July 10, 1951 V. E. MEINKE 2,560,466

COLLAPSIBLE RACK

Filed March 16, 1950

FIG. 1

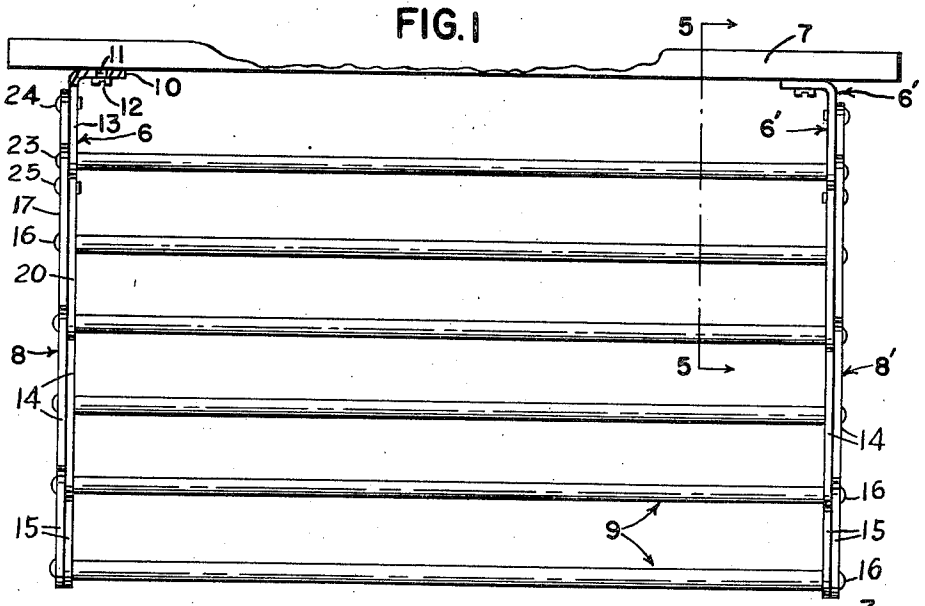


FIG. 2

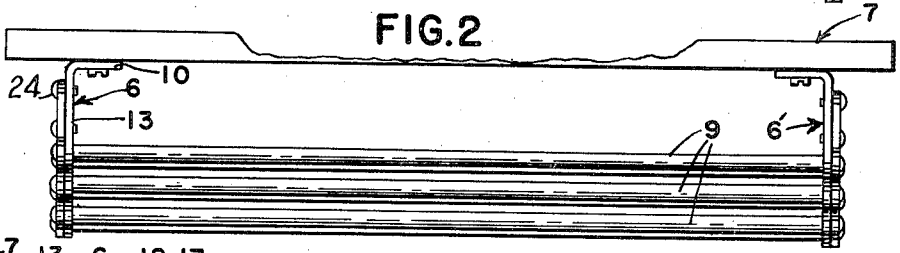


FIG. 3

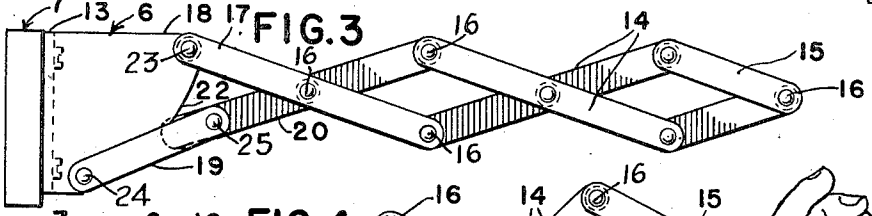


FIG. 4

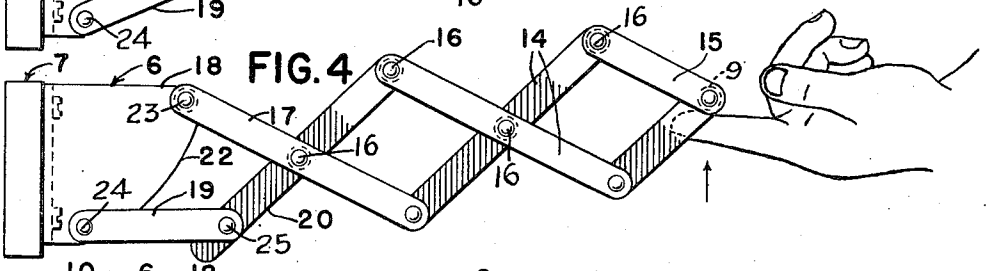
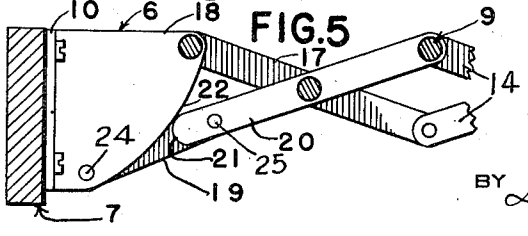


FIG. 5



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COLLAPSIBLE RACK

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2 Claims. (Cl. 211—105)

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This invention relates to racks but more particularly to collapsible racks of the lazy tong type.

Heretofore, collapsible racks, such as those employing lazy tong assemblies, have been used for the support of articles of apparel and wet articles to be dried, such as towels. When the racks are not in use, they may be conveniently collapsed to conserve space or to render them less conspicuous.

However, most of the collapsible rack designs in present use are not stable in their extended position. That is, an accidental knock, even though very slight, or vibration, is frequently sufficient to cause such racks to move into their collapsed position. The result is usually very annoying, and sometimes causes slow drying of wet articles or harm to the articles being supported by the rack. This is especially true where the racks are used in boats, railway cars and house trailers which, at times, sway from side to side when moving.

It is the principal object of this invention to provide a collapsible rack assembly which, when in an extended position, retains such position against accidental forces tending to collapse the rack.

Another object of this invention is to provide a collapsible rack assembly, which is low in cost of manufacture, easily assembled and attractive in appearance.

Other and further objects and advantages will become apparent from a consideration of the following description and appended claims in conjunction with the drawing, wherein:

Fig. 1 is a top plan view partly in section, of the device forming this invention showing the rack in its extended position.

Fig. 2 is a similar view, but showing the rack in its collapsed position.

