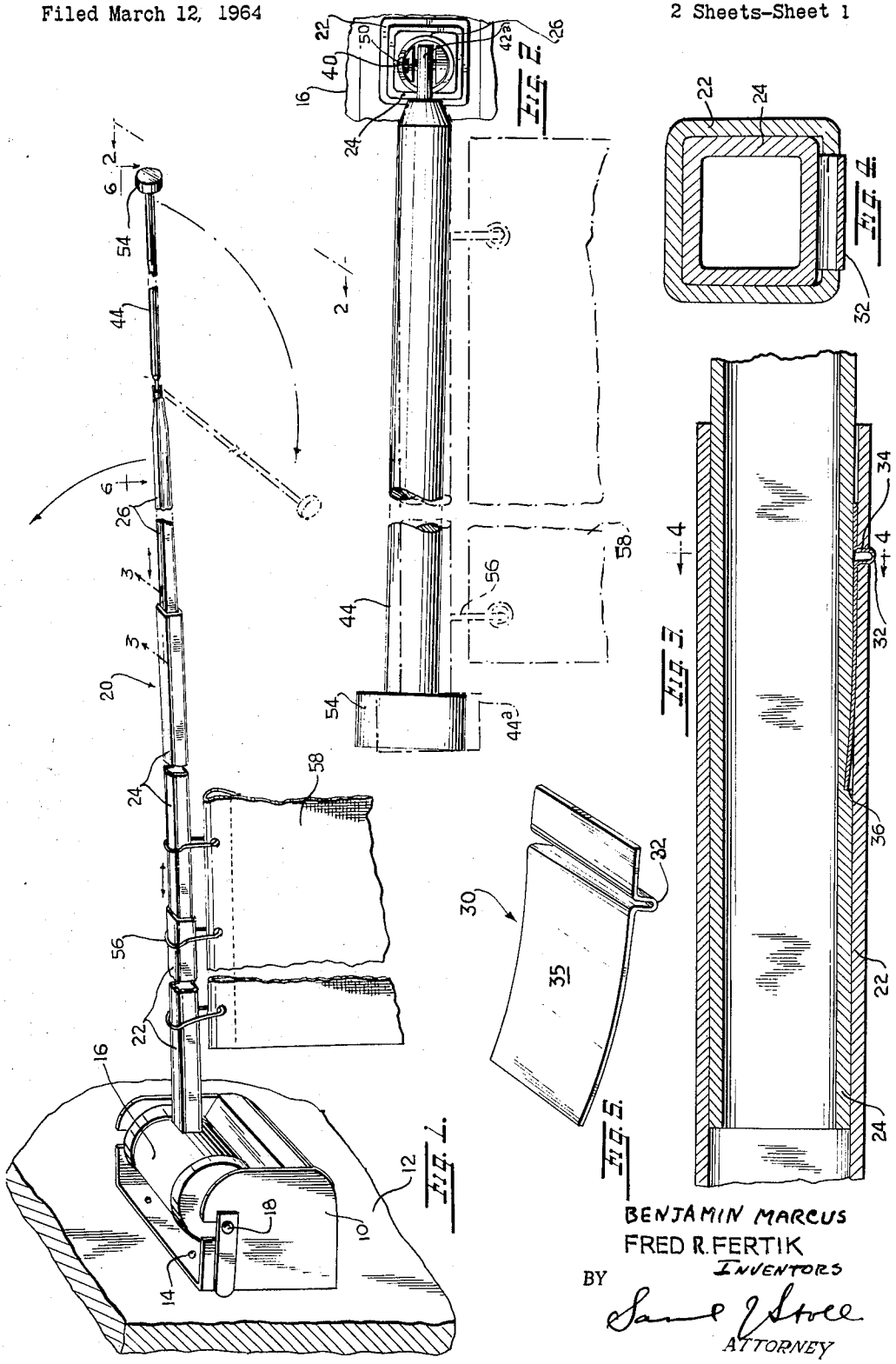
May 3, 1966 B. MARCUS ETAL 3,249,233

TELESCOPIC CURTAIN ROD

Filed March 12, 1964 2 Sheets-Sheet 1



BENJAMIN MARCUS
FRED R. FERTIK
INVENTORS

