This invention relates to an umbrella assembly and a framing assembly associated therewith which includes a stanchion assembly having a variable longitudinal dimension dependant on whether the umbrella is in a collapsed position or an expanded position. An adjustment assembly interconnects separable, first and second portions of the stanchion assembly exerts a biasing force on the second portion, and the canopy supporting ribs attached thereto. The biasing forces the second portion outwardly from the first portion as the umbrella assumes a collapsed position. The ribs, and canopy are thereby raised a greater than normal distance from a supporting surface of the umbrella and interference between the plurality of ribs and any object disposed at the base of the umbrella is prevented, when in the collapsed position.
FIG. 6

[Diagram of a mechanical assembly with labeled parts 24, 26, 30, 40, 50, 52, 56. Diagram shows a vertical arrangement with multiple sections and connectors.]
HEIGHT ADJUSTABLE UMBRELLA ASSEMBLY

CLAIM OF PRIORITY

[0001] The present application is based on and a claim to priority is made under 35 U.S.C. Section 119(e) to provisional patent application currently pending in the U.S. Patent and Trademark Office having Ser. No. 60/498,907 and a filing date of Aug. 29, 2003.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] The present invention is directed to an umbrella of the type commonly used outdoors, and in particular, to the type adapted to include an enlarged canopy and associated frame assembly in order to provide an optimum shaded area or otherwise protected area beneath the umbrella. In addition, the umbrella assembly is structured to have an automatically variable length depending on whether the umbrella is in either an expanded position or a collapsed position. When disposed in the collapsed position, the feature ensures that interference between the enlarged canopy and/or supporting portion of the frame assembly and any object surrounding the base of the umbrella is avoided.

[0004] 2. Description of the Related Art

[0005] Umbrellas of various types, sizes and configurations have been used and continue to be used extensively for a variety of different utilitarian and recreational activities. Perhaps most common is a portable umbrella which is typically hand-held and utilized to protect an individual from adverse weather conditions, and most often rain. Handheld umbrellas are generally lightweight but of durable construction to facilitate being carried around by an individual user. The functional or operational components of such known umbrella structures are such as to render them quickly and easily positioned between collapsed position, convenient for storage purposes, and an expanded position, wherein the expanded umbrella canopy overlies and shelters the user from rain, sun, etc.

[0006] Another category of umbrellas is primarily designed for recreational use. These are generally large, upstanding umbrellas commonly found at outdoor public locations such as (but not limited to) restaurants, sidewalk cafes, hotels, around swimming pools, and a variety of other areas that cater to the outdoor congregation of a plurality of people. As such, these larger outdoor umbrellas are primarily structured to shield individuals from the sun, and possibly from other environmental conditions such as wind, light rain, etc. With regard to providing shade from the sun, it is understood that due to the earth’s rotation, the sun’s rays can be directed throughout the day at more than one angle, and in some cases, it may be desirable to shift or otherwise angle the umbrella’s canopy so as to offer an adequate amount of shade in response. Also, these types of umbrellas are also typically structured to endure relatively harsh weather conditions, including consistent and repeated exposure to the sun’s rays. In addition, these larger outdoor umbrellas can be exposed to high winds, such as those associated with an unexpected storm, etc. As such, umbrellas intended for outdoor use should possess sufficient structural integrity and other features to address these situations, including being capable of extended use, and even under such harsh conditions. In addition, because such umbrellas are large and not easily moved about, they should also be structured to permit them to be relatively easily moved between the expanded and collapsed position, and ideally, should also include some structure for permitting them to be moved or rolled to another location for storage, such as for safe-keeping when not in use, etc.

[0007] At the same time, however, it is very desirable for these large outdoor umbrellas to be aesthetically pleasing as well, so as to complement the area or location where people gather under and around such umbrellas. Accordingly, there is room for improvement in the design of large, outdoor umbrellas in that there are few of such umbrellas that meet desirable aesthetic appearances which are also capable of efficiently performing all or many of the functions, as noted above.