Fig. 3 is a side elevational view of the device showing the rack in its extended position.

Fig. 4 is a side elevational view of the device showing the method used by an operator to release the rack from its extended position and to move the rack to its collapsed position.

Fig. 5 is a fragmentary side elevational view of the device taken along lines 5—5 of Fig. 1.

With further reference to the drawing, the collapsible rack forming this invention comprises a pair of brackets 6, 6' secured to a horizontal cross-member 7 and projecting outwardly therefrom, in spaced parallel relation. The brackets 6, 6' support a pair of lazy tongs 8, 8' which are

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connected together by a plurality of transverse bars 9.

The cross-member 7 is fabricated of wood or other suitable material and is, in actual use of the device, attached to and extending outwardly from a vertical supporting member, such as a wall. However, it is to be understood that this invention need not necessarily include the cross-member 7, since the brackets 6, 6' may be applied directly to a supporting surface.

The brackets 6, 6' each preferably include a turned-in portion or flange 10 which is suitably apertured at 11 to accommodate screws 12 for fastening to the cross-member 7. Projecting perpendicularly outwardly from the turned-in portion 10 of each of the brackets 6, 6' is a plate portion 13.

The lazy tongs 8, 8' project perpendicularly outwardly from the cross-member 7 in spaced parallel relation, and are in substantial alignment with the respective bracket 6, 6'. The tongs 8, 8' each include a plurality of long links 14 and a pair of short links 15, carried at the outer ends of the tongs. The links 14 and 15 are pivotally interconnected at the ends of some of the transverse bars 9 and the crossed links 14, as well as the crossed links 17 and 20, intermediate their ends are pivotally interconnected by pins or screws 16. The upper inner links 17 of the tongs 8, 8' are pivotally connected to the brackets 6, 6' adjacent the upper ends 18 thereof by any suitable means, such as by screws 23.

