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(54) **UMBRELLA WITH OFFSET HANDLE**

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Description

FIELD OF THE INVENTION

[0001] The present invention relates to umbrellas, and more particularly, to an umbrella with an offset handle that provides greater coverage and wind resistance while still allowing for full visibility.

BACKGROUND OF THE INVENTION

[0002] The word "umbrella" comes from the Latin root word "umbra," meaning shade or shadow. Umbrellas, also known as parasols, were originally used to provide shade from sunlight. Umbrellas are commonly used by individuals as shelters from rain, snow and other forms of precipitation.

[0003] An umbrella is a device for protection from the weather consisting of a collapsible, usually circular canopy mounted on a central rod. Umbrellas can be made by stretching a fabric or other material over a frame. Early umbrellas were developed in Europe and made of wood or whalebone and covered with alpaca or oiled canvas. Artisans made curved handles for the umbrellas out of hard woods like ebony.

[0004] In about 1850, the steel ribbed umbrella design with a handle in the center was invented. Over time, umbrellas were designed to be compact and collapsible, but the basic design of the umbrella has remained largely unchanged. Modern umbrella designs usually employ a telescoping metal trunk.

[0005] While umbrellas of various shapes and sizes with numerous utilities have been developed over the years, prior art umbrellas have not solved the problems of providing full coverage to the user and not inverting in windy conditions.

[0006] Umbrellas are often challenging to control, difficult to grip and tricky to balance. One of the major limitations of traditional umbrellas is their performance in the wind. Umbrellas often spin out of control in the slightest breeze. When the wind catches them, the typical umbrella design will invert and even break. When an umbrella inverts, the poles often stick through the canopy, which can create a dangerous situation in which the user or a passerby can become injured by the poles extending outside the canvas. Individuals using the umbrella have to stop and reverse the canopy of the umbrella so the umbrella functions properly. In windy conditions, umbrella inversion can happen often and cause the user to become wet from rain and frustrated.

[0007] In addition, rain does not usually fall straight down. While adjusting the umbrella in response to rainfall direction, the user must be aware of wind gusts that threaten to carry off or invert the precariously aligned umbrella. Controlling the umbrella is even more difficult if the user is carrying other items or packages.

[0008] Prior art umbrellas often provide inadequate coverage for the user. While the prior art umbrellas can

keep some of the user's hair dry, in real-life conditions the prior art umbrella offers minimal protection for the torso, arms, legs and feet of the user. When there is wind and rain at the same time, the user has to push the umbrella down in front or back to cover body parts from the oncoming rain being blown. As the user adjusts the position of the umbrella for the oncoming wind and rain, another area of the body is consequently being uncovered. More importantly as the user adjusts the umbrella down to block the oncoming rain because of the direction of the wind the user loses complete visibility and is forced to repeat this action constantly to be able to see where they are walking while attempting to keep dry. The placement of the handle in the middle of the canopy of the umbrella adds to this problem.

[0009] Conventional umbrellas have a handle located in the middle of the canopy, where the most coverage is for the user. The handle's location in the middle of the umbrella interferes with the user standing in the middle of the umbrella canopy. As a result, the user stands off to the side of the handle, and thus does not receive full coverage of the umbrella.

[0010] Previous umbrellas known in the art also fail to withstand windy conditions while providing significant coverage to the user. Therefore, there remains a need in the art for an umbrella with an offset handle that provides greater coverage and wind resistance.

US-A-5355902 discloses an umbrella with a cover portion, a flexible loop member, a linkage mechanism for expanding the cover portion and a handle attached to the linkage mechanism. US-A-6247482 discloses a canopy affixed to a backboard with harness and waist belt to be wore by a user in place of a conventional umbrella in one's hand.

SUMMARY OF THE INVENTION

[0011] The present invention relates to an umbrella that includes a plurality of support members for supporting a canopy, and a pivot assembly coupled with each of the support members allowing the support members to move between an open position and a collapsed position. The plurality of support members define an outer perimeter of the umbrella. A handle engages one of the plurality of support rods at the outer perimeter offset from a center of the umbrella.

[0012] The present invention also relates to an umbrella including first and second pivot assemblies and a plurality of support rods extending from the first and second pivot assembly defining an outer perimeter of the umbrella, and the plurality of support rods are pivotable with respect to the first and second pivot assemblies between open and collapsed positions. A canopy is supported by the plurality of support rods.

[0013] The present invention also relates to an umbrella that includes at least a first pivot assembly, and a plurality of support members extending from the first pivot assembly, the support members being pivotable be-

tween open and collapsed positions. A canopy is supported by the plurality of support members, and a shoulder support is coupled to at least one of the plurality of support members.

[0014] The present invention also relates to an umbrella that includes at least a first pivot assembly, and a plurality of support members extending from the pivot assembly. Each support member is pivotable with respect to the first pivot assembly between open and collapsed positions about a first pivot, and pivotable at a second pivot between unfolded and folded positions.

BRIEF DESCRIPTION OF THE DRAWINGS

[0015] The present invention will be further explained with reference to the attached drawings, wherein like structures are referred to by like numerals throughout the several views. The drawings shown are not necessarily to scale, with emphasis instead generally being placed upon illustrating the principles of the present invention.

[0016] FIG. 1 is a perspective view of an umbrella according to an embodiment of the present invention, showing the umbrella in an open position;

[0017] FIG. 2 is a side elevational view of the umbrella illustrated in FIG. 1;

[0018] FIG. 3 is a front elevational view of the umbrella illustrated in FIG. 1;

[0019] FIG. 4 is a top plan view of the umbrella illustrated in FIG. 1;

[0020] FIG. 5 is a side elevational view of the umbrella illustrated in FIG. 1 as used by a user;

[0021] FIG. 6 is a perspective view of the umbrella illustrated in FIG. 1 as used by a user;

[0022] FIG. 7 is a perspective view of the umbrella in accordance with an embodiment of the present invention, showing the umbrella in a collapsed position and carried by a user;

[0023] FIG. 8 is a top plan view of the umbrella illustrated in FIG. 7;

[0024] FIG. 9 is a front elevational view of the umbrella illustrated in FIG. 7;

[0025] FIG. 10 is a side elevational view of the umbrella illustrated in FIG. 7;

[0026] FIG. 11 is a perspective view of the umbrella illustrated in FIG. 7;

[0027] FIG. 12 is a perspective view of the umbrella in accordance with an embodiment of the present invention, showing the umbrella moving between a collapsed position and open position with a canopy of the umbrella removed;

[0028] FIG. 13 is a front elevational view of a handle of the umbrella in accordance with an embodiment of the present invention;

[0029] FIG. 14 is a side elevational view of the handle illustrated in FIG. 13;

[0030] FIG. 15 is a perspective view of the handle illustrated in FIG. 13, showing the handle attached to a support rod;

[0031] FIG. 16 is a perspective view of a pivot assembly of the umbrella in accordance with an embodiment of the present invention, showing the pivot assembly in the open position;

[0032] FIG. 17 is a side elevational view of the pivot assembly illustrated in FIG. 16;

[0033] FIG. 18 is a front elevational view of the pivot assembly illustrated in FIG. 16;

[0034] FIG. 19 is a perspective view of the pivot assembly of the umbrella in accordance with an embodiment of the present invention, showing the pivot assembly in an assembled or collapsed position;

[0035] FIG. 20 is a perspective view of an umbrella in accordance with another embodiment of the present invention, showing a pivot assembly and a handle opposite one another;

[0036] FIG. 21 is a front elevational view of the umbrella illustrated in FIG. 20;

[0037] FIG. 22 is a side elevational view of the umbrella illustrated in FIG. 20;

[0038] FIG. 23 is a perspective view of an umbrella in accordance with another embodiment of the present invention;

[0039] FIG. 24 is a perspective view of the umbrella illustrated in FIG. 23, showing the umbrella in a collapsed position and a handle in a locked position; and

[0040] FIG. 25 is a perspective view of the umbrella illustrated in FIG. 23, showing the umbrella in a folded position and the handle in an unlocked position.

[0041] While the above-identified drawings set forth preferred embodiments of the present invention, other embodiments of the present invention are also contemplated, as noted in the discussion. This disclosure presents illustrative embodiments of the present invention by way of representation and not limitation. Numerous other modifications and embodiments can be devised by those skilled in the art in the limits of the claims.

DETAILED DESCRIPTION OF THE EXEMPLARY EMBODIMENTS

[0042] Referring to FIGS. 1-19, an umbrella 50 in accordance with an embodiment of the present invention generally includes an offset handle 62 and provides greater coverage and wind resistance. The offset handle 62 may be located in the front of the umbrella 50 for stability and control. The shape of the umbrella provides greater coverage and wind resistance by causing the umbrella to remain in the proper position and not invert in windy conditions. The canopy of the umbrella may be transparent to provide visibility for the user. The umbrella 50 may also have a shoulder support 60 for stability and control. The design of the umbrella 50 is durable, wind resistant, and lasts longer than traditional umbrellas.

[0043] FIGS. 1-4 show various views of the umbrella 50 in an open position as used by a user. As seen in FIGS. 1-4, the umbrella 50 may include a canopy 52, a plurality of support members 54, a first pivot assembly

56, a second pivot assembly 58, a shoulder support 60 and a handle 62. The support members 54 define an outer perimeter 55 (FIG. 1) of the umbrella 50. The handle 62 is preferably located in the front of the umbrella 50 and attached to one of the support members 54 offset from the center of the umbrella 50. Alternatively, the handle may be located at the rear of the umbrella 50. The first pivot assembly 56 and the second pivot assembly 58 may be located on opposite sides of the umbrella 50.

[0044] As seen in FIG. 2, the plurality of support members 54 may be rods that engage and support the canopy 52. The canopy 52 may engage the plurality of support rods 54 in any known manner, such as by sewing, mechanical fasteners or other forms of mechanical engagement known to those skilled in the art. Any number of support rods 54 can be used with umbrella 50. The plurality of support rods 54 extend from the first pivot assembly 56 to the second pivot assembly 58. The plurality of support rods 54 may be strong and resilient, bending and flexing to absorb wind without breaking or disfiguring. The plurality of support rods 54 may be resistant to rust and corrosion. Various materials can be used to form the plurality of support rods 54 such as, stainless steel, aluminum, titanium, carbon fiber, graphite, fiberglass, plastic, or other metals or plastics known to those skilled in the art. With strength and resiliency provided by the plurality of support rods 54, the umbrella 50 resists inverting and/or breaking in a wind gust.

