

No. 753,678.

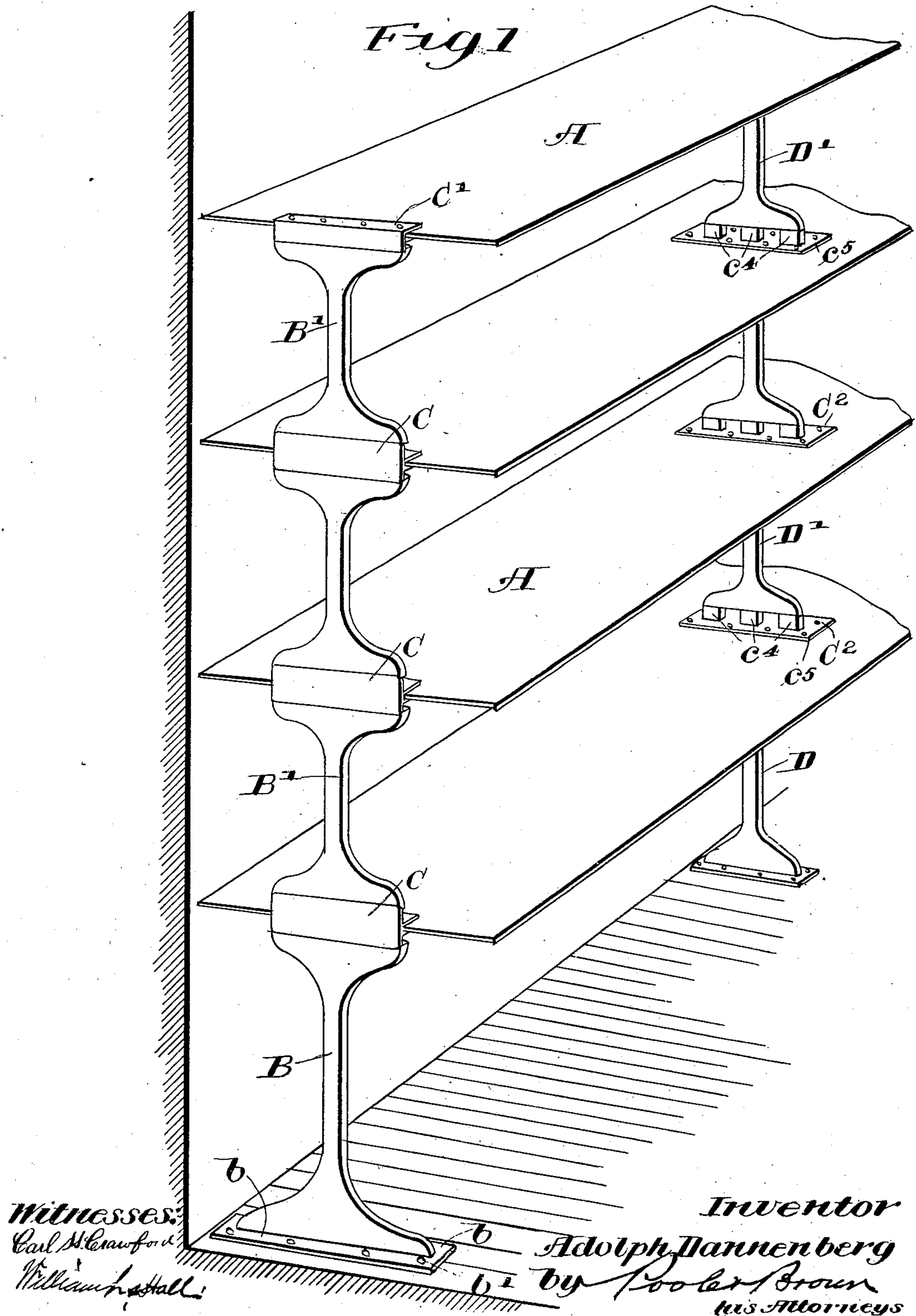
PATENTED MAR. 1, 1904.

A. DANNENBERG.
KNOCKDOWN EXPANSIBLE SHELF STRUCTURE.

APPLICATION FILED MAY 1, 1903.

NO MODEL.

