

[54] **EXTENSIBLE TOILET TISSUE ROLL HOLDER**

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[58] Field of Search. 242/55.2, 55.3, 55.53; 248/204, 316 R, 316 D; 225/44, 46, 65

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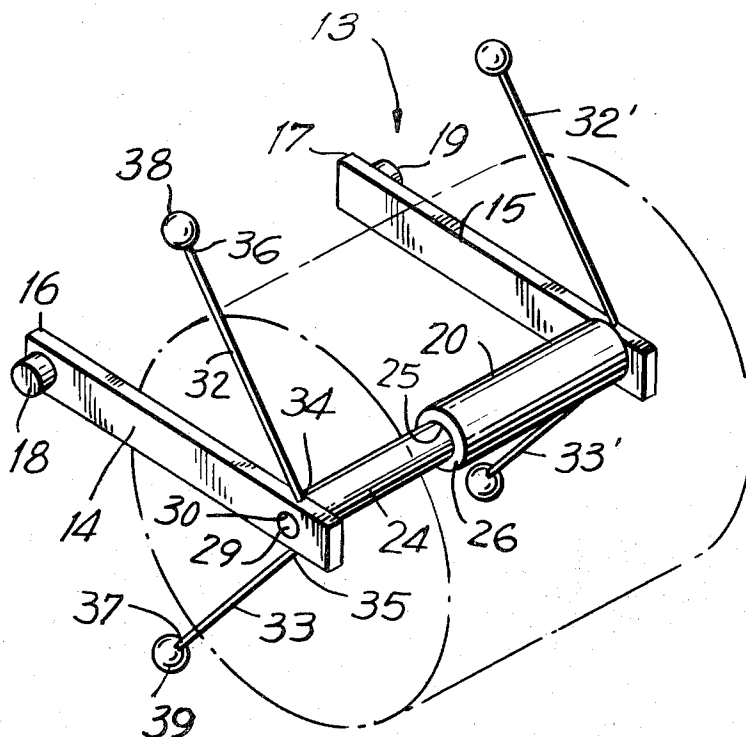
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[57] **ABSTRACT**

Apparatus for adapting existing wall mounted toilet tissue support fixtures of the type having opposed, inwardly facing roll support sockets to receive toilet tissue rolls of larger than standard diameter. The apparatus includes extensible support bars, the inner ends of which are mounted in existent fixtures, the outer ends of which receive the tissue roll, and strut means which may be variably positioned to enable the apparatus to be accommodated to varying dimensional characteristics of existing fixtures.

