but they also constitute an ornamental finish for the corners and joints of the shelf structure. A shelf structure made in accordance with my invention can be quickly assembled and when assembled is very rigid. It will be noted that in the structure herein shown the corner fastenings on one side of the shelf are tied to the corner fastenings on the opposite side of the shelf and I regard this structure as of importance because by means of it the shelf structure is made rigid and firm.

The shelf structure may be supported on legs or feet of any desired shape. One construction would be that shown in Figs. 1 and 2 wherein corner fastenings 15 are used at the lower corner of the shelves and the legs 17 of these fastenings constitute the legs for the shelf structure. This construction may be employed when the weight to be supported is not very great. Another construction is that shown in Fig. 9 wherein separate supporting elements 26 are provided which are somewhat similar to the upright sections except that they have no lip 6 at their lower edges. Each of these feet or supports 26 is made with the trough-like support 7 at its upper end to receive the lip 6 on the lower section and is bent at its lower edge to form the flange 28 which is adapted to rest on and be fastened to the floor. The front and back edges are formed with beads 27 similar to the beads 9 on the end-support sections 5.

It will be noted that each upright section is made with the offset 35 adjacent the lip 6 which fits and receives the portion 8 of the section next below. Said portion 8 constitutes a rest or seat for the offset portion 35 of the section next above and prevents the upper end of said latter section from swinging outwardly. Any inward swinging movement of the upper ends of the upright sections is prevented by the shelf which acts as a brace or strut to hold the said sections properly spread thereby to bring the offset 35 firmly against the seat 8. I prefer to make the flanges 2 of the shelves with the flat vertical portion at substantially right angles to the shelf body, which portion abuts flatly against the offset portion 35 of the upright section as this construction provides a bearing of considerable extent between the shelf ends and the uprights or end-supports. When the shelves are in place they hold the upper ends of the upright sections properly spread and maintain the offset portion 35 firmly against the seats 8.

I prefer to make both the lips 6 and the flanges 2 so that the edges thereof will be

bent backwardly slightly as this construction will prevent either the shelves or any section from being lifted out of position.

Under some circumstances it is desirable to provide the shelf structure with a back, and to provide for this I have devised a back section which can be used for any unit. This back section is shown at 48 in Fig. 15 and is made from a piece of sheet metal cut and bent or pressed so as to present the flanges 49 and the wings or ears 50 at the corners. This back is of a size so that the flanges 49 thereon fit in the space between any shelf and the edge 4 of the shelf next above, and between the beads 9 of the two upright sections, with the wings or ears 50 occupying the cut out corners 51 of the shelves. Said ears are provided with perforations through which the tie or locking bolts 11 pass. The edges of the corner fastenings engage the flanges 49 and together with the bolts 11 serve to rigidly hold the back in place. These back sections may be used or not as desired.

The construction herein shown is one which can be readily made from sheet metal, but my invention is not limited to the use of any particular material and it would be within my invention to make the structure either entirely or partly from sheet metal.

It is sometimes desirable to be able to introduce extra shelves between the regular shelves 1 and to provide for this I propose to make the beads or ribs 9 of the upright sections 5 with slots 52 into which extra shelves may be slipped. The construction herein shown is such that it is possible to build up the uprights to any desired height without setting the shelves in place for the corner fastenings will hold the upright sections in vertical alinement, and by fastening the sections 26 to the floor the uprights will be properly spaced. The tops of the uprights may be connected by a molding or other member, thus making a skeleton frame adapted to receive shelves as desired.

My improvement may be embodied in show cases, counters, racks, shelving, wardrobes, and other fixtures, and I do not wish to limit it to any particular use.

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

1. In sectional shelving, the combination with a shelf section having at each end a downwardly directed flange, of upright sections each having at its lower edge a laterally and upwardly directed lip to receive the flange of the shelf, and at its upper edge a trough-like rest to receive the lip of the section next above.

2. In sectional shelving, the combination with a plurality of shelf sections each having at each end a downwardly directed flange, of a plurality of superposed upright

sections, each upright section having at its lower edge a laterally and upwardly directed lip to receive the flange of a shelf, and at its upper edge a trough-like rest to receive the lip of the section next above.

3. In sectional shelving, the combination with a plurality of shelf sections each having at each end a downwardly directed flange, of a plurality of superposed upright sections, each upright section having at its lower edge a laterally and upwardly directed lip to receive the flange of a shelf, and at its upper edge a trough-like rest to receive the lip of the section next above, and corner fastenings embracing the edges of the shelf and of the upright sections where the shelf and sections meet.