[0045] As seen in FIGS. 3 and 4, the handle 62 may be located at a forward position of the umbrella 50. In particular, the handle 62 is located on a front side 66 (FIG. 2) of the umbrella 50 to allow the user to stand in the middle of the umbrella 50, and remain under the umbrella 50 and protected from all angles, front and back and both sides, as seen in FIG. 5. With the handle 62 being on the front side 66, the user reaches forward to hold the umbrella. By locating the handle 62 on the front side 66 of the umbrella, a middle pole of the umbrella is eliminated giving the user more room to stand.

[0046] As best seen in FIGS. 4, 6, 11 and 12 the shoulder support 60 rests on the users shoulders and extends around the back of the neck of the user. The shoulder support 60 may engage one of the lowest or bottom rod 64 of the plurality of support rods 54. The shoulder support 60 includes a main portion 61 coupled with one of the rods 54 and preferably rests on the neck area of the user. Extending from the main portion 61 are two straps 63 that engage another one of the rods 54, as best seen in FIG. 12, and preferably rests on the user's shoulders. The shoulder support 60 helps support and stabilize the umbrella 50 under windy conditions making it more wind-resistant and less likely to blow away or invert. For example, when the wind hits the umbrella 50 from the sides, the back, or from the top, the shoulder support 60 stabilizes and supports the umbrella 50 while it continues to cover the user. The shoulder support 60 also acts to relieve some of the weight of the umbrella 50, as some of the weight rests on the shoulders of the user. Thus, the

weight of the umbrella 50 is not entirely supported by the user's hand and arm holding the umbrella 50, thereby reducing the stress on the user's hand and arm. The shoulder support 60 also allows the user to use the umbrella 50 hands free such that the handle 60 is not required. When the user opens the umbrella 50, the shoulder support 60 automatically comes into position around the head and neck and on the shoulders of the user with no extra effort required by the user.

[0047] The shoulder support 60 enhances the stability of the umbrella by creating a two or three point base in conjunction with the user's hand on the handle 62. The multiple point base provided by the combination of the shoulder support 60 and the handle 62 provides leverage to stabilize the umbrella 50 and prevent the umbrella from twisting or bouncing around, particularly in windy conditions. Because the handle 62 is located on the front side 66 and offset from the center the umbrella 50, the shoulder support 60 may be used to control the canopy in the wind. Although it is preferable to use the shoulder support 60 with the umbrella 50, the shoulder support 60 can be eliminated. Without the shoulder support 60, the user's hand on the handle 62 would resist the moving and twisting of the umbrella 50 in the wind.

[0048] The shoulder support 60 may be adjustable for various body sizes and additional comfort using any conventional adjustment mechanism. For example, the shoulder support 60 may be adjusted using snaps disposed along different locations of the straps of the support 60. The shoulder support 60 may be comprised of any material that is durable, resilient, strong and flexible. For example, the shoulder support 60 may be composed of nylon, polyester, polypropylene, cotton yarn or other materials known in the art.

[0049] Alternatively, the shoulder support 60 may include a single bar or multiple bars which extend from the first pivot assembly 56 and the second pivot assembly 58 and open and close with the umbrella 50. The bars of the shoulder support may be composed of stainless steel, aluminum, fiberglass, plastic, wood or other metals or plastic known to those skilled in the art.

[0050] FIG. 5 shows a side view of the umbrella 50 in an open position as used by a user. The user holds the handle 62 to the front of the user, and because the handle is offset the user may be located in the center of the umbrella 50 providing full coverage by the canopy 52. The canopy 52 of the umbrella 50 may be aerodynamic and wind resistant. The design of the umbrella 50 extends the umbrella 50 on the front side 66 such that there is extra space in front of the user, giving the user plenty of room under the canopy 52. If the umbrella 50 is bumped from the front side 66, the canopy 52 should not impact the user because of the extra space. The design in the back can be closer to the body of the user because the user is less likely to feel enclosed or trapped, and visibility is not required behind the user's head. A back extension 70 of the canopy 52 of the umbrella 50 may extend below the head toward the user's shoulders to prevent the wind

gusts from inverting the umbrella 50. The bottom support rod 64 goes past horizontal and gives the user additional coverage in back. The back extension 70 of the canopy 52 helps stabilize the umbrella 50 and provides greater coverage for the user. A front extension 72 of the canopy 52 extends below the neck toward the chest of the user on the front side 66 of the umbrella 50. The front extension 72 may extend lower than the back extension 70 of the canopy 52. The front extension 72 and the back extension 70 of the canopy 52 may extend lower than horizontal to extend the coverage of the canopy 52.

[0051] The panels of the canopy 52 may be transparent to provide the feeling that the user is not in an enclosed space. A clear, see-through canopy 52 would allow the user to view their surroundings. For example, as seen in FIG. 6, the panels 76 in front side 66 and on the sides of the umbrella 50 are clear to provide visibility to the user. The clear front and side panels 76 allow the user to have clear field of vision and see where the user is going when the user is under the canopy 52. With the clear panels, the user can use their full field of vision including peripheral vision. As seen in FIG. 6, the back panels 74 of the canopy 52 may be made of an opaque material. The opaque material of the back panels 74 of the canopy 52 may contain indicia, such as an advertisement or company logo. The material of the back panels 74 of the canopy 52 may resist color fading. The panels of the canopy 52 may be made of a plastic, nylon or vinyl material. Those skilled in the art will recognize the umbrella 50 of the present invention can have panels made from several different materials and be within the spirit and scope of the present invention.

[0052] FIG. 6 shows a perspective view of the umbrella 50 in an open position as used by a user. As shown in FIG. 6, the canopy 52 completely encloses the user which allows full coverage of the user by the umbrella 50. The support rods 54 extend from the first pivot assembly 56 to the second pivot assembly 58. As shown in FIG. 6, the support rods 54 extend in an arc to provide coverage for the front, back and past the shoulders of the user. The canopy 52 forms a protective barrier that covers the head and shoulders of the user. Those skilled in the art will recognize the size of canopy can be varied to provide smaller or larger coverage areas and be within the spirit and scope of the present invention.

[0053] FIG. 7 shows a perspective view of the umbrella 50 in a closed position as carried by a user. The umbrella 50 collapses to form a small and sleek profile that is portable. The user may carry the umbrella in the closed position by a carrying strap 80 extending from the handle 62. Alternatively, for hands-free carrying, the user may also put the umbrella 50 in the closed position over the user's shoulder to carry the umbrella by the shoulder support 60. A carrying case (not shown) may also cover the umbrella. The carrying case may have a drawstring strap for hands-free carrying.

[0054] FIGS. 8-11 show various views of the umbrella 50 in a closed position for storage when not in use. In

the closed position, the umbrella 50 collapses upon itself so it can be carried when not in use. As seen in FIGS. 8 and 9, the support rods 54 collapse upon each other to form a semi-arc. In the closed position, the support rods 54 fold at the pivots 56, 58 and the handle 62 may pivot to act as a closure device. As seen in FIGS. 10 and 11, when in the closed position, the umbrella 50 has a low profile for easy carrying with the handle 62 pivoted to maintain the umbrella 50 in a closed position.

[0055] The umbrella 50 preferably moves from the collapsed position shown in FIG. 11 to the open position shown in FIG. 1 with speed and ease. The umbrella 50 moves from the closed position to the open position, and vice versa, via the first pivot assembly 56 and the second pivot assembly 58. FIG. 12 shows the umbrella 50 in an intermediate position between the closed position and the open position. The umbrella 50 has a plurality of support rods 54 that spread apart as the umbrella moves from the closed position to the open position. The first pivot assembly 56 and the second pivot assembly 58 allow the canopy 52 to open and close automatically.

[0056] As seen in FIGS. 13-15 the shape and angle of the handle 62 are designed to be comfortable for the user to hold. The handle may be rigid and strong enough to withstand a bumping effect from gusty winds providing some control of the canopy 52 through the handle 62. The handle 62 is preferably ergonomically designed. The handle 62 may include a thumb rest (not shown). The handle 62 may be grooved providing a grip for the user, and may be coated with a soft touch material for the user's comfort. The handle 62 is preferably composed of rubber, but may be composed of plastic, fiberglass, wood or other materials known to those skilled in the art.

[0057] The handle may have a button (not shown) enabling automatic opening and/or closing of the umbrella. The button allows for quick, one-handed canopy opening and/or closing.

[0058] In a closed position, the handle 62 retains the plurality of support rods 54 so the umbrella 50 does not inadvertently open. As seen in FIGS. 10 and 11, the handle 62 may act as a clamp to maintain the umbrella 50 in the collapsed position. The handle 62 locks in an open position and a closed position. As shown in FIG. 14 and FIG. 15, the handle 62 pivots with respect to a handle support 84 via a pivot point 82 to move from the open position to the collapsed position where the handle flips over the plurality of support rods 54 to keep the umbrella 50 closed. The handle support 84 mounts to one of the support rods 54, thereby securing the handle 62 to the umbrella 50.

[0059] FIGS. 16-18 show various views of the first pivot assembly 56 of an umbrella 50 in the open position. The second pivot assembly 58 is similar to the first pivot assembly 56 but located on an opposite side of the umbrella 50, and FIGS. 16-19 are applicable to the first pivot assembly 56 and the second pivot assembly 58. The plurality of support rods 54 extend from the first pivot assembly 56 to the second pivot assembly 58.

[0060] FIG. 19 shows an assembly or collapsed view of each pivot assembly 56 and 58 of the umbrella 50 (FIG. 19 showing one pivot assembly). Each pivot assembly 56 and 58 comprises a bearing tube 90, a spring 92, a plurality of washers 94, a plurality of tube connectors 96, and a cover plate 98 on each end of the pivot assembly 56 and 58. The spring 92 is located inside the bearing tube 90. The plurality of washers 94 engage and rotate around the bearing tube 90. The plurality of washers 94 may be lubricated to smoothly rotate around the bearing tube 90. The plurality of washers 94 have a tube support 99 that extends from the cover plates 98. Springs 92 bias the pivot assemblies 56 and 58 in the open position such that when the support rods 54 are released from the collapsed position they spring open.

