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Royeton

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[54] **STORAGE HANGING RACK**

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[51] **Int. Cl.** **A47f 5/08**

[58] **Field of Search** .. 211/116, 90, 94, 1.3, 88, 153; 108/143; 232/35, 34

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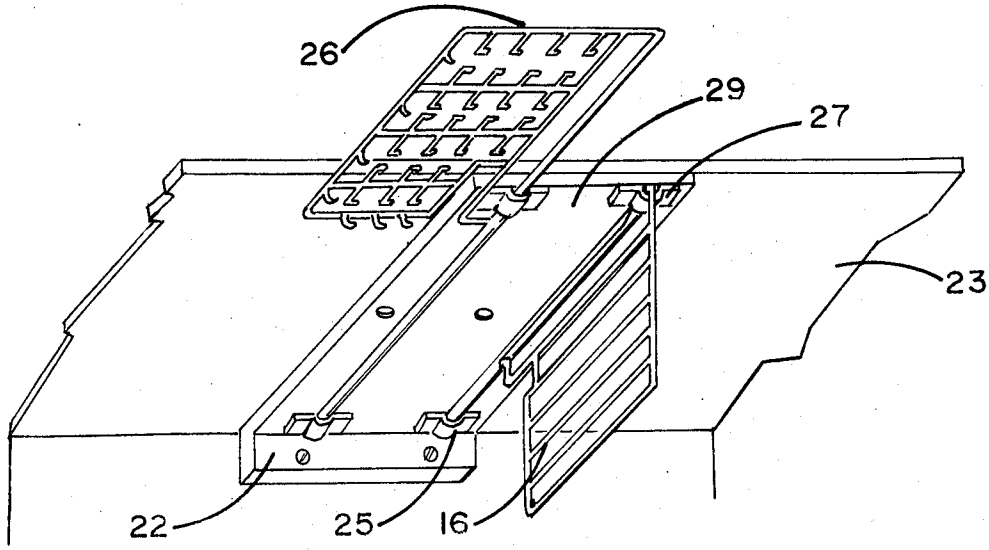
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[57] **ABSTRACT**

A hanging rack device comprises a rod slideably received in a tubular sleeve, the rod having attached thereto a hanging rack and which sleeve includes guide means for directing the inclination of the rod and rack between vertical and horizontal depending on the extent in which the rod is received in the sleeve.

