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(54) **LAZY SUSAN WITH PULL-OUT SHELVING**

### Related U.S. Application Data

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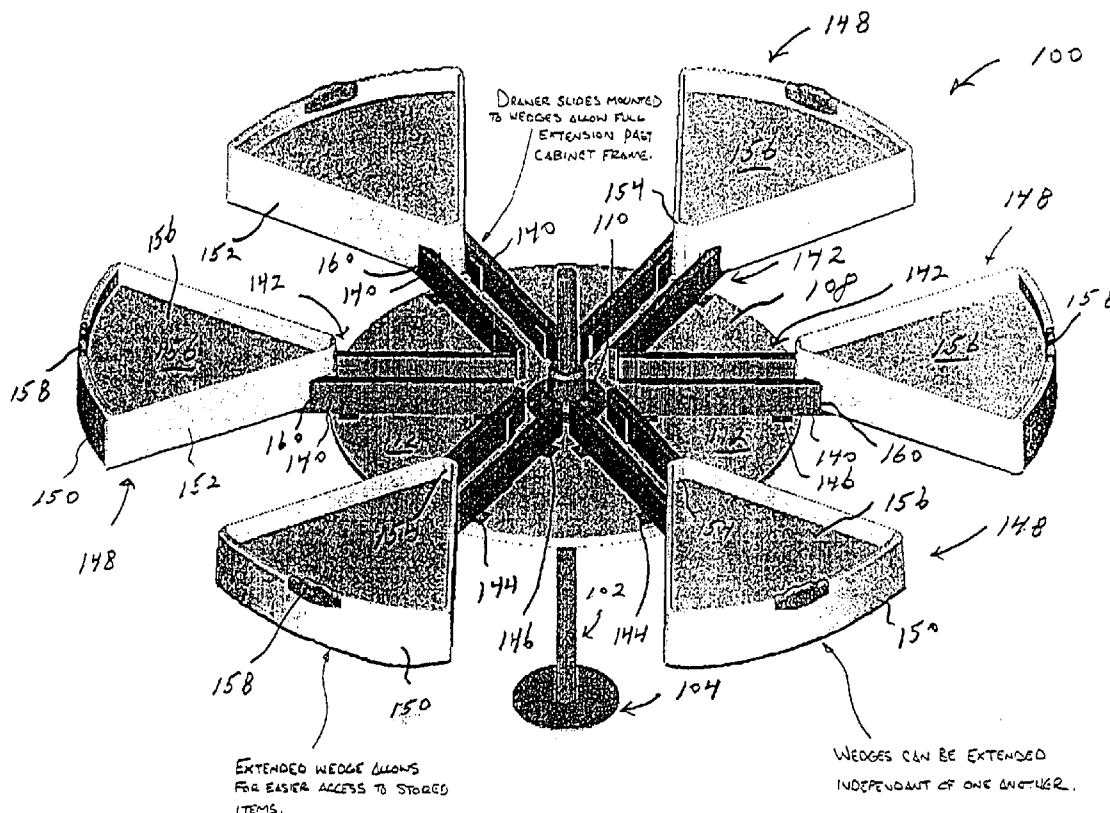
(57) **ABSTRACT**

A lazy susan device (100) includes a platform or support base (108). The support base (108) is rotatably coupled to a centralized support pole (102). A series of linear slides (140) are arranged in pairs (142). Pie or wedge-shaped shelves (148) are mounted to the linear slides (140). The slides (140) are properly secured to a corresponding shelf (140) in a manner such that the shelf (140) is permitted to slide radially outwardly from the platform or support base (108).

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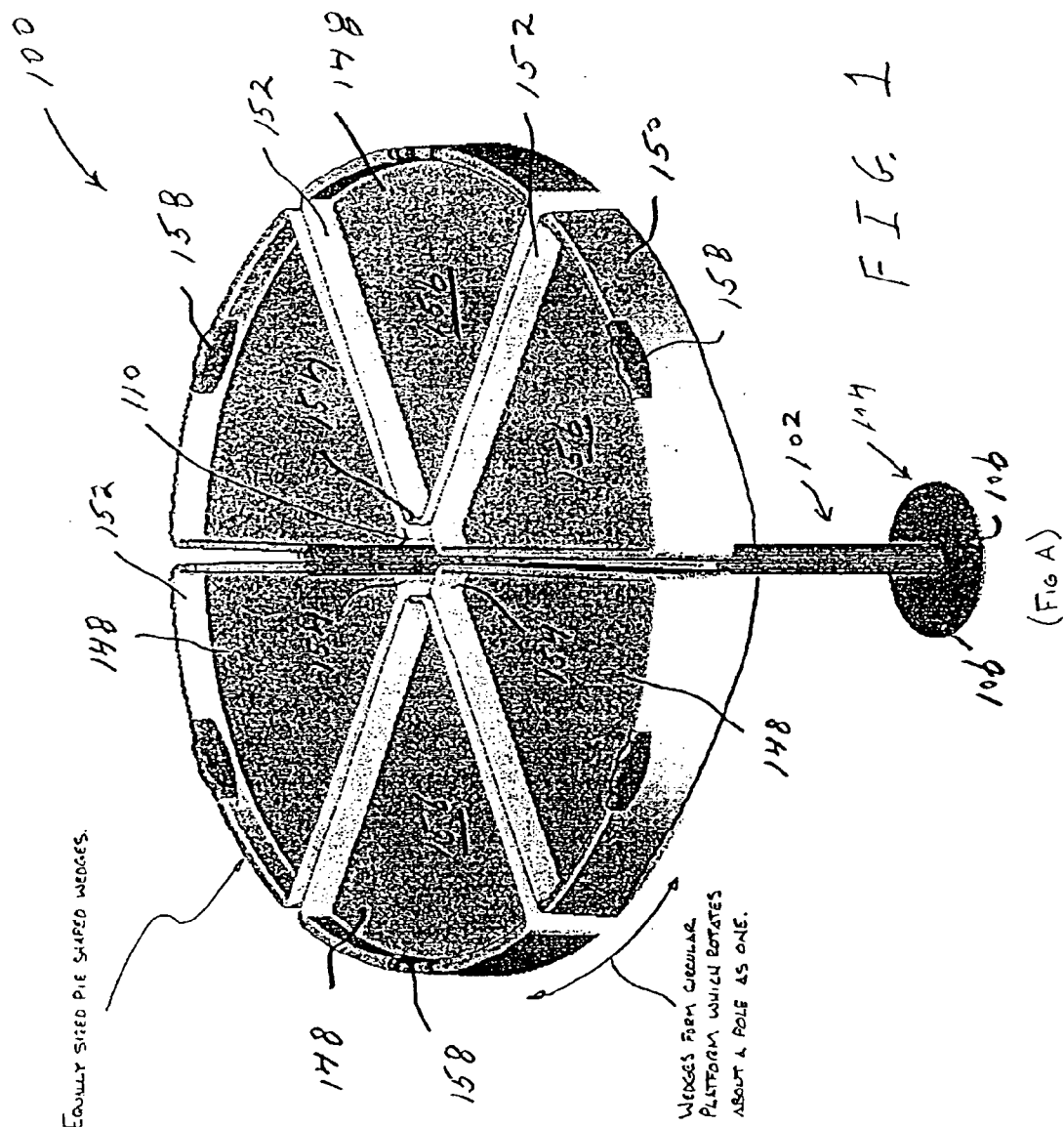
(21) Appl. No.: **10/818,453**

