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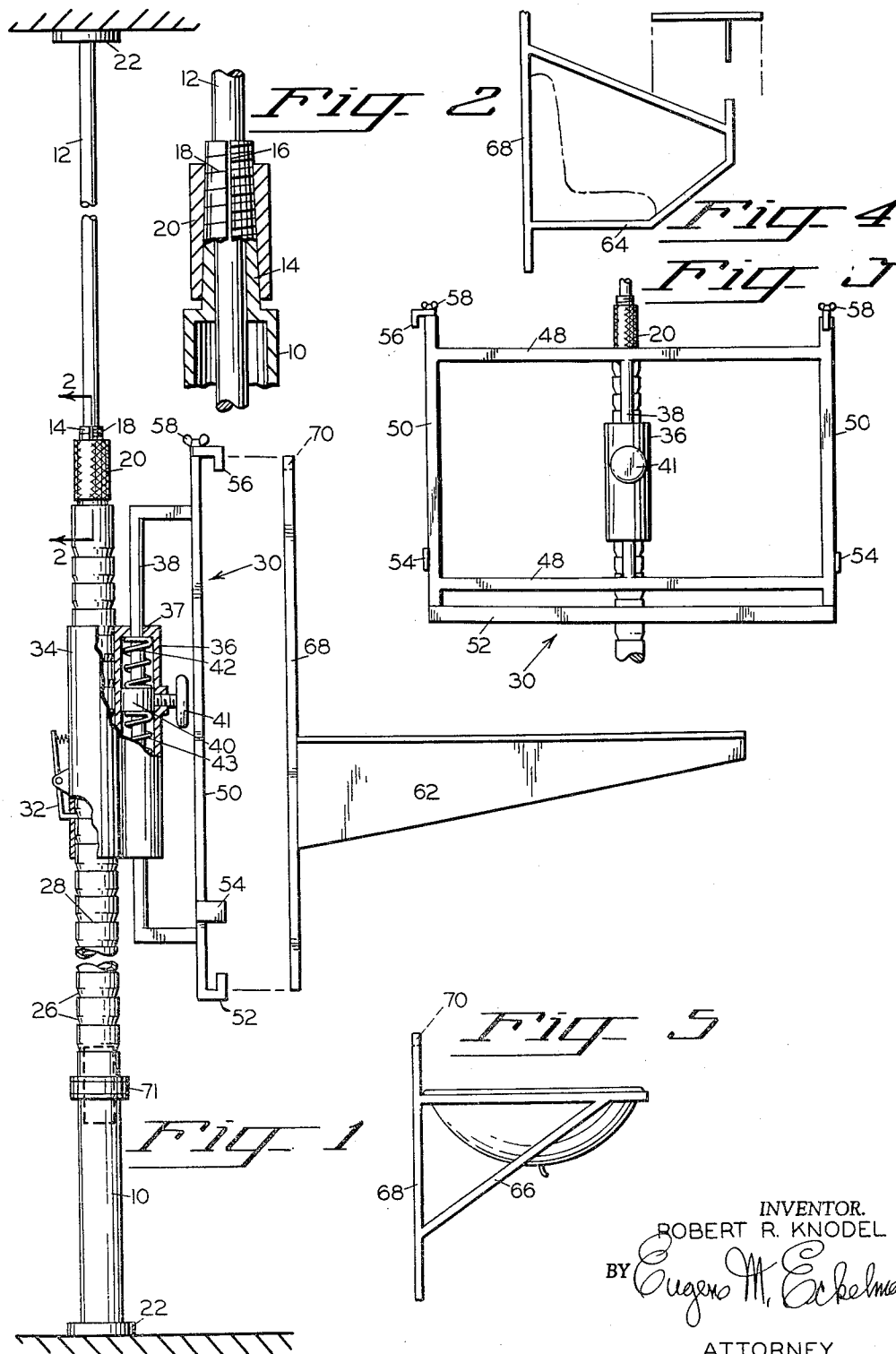
R. R. KNODEL

