July 17, 1951 J. H. JOHNSON 2,560,957

KNOCKDOWN SHELF STRUCTURE

Filed Dec. 6, 1948

Fig. 1.

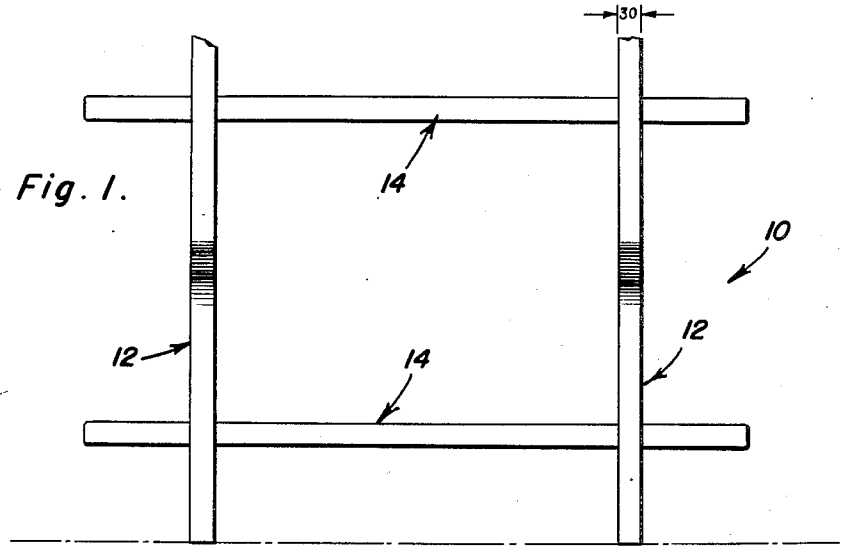


Fig. 2.

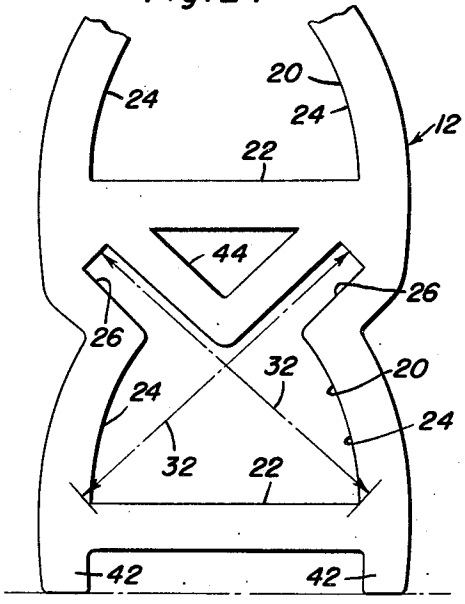
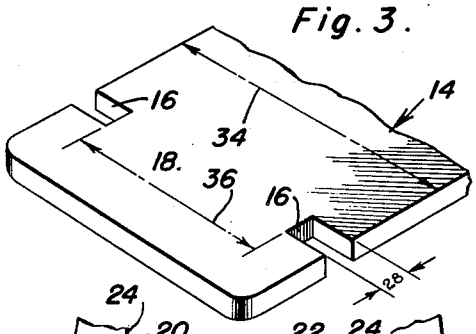


Fig. 3.



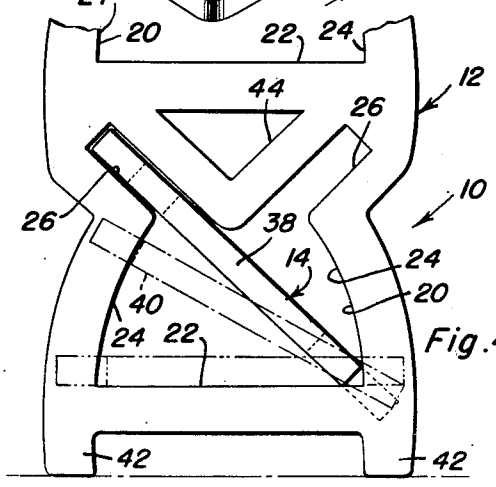


Fig. 4.

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KNOCKDOWN SHELF STRUCTURE

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3 Claims. (Cl. 211—148)

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This invention relates to new and useful improvements and structural refinements in shelves, bookcases or the like, and the principal object of the invention is to provide what may be referred to as a shelf structure, this being of a knockdown character so that it may be conveniently and expeditiously disassembled when not in use, and erected with equal expediency.

This object is achieved by the provision of a shelf structure which embodies two basic components, namely, a vertical end panel and a horizontal shelf panel, an important feature of the invention residing in the provision of means for separably attaching or connecting the two panels together.

Some of the advantages of the invention reside in its simplicity of construction, in its pleasing appearance, and in its adaptability to economical manufacture.

With the above more important objects and features in view and such other objects and features as may become apparent as this specification proceeds, the invention consists essentially of the construction and arrangement of parts as shown in the accompanying drawings in which:

Figure 1 is a front elevational view of the invention;

Figure 2 is an elevational view of one of the end panels used in the invention;

Figure 3 is a fragmentary perspective view of one of the shelf panels used therein; and

Figure 4 is an elevational view, similar to that shown in Figure 2, illustrating the manner in which the self panel shown in Figure 3 is applied to the end panel illustrated in Figure 2.

