Sept. 15, 1964 A. L. GRIFFIN ET AL 3,148,808

EXTENSIBLE COAT HANGER

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Fig. 1

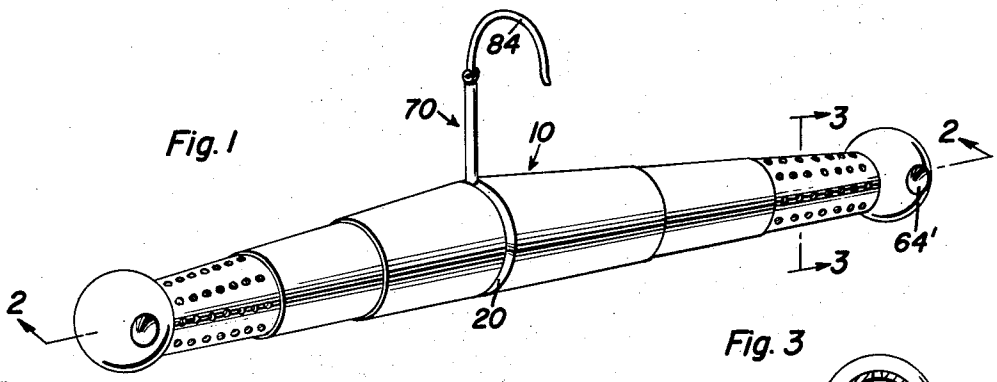


Fig. 3



Fig. 2

Fig. 5

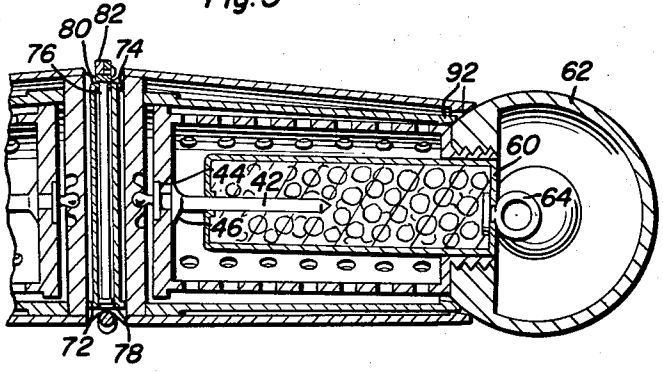


Fig. 6

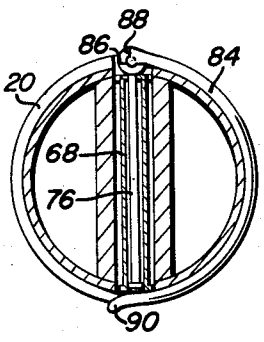
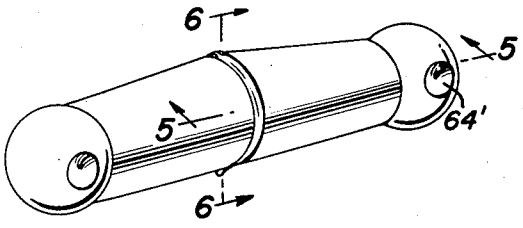