[0008] Also, one of the primary functional features of large, outdoor umbrellas is the ability to provide shade to a significantly large area. Therefore, in order to optimize the shaded area, at least in terms of dimension, there is an increased demand for outdoor umbrellas which have a canopy and accompanying plurality of supporting ribs of significantly greater size. Clearly, the larger sized canopy produces a larger shaded area. In addition however, many umbrellas, including those that provide a larger shaded and/or sheltered area, are frequently used in combination with tables, chairs or other seating facilities and/or a variety of other structures, in order that individuals may enjoy a protected area offered by the umbrella for extended periods.

[0009] While technological advancements in the umbrella industry have demonstrated that outdoor umbrellas having enlarged or extended canopies and supporting rib structures are possible, recognized problems and/or disadvantages associated with their use have become more prevalent. By way of example only, one area of concern involves the physical interference of the outer peripheral portions of the extended size canopy (and/or supporting structure associated with the canopy) with any one or more objects placed beneath or in the adjacent vicinity of the umbrella, such as a table or chair, as the umbrella is closed into its collapsed position. Such physical interference is a common occurrence, especially when the size of the canopy necessitates the dimensioning of the supporting rib structure being almost equal in length to that of the supporting pole or stanchion which is a necessary part of the frame assembly.

[0010] Accordingly, operation of outdoor type umbrellas of this size often becomes inconvenient, if not impossible, when attempting to close the umbrella into the collapsed position. Moreover, collapsing the umbrella may involve extensive rearrangement of furniture or other objects beneath or in the vicinity of the base of the umbrella. This is a particularly significant problem when the umbrella itself is mounted to pass through and/or otherwise be supported by a table or like structure disposed beneath the umbrella. In such situations, the positioning of the extended size umbrella into the collapsed position serves to completely enclose or surround the table and prevents the umbrella from being oriented in completely collapsed position as intended.

[0011] Attempts to overcome such problems have involved the use of a central supporting pole having an increased longitudinal dimension.
However, supporting poles or stanchions of extended length provide additional problems. For example, the positioning of the canopy may then be at too great a distance above the table or other supporting surface to be aesthetically pleasing and/or to provide meaningful shade or shelter of the intended area there-beneath. Also, umbrellas having extended length support poles or stanchions encounter significant instability problems in situations where they are subjected even to mild wind conditions.

There is a significant need in the umbrella industry for an umbrella assembly having an enlarged canopy and incorporating a supporting frame, which facilitates the adjustment of the height or longitudinal dimension of the umbrella assembly depending on whether it is in an extended position or a collapsed position. However, if any such umbrella frame assembly were developed, it should not derogatorily affect the stability or efficient operation of the umbrella, in either the open or closed position. Accordingly, the design and structuring of large, outdoor umbrellas should be such as to incorporate the desired aesthetic appearance while being capable of efficiently performing the intended sheltering function. Also, if any such improved umbrella frame assembly were developed, it should be capable of quick, efficient and relatively easy selective orientation in either a collapsed position for storage or a fully expanded position for sheltering a given area.

**SUMMARY OF THE INVENTION**

The present invention is intended to present a solution to the above described needs and others which remain in this field of art. As such, the present invention is directed to an umbrella of the type which is typically, but not exclusively, used outdoors for providing shade or other shelter to a given area. As is well known, such outdoor umbrellas are of a sufficient size to establish a desired protected or shaded area. However, for an increasing number of applications, it is desirable to increase the size of the shaded area produced by an umbrella.

Therefore, the present invention is more specifically directed to an umbrella and an accompanying frame assembly which overcomes known disadvantages and problems associated with the use of umbrellas having an increased size canopy and supporting rib structure. In particular, the umbrella assembly of the present invention incorporates structural and operational features which provide for the substantially automatic variance of the height or longitudinal dimension of a supporting stanchion assembly. Moreover, the length of the stanchion assembly is adjusted or changed in order that the perimeter of the canopy and/or the outer, free ends of the supporting ribs are raised a sufficient distance above a supporting surface to prevent their interference with objects in the vicinity of the base of the stanchion.

