

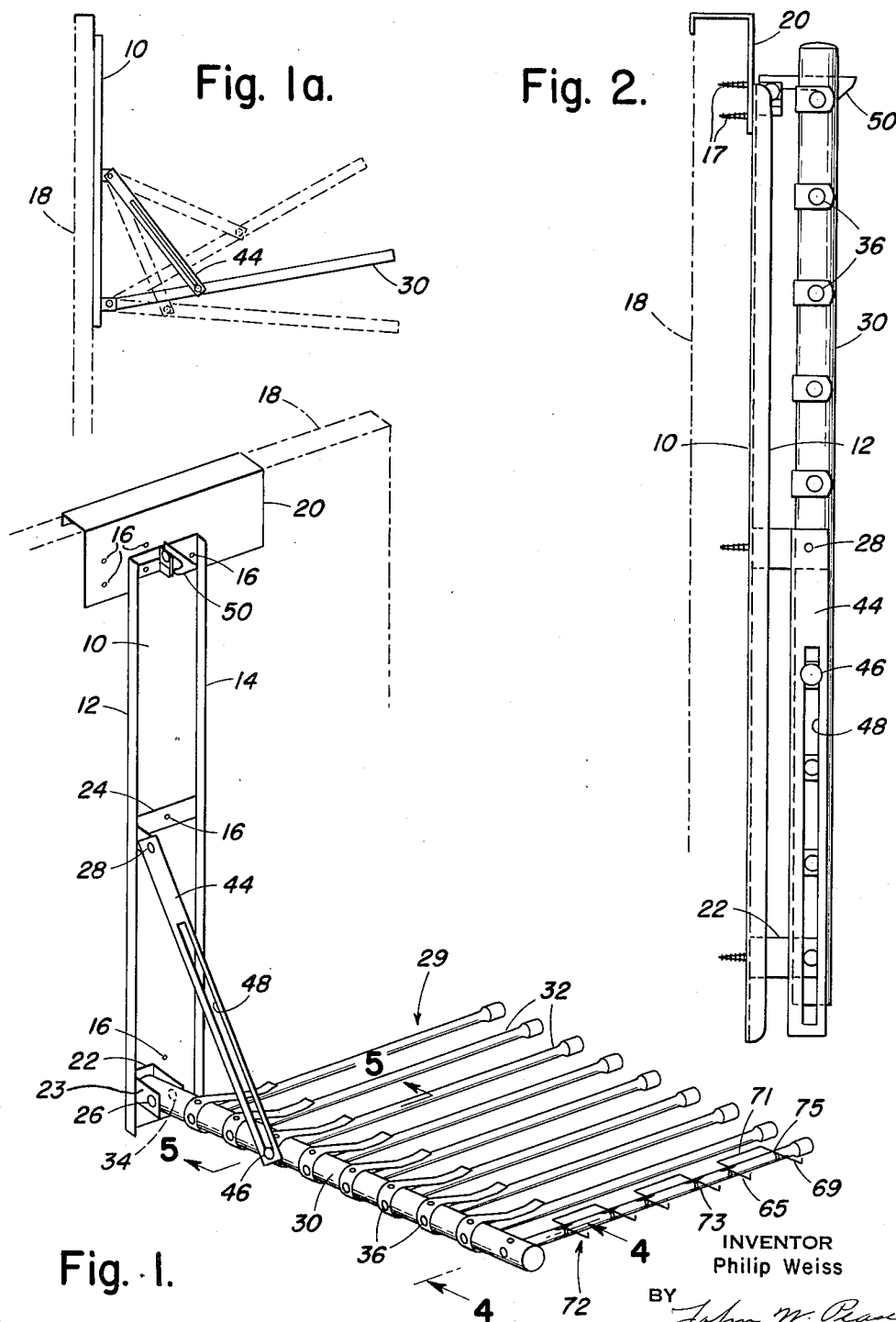
Oct. 12, 1965

P. WEISS
FOLDABLE HANGER

3,211,295

Filed May 28, 1963

3 Sheets-Sheet 1



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Fig. 3.