Fig. 4



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Fig. 7

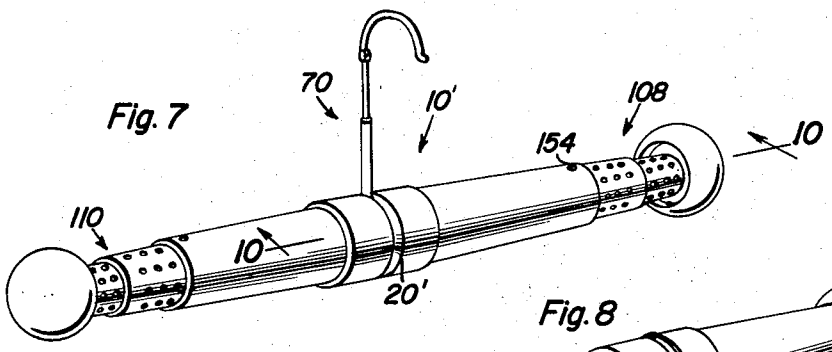


Fig. 8

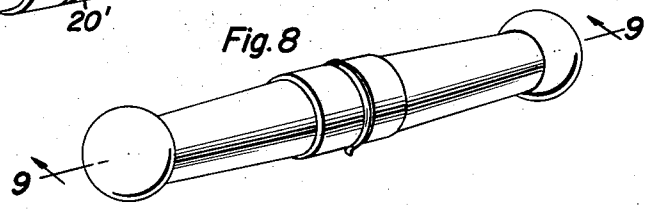


Fig. 9

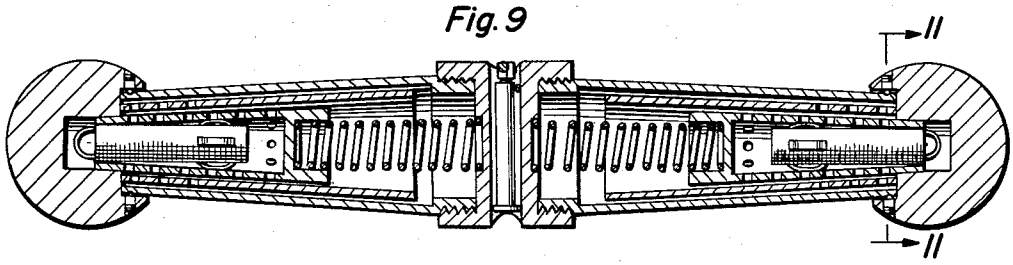


Fig. 10

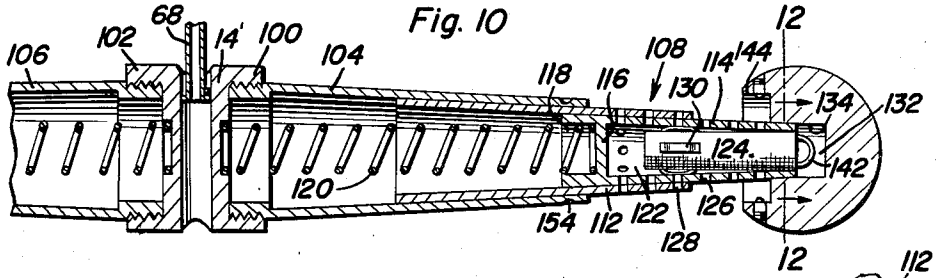


Fig. 11

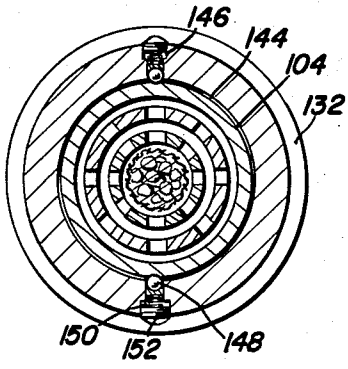


Fig. 12

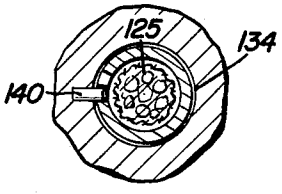
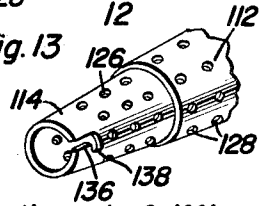


Fig. 13



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3,148,808
EXTENSIBLE COAT HANGER

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13 Claims. (Cl. 223—86)

This invention relates to supporting devices, and more particularly to a collapsible and extensible coat hanger provided with a built-in fumigating or deodorizing device.

It is a primary object of the invention to provide a hanger for clothing which may be very rapidly folded into an extremely compact unit or extended into an operative position without the use of special tools.

It is another object of the invention to provide a coat hanger with a built-in compartment for containing a fumigating or deodorizing material whereby when the coat hanger is in use the clothing hung thereon will be fumigated or deodorized.

It is another object of the invention to provide a collapsible clothes hanger that is so shaped that when it is extended it has a form fit with the garment which it supports.

It is still another object of the invention to provide a collapsible coat hanger with means therein for maintaining it either in the collapsed or extended position.

It is still another object of the invention to provide a collapsible coat hanger having means built therein for removably containing and supporting a deodorizing or fumigating cartridge.