3 SHEETS—SHEET 1.



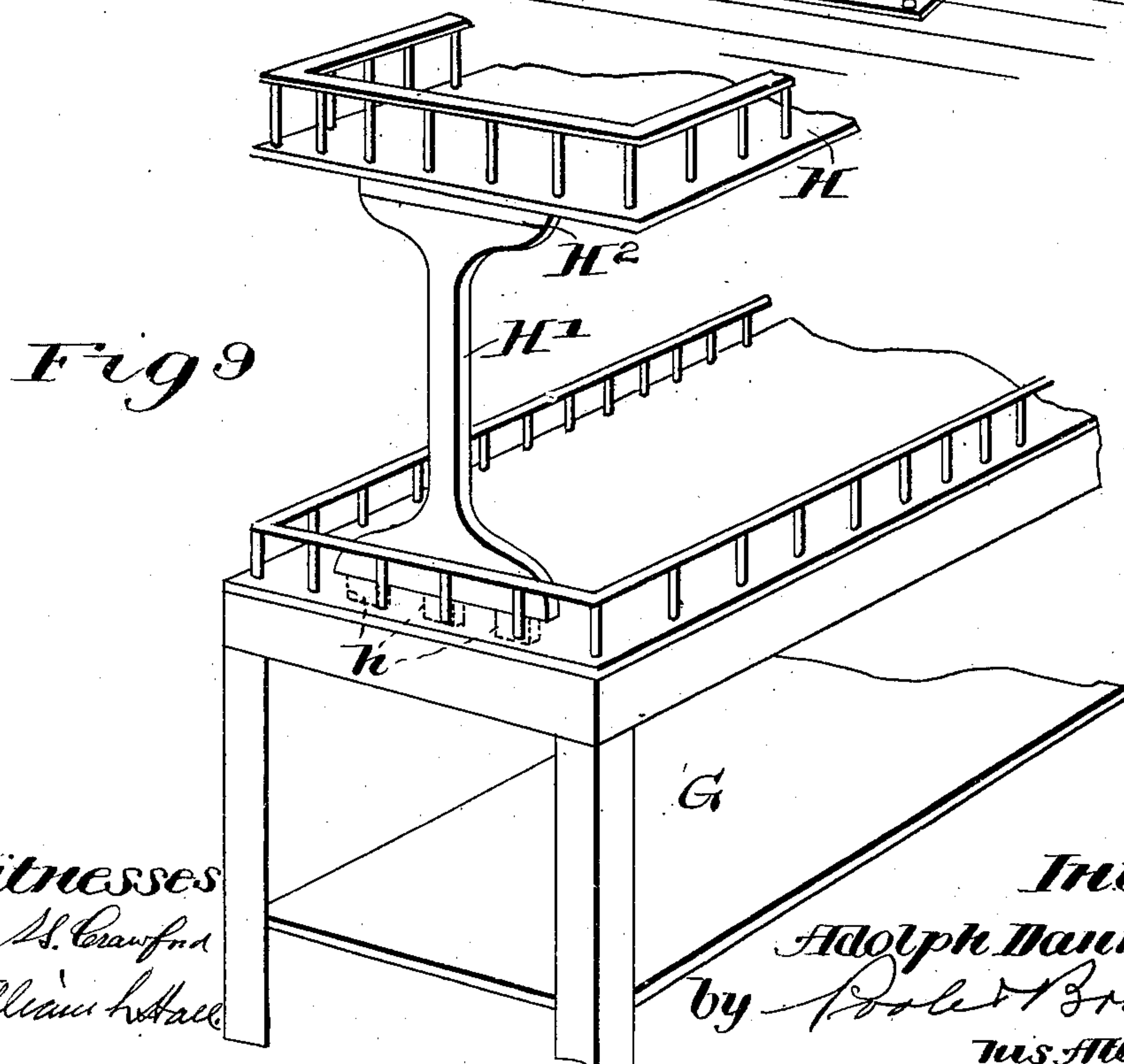
