May 25, 1937. G. PETERSON ET AL 2,081,763

GARMENT RACK

Filed June 20, 1934 2 Sheets-Sheet 1

Fig. 1.

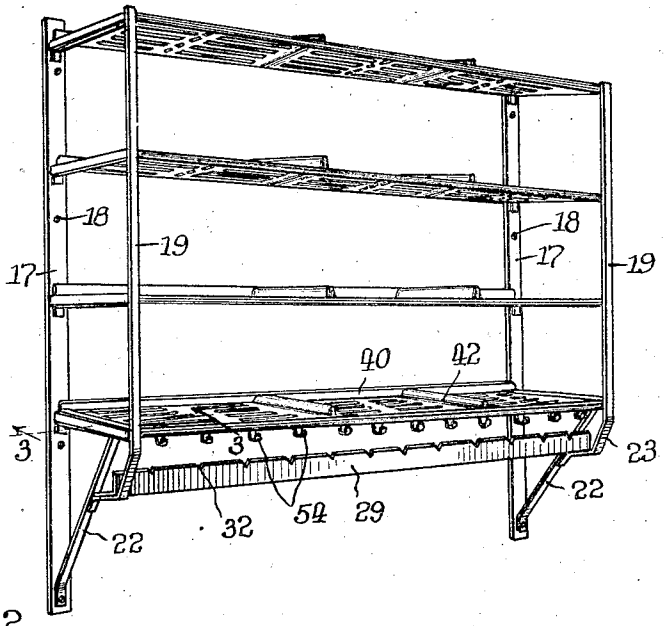


Fig. 2.

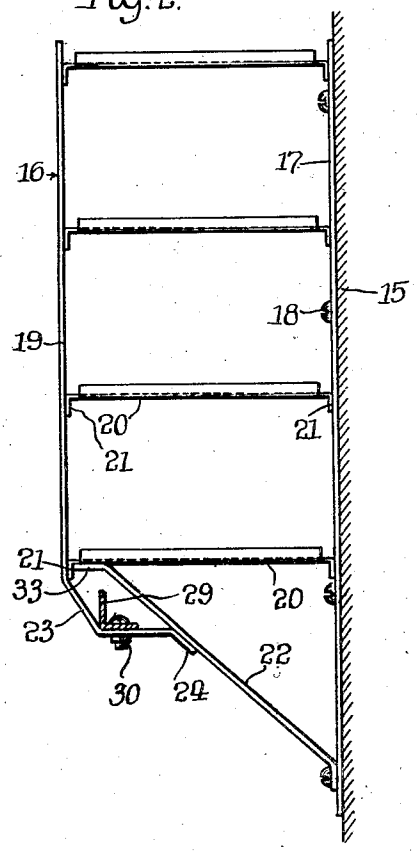


Fig. 10.

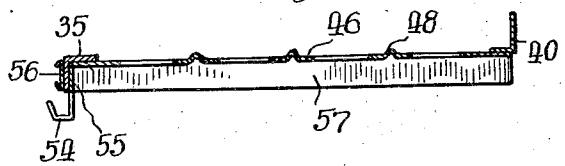


Fig. 3.

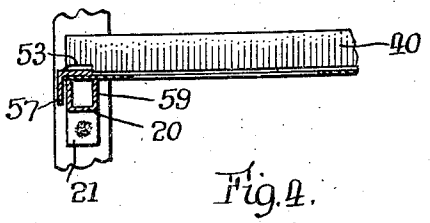
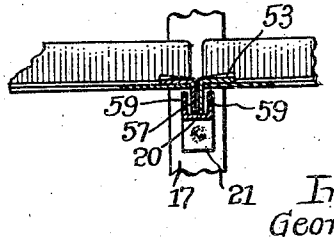


Fig. 4.



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Fig. 5.

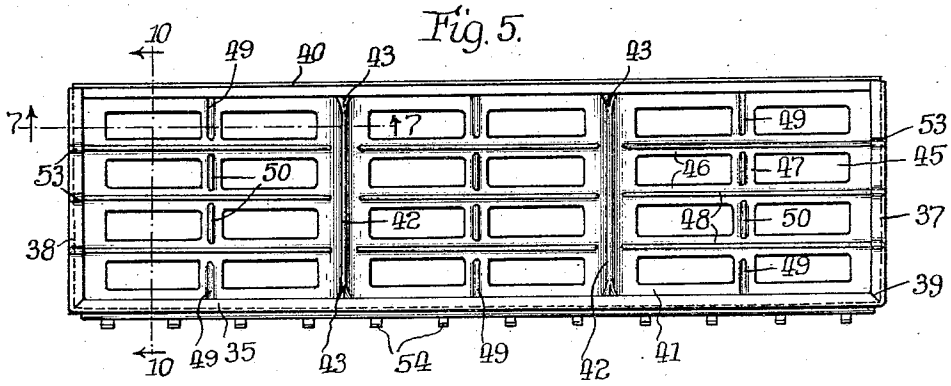


Fig. 6.

