Oct. 15, 1940. J. R. DAWSON ET AL 2,217,795

APPAREL RACK

Filed Jan. 31, 1938 2 Sheets-Sheet 1

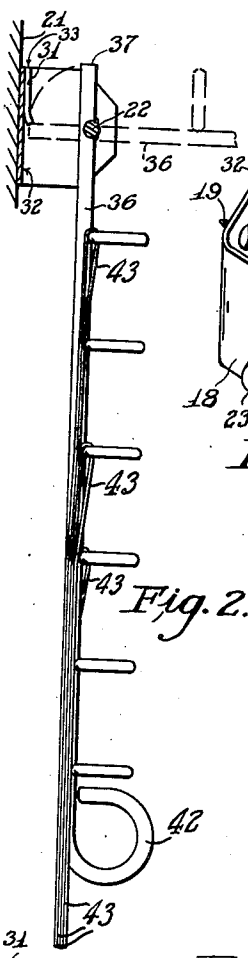


Fig. 1.

Fig. 2.

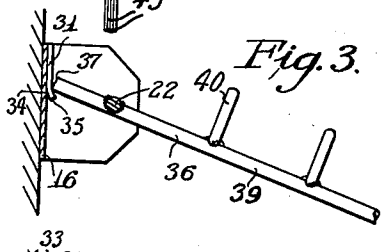


Fig. 3.

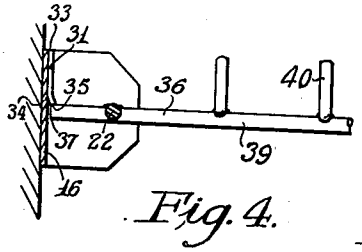


Fig. 4.

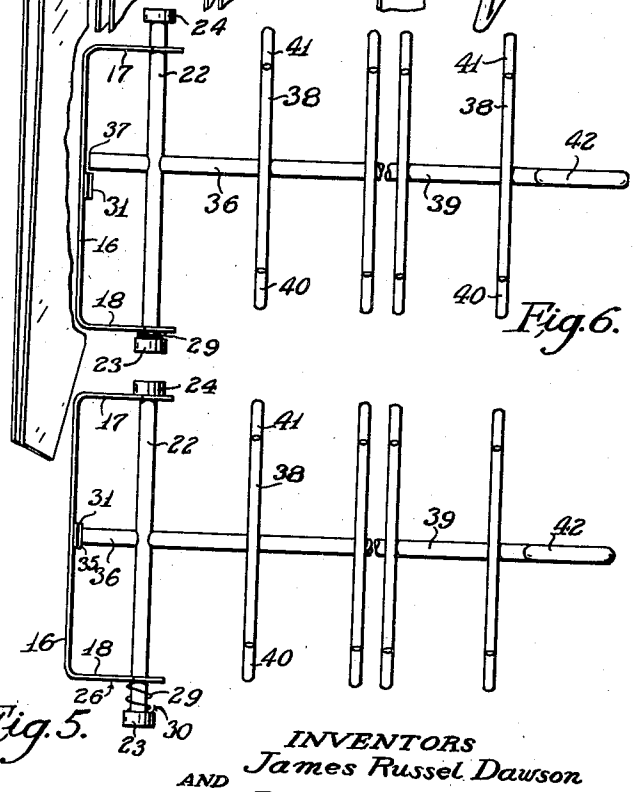


Fig. 5.

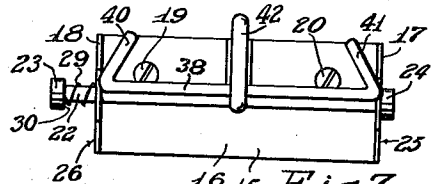


Fig. 7.

Fig. 6.

