

[54] TOOL HOLDER RACK

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248/324

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[58] Field of Search **211/60 T, 66, 118,**
211/65; 248/324

[56] **References Cited**

UNITED STATES PATENTS

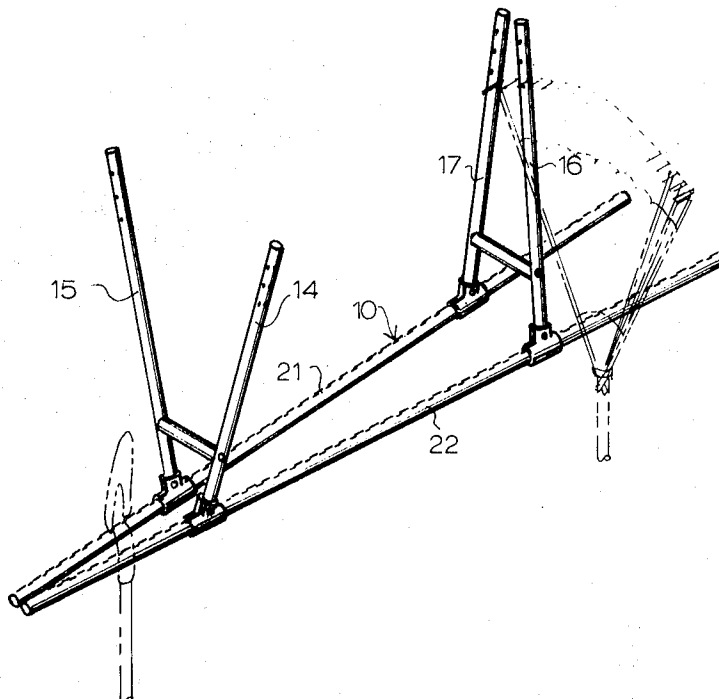
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[57] **ABSTRACT**

A tool hanger rack structure having two pairs of relatively vertical arms spaced from one another with the arms of each pair pivotally separated by a spacer for scissoring action. The top ends of all the arms are attachable to supporting structure. The bottom ends of like arms of each pair are adjustably connected to relatively horizontal tool hanger poles. The lengthwise extension of the poles between and beyond the arms is adjustable to suit the spacing of support members, to vary the lengthwise spacing between the pairs of arms, and to adjust the lengthwise projection of the poles between and beyond the paired arms. The lateral space between the hanger poles is adjustable by scissoring the paired arms against their respective spacers singly or in combination and in like or opposite directions to move the poles laterally closer together and/or farther apart to accommodate tools of various sizes.