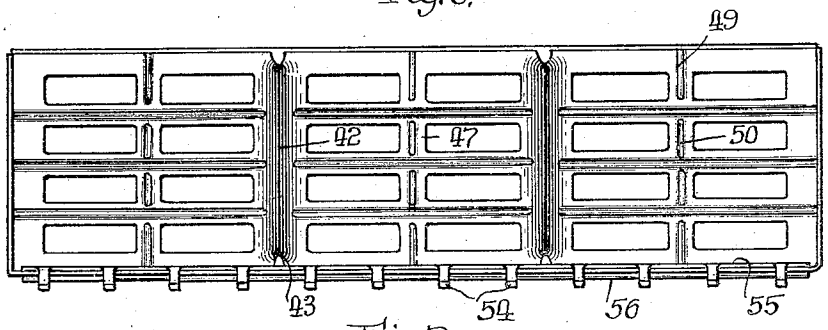


Fig. 7.

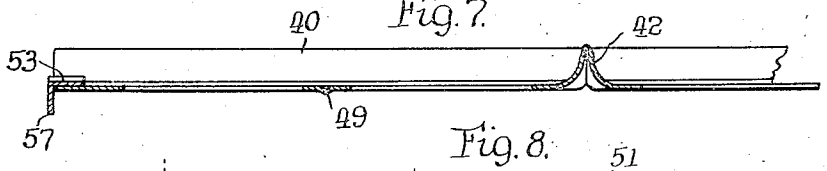


Fig. 8.

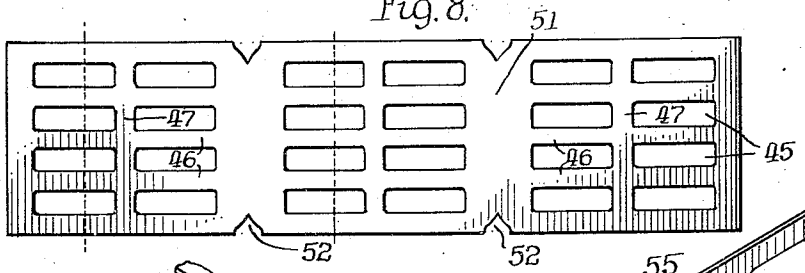


Fig. 9.

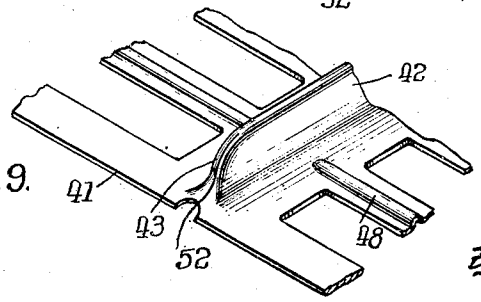
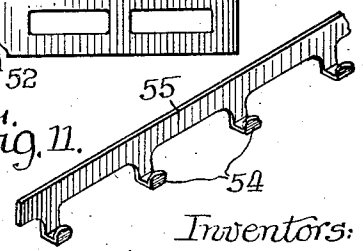


Fig. 11.



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UNITED STATES PATENT OFFICE

2,081,763

GARMENT RACK

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Application June 20, 1934, Serial No. 731,400

17 Claims. (Cl. 211—90)

This invention relates generally to garment racks, and deals more particularly with coat and hat racks that may be attached to a wall or other supporting structure.

The primary object of the present invention is to provide a rack of a simplified and economical character in which the parts are constructed of standardized metallic members, and in which all the parts cooperate to produce a unitary structure in use.

Another object of the invention is to provide a durable garment support, capable of supporting relatively heavy loads, in the construction of which a minimum of materials need be employed, one of the principal material saving devices comprising an improved sheet metal shelf construction.

Another object resides in the provision of a garment rack of this type in which improved means have been devised for supporting a hanger rail.

Another object of the invention is to provide an improved garment support in which the component elements are constructed at the factory into standardized units which may simply and easily be put into place and assembled for use.