3,022,974

ACCESSORY HOLDING DEVICE

Filed Nov. 24, 1959

2 Sheets-Sheet 1



INVENTOR.
ROBERT R. KNODEL
BY *Eugene M. Ebelman*
ATTORNEY

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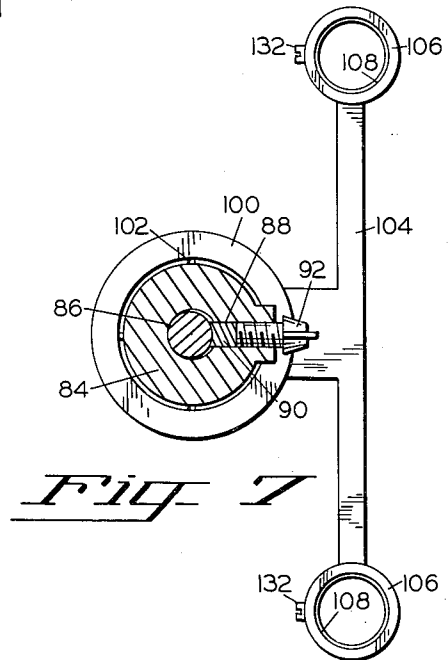
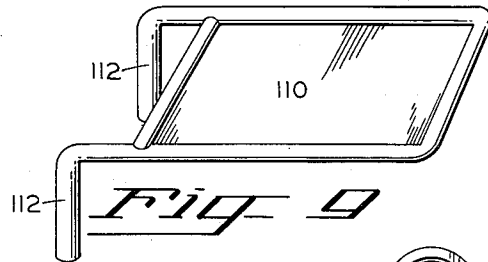
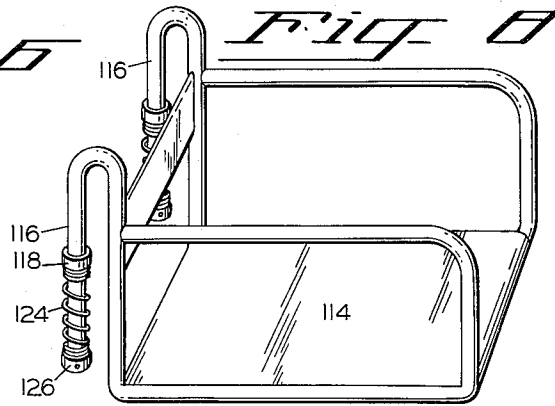
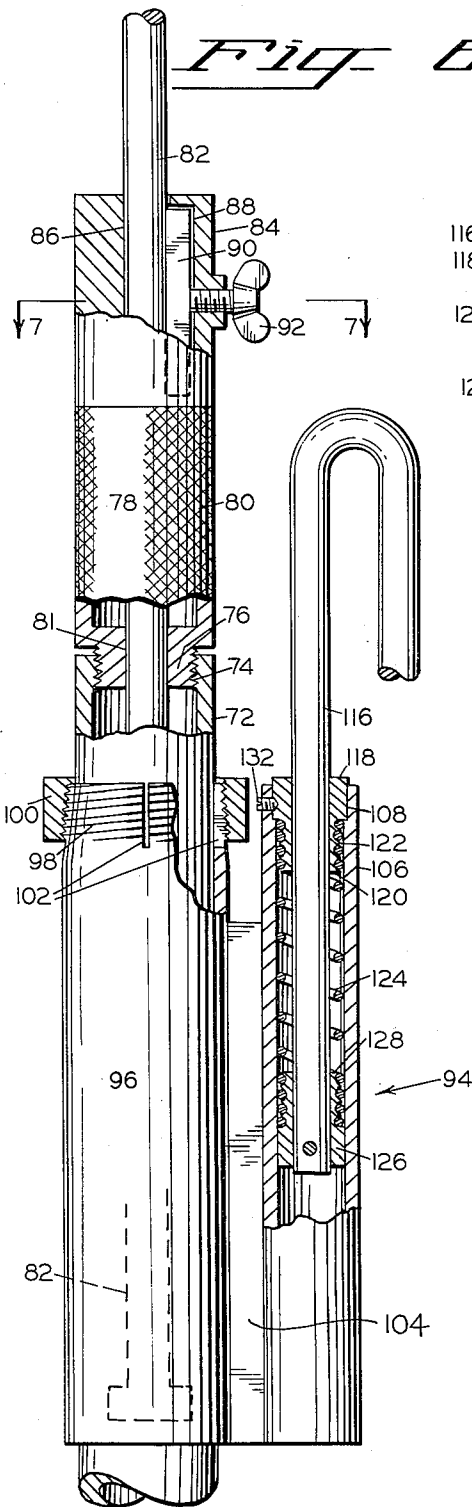
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INVENTOR.
ROBERT R. KNODEL
BY *Eugene M. Eichelman*
ATTORNEY

