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FOLDING CLOTHES RACK

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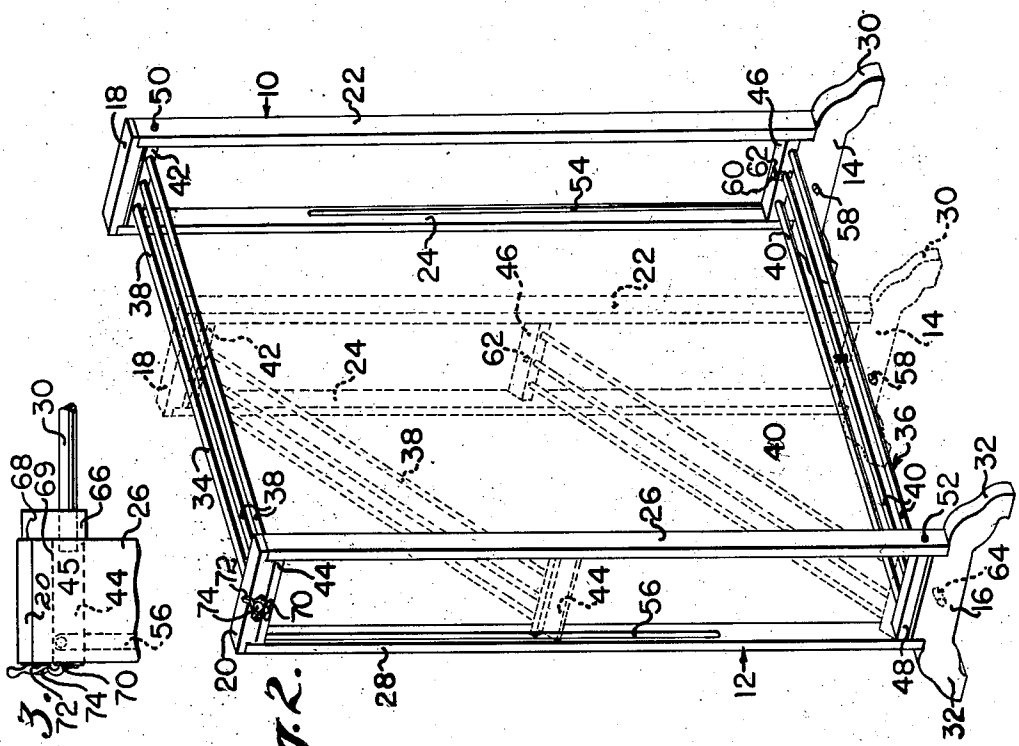


Fig. 3.

Fig. 2.

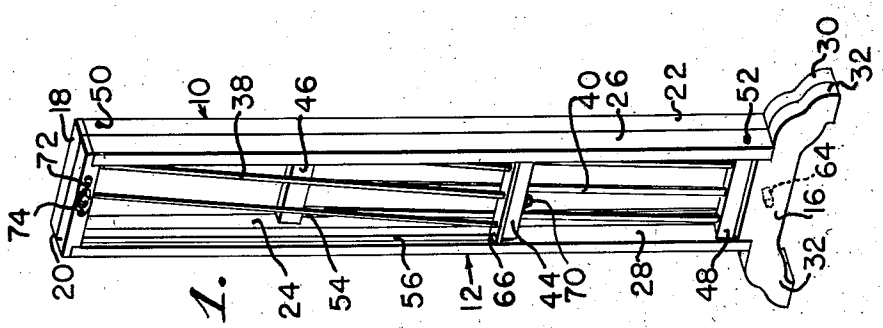


Fig. 1.

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FOLDING CLOTHES RACK

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8 Claims. (Cl. 211—178)

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The present invention relates generally to clothes racks.

More particularly it relates to an improved clothes rack which may be folded when not in use in such manner as to occupy a very small amount of space and which may be extended to form a relatively rigid structure capable of supporting a large amount of clothing on suitable hangers or the like.

