

[54] SUN CANOPY CONVERTIBLE TO A SWIMMING POOL COVER

3,009,166 11/1961 Sears..... 4/172.11
 3,051,964 9/1962 Fisher et al..... 4/172.11
 3,209,373 10/1965 Meredith et al..... 4/172.11

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[51] Int. Cl. E04h 3/16, E04h 3/18

[58] Field of Search..... 4/172, 172.11, 172.12,
 4/172.13, 172.14

[57] **ABSTRACT**

A canopy to provide shade which converts to a cover for an adjacent swimming pool has a roof hinged to a back; the back is hinged to a base which in turn is hinged for relative rotation to ground securing means. The entire assembly may be pivoted about the ground securing means and extended over the top of a swimming pool to provide a cover for the pool.

[56] **References Cited**
 UNITED STATES PATENTS

2,912,703 11/1959 Murphy 4/172.11
 3,002,195 10/1961 Prudek..... 4/172.11

10 Claims, 4 Drawing Figures

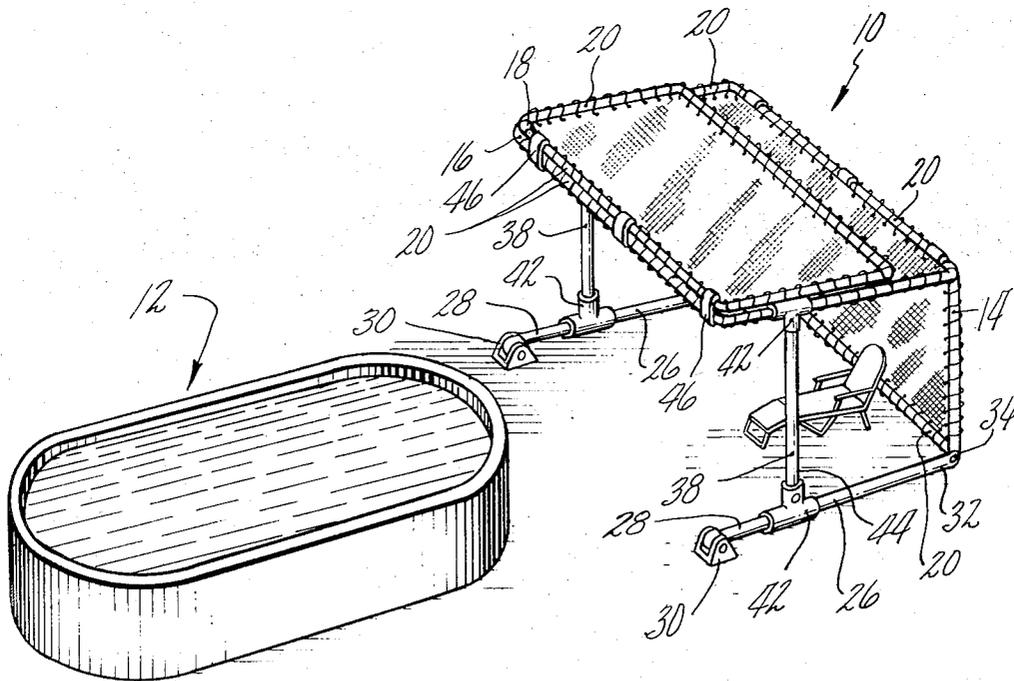


Fig. 1

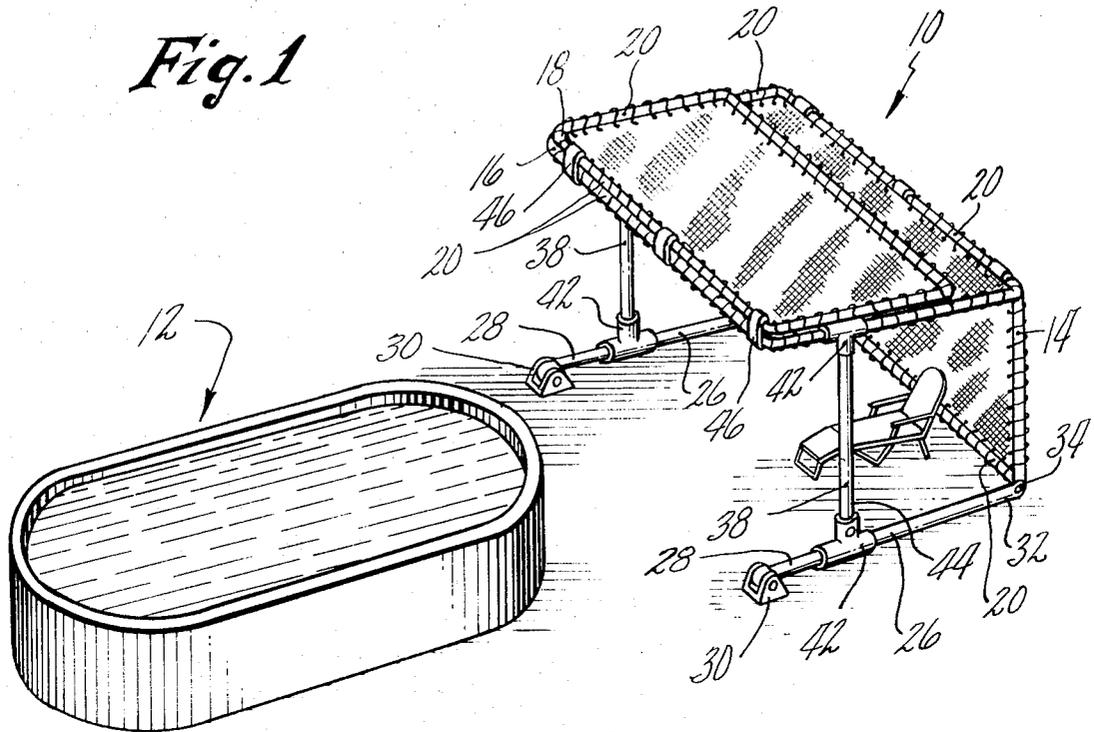
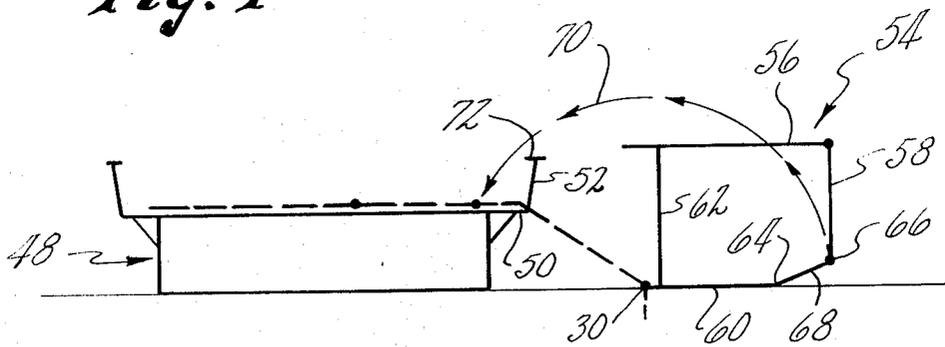