6 Claims, 4 Drawing Figures



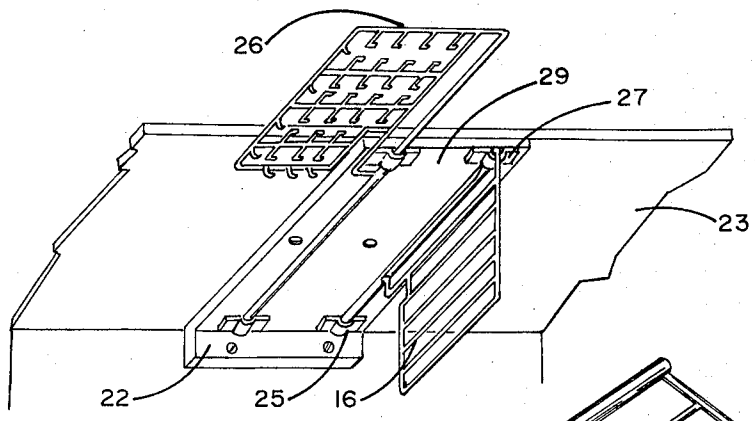


FIG. 2

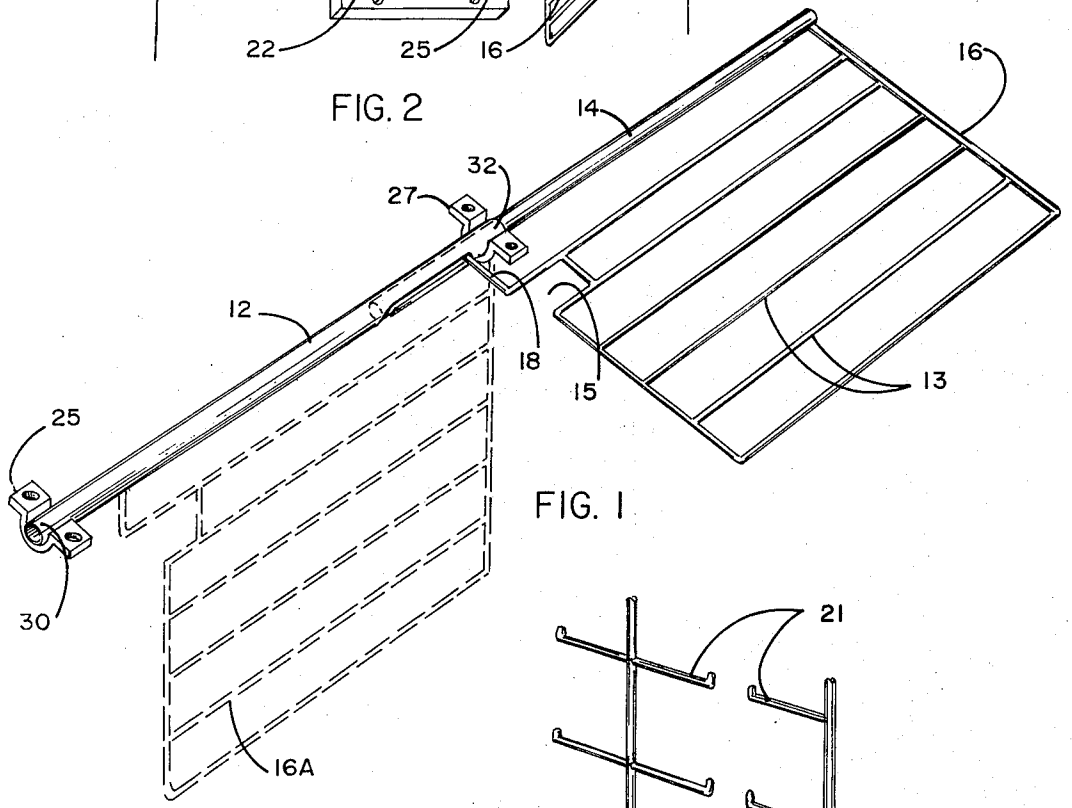


FIG. 1

FIG. 4

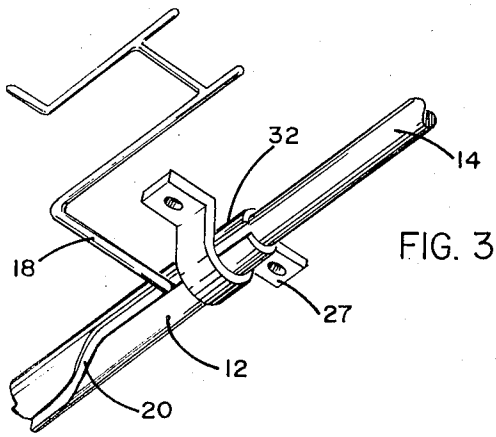


FIG. 3

STORAGE HANGING RACK

BACKGROUND OF THE INVENTION

Storage space in closets for hanging articles such as trousers, shirts, ties and the like is usually considered at a premium since existing closet space is often found to be inadequate. Building of additional or expanded closet facilities are impractical since the closet space is designed and built as a specific portion of a home or apartment so that modifications are usually quite expensive. Accordingly, as a person's supply of clothes increases, the individual garments or articles when placed on hangers are simply squeezed together so that each article has a more limited storage space. Such a condition usually results in the clothes becoming wrinkled because they are frequently pushed or forced together, especially when one attempts to remove or hang up an article of clothing.

SUMMARY OF THE INVENTION

The present invention obviates aforementioned problems of clothing storage by providing an extendable hanging rack on which a plurality of trousers, ties, belts and the like may be stored in a relatively small space within a closet thereby providing more room for shirts and coats. The device incorporates features whereby it may be extended from the closet interior for easy access and exposure of the stored articles.