At the lower end of each bracket 6, 6' a locking arm 19 is pivotally attached as by screws 24. The locking arm 19 is pivotally connected as by screws 25 to the lower inner link 20 of the companion lazy tong adjacent the end of the link. As shown in Fig. 3, the locking arms 19 are each of such a length, whereby, when the lazy tongs 8, 8' are in an extended position, the screw 25 which pivotally connects the ends of locking arm 19 and link 20 is slightly above the center line extending from screw 24 (which pivotally connects arm 19 to bracket 6) and screw 16 (which pivotally connects the intermediate portion of link 20 to link 17) as shown in Figs. 3 and 5. In such position, the end 21 of the link 20 abuts the edge 22 of the companion bracket. Therefore, the lazy tongs 8, 8', when in their extended position, retain such position even though accidentally knocked or subjected to forces tending to cause their collapse. Further, the weight of the lazy tongs 8, 8' when in an extended position, does not break the substantial dead center rela-

tion between arms 19 and links 20, since the ends 21 of the links are in abutting relation with the edges 22 of the brackets 6, 6'.

In order to place the rack assembly in its collapsed position, as shown in Fig. 2, it is merely necessary to lift slightly the outer end of the device, as shown in Fig. 4. By so doing, the links 20 are caused to be moved to positions slightly below the dead center positions with respect to arms 19. The device may, then, be easily collapsed by applying a horizontal force thereto.

It is to be noted that the device is composed of relatively few parts. Since the lazy tongs 8, 8' are composed of only two different sized links, namely, long links and short links, 14 and 15 respectively, these tongs require for their production, if stamped, the use of only two dies. The transverse bars 9 may be produced from standard metal rod and are connected at their ends to the links 14 and 15 of the lazy tongs by any suitable means, such as by means of screws 16 extending through openings in the links 14 and 15 and threadedly connected to bars 9. The brackets 6, 6' are preferably stamped. Therefore, it is apparent the device may be easily and cheaply manufactured.

I claim:

1. In the combination with a vertical supporting member, of an extensible rack assembly comprising a pair of brackets extending outwardly from said member in spaced parallel relation, a pair of lazy tongs each extending outwardly from one of said brackets and arranged with their links disposed in parallel vertical planes, one of the inner links of each of said lazy tongs being pivotally attached to the bracket adjacent thereto, a pair of locking arms each pivotally attached at its one end to one of said brackets and pivotally attached at its other end to the other inner link of the lazy tong adjacent thereto, the locking arms each being of a length whereby, when said lazy tongs are in an extended position, the connecting pivotal connection of said locking arms and the respective other inner links will lie in a position slightly above a dead center position with respect to each other with the inner end of said other inner link abutting the outer edge of the corresponding bracket as a stop to thereby lock said lazy tongs in said extended position, and a plurality of spaced transverse bars positioned intermediate said lazy tongs and connected at their respective ends to the latter.

2. In the combination with a vertical supporting member, of an extensible rack assembly comprising a pair of brackets extending outwardly from said member in spaced parallel relation, a pair of lazy tongs each extending outwardly from one of said brackets and arranged with their links disposed in parallel vertical planes, one of the inner links of each of said lazy tongs being pivotally attached to the bracket adjacent thereto, a pair of locking arms each pivotally attached at its one end to one of said brackets and pivotally attached at its other end to the other inner link of the lazy tong adjacent thereto, the inner ends of said other inner links being in abutting relation with the edge of the bracket adjacent thereto, when the lazy tongs are in an extended position, the locking arms each being of a length whereby when said lazy tongs are in an extended position, the connecting pivotal connection of said locking arms and the respective other inner links will lie in a position slightly above a dead center position with respect to each other, to thereby lock said lazy tongs in said extended position, and a plurality of spaced transverse bars positioned intermediate said lazy tongs and connected at their respective ends to the latter.

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