It is still another object of the invention to provide a collapsible coat hanger with a deodorizing or fumigating material therein which is completely closed to prevent wasting of the fumigant when folded and which is automatically ventilated when extended so that the fumes within the coat hanger may escape therefrom.

It is still another object of the invention to provide a collapsible coat hanger which is of relatively simple design, economical to manufacture, durable in use, and relatively easy to maintain.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is a perspective view of the coat hanger in fully extended position;

FIGURE 2 is a longitudinal vertical sectional view taken substantially on the plane of line 2—2 of FIGURE 1;

FIGURE 3 is a transverse vertical sectional view taken substantially on the plane of line 3—3 of FIGURE 1;

FIGURE 4 is a perspective view similar to FIGURE 1 but showing the device in a fully collapsed position;

FIGURE 5 is a fragmentary enlarged longitudinal vertical sectional view taken substantially on the plane of line 5—5 of FIGURE 4 and on an enlarged scale;

FIGURE 6 is an enlarged transverse vertical sectional view on an enlarged scale taken substantially on the plane of line 6—6 of FIGURE 4;

FIGURE 7 is a perspective view of a modified form of the invention in the extended position;

FIGURE 8 is a perspective view of the device shown in FIGURE 7 but shown in the collapsed position;

FIGURE 9 is a longitudinal vertical sectional view taken substantially on the plane of line 9—9 of FIGURE 8 and on an enlarged scale;

FIGURE 10 is a fragmentary longitudinal vertical sectional view taken substantially on the plane of line 10—10 of FIGURE 7;

FIGURE 11 is an enlarged transverse vertical sectional view on an enlarged scale taken substantially on the plane of line 11—11 of FIGURE 9;

FIGURE 12 is an enlarged transverse vertical sectional view taken substantially on the plane of line 12—12 of FIGURE 10; and

FIGURE 13 is a fragmentary perspective view of an end portion of the modified form of hanger in the extended position.

Referring to the drawings, it can be seen that the form of the invention shown in FIGURES 1 through 6 comprises a central housing 10 which is circular in cross-section and has a hollow interior. The interior of the housing 10 is divided into symmetrical chambers 12 and 13 by circular central wall 14. The right chamber 12 telescopically and slidably receives a right extension assembly 16 while the left chamber 13 slidably and telescopically receives a left extension assembly 18. Since the extension assemblies 16 and 18 are mirror images of one another and are of identical design, only the right assembly 16 will be described in detail.

It will be noted that the center of the housing 10 is provided with an outer circular groove 20 which is semi-circular in cross-section and encircles the exact center of the coat hanger. The chambers 12 and 13 are defined by generally hollow conical members 22 and 23 respectively whose bottom edges are horizontally aligned as shown in FIGURE 2, and whose upper surfaces slope downwardly and away from the central portion of the hanger. The base ends of the members 22 and 23 receive the circular central wall 14 and are rigidly secured thereto.

The chamber 12 slidably receives a tubular extension member 24 which is of the same shape as and symmetrical with the conical member 22, but slightly smaller in diameter. In a like manner, the tubular extension member 24 slidably receives a tubular end member 26, the extension members 24 and tubular end members 26 comprising outer end portions of the corresponding extension assemblies 16 and 18.

As shown in FIGURE 2, the tubular extension member 24 has a continuous flange 28 on the outer surface of its base end which is held captive in and frictionally engages the inner surface of the minor diameter end of the conical member 22 when the hanger is extended and abuts against the radially inwardly projecting annular flange 30 formed on the outer minor diameter end of the member 22. In a similar manner, the end member 26 includes a flange 32 projecting radially outwardly of its base end frictionally engaging the inner surface of the base end of the member 24 and abutting the inner edge of a radially inwardly projecting annular flange 34 formed on the minor diameter end of the member 24.

The ends of the tubular member 26 are closed by a circular inner end wall 36 and an outer annular wall 38 having an outwardly extending and threaded annular shank 40 formed integrally therewith.