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3,022,974
ACCESSORY HOLDING DEVICE
 Robert R. Knodel, 11751 Clover Lane,
 Garden Grove, Calif.
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 7 Claims. (Cl. 248—354)

This invention relates to an accessory holding device and more particularly is concerned with a portable pole apparatus adapted to be clamped upright between the floor and the ceiling and adapted to support various accessories thereon.

An important object of the present invention is to provide a novel accessory holding device of the type described adapted to support accessories in desired and convenient positions.

Another object of the present invention is to provide an accessory holding device having an improved base support and an extension member slidably mounted therein, these two elements being capable of being locked together for adjusting the over-all length of the device.

Another object is to provide in combination a holding device and accessories to be supported thereon whereby the latter have means capable of being interchangeably mounted on the holding device.

A further object is to provide an accessory holding device having novel spring support means wherein an accessory mounted thereon is resiliently supported, as shown in one form of the invention, or if desired such accessory may be anchored in a set position, depending upon the type of accessory employed.

Briefly stated, the present invention comprises a device having a lower tubular base portion supporting an upper extension slidable in such base portion and capable of being locked in various length adjustments therewith for the purpose of forming a pole to be clamped between the floor and the ceiling. Such pole has structure capable of receiving and holding various types of accessories and capable of supporting them in desired positions either rigidly or resiliently, depending upon the type of accessory used.

The invention will be better understood and additional objects and advantages will become apparent from the following description taken in connection with the accompanying drawings which illustrate preferred forms of the device. It is to be understood, however, that the invention may take still other forms and that all such modifications and variations within the scope of the appended claims which will occur to persons skilled in the art are included in the invention.

In the drawings:

FIGURE 1 is an elevational view with parts broken away showing one form of an accessory holding pole of the present invention;

FIGURE 2 is a sectional view taken on the line 2—2 of FIGURE 1, showing in particular one form of locking means between the base portion and its extension;

FIGURE 3 is a front elevational view of an accessory holding rack adjustably supported on the holding pole;

FIGURES 4 and 5 are side elevational views showing accessories which may be supported on the pole of FIGURE 1;

FIGURE 6 is an elevational view, partly broken away, showing a second form of the invention;

FIGURE 7 is a sectional view taken on the line 7—7 of FIGURE 6; and

FIGURES 8 and 9 are perspective views showing accessories which may be supported on the pole of FIGURE 6.

Referring first to FIGURES 1—5, there is illustrated one form of accessory holding device of the present in-

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vention comprising a tubular base portion 10, FIGURE 1, in which is slidably mounted an upper extension rod 12. For the purpose of guiding the rod 12 in its sliding movement the base portion 10 has a reduced end 14, FIGURE 2, forming a bearing for the rod 12, such reduced portion 14 being upwardly tapered exteriorly and having a longitudinal slit 16.

Reduced portion 14 has external screw threads 18 for receiving an internally threaded and tapered nut 20 whereby upon threading the nut on the tapered portion 14 the slit 16 closes and said portion 14 is frictionally clamped on rod 12. Base portion 10 and rod 12 are thus locked to form an integral support member. The lower end of the base 10 and the upper end of the rod 12 are provided with rubber or other resilient friction members 22 for the purpose of gripping the floor and ceiling without damage thereto.

By means of the structure recited the accessory holding pole may be anchored in the desired place by merely loosening the nut 20 and moving the extension rod 12 up against the ceiling and then tightening the nut. The structure is thus supported in a set vertical position, and is capable of holding considerable weight by means of laterally extending accessory engaging means without any possibility of accidental displacement from its supporting position.

Base portion 10 has a plurality of peripheral tapered grooves 26 forming shoulders 28. Associated with the base 10 is an accessory engaging assembly, designated generally by the numeral 30, having a sleeve member 34 adjustably vertically and adapted to be held in a predetermined set position by means of a pivoted spring pressed dog 32 engaging shoulders 28. In view of the fact that shoulders 28 extend circumferentially around the base portion 10, sleeve 34 as well as the entire assembly 30, is capable of swiveling 360°.