Like characters of reference are employed to designate like parts in the specification and throughout the several views.

Referring now to the accompanying drawings in detail, the invention consists of what may be called a knockdown shelf structure designated generally by the reference character 10, the same preferably embodying two or more end panels 12 and two or more shelf panels 14.

Inasmuch as the construction of the various end panels and shelf panels is identical, a description of each will suffice for all. Referring first to the shelf panels, each of these simply consist of an elongated board, or the like, provided in the side edges of its end portions with pairs of transversely aligned notches 16 which define therebetween cross sectionally reduced necks 18, as is illustrated in Figure 3.

It should, of course, be understood that the shelf panels 14 are adapted to be disposed horizontally, while the end panels 12 are disposed vertically, as illustrated in Figure 1.

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Each of the end panels 12 is, in turn, formed with a set of vertically aligned openings 20, these again being similar in configuration, so that a description of one will suffice for all.

Each of the openings 20 includes a horizontal bottom edge 22 and a pair of arcuate, upwardly convergent side edges 24, the opening 20 being equipped at the upper end of the side edges 24 with upwardly and laterally directed, slot-like extensions 26, substantially as shown.

It may be explained at this point that the width 28 of the notches 16 is substantially equal to the thickness 30 of the end panels 12 (see Figures 1 and 3), while the oblique distances from the aforementioned bottom edge 22 to the upper ends of the extensions 26 as indicated at 32 in Figure 2, are substantially equal to the full width 34 of the shelf panels 14, as seen in Figure 3.

Moreover, the aforementioned bottom edge 22 is substantially equal to the width of the neck 18 as indicated at 36 in Figure 3, so that when the invention is placed in use, the panels 12, 14 may be assembled by simply inserting an end portion of the shelf panel 14 into the opening 20 in a "cocked" manner as indicated at 38 in Figure 4, wherein one longitudinal edge of the panel 14 contacts the bottom edge 22 while the relatively opposite longitudinal edge of the panel 14 is received in one of the extensions 26.

Thereupon, by simply sliding the panel 14 through the opening 20 to such an extent as to facilitate reception of a portion of the panel 12 at one of the side edges 24 in one of the notches 16 of the panel 14, the latter may be swung downwardly as indicated at 40 in Figure 4 to a position where the tongue 18 is supportably engaged by the bottom edge 22 with the side edge portions of the panel 12 being disposed in the notches 16, as will be clearly apparent.

By virtue of this arrangement the two panels will be firmly and securely held together, but separation thereof will, of course, be facilitated by simply reversing the procedure of assembly as above described.

As is best shown in Figure 1, the end panels 12 are preferably used in pairs and the end panels are preferably provided with two or more of the openings 20 so as to accommodate at least two of the shelf panels 14, whereby appropriate rigidity of the assembled structure is achieved

If desired, the lower end portions of the end panels 12 may be provided with suitable "legs" 42, and intermediate portions of the end panels,

that is, portions between the openings 20, may be formed with "lightening" openings 44 for purposes of ornamentation.

It is believed that the advantages and use of the invention will be clearly apparent from the foregoing disclosure and accordingly, further description thereof at this point is deemed unnecessary.

While in the foregoing there has been shown and described the preferred embodiment of this invention it is to be understood that minor changes in the details of construction, combination and arrangement of parts may be resorted to without departing from the spirit and scope of the invention as claimed.

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

1. In a knockdown shelf structure, the combination of a vertical end panel and a horizontal shelf panel, said shelf panel being formed in side edges thereof with transversely aligned notches defining therebetween a reduced neck, said end panel being provided with an opening having a horizontal bottom edge and upwardly convergent side edges, said bottom edge being substantially equal to the width of said neck, said shelf panel being insertable in said opening, said neck being supportably engageable by said bottom edge, and portions of said end panel at the side edges of said opening being receivable in said notches, whereby said panels may be firmly but separably secured together.

2. The device as defined in claim 1 wherein the opening in said end panel is formed at the upper ends of the side edges thereof with an upward and lateral slot-like extension, an oblique distance from said bottom edge to the upper end of said extension being such as to facilitate reception of the full width of said shelf panel cocked in said opening.

3. In a knockdown shelf structure, the combination of a vertical end panel and a horizontal shelf panel, said shelf panel being formed in the side edges of its end portion with a pair of transversely aligned notches defining therebetween a reduced neck, said end panel being provided with an opening including a horizontal bottom edge and a pair of arcuate and upwardly convergent side edges, said opening being formed at the upper ends of said side edges with upward and lateral slot-like extensions, oblique distances from said bottom edge to the upper ends of said extensions being such as to facilitate reception of the full width of said shelf panel cocked in said opening, said bottom edge being substantially equal to the width of said neck, the notched end portion of said shelf panel being extensible through said opening, said neck being supportably engageable by said bottom edge, and portions of said end panel at the side edges of said opening being receivable in said notches, whereby said panels may be firmly but separably secured together.

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