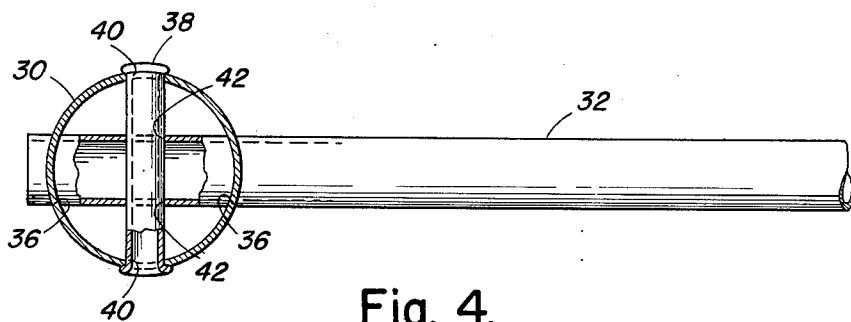
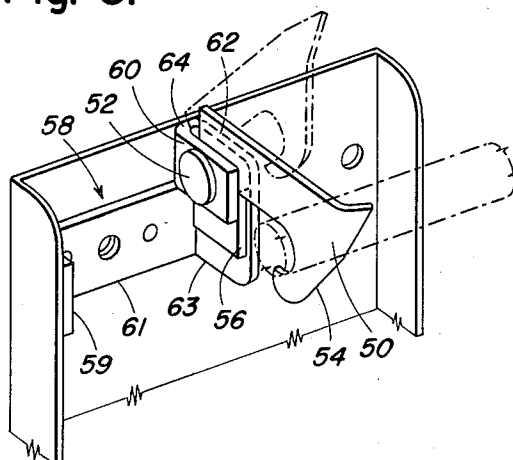


Fig. 4.

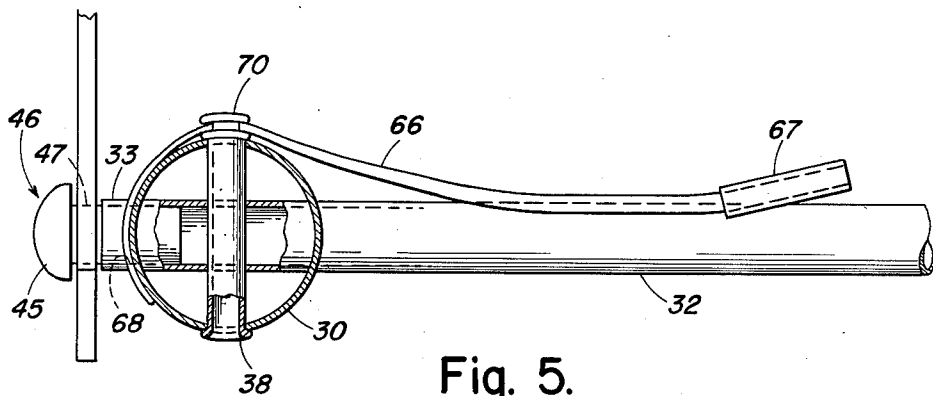


Fig. 5.