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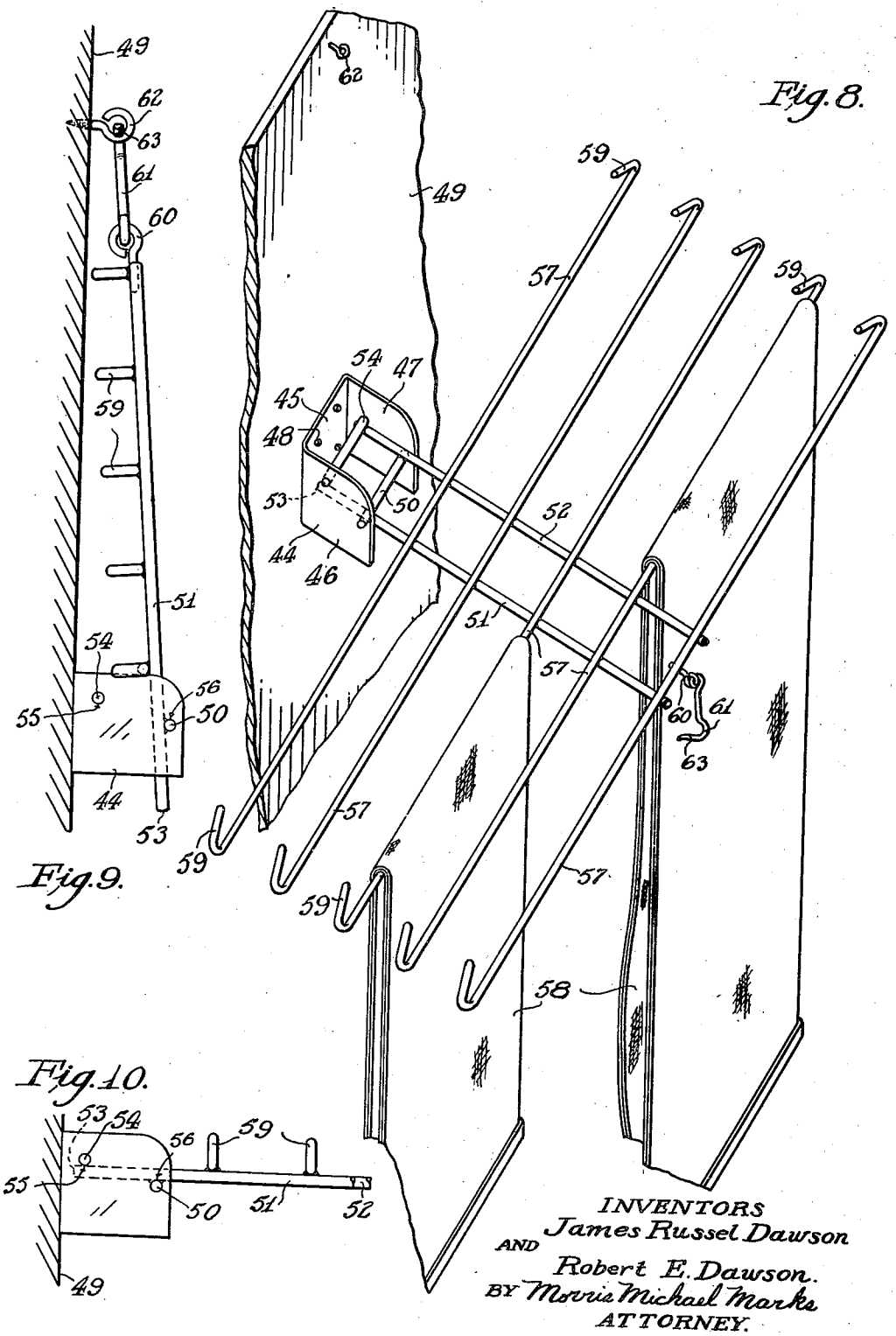


Fig. 8.

Fig. 9.

Fig. 10.

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UNITED STATES PATENT OFFICE

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APPAREL RACK

James Russell Dawson and Robert E. Dawson,
Philadelphia, Pa.

Application January 31, 1938, Serial No. 187,937

4 Claims. (Cl. 211—100)

Our invention relates to apparel racks and it relates more particularly to racks adapted to be mounted on walls or doors, and which may be extended to a substantially horizontal position for purposes of mounting or demounting apparel therefrom, and then moved into a substantially vertical position for purposes of storing such apparel.

One object of our invention is to construct an apparel rack which is adapted to be mounted on a wall or door, and which may readily and surely be extended to a substantially horizontal position for purposes of mounting or demounting apparel therefrom, and in which means are provided for quickly and easily translating the position of said apparel rack from a substantially horizontal to a substantially vertical position, operably to permit the storage of said apparel in an "out of the way" position.

Another object of our invention is so to construct an apparel rack as to render it possible and desirable to mount the apparel directly on the rack, without the use of separate demountable hangers.

With the above and other objects in view, our invention consists of an apparel rack having a base, a shaft journalled within said base, a trunk secured to said shaft and adapted to rotate about the axis of said shaft, apparel-carrying arms mounted on said trunk; a limiting stop projecting from said base and adapted to abut against said trunk when it is in a substantially horizontal position; and means for releasing said trunk from said limiting stop, operably to permit the translation of said trunk to a substantially vertical position.

Our invention also consists of an apparel rack having a trunk, as hereinbefore described, apparel-carrying arms radiating from said trunk, and means for limiting longitudinal displacement of said apparel along said arms.