Accordingly, the principal object of this invention is to provide a folding clothes rack which will be substantially rigid when in use and which may be collapsed to occupy a minimum of storage space when not in use.

Another object of the invention is to provide a folding clothes rack of the type described having a pair of standards interconnected by a pair of crossbraces, the latter each having one end pivotally mounted in a standard and having their opposite ends slidably mounted in opposite standards so that the structure constitutes a unitary assembly in its closed as well as its extended position.

A further object of the invention is to provide a novel shoulder structure upon one of the crossbraces of such a clothes rack adapted to abut against the top of a standard and cooperate with a cam-acting latch device for imparting additional rigidity to the rack when in its extended position.

An additional object of the invention is to provide a novel locking pin structure for a folding clothes rack for releasably securing the standards thereof together when in collapsed position.

The above as well as other and further objects and advantages of the invention together with a more complete understanding of the precise nature thereof will become more readily apparent from a consideration of the following detailed specification taken in conjunction with the accompanying drawings wherein:

Fig. 1 is a perspective view of a folding clothes rack in accordance with the present invention showing the same in collapsed or storage condition;

Fig. 2 is a perspective view of the clothes rack of Fig. 1 but showing the same in fully extended position in full lines and in partially extended position in dotted lines; and

Fig. 3 is a detail side elevational view to an enlarged scale of the abutting shoulder and cooperating latch mechanism constituting an important part of the present invention.

Referring now in more detail to the drawings, the improved folding clothes rack according to

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the present invention is seen to comprise a pair of substantially vertical standards designated generally by the reference numerals 10 and 12 each of which includes a footpiece, 14 and 16, respectively, a headpiece, 18 and 20 respectively, and a pair of generally parallel side frames 22 and 24, and 26 and 28, respectively. The standards 10 and 12 are preferably constructed of wood although any suitable material may be employed, and the foot and toppieces are secured to their respective side frames in a conventional manner well known to the art. It will be noted that the footpieces 14 and 16 are typically shaped to provide a plurality of legs 30 and 32 which are preferably given a rounded configuration to provide a decorative effect and which constitute the spaced supporting elements for the rack.

Upper and lower crossbraces designated generally by reference numerals 34 and 36 are adapted to extend between the standards 10 and 12 at the top and bottom thereof, respectively, and each of these crossbraces comprises a plurality of generally parallel round rods 38 and 40, respectively, preferably three in number, secured at their opposite ends in blocks 42, 44 and 46, 48, respectively. The block 42 of the upper brace 34 is pivotally mounted as by means of a pivot pin 50 between the side frames 22 and 24 adjacent the toppiece 18. The end block 48 of the lower brace 36 is similarly mounted between the side frames 26 and 28 of the opposite standard 12 as by means of a pivot pin 52 adjacent the footpiece 16. The pivoting of the end blocks 42 and 48 between their associated side frames may be accommodated by spacing the pivot pins 50 and 52 a slight distance away from the toppiece 18 and footpiece 16, respectively, and by slightly rounding the outer edge of each block adjacent to these latter elements. The opposite end blocks 44 and 46 are provided at their end portions with projecting stubs 45 (Fig. 3) which are slidably received within a plurality of elongated vertical slots 54 and 56 formed in the opposed inner faces of the side frames 22, 24 and 26, 28, respectively.

As shown most clearly in Fig. 2 the footpiece 14 of the right-hand standard 10 is provided with a horizontally extending dowel pin 58 projecting from the inner face thereof and with a vertical dowel pin 60 projecting upwardly from the top edge of the footpiece 14. A hole 62 is drilled in the sliding end block 46 of the crossbrace 36 and is adapted to receive the vertical dowel pin 60 when the standards are fully separated to firmly support the crossbrace 36 against lateral or endwise movement. The horizontal dowel pin

58 is adapted to be received within a socket 64 formed in the inner face of the footpiece 16 when the rack is in its fully collapsed position, the dowel pin 58 and socket 64 serving to prevent any relative lateral or vertical movements of the standards 10 and 12 when the latter are fully collapsed.

