May 6, 1952 C. H. ROBBINS 2,595,542

KNOCKDOWN PORTABLE SHELF

Filed Oct. 22, 1948 2 SHEETS—SHEET 1

Fig. 1.

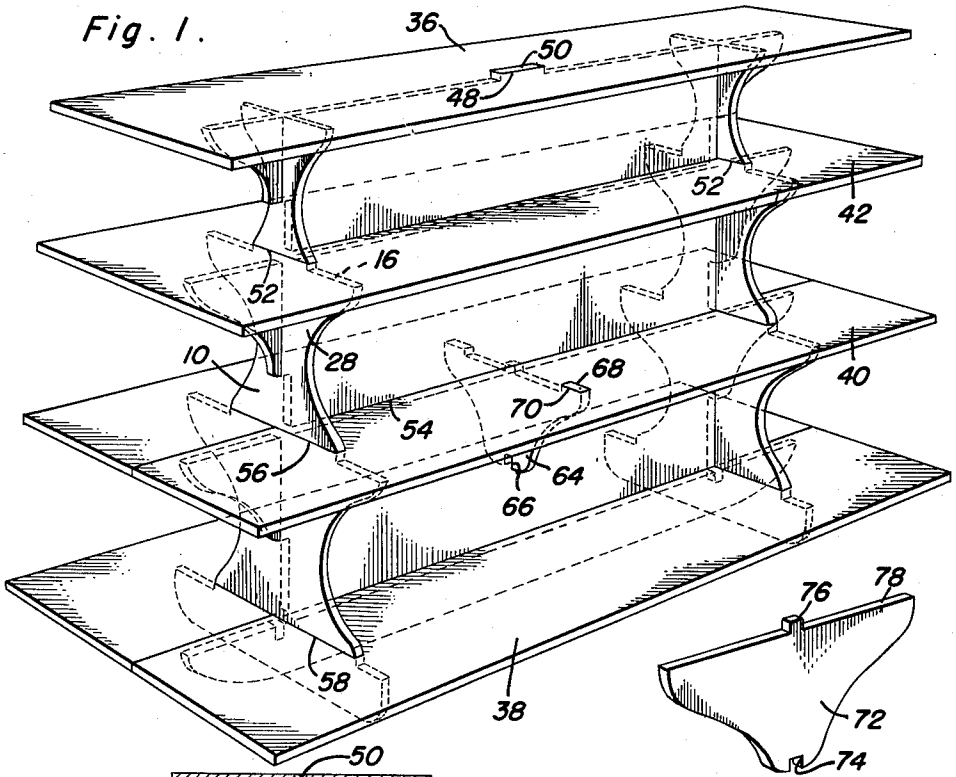


Fig. 5.

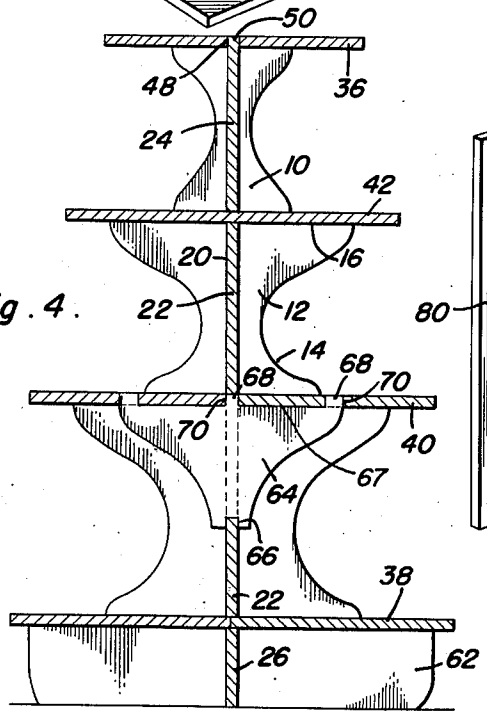


Fig. 4.

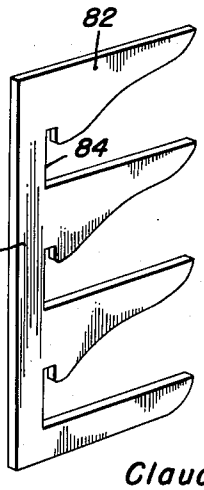


Fig. 6.

Claude H. Robbins
INVENTOR.