BY Samuel Stroll
ATTORNEY

May 3, 1966 B. MARCUS ETAL 3,249,233

TELESCOPIC CURTAIN ROD

Filed March 12, 1964 2 Sheets-Sheet 2

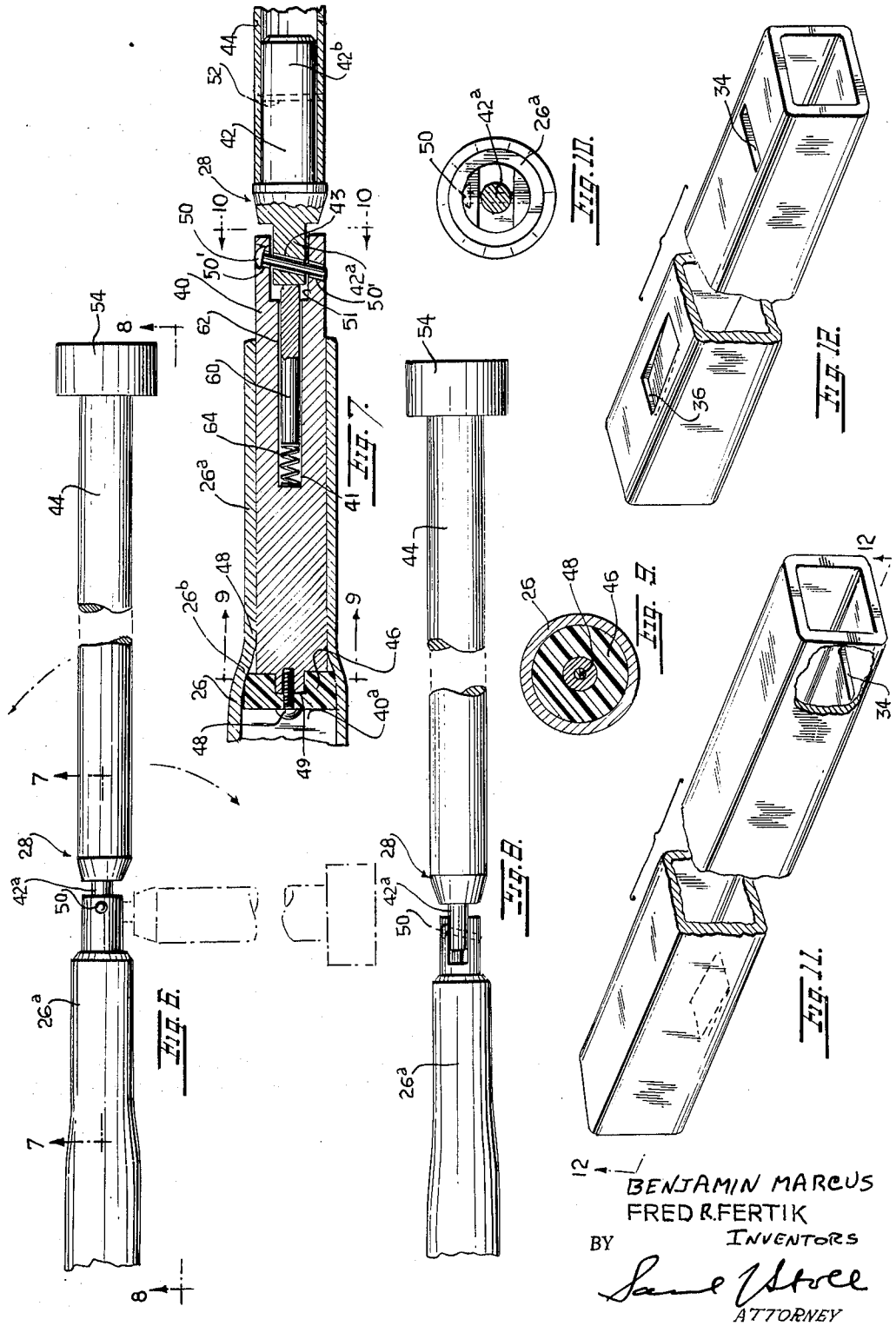


Fig. 7.