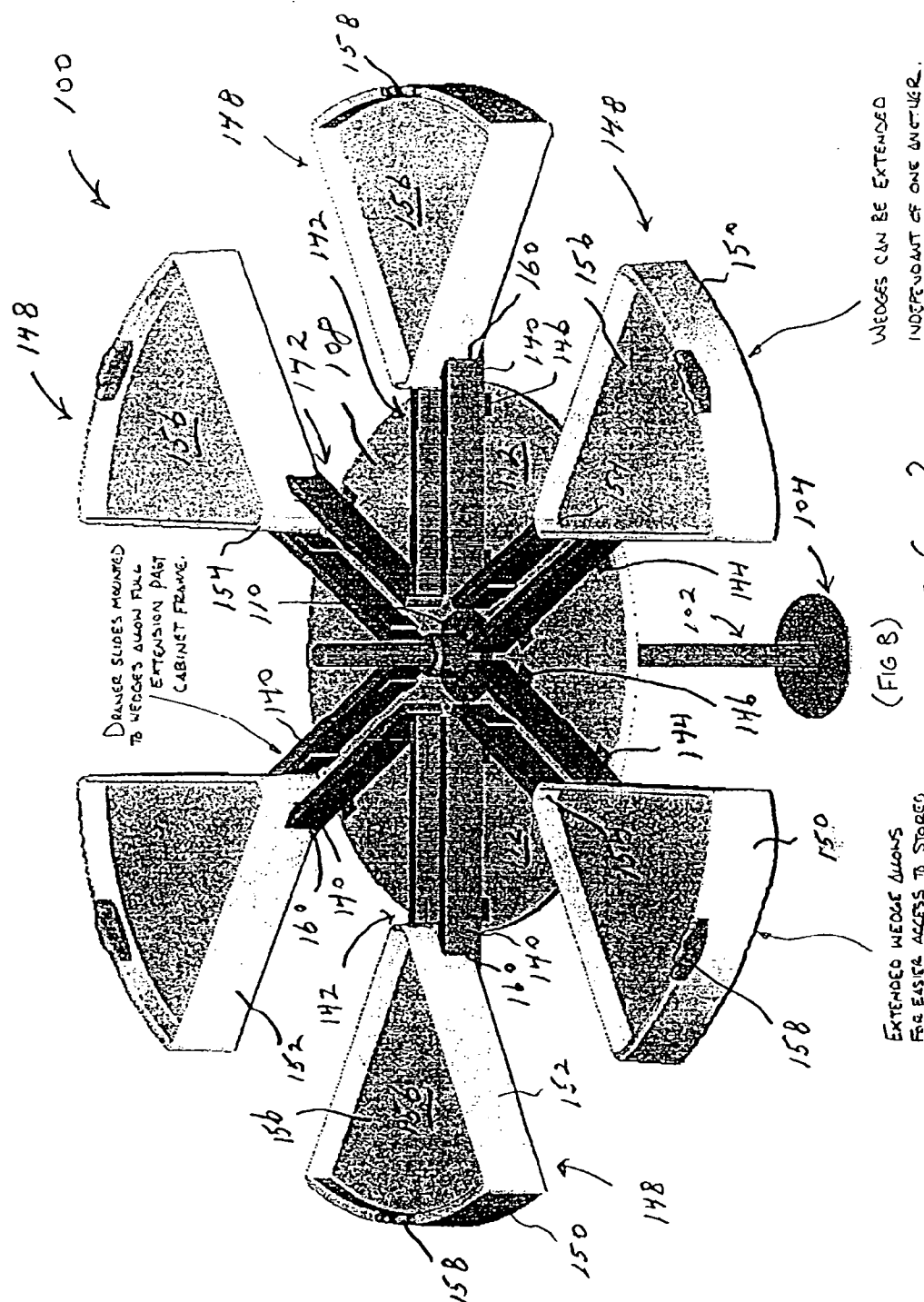
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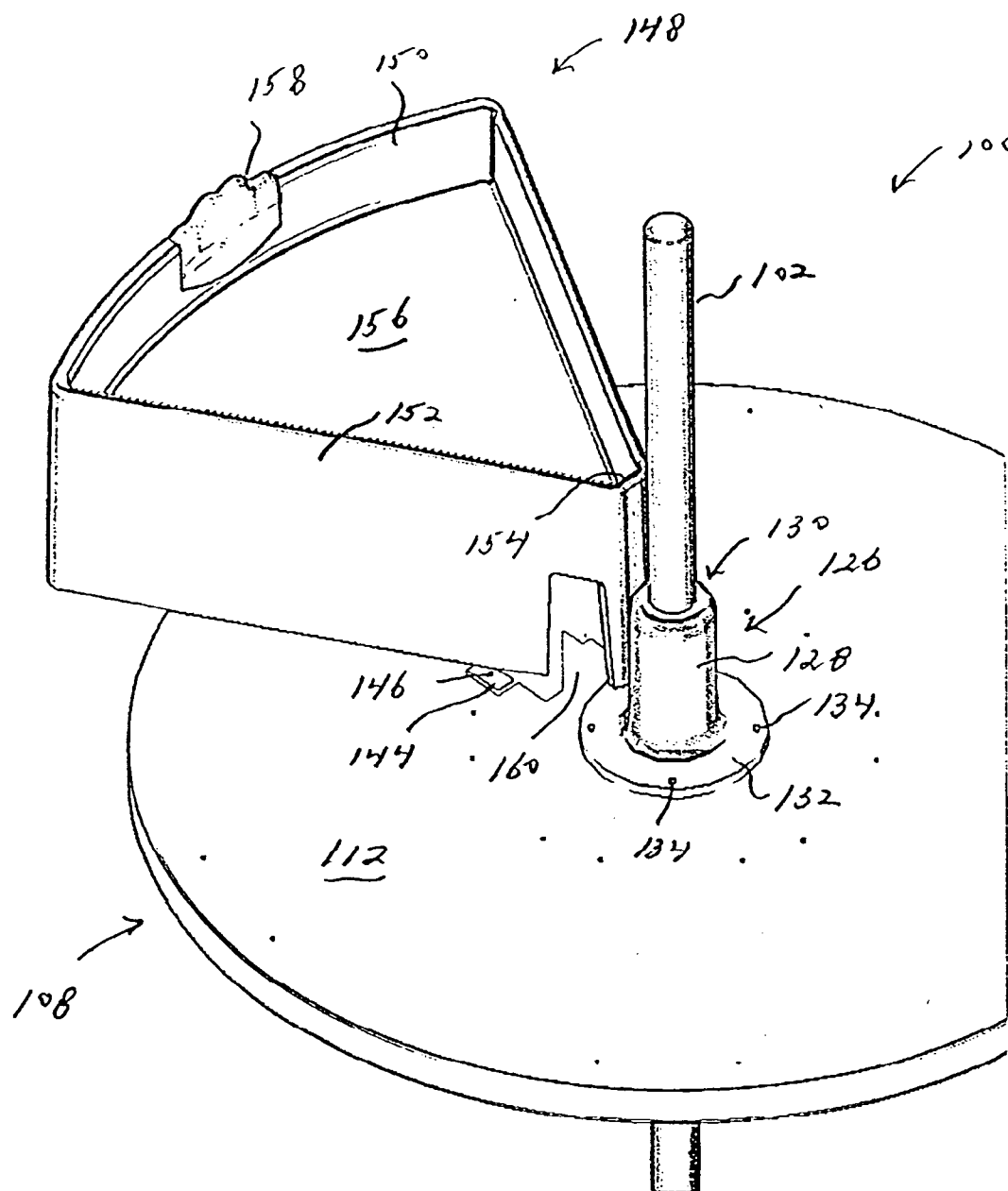


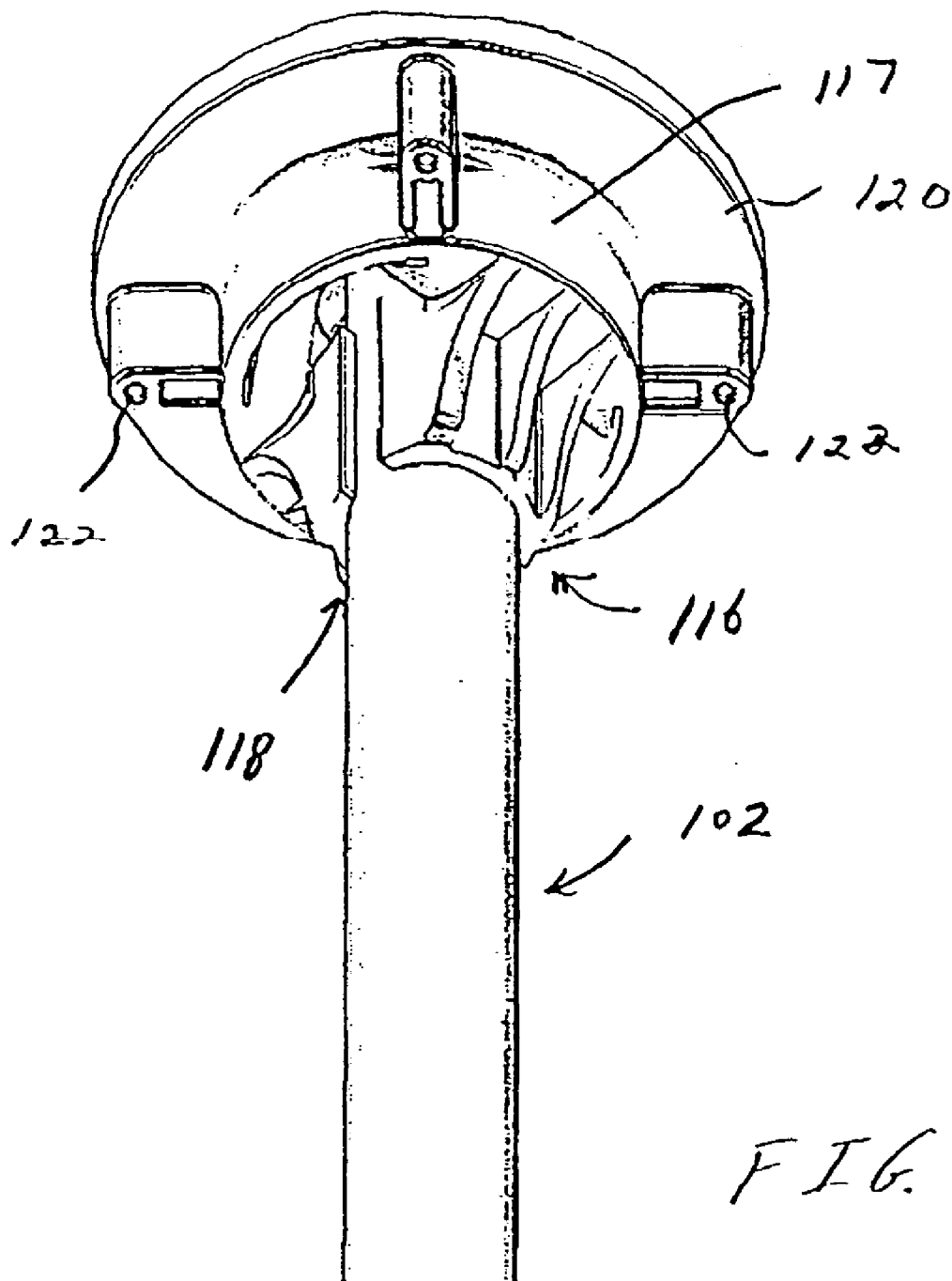
EXTENDED WEDGE ALLOWS  
FOR EASIER ACCESS TO STORED  
ITEMS.