BY Clarence A. O'Brien and Harvey B. Jacobson
Attorneys

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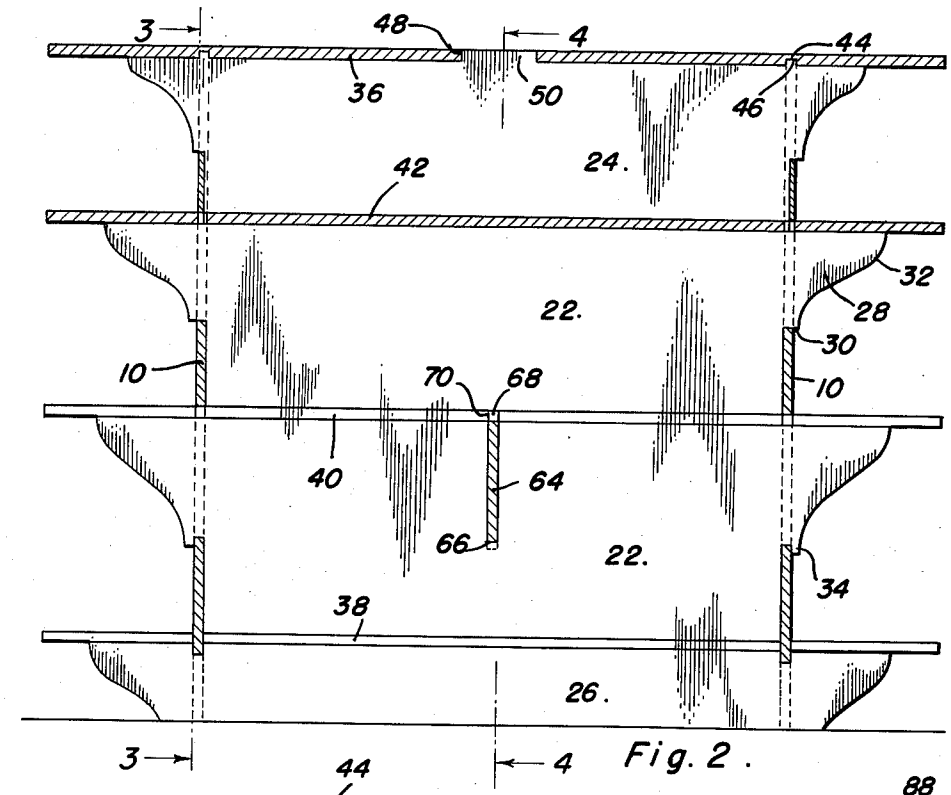


Fig. 2.

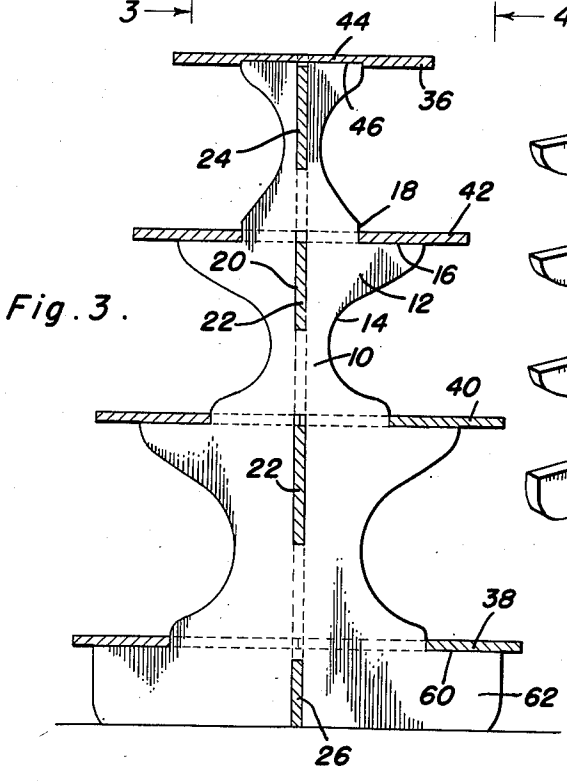


Fig. 3.

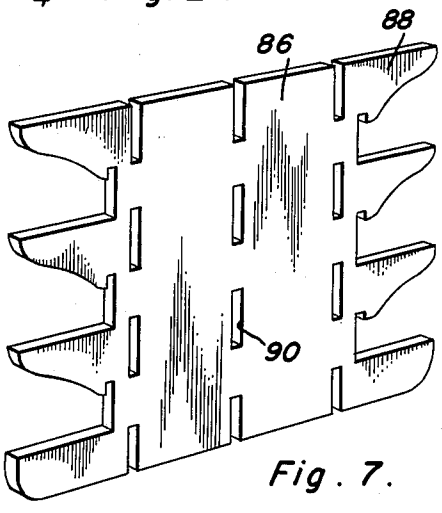


Fig. 7.

Claude H. Robbins
INVENTOR.

BY Clarence A. O'Brien and Harvey B. Jacobson
Attorneys

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KNOCKDOWN PORTABLE SHELF

Claude H. Robbins, Steele, Mo.