[0061] Referring to FIGS. 20-22, in an alternative embodiment of the present invention, a plurality of spacers (not shown) may be positioned between the plurality of washers 99. The plurality of washers 94 may be separated by the plurality of spacers which are preferably comprised of a low friction material. The plurality of spacers provide lubrication so the plurality of washers 99 smoothly rotate around the bearing tube 90. The plurality of spacers can be made of plastic, nylon, Teflon or other materials known to those skilled in the art.

[0062] The plurality of tube connectors 96 may extend from the plurality of tube supports 99 to connect the plurality of support rods 54 to the tube supports 99, as best seen in FIG. 16. The tube connectors 96 can engage the plurality of support rods 54 to the tube supports 99 by force fitting, crimping, welding, gluing or other forms of mechanical engagement known to those skilled in the art. The tube supports 99 can be made of metal, plastic, or other materials known to those skilled in the art.

[0063] In an alternative embodiment of the present invention, the plurality of support rods 54 may be hollow and the tube support 99 may be inserted into the hollow rod. The plurality of support rods 54 would engage the tube supports 99 as the support rods 54 are formed.

[0064] In a second embodiment of the present invention shown in FIGS. 20-22, an umbrella 150 is substantially similar to the umbrella 50 of the first embodiment, except umbrella 150, includes first pivot assembly 156 and second pivot assembly 158 that may be located on the front side 166 and the back side 168, respectively of the umbrella 150. The plurality of support rods 154 extend from the first pivot assembly 156 to the second pivot assembly 158. The umbrella 150 opens and closes along an axis extending from the first pivot assembly 156 to the second pivot assembly 158 as shown in FIG. 22. As seen in FIGS. 20 and 21, the handle 162 may be attached at the first pivot assembly 156 on the front side 166 of the umbrella 150 so that the handle 162 is opposite second pivot assembly 158. In this embodiment, the user holds the handle 162 in the front of the user and the user is located in the center of the umbrella 150 providing full coverage by the canopy 152.

[0065] A shoulder support not shown extends from one

of the plurality of support rods 154 by an attachment bracket 200 (FIG. 20). As shown in FIG. 22, the canopy 152 has an aerodynamic shape so the wind will flow over and around the canopy 152 with smooth flow lines.

[0066] Referring to FIGS. 23-25, an umbrella 250 according to a third embodiment of the present invention includes a plurality of support members 254 that support a canopy and are coupled with first and second pivot assemblies 256 and 258, and a handle 260 mounted to one of the support members 254. Umbrella 250 is the similar to umbrella 50, except that it may also be folded after being collapsed so that the umbrella is more compact when being carried by the user. Like umbrella 50, the umbrella 250 of the third embodiment includes a shoulder support not shown similar to shoulder support 60. The umbrella 250 can be collapsed, as seen in FIG. 24, and then subsequently folded, as seen in FIG. 25.

[0067] Pivot assemblies 256 and 258 are substantially similar to pivot assemblies 56 and 58 of the first embodiment, except that they include a releasable attachment for locking the pivot assemblies 256 and 258 together after the umbrella 250 has been collapsed and folded, as seen in FIG. 25. The releasable attachment may be any known attachment mechanism such as a ball 310 and socket 312.

[0068] Similar to the support members 54 of the first embodiment, the support members 254 pivot with respect to assemblies 256 and 258 between an open position, as seen in FIG. 23, and a collapsed position, as seen in FIG. 24. Unlike the support members 54 of the first embodiment, the support members 254 do not stack one on top of the other when the umbrella is collapsed. Instead, the support members 254 are sized and arranged to lay generally flat when the umbrella 250 is collapsed, as seen in FIG. 24. Each support member 254 may be folded at a pivot 314 to allow the umbrella 250 to be folded. The pivot 314 may be centrally located with respect to the support member 254 and include a hinge 316 allowing each half of the support members 254 to rotate about 90° away from the handle 260 (e.g. upwardly in FIG. 24).

[0069] As seen in FIG. 23, the handle 260 is mounted to one of the lower members 318 of the plurality of support members 254 along the outer perimeter 255 of the umbrella 250 and offset from the center of the umbrella, similar to umbrella 50 of the first embodiment. The handle 260 differs from the handle 60 of the first embodiment is that it pivots between a locked position, as seen in FIG. 24, and an unlocked position, as seen in FIG. 25. Handle 260 includes a pivot body 320 that has first and second pivoting halves 322 and 324. Extending from the pivot body 320 is a handle support 326 on which a handle portion 328 is rotatably mounted, as best seen in FIG. 25. The handle portion 328 includes a latch extension 330 (FIG. 25) that cooperates with a key opening 332 to lock the pivot body 320 and handle 260 in the locked position. Key opening 332 is formed by cutouts 334 and 336 (FIG. 25) located at the ends of first and second

pivoting halves 322 and 324, respectively, when the pivoting halves 322 and 324 are in their flat and locked position, as seen in FIG. 24.

[0070] Once the umbrella 250 has been collapsed, as seen in FIG. 24, the handle 260 may be locked to prevent folding of the umbrella 250. By rotating the handle portion 328 about handle support 326 until latch extension 330 engages the key opening 332 of the pivot body 320, the handle 260 is locked to support member 318, thereby locking the umbrella 250 in the collapsed position. To fold the umbrella 250 after being collapsed, a button 338 is depressed and the handle portion 328 is rotated to release the latch extension 330 from the key opening 332. The pivoting halves 322 and 324 of the handle 260 along with the two halves of the support members 254 with respect to hinges 316 may then be rotated away from the handle portion 328, as seen in FIG. 25. First and second pivot assemblies 256 and 258 meet when the umbrella 250 is folded such that ball 320 engages socket 312 to releasably lock the umbrella 250 in the folded position.

Claims

1. An umbrella (50), comprising of:

a plurality of support members (54) for supporting a canopy (52); at least a first pivot assembly (56) coupled with each of said support members and about which each of said support members is rotatable between an open position and a collapsed position, and said plurality of support members defining an outer perimeter of the umbrella; and means for supporting the umbrella on a user, the means for supporting comprising

- (a) a handle (62) engaging one of said plurality of support members at said outer perimeter offset from a center of the umbrella; and
- (b) a shoulder support (60) arranged to extend when the support members are in the open position from one of said plurality of support members across the opening.

2. An umbrella according to claim 1 wherein the canopy (52) is supported by said plurality of support members (54); and at least a portion of said canopy is transparent.
3. An umbrella according to claim 1 wherein said handle (62) extending from a front side of said outer perimeter of the umbrella.
4. An umbrella according to claim 1, wherein said shoulder support (60) includes a main portion (61)

coupled to one of said plurality of support members (54) and at least one strap (63) coupled to another one of said plurality of support members.

5. An umbrella according to claim 1 wherein said means for supporting comprises said handle (62) which pivots with respect to said one of said plurality of support members (54) about a pivot point.
6. An umbrella according to claim 1, further comprising a second pivot assembly (58) located opposite said first pivot assembly (56), and coupled to each of said support members (54).
7. An umbrella according to claim 1 wherein said canopy (52) is supported by said plurality of support members (54); and a front extension (72) of said canopy extends lower than a horizontal, extending coverage of said canopy.
8. An umbrella according to claim 1 wherein said canopy (52) is supported by said plurality of support members (54); and a back extension (70) of said canopy extends lower than a horizontal extending coverage of said canopy.
9. An umbrella according to claim 1 wherein said means for supporting includes said handle (62) which is disposed opposite said first pivot assembly (56), and axially aligned with said first pivot assembly.
10. An umbrella according to claim 1 wherein said means for supporting includes said handle (62) which is mounted to said first pivot assembly (56).
11. An umbrella according to claim 6, further comprising each of said first (56) and second (58) pivot assemblies being spring loaded.
12. An umbrella according to claim 6, wherein said means for supporting includes said handle (62) which is disposed opposite one of said first (56) and second (58) pivot assemblies.
13. An umbrella according to claim 12, wherein said handle (62) is mounted to one of said first and second pivot assemblies.
14. An umbrella as claimed in claim 1 in which each support member (254) is pivotable with respect to said first pivot assembly (256) between open and collapsed positions about a first pivot, and pivotable at a second pivot (320) between unfolded and folded positions.
15. An umbrella according to claim 1, wherein said means for supporting includes said handle (62)

which includes a pivoting body (62) that moves between locked and unlocked positions.

16. An umbrella according to claim 14, wherein each of said plurality of support members (254) includes a hinge (320) at said second pivot. 5
17. An umbrella as claimed in claim 12 in which the handle has a button for enabling automatic opening and/or closing of the umbrella. 10
18. An umbrella as claimed in claim 1 in which the handle (62) in a closed position retains the support members (54) to prevent opening of the umbrella. 15
19. An umbrella as claimed in claim 1 in which the handle is arranged to rotate about a handle support (84) via a pivot point to flip over the support members (54) to keep umbrella collapsed. 20

Patentansprüche

1. Regenschirm (50) mit:

mehreren Stützelementen (54) zum Stützen einer Bespannung (52);
wenigstens einer ersten Schwenkanordnung (56), die mit jedem der Stützelemente verbunden ist, und um welche jedes der Stützelemente zwischen einer offenen Position und einer zusammengefalteten Position verdrehbar ist, und wobei die mehreren Stützelemente einen Außenumfang des Regenschirms definieren; und Mitteln zum Tragen des Regenschirms auf einem Benutzer, wobei die Mittel zum Tragen aufweisen:

- (a) einen Griff (62), der mit einem von den mehreren Stützelementen an dem Außenumfang versetzt von einer Mitte des Regenschirms in Eingriff steht; und 40
 - (b) eine Schulterauflage (60), die so angeordnet ist, dass sie sich, wenn sich die Stützelemente in der offenen Position befinden, von einem der mehreren Stützelemente aus über die Öffnung hinweg erstreckt. 45
2. Regenschirm nach Anspruch 1, wobei die Bespannung (52) durch die mehreren Stützelemente (54) gestützt wird; und wobei wenigstens ein Teil der Bespannung transparent ist. 50
 3. Regenschirm nach Anspruch 1, wobei sich der Griff (62) von einer Vorderseite des Außenumfangs des Regenschirms aus erstreckt. 55
 4. Regenschirm nach Anspruch 1, wobei die Schulter-

auflage (60) einen Hauptabschnitt (61), der mit einem von den mehreren Stützelementen (54) verbunden ist, und wenigstens ein Band (63) enthält, das mit einem anderen von den mehreren Stützelementen verbunden ist.