In order to secure maximum compactness in the closed or collapsed position it is essential that the effective length of standards 10 and 12, that is, the space defined thereby, be appreciably greater than the overall length of each crossbrace assembly so that there will be no interference of adjacent sliding blocks 44, 46. A ratio of approximately four to three for these dimensions is preferred but not critical.

Referring now particularly to Fig. 3 of the drawings, the abutting shoulder and cooperating latch structure which serve to maintain the rigidity of the rack in its extended position are illustrated in detail. The sliding end block 44 of the upper crossbrace 34 is provided at its inner portion with an upstanding shoulder block 66 formed integrally therewith and having a substantially vertical abutting face 68 and a horizontal abutting surface 69 adapted to lie against the inner side and bottom surfaces, respectively, of the toppiece 20 when the crossbrace 34 is in its uppermost position. The latch mechanism for securing the end block 44 to the toppiece 20 is mounted on the outer side faces of these elements and preferably comprises a broad hook member 70 secured to the end block 44 and a cooperating element pivotally mounted on the toppiece 20 and comprising an operating handle 72 and a cam ridge 74 engageable with the hook member 70.

It will be apparent that when the standards 10 and 12 are together as shown in Fig. 1 and held in place by the dowel pin 58 and socket 64, the crossbraces 34 and 36 will occupy substantially vertical positions overlapping in such a manner that the complete clothes rack will occupy a minimum of storage space. When it is desired to use the rack it is only necessary to move the standards 10 and 12 laterally away from each other, the crossbraces 34 and 36 successively occupying the position shown in dotted and full lines in Fig. 2. During the separation of the standards 10 and 12 the end blocks 44 and 46 slide in the slots 56 and 54, respectively, and the end blocks 42 and 48 pivot about the pivot pins 50 and 52, respectively. As the standards 10 and 12 become fully separated the hole 62 in end block 46 slides down over the vertical dowel pin 60 to retain the lower crossbrace 36 in position. The latch mechanism may then be operated by engaging the cam bridge 74 within the hook 70 and rotating the handle 72 to firmly engage the vertical face 68 and horizontal surface 69 of the end block 44 with the toppiece 20 to form a rigid joint between the crossbrace 34 and the standard 12 at this corner of the rack. In this extended position clothing may now be placed on suitable hangers and preferably hung from the center rod 38 of the crossbrace 34. As three rods are employed in the crossbrace, there is relatively little opportunity for warping or other distortion due to the weight of the clothing.

The upper crossbrace 34 serves as a hat and package rack and the lower crossbrace 36 serves as a rack for shoes, rubbers and packages.

While there has been disclosed in detail a preferred form of apparatus embodying this invention, it is to be understood that numerous variations can be made therein without departing from the spirit thereof and the scope of the appended claims.

Having thus described our invention, what we claim as novel and desire to secure by Letters Patent of the United States is:

1. A folding clothes rack comprising a pair of substantially vertical standards movable toward and away from each other and each including spaced foot and toppieces and a pair of generally parallel side frames extending therebetween, each pair of side frames being provided with elongated, vertical slots in their opposed inner faces, upper and lower crossbraces each including a pivoted and a movable end block secured to the opposite ends of a plurality of round rods, said braces having their pivoted end blocks mounted between the side frames adjacent the top and bottom, respectively, of opposite standards, and each brace having its movable end block slidably mounted within the slots of the opposite standard, the movable end block of said upper brace being formed to provide a shoulder adapted to abut against the toppiece of its associated standard, cam-acting latch means for securing together said upper brace movable end block and its associated toppiece, and horizontal and vertical dowel pins on one of said footpieces alternately engageable in holes formed in the other of said footpieces and in the movable end block of said lower brace, respectively, for selectively maintaining said footpieces together or in spaced relation.