Fig. 8.

Fig. 9.

Fig. 10.

Fig. 12.

Fig. 11.

BENJAMIN MARCUS
FRED R. FERTIK
INVENTORS

BY

ATTORNEY

United States Patent Office 3,249,233 Patented May 3, 1966

3,249,233

TELESCOPIC CURTAIN ROD

Benjamin Marcus, Whitestone, and Fred R. Fertik, Old Bethpage, N.Y., assignors to Beam Metal Specialties, Inc., Astoria, N.Y.

Filed Mar. 12, 1964, Ser. No. 351,437
4 Claims. (Cl. 211—105.3)

This application is a continuation-in-part of pending patent Application Serial No. 178,340 filed March 8, 1962, now U.S. Patent 3,137,393, granted June 16, 1964.

This invention relates to telescopic curtain rods and more particularly to such suports used with hospital beds or to form room partitions.

The present invention corresponds to the invention disclosed in said pending application to the extent of the entire torsion bar assembly and including (except as hereinafter modified) the telescopic tube assembly supported thereby. Accordingly, the objects of the invention of the pending application apply equally as well to the invention herein described and claimed.

The present invention constitutes an improvement over the invention of the pending patent application in the following respects:

(1) The telescopic tubes are non-circular in cross-section, preferably rectangular. This configuration prevents relative angular movement between contiguous tubes. The importance of this feature will become apparent from the following description of the third feature of the present invention.

(2) Leaf spring stop elements are provided between adjacent tubular members of the telescopic assembly. These leaf springs occupy relatively little space and are mainly concealed from view. They need only be slipped into place between adjacent tubes during the assembly procedure and they will remain in place without the use of fastening means.

(3) An additional telescopic element is provided at the unsupported end of the telescopic tube assembly mounted for pivotal movement in a generally horizontal plane. When swung to a position approximately 90 degrees to the remaining tubes in the telescopic assembly, curtains may be supported on the tubular assembly in two vertical planes, one for example, along one side of a hospital bed and the other across the foot of the bed.

(4) An important aspect of FEATURE 3 above described resides in the fact that the generally vertical pivotal axis of said additional element in the telescopic tube assembly is inclined slightly from the true vertical. Consequently, when said additional element is swung laterally either to the left or right of the main series of telescopic elements, it is itself inclined relative to and above the true horizontal. When the curtain load is then impressed upon said additional telescopic element a torsional force is thereby exerted about the longitudinal axis of the main telescopic tube assembly and depresses said additional element to a horizontal position.

The invention is illustrated in the accompanying drawing in which:

FIGURE 1 is a perspective view of a curtain rod wall bracket and a telescopic curtain tube assembly mounted thereon and made in accordance with the principles of the present invention.

FIGURE 2 is an enlarged fragmentary view of said curtain tube assembly, showing the unsupported end thereof pivoted laterally, said view being on the line 2—2 of FIGURE 1.

FIGURE 3 is an enlarged fragmentary longitudinal section through said telescopic tube assembly.

FIGURE 4 is a transverse section on the line 4—4 of FIGURE 3.

FIGURE 5 is an enlarged perspecive view of one of the leaf spring stop elements shown in FIGURES 3 and 4.

FIGURE 6 is an enlarged fragmentary top view of the unsupported end of said curtain tube assembly.

FIGURE 7 is an enlarged fragmentary longitudinal section taken on the line 7—7 of FIGURE 6.

FIGURE 8 is a view similar to that of FIGURE 6 but viewed in the direction of arrows 8, 8 of FIGURE 6.

FIGURE 9 is transverse section on the line 9—9 of FIGURE 7.

FIGURE 10 is another transverse section on the line 10—10 of FIGURE 7.

FIGURE 11 is an enlarged, perspective view of one of the tubular elements of said telescopic tube assembly, said view being partly broken away and in section to show its rectangular cross section configuration.

FIGURE 12 is a view similar to that of FIGURE 11 rotated through 180 degrees therefrom and viewed in the direction of arrows 12, 12 of FIGURE 11.

