May 27, 1952 W. H. BUTLER 2,598,502

ELEVATING CLOTHES DRIER

Filed March 25, 1948

FIG 5

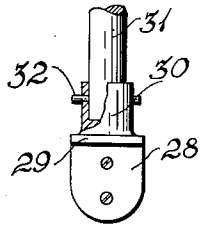

FIG 1

FIG 3

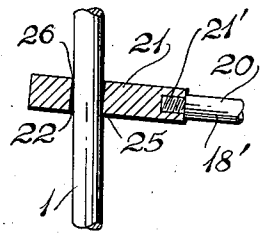

FIG 2

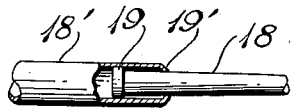

FIG 4

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Patented May 27, 1952

2,598,502

UNITED STATES PATENT OFFICE

2,598,502

ELEVATING CLOTHES DRIER

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Application March 25, 1948, Serial No. 16,902

1 Claim. (Cl. 211—101)

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My invention relates to new and useful improvements in elevating clothes driers and an object of the invention is to provide a device of the character herewithin described which is capable of receiving a considerable quantity of clothes at one time, yet remains economical in the use of space, and permits positional adjustment in order to derive the maximum air circulation.

A further object of my invention is to provide a device of the character herewithin described by the use of which only the requisite number of carrying units necessary to contain the quantity of clothes being dried need be utilized, the remainder being stored unobtrusively on one side.

Another object of my invention is to provide a device of the character herewithin described which, when not required, may be stored flush with the wall yet becomes ready for use merely by pivoting into position the carrying units required.

Another object of my invention is to provide a device of the character herewithin described by the use of which the clothes carrying units may be elevated to any desired height independently of one another.

Another object of my invention is to provide a device of the character herewithin described which is capable of ready installation in a variety of locations, which may be dismantled quickly and easily if required, and which may be manufactured to any desired height.

A further object of my invention is to provide a device of the character herewithin described whereby additional clothes carrying units may be installed without disturbing those already in use.

A still further object of my invention is to provide a device of the character herewithin described which is economical to manufacture, and which provides a sturdy and compact unit readily adaptable to the purpose for which it is designed.

With the foregoing objects in view and such other objects and advantages as will become apparent to those skilled in the art to which this invention relates as this specification proceeds, my invention consists essentially in the arrangement and construction of parts all as hereinafter more particularly described, reference being made to the accompanying drawings in which:

Figure 1 is a perspective representation of my device in the installed position and showing some of my clothes carrying units in operation.

Figure 2 is an enlarged fragmentary representation of one of my clothes carrying units sectioned in part to show the mounting thereof.

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Figure 3 is an enlarged fragmentary representation of my lower wall bracket viewed along the line 3—3 of Figure 1.

Figure 4 is an enlarged fragmentary view of one of my clothes carrying units sectioned in part to show the telescopic action thereof.

Figure 5 is an enlarged fragmentary view of a less preferred embodiment of my lower wall bracket.

In the drawings like characters of reference indicate corresponding parts in the different figures.

For many years the functional deficiencies of conventional household clothes driers have been widely recognized. The present day multi-arm radial clotheshorse, although an improvement over the conventional parallel-railed folding model, and capable of holding a greater number of articles, still retains the disadvantage of being undesirably bulky as well as being incapable of partial erection. In other words, the area occupied is invariant regardless of whether one article or a maximum load is spread thereupon. This of course is objectionable particularly in modern housing units of limited cubic dimensions and planned floor space. The rail type elevating clothes line, operated usually by pulleys and ropes, is unwieldy, and is very restricted in use, particularly in modern houses, where the maximum ceiling height rarely exceeds eight feet.

In order to overcome these disadvantages as far as possible, I have invented my novel elevating clothes drier which is designed especially for use in restricted locations, and which furthermore is unobtrusive when not in use and which may be operated without the possibility of pinched fingers occurring, a fault which is very prevalent with the conventional folding style clothes horse.

Upon reference to the accompanying drawings, it will be seen that my device embodies a vertical main standard or post 1, supported by the upper wall bracket 2, and the lower wall bracket 3. This main standard post should be constructed preferably of tubular or rolled bar stock and should possess considerable inherent resistance to bending in order to provide adequate support to the clothes as will hereinafter become apparent.

The wall brackets 2 and 3 may be manufactured in a variety of forms but it is preferred that they follow the configuration shown in Figure 1 of the accompanying drawings. Here it will be observed that the top or uppermost wall bracket consists of a relatively short length of material, commonly known as angle iron, attached to the wall 4 by the screws 5 or similar means.