Another object of the invention is to provide a garment support of the type described in which factory assembled standardized units are welded into form, and a minimum of screws or bolts are necessary in preparing the device for use.

Other objects and advantages will become apparent from the following detailed description taken in connection with the accompanying drawings, and in which:—

Figure 1 is a perspective view of a preferred embodiment of the device.

Fig. 2 is a side elevation of an improved end support or bracket employed in the device.

Fig. 3 is a fragmentary sectional elevation taken on line 3—3 of Fig. 1, showing one manner in which the shelf ends are supported by the shelf supporting bars of the bracket members.

Fig. 4 is a fragmentary sectional elevation showing a modified manner of supporting the shelf ends.

Fig. 5 is a top plan view of the improved shelf construction.

Fig. 6 is a bottom plan view of the shelf structure.

Fig. 7 is a sectional view taken on line 7—7 of Fig. 5.

Fig. 8 is a plan view on a reduced scale of a sheet metal blank for producing the shelf body.

Fig. 9 is an enlarged fragmentary perspective view showing the construction of a divider rib of the shelf.

Fig. 10 is a transverse sectional elevation through the shelf taken on line 10—10 of Fig. 5.

Fig. 11 is a fragmentary perspective view of the improved one piece hook strip.

The improved combination comprises, essentially, end support members or brackets, one or more shelves supported at their ends by the brackets, a hanger rail supported below the shelving, and means for conveniently supporting identification indicia.

While the device is shown as adapted to be secured to a wall or other suitable support 15, it is to be understood, of course, that many of the features to be described may readily be utilized in other types of racks. The end members or brackets indicated generally by the numeral 16, preferably comprise an attachment bar or what may be termed a rear portion 17, which may be secured to the supporting surface 15 by means of suitable screws or toggle bolts 18, or other fastening devices. The front frame of each bracket may comprise a bar 19 which is preferably somewhat shorter than the attachment bar 17, but the upper end of the bar 19 is positioned substantially opposite the upper end of the bar 17. Shelf supporting bars 20 extend between the frame members 17 and 19 and have angular end flanges 21 which are secured to said members. A bracing bar 22 is secured adjacent the lower end of the member 17 and extends diagonally upwardly toward the lower end of the member 19. The lower end of the frame bar 19 is preferably prolonged somewhat and bent inwardly to form an auxiliary bracket 23, which is securely attached at its end 24 to the bracing member 22.

The end members or shelf supporting brackets 16 are secured in spaced parallel relationship on the supporting surface 15, and a coat hanger rail 29, which may comprise an angle bar or other suitable metallic member, is supported at its ends by the bracket members 23. The rail 29 is preferably detachably secured to the brackets 23 by means of suitable screw bolts 30, whereby the device may be readily disassembled when desired. A series of notches 32 are preferably formed in the rail 29 for receiving the hook portions of coat hangers. It will be apparent from an inspection of Fig. 2, that the weight of garments hung on the hanger rail 29 will all be carried by the bracket members 23. Since these brackets 23 are preferably formed as extensions of the frame bars 19, the force of the weight transmitted by the rail 29 would, if no relief means were employed, all

have to be borne by the framework consisting of bars 19 and 20. However, since the lower end of the frame bar 19, is attached to the bracing member 22 by means of the flange 24, the greatest part of the weight carried by the brackets 23 will be transmitted to said bracing member 22. A rigid connection between the upper end of brace 22 and bar 19 is secured through the preferred form of structure shown, wherein a flange 33 is connected to the underside of the outer end of the lowermost shelf supporting bar 20 in the angle formed by the downturned flange 21 which is secured to the bar 19. Moreover, the flange 33 is preferably located vertically above the hanger rail 29. Thus the end of the brace 22 nearest the bracket 23 extends adjacent to the center of the downward force imposed on the rack by garments supported by said hanger rail.

An important feature of the present invention resides in the provision of an improved shelf structure. Heretofore, various types of shelves have been employed, generally comprising wooden or metal slats secured together in the desired shape. By the present invention, however, there is provided a lightweight, unitary shelf construction particularly suitable for efficiently receiving hats or similar objects. In the preferred form of construction, there is provided a quadrangular frame having a main frame member 35 which preferably comprises an angle strip of suitable length forming one longitudinal side of the framework and having its ends bent angularly to form frame ends 37 and 38. In order to utilize the one angle strip in forming this part of the framework, portions of the horizontal flange of strip 35 are cut out or notched as at 39 adjacent the points where it is desired to bend the strip, so that when the severed edges of the said flange are brought together the desired angularity will be attained. The remaining longitudinal side of the frame preferably comprises an angle strip 40 having one of its flanges extending vertically upwardly and its horizontal flange in end engagement with the frame end strips 37 and 38. In the preferred form of construction connection of the parts is effected by means of spot welding, although other desirable methods of attachment may be employed.

