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F. L. POLLARD ET AL
ROTARY CLOTHES DRYING RACK

2,289,450

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Fig. 1

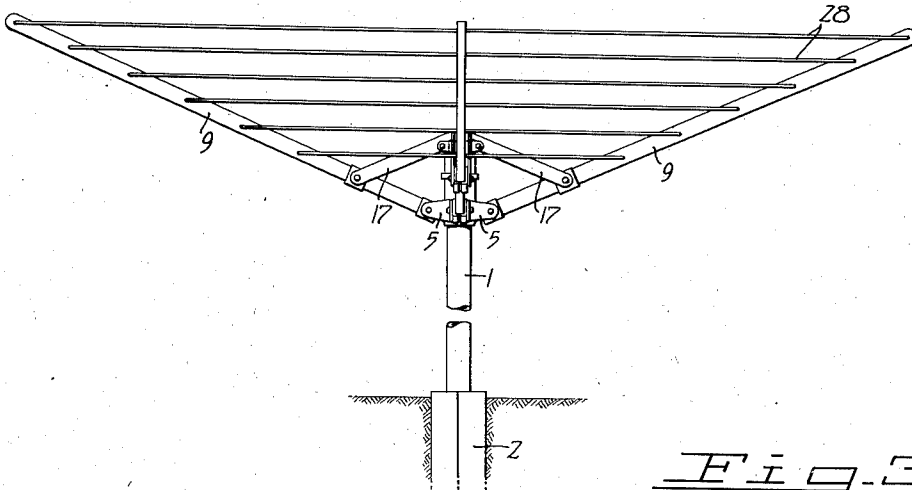


Fig. 2

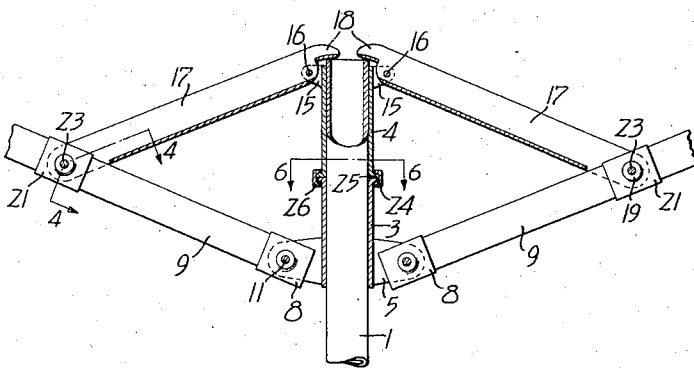


Fig. 3

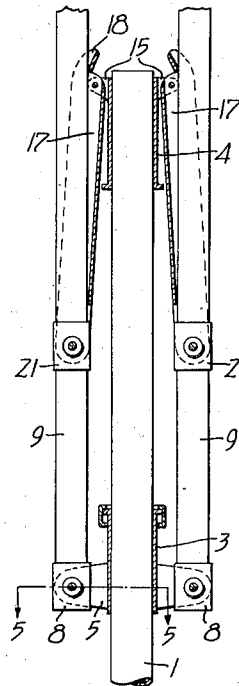


Fig. 4

Fig. 5

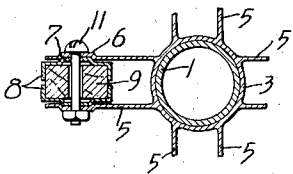
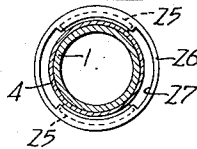


Fig. 6



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ROTARY CLOTHES DRYING RACK

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6 Claims. (Cl. 211—167)

This invention relates to collapsible rotary clothes drying racks and is an improvement to racks of the type such as disclosed in the Percy Patent No. 1,495,354 of May 27, 1924.

Since the capacity of a rack depends upon the length of the radial arms, the length of the arms should not be limited by the height of the post as is the case with the rack shown in the Percy patent.

The various elements of the radial arm assembly should be so balanced that little or no effort is required in adjusting it from its collapsed position to its fully open position or vice versa, for ordinarily the manipulation of a device of this kind is effected by a woman.

In rotary racks now on the market of the type shown in the Percy patent, each radial arm is pivoted to and supported intermediate its ends by a strut or link, by means of a pin passing through the arm. The weakest part of the arm is therefore at this point, although it is here that the arm is subjected to the greatest strain, for the weight of the arm and its associated load is carried cantilever fashion from this part of the arm. Care should therefore be taken to strengthen rather than weaken the arm at this point.