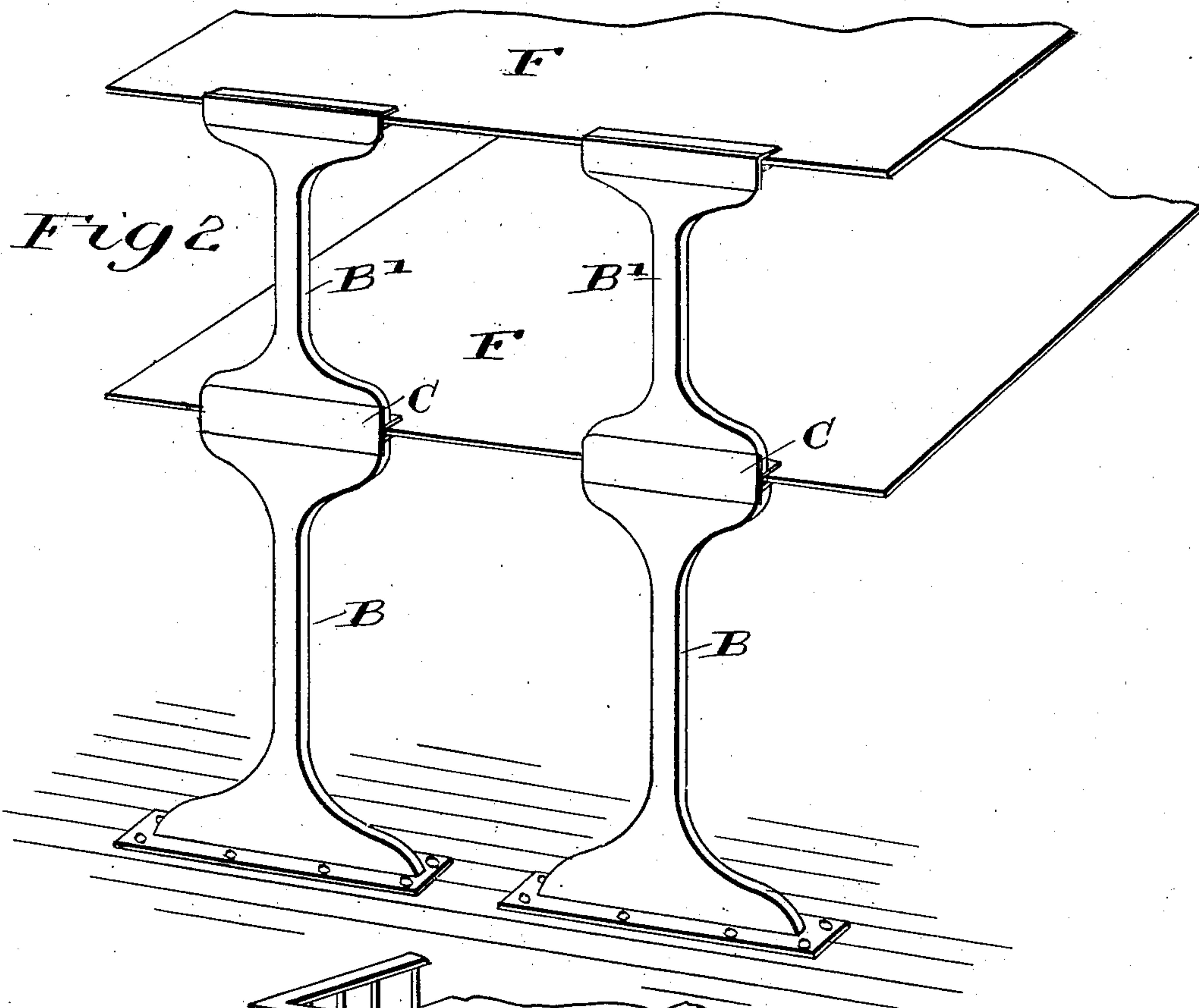
No. 753,678.