Referring now to FIGURE 1 of the drawing it will be seen that a bracket 10 is provided on a wall or other suitable support 12, the fastening means being screws or anchors 14 or any other conventional fastening means. A spring biased support 16 is mounted on a shaft 18 which in turn is supported by bracket 10. The spring bias is in counter clockwise direction about the axis of shaft 18 as viewed in FIGURE 1. The specific type of spring mechanism which urges support 16 in said counterclockwise direction is not critical. However, the preferred spring mechanism is the torsion bar assembly which is shown and described in co-pending patent application Serial No. 178,340 above mentioned.

Secured to support 16 is a telescopic tube assembly 20 consisting of a plurality of tubular elements and one additional element shortly to be described. The first of said tubular elements is tube 22 which is secured at one end to support 16. Any conventional connecting means or method may be used to attach said tube 22 to said support 16.

Telescopically connected to tube 22 is a second tube 24 which in the main is identical with tube 22 except that its outer cross-sectional dimensions correspond to the inner cross-sectional dimensions of tube 22 with just enough clearance left for relative sliding movement between them. A third tube 26 is telescopically supported by the second tube 24 and again these two tubes are substantially identical except that the outer cross-sectional dimensions of tube 26 correspond to the inner cross-sectional dimensions of tube 24 with sufficient clearance or tolerance for relative sliding movement.

It will be understood that the first, second and third tubes 22, 24 and 26, respectively, are rectangular in cross section as illustrated in FIGURES 3, 4, 11 and 12. While these tubes are free to move longitudinally relative to each other, relative angular movement is prevented. The first tube 22 is fixed with respect to support 16. The second tube 24 is slidably movable within tube 22 and leaf spring element 30 is provided between them to prevent tube 24 from being pulled completely out of tube 22.

It will be noted that the leaf spring element 30 is provided with a laterally bent portion 32 which serves as a key. A slot 34 is formed in tube 22 to receive said laterally bent portion 32 as will clearly be seen in FIGURES 3 and 4. The main portion of said leaf spring is a bowed portion 35 which bears against the second tube 24. It will now be noted that a shoulder 36 is formed in one wall of tube 24 immediately opposite and adjacent the wall in tube 22 in which hole 34 is formed. The bowed portion 35 of leaf spring 30 bears against the said wall of tube 24 and is engageable with shoulder 36 as FIGURE 3 clearly shows. This pre-

vents tube 24 from being pulled fully out of tube 22 while it remains free to be pushed into said tube 22 as far as it will go.

The same arrangement is provided between tubes 24 and 26, a slot 34 being formed in tube 24, a shoulder 36 being formed in tube 26 and a leaf spring 30 being mounted between these two tubes.

The final element 28 in the telescopic assembly 20 is a pivotal sub-assembly which is telescopically connected to the third tube 26 above mentioned. More particularly said sub-assembly 28 comprises a relatively short first rod 40, a relatively short second rod 42, and elongated tube, preferably round, 44. Second rod 42 has a rectangular inner portion 40*a* which rides within rectangular tube 26 above mentioned. The rectangular portion 40*a*, engaging the inner walls of rectangular tube 26 prevents relative angular movement between said first rod 40 and said tube 26.

It will now be noted that the outer end of tube 26 has a reduced portion 26*a*, round in shape, and a tapered shoulder 26*b* between the main body of said tube 26 and its reduced end portion 26*a*. A nylon bumper 46 is secured to the inner end of first rod 40 by means of a screw 48 and key 49 and said bumper is engageable with said tapered shoulder 26*b* to prevent said first rod 40 from being pulled out of tube 26.

The outer end of first rod 40 is bifurcated and is provided with a slot 51 which receives a tongue 42*a* formed at one end of second rod 42. A pin 50 extends through holes 50' and 43, respectively, in the bifurcated end of first rod 40 and tongue 42*a* of the second rod 42 in order to provide a pivotal connection between said rods.