With these and other features in mind, it is the object of our invention:

To provide a rotary clothes rack in which the radial arms are collapsible upwardly upon themselves and in which automatic means is provided for disengaging the arm assembly from its associated central post as the arms approach their collapsed position so that the radial arm assembly is then free to telescope downwardly over the central post.

To provide a rotary clothes rack in which the radial arm assembly is substantially in balance throughout its entire range of movement from its collapsed to its fully open position so that little or no effort is required in opening or closing it.

To provide a rotary clothes rack in which the radial arms are reinforced at the points at which they are subjected to the greatest strains and loads, and in which the loads are distributed over an extended area.

The invention possesses other advantageous features, some of which with the foregoing will be set forth at length in the following description where that form of the invention which has been selected for illustration in the drawing accompanying and forming a part of the present specification is outlined in full. In said drawing, one form of the invention is shown, but it is to be understood that it is not limited to such form, since the invention as set forth in the claims may be embodied in a plurality of forms.

Referring to the drawing:

Figure 1 is a front elevation of a rotary clothes rack embodying the objects of our invention.

Figure 2 is a fragmentary vertical section taken through the arm assembly of the rack shown in Figure 1.

Figure 3 is a fragmentary vertical section of the arm assembly shown in its collapsed position.

Figure 4 is a section taken on the line 4—4 of Figure 2.

Figure 5 is a section taken on the line 5—5 of Figure 3.

Figure 6 is a section taken on the line 6—6 of Figure 2.

As shown in these various figures, the objects of our invention have been embodied in a rotary rack comprising a central post 1 which may be permanently or removably mounted in a suitable base 2 embedded in the ground or otherwise supported.

Journalled over the post for rotary and longitudinal movement therewith is a pair of sleeves 3 and 4. Welded or otherwise made integral with the sleeve 3 are a plurality of pairs of brackets or ears 5. Pressed into the inner surface of the outer end of each ear is a circular recess or seat 6 for the accommodation of a boss 7 formed in each of a pair of opposed channel-shaped clips 8 arranged to receive snugly between them the inner end of a radially extending arm 9. Holding this assembly together is a bolt 11 passing through the ears 5, the clips 8, and through a bore in the arm 9 of slightly larger diameter than the diameter of the bolt. It is to be noted that by this method of swiveling or pivoting the arms 9 to the ears 5, the weight of the arms and any load carried thereby is transmitted from the arms to the ears not directly through a line of contact between the arm and the bolt, but indirectly through the extended surface of contact between the bosses 7 and the recesses or seats 6 formed in the ears.

Welded or otherwise formed integral with or secured to the sleeve 4 are a plurality of pairs of radially extending brackets or ears 15. Swiveled or pivoted to each pair of ears by a pin or bolt 16 is a channel-shaped metal link 17 provided at its inner end with an inwardly extending latch, finger, or dog 18 arranged to overlie and hang on the top of the post 1 when the arm assembly is in its open or extended operative position.

The outer end of each of the links 17 is swiveled or pivoted to its associated arm 9 by the device or clamp illustrated in Figure 4 and which is identical in construction to that shown in Figure 5. As shown in Figure 4, this device comprises a recess or seat 22 pressed in the link 17, and a pair of channel-shaped clips 21 designed to fit snugly about the arm 9 and each formed with a boss 19 for engagement with the seat 22. Extending through each of these members is a bolt 23 for

holding them in their operative position so that the weight of the arm and its associated load is transmitted indirectly to the link 17 through the extended surfaces of the clips 21 and link 17 rather than directly through the bolt 23.

Movement of the sleeve 3 downwardly along the post 1 from the operative or expanded position of the rack as shown in Figures 1 and 2 to the collapsed position of the rack as shown in Figure 3, will cause the arms 9 to rotate upwardly about the bolts 11 and the links 17 to rotate downwardly about the bolts 16. This movement of the links will cause the dogs 18 to move outwardly out of engagement with the top of the post 1 and consequently permit the entire arm assembly to slide either downwardly to the base of the post or upwardly over the top of the post. In either case, the arm assembly can be readily removed from the post or it can be left telescoped with the post. It is to be noted that in this position a portion of each arm is accommodated in the channel of a link 17.