Sleeve member 34 carries a housing portion 36 having end apertures 37 for slidably receiving a vertical support arm 38 in turn having an integral collar 40 which is confined in the housing. Also confined within the housing on opposite sides of the collar 40 are upper and lower compression springs 42 and 43, respectively, which provide resilient support or spring cushioning for the arm in either up or down directions. If desired, such resiliency may not be used, and for this purpose a set screw 41, threaded in the side of the housing 36, may be tightened on collar 40 to anchor the arm 38 in a set position. A rigid mounting is thus established.

Secured to the arm 38 is a pair of horizontal cross members 48, FIGURE 3, supporting at opposite ends thereof a pair of vertical frame members 50 and supporting at the bottom thereof a horizontal angular foot member 52, these members forming a rack for supporting various accessories, to be described. Vertical frames 50 have side grips or stops 54 for confining lateral movement of an accessory mounted on the rack, and supported on the top of said frame members are pivotal lock fingers 56 having a clamp screw 58 thereon which permits the fingers to be pivoted between a lateral or open position and a front facing or closed position for holding an accessory in the rack. For purposes of illustration, the left-hand lock 56, FIGURE 3, is shown in an open position, i.e., in a laterally extending position, and the right-hand lock is shown in its closed position.

Referring now to FIGURES 1, 4 and 5, various accessories may be supported by the present device. In FIGURE 1, there is illustrated a shelf structure 62 which may be used for supporting merchandise or displays. In FIGURE 4, there is illustrated a child's jump and feeding chair 64, and in FIGURE 5 there is illustrated a bath-nette 66. In each of these accessories, a back frame is

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used having vertical side members 68 and an upper cross member 70. In each case, the accessory is supported in the rack with the lower end of the accessory engaged in the foot member 52 and the upper end locked behind fingers 56, the fingers 56 first being opened to their lateral position to permit entry of the accessory and then rotated to their closed position to hold the accessory in place. If desired, the rack may be held in a rigid or set position relative to the housing 36 by tightening the set screw 41 on the collar 40. If resilient suspension is desired, as when the jump chair, FIGURE 4, is supported on the pole, the set screw 41 is loosened to permit freedom of movement of collar 40 in the housing 38. A shock ring 71 is mounted on the base portion 10 to intercept the accessory engaging assembly if the latter should accidentally be lowered too fast.

Referring now to FIGURES 6-9, there is illustrated a second form of accessory holding device and accessories for use therewith. Referring to FIGURE 6, a tubular portion 72, comprising a lower base member, is open at its upper end and has internal screw threads 74 in such open portion. Adapted to engage threads 74 are external threads on a reduced end portion 76 of a nut member 78 having a knurled surface 80. Reduced portion 76 of nut 78 has an axial bore 81 for slidably receiving an extension rod 82.

Mounted on the rod 82 and adapted to abut against nut 78 is a clamping sleeve 84 having a central bore 86 for receiving rod 82 and a keyway 88 terminating short of the opposite ends of the sleeve 84 and communicating with the bore 86. Freely mounted in keyway 88 is a key 90 engageable by a set screw 92 and capable of being forced against rod 82 by such screw to form a friction lock joint between the sleeve 84 and rod 82.

Thus it will be seen that to anchor the holding device between the floor and ceiling the rod 82 is moved up against the ceiling and then the set screw 92 tightened to force the key 90 against such rod to lock the rod 82 and sleeve 84 together. Sleeve 84 seats on nut 78 and the latter is adapted to adjust the compression to be applied between the floor and the ceiling by rotation in a proper direction. Before the device is set up, the nut 78 is threadably disposed on threads 74 in a manner so as to be available for rotation in either direction for either increasing or decreasing the compression exerted by the pole, as desired. Preferably this nut utilizes left-hand threads for convenience in adjustment.