1 Claim, 4 Drawing Figures



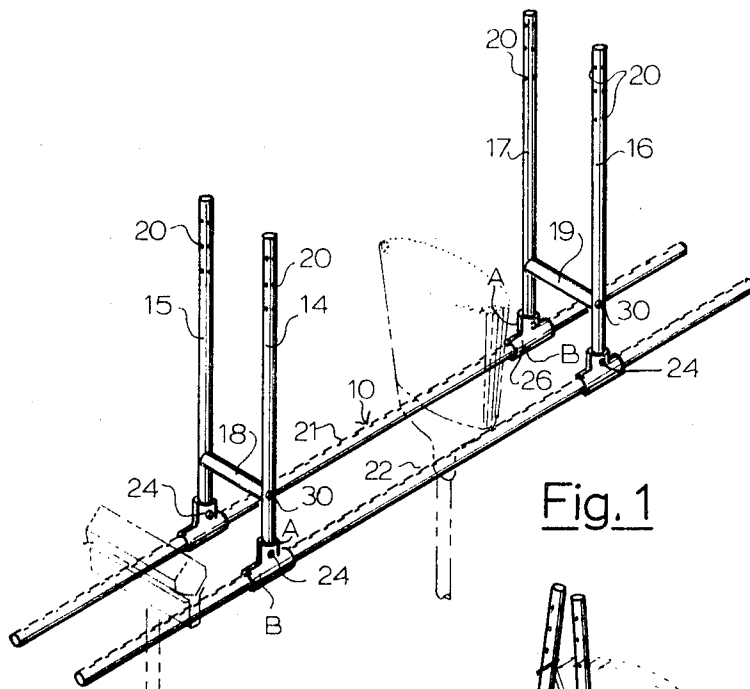


Fig. 1

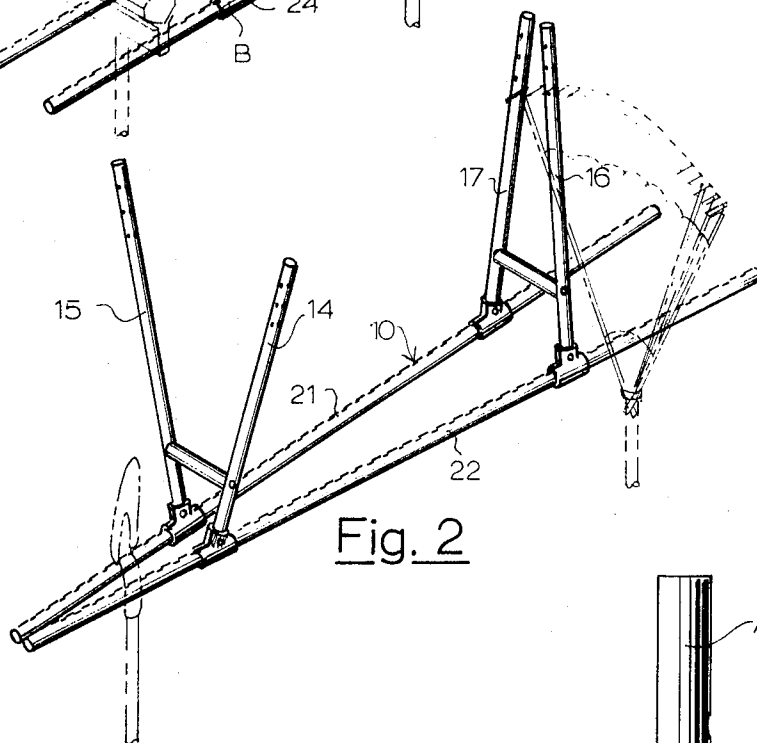


Fig. 2

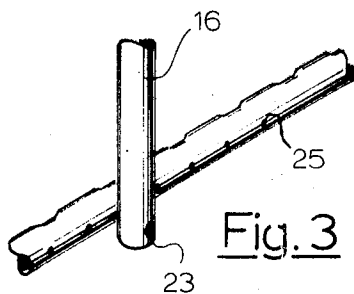


Fig. 3

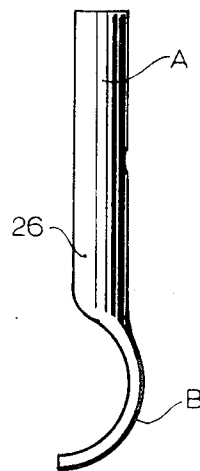


Fig. 4

TOOL HOLDER RACK

This invention relates to tool hanger racks and in particular to an apparatus which is adjustable for mounting and adjustable for holding tools of various size.

An object of the invention is to provide a tool hanger rack which is simple in design and construction having members composed of like parts making it efficient and inexpensive to manufacture and inventory.

An object of the invention is to provide a tool hanger rack which is easily assembled on location so that the buyer can do the assembly without problem.

An object of the invention is to provide a tool hanger rack which is inexpensively packageable in unassembled condition in a relatively small carton to save the cost of assembly and storage space, and to gain reduced shipping charges.

An object of the invention is to use like arms, spacers, poles, and attaching means in multiple so that few basic parts are required.

An object of the invention is to provide a tool hanger rack having adjustability between the arms and the hanger poles so that the arms may be located relative support members, so that the spacing between the pairs of arms may be varied, and so that the projection of the hanger poles between and beyond the arms may be varied to suit the area of mounting and the tools to be hung.