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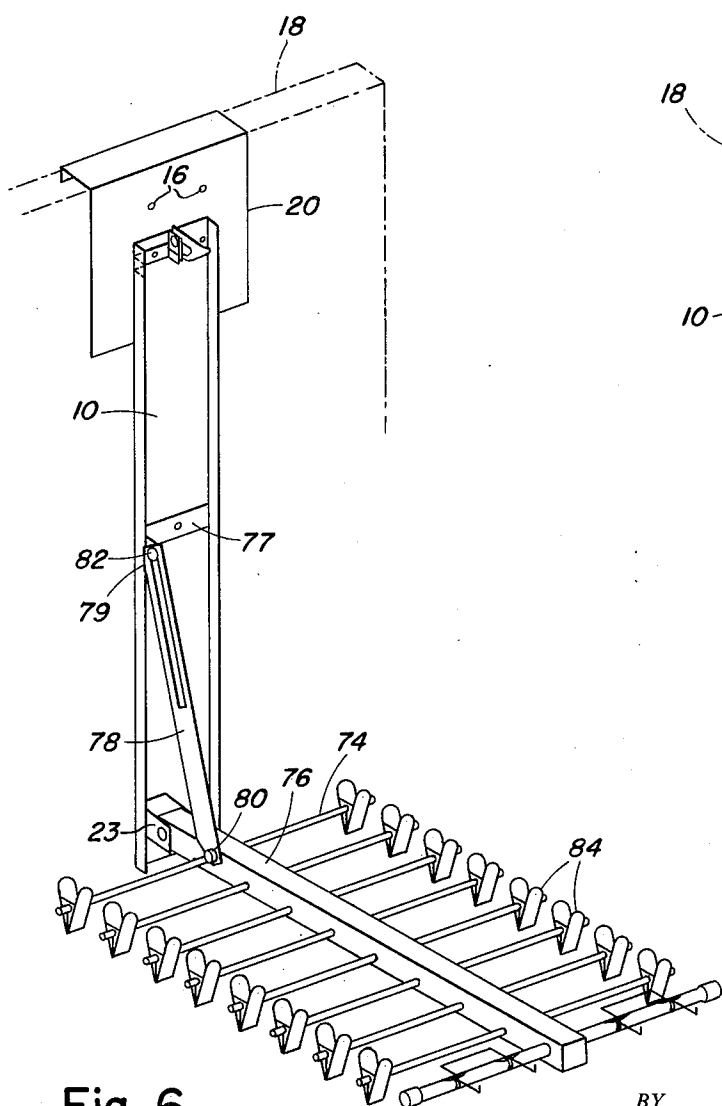


Fig. 6.

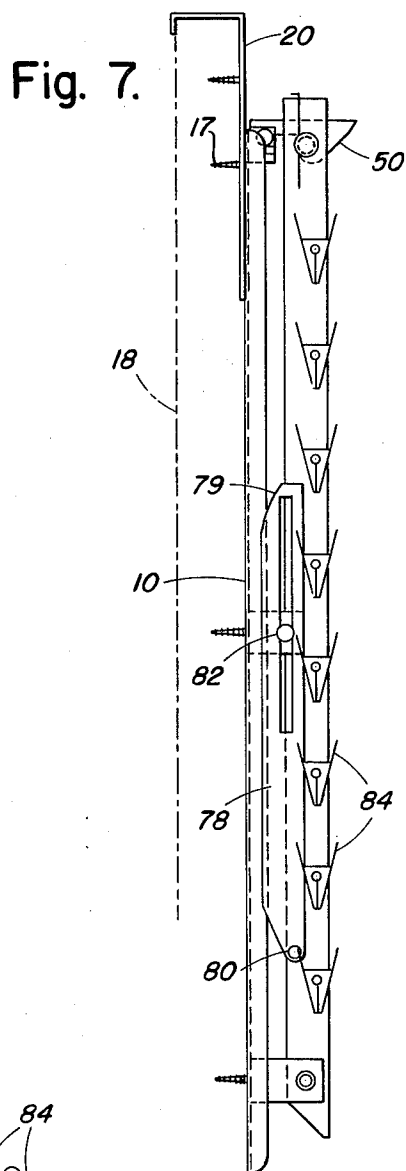


Fig. 7.

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FOLDABLE HANGER

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3 Claims. (Cl. 211—100)

This invention relates to an improved foldable type appliance for supporting cloth or garments detachably connected thereto and in one of its modifications to a portable type appliance.

One object of the invention is to provide an improved foldable hanger which is pleasing in appearance and which may be easily manipulated.

Another object is to provide an improved foldable hanger which is simple in construction, durable and readily adapted to low cost manufacturing methods.

A further object is to provide an improved hanger which is readily adaptable to permanent or temporary attachment to a vertical structure.

A still further object is to provide an improved hanger which combines the advantages of simplicity, ease of operation and durability with the avoidance of structure which may interfere with the closing of the hanger or with ready access in the placement or removal of garments.