Accordingly, a preferred embodiment of the umbrella assembly of the present invention includes a frame which incorporates the aforementioned stanchion assembly. The stanchion assembly is operatively disposed in a vertically upright or otherwise generally upstanding orientation relative to the ground or other supporting surface on which it is positioned. It is recognized as common practice to surround the base of the stanchion with a table or a variety of other objects which facilitate the use of the shaded or protected area beneath the umbrella. As such, the stanchion may even be at least partially supported by the table as it extends upwardly therefrom a sufficient distance for positioning of a canopy at a predetermined and desired height above the shaded or protected area.

The frame assembly of the present invention also includes a plurality of ribs having an inner end pivotally or otherwise movably connected to an outer or upper end of the stanchion, normally by means of a connecting hub. When in an expanded position, the plurality of ribs extend outwardly therefrom in supporting relation to a canopy positioned exteriorly of the ribs. In addition, at least one preferred embodiment of the frame assembly of the present invention includes a plurality of struts having an innermost end pivotally or otherwise movably connected to a main hub. The outer end of each of the struts is pivotally or otherwise movably attached at a fixed location along the length of a corresponding one of the plurality of ribs. A positioning assembly is mounted on the stanchion assembly in direct association with the main hub, the plurality of struts and the plurality of ribs. The positioning assembly is operable to selectively dispose the umbrella between the expanded position and a collapsed position. As is common, when in the expanded position the plurality of ribs depend downwardly from the upper end or portion of the stanchion assembly in somewhat surrounding relation and along at least a majority of the length of the stanchion assembly.

In order to overcome the disadvantages and problems associated with umbrellas having an enlarged canopy and supporting rib assembly, the stanchion assembly of various preferred embodiments of the present invention is structured to include an automatically adjustable and/or variable longitudinal dimension, dependent on whether the umbrella is in the extended position or the collapsed.

Therefore, in a most preferred embodiment of the present invention, the stanchion assembly includes an adjustment assembly associated therewith. The adjustment assembly may be more specifically defined as a biasing mechanism which serves to raise or outwardly extend an upper portion of the stanchion assembly from a remaining portion thereof, in order that the canopy and supporting rib structure also be raised a greater distance from the supporting surface on which the umbrella rests. More specifically, the stanchion assembly comprises a first portion generally comprising a majority of the length of the stanchion assembly extending upwardly from the supporting surface on which the umbrella is positioned. A second portion of the stanchion assembly is defined by an upper end or upper portion thereof which is separable from the first portion of the stanchion assembly. As set forth above, the plurality of supporting ribs and the canopy secured thereto is mounted on the second portion of the stanchion assembly and movable therewith relative to the first portion as well as the supporting surface on which the umbrella is mounted.

As will be explained in greater detail hereinafter, the adjustment assembly and/or biasing mechanism is interconnected in at least partially supporting relation between the first and second portions of the stanchion assembly. As such, various preferred embodiments of the present invention may include the biasing mechanism being fluid activated, and even more specifically, embodied in the form of
a pneumatic spring or fluid activated piston and cylinder assembly. However, it is emphasized that at least one additional preferred embodiment of the present invention could include a mechanical type basing mechanism operationally interconnected between the first and second portions of the stanchion assembly. If utilized, the mechanical biasing mechanism would be structured to raise the second portion, the canopy and the plurality of supporting ribs associated therewith, as the umbrella is selectively disposed into the collapsed position. Moreover, operation of the adjustment assembly in any of its preferred embodiments raise the second portion of the stanchion assembly, and the canopy secured thereto, a sufficient distance above the support surface of the umbrella to assure that the canopy and supporting rib assembly will not interfere with any objects in the vicinity of the base of the stanchion assembly, when the umbrella is disposed in the collapsed position.