11 Claims, 4 Drawing Figures



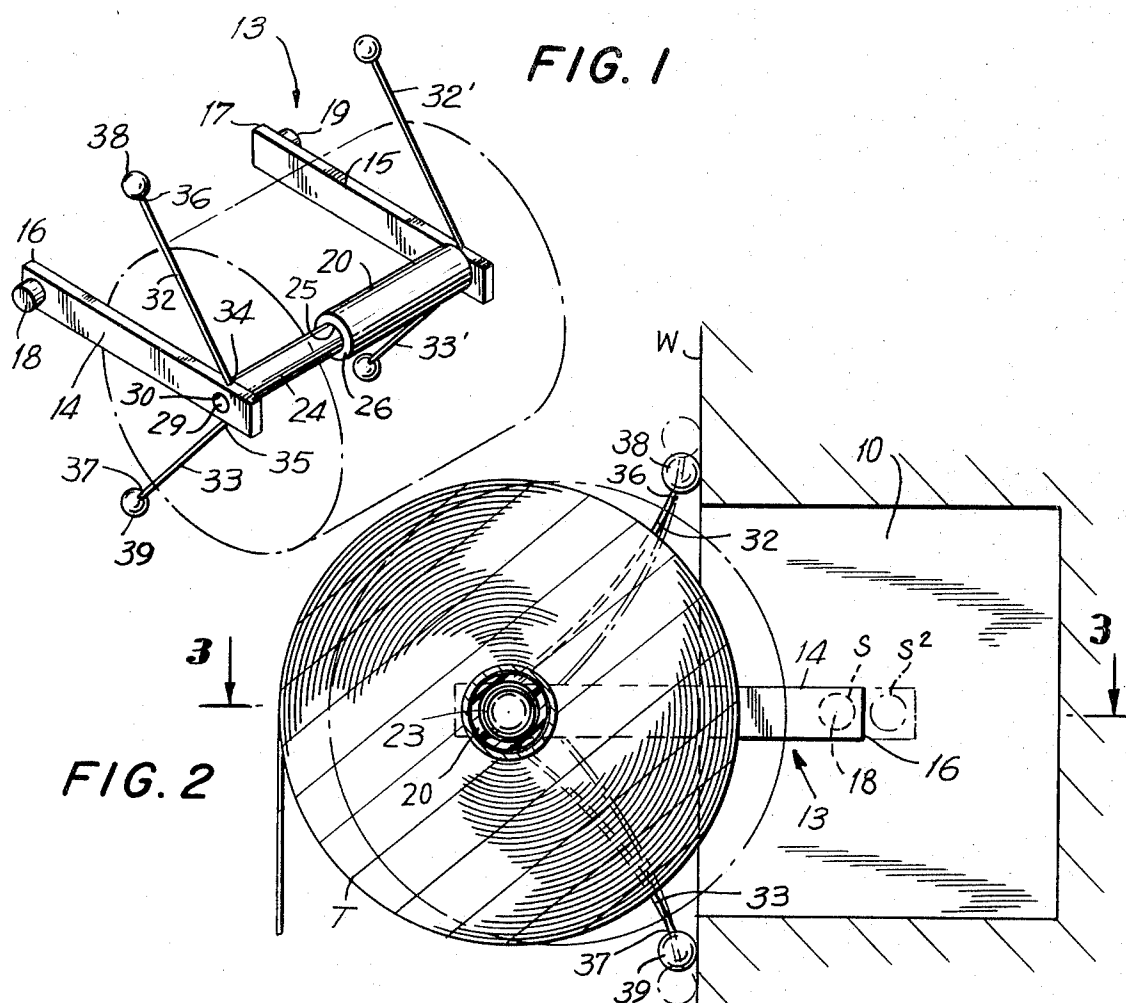