2. A folding clothes rack comprising a pair of substantially vertical standards movable toward and away from each other and each including spaced foot and toppieces and a pair of generally parallel side frames extending therebetween, each pair of side frames being provided with elongated, vertical slots in their opposed inner faces, upper and lower crossbraces each including a pivoted and a movable end secured to the opposite ends of a plurality of round rods, said braces having their pivoted end blocks mounted between the side frames adjacent the top and bottom, respectively, of opposite standards, and each brace having its movable end block slidably mounted within the slots of the opposite standard, the movable end block of said upper brace being formed to provide a shoulder adapted to abut against the toppiece of its associated standard, and cam-acting latch means for securing together said upper brace, movable end block and its associated toppiece.

3. A folding clothes rack comprising a pair of substantially vertical standards movable toward and away from each other and each including a pair of generally parallel side frames, each standard being provided with elongated, vertical slots opening into the inner faces of the side frames, upper and lower crossbraces each including a pivoted and a movable end block secured to the opposite ends of a plurality of round rods, said braces having their pivoted end blocks mounted adjacent the top and bottom, respectively, of opposite standards and each brace having its movable end block slidably mounted within the slots of the opposite standard, the movable end block of said upper brace being formed to provide a shoulder adapted to abut against the top of its associated standard, and cam-acting latch means for securing together said upper brace, movable end block and the top of its associated standard.

4. A folding clothes rack comprising a pair of

substantially vertical standards movable toward and away from each other and each including a pair of generally parallel side frames, each standard being provided with elongated, vertical slots opening into the inner faces of the side frames, upper and lower crossbraces, said upper brace having an end pivotally mounted adjacent the top of one of said standards and said lower brace having an end pivotally mounted adjacent the bottom of the other of said standards and both braces having their opposite ends slidably mounted within the slots of the respectively opposite standard, the slidable end of said upper brace being formed to provide a shoulder adapted to abut against the top of its associated standard, and horizontal and vertical dowel pins on the bottom of one of said standards alternately engageable in holes formed in the bottom of the other of said standards and in the movable end of said lower brace.

5. A folding rack comprising a pair of standards, each comprising side frames having vertical slots in the inner faces of said frames and movable toward and away from each other, upper and lower cross braces adapted to extend transversely between said standards, said upper brace having an end pivotally mounted adjacent the top of one of said standards and said lower brace having an end pivotally mounted adjacent the bottom of the other of said standards and both braces having their opposite ends slidably connected to the slots in the respectively opposite standard, the slidable end of said upper brace being formed to provide a shoulder adapted to abut against the top of its associated standard, and means for latching the slidable end of said upper brace to the top of its associated standard.

6. A folding rack comprising a pair of standards, each comprising side frames having vertical slots in the inner faces of said frames and movable toward and away from each other, upper and lower crossbraces extending transversely between said standards, said upper brace having an end pivotally mounted adjacent the top of one of said standards and said lower brace having an end pivotally mounted adjacent the bottom of the other of said standards and both braces having their opposite ends slidably connected to the slots in the respectively opposite standard, and means for latching the slidable end of said upper brace to the top of its associated standard.

7. A folding rack comprising at least two standards each including side frames having vertical slots at the inner faces of said frames and movable toward and away from each other, and upper and lower braces of equal length adapted to extend transversely between said standards, said upper brace having an end pivotally mounted on the upper end portion of one of said standards and said lower brace having an end pivotally mounted on the lower end portion of the other of said standards and both braces having their opposite ends slidably connected to the slots of the respectively opposite standard.

8. A folding rack comprising at least two standards each comprising side frames having vertical slots in the inner faces of said frames and movable toward and away from each other, upper and lower braces extending transversely between said standards, said upper brace having an end pivotally mounted on one of said standards and said lower brace having an end pivotally mounted on the other of said standards and both braces having their opposite ends slidably connected to the slots in the respectively opposite standard, said rack having the length of the braces appreciably less than the effective length of the standards and being constructed and arranged whereby said braces are substantially parallel to said standards when the latter are folded together to form a compact structure and are substantially normal to said standards when the latter are fully separated.

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