[0021] These and other objects, features and advantages of the present invention will become more clear when the drawings as well as the detailed description are taken into consideration.

BRIEF DESCRIPTION OF THE DRAWINGS

[0022] For a fuller understanding of the nature of the present invention, reference should be had to the following detailed description taken in connection with the accompanying drawings in which:

[0023] FIG. 1 is a front view in schematic form of an umbrella and associated frame assembly of the present invention in a fully expanded position.

[0024] FIG. 2 is a front view in schematic form of the embodiment of FIG. 1 as the umbrella and frame assembly are being disposed from the extended position of FIG. 1 to a collapsed position.

[0025] FIG. 3 is a front view in schematic form of the umbrella assembly of FIGS. 1 and 2 in a fully collapsed position.

[0026] FIG. 4 is a detailed cross-sectional view in cutaway disclosing a portion of a stanchion assembly of the embodiment of FIGS. 1-3 and an adjustment assembly associated therewith when the umbrella is in a fully expanded position.

[0027] FIG. 5 is a detailed view in cross-section and cutaway of the embodiment of FIG. 4 when the umbrella is disposed in a partially collapsed position similar to that FIG. 2.

[0028] FIG. 6 is a detailed view in cross-section and partial cutaway of the embodiment of FIGS. 4 and 5, wherein the umbrella assembly is in a completely collapsed position, as also represented in FIG. 3.

[0029] FIG. 7 is a perspective view in detail and partial cutaway of a portion of the stanchion assembly, wherein the adjustment assembly is represented in phantom lines and the umbrella is in a fully expanded position.

[0030] FIG. 8 is a perspective view in partial cutaway of the embodiment of FIG. 7 wherein the adjustment assembly is represented in phantom lines and the umbrella assembly is in a partially collapsed position similar to the positions of FIGS. 2 and 5.

[0031] Like reference numerals refer to like parts throughout the several views of the drawings.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT(S)

[0032] As represented in the accompanying drawings, the present invention is directed to an umbrella assembly, generally indicated as 10, and in particular, to a frame assembly generally indicated as 12 and associated therewith. For purposes of clarity at least some of the accompanying figures comprise schematic representations, and as such, do not illustrate certain structural components which would normally accompany the umbrella 10 when used. One of such components is a canopy secured to the frame assembly 12 in a somewhat conventional manner, dependent on the specific structural features of the canopy. Regardless, the canopy is preferably formed from an at least partially flexible material so as to facilitate its positioning, along with other attendant portions of the frame assembly 12, between an outwardly extended or expanded position and a somewhat downwardly depending collapsed position. The canopy can be formed from a variety of different materials, dependent at least in part on the particular application for which the umbrella 10 is intended. In any event, the canopy material should be such as to provide shade from the sun as well as shelter from other weather conditions.

[0033] With initial reference to FIGS. 1-3, the umbrella 10 and the frame assembly 12 include a stanchion assembly, generally indicated as 14. The stanchion assembly 14, when disposed in an operable position, normally assumes a vertical or at least substantially upstanding position, as shown. The lower end 16 of the stanchion assembly 14 is connected to or otherwise associated with a support base 18. The base 18 typically is disposed on a supporting surface 20, which may be a ground surface, deck, or a variety of other support structures representative of the area for location where the umbrella 10 is used.

[0034] The umbrella 10, and in particular, the frame assembly 12 further includes a first or main hub structure 22 movably connected to the stanchion 12 so as to move along at least a portion of the length thereof as the umbrella 10 and frame assembly 12 are disposed between the fully extended position of FIG. 1 and the collapsed position of FIG. 3. In addition, a second hub structure 24 is also secured to the stanchion 14 adjacent an upper end thereof as disclosed. The second hub 24 functionally differs from the first hub 22 by being connected or attached in a substantially fixed location adjacent the upper portion of the stanchion assembly 14. Moreover, in certain preferred embodiments of the present invention both the first and second hubs 22 and 24 may be rotatable about the central axis of the stanchion assembly 14 if, for example, it is desirable to rotate or reorient the canopy portion of the umbrella. It is also emphasized that while the specific structural features of the first and second hubs 22 and 24 may vary, possible embodiments thereof are substantially equivalent to the hub structures disclosed in U.S. Pat. No. 6,314,976 issued to the inventor herein, which patent is incorporated herein in its entirety by reference.