Adapted to be mounted on the base portion 72 is an accessory engaging assembly, designated generally by the numeral 94. This assembly comprises a sleeve 96 slidable on base 72 and having an upper tapered threaded portion 98 for receiving a tapered nut 100. Tapered portion 98 has one or more slits 102 whereby upon tightening of nut 100 thereon this portion of the sleeve 96 is contracted and frictionally grips the base portion 72 to mount the accessory engaging assembly in a set position. Sleeve 96 thus may be positioned in desired vertical positions on the base 72, depending upon the type of accessory to be supported thereby.

Integrally carried on the sleeve 96 is a T-shaped frame member or arm 104 carrying a pair of sockets 106 open at their upper ends and having a counterbored portion 108 adjacent the upper openings. The sockets 106 are adapted to receive and hold accessories which may be spring supported, FIGURE 8, or merely supported in a stationary position, FIGURE 9. For mounting the latter type of accessory, which may comprise a display platform 110, such platform has downwardly depending fingers 112 which are merely inserted in sockets 106 for support.

For the purpose of mounting a jump chair 114, or other spring supported accessory on the holder, such accessory necessarily contains suitable framework having downwardly depending fingers 116 on which is slidably disposed a sleeve 118 having a lower extension 120 provided with external threads 122 for threadably receiving one

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end of a tension spring 124. Fixedly securing to the lower end of each of fingers 116, is an abutment washer 126 which, similar to sleeve 118, has an extension 128 provided with external threads for threadably receiving the lower end of spring 124. Sleeve 118 preferably is fixedly secured in the socket 106 in abutment with the inner shoulder formed by counterbore 108 by means of a setscrew 132.

By the arrangement described, it is apparent that the jump chair 114 is resiliently supported for up and down movement. Washers 126 slide freely interiorly of the sockets to provide a lower connection for the springs as well as a bearing for the one end of the fingers. Sleeves 118 form an upper bearing for the fingers and also are locked in position by setscrew 132 to form holding means for the accessory.

It is to be understood that sockets or other holding means, where it is possible to mount an accessory at one point of support, may comprise an integral part of the sleeve 96 in lieu of the arm 104. Also, it is to be understood that in the use of either the arm 104 or a single socket mounted directly on sleeve 96 as just mentioned, any number of such sleeves and accessory engaging members may be carried on a single holder, depending upon the type of accessory and the desired use thereof. For example, when used to support a child's jump chair, or the like, no other accessory would be likely to be carried thereon, but in the case where the holder is used for supporting display items or the like, any number of accessories may simultaneously be supported thereon.

Having now described my invention and in what manner the same may be used, what I claim as new and desire to protect by Letters Patent is:

1. A supporting pole structure comprising a base portion adapted for support on a floor surface, extension means slidably engaged with said base portion and adapted to engage a ceiling surface in an extended position, lock means engageable between said base portion and said extension means for locking said two elements together in clamped frictional engagement between the floor and ceiling, a holder slidably mounted on said base portion, a support member on said holder, means in said support member defining a vertical socket for slidably supporting a load engaging member, and spring means in said socket operable on said load engaging member in a manner resiliently to support the latter in both up and down movements.

2. The pole structure of claim 1 including lock means in said support member engageable with the load engaging member and adapted to anchor the latter against resilient support.

3. A support pole structure comprising a base portion, extension means slidably engaged with said base portion, lock means engageable between said base portion and said extension means for locking said two elements together in adjusted height positions, means operatively threaded in one of said elements and engageable with said other element for spreading or contracting said two elements as desired independently of said extension means, and a support member for a load on said base portion.

4. The support pole structure of claim 3 wherein said lock means slidably engages one of said elements in an unlocked position and is adapted to frictionally grip said one of said elements in a locked position.

5. A supporting pole structure comprising a base portion adapted for support on a floor surface, extension means slidably engaged with said base portion and adapted to engage a ceiling surface in an extended position, lock means engageable between said base portion and said extension means for locking said two elements together in clamped frictional engagement between the floor and ceiling, a holder slidably mounted on said base portion, a support member on said holder, means in said

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support member defining a vertical socket, a support arm mounted in said socket, and a laterally extending load engaging member on said arm for supporting a load.

6. The pole structure of claim 5 including latch means on said support arm to detachably support said load 5 engaging member whereby various of the latter members may be substituted one for the other.

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7. The pole structure of claim 5 wherein the load engaging member includes a platform surface.

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