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APPAREL RACK SUPPORTS

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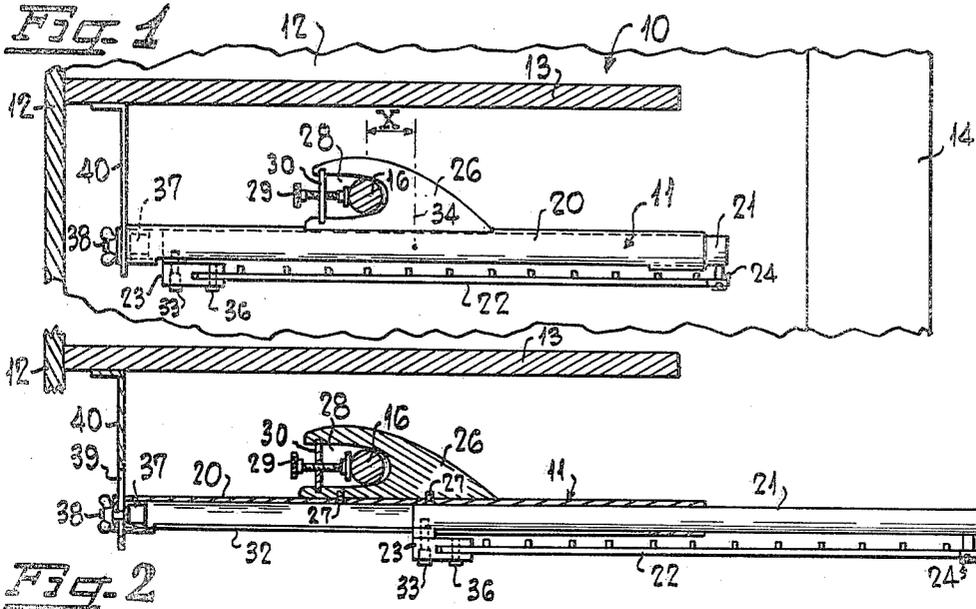


Fig. 2

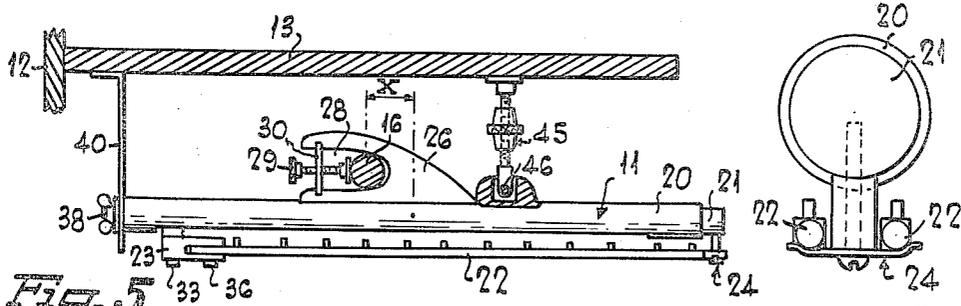


Fig. 5

Fig. 3

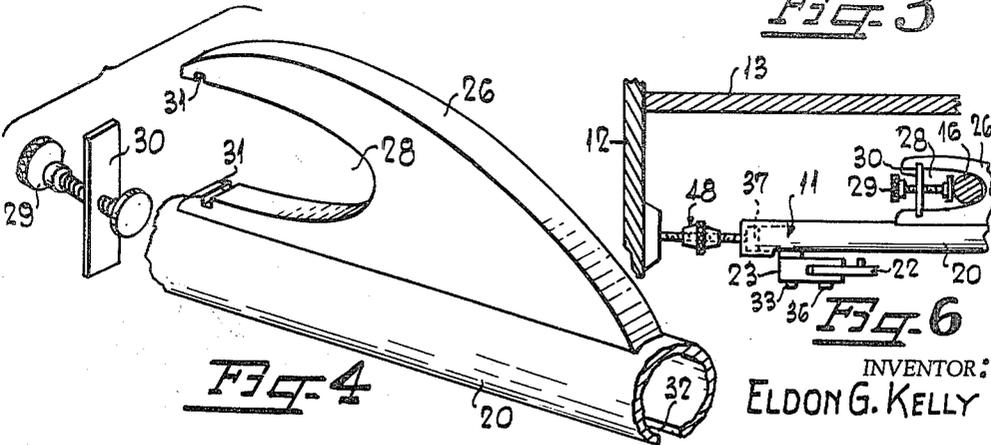


Fig. 4

Fig. 6

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**APPAREL RACK SUPPORTS**

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2 Claims. (Cl. 211-113)

This invention is a continuation-in-part of my co-pending application Serial No. 219,420, filed August 27, 1962, now U.S. Patent 3,116,837 granted January 27, 1964, and relates to apparatus for detachably anchoring an elongated garment rack in cantilevered position relative to a closet hanger rod or bar.