[0035] Additional structural features of the frame assembly 12 include a plurality of ribs 26 having one end pivotally or otherwise movably interconnected to the upper portions of the stanchion assembly 14 such as by being pivotally
attached to the second hub 24. The ribs 26 may vary in number and serve as the primary structure for the mounting and support of the aforementioned canopy structure. As such, the canopy structure is movable with the plurality of ribs 26 as the umbrella 10 and frame assembly 12 are selectively positioned between the expanded position of FIG. 1 and the collapsed position of FIG. 3.

Yet additional structural features of the frame assembly 10 include a plurality of struts 28 which are preferably equal in number to the plurality of ribs 26. Each of the struts 28 have an inner end as at 28 pivotally or otherwise movably connected to the first hub 22 and movable therewith along the length of the stanchion 14 as the umbrella 10 and frame assembly 12 are disposed between the expanded and collapsed positions. The outer ends 28 of each of the struts 28 are pivotally or otherwise movably connected to a correspondingly position one of the plurality of ribs 26 as schematically represented in FIGS. 1-3 and shown in more detail in FIGS. 7 and 8. When the struts 28 are disposed in the collapsed position of FIG. 3 they substantially surround the exterior of the stanchion 14 and are located on the interior of the plurality of ribs 26, depending downwardly from the hub 24 and/or the upper end of the stanchion.

With primary reference to FIG. 1, distinguishing features of the umbrella 10 as well as the frame assembly 12 include the relatively long, extended length of each of the ribs 26. As such, a canopy structure connected to and supported by the ribs 26 when in the expanded position of FIG. 1 has a relatively enlarged or significantly increased diameter from that normally found with conventional outdoor, shade umbrellas. As set forth above, in many practical applications of the outdoor umbrella it is desirable to increase or maximize the amount of shade produced by the umbrella 10 when in the expanded position. As such, the shaded area provided by the umbrella 10 can be greatly increased by extending the size of the canopy carried by the frame assembly 10. The provision of an enlarged canopy requires the structuring of the plurality of support ribs 26 to have an extended or enlarged length. However, when providing a plurality of ribs 26 of greatly extended length, certain problems and/or disadvantages evolve relating to the operation of the umbrella 10 and frame assembly 12, as described previously herein.

Again, with primary reference to FIG. 1, the umbrella 10 and frame assembly 12 is represented in a fully expanded position. As such, movement of the ribs 26 to a collapsed or closed position utilizing a conventional stanchion or center, support pole would result in the outer ends 26 of the ribs 26, as well as the periphery of a canopy supported thereon, extending downwardly to a location on the stanchion assembly 14 indicated as 100. The path of travel of the outer ends of the ribs 26, utilizing a conventional fixed length stanchion assembly 14, is schematically represented by the directional arrows 102 presented in phantom. It should be apparent therefore that the ribs 26, being of extended length, would be disposed along the length of a conventional, fixed length stanchion to a point very close to the supporting base 18 and/or supporting surface 20. This positioning of the ends 26 at the location 100 relative to the supporting surface 20 would result in the inability to place any type of table, seating arrangement or other objects in the immediate vicinity of the supporting base 18 and/or support surface 20. It is well known that tables, chairs, and a variety of other objects are commonly associated with outdoor umbrellas, and in fact, may be specifically structured to surround and/or engage a lower portion of a support pole or stanchion. Provision of such accommodating structures, such as a table, would be impractical for use with a conventional outdoor umbrella having a plurality of ribs of extended length and supporting a canopy of an extended diameter.

