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GARMENT RACK

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1 Claim. (Cl. 211-148)

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The present invention relates generally to garment racks and has especial reference to improvements in garment racks of the type permitting disassembly when not in use.

It is a general object of the invention to provide an improved garment rack which while permitting of ready assembly and disassembly without the necessity of screws, bolts or the like yet nevertheless presents when assembled an exceedingly rigid structure capable of being handled without danger of accidental collapse.

Another and more specific object of the invention lies in the provision of novel connecting means facilitating the assembly of the elements of a garment rack of the above character and serving to retain the same in assembled relation.

The objects of the invention thus generally set forth, together with other objects and ancillary advantages, are obtained by the construction and arrangement shown by way of illustration in the accompanying drawings, in which:

Figure 1 is a perspective view of a garment rack embodying the features of the present invention.

Fig. 2 is a side elevation of the rack illustrated in Fig. 1.

Fig. 3 is a fragmentary vertical section taken substantially along the line 3-3 in Fig. 1.

Fig. 4 is a fragmentary longitudinal section taken substantially along the line 4-4 in Fig. 1.

Fig. 5 is a fragmentary plan view of a shelf end and a crossrail to which it is to be connected.

Fig. 6 is a fragmentary sectional view taken substantially in the plane of line 6-6 in Fig. 3.

Fig. 7 is a fragmentary exploded perspective view illustrating the joint between the bottom rail and the lower crossrail of the exemplary rack.

While the invention is susceptible of various modifications and alternative constructions, there is shown in the drawings and will herein be described in detail the preferred embodiment, it is to be understood, however, that it is not thereby intended to limit the invention to the particular form disclosed, but it is intended to cover all modifications and alternative constructions falling within the spirit and scope of the invention as expressed in the appended claim.

Racks of the general class concerned here provide storage space intended primarily for coats and hats and similar articles. When their use is not required, they may be disassembled and stored. One such rack embodying particularly advantageous features is disclosed in the applicants' copending application Serial No. 617,716 filed September 21, 1945, now Patent No. 2,589,269 of March 18, 1952.

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The exemplary rack comprises in general a pair of side frames 10 interconnected at their bottoms by a bottom rail 12 and adjacent their tops by one or more shelves 14. Each of the side frames 10 includes a pair of upright posts 16, a plurality of spaced upper crossrails 17, a bottom crossrail 18 and an intermediate crossrail 19. Each of these crossrails is interconnected with the posts 16. The posts may be of wood or preferably, as illustrated, of sheet metal of relatively light gauge bent into generally channel-shape. The crossrails 17, 18 and 19 are preferably of inverted channel form and have their ends received in the posts 16 where they are secured as by welding.

The bottom rail 12, which may advantageously be of open tubular section similar to that of the posts 16, serves to maintain the lower ends of the side frames 10 in spaced relation. Thus adjacent its ends the bottom rail 12 is provided with downwardly opening notches 20 for coaction with similar but upwardly opening notches 21 formed centrally of the bottom crossrails 18 of the side frames 10 (Fig. 7).

Braces 24 extend across the corners between the bottom rail 12 and the side frames 10 and have appropriate connections thereto. The braces are of channel shape to provide adequate strength. In the present instance, the braces are hinged at 25 to the intermediate crossrails 19, and when the rack is assembled their lower ends fall behind stops 26 rigid with the bottom rail 12. To seat the braces behind the stops 26, the side frames 10 may be tilted outwardly slightly relative to the bottom rail 12, as shown in phantom in Fig. 2, sufficient play being provided in the joint 20, 21 to permit such movement. Thereafter the side frames are moved inwardly until the lower end of the braces seat tightly against the stops 26.

Means are provided to maintain the end frames 10 in a pre-stressed condition against the action of the corner braces 24. In the present instance the shelves 14 are utilized for this purpose and thus are adapted to act under tension to hold the upper ends of the side frames 10 drawn together and to maintain the braces 24 under compression. By such pre-stressing all play is eliminated and a rigid assembly is produced. As shown, each of the shelves 14 comprises a series of transverse members 30 which are also of channel shape held in spaced relation by end pieces 31. The latter have horizontal portions 31a overlying the ends of the members 30 and to which they are rigidly secured as by welding. Preferably, as illustrated in Fig. 3, the end pieces 31 of the

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lower shelf 14 are of generally triangular shape for supporting a garment hanger rail 32 in vertically spaced relation to the members 30. To this end an auxiliary U-shaped member 34 is provided which has its web portion fixed at the apex of each end piece so that the legs thereof extend inwardly. The hanger rail 32 which is of inverted U-shape has its ends slipped over these auxiliary members 34 and fastened thereto as by ordinary bolts 35. The end pieces 31 for the upper shelf 14 may be formed simply of ordinary angle stock.