It is an object of this invention to provide anchoring apparatus of the type mentioned above wherein the greater weight of the cantilevered rack portion cooperates with abutment means at the lighter rack end portion to maintain the rack in a stable position on the hanger rod. Since the resultant moment of force acting downwardly about the hanger rod serves to anchor the rack in position, the anchoring means may be quickly released by overcoming this force when removing the rack from installed position.

It is a further object of this invention to provide an elongated apparel supporting rack having anchoring means associated with one end portion thereof relying upon compressive stresses between spaced points on the rack and surfaces of closet shelf and hanger rod respectively to maintain the other end the rack in anchored position. By relying on such compressive stresses at spaced points along the rack, it is unnecessary to drive nails or screws into the closet structure.

It is a further object of invention to provide an apparel supporting rack which is easy to install or remove from closets of conventional construction, simple in construction, and relatively inexpensive to manufacture.

Some of the objects of invention having been stated, other objects will appear when taken in connection with the accompanying description and drawings, in which,

FIGURE 1 is a sectional view through an apparel closet showing my improved apparatus for mounting a telescopic tie rack upon the closet hanger rod or bar;

FIGURE 2 is a longitudinal sectional view similar to FIGURE 1, but showing the rack in partially extended position;

FIGURE 3 is an enlarged elevational view looking at the right-hand end of FIGURE 1;

FIGURE 4 is an exploded isometric view of the bracket for detachably supporting an intermediate portion of the rack upon the hanger rod;

FIGURE 5 is a view similar to FIGURE 1, but showing a slightly modified form of the invention, and

FIGURE 6 is a fragmentary sectional view showing another modified form of the invention.

Referring more particularly to the drawings, the numeral 10 denotes a wearing apparel storage closet having vertically disposed walls 12, horizontally disposed wall or shelf 13, door opening 14, and apparel hanger rod or bar 16. The present invention comprises means for anchoring one end of a telescopic apparel support, such as a necktie rack 11, to the above-mentioned rod 16 and to one of said walls.

The telescopic apparel support 11 may be such as disclosed in my copending patent application Serial No. 219,420 which comprises an outer elongated tube, pipe or casing 20 arranged transversely of hanger rod 16, an inner tube bar or pipe 21 telescopically supported by member 20, a pair of tie-supporting arms 22, a bracket 23 secured to the inner retracting end portion of member 21 as at 33 and pivotally supporting one end of each of said arms as at 36, and a latch mechanism 24 at the outer extending end of member 21 for releasably latching the free end of each of said arms.

The lower periphery of outer tube 20 has a slot 32 extending longitudinally thereof, said slot terminating short of the ends of the tube 20 at suitable points for limiting the telescopic movement of bracket 23, arms 22 and tube 21 in either direction (FIGURE 2). Hollow member 20 thus functions as a track for slidably supporting the unit composed of members 21, 22 and 23 which, in turn, support the apparel. The telescopic feature is employed primarily as a means for shifting the supported apparel from storage position within the closet to a more accessible position toward the opening or door 14.

The outer tube 20 has fixedly secured to its upper central portion a bracket 26 by any suitable means such as screws 27 (FIGURE 2), the upper portion of said bracket having a horizontally disposed and substantially U-shaped slot 28 therein adapted to fit around the top, bottom and one side of rod or bar 16 when the rack is in an installed position. The bottom or right-hand end of slot 28 has a smaller radius than that of rod 16 so as to provide a wedging effect when the rod and bracket slot are pressed together. Rod 16 is removably confined in slot 28 by means of clamp bolt 29 threadably secured in bar 30, the upper and lower ends of said bar being adapted to removably fit respectively in grooves 31, 31 cut in the inner opposed faces of slot 28. The bracket 26, thus confined to rod 16, serves mainly to prevent movement of the bracket longitudinally of the rod, but does not effectively retard pivotal or rotary movement by the rack.

When installing rack 11, the bar 30 is removed from grooves 31, 31 to the position shown in FIGURE 4 so that slot 28 can be inserted about rod 16, at which time the bar 30 is restored to groove 31, 31 and the clamp bolt 29 manipulated to press the rod and bottom portion of slot 28 together.

It is important to note that bracket 26 is located closer to one end of rack 11 than the other so that the horizontal center of gravity of the assembled bracket and contracted rack (FIGURE 1) will act along vertical line 34 which, in turn, is located a suitable distance "x" to the right of the supporting hanger rod 16, thereby providing a heavier rack portion at the front end than at the back end of the closet. This imbalance will therefore tend to rotate the rack in a clockwise manner about rod 16.