The main or body portion of the shelf preferably comprises a unitary sheet metal structure 41, which, in the preferred form of the invention, consists of a sheet metal plate embossed with suitable stiffening beads or ribs. The sheet is preferably divided into a plurality of individual sections by means of transversely extending division ribs 42, these ribs being formed by pressing the metal of the sheet substantially out of the plane thereof. The ribs 42 are provided with tapered ends 43 which preferably merge into the plane of the sheet and may be pleasingly finished off with a rounded contour as desired.

In order to reduce the weight of the structure and prevent accumulation of dust and dirt on the shelf, a plurality of apertures 45 may be formed in each of the sections of the sheet 41, thus providing longitudinal slats 46 and transverse connecting slats 47. A series of longitudinal raised beads 48 are preferably formed in the slats 46. It has been found desirable to provide discontinuous depressed beads 49 in the slats 47, said beads extending from the sides of the shelf inwardly parallel to ribs 42 but stopping short of the outermost longitudinal beads 46. Transverse raised beads 50 are formed in slats 47 between beads 48. In pressing out the division ribs 42 and beads 48, the metal of the sheet is apparently unevenly stretched and the short beads 49 and 50 serve to take up the slack in the sheet and thereby prevent buckling of the shelf sections into which the sheet 41 is divided by the ribs 42. Beads 49 and 50 likewise improve the strength of the sheet in general by rigidifying the slats 47.

An efficient economical method has been devised for converting a flat sheet metal blank into the described form of the shelf body 41. Fig. 8 shows one form of the blank adapted to provide a three section shelf body in which the apertures 45 are cut to provide the slats 46 and 47. Transverse portions 51 of substantial width, from which the ribs 42 are pressed, are provided at spaced intervals in the blank, and opposed spear-shaped notches or slots 52 opening toward the sides of the blank are cut in opposite ends of the portions 51.

A suitable die, not shown, comprising male and female members for pressing the beads and ribs in the shelf body blank, is set up for operation in a well known manner. This die may be of a size to operate at one closing on a portion of the blank of substantially the size falling between the dotted lines in Fig. 8. Thus, shrinkage of the blank due to forcing the beads and ribs out of the plane of one section thereof does not interfere with the pressing of successive sections. Additional sections of the blank are pressed in like manner as described by opening the die and shifting the blank into the next position. While for illustrative purposes a shelf and blank having three sections has been shown, it will be readily apparent that by the described die pressing method a shelf of as many sections as desired may be constructed with the same pressing equipment. In practice, shelves having up to six sections have been made with one body blank.

In the formation of division ribs 42, the edges of slots 52 are brought into abutment to form a closed joint and thus provide the desired tapered effect best seen in Fig. 9.

Where the shelves are used in a hat rack or other form of device adapted for receiving a number of individual articles, the division ribs 42 serve to divide the shelves into a plurality of individual article receiving sections or compartments, so that there will not be a tendency on the part of the attendant to overlap the respective hats or other articles placed on the shelf. The articles placed on the shelves will rest upon beads 48, which serve to maintain a spaced relationship between the articles and the shelf-face whereby dust or dirt that may accumulate on the slats 46 and 47 will not be picked up by the articles to soil the same. By reason of the apertured and beaded construction free circulation of air is also permitted about the articles on the shelving. The upstanding flange of angle strip 40 along the rear of the shelf serves as a stop to limit rearward movement of articles placed on the shelving.

The body portion 41 of the shelf is preferably secured to the shelf frame members by means of spot welding. As seen in Fig. 10, one longitudinal edge of the sheet 41 is secured to the outer face of the horizontal flange of strip 40, while the remaining edges of the sheet are secured to the inner face of the horizontal flange of the frame angle strip 35, thereby securing a uniform attachment of the body portion to the framework. In order to permit close contact of the ends of sheet 41 and the end frame members 37 and 38, complementary beads 53 are preferably formed in

the horizontal flanges of said members 37 and 38 to receive the ends of the beads 48.