Another object is to provide an improved hanger which is characterized by maximum support and rigidity for minimum weight and complexity.

A further object is to provide an improved hanger offering a degree of selectivity as regards the open position of the hanger.

Another object of the invention is to provide an improved foldable hanger which includes improved means for releasably holding garments on the foldable rack.

Another object of the invention is to provide an improved foldable hanger having improved releasable latch means.

Other objects and advantages will appear hereinafter in the following description and claims and become apparent from the accompanying drawings.

The accompanying drawings show by way of example and without intent to limit the invention or claims thereto certain practical and presently preferred embodiments of the invention.

In the drawings:

FIGURE 1 is a perspective view of a foldable hanger exemplary of one form of the present invention and in an open position of use;

FIGURE 1a is a perspective view of alternate adjustable rack positions of the hanger of FIGURE 1;

FIGURE 2 is a side elevation view of the hanger of FIGURE 1 in closed position;

FIGURE 3 is an enlarged view showing two positions of a preferred latch mechanism;

FIGURE 4 is an enlarged traverse view taken on line 4—4 of FIGURE 1;

FIGURE 5 is an enlarged traverse view taken on line 5—5 of FIGURE 1;

FIGURE 6 is a perspective view of a modified foldable hanger incorporating this invention and shown in open position; and

FIGURE 7 is a side elevation view of the hanger of FIGURE 6 in closed position.

Summarized briefly, the invention comprises an improved rack having branch members projecting from one or both sides of a single support arm which is pivoted to a vertically disposed support member, and positioning arm means pivoted to the support member above the rack and slidably connected to an intermediate portion of the rack to avoid interference with the placement or removal of garments on or from the rack while at

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the same time avoiding any slotting or weakening of the support member or support arm or the addition of affixed guide rails, together with devices cooperative with the above for releasably securing the rack in closed position and for releasably securing garments on the rack.

Referring to the drawings, in detail, designated at 10 in FIGURE 1 is a vertically disposed support member in the form of a channel having projecting flanges 12 and 14 and a plurality of apertures 16 for securing the channel to one side of a door indicated in phantom lines at 18 by screws 17 or other suitable means. Attached to the upper end of the channel 10 by welding or by detachable screw or other suitable means is a channel plate 20 adapted to fit over the top of the door 18 to suspend the channel member and the remainder of the foldable hanger to be described hereinafter.

Fixed to the support member 10 is a lower pivot support 22 and an upper pivot support 24. Lower pivot support 22 is preferably in the form of a U-shaped angle strap welded or otherwise fixed to the member 10 and having projecting legs 23 apertured to receive a pivot pin 26. The upper pivot support 24 is preferably a right angle member welded or otherwise fixed to the member 10 and having a projecting leg to receive a pivot pin 28.

Pivoted on the lower pivot support 22 is a rack generally indicated at 29 comprising a main tubular support member 30 and a plurality of horizontally disposed tubular branch arms 32. Support member 30 is apertured as at 34 adjacent one end to receive the pivot pin 26 and apertured in spaced pairs of aligned apertures therealong as at 36 (see FIGURE 4) to receive and horizontally support branch arms 32. Branch arms 32 are secured to the main support 30 by hollow rivets 38 passing through vertically aligned apertures 40 and 42 respectively in the support member 30 and tubes 32.

To support the rack 29 in a selected position which may be horizontal or inclined from the pivot support 22 either upwardly or downwardly from a horizontal plane through the pivot support 22, I provide a positioning arm 44 (see FIGURE 1) and a flanged pin 46 having a head 45 (see FIGURE 5) and a reduced cross-section stem 47. The positioning arm 44 (see FIGURE 1) is apertured adjacent one end to pivot on pin 28 of the upper pivot support 24 and longitudinally slotted as at 48 to receive the stem 47 of pin 46, the stem then being press-fit into the open end of an associated one of the branch arms 32. Thus when the rack is in open position the stem 47 of pin 46 engages the outward end of slot 48 as a stop means. By selecting the arm 32 in which to insert the pin 46 the rack may be positioned horizontally or inclined upwardly or downwardly as desired as indicated in FIGURE 1a. This feature is advantageous when the rack is used for display purposes. Also, it will be noted that the positioning arm is above the rack and in no way interferes with the positioning of articles on the branch arms of the rack.