Fixed to the central portion of the wall 36 and extending coaxially into the tubular member 26 is a pointed pin 42 secured to the wall by means of circular flanges 44 and

46 on each side of the wall 36 and formed integrally with the pin. Extending outwardly from the flange 44 and integrally secured thereto is a ball member 48. The central outer surface of the central wall 14 defines an annular groove 50 and an outwardly opening centrally located spherical recess 52. Formed between the groove 50 and recess 52 is a circular neck portion 54. The neck portion 54 is resilient and may be radially slotted if desired so as to increase its resiliency whereby the ball member 48 may be forced into the recess 52 as shown in FIGURE 5 whereby the ball member 48 and recess 52 may define releasable holding means for retaining the various parts of the coat hanger in the contracted position, the reduced throat of the recess 52 being enlarged owing to the resiliency of the neck portion 54 as the ball member 48 is forced thereinto.

The end member 26 has a plurality of rows of apertures 56 formed therein so as to provide gas escape means for the fumigating chamber 58 formed within the member 26. Conventional fumigating gas producing means in the form of a deodorant cartridge 60 preferably of cylindrical shape slidably fits through the bore extending axially through the shank 40 and is forced onto the pin 42 so as to be maintained in a central position within the chamber 58. The cartridge 60 is removably retained in the chamber by screwing a ball member 62 onto the shank 40. The ball member 62 has concave finger and thumb identations 64' on opposite sides thereof for extending and collapsing the coat hanger.

To remove the cartridge 60, it is only necessary to unscrew the ball member 62 from the shank 40 and pull the cartridge 60 outwardly of the end member 26 by means of the operating ring 64 secured to the outer end of the cartridge.

A central vertical bore 66 is formed in the central wall 14 and slidably receives a tubular member 68 housing the lower portion of a collapsible hook assembly 70. The tubular member 68 has a radially outwardly projecting annular flange 72 formed on its lower end which is engageable with a top member 74 fixed within the upper end of the bore 66.

Slidable telescopically within the tubular member 68 is a rod member 76 which has a circular flange or head 78 formed on its lower end engageable with an inwardly extending flange 80 formed on the upper end of the tubular member 68. The upper end of the rod 76 is enlarged and has a semi-circular recess which receives the circular end 82 of a hook member 84. The circular end 82 of the hook member 84 is pivotally connected to the upper end of the rod 76 so as to permit the hook 84 to pivot 90° from the position shown in FIGURE 1 to the position shown in FIGURE 6. Preferably, a stop shoulder 86 on the rod member 76 engages a shoulder 88 on the hook 84 when the hook is opened as shown in FIGURE 1 so as to limit further relative movement between the hook and rod member. As shown in FIGURE 6, the tubular member 68 is fully retractable within the bore 66 and the rod member 76 is fully retractable within the tubular member 68. The hook member 84 fits within the annular groove 20. The outer end of the hook member 84 is curved outwardly as shown at 90 so as to form a finger-grip for pulling the hook member out of the groove.

If desired, flexible annular seal members may be provided at 92 to cooperate with the sealing of the chamber 58 by means of the ball 62 when the coat hanger is fully collapsed, the seal members 92 and the balls 62 thereby forming coacting sealing means to prevent evaporation of the deodorant cartridges 62.

The modification shown in FIGURES 7 through 13 are quite similar to that form as shown in FIGURES 1 through 6. In the modification, the hanger comprises a central housing 10' which includes a central circular wall 14' having two cylindrical flanges 100 and 102 on opposite ends thereof which are threaded internally. Threaded into these cylindrical flanges are two conical housing

members 104 and 106 which are of identical construction and have their longitudinal axes lying on the same line. Slidably mounted within each of the conical members 104 and 106 are two collapsible and extendable extension sections 108 and 110. Since these sections 108 and 110 are identical, only one will be described in detail.

The section 108 comprises an intermediate conical hollow member 112 slidable within the member 104 and concentric therewith. Likewise, a member 114 is slidable within the conical member 112 and is concentric therewith. The outer walls of the members 104, 112 and 114 have the same degree of taper, and when these members are fully extended, they tightly interlock with one another as shown in FIGURE 10. The end member 114 has an inner end wall 116 which is spaced from its inner end so as to form a circular recess 118 for receiving one end of a coil spring 120 while the other end of the coil spring is received within the cylindrical flange 100. The spring 120 normally urges the three members 104, 112 and 114 to the extended position as shown in FIGURE 10. The end member 114 has a conical chamber 122 formed therein for receiving a fumigating or deodorant cartridge 124.