PATENTED MAR. 1, 1904.

A. DANNENBERG.
KNOCKDOWN EXPANSIBLE SHELF STRUCTURE.
APPLICATION FILED MAY 1, 1903.

NO MODEL.

3 SHEETS—SHEET 2.



Witnesses
C. M. Crawford
William H. Hall

Inventor:
Adolph Dannenberg
by Robert Brown
His Attorneys

No. 753,678.

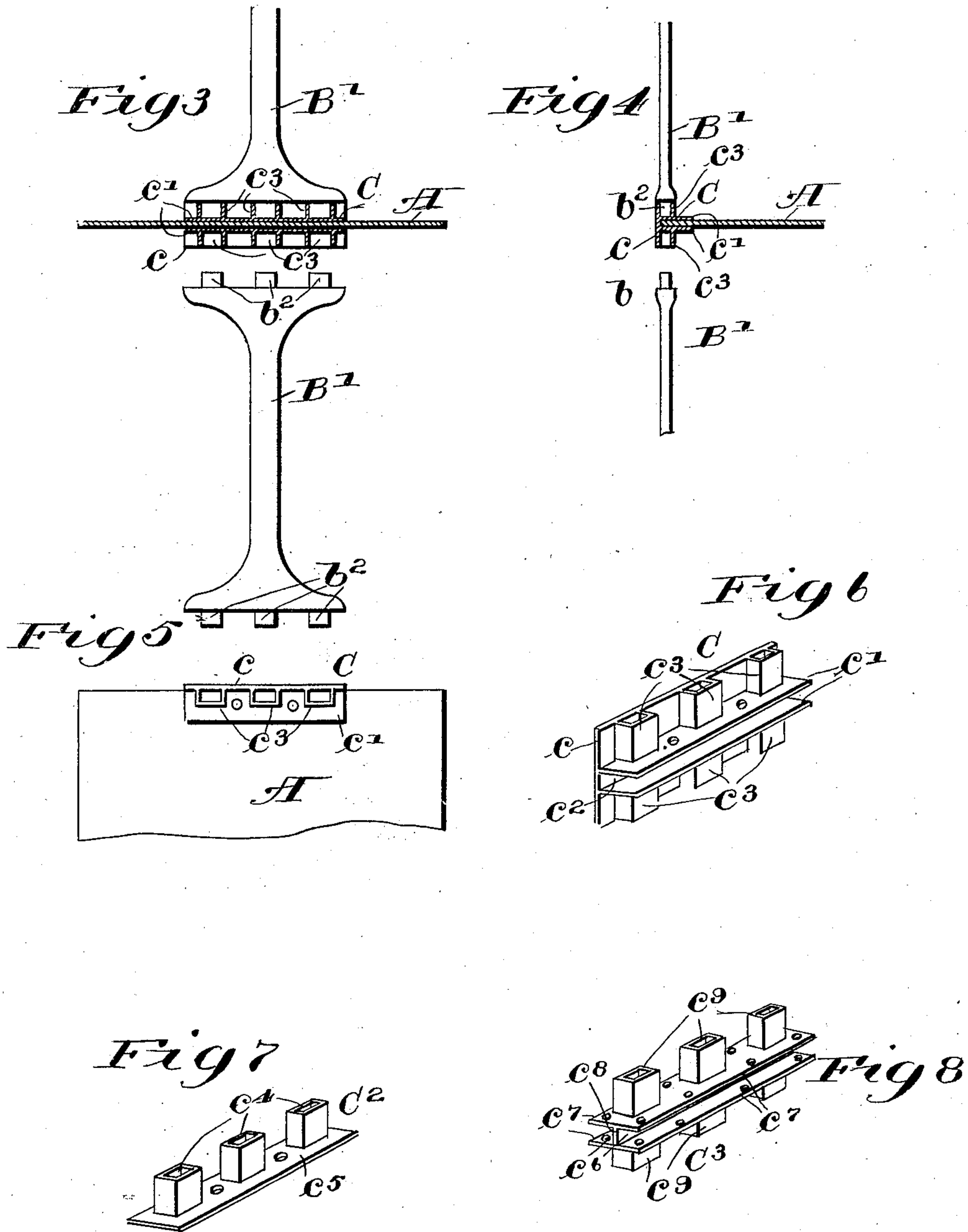
PATENTED MAR. 1, 1904.

A. DANNENBERG.
KNOCKDOWN EXPANSIBLE SHELF STRUCTURE.

APPLICATION FILED MAY 1, 1903.

NO MODEL.

3 SHEETS—SHEET 3.



Witnesses:-

Carl H. Crawford
William H. Hall

Inventor

Adolph Dannenberg
by Robert Brown
his Attorneys

UNITED STATES PATENT OFFICE.

ADOLPH DANNENBERG, OF CHICAGO, ILLINOIS.

KNOCKDOWN EXPANSIBLE SHELF STRUCTURE.

SPECIFICATION forming part of Letters Patent No. 753,678, dated March 1, 1904.

Application filed May 1, 1903. Serial No. 155,128. (No model.)