Accordingly, one feature of the present invention is the provision of an umbrella 10, and in particular, a frame assembly 12 having a variable height or longitudinal dimension dependent on whether the umbrella is in the expanded position of FIG. 1 or the collapsed position of FIG. 3. More specifically, the stanchion assembly 14 of the present invention is specifically structured to have its height, when in an operable position, increased or decreased dependent upon whether the umbrella 10 and frame assembly 12 is in the aforementioned expanded or collapsed positions.

Referring to FIGS. 1-3, when the umbrella 10 is in the expanded position, it is desirable to have the plurality of ribs 26 and a canopy structure supported thereon at a “functional” height above the support surface 20 and the surrounding area to be shaded.

This functional height may, of course, vary. However, it is recognized in the umbrella industry that the positioning of the canopy and supporting array of ribs 26 at too great a height above the supporting surface 20 will result in a reduction in the area being shaded, thereby defeating the primary purpose of extending the length of the supporting ribs 26 and enlarging the size of the canopy. Therefore, in order to optimize the shaded area beneath the umbrella 10, when in its expanded position, the stanchion assembly 14 is structured to have its length, or height automatically varied to substantially correspond to the proper or functional height, as set forth above.

Accordingly, the stanchion assembly 14 includes a first portion 40 which has an elongated configuration and which extends along preferably a majority a length of the stanchion 14 between its opposite ends. In addition, the first portion of the stanchion 40 includes an at least partially hollow interior and may be generally defined by a tubular construction of the type well known in the umbrella industry. The stanchion assembly 14 further comprises a second portion 42 which is coaxially disposed to the first portion 40 and which is separable therefrom as represented in FIGS. 2, 3, 5, 6 and 8. The second portion 42 may comprise a shorter longitudinal dimension than the first portion and defines the upper portion of the stanchion assembly 14 to which a plurality of ribs 26 are connected.

Therefore, upon separation of the first and second portions 40 and 42 from one another the plurality ribs 26 move with the second portion 42 and are raised or extended coaxially outwardly from the first portion 40. This outward extension or raising of the second portion 42 relative to the first portion 40 serves to increase the height or longitudinal dimension of the stanchion assembly 14 while concurrently raising the plurality of ribs 26 to the position demonstrated in FIG. 3, when the umbrella 10 and frame assembly 12 are disposed in the collapsed position. Moreover, the outward extension of the second portion 42 relative to the first portion 40 serves to extend the length of the stanchion 14 and
position the plurality of ribs 26 and free ends 26' upwardly, a significantly greater distance from the support surface 20 and support base 18. Sufficient room or space is thereby provided between the outer or free ends 26' of the plurality of ribs 26 and the supporting surface 20 to position a table, seating arrangement, or a variety of other objects commonly associated with the use and/or decor of an outdoor umbrella 10 of the type described herein.

[0044] In order to facilitate the efficient operation of the umbrella 10, and in particular, of the frame assembly 12, specifically relating to the automatic adjustment of the length or longitudinal dimension of the stanchion assembly 14, various preferred embodiments of the present invention include an adjustment assembly generally indicated as 46. The adjustment assembly preferably comprises a biasing mechanism which, in a most preferred embodiment, comprises a fluid activated biasing structure such as, but not limited to, a pneumatic spring and/or a fluid activated cylinder and piston assembly.

[0045] As shown in detail in FIGS. 4-7, the biasing mechanism comprises a cylinder and piston assembly including a cylinder 50 fixedly secured on the interior of the stanchion 14 and more specifically on the interior of the first portion 40 of the stanchion assembly 14. In addition, a piston 52 is cooperatively structured with and movable relative to the cylinder 50 and is disposed, at least partially, on the interior of the second portion 42 of the stanchion assembly 14. Primarily for purposes of aesthetics, sleeves 56 and 58 are disposed in concentric, surrounding relation to portions of the cylinder 50 and the piston 52 respectively. Moreover, the cylinder and piston assembly 50 and 52 is activated by air or other fluid. As such, when the umbrella 10 and frame assembly 12 are in the extended position of FIGS. 1, 4 and 7, the cylinder and piston assembly 50, 52 are in a compressed position and as such exert an outwardly directed, separating biasing force on the second portion 42.