In closing of the rack the pin 46 is slidable in the slot 48 to cam the positioning arm 44 to a position substantially parallel to the support member 10 in closed position of the rack (see FIGURE 2).

To secure the rack in closed position suitable latch means cooperative with a portion of the rack are provided. In the preferred embodiment shown (see FIGURE 3) the latch means comprises a hook type movable latch member 50 apertured to receive a pivot pin 52 and formed with cam surfaces 54 and 56. To pivotally support the member 50 I provide a flat U-shaped pivot bracket 58 having one leg 59 and a back portion 61 for welding or otherwise securing to the support 10 adjacent the upper end thereof and having its other leg 63 horizontally slotted from the rear portion thereof to be bent forward to form bifurcated, closely adjacent portions 60

and 62 to receive therebetween the latch member 50. Latch member 50 and the portions 60 and 62 are apertured to receive the pin 52 to pivot the latch member 50.

Thus assembled the latch 50 is limited in counter clockwise rotation by the upper edge 64 of the bent rear portion of the projections 60 and 62. When the rack is raised the outermost of the branch members 32 first engages the cam surface 54 of the latch 50 to pivot the outer end of the latch upwardly and thereafter engages the cam surface 56 to positively close the latch downwardly around the branch member 32. It is recognized that the latch may move downwardly by the force of gravity if the friction of the pivot connection is sufficiently small. The positive cam effect is advantageous in requiring less critical attention to formation of the pivot in manufacturing.

To detachably secure a garment on one of the branch arms 32 I provide as seen in FIGURE 5 a strip 66 of resilient material having an aperture 68 at one end to receive an end 33 of the arm 32 projecting from the tube 30, the strip being formed to bridge the tube 30 and engage a portion of the arm 32 on the other side of the tube 30 and being upwardly curved at its free end 67 as shown. The strip is then compressed and held in contact with the tube 30 by a rivet 70 passing through an aperture in the strip 66 and into the hollow center of the rivet 38. In so compressing the strip 66 there is developed a downward bias of the free end of the strip on the arm 32. The portion of the strip 66 engaging the arm 32 is curved to follow the outer curved surface of the branch arm 32 to avoid deforming the material to be held between the strip 66 and arm 32. The projecting end 33 of the branch tube 32 passing through the apertured end of the strip 66 prevents sideward movement of the free end of strip 66. Thus cooperative with the structure of the rack 29 is provided an inexpensive, rigidly connected garment retaining means requiring only the formed strip 66 and a single rivet. Such strips may be provided for any number of the arms 32 as desired.

On the outermost of the arms 32 I provide one or more U-shaped resilient wire tie and belt hangers 72 (see FIGURE 1). The hanger 72 has two projecting legs 65 and 69 connected to a U-shaped back portion 71 by sections 73 and 75 coiled to fit over the arm 32 and by resilience of the wire coil sections to grip the arm 32. The coil portions are also pinched at the top and bottom to form partially flattened coils and to provide indents in the arms 32 to further aid in securing the hangers in fixed positions on the arm 32. The projecting legs are curved upwardly such that when the rack is opened or closed, belts hung on the projecting ends will not fall off but can easily be removed. The hangers are positioned as shown such that when the rack is opened a tie may be fed between the U-shaped portion 71 and over the arm 32. As thus attached to the hanger 72, the tie cannot fall off the hanger and also cannot be inadvertently pulled off the rack by the removal of any other tie on the rack or by a downward pull on the tie. A downward pull simply locks the tie tighter to the hanger and arm. Thus the hanger is uniquely cooperative with a foldable type rack in which movement of the rack and pressure on the tie or ties in closing the rack might otherwise dislodge one or more of the ties.