5. Regenschirm nach Anspruch 1, wobei die Mittel zum Tragen den Griff (62) aufweisen, welcher sich in Bezug auf das eine der mehreren Stützelemente (54) um einen Schwenkpunkt schwenkt.
6. Regenschirm nach Anspruch 1, welcher ferner eine zweite Schwenkanordnung (58) aufweist, die gegenüber der ersten Schwenkanordnung (56) angeordnet und mit jedem der mehreren Stützelemente (54) verbunden ist.
7. Regenschirm nach Anspruch 1, wobei die Bespannung (52) von den mehreren Stützelementen (54) gestützt wird; und sich eine vordere Verlängerung (72) der Bespannung tiefer als ein horizontaler Erstreckungsbereich der Bespannung erstreckt.
8. Regenschirm nach Anspruch 1, wobei die Bespannung (52) durch die mehreren Stützelemente (54) gestützt wird; und sich eine hintere Verlängerung (70) der Bespannung tiefer als ein horizontaler Erstreckungsbereich der Bespannung erstreckt. 25
9. Regenschirm nach Anspruch 1, wobei die Mittel zum Tragen den Griff (62) enthalten, welcher gegenüber der ersten Schwenkanordnung (56) angeordnet und axial zur ersten Schwenkanordnung ausgerichtet ist. 30
10. Regenschirm nach Anspruch 1, wobei die Mittel zum Tragen den Griff (62) enthalten, welcher an der ersten Schwenkanordnung (56) angebracht ist. 35
11. Regenschirm nach Anspruch 6, wobei sowohl die erste (56) als auch zweite (58) Schwenkanordnung Feder-vorgespannt ist. 40
12. Regenschirm nach Anspruch 6, wobei die Mittel zum Tragen den Griff (62) enthalten, welcher gegenüber einer der beiden Schwenkanordnungen (56), (58) angeordnet ist. 45
13. Regenschirm nach Anspruch 12, wobei der Griff (62) an der ersten oder zweiten Schwenkanordnung befestigt ist.
14. Regenschirm nach Anspruch 1, in welchem jedes Stützelement (254) in Bezug auf die erste Schwenkanordnung (256) zwischen einer offenen und einer zusammengefalteten Position um einen ersten Schwenkpunkt schwenkbar ist, und an einem zweiten Schwenkpunkt (320) zwischen entfalteten und gefalteten Positionen schwenkbar ist.

15. Regenschirm nach Anspruch 1, wobei die Mittel zum Tragen den Griff (62) enthalten, welcher einen Schwenkkörper (62) enthält, der sich zwischen arretierten und nicht arretierten Positionen bewegt.
16. Regenschirm nach Anspruch 14, wobei jedes der mehreren Stützelemente (254) ein Gelenk (320) an dem zweiten Schwenkpunkt enthält.
17. Regenschirm nach Anspruch 12, in welchem der Griff einen Knopf besitzt, um ein automatisches Öffnen und/oder Schließen des Regenschirms zu ermöglichen.
18. Regenschirm nach Anspruch 1, in welchem der Griff (62) in einer geschlossenen Position die Stützelemente (54) festhält, um ein Öffnen des Regenschirms zu verhindern.
19. Regenschirm nach Anspruch 1, in welchem der Griff dafür eingerichtet ist, sich um eine Griffstütze (84) mittels eines Schwenkpunktes zu verdrehen, um über die Stützelemente (54) zu schwenken, um den Regenschirm im zusammengefalteten Zustand zu halten.

Revendications

1. Parapluie (50) comprenant :

une pluralité d'éléments de support (54) pour supporter un auvent (52) ;
 au moins un premier ensemble articulé (56) couplé à chacun desdits éléments de support et autour duquel chacun desdits éléments de support est rotatif entre une position ouverte et une position repliée, et ladite pluralité d'éléments de support définit un périmètre extérieur du parapluie ; et
 un moyen pour supporter le parapluie sur un utilisateur, ledit moyen de support comprenant :

- (a) une poignée (62) s'accouplant avec l'un de ladite pluralité d'éléments de support sur ledit périmètre extérieur, de façon décalée du centre du parapluie ; et
- (b) un support en épaulement (60) disposé pour s'étendre quand les éléments de support sont dans la position ouverte depuis l'un de ladite pluralité d'éléments de support en travers de l'ouverture.

2. Parapluie selon la revendication 1, dans lequel l'auvent (52) est supporté par ladite pluralité d'éléments de support (54) ; et au moins une partie dudit auvent est transparente.

3. Parapluie selon la revendication 1, dans lequel ladite poignée (62) s'étend depuis un côté avant dudit périmètre extérieur du parapluie.

4. Parapluie selon la revendication 1, dans lequel ledit support en épaulement (60) comprend une partie principale (61) couplée à l'un de ladite pluralité d'éléments de support (54) et au moins une sangle (63) couplée à un autre de ladite pluralité d'éléments de support.

5. Parapluie selon la revendication 1, dans lequel ledit moyen de support comprend ladite poignée (62) pivotant par rapport audit élément de ladite pluralité d'éléments de support (54) autour d'un point d'articulation.

6. Parapluie selon la revendication 1, comprenant également un second ensemble articulé (58) situé à l'opposé dudit premier ensemble articulé (56), et couplé à chacun desdits éléments de support (54).

7. Parapluie selon la revendication 1, dans lequel ledit auvent (52) est supporté par ladite pluralité d'éléments de support (54) ; et une extension frontale (72) dudit auvent s'étend plus bas qu'une horizontale, étendant la couverture dudit auvent.

8. Parapluie selon la revendication 1, dans lequel ledit auvent (52) est supporté par ladite pluralité d'éléments de support (54) ; et une extension arrière (70) dudit auvent s'étend plus bas qu'une horizontale, étendant la couverture dudit auvent.

9. Parapluie selon la revendication 1, dans lequel ledit moyen de support comprend ladite poignée (62) disposée à l'opposé dudit premier ensemble articulé (56), et alignée axialement avec ledit premier ensemble articulé.

10. Parapluie selon la revendication 1, dans lequel ledit moyen de support comprend ladite poignée (62) montée sur ledit premier ensemble articulé (56).

11. Parapluie selon la revendication 6, comprenant également chacun desdits premier ensemble (56) et second ensemble (58) articulés et à ressort.

12. Parapluie selon la revendication 6, dans lequel ledit moyen de support comprend ladite poignée (62) disposée à l'opposé de l'un desdits premier (56) et second (58) ensemble articulé.

13. Parapluie selon la revendication 12, dans lequel ladite poignée (62) est montée sur l'un desdits premier et second ensemble articulé.

14. Parapluie selon la revendication 1, dans lequel cha-

que élément de support (254) est pivotant par rapport audit premier ensemble articule (256) entre des positions ouverte et repliée autour d'une première articulation, et pivotant au niveau d'une seconde articulation (320) entre des positions dépliée et repliée. 5

15. Parapluie selon la revendication 1, dans lequel ledit moyen de support comprend ladite poignée (62) comprenant un corps pivotant (62) se déplaçant entre des positions verrouillée et déverrouillée. 10
16. Parapluie selon la revendication 14, dans lequel chacun de ladite pluralité d'éléments de support (254) comprend une charnière (320) au niveau de ladite seconde articulation. 15
17. Parapluie selon la revendication 12, dans lequel la poignée comprend un bouton pour permettre l'ouverture et/ou la fermeture automatique du parapluie. 20
18. Parapluie selon la revendication 1, dans lequel dans une position fermée, la poignée (62) retient les éléments de support (54) pour empêcher l'ouverture du parapluie. 25
19. Parapluie selon la revendication 1, dans lequel la poignée est agencée pour tourner autour d'un support de poignée (84) par l'intermédiaire d'un point d'articulation pour faire basculer les éléments de support (54) pour maintenir le parapluie replié. 30

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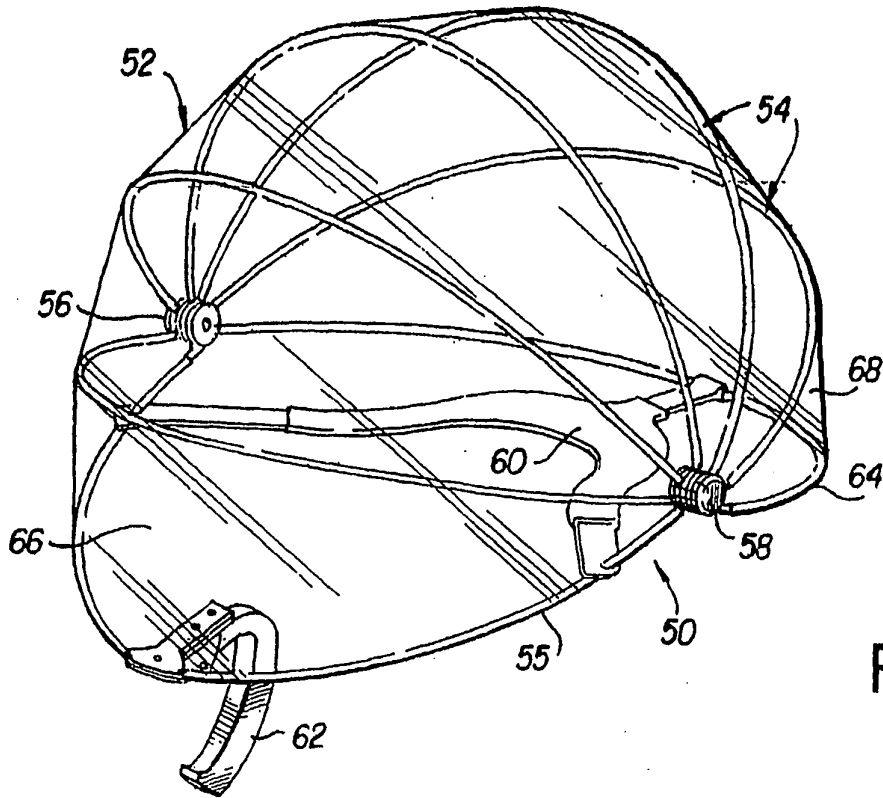