[0046] As shown in FIG. 5, as the umbrella 10 and the frame assembly 12 move between the fully extended position of FIGS. 1 and 4 into the fully collapsed position of FIGS. 3 and 6, the biasing force exerted by the cylinder and piston assembly 50, 52 serves to separate and extend the second portion 42 outwardly from the first portion 40 of the stanchion assembly 14, as schematically represented by directional arrow 60. This serves to extend or lengthen the longitudinal dimension of the stanchion assembly 14 while concurrently raising the plurality of ribs 26 and a canopy structure supported thereon. With reference to FIG. 6, when the frame assembly 12 is in the fully collapsed position of FIG. 3, the piston 52 extends outwardly from the cylinder 50 a maximum or predetermined distance so as to separate the second portion 42 from the first portion 40 a predetermined or maximum distance. This, in turn, will position the plurality of ribs 26 and any canopy structure supported thereon a sufficiently spaced distance from the supporting surface 20 on which the umbrella 10 is positioned, to provide adequate space between the free outer ends 26' of the plurality of ribs 26 and the supporting surface 20. Adequate room will thereby be provided to prevent any contact or other interference with the plurality of ribs 26 and any table, seating assembly or other objects in the vicinity of the lower portion of the stanchion 14 and/or base 18.

[0047] While the structural specifications of the cylinder and piston assembly 50, 52 may vary, it is intended that the biasing force produced thereby and exerted on the second portion 42 is sufficient to cause the intended separation, while concurrently serving to at least partially support the plurality of ribs 26 and a canopy structure thereon in the outwardly extended position, while the umbrella 10 is collapsed. However, this outwardly directed and supporting force of the cylinder and piston assembly 50, 52 may be overcome with minimal effort, when it is desired to dispose the umbrella 10 in the aforementioned outer, expanded position of FIG. 1.

[0048] Any of a variety of positioning mechanisms or assemblies (not shown for purposes of clarity) may be utilized to selectively and manually orient the umbrella 10 and the frame assembly 12 into and out of either of the extended or collapsed positions. Such positioning assembly may take the form of a pulley and cable assembly appropriately interconnected to the stanchion assembly 14 and more specifically to the first and second portion 40 and 42 and/or the hubs 22 and 24 mounted thereon. By way of example only, the exertion of a pulling force on a positioning cable will result in downward travel of the second portion 42 relative to the first portion 40 against the biasing force exerted thereon by the adjustment assembly 46 until the first and second portions are disposed in contact and/or supporting engagement with one another as clearly demonstrated in FIGS. 1, 4 and 7. When in the expanded position, the positioning line associated with the aforementioned pulleys may be latched into position by a gripping cleat of the type known in the industry. Upon release of the line from the cleat and absent a pulling or holding force on the positioning line, the biasing force of the adjustment assembly 46 will be dominant and serve to raise the second portion 42 from the first portion 40 and thereby extend the longitudinal dimension of the stanchion assembly 14. Concurrently, the plurality of supporting ribs 26 and any canopy structure supported thereon will be raised so as to provide adequate spacing between the free ends 26' of the plurality of ribs 26 and the supporting surface 20, as described in detail above.

[0049] Since many modifications, variations and changes in detail can be made to the described preferred embodiment of the invention, it is intended that all matters in the foregoing description and shown in the accompanying drawings be interpreted as illustrative and not in a limiting sense. Thus, the scope of the invention should be determined by the appended claims and their legal equivalents.