4. In sectional shelving, the combination with a plurality of shelf sections each having at each end a downwardly directed flange, of a plurality of superposed upright sections, each upright section having at its lower edge a laterally and upwardly directed lip to receive the flange of a shelf, and at its upper edge a trough-like rest to receive the lip of the section next above, corner fastenings embracing the edges of the shelf and of the upright sections where the shelf and sections meet, and locking rods extending transversely of the shelf and connected to the corner fastenings.

5. In sectional shelving the combination with a shelf section having at each end a downwardly extending flange provided with a laterally and upwardly directed portion, of a plurality of upright sections each having at its lower edge a laterally and upwardly directed lip, the edge of which is bent inwardly, which lip is adapted to receive the flange of the shelf, each upright section having at its upper edge a trough-like rest to receive the lip of the section next above, the inwardly directed edge of the lip preventing vertical movement of the shelf while permitting the shelf to be removed by drawing it outwardly.

6. In sectional shelving the combination with a shelf section having at each end a downwardly extending flange provided with a laterally and upwardly directed portion, of a plurality of upright sections each having at its lower edge a laterally and upwardly directed lip, the edge of which is bent inwardly, which lip is adapted to receive the flange of the shelf, each upright section having at its upper edge a trough-like rest to receive the lip of the section next above, the inwardly directed edge of the lip preventing vertical movement of the shelf while permitting the shelf to be removed by drawing it outwardly, corner fastenings embracing the edges of the shelf and of the upright sections, and locking rods extending transversely of the shelf and along the side of said flanges.

7. In sectional shelving the combination of upright sections each having at its lower end a laterally extending lip and an offset portion adjacent the lip, and at its upper end a seat for the offset portion of the section next above and a trough-like rest or support, of a shelf having at each end a flange to engage the offset portion of said upright section next above and to enter the lip thereof.

8. In sectional shelving the combination with uprights each made in sections connected together by a joint which limits the outward swinging movement of one section relative to the section next below while permitting inward swinging movement of said first-named section, of shelves sustained by said uprights and preventing such inward swinging movement.

9. In sectional shelving, the combination with uprights, each composed of superposed sections connected together by joints which limit the outward swinging movement of one section relative to the section next below while permitting inward swinging movement of said first-named section, of shelves setting between said upright sections and holding them spread apart thereby preventing said inward swinging movement.

10. In sectional shelving, the combination with a plurality of units, each comprising two upright sections and a shelf section, said units being arranged end to end, of corner fastenings, each having a portion to embrace the edges of the uprights at the meeting ends of the units and a portion to embrace the edges of the shelves at their adjacent ends.

11. A shelf structure having uprights, a shelf, corner fastenings at both sides of the shelf, each fastening having a portion to embrace the edge of the upright and a portion to embrace the edge of the shelf, and means tying the corner fastenings on one side of the structure to those on the other side thereof.

12. A shelf structure having uprights, a shelf, corner fastenings at both sides of the shelf at each end thereof, each fastening shaped to embrace and fit the edge of the upright and the edge of the shelf, and means tying the fastenings on one side of the shelf to those on the opposite side thereof.

13. In sectional shelving, the combination

with a pair of uprights, each made of superposed separable sections, of shelves, corner fastenings at each end of each shelf on both sides thereof, each corner fastening being shaped to embrace and fit the edge of the upright and the edge of a shelf, and means tying each fastening on one side of the shelf to the corresponding fastening on the opposite side of the shelf whereby the structure is made stiff and rigid.

14. In sectional shelving, the combination with a plurality of units, each comprising two uprights and a shelf sustained thereby, said units being arranged end to end, of corner fastenings on opposite sides of the shelf, each having a portion to embrace the edges of the shelf section at their adjacent ends and a portion to engage the meeting edges of the uprights, and means to tie the corner fastenings on one side of the shelf to those on the other side thereof whereby said corner fastenings not only give rigidity to each unit, but also tie the meeting ends of adjacent units together.

15. In sectional shelving, the combination with uprights, of shelves supported thereby and corner fastenings having a portion to embrace the edge of the shelf and the corresponding edge of the upright, and means connecting said shelf and upright which prevents upward movement of the shelf relative to the upright, said means also securing the corner fastening to the shelf and upright.

16. In sectional shelving, the combination with uprights, each having a laterally-extending lip, of shelves provided with downwardly-extending flanges to rest on said lips, corner fastenings embracing the edges of the shelves and the edges of the uprights and covering the joints where the shelf sections meet, and tie rods extending transversely of the shelves and connecting together the corner fastenings on opposite sides thereof and also tying the shelves to the uprights to prevent upward movement of the shelf relative to the upright.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

PERCY L. BRYNING.

Witnesses:

LOUIS C. SMITH,
THOMAS J. DRUMMOND.