For the purpose of locking the arm assembly in its expanded or operative position, the sleeve 3 is provided with a flange 24 and the sleeve 4 with an opposed interrupted flange 25. Disposed over the flange 24 is a channel-shaped collar 26, the upper flange of which is formed with a plurality of notches 27 for the reception of the interrupted flange 25. By passing the collar 26 over the flange 25 and turning the collar, the two sleeves 3 and 4 are locked together, thereby forming a rigid structure with the arms 9 and links 17.

In accordance with the usual practice, a clothesline 28 is threaded through spaced holes drilled in the arms 9. The post 1 may, instead of being a tubular metallic post as shown, be made of solid wood, although the type of post used is immaterial insofar as the objects of our invention are concerned.

Since in the structure herein disclosed, the arm assembly is collapsed by rotating the arms upwardly about their pivotal points on the lower sleeve, the length of the arms is in no way limited by the height of the post, which for practical purposes is determined by the height of the average individual.

By swiveling the arms to their respective links indirectly through the clips 21, the arms are strengthened rather than weakened at the point at which they are subjected to the greatest load.

Furthermore, it is to be noted that by properly locating the point on the radial arm from which it is pivoted to its respective link, the couple about this point, due to the weight of each portion of the arm on either side of this point, may be made substantially zero for all practical purposes, so that little or no effort is required in moving the device from its fully collapsed position to its fully extended or open position. The only effort required in manipulating the device arises in connection with lifting or lowering the device on the post when it is in its fully collapsed position. However, since the dogs carried at the inner ends of the links automatically move in response to relative longitudinal movement between the two sleeves, both hands of the operator are free to carry this load. Obviously this is of considerable advantage in extending the device to its fully open position as well as in collapsing it to its fully closed position.

We claim:

1. A rack comprising: a supporting member; upper and lower brackets slidable upon said supporting member; an arm pivoted at one end to

said lower bracket; a link pivoted at its inner end to said upper bracket and at its outer end to said arm; a dog formed on the inner end of said link arranged to overlie a portion of said supporting member when said link is in its extended position; and means for securing said brackets against relative movement with respect to each other.

2. A rotary rack comprising: a post of circular cross section; upper and lower sleeves journaled on said post; an arm pivoted at one end to said lower sleeve; a link pivoted at its inner end to said upper sleeve and at its outer end to a portion of said arm remote from its inner end; a dog provided on the inner end of said link for engagement with said post when the outer end of said link is in spaced relation with respect to said post; and means for securing said sleeves against relative movement with respect to each other.

3. A rotary rack comprising: a post; upper and lower sleeves journaled on said post for rotary and axial movement thereon; a plurality of arms pivoted at their inner ends to said lower sleeve at peripherally spaced points on said lower sleeve; a link pivoted at its outer end to each of said arms and at its inner end to said upper sleeve; a dog provided on the inner end of one of said links for holding said upper sleeve on said post when said link is in its extended position; and means for securing said upper and lower sleeves against relative movement with respect to each other when said links are in their extended position.

4. A rotary rack comprising: a post; upper and lower sleeves journaled on said post for rotary and axial movement thereon; a plurality of arms pivoted at their inner ends to said lower sleeve at peripherally spaced points on said lower sleeve; a link pivoted at its outer end to each of said arms and at its inner end to said upper sleeve; a dog provided on the inner end of each link arranged to overlie a portion of said post when said links are in their extended position, and means for detachably securing said sleeves in abutting relation.

5. A rack comprising: a supporting member; upper and lower brackets slidable upon said supporting member; an arm pivoted at its inner end to said lower bracket; a clip secured to said arm at a point spaced from its inner end; a link pivoted at its inner end to said upper bracket and at its outer end to said clip; a dog provided on the inner end of said link arranged to overlie a portion of said post when said link is in its extended position; and means for detachably holding said brackets in abutting relation with respect to each other.

6. A collapsible rack comprising: a supporting member; upper and lower brackets slidable upon said supporting member; an arm pivoted at one end to said lower bracket; a link pivoted at its inner end to said upper bracket and at its outer end to said arm, said link being provided in its upper face with a longitudinally extending channel for the accommodation of said arm when said rack is in its fully collapsed position; a dog formed on the inner end of said link arranged to overlie and engage a portion of the upper end of said supporting member when said rack is in its extended operative position and to clear said supporting member when said rack is in its collapsed position; and means for detachably holding said brackets in abutting relation.

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