FIG. 1

FIG. 2

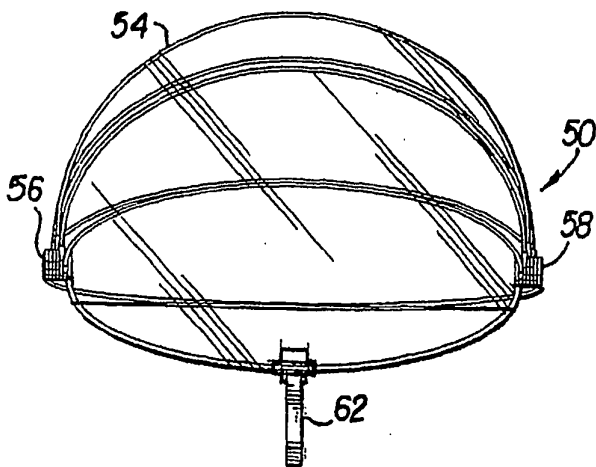
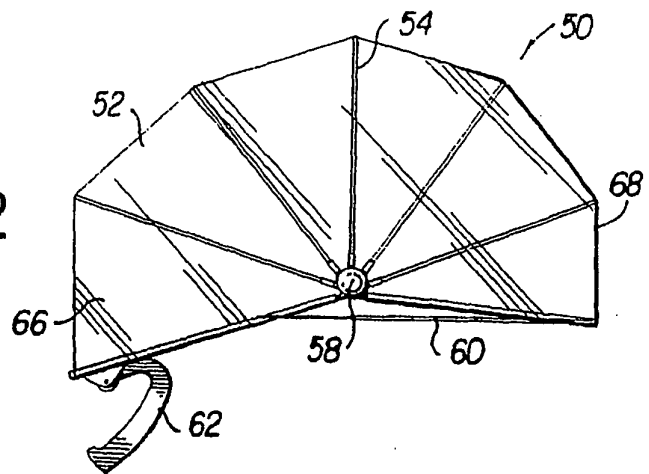


FIG. 3

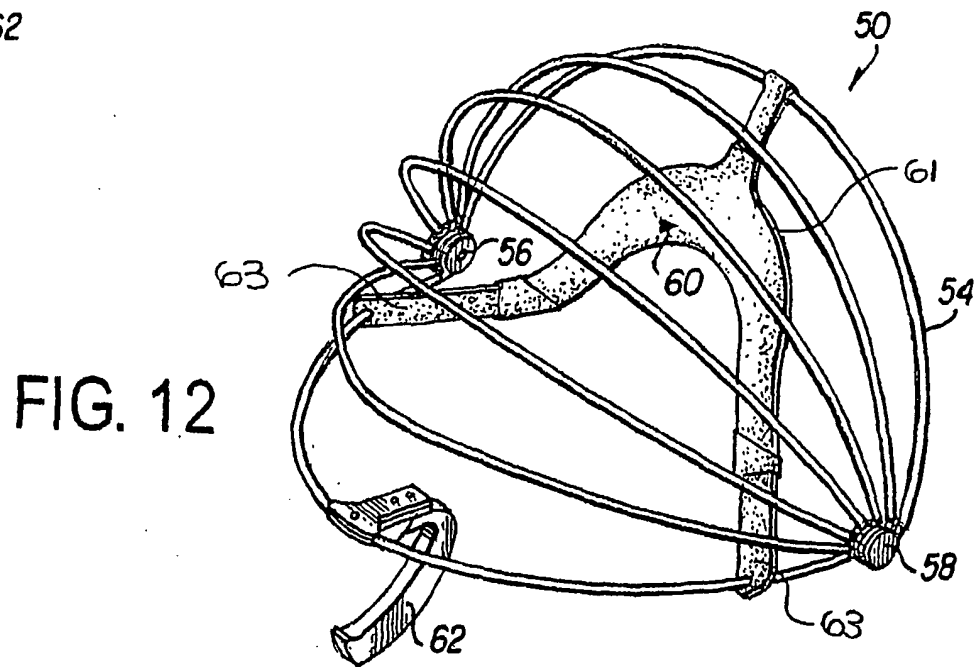
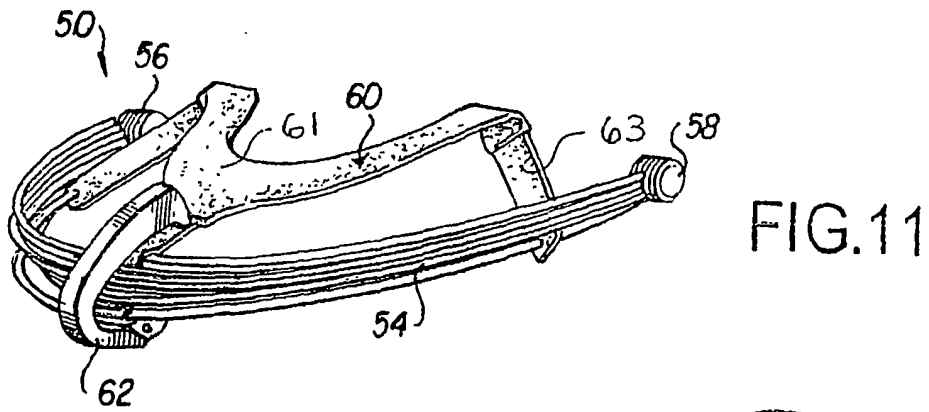
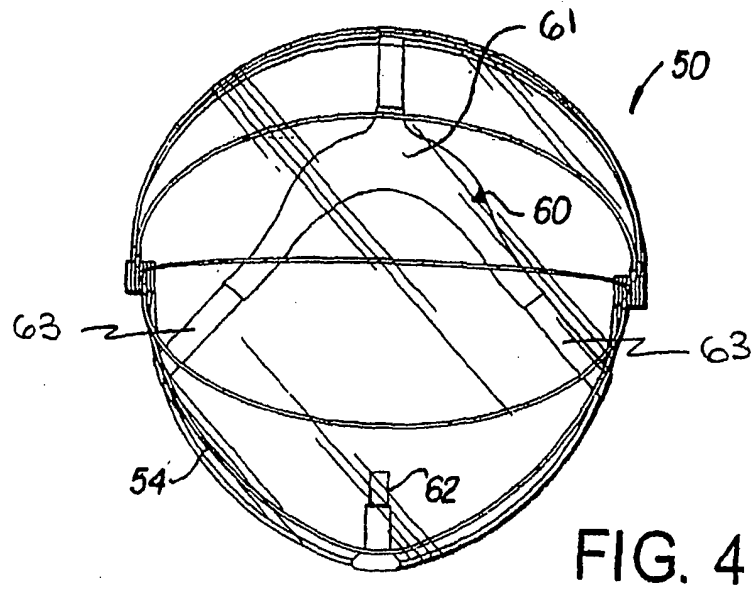


FIG. 6

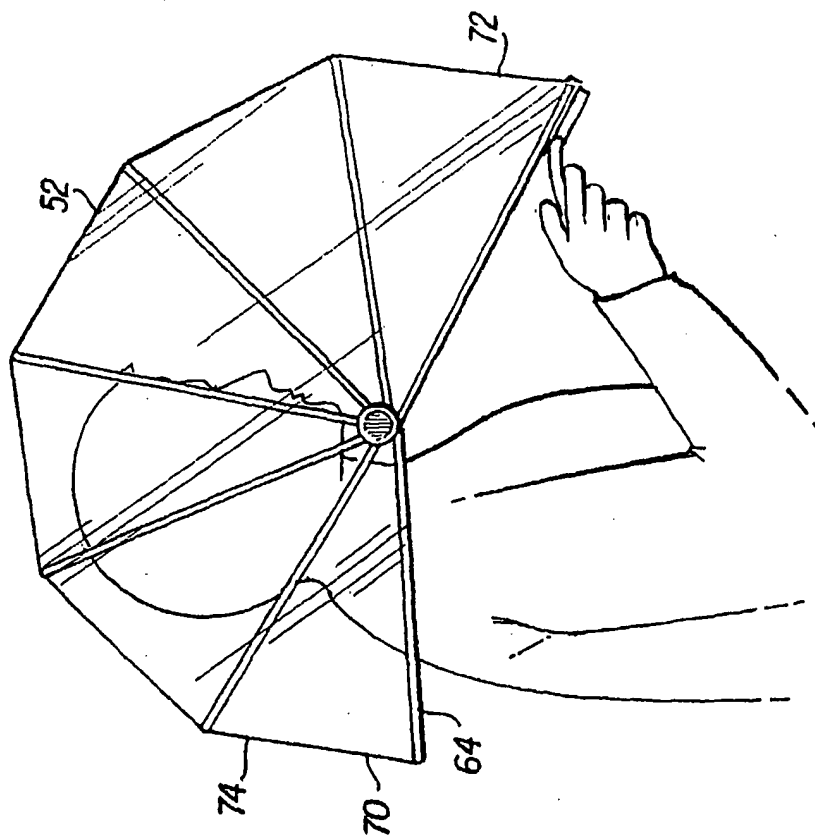
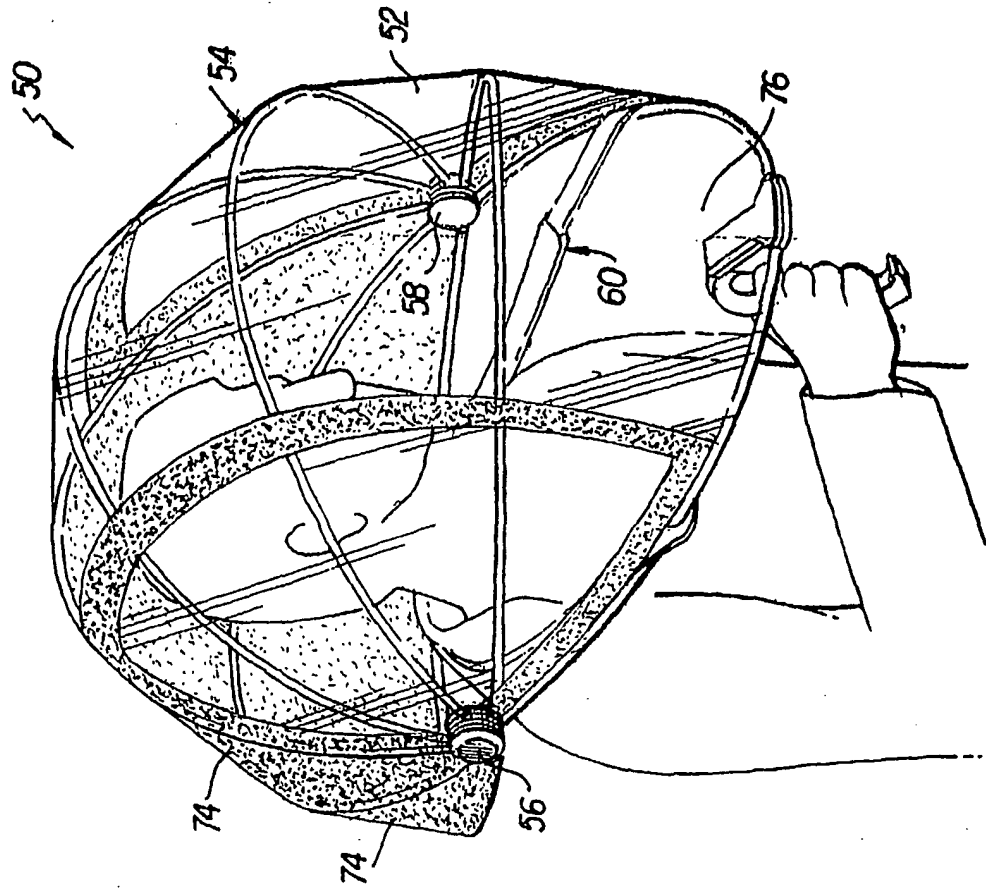