WEDGES CAN BE EXTENDED  
INDEPENDANT OF ONE ANOTHER









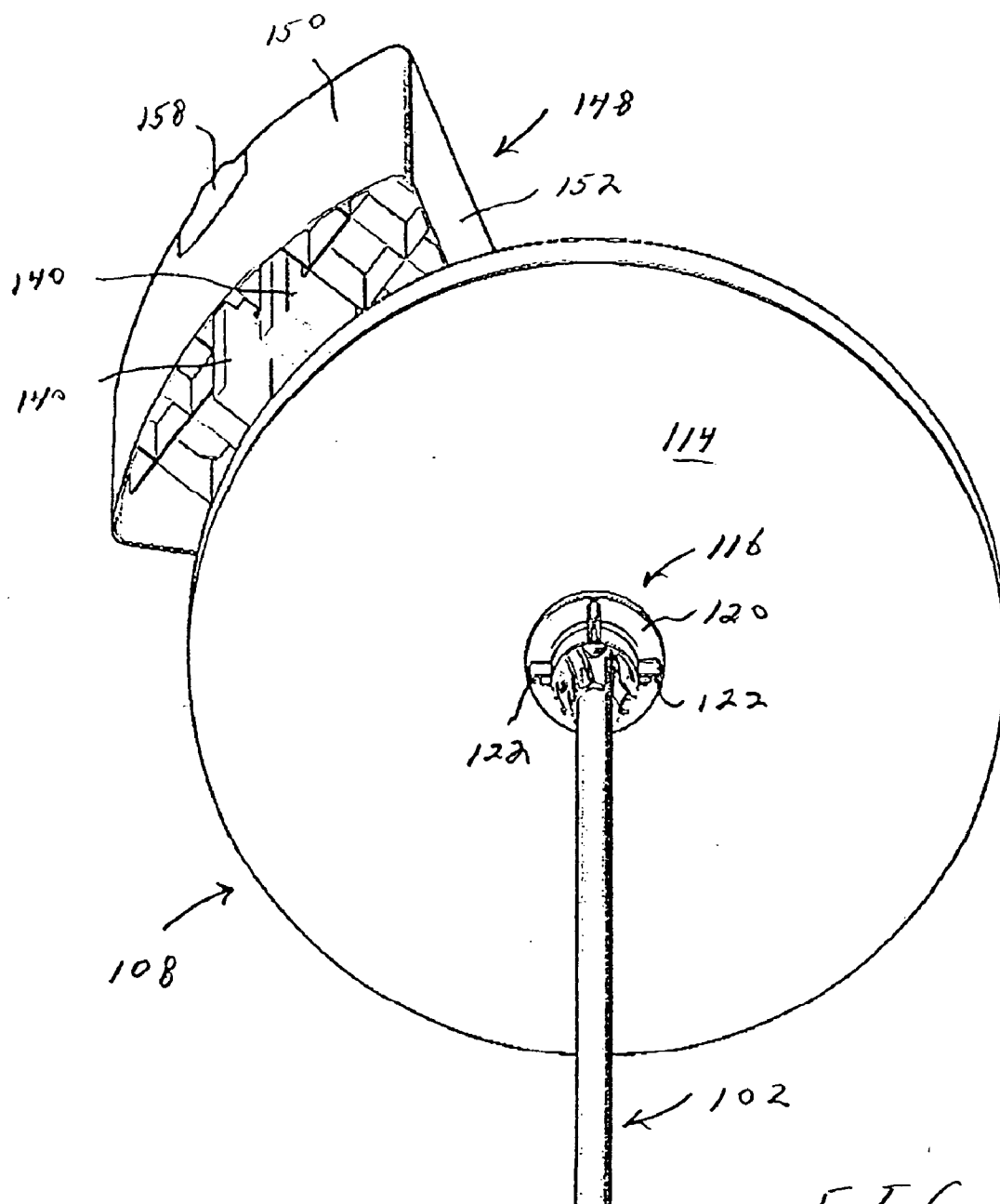


FIG. 5

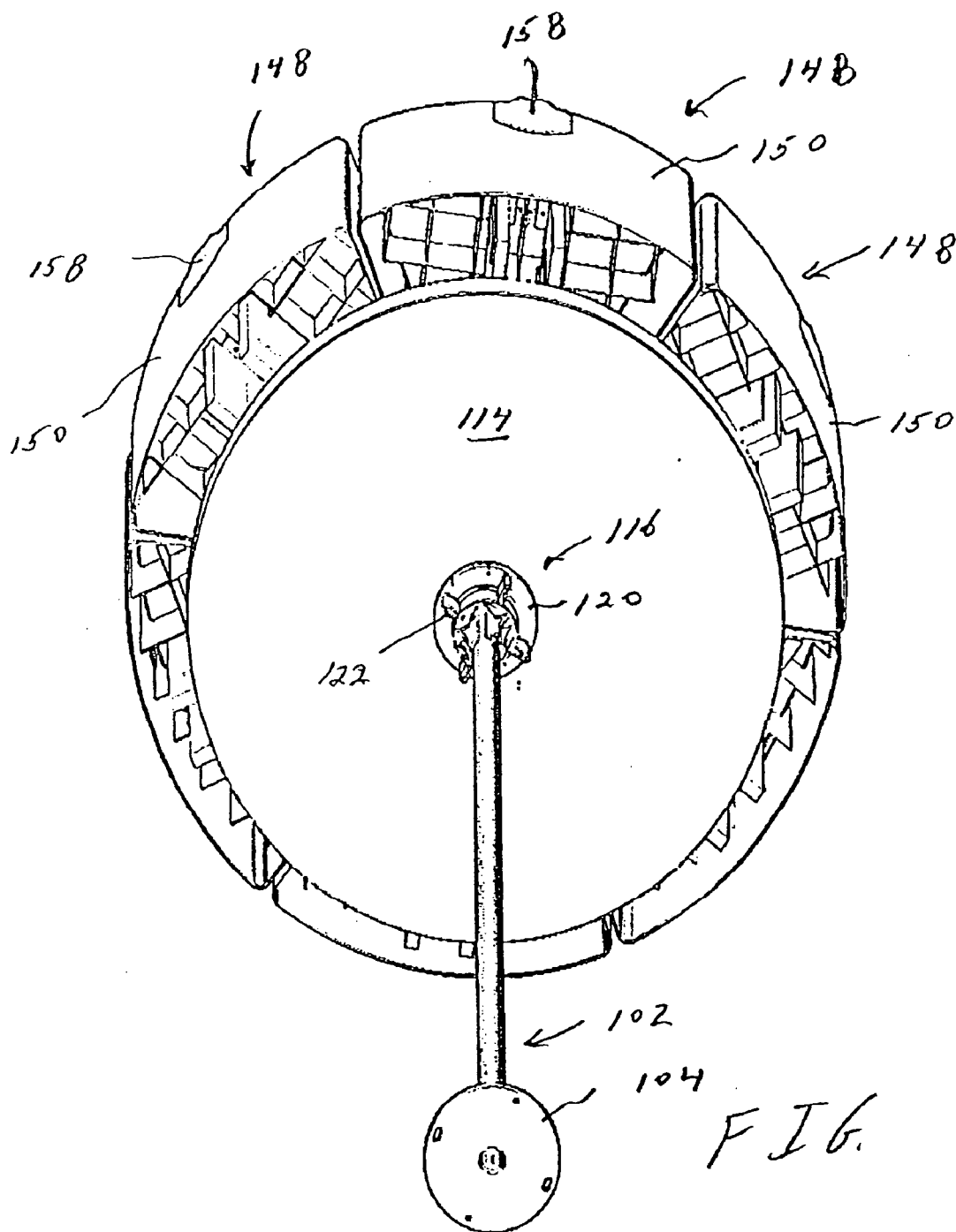