Fig. 4



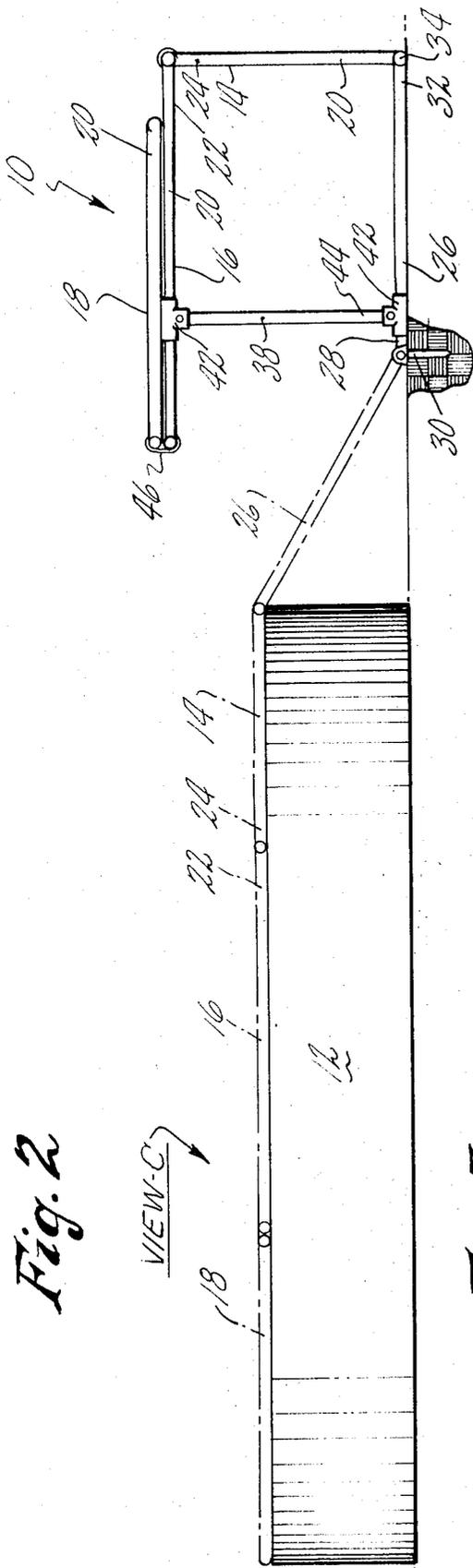


Fig. 2

VIEW-C

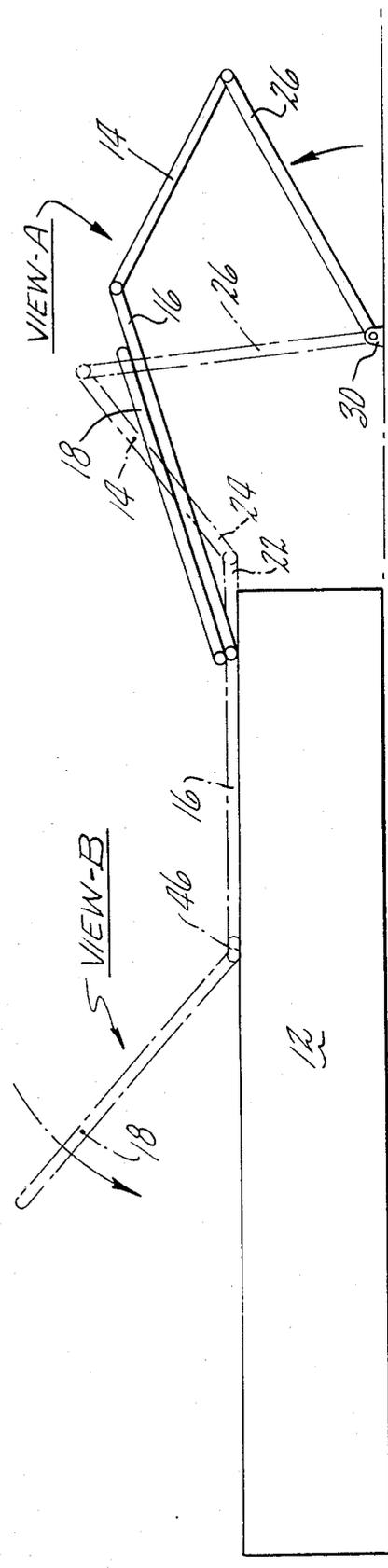


Fig. 3

VIEW-B

VIEW-A

SUN CANOPY CONVERTIBLE TO A SWIMMING POOL COVER

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to a sun canopy or awning which is convertible to a swimming pool cover.

2. Description of the Prior Art

The usefulness of a sun canopy or awning which may be converted into a cover for a swimming pool has been well recognized as is evidenced by several prior art patents. U.S. Pat. No. 2,912,703 to Murphy is one such patent. Murphy shows a roof for providing shade which is attached to four vertical posts. The bottom end of two of the posts are pivotally secured to the inside wall of an in-ground swimming pool while the two rearward posts are detachably connected to the ground. When the rear posts are detached from the ground, the roof may be rotated about the front posts down to ground level whereupon it covers the swimming pool.