The outstanding portion 6 of bracket 3 is provided with the aperture 7 and the aforementioned main standard post 1 is slidably receivable therein. The lower wall bracket 3 is of similar configuration to the aforementioned upper wall bracket and is attached to the wall in a similar manner. However, the outstanding portion 8 is provided with the recess 9 in order to receive the reduced portion 10 of the aforementioned main standard post, thus constituting what I designate as an open-apertured standard supporting platform. Transverse opening 11 is provided in the main standard post immediately above the reduced portion 10 and the angulated retainer pin 12 extends therethrough. The inward and downwardly projecting prongs 13 of the retainer pin engage with the corresponding vertical apertures 14 provided towards the rear of the outstanding portion of the lower wall bracket. Figures 1 and 3 of the accompanying drawings, together with the foregoing description, clearly disclose the function of this assembly, and it will be realized that the main standard post 1 is supported vertically against the upper face 15 of the lower wall bracket which supports the upper segmented faces 16 of the recess 9 in the post, and is prevented from undesirable disengagement or rotation by virtue of the aforementioned retaining pin 12.

My clothes carrying units, collectively designated by the reference character 17, are preferably but not necessarily of a telescopic construction embodying the outboard arm 18 and the inboard arm 18'. The outboard arm, constructed preferably from solid round bar material, is slidably engageable within the aforementioned inboard arm 18' which is of course constructed from tubular stock. The outboard arm is prevented from undesirable disengagement from the inboard arm by virtue of the upset end 19 being restricted from further longitudinal movement by coming into contact with the inwardly bent end 19' of the inboard arm as clearly shown in Figure 4 of the accompanying drawings. It will be appreciated that in order to save weight and prevent an unwieldy structure the clothes carrying arms should follow conventional engineering practice and taper progressively towards the distal end thereof.

The innermost end 20 of the inboard arms is detachably engageable with the bearer brackets 21 by the screw threads 21' or similar means, thus permitting ready replacement of the clothes carrying units if damaged. These bearer brackets, which may be of cylindrical configuration but in this embodiment are shown in rectangular form, are provided with the vertical drilling 22 substantially towards the centre thereof. This vertical drilling should be of sufficient diameter to permit free sliding engagement with the aforementioned main standard post 1 for the reasons hereinafter to be explained.

Having described my invention in detail, its method of operation will now be presented. In the lowered position it will be appreciated that the clothes carrying arms 17 will be at the base of the main standard post in mutual overlapping registration one with the other, the lowermost arm resting of course on the lower wall bracket 3. The uppermost arm is swung into position and extended as necessary, and the articles of clothing placed thereon. The arm is then elevated to the requisite height by means of the stick 23 which may be provided with forked end 24. This

forked end is engaged with one of the lowermost edges 24' of the aforementioned bearer bracket. Upon reaching the required elevation the stick is removed and the clothes carrying arm will be maintained in position by virtue of the canting action of the arm. It will be appreciated that the weight of the articles acting outboard of the point of support will induce the binding action illustrated in Figure 2. Downward displacement is prevented by virtue of the frictional interference of the lowermost inboard edge 25 and the diagonally opposite edge 26 of the vertical drilling 22 with the main standard post 1. It will be appreciated that although the clearance existing between the walls of the vertical drilling 22 and the main standard post 1 appears to be substantial in the accompanying drawings, in actual practice this tolerance may be at a minimum, thus preventing any untoward downward inclination of the clothes carrying arms. While the arms are in this position they may be horizontally rotated as desired without any danger of descent. When however it is desired to lower the clothes-carrying arms, the forked end 24 of the stick 23 should be engaged with the outermost end of the arm 27 and upward pressure applied. This will relieve the canting action thus enabling the arm to be lowered, by gravitational means, to the desired position. It will be appreciated from the foregoing that only the desired number of arms need be utilized at one time and that they may be extended or retracted to suit the purpose for which they are being used.

Figure 5 of the accompanying drawings shows a less preferred embodiment of my lower wall bracket, which is seen to comprise a relatively short section of angle iron 28 attached to the wall in a similar manner to the brackets hereinbefore described in my previous embodiment, only in this case with the outstanding portion 29 being provided with the relatively short vertical hollow tube 30. This vertical tube has an internal diameter sufficient to receive the lowermost end of the main standard post 31. Locking means, such as the retainer pin 32, may be provided to eliminate the possibility of undesirable disengagement occurring when elevating the clothes carrying arms.

Since various modifications can be made in my invention as hereinabove described, and many apparently widely different embodiments of same made within the spirit and scope of the claim without departing from such spirit and scope, it is intended that all matter contained in the accompanying specification shall be interpreted as illustrative only and not in a limiting sense.

What I claim as my invention is:

In a domestic clothes drier including a set of detachably mounted, vertically slidable, clothes hanging arm units, a pair of wall mounted, spaced and vertically aligned angle brackets, a standard secured therebetween in spaced relationship to said wall, said standard having a reduced portion adjacent the lower end thereof, the lower of said angle brackets having an open apertured standard supporting platform, and means coacting between the reduced portion of said standard and said platform to permit detachment of the lower end of said standard therefrom for the purpose of adding or subtracting clothes hanging arm units to or from said standard, said means including an angulated retainer pin extending transversely through an opening in the lower end of said standard and pivotally secured thereto, and inwardly and downwardly projecting prongs

on said pin engageable within corresponding apertures in said platform.

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