To all whom it may concern:

Be it known that I, ADOLPH DANNENBERG, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Knockdown Expansible Shelf Structures; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to a novel knockdown and expansible shelf structure, and has been designed more especially for use in stores and such places to furnish supplemental shelf and table or counter space at times when the store is crowded beyond its usual or permanent shelf or counter capacity.

My invention may be employed in a construction designed to be assembled along the side of the wall of a room and occupy the usual position of permanent shelving, or the supporting-shelves or platform may be made wide enough to answer the purpose of counters or tables.

The construction of the parts and the manner of their assemblage is such that a shelf or table structure may be readily assembled in place or knocked down for the purpose of removal, and the structure may be expanded either vertically or horizontally to the required dimensions or capacity.

Although admirably adapted for supplemental or temporary use, a structure embodying my invention may, when assembled, be employed as a permanent structure.

The invention consists of the matters hereinafter set forth, and more particularly pointed out in the appended claims.

As shown in the drawings, Figure 1 is a perspective view of one end of a shelf structure made in accordance with my invention. Fig. 2 is a similar view of a modified design of the structure, showing the same adapted for table or counter use. Fig. 3 is a detail, partly in section, showing the means for joining the component parts of the construction. Fig. 4 is a vertical section taken in a plane at right angles to that shown in Fig. 3. Fig. 5

is a top plan view of one end of a shelf, showing attached thereto the fitting constituting the connection between the component parts of the structure. Fig. 6 is a perspective view of said fitting. Fig. 7 is a perspective view of a modified form of fitting. Fig. 8 is a perspective view of a further modification of the fitting. Fig. 9 illustrates the manner of employing the invention to support a superstructure or shelf on a table or counter.

First, referring to the construction shown in Fig. 1, A A designate shelves arranged horizontally one over the other, and B B' B' designate end members or standards to which the ends of the shelves A are attached and by which they are supported. The lower end members or standards B are provided with base-flanges *b*, by which they may be attached to the floor, as by means of the screw *b'*. The upper end members or standards B' are supported at their lower ends upon the tops of subjacent standards B or B', as the case may be, and each supports at its upper end one end of one of the shelves A. Said standards may be made of wood or metal and are preferably made of metal. The standards B B' are connected with each other at their ends and with the shelves by means of metal fittings C. (Shown in detail in Figs. 3 to 6, inclusive.) Said fittings each consist of a vertical web *c*, provided with two parallel laterally-projecting vertically-separated flanges *c'* *c'*, formed to provide between the same a groove *c''*, adapted to receive the end margin of one of the shelves A. The upper flanges are apertured to receive screws by which the shelves are attached to the fittings. Formed on said web *c*, above and below said flanges *c'*, are a plurality of upwardly and downwardly opening sockets *c'''*, the walls of said sockets being made integral with said web and flanges. Said sockets *c'''* are adapted to receive tenons *b''* on the adjacent ends of the standards B B', as shown more clearly in Figs. 3 and 4. As herein shown, each standard is provided at its end adjacent to an associated fitting with three of said tenons *b''*, and each fitting is provided with three sockets *c'''* to receive the same.

The fittings C' for connecting the topmost

shelf of the shelf structure with the end standards is made slightly different from the other fittings in that the web or body portion c is terminated at the level of the upper flange c' , as clearly shown in Fig. 1.

In the event of the shelves being overloaded or the distance between the end standards being so great as to cause the shelves to sag I may provide intermediate braces or standards $D D' D^2$, as shown in Fig. 1. The lower intermediate standard D rests on the floor or other support for the shelf structure in the manner of the standard B , and the upper standards D' are provided with tenons like the construction shown in Figs. 3 and 4, adapted to fit in the sockets c^4 of a fitting C^2 , (shown in detail in Fig. 7,) applied to the upper and lower faces of the shelves A . Said sockets are formed integral with the base c^5 , which is apertured to receive screws by which the fitting is attached to the shelf. These fittings C^2 may be applied to the shelves after the shelves are in place, as the shelves may be sprung away from each other sufficiently to let in the braces or standards $D D'$.

In order to extend the shelf structure laterally, I have provided a double fitting C^3 , (shown in Fig. 8,) which is so constructed as to afford on both sides thereof grooves c^6 , which receive the adjacent ends of two shelves arranged end to end in alinement with each other. Said grooves are formed between vertically-separated flanges c^7 , extending laterally from a central short web c^8 . Said fitting is provided on its upper and lower sides with upwardly and downwardly opening sockets c^9 , located above and below the web c^8 transversely centrally of the flanges c^7 and adapted to receive the tenons on the adjacent ends of standards. The fitting C^3 constitutes, therefore, a connection between two standards and two shelves A .