Where the rack is constructed with a number of shelves as shown in Fig. 1, the lowermost shelf may be provided with a plurality of hooks 54 for the purpose of receiving indicia devices commonly utilized for the purpose, such as numbered hat and coat checks. It has been found that a very desirable and economical structure is secured by forming the hooks 54 integrally with a strip 55 (Fig. 11). This strip may then be secured by spot welding or the like to the frame member 35 (Fig. 10).

Each of the shelves may also be provided with a conventional indicia strip 56 secured to the outer face of the frame member 35. This indicia strip 56 serves to receive slidably any suitable form of strip indicia to identify the various compartments corresponding to the indicia devices carried by the hooks 54. As shown, the hanger bar 29 is provided with a number of the notches 32 corresponding to the number of hooks 54 as well as individual shelf compartments in the rack.

The ends of the shelves are carried by the supporting bars 20 of the end brackets 16, and depending flanges 57 on the end frame members 37 and 38 of the shelves may engage over upstanding flanges 59 of said bars. The flanges 59 may be two in number on each bar 20 to form upwardly facing channels, whereby when it is desired to provide greater accommodations than are supplied by a single rack assembly such as shown in Fig. 1, the device may readily be employed in series. As shown in Fig. 4, the end members or brackets 16 may be so positioned that the flanges 57 of adjacent ends of two shelves may be received in the channel formed between the flanges 59 of the support bar 20. Thus, any length wall rack may be provided as desired.

From the foregoing, it will be evident that the present invention provides a simple, durable and efficient construction, which may be fabricated in standardized units at the factory; and in preparing the rack for use it may be readily assembled by unskilled workmen. In assembling the device for use, the brackets 16 are secured by means of the fastening members 18 in spaced parallel relation on the surface 15. The hanger rail 29 is then secured in place on the auxiliary brackets 23; and, finally, the shelves are set in place. The end members or brackets are preferably constructed as a unit by welding the various individual members together, and the hanger rail, which spans between and is supported by said end brackets, serves permanently but detachably to connect the brackets in the assembled structure. The shelves are removably supported by the end members 16 and may be taken down as desired for the purpose of cleaning the same or for any other reason. Where more article-receiving sections or compartments are desired than are provided by any one standard unit assembly, provisions have been made for connecting a plurality of units together without altering the construction of any individual part of the structure.

We will state in conclusion, that while the illustrated embodiment of the invention discloses a preferred form, it is to be understood that the same may be considerably modified in detail without departing from the scope of the appended claims.

We claim as our invention:

1. The combination in a garment support of the character described, spaced end members comprising rear portions adapted for connection in upright position to a support, outer frame members, shelf supporting bars each connected at opposite ends to one of each of said rear portions and outer frame members, bracing means connecting the lower part of said rear portions and said outer frame members, bracket members formed separately from said bracing means and associated with the lower part of said outer frame members, shelving carried by said shelf support bars, and a hanger rail spanning said brackets and connected thereto, said rail forming the only substantially permanent connection between the outer parts of said end members.

2. A wall type rack, comprising end members each having an attachment bar, a frame bar and horizontal shelf supports connecting said bars, the lower ends of said frame bars being deformed to provide inwardly facing brackets; a hanger rail spanning said end members and supported by said brackets; and bracing members attached adjacent the lower ends of said bars, the ends of said brackets being secured to said bracing members, whereby weight imposed on the forward part of the rack and hanger rail will be substantially supported by said bracing members.

3. In a rack of the character described; end members, each comprising a rear portion adapted to be secured to a support for the rack, outer frame means, a shelf bar between said rear portion and outer frame means, the lower end of said outer frame means depending below said shelf bar and being turned inwardly to form a bracket; shelving carried by the shelf bars; and a hanger rail supported at its ends by the depending brackets on said outer frame members.

4. A rack, comprising brackets formed of a metallic framework, bars in spaced relationship on said framework and adapted to support shelving, said bars comprising upwardly opening channels, flanges on the ends of said bars spot welded to the adjacent outer faces of the metallic frame, and shelves supported by said bars, said shelves having depending end flanges adapted to be received in said channels, said channels being of a width sufficient to receive a plurality of adjoining depending shelf flanges.

5. A metallic end member or bracket for a rack, comprising a rear frame element adapted for attachment to a wall or similar support, a front frame element of shorter length than said rear frame element and having its upper part substantially opposite the upper part of said rear frame element, shelf supporting bars between and connected at their ends to the frame elements, said front frame element being deformed at its lower end to provide a bracket, and a bracing member attached adjacent the lower part of said rear frame element and sloping upwardly from the point of attachment, the upper end of said bracing member being operatively connected to the lower part of said front frame element.