Murphy has several disadvantages: One disadvantage is that the roof must be large enough to cover the entire swimming pool otherwise two such units would be required each having a roof half the open area of the swimming pool as might be suggested by Meredith et al, U.S. Pat. No. 3,209,373; another disadvantage is that the Murphy apparatus must be located immediately adjacent the poolside, possibly subjecting its users to splashing by others using the pool; another serious disadvantage of Murphy is the fact that it is not adaptable for use with above-ground pools. This latter disadvantage is of particular importance in view of the fact that backyard pools of the above-the-ground type are far and away the most common type of backyard pool. Prudek, U.S. Pat. No. 3,002,195 and Sears, U.S. Pat. No. 3,021,530 are two additional patents for combination swimming pool covers and sun shades which are designed for use with in-ground rather than above-ground pools. In addition, these latter two patents employ relatively complex and expensive apparatus to accomplish their purposes.

SUMMARY OF THE INVENTION

An object of the present invention is an improved sun canopy which is convertible to a swimming pool cover.

A further object of the present invention is a sun canopy convertible to a swimming pool cover which is readily adaptable for use with either above-ground or in-ground pools.

Another object of the present invention is a sun canopy convertible to a swimming pool cover which is lightweight, uncomplicated, and reasonable in size relative to the area of the pool to be covered.

Accordingly, the present invention comprises a roof portion, back portion and base portion and ground securing portion rotatably linked to each other so that the roof and back portion may be extended over an adjacent swimming pool to act as a cover therefor when not being used as a sun canopy.

More particularly, in a preferred embodiment of the present invention in its sun canopy mode, a horizontal rectangular roof portion is hinged at its back edge to the top edge of a vertical back portion which is in turn pivotally attached at each bottom corner to a base rod which extends forwardly from each corner along the

ground perpendicular to the back portion. The forwardly extending end of each rod is secured to the ground in a manner permitting the rod to rotate about its ground attachment point in a vertical plane. To convert the sun canopy to a swimming pool cover the roof portion is simply pulled forward over the swimming pool; as this is done the base rods pivot about the ground securing points permitting the back portion to rotate up and over the ground securing points until it is over the pool. Since the roof portion is hinged to the back portion which in turn is hinged to the base rods, the roof and back portion may be made to lie horizontally across the top of a pool. If the pool is an in-ground pool, the base rods would, of course, rotate 180° as they move from the sun canopy position to the swimming pool cover position. However, if the pool is an above-the-ground pool the base rods would only be rotated some amount less than 180° so as to position their rearward ends, which are attached to the lower corners of the back portion, to the height of the top of the pool.

In another embodiment of the present invention vertical support rods from the roof to the ground or from the roof to the base rods are used to maintain the relative positions of the roof portion, back portion, and base rods in their sun canopy mode. These vertical support rods may be easily detached from the structure to permit the structure to be rotated into its swimming pool cover mode.

Some further advantages of the present invention are that it requires no permanent installation structures, it may be easily tilted out of the way for mowing of a lawn, and it may be quickly and easily disassembled for winter storage.

The foregoing and other objects, features and advantages of the present invention will become more apparent in the light of the following detailed description of preferred embodiments thereof as illustrated in the accompanying drawing.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a perspective view showing the invention in its sun canopy mode erected adjacent an above-ground swimming pool.

FIG. 2 is a side elevation view of the invention in its sun canopy mode erected adjacent an above-ground swimming pool, and showing in phantom outline the invention in its swimming pool cover mode.

FIG. 3 is a side elevation view of the invention in two intermediate positions, one in solid outline the other in phantom outline, as it is being converted from one mode to the other mode.

FIG. 4 is a schematic side elevation view depicting another embodiment of the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Consider, as an exemplary embodiment of the present invention, the convertible sun canopy/swimming pool cover generally represented by the numeral 10 and hereinafter referred to as simply the cover 10. The cover 10 is shown positioned adjacent an above-ground swimming pool generally represented by the numeral 12. It should become apparent as this invention is further described that the cover 10 is equally suitable for use with an in-ground pool.