In carrying out the present invention, novel means, operative as an incident to the movement of separation of the end frames 10, are provided to interlock the elements of the rack so as to prevent collapse thereof. In the present instance, such interconnecting means are interposed between the ends of the tension members (herein the shelves 14) and the side frames 10 and comprise tongue-and-slot connections which are operative both to maintain the aforesaid prestressed condition and also to permit rough handling of the rack and lifting thereof by the shelves without any danger of accidental disengagement. In the exemplary form of the invention, each shelf end is provided with a T-shaped tongue 40 which is adapted to be received in a complementarily shaped slot 41 in the upper crossrails 17 of the side frames 10. Preferably, each shelf is provided with at least two tongues and accordingly each of the upper crossrails 17 has two slots 41 therein. As shown, the longitudinal leg portion 40a of each tongue is rigidly secured adjacent its end to the underside of the horizontal part 31a of the shelf end piece 31, and the tongue cross piece 40b is disposed substantially beyond the vertical portions of the end pieces 31. Similarly, the slots 41 have cross-portions 41a thereof formed in the webs of the crossrails 17 substantially inward from the inner downturned legs of the rails so as to leave portions 42 adapted to partially overlie the tongue portions 40b when the latter are engaged in the slots 41. When thus engaged, the tongue cross pieces 40b of the tongues 40 rest upon the upper surface of a channel-shaped member 17a rigidly secured within the channel-shaped cross rails 17, all as best shown in Fig. 4. Thus with the shelf 14 under tension the portions 42 from limiting abutments or stops which serve to prevent accidental dislocation of the tongues 40 from the slots 41 and interlocking is insured.

The assembly of the instant garment rack will be apparent from the foregoing, however, it may be briefly outlined as follows. With the notches 20 in the bottom rail 12 engaged in the notches 21 in the lower crossrails 18, and the side frames swung outwardly to permit insertion of the lower ends of the corner braces 24 behind their stops 26, the frames are then drawn together thereby tightly seating the braces 24 against the stops 26. Next with the tongues 40 of one of the shelves 14 inserted in the slots 41 of an upper crossrail 17 of one of the side frames 10, the frames are drawn even closer toward each other until the tongues 40 enter the slots 41 of the corresponding upper crossrails 17 of the other side frame. The drawing together of the side frames pre-

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stresses the assembly so that upon release, the shelf 14 remains under tension with the cross pieces 40b of the tongues 40 disposed beneath the crossrail stops 42. It will be evident, therefore, that the rack can be lifted by any of its component members, and more particularly by the shelves 14, without danger of collapse of the rack.

We claim:

10 A knock-down garment rack comprising, in combination, a pair of end frames each having a pair of vertical bars with cross bars at the upper and lower ends thereof, a bottom rail having detachable connections at its opposite ends with the lower cross bars of said end frames engage- 15 able as an incident to downward movement of the rail relative to said cross bars, diagonal compression braces interposed between said end frames and said bottom rail, an upper rigid tension member, and detachable connections joining the opposite ends of said member with the upper cross bars of the end frames to hold the end frames drawn together in normal positions with said braces under compression and acting on the bottom rail to maintain the connection between 20 the ends of said rail and the end frames against disengagement, said end frames being capable of resilient yielding when drawn together beyond their normal positions for connection with said upper tension member, the second-mentioned connections including interengaging elements rigid with said upper tension member and said upper cross bars, respectively, and maintained in interlocking relation by the resiliency of said end frames when in their normal positions, one of said elements having a part disposed beneath an overlying portion of the other element when said frames are in their normal positions to prevent accidental movement of said tension mem- 25 ber with respect to said end frames longitudinally of the latter by engagement of said one element with said overlying portion of said other element when the end frames and tension member are in their normal positions, said elements being disengageable upon moving the part of said one element from beneath said overlying portion of said other element as an incident to movement of said end frames closer together than when in their said normal positions.

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