An object of the invention is to provide pivoting movement between the paired arms at the spacer so that, by scissoring the arms at the spacer, the hanger poles may be moved closer together or farther apart to accommodate tools of different size.

An object of the invention is to provide a tool hanger rack wherein one pair of arms may be scissored in either direction to align the poles closer together at one end of the poles and farther apart at the other end of the poles to provide a relatively small difference in spacing between the poles at their opposite ends.

An object of the invention is to provide a tool hanger rack wherein one pair of arms may be scissored to move the poles closer together at one end and the other pair of arms scissored to move the poles farther apart at the other end to provide a relatively large difference in spacing between the poles at their opposite ends.

These and other objects of the invention will become apparent by reference to the following description of a tool hanger rack embodying the invention taken in connection with the accompanying drawing, in which:

FIG. 1 is a top-left oblique perspective view of the tool holder rack showing the arms of each pair of arms relatively parallel to each other and showing a broom and a sponge mop in broken lines hanging thereon.

FIG. 2 is a view similar to FIG. 1 showing the arms of one pair of arms scissored outwardly at their top ends to move the hanger poles closer together at one end of the poles and the arms of the other pair of arms scissored inwardly at their top ends to move the hanger poles farther apart at the other end of the poles and showing a small shovel and a large rake in broken lines.

FIG. 3 is a slightly enlarged partial view of the rack showing a nut and bolt connection between the arms and the poles as an alternate means of attachment; and

FIG. 4 is an edge view of the coupling clamp greatly enlarged.

Referring now to the drawing wherein like numerals refer to like and corresponding parts in the several views, the tool hanger rack 10 disclosed therein to illus-

trate the invention comprises of a pair of arms 14 and 15 and another pair of arms 16 and 17 spaced from one another. The arms 14-17 lie relatively vertical and have top and bottom ends. A spacer 18 lies between the arms 14 and 15 and a spacer 19 lies between the arms 16 and 17. The spacers 18 and 19 are positioned intermediate the top ends and the bottom ends of arms 14-17 and preferably as shown. The top ends of the arms 14-17 have apertures 20 for receiving nails or screws to attach the arms 14-17 on supporting structure such as overhead roof rafters, floor joists, etc. The arms 14-17 depend from the supporting structure.

A tool hanger pole 21 lies horizontally between the bottom ends of like arms of each pair of arms such as the arms 15 and 17. Another tool hanger pole 22 lies between the bottom ends of the other like arms 14 and 16. The bottom ends of the arms 14-17 each have apertures 23 for receiving a bolt or screw 24 and the poles 21 and 22 have cooperating spaced apertures 25. The screw 24 may be placed in any pole aperture 25, FIG. 3, to vary the distance between the arms 14-15 and the arms 16-17 and/or the extension or projection of the poles 21 and 22 outwardly beyond the arms 14-17. Another manner of adjustably interconnecting the arms is by the clamp fittings 26, FIGS. 1, 2, and 4, which have a bottom portion B overlapping the poles 21-22 and a top portion A overlapping the bottom ends of the arms 14-17. The screw or bolt 24 secures a pair of oppositely faced clamp-fittings 26 at their A portions on the bottom end of each arm 14-17 with the B portions engaging and clamping the poles 21-22 on opposite sides. The advantage of the clamp fitting 26 is that the poles 21-22 and arms 14-17 may be moved relative to one another by loosening the bolt 24, whereas with the attaching means of FIG. 3, the bolt 24 must be removed and replaced to make the adjustment. The spacers 18 and 19 are secured between the arms 14-15 and 16-17 respectively by a bolt 30 leading through the arms 14-17 and the spacers 18-19. This provides a scissoring pivot point for the arms 14-17. The poles 21 and 22 are preferably serrated as shown on the tops and/or sides for engaging tools thereon to prevent sliding of the tools when they are hung between the poles as illustrated by the tools shown in broken lines, FIGS. 1 and 2.