Our invention further consists of an apparel rack comprising a base, a shaft journalled within said base, a trunk secured to said shaft and adapted to rotate about the axis of said shaft, apparel-carrying arms mounted on said trunk; a limiting stop projecting from said base and adapted to abut against said trunk when said trunk is in a substantially horizontal position; and means for transversely displacing said trunk in a manner to disengage said trunk from said limiting stop, operably to permit the translation of said trunk to a substantially vertical position.

For the purpose of illustrating our invention, we have shown in the accompanying drawings forms thereof which are at present preferred by us, since the same have been found in practice to give satisfactory and reliable results, although it is to be understood that the various instrumentalities of which our invention consists can be variously arranged and organized and that our invention is not limited to the precise arrangements and organizations of the instrumentalities as herein shown and described.

Referring to the drawings in which like reference characters indicate like parts:

Figure 1 represents a perspective view of an apparel rack embodying our invention.

Figure 2 represents a vertical sectional view of an apparel rack embodying our invention, with the trunk lowered into an "out of the way" position.

Figure 3 represents a fragmentary vertical sectional view of an apparel rack embodying our invention, in which the trunk is being elevated into an extended position for purposes of mounting or demounting apparel therefrom and showing the manner in which the trunk intercepts the means for retaining said trunk in said extended position.

Figure 4 represents a fragmentary vertical sectional view of an apparel rack embodying our invention, with the trunk in fully extended position and in interlocking engagement with the means for retaining said trunk in said extended position.

Figure 5 represents a top plan view of an apparel rack embodying our invention, with the trunk thereof retained in fully extended position.

Figure 6 represents a top plan view of an apparel rack embodying our invention, with the trunk thereof disengaged from the retaining means in a manner to permit the translation of said trunk from a horizontal, fully extended, position, to a vertical, "out of the way" position.

Figure 7 represents a front elevational view of an apparel rack embodying our invention, with the trunk thereof in fully extended position.

Figure 8 represents a perspective view of an apparel rack of modified construction, embodying our invention.

Figure 9 represents a side elevational view of an apparel rack of modified construction embodying our invention, with the trunk thereof retained in a substantially vertical, "out of the way" position.

Figure 10 represents a fragmentary side elevational view of an apparel rack of modified construction, embodying our invention, with the trunk thereof retained in a substantially horizontal position.

According to our invention, we provide a base member 15, preferably comprising a rear plate 16 and two oppositely disposed arms 17 and 18 respectively projecting from either side thereof. Suitable retaining means, such as the wood screws 19 and 20, project from the rear wall plate 16 in such manner as to permit said plate to be secured to a wall or door 21.

A shaft 22, of a length greater than the distance between the outside faces of the side arms 17 and 18, is journalled in said side arms 17 and 18 in a manner to permit rotation therein and longitudinal displacement therethrough. Handle members 23 and 24 are fixedly secured to the opposite ends of the shaft 22, and are adapted to abut against said outside faces 25 and 26 respectively, of the side arms 17 and 18, in such manner as to operate as limiting stops for longitudinal displacement of the shaft 22 through the journals 27 and 28 in said side arms 17 and 18. A helical compression spring 29 is mounted on the shaft 22 between the outside face 26 of the side arm 18 and the inner face 30 of the handle member 23, operably resiliently to urge the shaft 22 towards displacement in the direction of said spring 29.

A leaf spring 31 is secured, preferably by welding, to the front face 32 of the rear wall 16. In a preferred form of our invention, this spring 31 abuts against the rear wall 16 from the upper edge 33 to a point 34, preferably slightly above the horizontal plane of the shaft 22, at which point the leaf spring 31 is inclined forward operably to extend the lower edge 35 thereof a substantial distance forward of the rear face 16, while retaining a downward component.

A trunk 36 is secured to the shaft 22, preferably by welding, at a juncture spaced from the end 37 of said trunk a distance preferably slightly less than the distance from said juncture to the forward face 32 of the rear wall 16, but slightly greater than the distance from said juncture to the bottom edge 35 of the leaf spring 31.

Apparel carrying arms 38 are secured, preferably by welding, on the beam 39 of the trunk 36 opposed to the beam terminating in the trunk end 37. These arms 38 are preferably secured to the trunk 36 at junctures substantially near the middle of said arms 38; and preferably are upturned at the ends 40 and 41 thereof, said upturned ends 40 and 41 being inclined upwardly and inwardly towards the center of said arms 38. The end of the trunk 38, opposed to the end 37 thereof, is formed into a handle member such as the ring 42 illustrated in the drawings.