This rotational tendency will be appreciably increased when rack 11 is in an extended position as shown in FIGURE 2, especially if the rack is loaded with apparel.

In order to limit the clockwise rotation of the outer heavier end of rack 11, the lighter end of tube 20 is provided with a closure member 37 having a threaded bolt 38 extending therefrom. Bolt 38 penetrates slot 39 in the vertical leg of an inverted L-shaped bracket or abutment member 40 (FIGURES 1 and 2), the horizontal leg of the bracket abutting, but not secured to, the lower surface of shelf or horizontal wall 13. The bolt 38 is held in properly adjusted position relative to bracket 40 by means of washer 41 and wing nut 42.

It will be observed that bracket 40 may be vertically adjusted relative to member 20 to accommodate various distances between the latter and the particular closet shelf 13 to be abutted by the bracket. When installed, the bracket 40 will oppose the torque created by the opposite and heavier end portion of the rack 11. Stated differently, the rack 11 is anchored in cantilevered position by two opposing compressive stresses acting at spaced points along the length of the lighter rack end portion, that is, downward compressive stress exerted by bracket 26 upon rod 16, and the opposing upward compressive stress exerted by abutment member 40 upon shelf 13. Since only clockwise torque can or might occur (FIGURES 1 and 2) as a result of the weight of the rack and/or the apparel supported thereby, the abutment member 40 is not required to be fastened to a closet wall

or shelf. Instead, the constant clockwise torque maintains the abutment member 40 in constant contact with stationary shelf 13.

Although the rack assembly 11 may be designed to normally produce sufficient constant torque to maintain the abutment member 40 in contact with shelf 13, some installations may require additional means for resisting upward movement or rotation of the heavier rack end portion, particularly in installations where upwardly acting external forces are likely to engage the heavier end. Such additional means is illustrated in FIGURE 5 and comprises a second abutment member such as turnsleeve 45, the lower end of which is pivotally secured to rack 11 as at 46 and the upper end abutting the lower surface of shelf 13. Turnsleeve 45 has means for adjusting its length in a well-known manner and may be employed in connection with adjustable abutment member 40 to clamp the rack against rod 16. Where abutment members 40 and 45 are employed in this manner, the rod 16 is not required to be located eccentrically of the horizontal center of gravity of the rack assembly; however, it is advantageous in most cases to do so.

FIGURE 6 illustrates another modified form similar to FIGURES 1 and 2, but showing the lighter end of rack assembly 11 anchored to a vertically disposed closet wall by an abutment member or turnsleeve 48, one end of said sleeve being secured to closure member 37 and the other end abutting closet wall 12. By elongating the turnsleeve 48, a substantially horizontal compressive stress will be created between wall 12 and rod 16 to thereby anchor the lighter end of the rack. Likewise, as in the preceding form, the last-mentioned compressive stress can be sufficient to diminish or eliminate the necessity for mounting rack assembly eccentrically of its horizontal center of gravity.

In the drawings and specification preferred embodiments of the invention have been disclosed, and although specific terms are employed they are used in a generic sense and not for purposes of limitation, the scope of the invention being set forth in the following claims.

I claim:

1. In combination with a closet shelf having a horizontally disposed rod therebeneath for supporting elongated apparel racks transversely thereof, apparatus for anchoring said rack to said rod and shelf comprising: means for suspending said rack from said rod eccentrically of the horizontal center of gravity of the rack whereby the heavier end of the rack will tend to rotate downwardly about said rod and the lighter end upwardly, abutment means secured to the lighter end of said rack and engageable with said shelf to limit said rotation, said suspension means including a bracket having a substantially U-shaped slot therein insertable transversely upon said rod, means detachably mounted upon said bracket for closing the said slot about said inserted rod, and means carried by said last-named means and engageable with said rod for confining the latter in inserted position.

2. In combination with a closet shelf having a horizontally disposed bar therebeneath for supporting elongated apparel racks transversely thereof, apparatus for anchoring said rack to said bar and shelf comprising: means for pivotally supporting said rack intermediate its ends upon said bar, and abutment means individual to opposite end portions of said rack and engageable with said shelf for preventing rotation of the rack about said pivot.

#### References Cited by the Examiner

##### UNITED STATES PATENTS

2,496,276	2/50	Dolas	211—86 X
2,740,531	4/56	Simpkins	211—194
2,985,311	5/61	Abel	211—94 X
3,116,837	1/64	Kelly	211—94
3,124,253	3/64	Petrich	211—94

##### FOREIGN PATENTS

286,078 3/28 Great Britain.

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