6. An end member for a rack of the character described, comprising rear and front frame elements, shelf bars between and connected at their ends to said frame elements, a bracing member connecting the lower ends of said frame elements, and a hanger rail support formed independently of said bracing member but sustained by said front frame element and bracing member.

7. In a shelf construction, a sheet metal body, division ribs pressed from said body and dividing the same into a plurality of sections, the edges of the body at the rib ends being slotted and the

edges of the slots being joined together to taper said rib ends, a plurality of apertures formed in each of said sections to leave intersecting connected slats, stiffening beads pressed in the slats extending laterally of said ribs, and discontinuous transverse beads in the remaining slats.

8. A metallic end member for a rack, including spaced vertical frame elements, a shelf support extending horizontally between said elements, means at the front of the end member including a hanger rail bracket on the front frame element and depending below the plane of said shelf support, and a brace member extending diagonally upwardly from the frame element toward the forward end of said support and being connected to said bracket.

9. A clothing rack comprising, in combination, spaced end members embodying vertical rear uprights and frame bars spaced forwardly of said uprights, horizontal shelf supports connecting said bars and uprights, the lower ends of said frame bars being deformed to provide hanger rail brackets, a hanger rail supported by said brackets, and bracing members extending diagonally upwardly from said uprights and being connected to said frame bars and hanger brackets, thereby reinforcing the rack against weight bearing downwardly on the front thereof.

10. In a clothing rack, a pair of spaced uprights, outer frame members spaced forwardly of said uprights, a plurality of vertically spaced shelf bars connecting said uprights and frame members, shelves carried by said shelf bars, depending brackets carried by said outer frame members below the lowermost shelf bars, a hanger rail supported by said brackets, and means for reenforcing the rack extending from said uprights adjacent to the center of the downward force imposed upon the rack by garments supported by said hanger rail.

11. An end member for a clothing rack, comprising an upright, a front frame element of shorter length than the upright and disposed opposite the upper part of the latter, shelf bars between and connected at their ends to said upright and said frame element, a bracing element connecting the upright with the lower part of said frame element, and a hanger rail bracket on the lower end of said frame element and connected to said bracing element.

12. In a shelf for the purpose described, an elongated one piece sheet metal body part including a plurality of spaced longitudinal apertures dividing the same into connected slats, and ribs extending upwardly from the surface of said slats, whereby an article placed on the shelf will be held out of contact with the slats and permit free air circulation thereabout.

13. In a shelf construction, a frame having fixed longitudinal and transverse dimensions, and a sheet metal body secured to said frame and having a greater total surface area than the area of the plane defined by the frame, said body comprising a sheet metal plate marginally coacting with said frame and having integral ribs projecting from the face thereof and serving to shrink the plate to fit said frame.

14. In a shelf construction, a sheet metal body having a relatively high division rib extending thereacross, the margin of the body in line with one end of said rib having a slot terminating in said one end, and the edges of the body defining said slot being joined to finish said one end and eliminate exposed edges.

15. In a shelf construction for the purpose described, an elongated thin sheet metal body comprising a transverse rib extending upwardly from the plane thereof and dividing the body into a plurality of article-receiving sections, and reinforcing ribs shallower than said transverse rib extending upwardly in said sections and providing spacers to maintain articles placed in said sections spaced from the surfaces of the latter.

16. A wardrobe supporting device including a metallic end frame member comprising, in combination, an upright rear support, a front frame member spaced from said support, a horizontal shelf-supporting bar extending from said support and having a downturned angular flange on its forward end secured to said member, and bracing means comprising a diagonal member secured at its lower end to said support and having its upper end connected to the lower face of said bar and fitting in the angle formed by said flange to maintain said member and bar fixedly in position when heavy loads are imposed upon the front of the device.

17. In combination in a rack, a shelf-supporting frame member comprising a rear upright support, means for supporting a shelf including a forwardly projecting bar secured at its rear end to said support, a bracing element having its lower end in fixed association with said support and extending diagonally upwardly and forwardly therefrom, said element having its upper end secured to the lower face of the front end of said bar, and a hanger rail supporting bracket forming a component of the frame member below the forward ends of said bar and said bracing element, the front and rear ends of said bracket coacting rigidly with the front end of said bar and with said bracing element respectively.

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