Ventilating apertures 126 are provided in the cylindrical wall of the member 114, and some of these apertures are aligned with apertures 128 formed in the outer end of the member 112 when the hanger is fully extended as shown in FIGURE 10. The cartridge 124 may have resilient portions 130 formed on one end thereof so as to frictionally maintain the cartridge within the chamber 122.

A generally spherical member 132 has a radial cylindrical bore 134 formed therein which snugly receives the outer end of the end member 114. As shown in FIGURE 13, the end member 114 is provided with a generally L-shaped slot 136 which receives, in the closed end of its inner leg 138, a pin 140 fixed within a radial passage in the spherical member 132 which leads into the bore 134. To secure the spherical member or ball 132 to the member 114, it is only necessary to insert the member 114 into the bore 134 so that the pin 140 extends into the slot 136. The ball 132 is then rotated so as to force the pin into the closed end of the inner leg 138 whereby the ball and member 114 are effectively locked together.

When the ball 132 is removed from the end member 114, the cartridge 124 may be easily withdrawn by means of the handle 142 secured to one end thereof. In a similar manner, a new cartridge may be inserted.

The bore 134 is provided with an enlarged portion 144 which has radial bores 146 intersecting its outer surface. Mounted in the bores 146 are spring urged detent balls 148 which are urged inwardly by coil springs 150, the compression of which is controlled by plug members 152 threaded into an enlarged outer portion of the bores 146. The balls 148 are prevented from moving inwardly by a reduced inner portion of the bores 146.

When the coat hanger is collapsed, the balls 132 are forced toward the central wall 14' so as to compress the springs 120. The outer ends of the conical portions 104 extend into the enlarged portions 144, and the detent balls 148 snap into the recesses 154 to maintain the coat hanger in a collapsed position.

A hanger assembly 70 is provided for the central wall 14' and is constructed and operates in an identical manner as the hanger assembly 70 shown in FIGURE 1.

The cartridge 124 may be filled with any well-known fumigant or deodorant material 125.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. An extensible and retractable clothes hanger comprising a central hollow housing having open ends, an extension assembly slidably extending from each open end in telescopic relation therewith, gas producing means carried by at least one of the extension assemblies, gas escape means in said last named extension assembly, coacting holding means carried by said housing and each extension assembly for releasably holding the extension assemblies within the housing when retracted, coacting sealing means carried by said one extension assembly and said housing for sealing the open end of said housing in which said one extension assembly is disposed when said one extension assembly is retracted for preventing escape of gas produced by said gas producing means through said gas escape means.

2. An extensible and retractable clothes hanger comprising a central hollow housing having open ends, an extension assembly slidably extending from each open end in telescopic relation therewith, gas producing means carried by at least one of the extension assemblies, gas escape means in said last named extension assembly, coacting holding means carried by said housing and each extension assembly for releasably holding the extension assemblies within the housing when retracted, coacting sealing means carried by said one extension assembly and said housing for sealing the open end of said housing in which said one extension assembly is disposed when said one extension assembly is retracted for preventing escape of gas produced by said gas producing means through said gas escape means, each extension assembly comprising a plurality of telescoping members, one of said members being hollow so as to provide a chamber for said gas producing means.

3. A device as defined in claim 2 wherein said gas escape means includes gas escape openings in said chamber.

4. An extensible and retractable clothes hanger comprising a central hollow housing having open ends, an extension assembly slidably extending from each open end in telescopic relation therewith, gas producing means carried by at least one of the extension assemblies, gas escape means in said last named extension assembly, coacting holding means carried by said housing and each extension assembly for releasably holding the extension assemblies within the housing when retracted, coacting sealing means carried by said one extension assembly and said housing for sealing the open end of said housing in which said one extension assembly is disposed when said one extension assembly is retracted for preventing escape of gas produced by said gas producing means through said gas escape means, said housing being divided into two compartments by a central partition, said holding means comprising a ball and socket type snap fastener.