Second rod 42 is further provided with a reduced end portion 42*b* opposite said tongue portion 42*a*. Mounted on said reduced portion 42*b* is tube 44, secured thereto by means of a pin 52. The far end of said tube 44 has a cap 54 secured thereto to prevent the curtain loops or hangers 56 from slipping off said tube 44.

It will further be noted that pin 50 is tilted with respect to the vertical to the extent of approximately 4 to 10 degrees. This will cause second rod 42 and tube 44 mounted thereon to swing laterally in either direction to a slightly inclined position with respect to the horizontal. This is shown in FIGURE 2. When a curtain 58 is mounted on said tube 44 by means of loops or hangers 56, the weight of said curtain will tend to swing tube 44 downwardly into the horizontal position indicated by means of interrupted lines 44*a*.

Spring urged means are provided to hold second rod 42 and its tube 44 in lateral position to either side of the tube assembly 22, 24, 26. This is shown in FIGURE 7 in the form of a rod 60 slidably mounted within an axially extending hole 41 formed in first rod 40. A spring 64 also mounted within said hole bears against the inner end of rod 60 and urges its outer end into engagement with tongue 42*a* of the second rod 42. When second rod 42 is swung sidewardly to either of its lateral positions, rod 60 will engage one of the sides of tongue 42*a* and tend to hold said second rod and the tube mounted thereon in said lateral position.

What is claimed is:

1. A curtain rod assembly for hosiptal bed use or the like, comprising:
- a support,
- a series of telescopically connected tubes mounted on said support, and
- stop means interengaging said tubes to limit relative movement between them,
- said stop means comprising a leaf spring between each pair of contiguous tubes,
- one of said contiguous tubes supporting said one end of the leaf spring,
- the other of said contiguous tubes having a shoulder formed thereon which is engageable with the opposite end of the leaf spring to limit relative movement between said pair of contiguous tubes,
- there being at least three telescopically connected tubes,
- the outer tube being fixed to said support,
- the intermediate tube being telescopically supported by the outer tube,
- the inner tube being telescopically supported by said intermediate tube,
- said outer and intermediate tubes having a leaf spring stop means between them to prevent the intermediate tube from pulling out of the outer tube,
- said intermediate and inner tubes having a leaf spring stop means between them to prevent the inner tube from pulling out of the intermediate tube,
- said outer, intermediate and inner tubes being non-circular in cross-section to prevent relative angular movement between them,
- an additional element being telescopically supported by said inner tube,
- said additional element being also non-circular in cross-section at its inner end to prevent relative angular movement between it and said inner tube,
- said additional element having a tubular extension pivotally secured thereto for generally horizontal movement in either direction about the pivotal axis to a position generally perpendicular to the longitudinal axis of the outer, intermediate and inner tubes.

2. A curtain rod assembly for hospital bed use or the like, comprising:
- a support,
- a series of telescopically connected tubes mounted on said support, and
- stop means interengaging said tubes to limit relative movement between them,
- said stop means comprising a leaf spring between each pair of contiguous tubes,
- one of said contiguous tubes supporting said one end of the leaf spring,
- the other of said contiguous tubes having a shoulder formed thereon which is engageable with the opposite end of the leaf spring to limit relative movement between said pair of contiguous tubes,
- there being at least three telescopically connected tubes,
- the outer tube being fixed to said support,
- the intermediate tube being telescopically supported by the outer tube,
- the inner tube being telescopically supported by said intermediate tube,
- said outer and intermediate tubes having a leaf spring stop means between them to prevent the intermediate tube from pulling out of the outer tube,
- said intermediate and inner tubes having a leaf spring stop means between them to prevent the inner tube from pulling out of the intermediate tube,
- said outer, intermediate and inner tubes being non-circular in cross-section to prevent relative angular movement between them,
- an additional element being telescopically supported by said inner tube,
- said additional element being also non-circular in cross-section at its inner end to prevent relative angular movement between it and said inner tube,
- said additional element having a tubular extension pivotally secured thereto for generally horizontal movement in either direction about the pivotal axis to a position generally perpendicular to the longitudinal axis of the outer, intermediate and inner tubes,
- the pivotal axis between the additional element and its tubular extension being inclined from the vertical,
- causing the tubular extension to assume a position inclined from the horizontal when swung into generally perpendicular position relative to the longitudinal axis of the outer, intermediate and inner tubes.