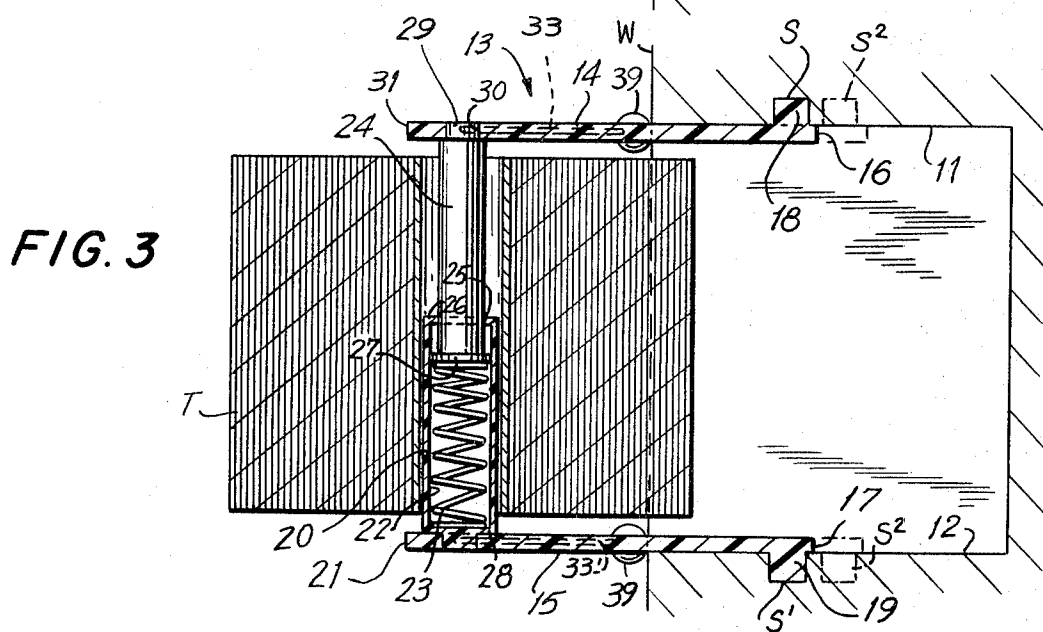
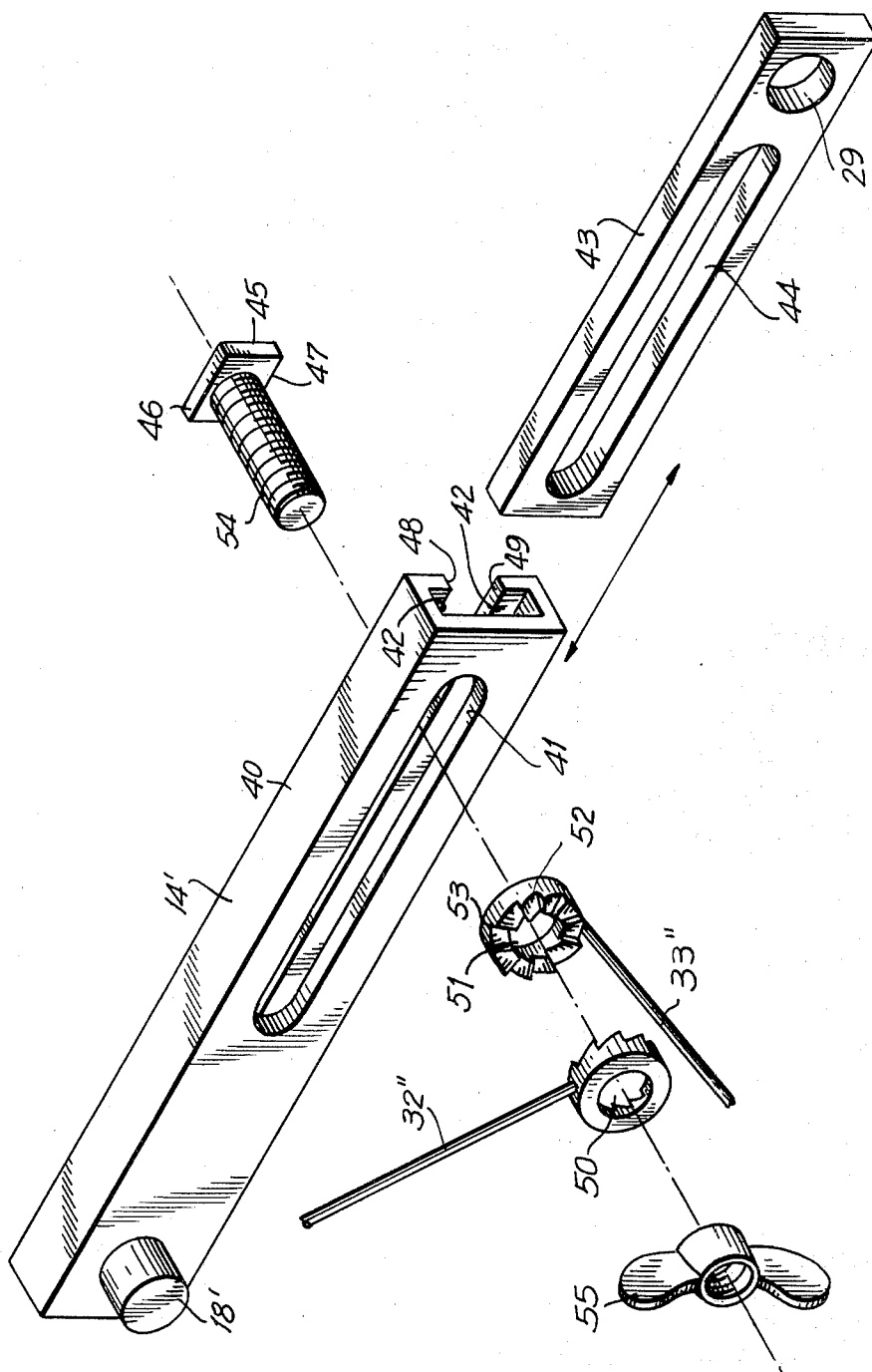