FIG. 5

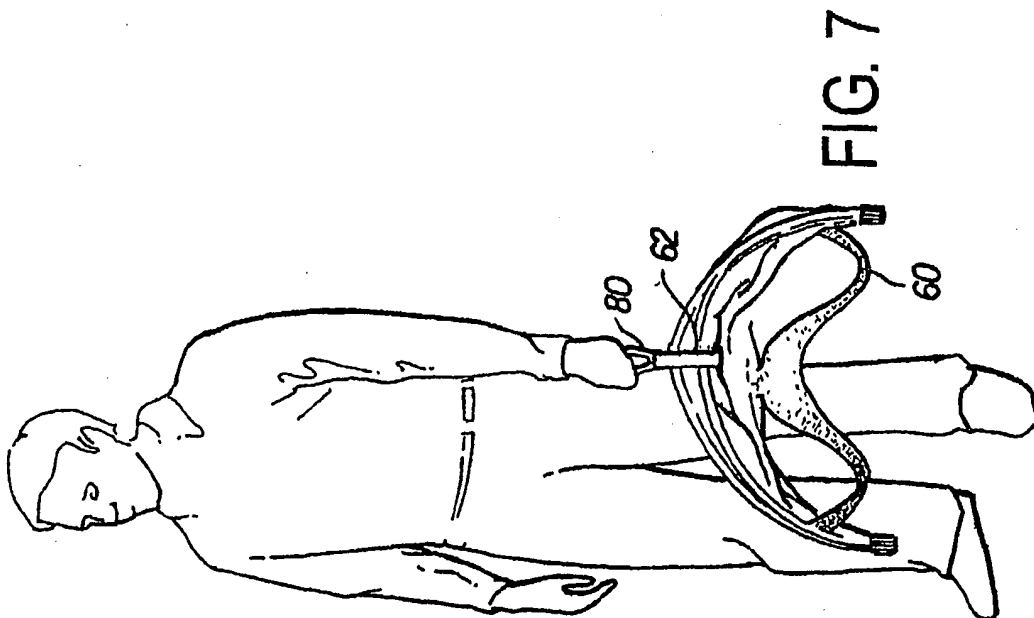


FIG. 7

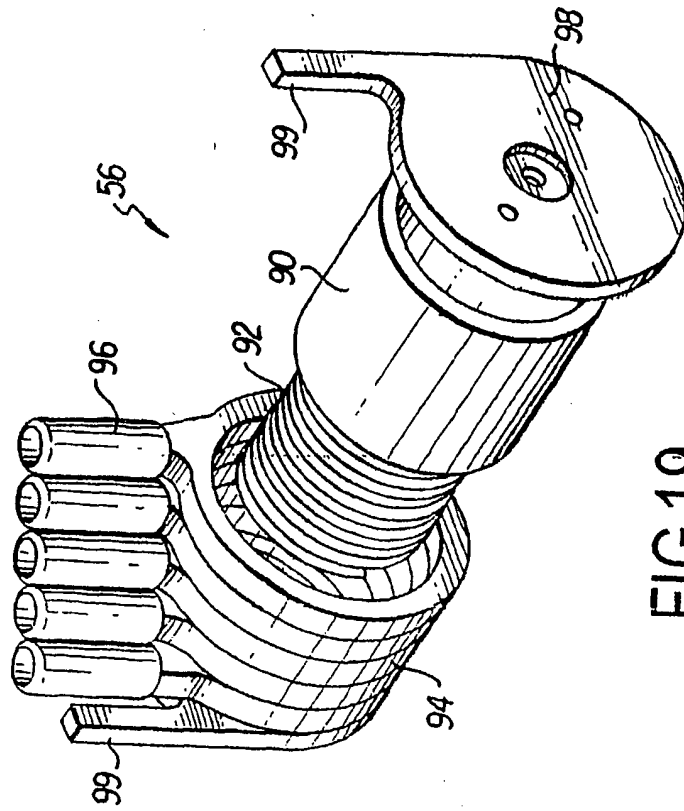


FIG. 19

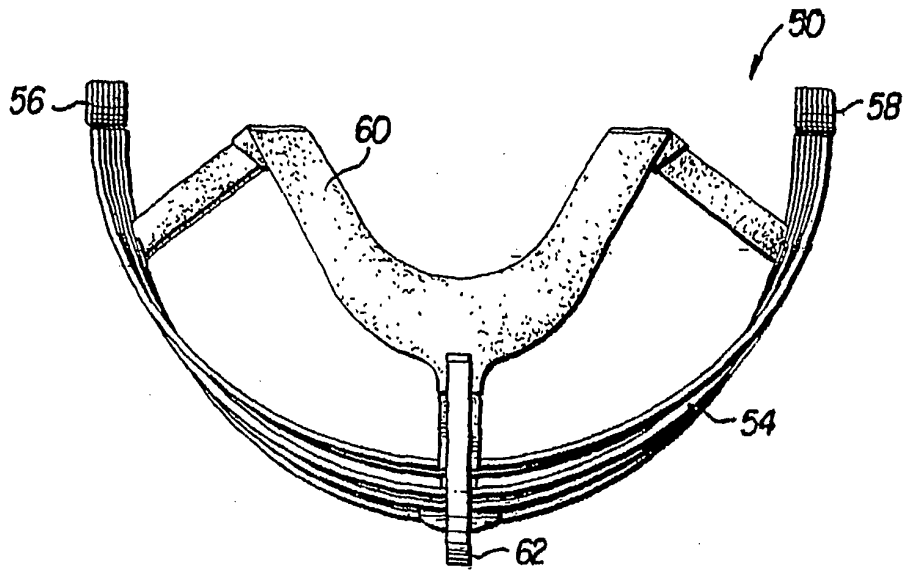


FIG. 8

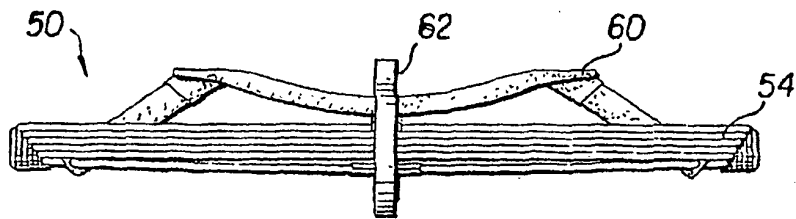


FIG. 9

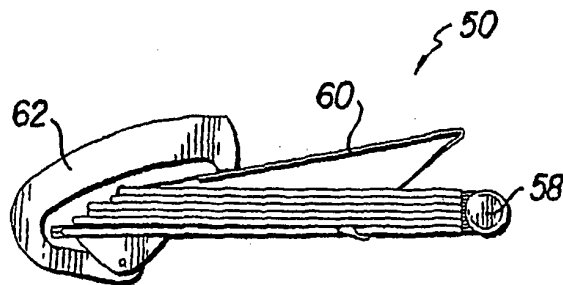


FIG. 10

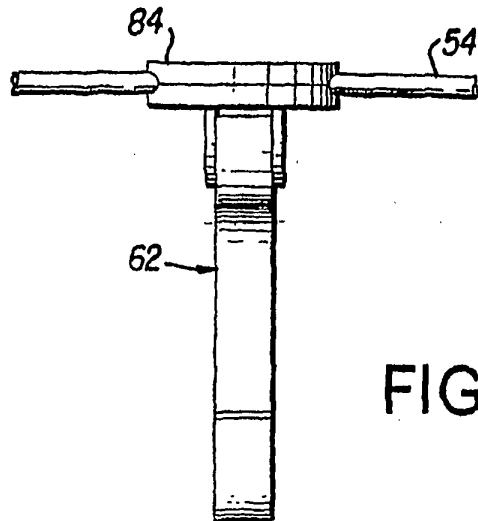


FIG. 13

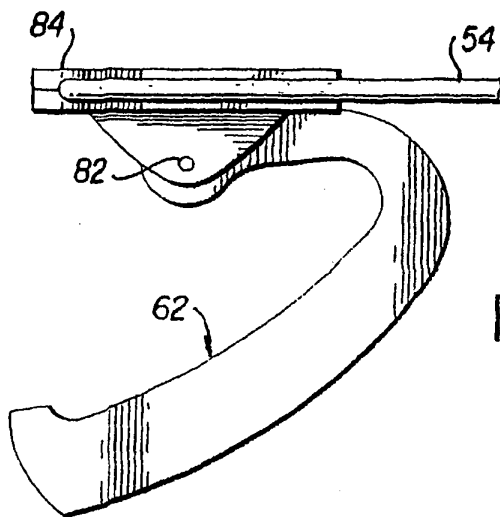