3. A curtain rod assembly for hospital bed use or the like, comprising:
a support,
a series of telescopically connected tubes mounted on said support, and
stop means interengaging said tubes to limit relative movement between them,
said stop means comprising a leaf spring between each pair of contiguous tubes,
one of said contiguous tubes supporting said one end of the leaf spring,
the other of said contiguous tubes having a shoulder formed thereon which is engageable with the opposite end of the leaf spring to limit relative movement between said pair of contiguous tubes,
there being at least three telescopically connected tubes,
the outer tube being fixed to said support,
the intermediate tube being telescopically supported by the outer tube,
the inner tube being telescopically supported by said intermediate tube,
said outer and intermediate tubes having a leaf spring stop means between them to prevent the intermediate tube from pulling out of the outer tube,
said intermediate and inner tubes having a leaf spring stop means between them to prevent the inner tube from pulling out of the intermediate tube,
said outer, intermediate and inner tubes being non-circular in cross-section to prevent relative angular movement between them,
an additional element being telescopically supported by said inner tube,
said additional element being also non-circular in cross-section at its inner end to prevent relative angular movement between it and said inner tube,
said additional element having a tubular extension pivotally secured thereto for generally horizontal movement in either direction about the pivotal axis to a position generally perpendicular to the longitudinal axis of the outer, intermediate and inner tubes,
spring-urged latching means being provided between said additional element and its tubular extension to hold said tubular extension in selected positions relative to said telescopically connected tubes, in alignment with their longitudinal axis or in perpendicular relation thereto on either side thereof.

4. A curtain rod assembly for hospital bed use or the like, comprising:
a support,
a series of telescopically connected tubes mounted on said support, and
stop means interengaging said tubes to limit relative movement between them,
said stop means comprising a leaf spring between each pair of contiguous tubes,
one of said contiguous tubes supporting said one end of the leaf spring,
the other of said contiguous tubes having a shoulder formed thereon which is engageable with the opposite end of the leaf spring to limit relative movement between said pair of contiguous tubes,
there being at least three telescopically connected tubes,
the outer tube being fixed to said support,
the intermediate tube being telescopically supported by the outer tube,
the inner tube being telescopically supported by said intermediate tube,
said outer and intermediate tubes having a leaf spring stop means between them to prevent the intermediate tube from pulling out of the outer tube,
said intermediate and inner tubes having a leaf spring stop means between them to prevent the inner tube from pulling out of the intermediate tube,
said outer, intermediate and inner tubes being non-circular in cross-section to prevent relative angular movement between them,
an additional element being telescopically supported by said inner tube,
said additional element being also non-circular in cross-section at its inner end to prevent relative angular movement between it and said inner tube,
said additional element having a tubular extension pivotally secured thereto for generally horizontal movement in either direction about the pivotal axis to a position generally perpendicular to the longitudinal axis of the outer, intermediate and inner tubes,
the pivotal axis between the additional element and its tubular extension being inclined from the vertical,
causing the tubular extension to assume a position inclined from the horizontal when swung into generally perpendicular position relative to the longitudinal axis of the outer, intermediate and inner tubes,
the telescopically connected tubes being adapted to twist about their longitudinal axis under the torque produced by the weight of a curtain hung on the tubular extension when positioned in generally perpendicular relation to said longitudinal axis,
whereby said tubular extension is weighed down to a generally horizontal plane.

References Cited by the Examiner

UNITED STATES PATENTS

510,048	12/1893	Pieper	310—78
960,151	5/1910	Blumenthal	248—285
1,955,772	4/1934	Roth	211—172
2,443,242	6/1948	Hansen	248—279
2,855,041	10/1958	Blashfield	160—336
2,915,944	12/1959	Butts	88—97
3,137,393	6/1964	Marcus	211—105.1

FOREIGN PATENTS

1,217,225	12/1959	France.

CHANCELLOR E. HARRIS, *Primary Examiner.*
CLAUDE A. LE ROY, *Examiner.*