FIG. 4



EXTENSIBLE TOILET TISSUE ROLL HOLDER

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention is in the field of bathroom appliances, being directed more particularly to an adapter for permitting conventional toilet tissue or paper towel dispensers to accommodate rolls of larger than standard size without requiring removal of the existing support fittings.

2. The Prior Art

Various mounting means for toilet tissue rolls are known. Such mounting means in general incorporate a support rod or the like, typically an expansible support rod intended to fit within the core of the toilet tissue roll. The mounting fixture for the roll usually includes a spaced pair of opposed sockets, the tissue roll being mounted by compressing the spring biased rod and permitting the rod to expand after the ends thereof are in registry with the inwardly facing sockets.

It has been determined that for reasons of economy and convenience, the use of large diameter toilet tissue rolls is preferable to the roll size in current use. Among the advantages inhering in the use of larger rolls are a decrease in the frequency of roll changes required, reduced overall cost due to the fact that it is less expensive to fabricate and package one large roll than two or more smaller rolls containing the same quantity of paper.

Despite the known advantages of large rolls, the same have made no significant inroads into the market, due largely to the fact that such rolls cannot be mounted on extant support fixtures.

While it is of course feasible to provide special fixtures intended to accommodate large rolls, it is anticipated that substantial sales resistance to removal of existing fixtures and substitution of new fixtures would be encountered.

The present invention may be summarized as directed to an extension assembly for supporting over-size rolls of toilet tissue, paper toweling, etc., utilizing as the means for supporting the extension the existent fixture on which the toilet tissue of conventional size was mounted.

The conventional mounting means noted typically includes an opposed pair of sockets adapted to receive the distal ends of an expansible rod on which the tissue is mounted.

In accordance with the present invention, a pair of side bars are provided, having on their inner ends plugs adapted to be received in the existing sockets of the conventional tissue dispenser. Guide means are provided between the bars, such as a nesting pair of telescoping members, which permit movement of the bars toward and away from each other but prevent significant tilting movement of the bars. Spring means are provided for separating the bars so that the plugs will be outwardly sprung into the sockets.

The device is characterized by support strut members, on the bars extending angularly upwardly and downwardly from the bars toward the wall surface above and below the sockets, the struts preventing tilting movement of the bars and, hence, of the roll relative to the wall.

It is an important feature of the invention that the extension apparatus is rendered universal by providing

for an adjustment of the strut means such that the extension may be adapted for use with existing fixture sockets, notwithstanding the amount of inset of the socket from the vertical wall surface may vary from instance to instance.

The device may employ struts which are yieldingly biased against the wall surface or which are angularly adjustable through a variety of included angular positions, to provide the desired type fit and support.

It is accordingly an object of the invention to provide a universal extension member for supporting over-size toilet tissue or paper towel rolls, the extension member being adapted to be received in the sockets of toilet tissue dispenser fixtures notwithstanding dimensional variations in the manner in which such fixtures are installed.

A further object of the invention is the provision of a fixture of the type described which may be readily accommodated to any of a number of existing tissue supports.

It is a still further object of the invention to provide a device of the type described wherein the tissue roll may be readily changed.

To attain these objects and such further objects as may appear herein or be hereinafter pointed out, reference is made to the accompanying drawings, forming a part hereof, in which:

FIG. 1 is a perspective view of a tissue dispensing extension ready for installation in an existing fixture.

FIG. 2 is a vertical sectional view through the dispensing extension and through a typical existing fixture, illustrating variations in the positions of the parts when the device is accommodated to fixtures of varying dimensions.

FIG. 3 is a horizontal section taken on the line 3—3 of FIG. 2.

FIG. 4 is a fragmentary exploded perspective view of a further embodiment of the invention.

As conducive to an understanding of the invention, there is shown in FIGS. 2 and 3 a conventional receiver fixture within which a roll of toilet tissue is mounted. The wall W is typically recessed, as at 10, the recess including vertical parallel side walls 11, 12. The side walls have formed therein a pair of opposed sockets S, S', which sockets, in normal use, receive the distal ends of an expansible tissue mounting rod. To mount the rod, the rod is compressed such that its length is coextensive with the length of the tissue roll T, the rod being released when its ends are in registry with the sockets S, S' to support the roll. When used with conventional sized rolls, the major portion of the roll is housed within the recessed portion of the fixture.

In accordance with the invention, the extension assembly 13 includes a pair of parallel side bars 14, 15 of rigid material. The bars optionally may be plastic or metal and include adjacent their inner ends 16, 17, respectively, outwardly directed stub shafts or plugs 18, 19, respectively. The diameter of the plugs 18, 19 is calculated so that the same may be snugly received within the sockets S, S' of the existing installation.

The extension apparatus 13 is provided with guide means for maintaining the bars 14, 15 in parallel relation. To this end, and by way of example, a cylindrical member 20 is fixedly secured to the bar 15 adjacent the outer end 21 thereof. The tubular culinder 20 includes an inner bore 22 within which is seated a coil spring 23.