In constructing the apparel rack embodying our invention, we preferably form the base 15 from a unitary sheet metal blank, and the shaft 22, trunk 36, and arms 38 from heavy stock wire, or from metal rods.

In practice, the base 15 is mounted on a wall, door or other vertical member 21, by means of the retaining members, such as the wood screws 20. When it is desired to mount or demount apparel, such as the ties shown, the handle member 42 is grasped or interlocked by means of the finger of the operator, and the trunk 36 is lifted by freely rotating it about the axis of the shaft 22, until the end 37 of said trunk intercepts the forwardly projecting end of the leaf spring 31, as illustrated in Figure 3.

Further rotation of the trunk 36 in the same direction depresses the lower end of the leaf spring 31 in a rearward direction until the end 37 of the trunk 36 passes beneath the lower edge 35 of the leaf spring 31, thereby permitting the said lower edge to be sprung forward in such manner as to intercept the path of the end 37 of the trunk 36, operably to prevent rotation thereof in a reverse or upward direction. In this manner, the opposite beam 39 of the trunk 36 is prevented from rotation in a downward direction and is thus locked in a substantially horizontal position. In this position, the vertical spaces between the arms 38 are enlarged to their fullest extent, operably to permit free access to the individual arms for purposes of mounting or demounting apparel thereon.

When it is desired to translate the trunk 36 into an "out of the way" position, the handle member 23 is urged toward the side arm 18, against the pressure of the helical compression spring 29. This longitudinally displaces the shaft 22 in a manner to carry the lower end 37 of the trunk 36 to one side of, and beyond, the lower edge 35 of the leaf spring 31, operably to free said lower end 37 from the limiting action of said lower edge 35. The greater weight of the opposed beam 39 of the trunk 36, occasioned by the increased length thereof and the presence thereon of the arms 38, as well as the presence thereon of the apparel 43, causes said trunk 36 to be in an unbalanced condition, operably to translate said trunk from a horizontal to a vertical position when the lower end 37 thereof is released from the limiting action of the lower edge 35 of the leaf spring 31. In the downward rotation of the trunk portion 39, the vertical spaces between the arms 38 thereof are gradually lessened and ultimately eliminated, and the apparel 43 borne thereby is gently lapped, one behind the other, into the positions illustrated in Figure 2. When it is again desired to extend the trunk 36 into a horizontal position, the articles of apparel 43 are gently unlapped, without interference with each other, and are borne upwardly into the position illustrated in Figure 1. The upwardly and inwardly inclined ends 40 and 41 of the arms 38 operate to interlock with and prevent the apparel from slipping off of said arms while the trunk 36 is being raised or lowered.

In Figures 8, 9 and 10 are illustrated a modified construction of apparel rack embodying our invention. In this modified embodiment of our invention, we prefer to use a heavier stock of material, and of a larger size such that apparel of greater weight and size may be carried. Thus, according to our invention, we have herein provided means for supporting heavier garments, such as trousers.

According to this embodiment of our invention, we provide a base member 44, comprising a rear wall plate 45, and two, oppositely disposed, arms 46 and 47 respectively, projecting from either side thereof. Suitable retaining means, such as the wood screws 48, project from the rear wall plate 45 in a manner to permit the base to be secured to a wall or door 49.

A shaft 50 is rotatably journalled within the side arms 46 and 47 and has secured thereto, preferably by welding, two coplanar trunk members 51 and 52, respectively disposed parallel to, and in juxtaposition to the inner faces of the side arms 46 and 47, each of said trunks 51 and 52 being secured to said shaft 50 at a juncture spaced from one end 53 of the trunk a distance less than that between said juncture and the rear wall plate 45.

A limiting stop 54, preferably in the nature of a retaining member or brace, is secured to the

side arms 46 and 47, parallel to the shaft 50 and intermediate the rear wall plate 45 and said shaft 50; with the lower edge 55 of said limiting stop 53 disposed above the upper edge 56 of the shaft 50 a distance equal to the thickness of the respective trunks 51 and 52.

Apparel-supporting arms 57 are mounted, preferably by welding, on the trunks 51 and 52, in spaced relation to each other, and project on both sides thereof in a manner to permit the mounting upon said arms of apparel 58 on both sides of said trunks.

The outer ends of the apparel-supporting arms 57 are upwardly and inwardly inclined as at 59, operably to interlock with the apparel 58 and to prevent undesired dislodgment of said apparel from the supporting arms 56.