In manufacturing the hanger rack 10, it will be noted that the poles 21-22, arms 14-17, spacers 18-19 and clamp fitting 26 are duplicate parts so that tooling, drilling, punching and other operations are simplified. Thus the manufacture may make a supply bank of the parts and package them in sets in a carton together with assembly, mounting, and adjustment instructions for the purchaser. The rack thus may be shipped through jobbers, wholesalers, and retailers.

Upon the purchaser bringing the rack 10 in unassembled state to the location of use, he may assemble the rack 10 as desired such as by first securing the spacers 18 and 19 between the arms 14-15 and 16-17 respectively and then bolting the arms 15-17 to the pole 21 and the arms 14-16 to the pole 22 with the bolts 23, FIG. 3 or by attaching the clamp fittings 26 to the bottom end of each arm 14-17 with their B portions in gripping relationship on the poles 21 and 22.

In suspending the rack 10, the user nails through apertures 20 at the top of the arms 14-17 to suitable support members such as joists, rafters, etc. In nailing the top ends of the arms 14-17, the user locates the top

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ends spaced apart to properly space the bottom ends of the arms 14-17 as desired via the scissoring action of the arms 14-17 at the spacers 18-19 to accommodate tools of different size and width. The user may thus give the poles 21 and 22 wide spacing, narrow spacing, or a combination of wide and narrow spacing with the poles close together at one end and far apart at the other end. Also the user may cut off the upper ends of the arms 14-17 as desired to fit the angle of roof rafters and/or shortened head space as in basements. The lengthwise adjustability of the poles 21-22 relative to the arms 14-17 allows the user to space the pairs of arms 14-15 and 16-17 apart as desired to suit the supporting structure and also to adjust the length of projection of the poles 21-22 outwardly beyond the arms 14-17 and the distance of the suspension of the poles 21-22 between the pairs of arms 14-15 and 16-17. This allows the user to put the rack 10 in a corner, for example, where the position and spacing of the supporting structure would not otherwise allow a corner location.

The rack 10 may be made in widely varying sizes such as for small hand tools such as hammers, screw drivers, etc.; for intermediate size tools such as shovels and brooms, etc.; and for large tools such as chain saws, drums, etc.

The protective scope of the invention is defined in the appended claim.

I claim:

1. A rack for hanging tools which is conducive to compact unassembled packaging for manufacture, storage and shipping, easily assembled on location, easily adjustable to the spacing of support members, easily adjustable to the area in which mounted, and easily adjustable as to tool receiving opening and tool support spacing comprising:

a first pair of relatively vertical spaced arms having top ends for attachment to support members and depending bottom ends;

a first spacer lying between said first pair of arms in-

termediate said bottom and top ends; said first spacer and said first pair of arms being pivotally interconnected relative to one another;

a second pair of relatively vertical spaced arms having top ends for attachment to support members and depending bottom ends;

a second spacer lying between said second pair of arms intermediate said bottom and top ends;

said second spacer and said second pair of arms being pivotally interconnected relative to one another;

said first and second pairs of arms lying spaced from one another;

connecting means on said bottom ends of all said arms;

a first relatively horizontal tool hanger pole extending between and beyond said first pair of arms and said second pair of arms and lying adjacent to like arms of said pairs and connected to their said bottom ends by said connecting means, and

a second relatively horizontal tool hanger pole extending between and beyond said first pair of arms and said second pair of arms and lying adjacent to the other like arms of said pairs and connected to their said bottom ends by said connecting means; said poles and said connecting means being interconnectable at various points lengthwise of said poles as desired to position said pairs of arms in alignment with support members, to adjust the spacing between said pairs of arms, and to adjust the extension of said poles lengthwise beyond said pairs of arms;

said spacers and said pairs of arms being pivotally interconnected to facilitate varying the spacing between said poles to accommodate tools of different size by scissoring said arms at their top ends toward and away from each other to move said poles farther apart and closer together, singly and in like and opposite direction combination to locate said poles spaced relative to one another as desired.

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