Referring now to FIGS. 1 and 2, the cover 10 comprises a back panel 14, a roof panel 16, and an extension panel 18. These panels will be covering the pool when the cover 10 is in its pool cover mode and they should be made from materials suitable for the use to which they are intended to be put. For example, if the cover 10 is to be used as a winterizing pool cover, the materials should be able to withstand winter weather and should be able to support accumulations of ice, rain and snow as well as the weight of a person who might accidentally or intentionally place himself on the cover. If the cover is intended only for summer use to prevent leaves and large dirt particles from entering the pool and to prevent a small child from accidentally falling into the pool, then other, less rugged materials may be used. It is this latter use that is expected to find most application for a device of this type. In that regard, in this preferred embodiment the panels 14, 16, and 18 are made from plastic or vinyl type fabric such as is used for aluminum lawn furniture, the fabric being stretched and secured to aluminum tubular framing 20 which serves to make the panels rigid, lightweight, and rust proof. The plastic fabric may be secured to the aluminum tubes by any suitable means, and preferably in a manner similar to the manner in which such fabrics are secured to the frames of aluminum lawn furniture.

The roof panel 16 is hinged along its back edge 22 to the top edge 24 of the back panel 14 such that the roof panel 16 can pivot with respect to the back panel 14 about an axis parallel to the back edge 22. The roof panel 16 should be able to rotate about that axis at least until it is parallel to the back panel 14 such that those two panels can lie flat across the top of a pool.

In this preferred embodiment the cover 10 includes a pair of base rods 26 which are also tubular aluminum, but which may be made from any suitable material. The forward end 28 of each rod 26 is secured to the ground by any suitable means permitting the rods 26 to rotate about the ground securing point in a vertical plane. In this embodiment the ground securing means is designated by the numeral 30 and is simply a stake which is driven into the ground and which has a clevis portion which extends above the ground and to which the end 28 of the rod 26 is pinned. The rearward end 32 of each rod 26 is hinged to a bottom corner 34 of the back panel 14 by any suitable means permitting the back panel to rotate with respect to the base rods. It should be apparent that more than two base rods may be used and that even a rectangular panel rather than rods might be used to connect the lower portion of the back panel 14 to the ground securing means 30.

Further in this embodiment, support rods 38 are attached to the roof panel 16 and to the base rods 26 to hold the roof panel 16, the back panel 14 and the base rods 26 in proper angular relationship. The support rods 38 are herein shown as being pinned into "T-joints" 42 which are a part of the roof panel 16 and base rods 26. The vertical support rods 38 are representative of only one of many ways in which the angular relationship between the roof panel, back panel and base rods may be maintained; for example, it may be desirable to simply stake the lower portions 44 into the ground rather than securing them to the base rods 26. It may also be desirable to hinge the ends of the support rods 38 to the roof panel 16 so the rods 38 may be swung up under the roof panel when the cover 10 is in

its swimming pool cover mode. Also, it may be possible to eliminate the support rods 38 by using some type of guide wires secured to the ground or by using suitable hinges between the roof and back panels 16, 14 and between the back panel 14 and base rods 26 to maintain the relative positions between the panels 16, 14 and the base rods 26. This embodiment also includes an extension panel 18 which is similar in construction to the roof panel 16 and is hinged at 46 to the front end of the roof panel 16.

Referring now to FIGS. 2 and 3, the method of converting the cover 10 to a swimming pool cover should become apparent. First, the support rods 38 are removed by pulling out the pins and sliding them out of the T-joints 42. The front edge of the roof panel 16, such as at the hinge 46, is then pulled toward the swimming pool. The base rods 26 will begin to pivot about the ground securing means 30 as indicated in view A (solid lines) of FIG. 3. The base rods 26 continue to rotate as the roof portion 16 is pulled over the top of the pool 12 as shown in the phantom view B of FIG. 3. The extension panel 18 is rotated around the hinge point 46 until it is resting on the top of the pool 12. The roof panel 16 is moved further across the top of the pool 12 until the back panel 14 is lying flat across the top of the pool as shown in view C (phantom) of FIG. 2. It should be apparent from FIGS. 2 and 3 that the pool 12 could be an in-ground pool and still be covered by the cover 10 simply by extending the panels 14, 16, 18 and the base rods 26 until they are parallel with the ground.