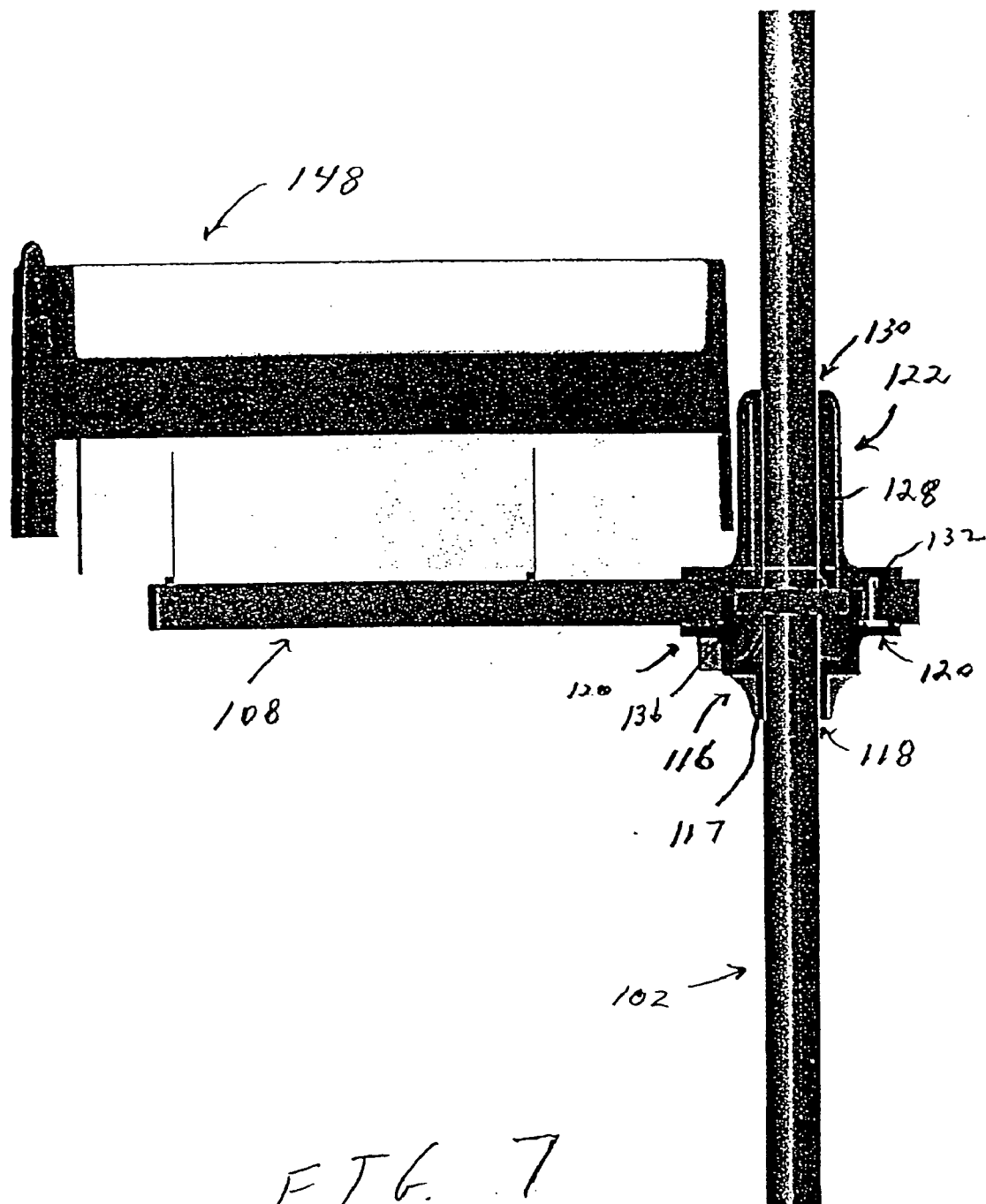
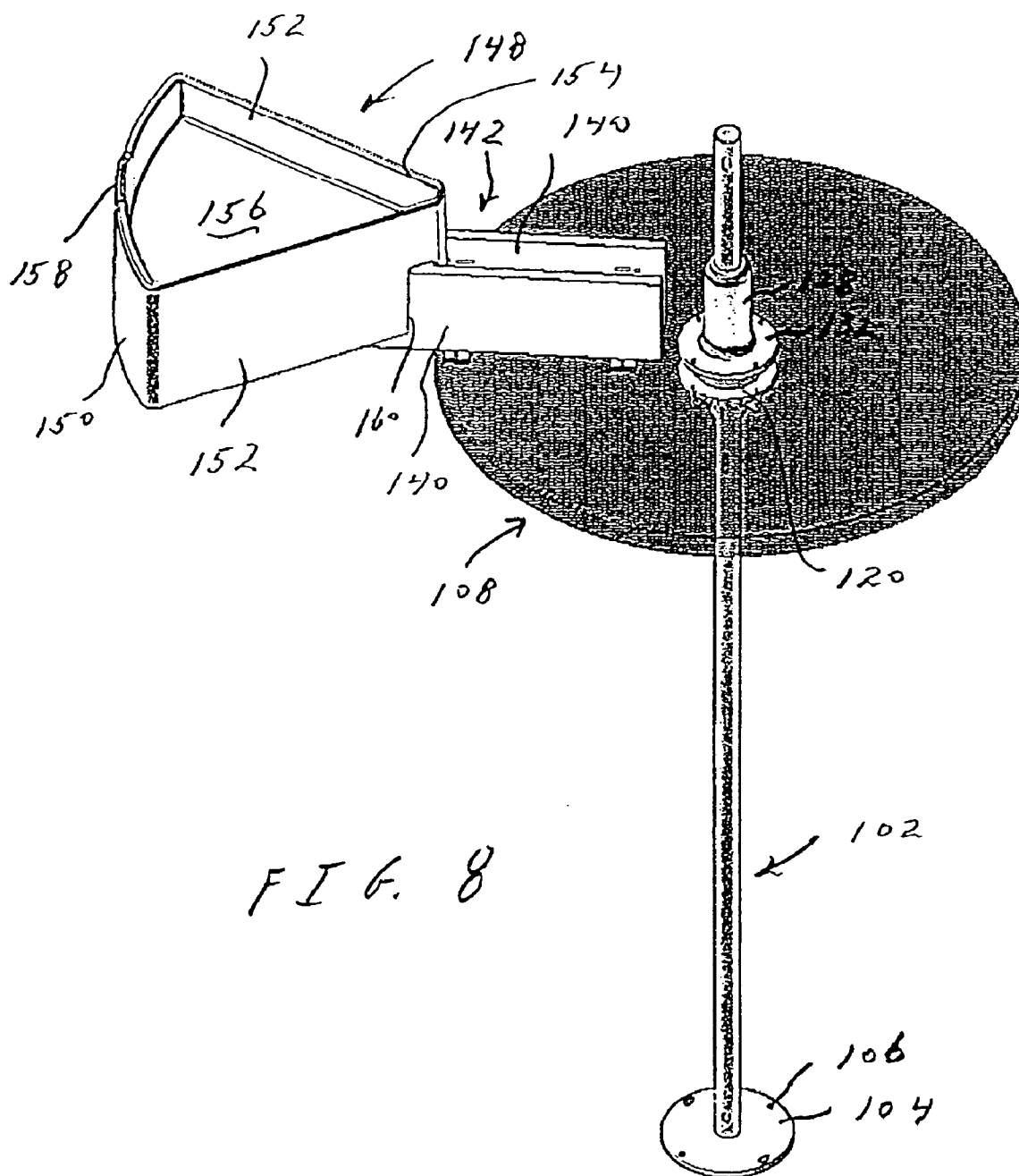
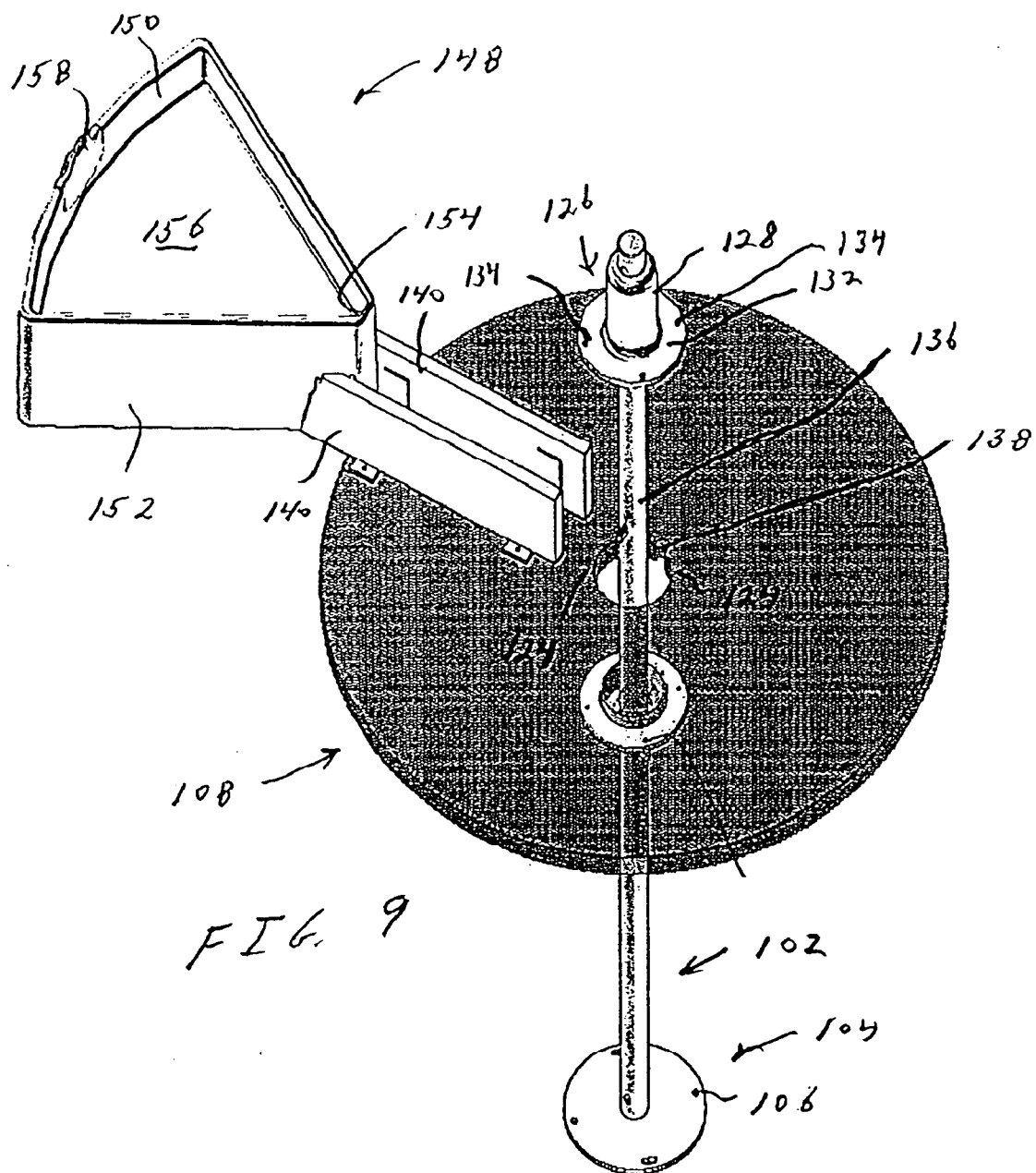