[0050] Now that the invention has been described,

What is claimed is:

1. An umbrella assembly having a variable longitudinal dimension, said umbrella assembly comprising:

   a) a frame assembly including a stanchion assembly operatively disposed in an upstanding orientation relative to a supporting surface,

   b) a plurality of ribs each having one end movably connected to said stanchion assembly and extendable outwardly therefrom,

   c) said plurality of ribs selectively disposable in either a collapsed position or an expanded position, and

   d) an adjustment assembly connected to said stanchion assembly and structured to vary the longitudinal dimen-
sion of said stanchion assembly dependant on said plurality of ribs being in either the expanded or collapsed position.

2. An umbrella assembly as recited in claim 1 wherein said adjustment assembly comprises a biasing mechanism disposed and structured to exert a biasing force on said plurality of ribs at least when said plurality of ribs are in said expanded position.

3. An umbrella assembly as recited in claim 2 wherein said biasing mechanism is fluid activated.

4. An umbrella assembly as recited in claim 3 wherein said biasing mechanism comprises a pneumatic spring mechanism.

5. An umbrella assembly as recited in claim 2 wherein said biasing assembly comprises a fluid activated piston and cylinder assembly.

6. An umbrella assembly as recited in claim 5 wherein said piston and cylinder assembly is mounted on said stanchion assembly and positionable in movable, supporting relation to said plurality of ribs.

7. An umbrella assembly as recited in claim 6 wherein said piston and cylinder assembly comprise a cylinder portion fixedly secured to said stanchion assembly and a piston portion movably connected to said stanchion assembly in driving relation to said plurality of ribs.

8. An umbrella assembly as recited in claim 1 wherein said stanchion assembly comprises first and second portions coaxially separable from one another along a length of said stanchion assembly, said plurality of ribs connected to said second portion and movable therewith relative to said first portion.

9. An umbrella assembly as recited in claim 8 wherein said adjustment assembly is disposed in interconnecting relation between said first and second portions in at least partially supporting relation to said second portion.

10. An umbrella assembly as recited in claim 8 wherein said adjustment assembly comprises a biasing mechanism mounted on said stanchion assembly and disposed and structured to exert a separating, biasing force on said second portion.

11. An umbrella assembly as recited in claim 10 wherein said biasing mechanism is disposed in supporting relation to said second portion and said plurality of ribs when said plurality of ribs are in said expanded position.

12. An umbrella assembly as recited in claim 11 wherein said biasing mechanism is fluid activated.

13. An umbrella assembly as recited in claim 11 wherein said biasing mechanism comprises a pneumatic spring mechanism.

14. An umbrella assembly as recited in claim 8 wherein said adjustment assembly comprises a fluid activated piston and cylinder assembly mounted in interconnected relation between first and second portions of said stanchion assembly.

15. An umbrella assembly as recited in claim 16 wherein said piston and cylinder assembly is disposed to exert a separating force on said second portion at least when said plurality of ribs are in said expanded position.

16. An umbrella assembly as recited in claim 14 wherein said piston and cylinder assembly is disposed and structured to bias said second portion longitudinally outward from said first portion at least when said plurality of ribs are in said expanded position.

17. A frame assembly for an umbrella having a variable longitudinal dimension said frame assembly comprising:
   a) a stanchion assembly positionable in an operative, upstanding position relative to a supporting surface,
   b) a plurality of ribs each having an inner end movably connected to said stanchion assembly and selectively disposable in either an expanded position or a collapsed position,
   c) said stanchion assembly including a first and second portion coaxially separable from one another along a length of said stanchion assembly,
   d) said plurality of ribs connected to said second portion and movable therewith relative to said first portion,
   e) an adjustment assembly including a biasing mechanism disposed in interconnecting relation between said first and second portions of said stanchion assembly, and
   f) said biasing mechanism structured to bias said second portion and said plurality of ribs longitudinally outward from said first portion when said plurality of ribs are in said collapsed position.

18. A frame assembly as recited in claim 17 wherein said biasing mechanism is fluid activated.

19. A frame assembly as recited in claim 17 wherein said adjustment assembly comprises a fluid activated piston and cylinder assembly mounted in interconnecting relation between said first and second portions of said stanchion assembly.

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