It should also be apparent from the foregoing that depending on the size of the pool, the extension panel 18 may or may not be required. It is contemplated that this invention include within its scope a cover 10 without an extension panel 18 for use in covering a smaller pool. It can be seen that the cover 10 of this invention provides a shaded area of reasonable dimensions while being able to cover a pool of quite large size. For example, a cover 10 of the type shown in FIGS. 1-3 which is 7 feet high, 16 feet wide and 10.5 feet deep would cover the standard 16 x 28 foot oval pool.

FIG. 4 is a line drawing depicting how the subject invention may easily be adapted for use with an above ground pool 48 having a platform 50 and railing 52. The cover is here designated by the numeral 54 and includes a roof panel 56, back panel 58, base rods 60 and support rods 62. The only difference between this embodiment and the embodiment of FIGS. 1-3 is that there is no extension panel and the base rods 60 are bent at 64 and attached to the back panel 58 at 66 which is above the ground. The angle of the bend at 64 permits the rear portion 68 of the base rods 60 to lie flat across the platform 50 as shown in phantom in FIG. 4. Also, the arc 70 of travel of the point 66 must clear the top 72 of the railing 52 so that the bottom edge of the back panel 58 clears the railing when swung into position. The railing 52 would require small opening to accommodate the base rods 60.

Although the invention has been shown and described with respect to preferred embodiments thereof, it should be understood by those skilled in the art that various changes and omissions in the form and detail thereof may be made therein without departing from the spirit and the scope of the invention.

Having thus described typical embodiments of my invention, that which I claim as new and desire to secure by Letters Patent of the United States is:

1. A device convertible from a sun canopy mode to a swimming pool cover mode comprising:

- a roof portion having a rearward edge;
- a back portion having a top edge adjacent said rearward edge, said back portion being pivotally connected to said roof portion and having a lower portion;

base means including a forward end and rearward end said rearward end being pivotally connected to said lower portion;

support means attached to said roof portion at least when the device is in the sun canopy mode;

said forward end of said base means adapted to be pivotally secured to ground along a horizontal axis which is forward of said back portion when the device is in the sun canopy mode, said back portion being substantially vertical in the sun canopy mode and said roof portion extending forwardly therefrom and being supported at an angle with respect thereto by said support means when the device is in the sun canopy mode, said roof portion, back portion and base means adapted to pivot forwardly about said horizontal axis until said roof portion and said back portion are forward of said axis and are substantially horizontal for covering a swimming pool.

2. The device according to claim 1 wherein said roof portion has a forward edge and said device includes an extension panel pivotally connected to said forward edge of said roof portion and is adapted to rotate relative to said roof portion about an axis parallel to said forward edge when the device is being converted from one mode to the other mode.

3. The device according to claim 1 wherein said top edge is parallel to said rearward edge and said back portion is pivotally connected to said rearward edge.

4. The device according to claim 1 wherein said base

means includes a plurality of base rods pivotally connected to said lower portion and adapted to extend from said lower portion to said horizontal axis and adapted to be pivotable about said horizontal axis.

5. The device according to claim 4 wherein each of said base rods includes a forward portion and a rearward portion, said rearward portion being at an angle with respect to said forward portion, said rearward portion being adapted to lie flat along an above the ground deck of a swimming pool when said device is in the swimming pool cover mode.

6. The device according to claim 1 wherein said support means includes means for maintaining said back portion substantially vertical when the device is in the sun canopy mode.

7. The device according to claim 6 wherein said support means comprises a plurality of support rods each having a top and bottom end, said top end being secured to said roof portion and said bottom end being secured to said base means, each rod being detachable at at least one end thereof wherein said roof portion, back portion and base means are pivotable about said horizontal axis when said support rod ends are detached.

8. The device according to claim 7 wherein said top edge is parallel to said rearward edge and said back portion is pivotally connected to said rearward edge.

9. The device according to claim 7 wherein said base means includes a plurality of base rods pivotally connected to said lower portion and adapted to extend from said lower portion to said horizontal axis and adapted to be pivotable about said horizontal axis, said bottom end of each support rod being secured to one of said base rods.

10. The device according to claim 7 wherein each rod is detachable at both ends thereof.

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