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6 Claims. (Cl. 211—148)

1

This invention relates to new and useful improvements in shelves and the primary object of the present invention is to provide a shelf including a plurality of interfitting sections which are quickly and readily assembled or disassembled in a convenient manner.

Another important object of the present invention is to provide a knockdown portable shelf including a plurality of side members and cross members that cooperate to support horizontal article holding panels, and embodying novel and improved means for bracing and supporting the panels relative to the cross members.

A further object of the present invention is to provide a shelf of the aforementioned character that is extremely neat and attractive in appearance and which is pleasing to the eye.

A still further aim of the present invention is to provide a knock down shelf that is simple and practical in construction, strong and reliable in use, small and compact in structure, relatively inexpensive to manufacture, and otherwise well adapted for the purposes for which the same is intended.

Other objects and advantages reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a perspective view of the present invention assembled for use;

Figure 2 is a longitudinal vertical sectional view taken substantially through the center of Figure 1;

Figure 3 is a transverse vertical sectional view taken substantially on the plane of section line 3—3 of Figure 2;

Figure 4 is a transverse vertical sectional view taken substantially on the plane of section line 4—4 of Figure 2;

Figure 5 is a perspective view of the panel support in slightly modified form;

Figure 6 is a perspective view of one of the side members used in conjunction with the present invention in slightly modified form; and,

Figure 7 is a perspective view of one of the side members used in conjunction with the present invention in further modified form.

Referring now to the drawings in detail, wherein for the purpose of illustration, there is disclosed a preferred embodiment of the present invention, the numeral 10 represents a pair of elongated substantially vertical side members of any suitable material each of which is provided with a

2

plurality of pairs of lateral, substantially horizontal projections 12 having arcuate or concaved outer edges 14 and straight upper edges 16 that terminate in vertical edges 18 at the juncture with an adjacent pair of upper projections.

The central vertical portions of the side members 10 are provided with a plurality of vertically spaced slots 20 and the slots provided in one of the side members oppose and cooperate with the slots of the other of said side members in a manner presently to be described.

Extending between the side members 10, is a plurality of cross members 22 including an upper cross member 24 and a lower cross member 26. Each of the cross members are provided with reduced end portions 28 that extend through the slots 20 and which include lower, horizontal edges 30 that bear against the lower edges of the slots 20, and preferably arcuate edges 32.

Each or a selected one of the cross members is provided with depending lugs 34 that project from the edges 30 and bear against the outer faces of the side members 10 to further aid in retaining the cross members in position relative to the side members (see Figure 2).

Also extending between the side members 10 is a plurality of panels including an upper panel 36, a lower panel 38 and intermediate panels 40 and 42.

The upper panel 36 is in one section, bears upon the upper longitudinal edge of the upper cross member 24, and is provided with transverse recesses 44 in its lower face that receive the upper edges 46 of the side members 10. A longitudinal slot 48 is provided in the center of the upper cross member 24 and receives a rib or lug 50 that projects upwardly from the upper longitudinal edge of the cross member 24.

The intermediate panel 42 is also in one section and includes a pair of transverse slots 52 adjacent the ends thereof that receive the side members, by tilting the panel 42, to permit the panel to bear upon the horizontal edges 16 of a pair of projections 12 beneath the panel 36, and the lower face of the panel 42 bears upon the upper longitudinal edge of the cross member directly beneath the cross member 24.

The intermediate panel 40 is in two sections since it would be difficult to provide a slot large enough in a single section to permit the same to pass over the upper projections to its point of support, and further, the strength of a single panel would be effected with such a slot. Each section forming the panel 40 includes an inner longitudinal edge 54, and transverse slots 56 are

provided in the edges 54 of the sections to receive the side members 10 and to permit the longitudinal edges of the said sections to abut each other.

The lower faces of the two sections forming the intermediate panel 40 are supported upon the horizontal edges 16 of the pair of projections 12 immediately below the projections supporting the panel 42.

The lower panel 38 is also composed of two sections, like the panel 40, and for the same reasons as the panel 40. The longitudinal edges of the sections forming the lower panel 38 abut and are provided with transverse slots 58 that receive the side members 10 to permit the lower faces of the sections forming the lower panel 38 to bear upon the horizontal edges 60 of a lower pair of projections 62 that extend from each of the side members 10.

It should be noted, that the inner longitudinal edges of the sections forming the panels 40 and 38 are supported on the upper longitudinal edges of the cross members 22 and 26 respectively.

In order to further support the intermediate panel 40, there is provided an auxiliary and supplemental support 64 having a flat upper edge 67 that bears against the lower faces of the sections forming the panel 40. The lower reduced portion of the support 64 is provided with a notch 66 that receives the upper edge of the cross member 22 and ribs 68 project upwardly from the edge 67 and are received in slots or openings 70 provided in the sections of the panel 40.