The device of the invention comprises a tubular sleeve which is secured within a closet and in which sleeve is received a slidable rod. A rack for hanging articles of clothing is attached to the rod. The tubular sleeve includes guide means for directing the inclination of the rod and attached rack so that when the rod is substantially fully received in the sleeve, the storage rack will hang vertically downwardly thereby taking up a minimum of space; when the rod is extended out of the sleeve so that the rack is exposed and extends outwardly from the closet interior the indexing means provides for rod and rack inclination so that the rack is disposed substantially horizontal.

The device is simple to manufacture and has relatively few parts thereby making it attractive commercially and for consumer use. These as well as other advantages will be evident from the following detailed description.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a view in perspective of the device of the invention partially in phantom, illustrating two positions of the rack;

FIG. **2** is a view in perspective of two devices shown installed in a closet;

FIG. **3** is a partial detailed view showing the guide means for the rack; and

FIG. **4** is a partial view of a tie and belt rack embodiment.

DETAILED DESCRIPTION OF THE INVENTION

Referring to FIG. **1,** there is shown the device of the invention comprising a tubular sleeve **12** in which is received slidable rod **14.** The tubular sleeve is hollow so that rod **14** may be substantially fully received in the sleeve or be extended outwardly. Attached to rod **14** is rack **16** on which trousers or similar garments may hang from bars **13.**

A particularly advantageous feature of the device of the invention is that in a first position in which rod **14** is substantially fully received in tubular sleeve **12,** rack **16a** is inclined substantially vertically as shown in phantom in FIG. **1.** This position of rack **16** also illustrated in FIG. **2,** takes up a minimum amount of space within a closet even when a plurality of such racks are installed. When it is desired to remove or espose trousers or other apparel stored on rack **16,** it is grasped and pulled outwardly so that rod **14** extends from tubular sleeve **12** as shown in FIG. **2.** At the same time, rack **16** is inclined substantially horizontal when it is in the fully extended position as shown. In that position a plurality of trousers located on bars **13** hang separately as they would normally from a traditional hanger so that they may be selected and removed individually from rack **16** without interfering with adjacent trousers on the rack.

Referring also to FIG. **2,** rack **26** is shown in an extended position while rack **16** is shown in a stored position. Accordingly, rack **26** is inclined substantially horizontally so that apparel thereon may be easily and readily observed and removed or replaced as desired. Thus, in the extended position, the rack is pulled outwardly away from the closet interior for easy access to stored apparel. On the other hand, rack **16** in its substantially vertical stored position within the closet takes up a minimum of space, and yet, articles stored thereon are not normally ruffled or undesirably wrinkled since such articles hang on separate bars.

Observing further both FIGS. **1** and **2,** tubular sleeve **12** may be conveniently attached within an existing closet area utilizing brackets **25** and **27.** These brackets may be attached directly to the underside of closet shelf **23** or may be secured to a separate support panel so that a pair of racks **16** and **26** or more may be fixed to such a panel and provide a unitized construction for easy assembly or attachment within a closet area. Accordingly, as shown in FIG. **2,** brackets **25** and **27** may be secured to panel member **29** which member is attached to closet shelf **23.** Additional stability and support for the shelf may be provided by utilizing brace member **22** which may also be secured to panel member **29** if desired. It will be noted that brace member **22** may be secured to a closet wall as shown.

Referring now to FIGS. **1** and **3,** means for guiding the inclination of rod **14** and attached rack **16** is provided by guide channel **20** which extends along and through tubular sleeve **12.** Guide member **18** extending from rod **14** travels along guide channel **20** as rod **14** is pulled inwardly or outwardly within tubular sleeve **12.** Guide channel **20** extends along a portion of the bottom length of tubular sleeve **12** from rearward end **30** thereof and along a portion of the side length of the sleeve adjacent the forward end **32** thereof. In other words, the guide channel is formed so that when indexing member **18** is positioned near rearward end **30** of tubular sleeve **12,** rod **14** and rack **16** are inclined so that the rack extends substantially vertically or downwardly as is rack **16a** in FIG. **1.** As rod **14** is pulled forward and indexing member **18** nears forward end **32** of sleeve **12,** it will ride along channel guide **20** as shown in FIG. **3** so that rack **16** extends horizontally when rod and rack are pulled outwardly to extend from sleeve **12** in a position shown in FIG. **1.** Again, these two positions are shown in FIG. **2** with rack **16** in a stored position extending downwardly and rod **14** substantially

fully received in tubular sleeve **12.** On the other hand, rack **26** is inclined substantially horizontally in a position when it is desired to retrieve or replace articles of clothing thereon.