FIG. 6









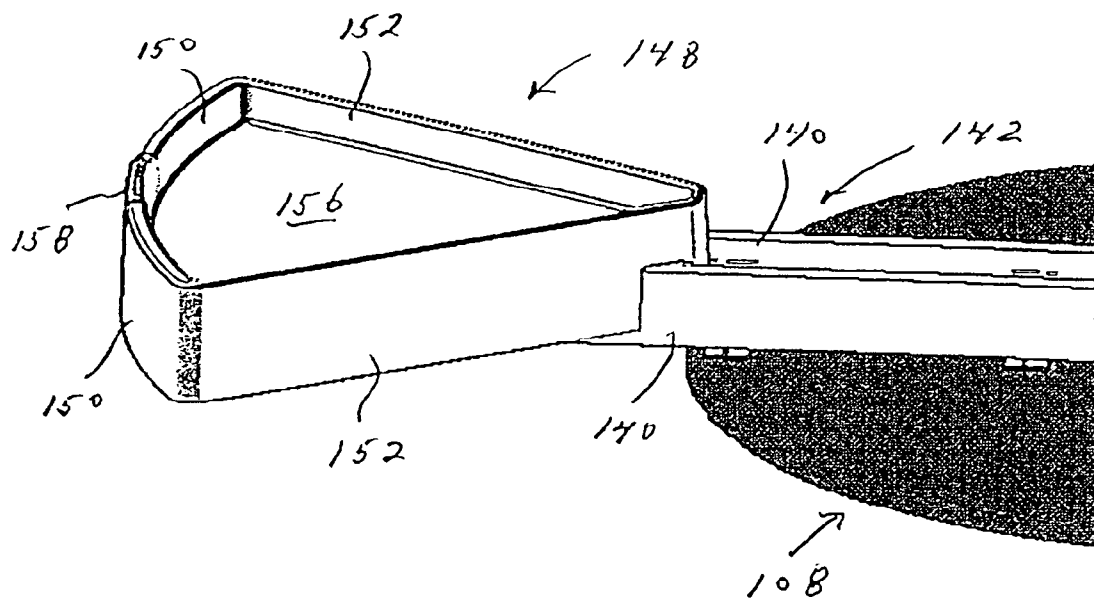
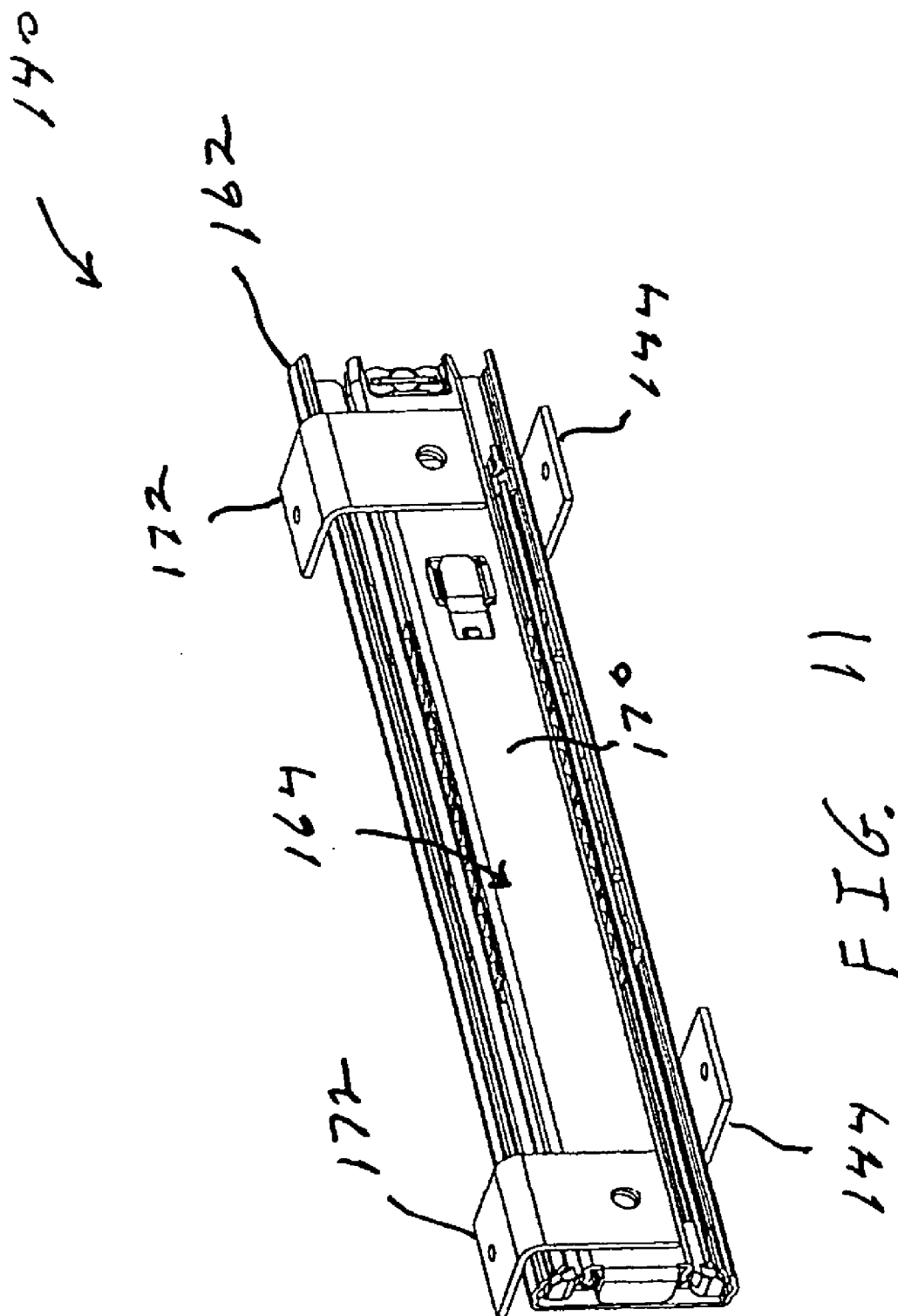
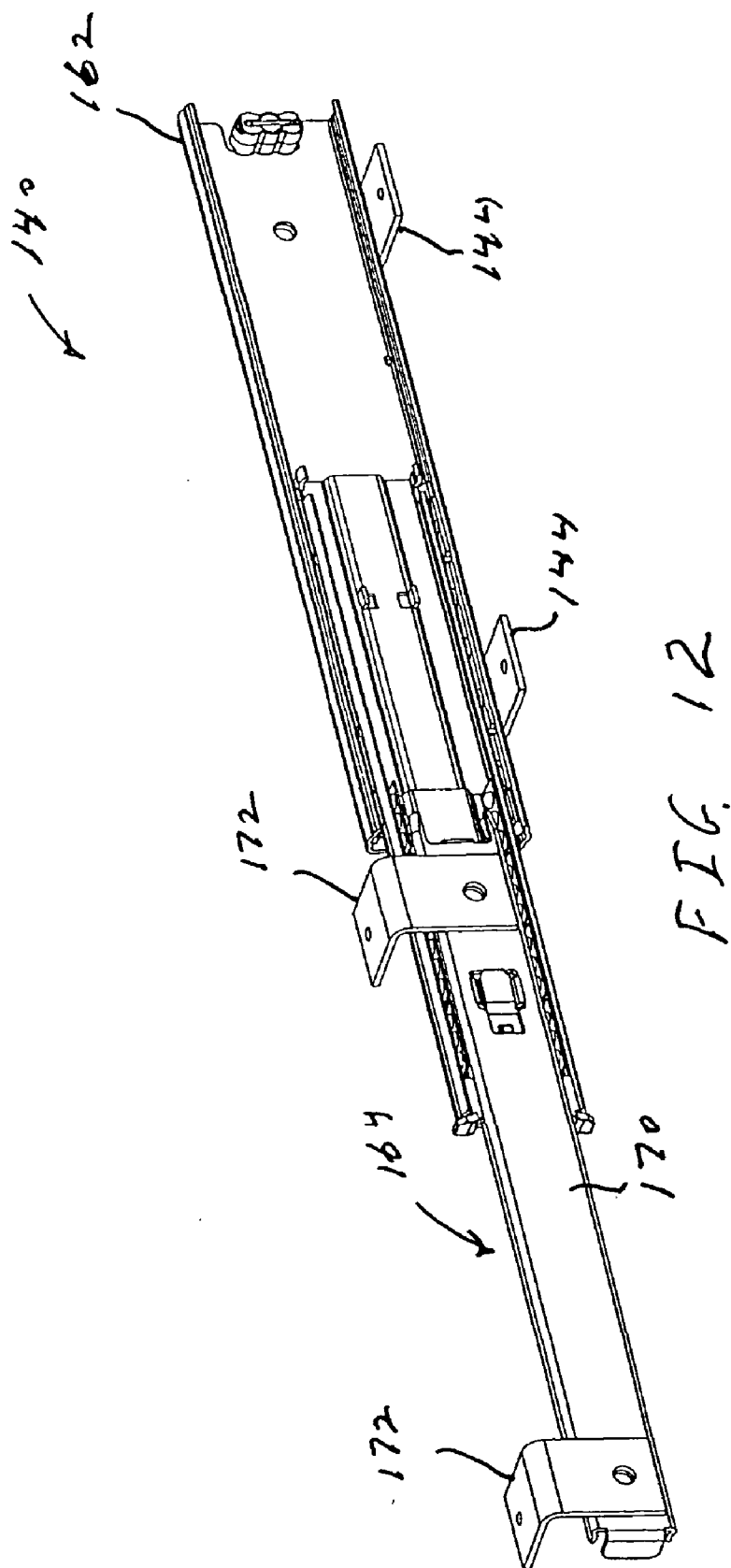


FIG. 10





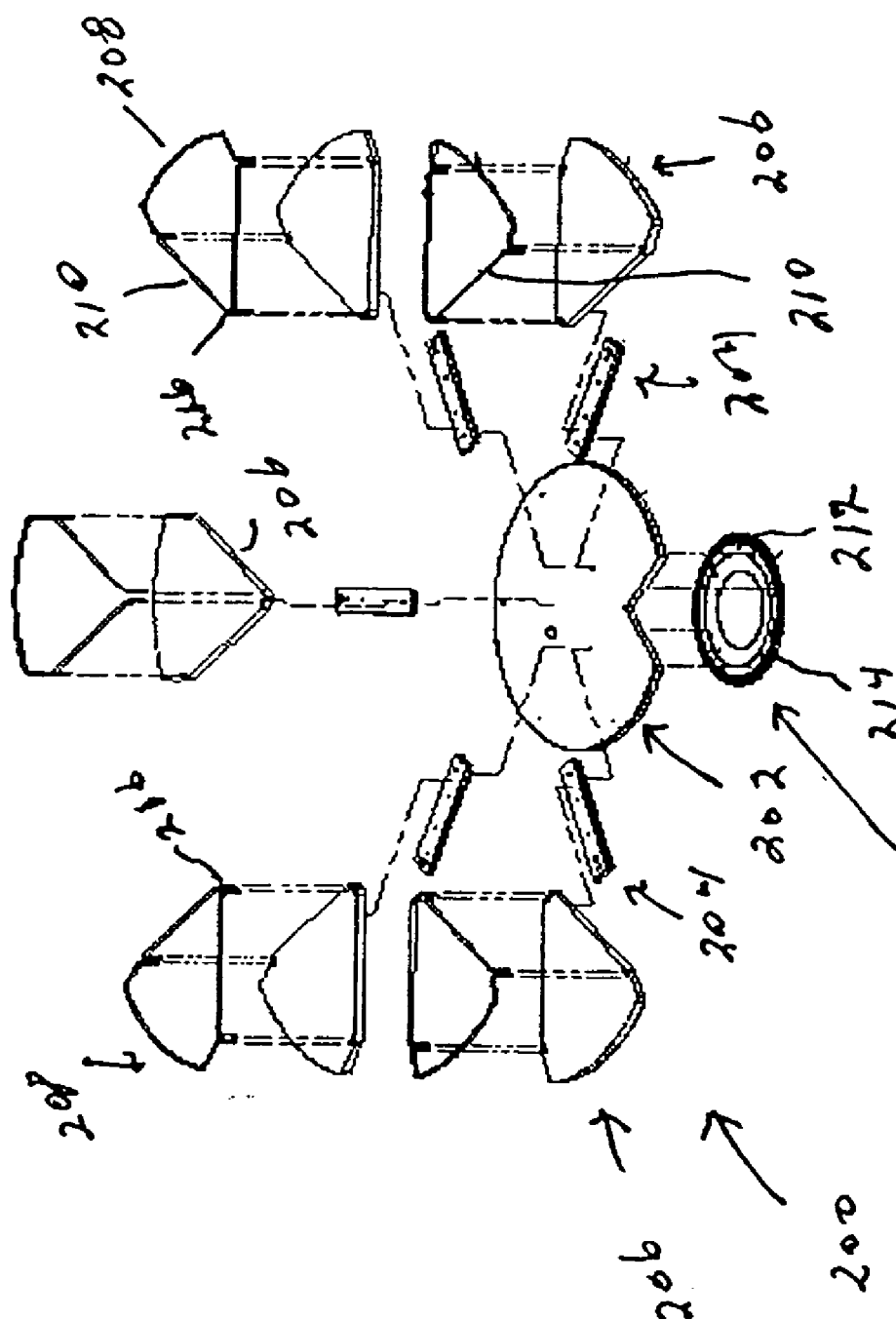


FIG. 13

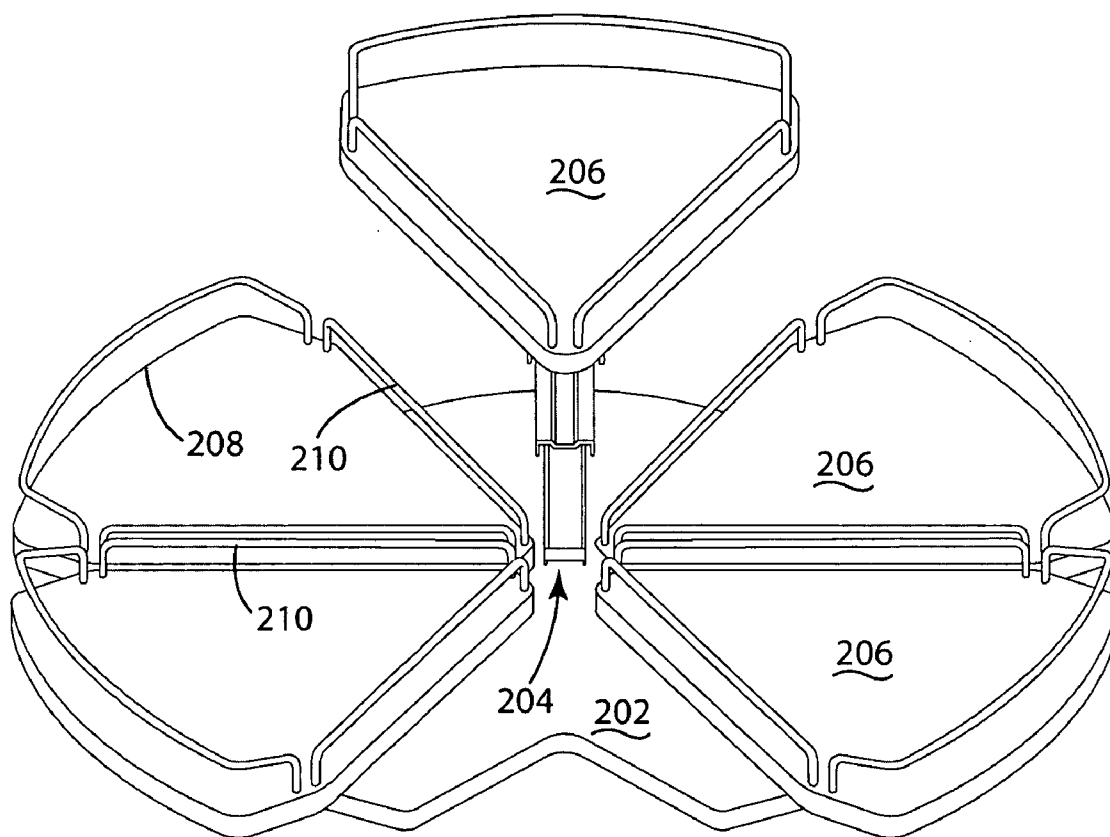


Fig. 14

**LAZY SUSAN WITH PULL-OUT SHELVING****CROSS-REFERENCE TO RELATED APPLICATIONS**

[0001] This application is based upon and claims priority of U.S. Provisional Patent Application Ser. No. 60/460,448 filed Apr. 4, 2003.

**STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT**

[0002] Not applicable.

**REFERENCE TO A MICROFICHE APPENDIX**

[0003] Not applicable.

**BACKGROUND OF THE INVENTION**

[0004] 1. Field of the Invention

[0005] The invention relates to rotatable or "lazy susan" devices and, more particularly, to rotatable devices having shelves or similar receptacles for holding various items.

[0006] 2. Background Art

[0007] Various types of storage devices having shelves or receptacles for holding various items are utilized in numerous environments, including commercial, industrial and residential spaces. One type of storage device which has been found to be of value is a device which includes means for rotation. Rotatable storage devices have the capability of varying the "presentation" location of hooks, shelves or other hanger and container-like utilitarian articles. These rotatable storage devices are known by a number of relatively common names, such as carousels. In addition, many of these storage devices have come to be known as "lazy susans." Although the dictionary definition of a lazy susan describes a large, revolving tray for food, placed at the center of a dining table, the term "lazy susan" has generically come to refer to a number of different types of rotatable storage devices. The term "lazy susan" will be used herein in its generic sense to refer to a rotatable storage device, and should not be construed to be limited to devices in accordance with its dictionary definition.

[0008] Lazy susan-type storage devices are used in various locations in the aforementioned commercial, industrial, residential environments. The devices may comprise one or more horizontally-disposed platforms, with the platforms being vertically spaced apart. The spaced apart platforms are rotatably coupled to a shaft which commonly extends along a vertical axis located at a center point of the horizontally disposed platforms. One problem which may arise with respect to use of these types of lazy susan devices relates to the capability of retrieving items which are located away from the perimeter of the horizontally disposed platform and near the platforms' center points. This is particularly true if the lazy susan device is located in a position such as a kitchen cabinet below kitchen countertops or the like. Depending upon age and mobility, it can be very difficult for an individual to "reach" into the location of a lazy susan device to retrieve stored items located near platform center points.

[0009] As earlier stated, various types of lazy susan and similar devices are well known in the prior art. For example,

Ballew, U.S. Pat. No. 5,813,736 issued Sep. 29, 1998 discloses the use of a carousel device having slidable sections connected to vertical pegboard supports. More specifically, a rotatable base has a series of sliding bases placed upon the rotatable base. The bases are supported by linear slides which provide support when the base is extended out from the cabinet area. More specifically, the carousel or cabinet storage device is mounted within a cabinet and includes vertical panels mounted upon a rotating platform. Each of the vertical panels may be rotated to the front of the cabinet for purposes of access. The vertical panels are connected to individual sliding bases. Mounted to the sliding bases are pairs of slide rails. The slide rails allow the sliding bases to slide horizontally outward away from the rotating platform. The slide rails are connected to the sliding base and to the rotating platform. In this manner, the vertical panels are extended horizontally away from the cabinet to provide easy access to items which may be hung from the panels.

[0010] Each slide includes a support member for purposes of providing additional support for the sliding base, when the base is extended outwardly from the platform. The support member includes a retractable arm having one end pivotably attached to the slide rail, with a wheel rotatably attached to the opposing or second end. The retractable arm is biased by a spring so as to cause it to extend downwardly to rest on the floor and thereby support the sliding base when it is in its extended position. When the sliding base is in a storage position, the arm pivots upwardly to a storage position. The wheel engages the floor and allows the sliding base to be moved inwardly or outwardly while supplying support for the sliding base. When the sliding platform is pushed back into a storage position, the arm engages a rotating platform, thereby causing the arm to retract.

[0011] Twellmann, U.S. Pat. No. 4,832,300 issued May 23, 1989 discloses a half-moon lazy susan type shelf. The shelf is mounted in part on the back side of a door in a cabinet, and in part on a rotating element and support system. When the door is open, the shelf is extendable by rotation so as to expose substantially all of its surface area. This is provided through the rotating portions of the support system and rails which operate in a fashion similar to a linear slide.

[0012] Battles, U.S. Pat. No. 4,067,607 issued Jan. 10, 1978, discloses a combination stool and fishing tackle box. Battles discloses use of shelves which slide in and out of a circular container. Specifically, the Battles arrangement includes an upright cylindrical housing having closed ends. A wall is diametrically and longitudinally divided intermediate at its ends so as to define a stationary wall portion and a movable wall portion. The movable wall portion forms a door slidably disposed in circular tracks formed by the respective end of the housing, so as to cover and uncover an access opening formed by the divided wall. The housing is transversely divided by a plurality of partitions arranged in vertically spaced relation, so as to form a plurality of compartments. Each of the partitions rotatably supports a circular upwardly opening fishing tackle receiving tray. Each of the trays is movable outwardly through the access opening with respect to its support partition by a radial slot formed in the respective partition.



## SUMMARY OF THE INVENTION

[0013] In accordance with the invention, a lazy susan-like apparatus is adapted for use in supporting items and facilitating access to the items by a user. The apparatus includes at least one platform, with support means coupled to structures separate from the apparatus for supporting the apparatus. The support means also is utilized for supporting at least one platform. A plurality of shelves is associated with the at least one platform, with each of the plurality of shelves being movable between a retracted position and an extended position. When the shelf is in an extended position, it facilitates access by a user to items positioned on the shelf. Further, slide means are provided which are connected to at least one platform and to the plurality of shelves, so that the shelves are movable in radial directions relative to the platform.

[0014] In accordance with one aspect of the invention, each of the plurality of shelves can comprise a wedge-shape configuration. Further, the platform or support base can be circular in configuration. In addition, the support means may comprise a centralized and vertically disposed pole.

[0015] In accordance with other aspects of the invention, each of the plurality of shelves can comprise a wedge-shape configuration, with lateral sides, an outer side and an apex or nearestmost portion to the centralized pole. When any of the retracted shelves is in a retracted position, the apex or nearestmost portion of the retracted shelf is adjacent the centralized pole. Still further, when any of the plurality of shelves is in an extended position, the apex of the extended shelf can be adjacent to an outer edge of the platform.

[0016] The slide means can comprise a plurality of linear slides, with each of the slides mounted to the platform, and associated with different ones of the plurality of shelves. The linear slides may be mounted so that when any one of the plurality of shelves is in the extended position, the extended shelf is cantilevered relative to stationary portion of the linear slides. Still further, each of the plurality of shelves can be capable of moving between the extended and retracted positions, independently of movement or non-movement of any other ones of the plurality of shelves. In addition, the platform may be capable of rotation throughout a 360° circle.

[0017] The platform or support base can include an aperture having a vertically disposed configuration, and extending through a central portion of the platform, so as to receive the centralized pole. The platform may be coupled to the centralized pole through a lower hub having a cylindrical sleeve, forming a centralized aperture which is sized so as to appropriately fit around the periphery of the pole. The lower hub can be further sized in a manner so that a collar of the hub may be positioned below the platform and adjacent a lower surface of the platform. The collar can be securely connected to the platform.

[0018] The apparatus can also include an upper hub, having a sleeve sized so as to form an aperture. The aperture can be further sized so as to receive the centralized pole therethrough. This reception of the centralized pole can occur while permitting the upper hub to freely rotate relative to the centralized pole. The upper hub can include a collar having a horizontally disposed configuration, positioned above the platform and adjacent an upper surface of the

platform. Further, connecting means can be provided for securing the platform between the upper hub and the lower hub.

[0019] The centralized pole can include a bearing pin extending through a center point thereof. The bearing pin extends through apertures within the centralized pole and through a center point of a longitudinal axis extending through a center of the centralized pole. The bearing pin remains stationary during rotation of the platform. Interconnection of the platform with the lower hub and the upper hub is such that the interconnection provides for the bearing pin to be positioned between the lower hub and the upper hub. With this configuration, the platform is rotatably positioned on a centralized pole in a manner so that the upper hub rests on the bearing pin, thus permitting the platform to appropriately rotate about the longitudinal axis of the centralized pole.

[0020] The positioning of the upper hub relative to the platform may be keyed by providing a detent in the platform positioned adjacent a center aperture. A corresponding protuberance is positioned a lower portion of the sleeve of the hub. This protuberance is sized and configured so as to extend into the keyed detent of the platform.

[0021] The slide means can include pairs of linear slides, with each of the pairs of linear slides being connected to one of the plurality of shelves.

[0022] Each of the shelves can include a floor, which is horizontally disposed within each shelf. Each of the linear slides of a linear slide pair associated with a corresponding one of the shelves can extend radially outward from the support means and be received within a slot formed within a corresponding one of the lateral sides of a corresponding shelf. The linear slides are received through the slots and positioned below the floor of the corresponding shelf. The linear slides are secured to the shelf in a manner so that the shelf is permitted to slide radially outward from the support means. When a shelf is in an extended state, the shelf is supported in a cantilevered manner on the corresponding linear slides.

[0023] Each of the shelves can, as earlier stated, be of a wedge-shape configuration. Each shelf can include a finger nub for facilitating a user exerting pulling forces on a shelf so as to move the shelf from a retracted to an extended position. The platform can be not only of a circular configuration, but also may be of a kidney-shape configuration. Still further, each of the shelves is movable between extended and retracted positions relative to the platform, independent of movement of others of the plurality of shelves.

## BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING

[0024] The invention will now be described with reference to the drawings, in which:

[0025] FIG. 1 is a partially perspective view of a lazy susan device in accordance with the invention;

[0026] FIG. 2 illustrates the lazy susan device of FIG. 1, but shows individual shelves or wedges in a fully extended state;

[0027] FIG. 3 is a close up and partial view of the lazy susan device illustrated in FIG. 1, but showing the location of an individual shelf or wedge in its retracted state;

[0028] FIG. 4 is an underside view of the shaft, lower hub and collar of the lazy susan device illustrated in FIG. 1;

[0029] FIG. 5 is an underside view similar to the view shown in FIG. 4, but showing the shaft and lower hub with a vertical platform and with one of the extendable shelves illustrated in a retracted state;

[0030] FIG. 6 is an underside view similar in scope to the views of FIGS. 4 and 5, but showing the entirety of the extendable shelves in retracted states;

[0031] FIG. 7 is a partial view of the lazy susan device illustrated in FIG. 1, but showing the relative positioning of one of the extendable shelves or wedges, and the rotatable coupling of the horizontal platform to the shaft.

[0032] FIG. 8 is a partial perspective view of the lazy susan device illustrated in FIG. 1, and showing one of the shelves in an extended state along its corresponding linear slides, and further shows the horizontal platform in a "transparent" view, for purposes of illustrating the relative positioning of the upper and lower hubs;

[0033] FIG. 9 is a partial perspective view similar to FIG. 8, but showing the upper and lower hubs in an "exploded" view, and further showing the detent in the horizontal platform;

[0034] FIG. 10 is a partial perspective and partial elevation view of one of the shelves in an extended state along its linear slides, in somewhat of a "close-up" view;

[0035] FIG. 11 is a perspective view of a linear slide which may be utilized with the lazy susan device in accordance with the invention;

[0036] FIG. 12 is a view of the linear slide illustrated in FIG. 1, showing the slide in an extended state, corresponding to an extended state of an interconnected shelf;

[0037] FIG. 13 is an exploded view of an alternative embodiment for a stand alone lazy susan apparatus utilizing pull-out shelves; and

[0038] FIG. 14 is a view of the alternative embodiment for a stand alone lazy susan apparatus as illustrated in FIG. 13, but with this view showing the apparatus in an assembled state.

#### DETAILED DESCRIPTION OF THE INVENTION

[0039] The principles of the invention are disclosed, by way of example, in a lazy susan device 100 as illustrated in FIGS. 1-10. In accordance with the invention, the lazy susan device 100 includes at least one circular platform or support base having a series of pie-shaped shelves or wedges 148 movably mounted thereon. The platform and the shelves are rotatable about a centralized pole 102, and the shelves rotate together on the circular platform. In accordance with a primary aspect of the invention, the pie-shaped shelves are movably mounted to a series of linear slides 140, with the linear slides positioned stationary relative to the circular platform. In accordance with another aspect of the invention, each of the shelves is extendable in a radial manner out-

wardly from the centralized pole. In this manner, items located anywhere within the shelves can be made readily accessible to a user, with the shelves extending outwardly. In particular, if the lazy susan device 100 is mounted within a cabinet or a similar structure (not shown), the shelves can be made to extend individually (and independent of one another), in a manner so as to extend beyond cabinet framing. Items within the shelves, and particularly items which may be located near the apex of each of the shelves (i.e. near the center point of circular base) are more readily accessed, than with lazy susan devices where containers mounted on platforms of the lazy susan devices are radially stationary.

[0040] Turning to the drawings, and particularly with reference to FIGS. 1 and 2, the lazy susan device 100 includes a centralized pole 102. The centralized pole 102 extends vertically upward, and connects at its lower end to a connecting plate 104. The connecting plate 104 is conventional in design and may be circular as illustrated in FIGS. 1 and 2, or may be of any other suitable configuration appropriate for supporting the centralized pole 102 and the other elements of the interconnected lazy susan device 100. The connecting plate 104 may include screw holes 106 or similar configurations for purposes of inserting screws or the like (not shown) so as to securely connect the connecting plate 104 to a cabinet floor or other structure (not shown) to which the lazy susan device 100 is to be interconnected. For example, it is not uncommon for rotatable devices such as the lazy susan device 100 to be positioned within corner cabinets of a kitchen or a similar environment. Further, although not specifically shown on the drawings, the centralized pole 102 may be connected at its upper end to other stationary structures of a cabinet or the like. This interconnection may also use a connecting plate or other device similar to the connecting plate 104.

[0041] Positioned upwardly from the circular connecting plate 104 along the centralized pole 102 is a platform or support base 108. The base 108 is primarily shown in FIGS. 2, 3, 5 and 6. The support base 108 is circular and disk-like in design, with a center aperture 110 extending through the base 108. The support base 108 has an upper surface 112 and a lower surface 114. The support base 108 can be constructed of any of various materials. For example, the inventors have found that one embodiment of the support base 108 in accordance with the invention may be constructed of wood.

[0042] The support base 108 is rotatably coupled to the centralized pole 102, in a manner so that the support base 108 can rotate entirely throughout a 360° circle. To provide this type of configuration, a conventional lower hub 116 is utilized, with the lower hub 116 having a conventional configuration for use with lazy susan devices, such as the lazy susan device 100. The lower hub 116 includes a cylindrical sleeve 117. The cylindrical sleeve 117 forms a centralized aperture 118 which is sized so as to appropriately fit around the periphery of the centralized pole 102. The lower hub 116 is also sized in a manner so that a collar 120 of the hub 116 may be positioned below the support base 108 and adjacent the lower surface 114 of the support base 108. The collar 120 may include screw holes 122 (illustrated in FIGS. 4, 5 and 6) through which screws or similar connecting means (not shown) may be received. The screw holes

122 are then aligned with corresponding screw holes 124 which extend vertically into the support base 108.

[0043] In addition to lower hub 116, the lazy susan device 100 in accordance with the invention also includes an upper hub 126 illustrated in FIGS. 3 and 7-9. The upper hub 126, like the lower hub 116, includes a sleeve 128 which is sized so as to form an aperture 130. The aperture 130 is sized so as to receive the centralized pole 102 there through, while permitting the upper hub 126 to freely rotate relative to the centralized pole 102. The sleeve 128 of the upper hub 126 and the sleeve 117 of the lower hub 116 may be constructed of plastic or similar materials.

[0044] Also similar to lower hub 116, the upper hub 126 includes a collar 132 having a horizontally disposed configuration and positioned above the support base 108 and adjacent the upper surface 112. Located at spaced apart positions in the collar 132 are a set of vertically disposed screw holes 134. The screw holes 134 may be appropriately aligned with the screw holes 124 of the support base 108 and the screw holes 122 of the collar 120 of the lower hub 116. With such alignment, screws or similar connecting means (not shown) can be received through the respective screw holes so as to appropriately secure the support base 108 between the lower hub 116 and the upper hub 126.

[0045] For purposes of rotatably coupling the support base 108 (with the attendant lower hub 116 and upper hub 126) to the centralized pole 102, the centralized pole 102 includes a bearing pin 136 extending through the center point thereof. The bearing pin 136 is illustrated primarily in FIGS. 7 and 9. The bearing pin 136 extends through apertures (not shown) within the centralized pole 102 and through the center point of a longitudinal axis extending through the center of the centralized pole 102. The bearing pin 136 remains stationary. When interconnecting the support base 108 with the lower hub 116 and the upper hub 126, the interconnection is such that the bearing pin 136 is positioned between the lower hub 116 and the upper hub 126. With this configuration, the interconnected support base 108 is rotatably positioned on the centralized pole 102 in a manner such that the upper hub 126 rests on the bearing pin 136. With this configuration, the support base 108 is capable of appropriately rotating about the longitudinal axis of the centralized pole 102.

[0046] In addition to the rotatable interconnection of the support base 108 to the centralized pole 102 as described in the foregoing paragraphs, a user may wish to "key" the positioning of the upper hub 126 relative to the support base 108. For this purpose, the support base 108 may include a detent 138 positioned adjacent the center aperture 110. Such a detent 138 is illustrated in FIG. 9. A corresponding protuberance (not shown) may be appropriately positioned at the lower portion of the sleeve 128 of the upper hub 126. The protuberance may be sized and configured so as to extend into the keyed detent 138 of the support base 108.

[0047] The lazy susan device 100 in accordance with the invention further includes a series of linear slides 140. As illustrated in FIG. 2, the linear slides 140 may be arranged in pairs, with each of the pairs identified as a linear slide pair 142. The linear slides 140 of each linear slide pair 142 include interconnected support brackets 144. The support brackets 144 include screw holes 146 through which screws or similar connecting means (not shown) can be received for

purposes of securing each of the linear slides 140 to the upper surface 112 of the support base 108. The linear slides 140 of each linear slide pair 142 are configured in a parallel configuration relative to each other, and extend radially outward from the centralized pole 102, as primarily shown in FIG. 2. The length of each of the linear slides 140 can differ in various configurations of the lazy susan device 100, dependent upon the needs of the user. Although the foregoing has described, in part, the use of a linear slide pair 142, it should be emphasized that other configurations of linear slides may be utilized. For example, it may be feasible to construct and use a linear slide mechanism having a configuration with only a single horizontal slide, or some other type of configuration which differs from the configuration of the linear slide pair 142 described herein.

[0048] Interconnected in an extendable manner to each of the linear slide pairs 142 is a pie-shaped shelf 148. As illustrated in various other drawings, each of the shelves 148 includes a pie-shaped configuration, with an outer side 150, lateral sides 152 and an apex 154. It should be noted that the term apex is being utilized as a reference to the "acme" or nearestmost location of each shelf 148 to the center of the support base 108. That is, without departing from the primary novel concepts of the invention, each of the shelves 148 can have a configuration which does not necessarily incorporate a point or a "coming together" of opposing lateral sides. The lateral sides 152 are angled such as to meet at the apex 154, which is the nearestmost position of the shelf 148 to the centralized pole 102. Each of the shelves 148 further includes a floor 156 which is horizontally disposed within each of the shelves 148. Further, each outer side 150 of a shelf 148 includes a finger nub 158 for facilitating a user exerting pulling force on a shelf 148 as described in subsequent paragraphs herein.

[0049] Each of the linear slides 140 of a linear slide pair 142 associated with a corresponding one of the shelves 148 extends radially outward from the centralized pole 102 and is received within a slot 160 formed within a corresponding one of the lateral sides 152 of the corresponding shelf 148. The linear slides 140 are received through the slots 160 and positioned below the floor 156 of the corresponding shelf 148.

[0050] The linear slides 140 are properly secured to the corresponding shelf 148 in a manner such that the shelf 148 is permitted to slide radially outwardly from the support base 108. The shelves 148 are illustrated in an extended state in FIG. 2. In this configuration, the shelves 148 are supported in a cantilevered manner on the linear slides 140. The linear slides 140 are relatively conventional in design and may be secured to the shelves 148 in a relatively conventional manner. An appropriate interconnection between a shelf 148 and its corresponding linear slides 140 would be of the same type of configuration as exists between conventional drawers and their linear slides in cabinetry and the like.