In Fig. 2 I have shown the invention as applied to a knockdown extensible table or counter, the parts of the structure corresponding to the shelves A being made somewhat broader than said previously-mentioned shelves. In said figure $F F$ designate upper and lower horizontal platforms or tables, which are supported at each end by means of two or more standards $B B'$, which are connected with each other and the platforms or tables by means of the fittings C , hereinbefore described. The structure shown in Fig. 2 may be used in a large floor-space away from the wall of the building, and the use of a plurality of standards C at each end thereof renders the same sufficiently stable to prevent the liability of the table tipping or becoming overbalanced.

In Fig. 9 I have shown means for attaching to a counter or table a supercounter or support H . Said table or supercounter H is supported on the table or counter by means of standards H' , made like the standards B' , before described. The tenons h on the lower

end of the standards H' are adapted to fit in sockets herein shown as formed in the table or counter top, though said sockets may, if desired, be formed in a fitting like the fitting shown in Fig. 7. The tenons at the upper ends of said standards are seated in a socketted fitting H^2 , made generally like the fitting C^2 shown in Fig. 7. The construction shown in Fig. 9 is useful for supporting on an ordinary aisle-counter in a store a table or supercounter, such as the table H , at times when an extra display of goods calls for additional counter capacity. The superstructure consisting of the table or platform H and the standard H' may be readily removed when the necessity for their use ceases and the counters G thereafter used in their ordinary manner. The standards B' or H' , before described, may also be used in a manner similar to that shown in Fig. 9 for the purpose of supporting from any other table a platform like the table H . It may be used, for instance, in connection with a dining-table to support above the table proper a platform upon which may be placed or displayed such articles as the superplatform may be designed to receive. In the latter suggested use the standards will be provided at their bases or lower ends with means whereby they may be attached to the table-top without marring the same—as, for instance, by suitable clamping devices adapted to embrace the margin of the table-top.

The knockdown and extensible structure herein shown may be used for a variety of purposes other than those suggested. The structure is capable of being readily extended vertically or laterally to accommodate the same to the space in which it is to be used and may be quickly assembled for use or knocked down for removal. When assembled in the manner described, it is strong and durable and capable of withstanding the usage to which it is adapted. The several standards $B B'$ at each end of the shelf structure constitute a vertically-divided standard, the parts of which are joined to each other and to the shelf member at the intersection of the shelf members with the standards.

I claim as my invention—

1. A knockdown expansible shelf structure comprising a plurality of horizontal shelf members, vertically-divided standards at the ends of the shelf members and fittings joining the parts of the standards end to end at the intersections of the standards and the shelf members and provided with grooves which receive the margins of the shelf members.

2. A knockdown expansible shelf structure comprising a plurality of horizontal shelf members, vertically-divided standards at the ends of the shelf members, the parts of which are provided at their proximate ends with tenons and fittings provided with sockets which receive the tenons of proximate ends of the

standard parts and provided also with grooves which receive the margins of said shelf members.

3. A knockdown expansible shelf structure
5 comprising a plurality of superposed shelf members, those of which are in the same horizontal plane fitting end to end, vertically-divided standards at the ends of the shelf members, the parts of which are provided at their
10 proximate ends with tenons, and fittings provided with sockets adapted to receive the tenons of the proximate ends of said standard parts and provided also with grooves which receive the margins of the shelf members?

15 4. The combination with a shelf or table, of a shelf-like support located thereover, and standards for supporting said shelf-like support from the lower shelf or table, said standards being widened at their upper and lower

ends and each provided at each end with a plurality of tenons and fittings attached to the table and shelf-like support and provided with sockets in which said tenons are removably seated. 20

5. The combination with a standard having 25 widened upper and lower ends and provided at each end with a plurality of tenons, of fittings adapted to be attached to a shelf or the like and provided with a plurality of mortises to receive said tenons. 30

In testimony that I claim the foregoing as my invention I affix my signature, in presence of two witnesses, this 28th day of March, A. D. 1903.

ADOLPH DANNENBERG.

Witnesses:

BERTHA A. PRICE,
CARL H. CRAWFORD.