A plunger member 24 extends through an aperture portion 25 in end plate 26 of the cylinder member 20. The plunger 24 is provided with a headed portion 27 which is somewhat elongated in the direction of the axis of the plunger, the diameter of the headed section 5 forming a close sliding fit with the bore 22 of the cylinder, as does the plunger 24 with aperture 25, such that only a limited tilting movement of the plunger axis and cylinder axis is possible.

The spring 23 is biased between the head 27 and outer end portion 28 of the cylinder whereby the plunger is yieldingly pressed away from the end 28.

The plunger 24 includes a reduced neck portion 29, releasibly secured within a receiver aperture 30 adjacent the outer end 31 of the bar. It will be understood that by reason of the releasible connection of the portions 29 and 30, the bar 14 may be removed and a roll of toilet tissue sleeved over the expansible plunger assembly.

Mounted to the bar 14 is a pair of support rods or struts 32, 33, the end portions 34, 35 thereof being fixed, to the bar 14 as by embedment therein. The rods 32, 33 extend respectively angularly upwardly and angularly downwardly from the bar.

The distal ends 36, 37 are provided with anti-friction and non-marring tips, such as neoprene balls 38, 39, respectively.

Since the struts 32', 33' which are fixed to the bar 15 are identical to the strut structure just described, further elaboration thereof will not be made.

In accordance with a preferred embodiment, the struts 32, 33, 32', 33' are made of resilient material, such as metallic spring stock, enabling the rods to be bent along their longitudinal axes.

Referring now to FIGS. 2 and 3, the apparatus is utilized by threading or mounting a tissue roll over the cylinder and plunger assembly which, in the illustrated embodiments, functions both as a guide for maintaining parallelism of the bars 14 and 15, and as a supporter for the tissue roll.

After mounting of the tissue, the bars 14, 15 are pressed inwardly against the ends of the toilet tissue roll, the spacing of the inwardly pressed bars being reduced sufficiently to permit their insertion into the recess 10 until the plugs 18, 19 are in registry with the sockets S, S'. In this position the bars are permitted to spring outwardly under the tension of the spring 23, whereupon the bars will be locked against outward removal from the recess.

By reason of the length of the bars 14, 15, the tissue roll T will be observed to be mounted externally of the roll diameter restricting recess 10, whereby it will be understood that a substantially larger diameter roll may be accommodated than could have been accommodated within the recessed fixture.

In the mounted position the struts or rods 32, 33, 32', 33' will be observed to have flexed slightly and be uniformly biased against the wall surface W, assuring that the bars 14, 15 will not droop, with consequent possibility of a frictional engagement of the roll periphery against the wall or wall-adjacent portions of the recess 10.

For purposes of illustrating the versatility and adaptability of the device, there is shown in FIGS. 2 and 3 a second pair of sockets S², S², representing a different installation in which the sockets have been recessed further from the wall surface W than sockets S, S'. The

embodiment of FIGS. 2 and 3 is accommodated to such greater depth sockets S², S², without the necessity of adjustment or modification, by the fact that the rods 32, 32', 33, 33' merely assume a more bent or bowed configuration when the device is installed in the deeper sockets S², S². Compare solid lines to dot and dash line positions, FIGS. 2 and 3.

In FIG. 4 there is shown a fragmentary view of an embodiment of the invention in which like parts have been given like reference numerals. The embodiment of FIG. 4 differs from the previously described embodiments in that the side bar 14' is longitudinally extensible and the included angle defined between the support rods or struts 32'', 33'' is adjusted by permitting a relative pivotal movement between these parts, as opposed to the purely flexing movement in the prior described embodiment.

In accordance with the embodiment of FIG. 4, the side bar 14' (one only being illustrated, the other being identical) includes a channel section 40 carrying a plug 18' for connection with the existing fixture at its inner end. The channel section 40 includes a longitudinally directed slot 41. The channel section 40 is formed with an internal, generally rectangular cross-sectional groove 42. A second section 43, forming an extension of the section 40, is provided, the cross-sectional dimensions of the second 43 being such as to fit intimately within the groove 42 of the section 40.

The second section 43 may be slid longitudinally within the groove 42 and includes a longitudinally extending slot 44 in alignment with the slot 41 of the section 40. A locking member 45 is provided with upper and lower shoulders 46, 47, spaced to correspond with the spacing of the ledges 48, 49 of the section 40.