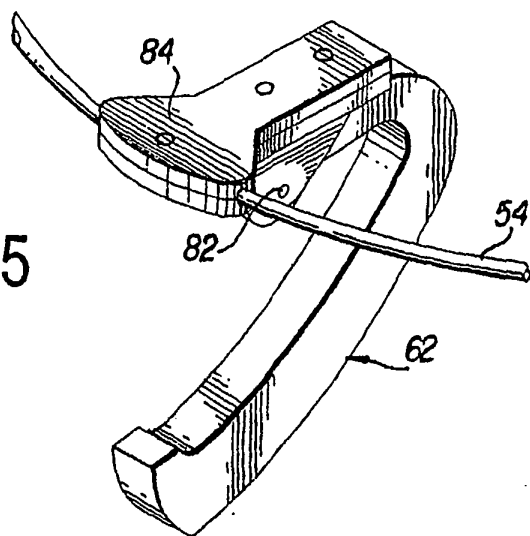


FIG. 14

FIG. 15



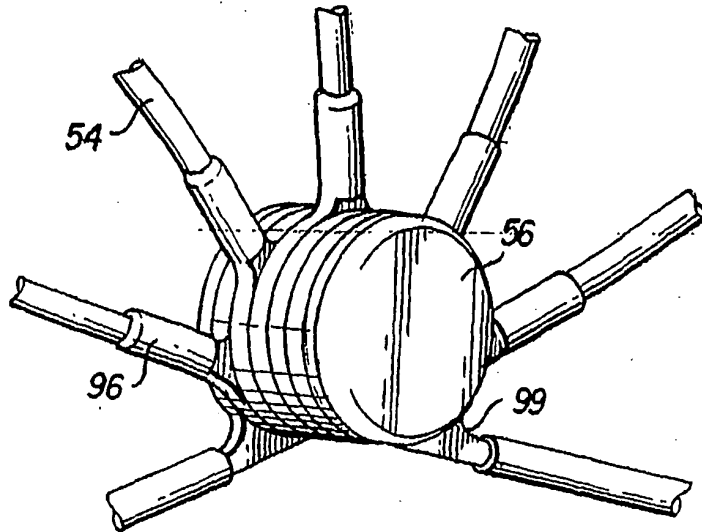


FIG. 16

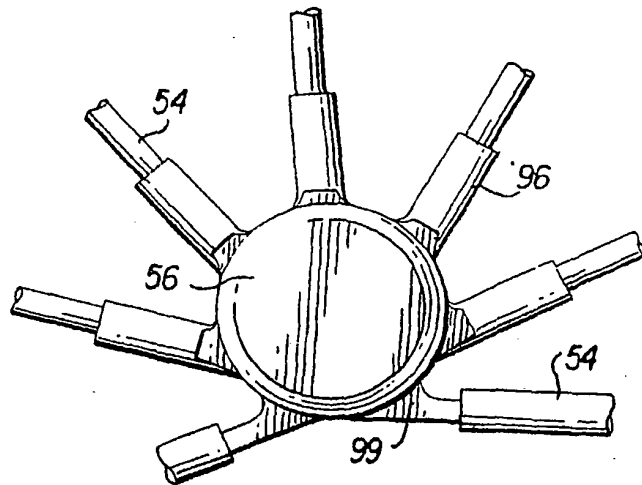


FIG. 17

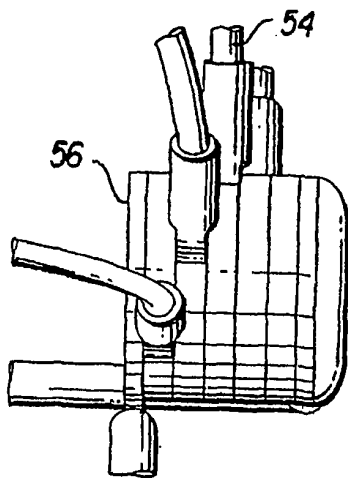


FIG. 18

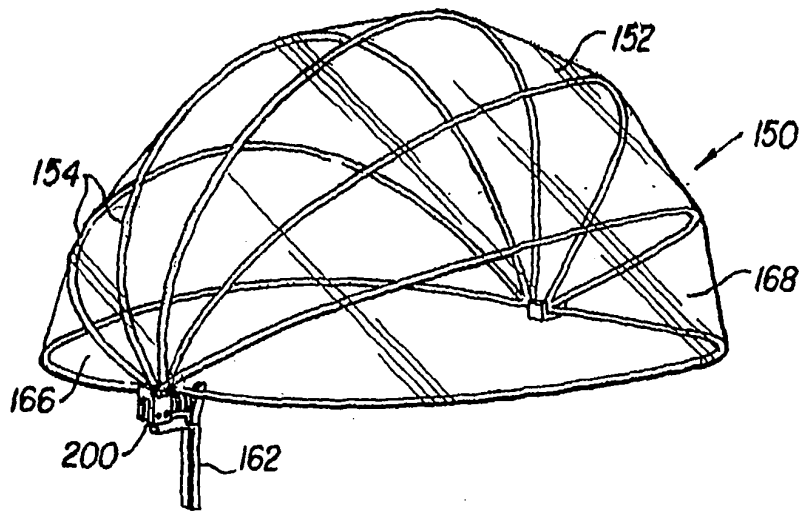


FIG. 20

FIG. 21

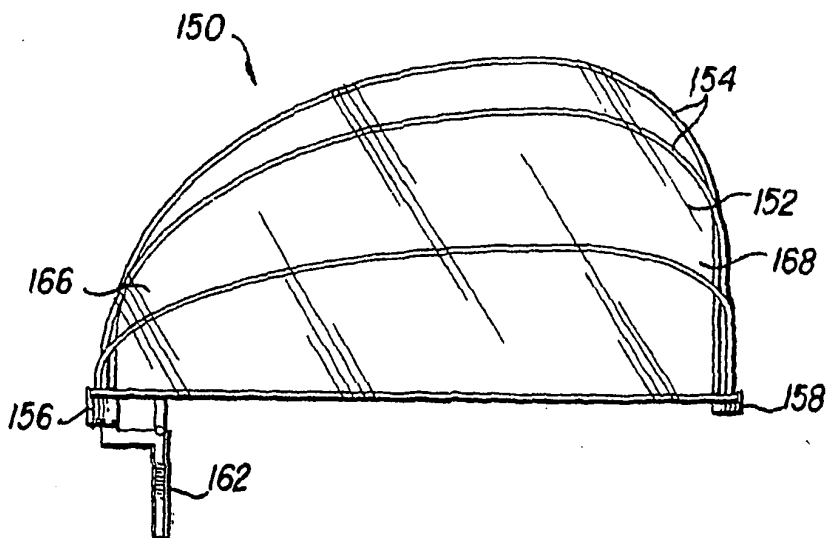
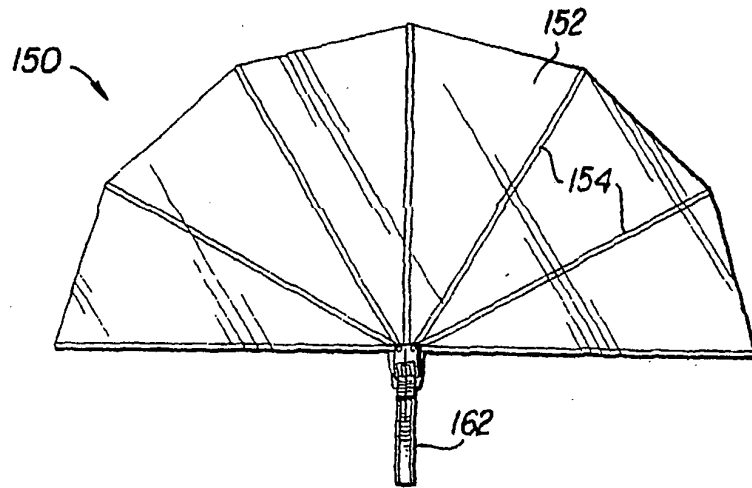