Figure 5 illustrates the auxiliary support in slightly modified form, wherein the same is represented by the numeral 72 and includes a notch 74 in its lower reduced portion for receiving the upper edge of a cross member, and a single lug or rib 76 projects from the central portion of the upper edge 78 thereof for engaging openings or slots provided in an intermediate panel.

It is preferred that the vertical dimension of the cross members decrease upwardly, with the exception of the lower cross member 26, and that the projections 12 also decrease in their distance from the central vertical portions of the side members 10. Also, the panels decrease in their horizontal dimension from the lower panel 38, so that the entire article will be tapered inwardly and upwardly to provide stability.

Reference is now directed to Figure 6, wherein there is disclosed one of the side members 80 in slightly modified form. In this embodiment, projections 82 extend from only one longitudinal and vertical edge 84 of the side member. However, cross members and panels are also interfitted with the said side member as previously described.

Figure 7 represents a still further embodiment of a side member 86 in which the lateral projections 88 terminate in substantially vertical planes, and the side member 86 is provided with a plurality of vertical rows of member receiving slots 90.

Obviously, many variations could be incorporated in the present construction to increase or decrease the relative size of the same and the number of panels and side members as well as the particular shape of projections 28.

In view of the foregoing description taken in conjunction with the accompanying drawings it is believed that a clear understanding of the device will be quite apparent to those skilled in this art. A more detailed description is accordingly deemed unnecessary.

It is to be understood, however, that even though there is herein shown and described a preferred embodiment of the invention the same is susceptible to certain changes fully comprehended by the spirit of the invention as herein described and the scope of the appended claims.

Having described the invention, what is claimed as new is:

1. A knockdown portable shelf comprising a pair of elongated spaced parallel side members having upper flat edges, a lower pair of lateral projections on each of said side members having upper horizontal edges, an upper pair of lateral projections on each of said side members having upper horizontal edges, an upper panel supported on the upper edges of said side members, each of said side members having an upper vertical slot through its upper edge, an upper cross member having end portions received in said upper slots and including an upper edge contacting the under side of said upper panel, a rib rising from the upper edge of said upper cross member, said upper panel having an opening receiving said rib, said side members each having an intermediate vertical slot located between the upper and lower lateral projections, an intermediate cross member having ends received in said intermediate slots, an auxiliary panel having transverse slots receiving the side members, said auxiliary panel resting upon the upper edges of said upper projections and the intermediate cross-member, each of said side members having a lower vertical slot, a lower cross member having end portions received in said lower slots and an upper edge flush with the upper edges of said lower projections, a pair of panels having inner abutting edges overlying said lower cross-member, said pair of panels having horizontal slots therein receiving said side members, and an auxiliary support carried by and disposed laterally of said lower cross member and supporting said pair of panels.

2. The combination of claim 1 and ribs rising from said auxiliary support, said pair of panels having openings receiving said ribs on said auxiliary support.

3. The combination of claim 1 wherein said upper panel includes transverse recesses in its under surface receiving the upper edges of said side members.

4. The combination of claim 1 wherein said upper cross member includes a lower edge resting against said auxiliary panel and said intermediate cross-member includes a lower edge contacting said pair of panels.

5. A knockdown portable shelf comprising a pair of spaced parallel vertically disposed side members each having a plurality of vertically spaced and vertically disposed slots therein, a plurality of vertically spaced horizontal cross-members having reduced end portions extending through said slots, said slots including lower horizontal edges and said reduced end portions including lower horizontal edges resting against the lower edges of said slots, each of said cross members including an upper flat horizontal edge, horizontally disposed panels supported on the upper edges of said cross members and having slots therein accommodating said side members, each of said side members including a plurality of horizontal portions supporting said panels, and a support member mounted on and disposed transversely of one of said cross members and engaging and supporting the panel disposed above said one of said cross members.

6. A knockdown portable shelf comprising a

pair of spaced parallel vertically disposed side members each having a plurality of vertically spaced and vertically disposed slots therein, a plurality of vertically spaced horizontal cross-members having reduced end portions extending through said slots, said slots including lower horizontal edges and said reduced end portions including lower horizontal edges resting against the lower edges of said slots, each of said cross members including an upper flat horizontal edge, horizontally disposed panels supported on the upper edges of said cross members and having slots therein accommodating said side members, each of said side members including a plurality of horizontal portions supporting said panels, a support member including a lower tapered end having a notch therein, one of said cross members having an upper edge fitted in said notch, and a plurality of lugs rising from said support member, one of said panels having a plurality of apertures therein accommodating said lugs.

CLAUDE H. ROBBINS.

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