The apparel-supporting arm 57 nearest to the ends of the trunks 51 and 52, opposed to the ends 53 thereof, has secured thereto as by welding, an eye bolt 60. A hook 61 is interlinked with said eye bolt 60 in a manner to be permanently retained thereby, and is adapted to be interhooked with an eye bolt 62, secured to the wall or door 49 a distance above the shaft 50, generally equal to the distance from said shaft 50 to the fluke 63 of said hook 61 when said hook 61 is fully extended.

In practice, the trunks 51 and 52 are rotated about the shaft 50 until the lower ends 53 thereof abut the lower edge 55 of the limiting stop 54. In this position, the trunks 51 and 52, and the apparel-supporting arms 57 retained thereby, are in a substantially horizontal position. The apparel-supporting arms are now in position to have mounted or demounted thereon apparel, such as trousers or the like, as illustrated in Figure 8. When it is desired to translate the trunks 51 and 52 and the apparel-supporting arms 57 into an "out of the way" position, the hook 61 or the outermost apparel-supporting arm 57 is grasped by the operator and lifted in a manner to rotate said trunks about the shaft 50, until said trunks have crossed the vertical axis of the shaft 50 and the lowermost apparel-supporting arm 57 abuts against the upper edges 64 of the side arms 46 and 47, thereby to retain said trunks 51 and 52 and apparel-supporting arms 57 against further rotation in the same direction. The trunks 51 and 52, having crossed their vertical axis of rotation, will rest in said position, and will normally not require the interlocking of the hook 61 with the eye bolt 62; but said hook 61 and eye bolt 62 are provided for purposes of ensuring said trunks 51 and 52 and the arms 57 mounted thereon from undesired rotation in a reverse direction. As in the case of the embodiment of our invention illustrated in Figures 1 to 7 inclusive, the vertical spaces between the apparel-carrying arms 57 are gradually diminished until they disappear as the trunks 51 and 52 are translated from a horizontal to a vertical position, operably gently to lap the apparel against each other; and said vertical spaces appear and enlarge to their fullest extent as the trunks 51 and 52 are translated from their substantially vertical, "out of the way" position to a horizontal position, thereby unlapping the garments and providing open spaces between the apparel-carrying arms enabling ready mounting and demounting of garments therefrom.

We are aware that the invention may be embodied in other specific forms without departing from the spirit or essential attributes thereof, and we therefore desire the present embodiments to be considered in all respects as illustrative and not restrictive, reference being had to the appended claims rather than to the foregoing description to indicate the scope of the invention.

Having thus described our invention, what we hereby claim as new and desire to secure by Letters Patent is:

1. An apparel rack comprising a base, a shaft journalled within said base, a trunk secured to said shaft in a manner to prevent longitudinal displacement of said trunk, and adapted to rotate about the axis of said shaft, apparel-carrying arms mounted on said trunk; a limiting stop projecting from said base and adapted to abut against said trunk when said trunk is in a substantially horizontal position; and means for releasing said trunk from said limiting stop operably to permit the translation of said trunk to a substantially vertical position.

2. An apparel rack comprising a base, a shaft journalled within said base, a trunk secured to said shaft in a manner to prevent longitudinal displacement of said trunk, and adapted to rotate about the axis of said shaft, apparel-carrying arms mounted on said trunk; apparel-retaining members on said arms adapted to limit displacement of apparel carried thereby; and a limiting stop projecting from said base and adapted to limit rotation in one direction of said trunk about said shaft.

3. An apparel rack comprising a sheet-metal base including a rear panel and a plurality of side arms; a shaft rotatably journalled in said side arms; a trunk mounted on said shaft in a manner to prevent longitudinal displacement of said trunk; a plurality of parallel apparel-carrying arms mounted on said trunk; said apparel-carrying arms including apparel-retaining members adapted to limit displacement of apparel carried thereby; and a limiting stop on said base adapted to intercept the path of rotation of said trunk in a manner to retain said trunk in substantially horizontal position when said trunk has been rotated into juxtaposition to said limiting stop.

4. An apparel rack comprising a sheet-metal base including a rear panel and a plurality of side arms; a shaft rotatably journalled in said side arms, and adapted to be longitudinally displaced therethrough; a trunk mounted on said shaft; a plurality of parallel, apparel-carrying arms mounted on said trunk; said apparel-carrying arms including apparel-retaining members adapted to limit displacement of apparel carried thereby; and a limiting stop on said base adapted to intercept the path of rotation of said trunk in a manner to retain said trunk in a substantially horizontal position when said trunk has been rotated into said position and said shaft is in undisplaced condition, and adapted to release said trunk when said shaft is in displaced condition; and spring means connected with said shaft and said base in a manner resiliently to urge said shaft into an undisplaced condition.

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