Referring now to FIGURES 6 and 7 there is shown a modification of my invention in which branch arms 74 are passed through aligned apertures in a main support arm 76 of rectangular cross-section. A slotted positioning arm 78 has one end pivoted on a grommet 80 welded or otherwise fixed to one side of the support arm 76 and its other end slidably connected to flanged pin 82 welded or otherwise fixed to the upper pivot support 77. A portion 79 of the edge of the positioning arm adjacent the door on vertical structure is raised to avoid projection of any part of the positioning arm behind the rear surface of the support member 10 in closing of the rack. Fixed

on the branch arms 74 are provided means such as spring clamps 84 to hold portions of a garment suspended from the branch arms. The remainder of the modified device as regards the latch mechanism 50 support channel 10, and hanger channel 20 remain the same.

This modified device has the advantage of providing additional length of branch arm for supporting wider widths of material such as skirts, and retains the advantage of no interference below the main support arm. It also retains the advantage of positioning support without mutilation and weakening of the main support structures, i.e., the support tube and channel support, and without the need for guide rails or other slidable connectors which increase the manufacturing cost.

It is to be understood that while it is presently preferred to make devices embodying the invention of sheet metal material usually chrome-plated for appearance, it is contemplated that the device can be made of any suitable material. Plastics and aluminum as well as plastic-coated metals and plastic coated paper forms are presently contemplated.

Further, while applicant has described certain presently preferred forms of his invention, it will be understood that various modifications and changes may be made without departing from the spirit and scope of the invention, and it is intended in the claims to include all such changes and modifications.

I claim:

1. A foldable hanger comprising in combination an elongated support member adapted to be secured in vertical position to a vertical surface to present an upper end and a lower end, said support member having a lower pivot support adjacent its lower end and a second pivot support spaced above said lower pivot support, a rack assembly including an elongated main support tube having one end pivoted on said lower pivot support and a plurality of horizontally disposed branch tubes spaced therealong and each projecting through aligned apertures therein, projecting guide means inserted in the end of one of said branch tubes and supported thereby, the distance from said lower pivot support to said guide means being different than the distance from said lower pivot support to said second pivot support, a positioning arm having one end pivoted on said second pivot support and an elongated guide slot along a substantial part of its length to receive said projecting guide means to guide said positioning arm to vertical position when said hanger is closed and to limit the downward movement of said support arm when said hanger is opened.

2. In a foldable hanger of the type having an elongated support member adapted to be secured in vertical position to a vertical surface to present an upper end and a lower end and a pivot support secured to said support member, the improvement comprising a pivoted rack including an elongated main tube having one end pivoted on said pivot support and having spaced pairs of horizontally aligned apertures therethrough, a plurality of branch tubes of lesser diameter than said main tube each inserted through a pair of said apertures, a plurality of resilient elements each apertured adjacent one end to receive therethrough on one side of said main tube a projecting end of one of said branch tubes and shaped to have its other end bridge said main tube and engage a portion of the same branch tube on the opposite side of the main tube, and a securing means passed through additional aligned apertures of said resilient element and said tubes to secure said branch tubes against displacement from said support tube while at the same time serving to compress said resilient element to provide a resilient bias of one end thereof against its associated branch tubes.

3. A foldable hanger comprising an elongated support member having an upper and lower end, a rack pivoted to said support member adjacent its lower end to fold upwardly to a closed position substantially parallel to said support member, positioning means to limit the downward

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swing of said rack to open position, said rack including a main tubular member, one end of which is pivoted to the support member and at least one branch tube horizontally supported in aligned apertures in the main tubular member and a flanged pin inserted in an end of the branch tube adjacent the main tubular member, the flange of the pin and the adjacent edge of the branch tube forming an annular groove, said positioning means including an arm having a longitudinally disposed slot terminating short of its opposite ends, one end of said arm being pivoted to said support member at a point above said first-mentioned pivot, the other end of said arm being slidably connected to said flanged pin, a portion of the arm being slidable in said groove and retained against disconnection by the flange portion of said pin.

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