FIG. 22

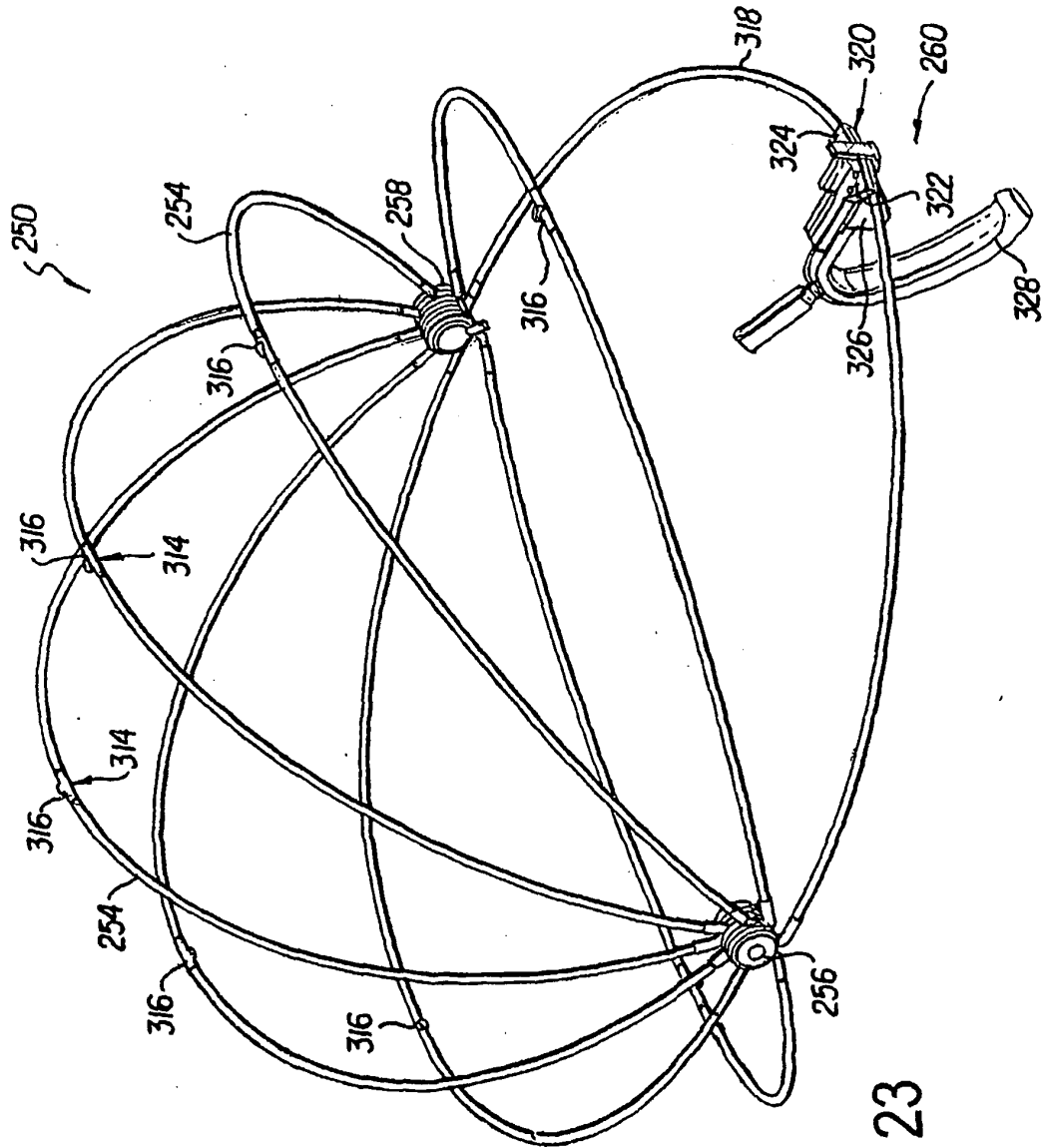


FIG. 23

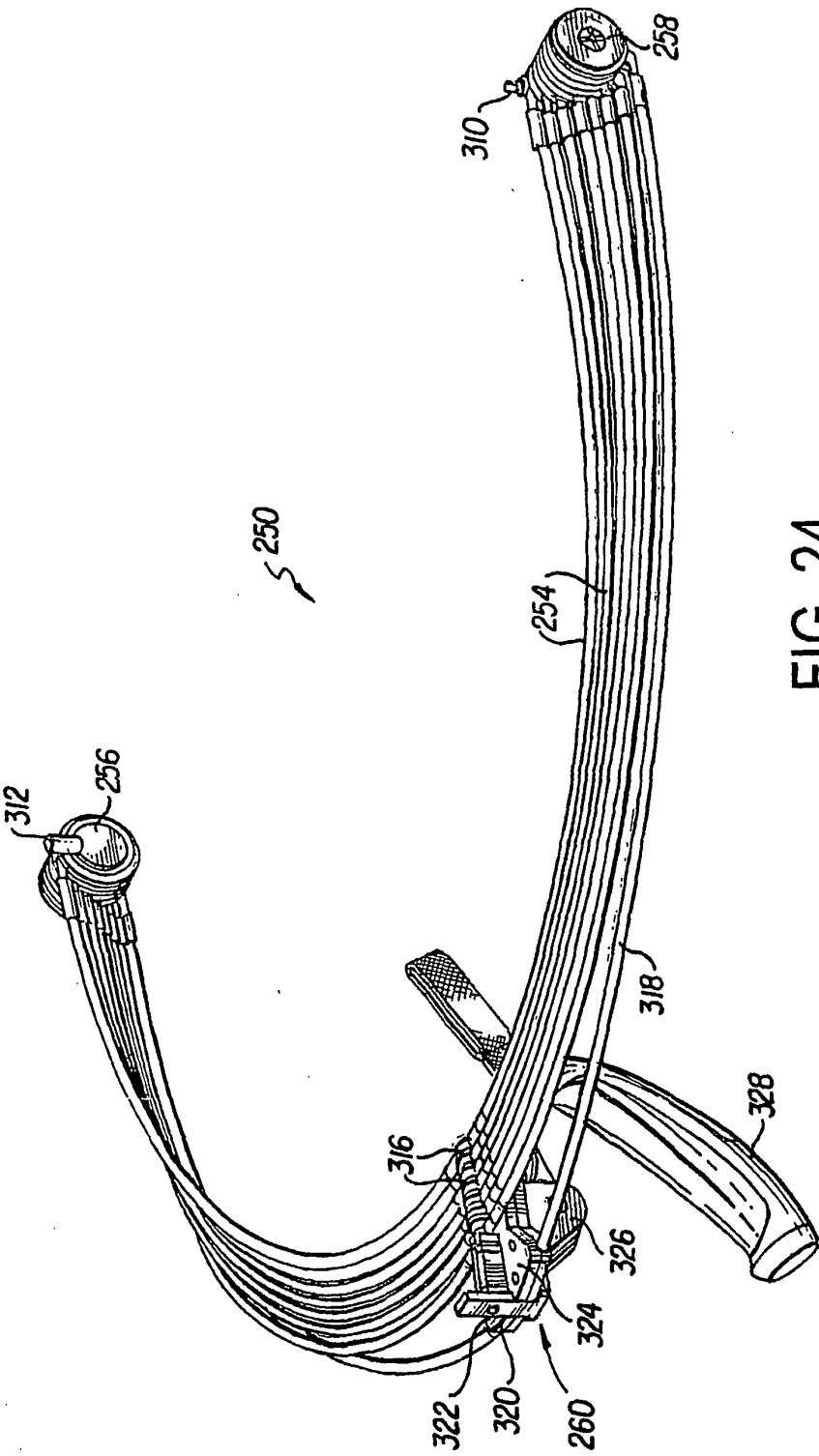


FIG. 24

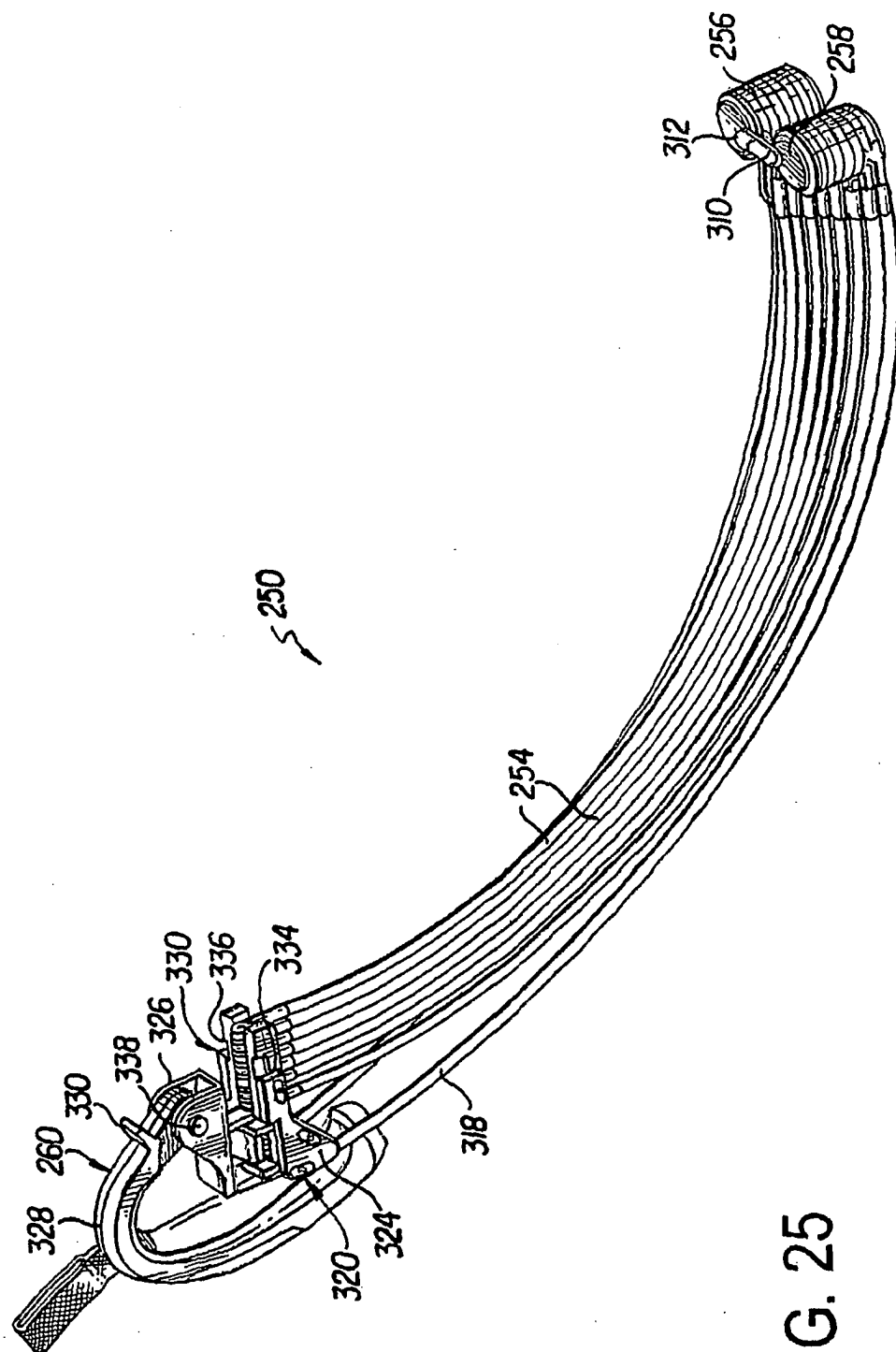


FIG. 25

REFERENCES CITED IN THE DESCRIPTION

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