Observing further FIG. **3,** it will be noted that bracket **27** is placed adjacent end **32** of sleeve **12** so that the bracket acts as a stop member for indexing member **18** to prevent rod **14** from inadvertently being pulled completely out of the sleeve. Further, channel guide **20** preferably extends to the forward end **32** of sleeve **12** as shown. Such a feature is desirable since the device may be disassembled by removing bracket **27** whereby rod **14** and indexing arm may be pulled completely out of forward end of sleeve **12.** However, such embodiment is optional and channel guide **20** may be terminated at any location along the sleeve as desired. In addition the location along the length of sleeve **12** at which guide channel **20** changes from bottom to side is not critical although preferably that location will be toward the forward sleeve end.

FIG. **4** illustrates features of a tie and belt rack including extensions **21** and hook **19** which extend from rack member **17.** Such features are not critical and may be modified as desired for convenient hanging of ties or belts and the like. As shown in FIG. **2,** a hanging rack assembly comprises a pair of hanging racks **16** and **26.** Rack **16** is useful for hanging trousers which may be hung from each of the cross bars **13** (see FIG. **1**). Rack **26** incorporates the features shown in FIG. **4** for hanging ties, belts and the like. A rack assembly combining a plurality of racks may be one in which all of the racks are of one type or another or combinations thereof, depending upon the type of articles desired to be stored. Accordingly, it will be evident that the feature of removing rod **14** as illustrated in FIG. **3** offers an option of incorporating either of the types of hanging racks shown or later exchanging one kind of rack for another.

A further convenient feature illustrated in FIGS. **1** and **2** is the rack design which includes a notched area **15** in which a bar normally found in a closet may fit when the rack is in the storage position. Thus, with such a design the rack may be placed in the vertical storage position without interfering with the clothes hanging bar normally present in a closet.

In a futher embodiment, the channel guide may extend from along the sleeve bottom, directly upwardly adjacent the forward sleeve end so that normally, rack inclination from vertical to horizontal must be moved by hand. In other words, if the channel guide is directed abruptly upwardly rather than somewaht gently sloping as shown in FIG. **3,** an operator will likely have to pull the rack up to a horizontal position. The rack may then be temporarily maintained in that position by incorporating a notch for resting indexing member **18** horizontally. These as well as other modifications and embodiments within the purview of the invention will be evident to those skilled in the art.

I claim:

1. A rack for hanging articles of clothing comprising:

a tubular sleeve having a forward and rearward end,

a rod slidably received in said sleeve having a hanging rack attached thereto comprising a frame end and crossbars for hanging articles of clothing thereon, and

a channel extending along said sleeve with a first portion of said channel being located in the bottom of said sleeve and a contiguous second portion being located in a side thereof, and a guide member attached to said rod and received in said channel for directing the inclination of said rod and hanging rack between a first position when said rod is substantially fully received in said sleeve with said guide in the first portion of said channel and a second position when said rod is extended from said sleeve with said guide in the second portion of said channel.

2. The device of claim **1** wherein said hanging rack extends downwardly in said first position and substantially horizontal in said second position.

3. The device of claim **2** wherein said channel extends along the bottom of a major portion of the length of said sleeve and along the side for a minor portion of said length, wherein said minor portion is adjacent the forward sleeve end.

4. The device of claim **3** including stop means along said channel adjacent the forward sleeve end.

5. The device of claim **1** wherein said rack comprises a frame and crossbars for hanging trousers thereon.

6. The device of claim **2** wherein said rack is moved between said first and second positions by sliding said rod along said sleeve.

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