5. An extensible and retractable clothes hanger comprising a central hollow housing having open ends, an extension assembly slidably extending from each open end in telescopic relation therewith, gas producing means carried by at least one of the extension assemblies, gas escape means in said last named extension assembly, coacting holding means carried by said housing and each extension assembly for releasably holding the extension assemblies within the housing when retracted, coacting sealing means carried by said one extension assembly and said housing for sealing the open end of said housing in which said one extension assembly is disposed when said one extension assembly is retracted for preventing escape of gas produced by said gas producing means through said gas escape means, said sealing means including a ball of larger diameter than said extension assembly mounted on the outer end thereof.

6. An extensible and retractable clothes hanger comprising a central hollow housing having open ends, an extension assembly slidably extending from each open

end in telescopic relation therewith, gas producing means carried by at least one of the extension assemblies, gas escape means in said last named extension assembly, coacting holding means carried by said housing and each extension assembly for releasably holding the extension assemblies within the housing when retracted, coacting sealing means carried by said one extension assembly, and said housing for sealing the open end of said housing in which said one extension assembly is disposed when said one extension assembly is retracted for preventing escape of gas produced by said gas producing means through said gas escape means, each extension assembly comprising a plurality of telescoping members, one of said members being hollow so as to provide a chamber for said gas producing means, said housing being divided into two compartments by a central partition.

7. An extensible and retractable clothes hanger comprising a central hollow housing having open ends, an extension assembly slidably extending from each open end in telescopic relation therewith, gas producing means carried by at least one of the extension assemblies, gas escape means in said last named extension assembly, coacting holding means carried by said housing and each extension assembly for releasably holding the extension assemblies within the housing when retracted, coacting sealing means carried by said one extension assembly, and said housing for sealing the open end of said housing in which said one extension assembly is disposed when said one extension assembly is retracted for preventing escape of gas produced by said gas producing means through said gas escape means, each extension assembly comprising a plurality of telescoping members, one of said members being hollow so as to provide a chamber for said gas producing means, said housing being divided into two compartments by a central partition, said holding means comprising a ball and socket type snap fastener.

8. An extensible and retractable clothes hanger comprising a central hollow housing having open ends, an extension assembly slidably extending from each open end in telescopic relation therewith, gas producing means carried by at least one of the extension assemblies, gas escape means in said last named extension assembly, coacting holding means carried by said housing and each extension assembly for releasably holding the extension assemblies within the housing when retracted, coacting sealing means carried by said one extension assembly and said housing for sealing the open end of said housing in which said one extension assembly is disposed when said one extension assembly is retracted for preventing escape of gas produced by said gas producing means through said gas escape means, each extension assembly comprising a plurality of telescoping members, one of said members being hollow so as to provide a chamber for said gas producing means, said housing being divided into two compartments by a central partition, said holding means comprising a ball and socket type snap fastener, said sealing means including a ball of larger diameter than said extension assembly mounted on the outer end thereof.

9. A device as defined in claim 8 wherein the surface of said ball mates with one of said open ends when the hanger is retracted so as to seal one of said compartments.

10. A device as defined in claim 1 wherein the housing and extension assemblies have upper aligned surfaces sloping downwardly from the mid-portion of the hanger and adapted to have a form fit with a shoulder portion of any garment being on the hanger.

11. An extensible and retractible clothes hanger comprising a pair of telescoping extension assemblies having adjacent ends, connecting means connecting said adjacent ends, a supporting hook connected to said connecting means and projecting therefrom, holding means on each assembly for holding it in retracted position, retractible

means connecting said hook to said connecting means whereby said hook may be retracted toward said hanger when said assemblies are retracted toward said connecting means, said retractible means including a telescoping rod connected at one end to said connecting means and slidable into said connecting means in a straight line normal thereto, and hinge means pivotally connecting said hook to the other end of said rod.

12. A hanger as defined in claim 11 wherein said connecting means is provided with an arcuate groove, said hook adapted to be retracted into said groove when said telescoping rod is retracted.

13. A hanger as defined in claim 12 wherein said telescoping assemblies contain spring means urging them to an extended position.

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