The struts 32'', 33'' surrounding the apertures 50, 51 are provided with a series of notches 52 and grooves 53 extending radially from the apertures, the notches and grooves of the parts being readily meshed in any of a variety of angularly related positions, relative angular movement of the parts in the meshed condition being positively prevented by engagement of the grooves and notches.

The device is used by sliding the section 43 to a desired longitudinal spacing within the bar section 40, passing the threaded portion 54 of the locking member 45 outwardly through the aligned grooves 41 and 44 and the aligned apertures 50, 51 of the struts. The spacing of the extension and the angularity between the struts will be adjusted prior to tightening of the thumb nut 55, such that the struts provide the desired bracing against the wall W and the sections to provide the desired extension of the bar 14'.

It will be appreciated that in the embodiment of FIG. 4 it is still desirable that a degree of resilience or springiness be incorporated within the struts or rods.

It will be observed from the foregoing that the apparatus may be accommodated for use with a wide variety of existing toilet tissue support fixtures. Once the embodiment of FIG. 4 is adjusted to size for a particular installation, it need not be varied, substitution of rolls being readily effected in the manner aforesaid.

It will be understood that variations may be made in the specific embodiments disclosed without departing from the spirit of the invention. For instance, a second guide means may be interposed between the bars, or spring and plunger guide means may be disposed in alignment with the socket engaging plugs at the inner

ends of the bars. In the latter case the tissue roll will be supported by inwardly facing stub shafts located at the outer ends of the bars. Accordingly, the invention is to be broadly construed within the scope of the appended claims.

Having thus described the invention and illustrated its use, what is claimed as new and is desired to be secured by Letters Patent is:

1. Universal apparatus for adapting existing wall mounted toilet tissue support fixtures of the type having opposed, inwardly facing roll support rod sockets to receive toilet tissue rolls of larger than standard diameter, comprising a pair of rigid, parallel extension bars, a mounting plug extending from the outer face of each said bar adjacent the inner end thereof, said plugs being in coaxial alignment and sized to fit within said sockets, complemental guide means formed on each said bar slidably engaging the guide means of the other said bar for permitting movement of said bars toward and away from each other while holding said bars in parallel planes, spring means yieldably urging said bars apart to force said plugs into said sockets, tissue roll support means formed on said bars adjacent the outer ends thereof for rotatably supporting the core of a tissue roll adjacent said outer ends, and strut means fixed to said bars and extending toward said wall, said strut means including end portions engaging said wall for supporting said bars essentially at a predetermined angular relation to the wall.

2. Apparatus in accordance with claim 1 wherein said guide means comprise telescopically nested members and said spring means is disposed within one of said nested members.

3. Apparatus in accordance with claim 2 wherein said nested members are cylindrical and are mounted adjacent the outer ends of said support bars, the outer surfaces of said cylindrical members defining said tissue roll support means.

4. Apparatus in accordance with claim 4 wherein said strut means comprises a pair of support rods extending angularly from each of said bars toward said wall, one rod of each pair engaging said wall at a position above,

and the other rod engaging said wall at a position below said bar.

5. Apparatus in accordance with claim 4 wherein said rods are of spring material and are yieldably deflectible along their longitudinal axes.

6. Apparatus in accordance with claim 4 wherein the angularity of said rods relative to said bars may be varied to accommodate differing spacings between said sockets and said wall.

7. Apparatus in accordance with claim 6 and including an adjustable connection interposed between said rods and said bars whereby the angularity of said rods relative to said bars may be selectively set in accordance with the spacing between said sockets and said wall.

8. Apparatus in accordance with claim 7 wherein said bars are each formed of two overlapping sections, the combination including lengthwise adjusting means for adjusting the amount of overlap of said sections to vary the spacing between said mounting plugs and said roll support means.

9. Apparatus in accordance with claim 8 wherein said adjustable connection includes an aperture formed on the end of each said rod adjacent said bar, a threaded member extending through the apertures of the rods of each pair, said threaded member clamping the rods of each pair together to define therebetween a predetermined desired included angle.

10. Apparatus in accordance with claim 9 wherein said rods of each said pair include adjacent said apertures a plurality of meshing notch and groove means engageable in any of a selected series of positions, the included angle between the rods of each pair being dependent upon the meshed position of said notch and groove means.

11. Apparatus in accordance with claim 10 wherein said threaded member connected to each pair of said rods extends through the overlapping sections of the bar to which it is attached, said threaded member supporting said rods to said bars and clamping the bar sections together in a selected overlapping relation.

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