[0051] An example of a linear slide 140 which may be utilized with the lazy susan device 100 is illustrated in FIGS. 11 and 12. FIGS. 11 and 12 illustrate one of the linear slides 140 independent of any other elements of the lazy susan device 100. Turning to these drawings, the linear slide 140 includes the previously described support brackets 144. As earlier described, the support brackets 144 are

secured to the support base **108** in a fixed manner. The linear slide **140** further includes a stationary base **162** which is coupled to the support brackets **144**, and remains stationary throughout movement of the interconnected shelf **148**. The base **162** is coupled to a carriage **164**, which is moveable relative to the stationary base **162** and rides in a conventional manner along both sides of the base **162** within tracks (not shown). The interconnection between the carriage **164** and the base **162** permits the carriage **164** to move outwardly from the base **162** the set of the tracks (not shown). This type of interconnection for linear slides is well known in the art.

[0052] The carriage **164** includes corresponding tracks (not shown). These tracks moveably mount an inner member **170** of the linear slide **140**. The inner member **170** is coupled to the carriage **164** through these tracks in a conventional manner, such that the inner member **170** is permitted to extend outwardly relative to the position of the moveable carriage **164**. This extended position is illustrated in FIG. 12. Further, the inner member **170** includes a pair of L-shaped brackets **172**. The L-shaped brackets **172** include legs which are fixedly secured to the floor **156** or other element of the interconnected shelf **148**.

[0053] Referring to operation, when an interconnected shelf **148** is in a retracted state, each of its two corresponding linear slides **140** is in the position as illustrated in FIG. 11. As a pulling force is exerted on the shelf **148** by the user, the carriage **164** moves outwardly relative to the stationary base **162**. Correspondingly, the inner member **170**, fixedly secured to the shelf **148**, moves outwardly in conjunction with the shelf **148**, and further moves outwardly relative to the outward movement of the carriage **164**. When the shelf **148** is in the extended state, the two corresponding linear slides **140** are in the extended state as illustrated in FIG. 12. As earlier mentioned, the linear slides **140** are conventional in design and commercially available. For example, a linear slide which may be utilized as a linear slide **140** is one which falls within the scope of the 8400 Series manufactured by Knape & Vogt of Grand Rapids, Michigan.

[0054] With the configuration of the lazy susan device **100** in accordance with the foregoing description, the operation of the device **100** will now be described. The lazy susan device **100** may be appropriately secured within a kitchen cabinet or the like, with the shelves **148** in a retracted state, as illustrated in FIG. 1. The user can rotate the shelves **148** (which, in accordance with the foregoing description, rotate on the support base **108**) about the centralized pole **102** by grasping a shelf **148** by its corresponding finger nub **158** and exerting a rotational force on the same. When a particular shelf **148** is positioned at a particular location as desired by the user, the user may grasp the finger nub **158** of the shelf **148** and exert a radially outward or "pulling" force on the shelf **148**. The shelf **148** will then extend outwardly along its corresponding linear slides **140**. Each of the shelves **148** may be extended outwardly to a fully extended state as illustrated in FIG. 2. Also in accordance with the invention, each of the shelves **148** may be extended or otherwise positioned along a radius extending through the center point of the centralized pole **102** independent of any of the other shelves **148**. As previously described, the extension capability of the shelves **148** of the lazy susan device **100** in accordance with the invention permits a user to extend shelves **148** outwardly beyond cabinet framing or the like, so as to facilitate access to items located in a shelf **148** which

may be positioned near the apex **154** of the shelf **148**. Further, when in a retracted state, the shelves **148** essentially form a circular "platform" which rotates about the centralized pole **102** as a single entity.

[0055] In addition to the single support base **108** illustrated with respect to the lazy susan device **100** in accordance with the invention, multiple support bases and multiple sets of shelves may be employed. For example, support bases for supporting extendable shelves may be spaced apart at various vertical dispositions along the centralized pole **102**. Further, the lazy susan device **100** in accordance with the invention is not limited to the specific number of shelves illustrated in the drawings. Various numbers and various shapes and sizes of shelves **148** may be employed, without departing from the novel concepts of the invention.

[0056] An alternative embodiment for a lazy susan apparatus having structure and features in accordance with the invention is illustrated in an exploded view in FIG. 13, and identified as lazy susan apparatus **200**. Lazy susan apparatus **200** is designed to be utilized without a centralized support pole or the like. More specifically, the lazy susan apparatus **200** includes a platform or support base **202**, shown as having a kidney-shaped configuration in FIG. 13. The apparatus **200** also includes a number of extendable shelves **206**. Five of these shelves are illustrated in FIG. 13. The shelves can have a wedge-shaped configuration substantially similar to the shelves previously described with respect to apparatus **100**. In this particular instance with apparatus **200**, the shelves **206** include a pair of angled side rails **220** which meet at an apex **216**. The apex **216** is the point which is nearestmost the center of the platform **202**. Adjacent to outer ends of the side rails **210** is an outer rail **208**. FIG. 14 best illustrates the configuration of the side rails **210** and the outer rails **208** associated with each of the shelves **206**. The rails **210** and **208** can be appropriately secured to the shelves **206** by any suitable and well known connecting means. Further, as particularly shown in FIG. 14, the platform or support base **202** and the shelves **206** may be constructed, in this particular embodiment, of wood or similar materials. In any event, the apparatus **200** represents somewhat of an alternative embodiment for the shelves themselves.

[0057] For purposes of securing the shelves **206** to the platform **202**, in a manner so as to be extendable and retractable, linear slides **204** are utilized. Unlike the linear slides utilized with apparatus **100**, FIG. 13 illustrates the linear slides mechanisms **204** as each including only a single slide. Various types of slides can be utilized with the apparatus **200**.

[0058] Turning to one of the primary distinctions between apparatus **200** and apparatus **100**, the apparatus **200** also includes a bearing plate **218** positioned under the platform **202**. The bearing plate **218** includes a conventional upper bearing race **212**. The plate **218** also includes a lower bearing race **218**, with a set of conventional bearings (not shown) captured between the upper and lower bearing races **212**, **214**, respectively. The upper bearing race **212** is adapted to be securely connected by screws or other suitable connecting means (not shown) to the under surface of the platform **202**. The lower bearing race **214** is adapted to be secured by screws or similar connecting means (not shown) to the floor of a cabinet or the like. Rotation of the platform **202** is achieved by rotational movement of the correspond-

ing upper bearing race **212**, relative to the lower bearing race **214**. The foregoing describes an alternative embodiment for use of extendable shelves in accordance with the invention.

[0059] It will be apparent to those skilled in the pertinent arts that other embodiments of lazy susan devices in accordance with the invention may be designed. That is, the principles of a lazy susan device having extendable shelves or other types of containers are not limited to the specific embodiment described herein. For example, and as described in previous paragraphs, various configurations of shelves and various numbers of vertically disposed support bases and shelves may be utilized. Accordingly, it will be apparent to those skilled in the art that modifications and other variations of the above-described illustrative embodiment of the invention may be effected without departing from the spirit and scope of the novel concepts of the invention.

What is claimed is:

1. A lazy susan-like apparatus adapted for use in supporting items and facilitating access to said items by a user, said apparatus comprising:

at least one platform or support base;

support means coupled to structures separate from said apparatus for supporting said apparatus, and for supporting said at least one platform;

a plurality of shelves associated with said at least one platform, each of said plurality of shelves being moveable between a retracted position and an extended position, and wherein a shelf being in said extended position facilitates access by a user to said items positioned on said shelf; and

slide means connected to said at least one platform and to said plurality of shelves, so that said shelves are moveable in radial directions relative to said at least one platform.

2. An apparatus in accordance with claim 1, characterized in that each of said plurality of shelves comprises a wedge-shaped configuration.

3. An apparatus in accordance with claim 1, characterized in that said at least one platform is circular in configuration.

4. An apparatus in accordance with claim 1, characterized in that said support means comprises a centralized and vertically disposed pole.

5. An apparatus in accordance with claim 4, characterized in that:

each of said plurality of shelves comprises a wedge-shaped configuration, with each of said shelves having an apex, lateral sides and an outer side; and

when any of said retracted shelves is in said retracted position, said apex of said retracted shelf is adjacent said centralized pole.

6. An apparatus in accordance with claim 1, characterized in that:

each of said plurality of shelves comprises a wedge-shaped configuration, having an apex, lateral sides and an outer side; and

when any of said plurality of shelves is in an extended position, said apex of said extended shelf is adjacent an outer edge of said platform.

7. An apparatus in accordance with claim 1, characterized in that said slide means comprises a plurality of linear slides, with each of said linear slides mounted to said platform, and associated with different ones of said plurality of shelves.

8. An apparatus in accordance with claim 7, characterized in that said drawer slides are mounted so that when any one of said plurality of shelves is in said extended position, said extended shelf is cantilevered relative to a stationary portion of said linear slide.

9. An apparatus in accordance with claim 1, characterized in that each of said plurality of shelves is capable of moving between said extended and said retracted positions, independently of movement or non-movement of any other ones of said plurality of shelves.

10. An apparatus in accordance with claim 1, characterized in that said platform is capable of rotation throughout a 360° circle.

11. An apparatus in accordance with claim 1, characterized in that:

said support means comprises a centralized pole;

said platform comprises an aperture having a vertically disposed configuration and extending through a central portion of the platform so as to receive the centralized pole;

said platform is coupled to said centralized pole through a lower hub having a cylindrical sleeve, forming a centralized aperture which is sized so as to appropriately fit around the periphery of said centralized pole, said lower hub further being sized in a manner so that a collar of said hub may be positioned below said platform and adjacent a lower surface of said platform, with said collar being securely connected to said platform;

said apparatus further comprising an upper hub having a sleeve sized so as to form an aperture, said aperture being further sized so as to receive said centralized pole there through, while permitting said upper hub to freely rotate relative to said centralized pole;

said upper hub comprising a collar having a horizontally disposed configuration and positioned above said platform and adjacent an upper surface of said platform; and

said apparatus further comprises connecting means for securing said platform between said upper hub and said lower hub.

12. An apparatus in accordance with claim 11, characterized in that:

said centralized pole comprises a bearing pin extending through a center point thereof;

said bearing pin extending through apertures within said centralized pole and through a center point of a longitudinal axis extending through a center of said centralized pole, with said bearing pin remaining stationary during rotation of said platform;

interconnection of said platform with said lower hub and said upper hub is such that said interconnection provides for said bearing pin to be positioned between said lower hub and said upper hub; and

with said configuration, said platform is rotatably positioned on said centralized pole in a manner such that said upper hub rests on said bearing pin, thereby permitting said platform to appropriately rotate about said longitudinal axis of said centralized pole.

**13.** An apparatus in accordance with claim 12, characterized in that positioning of said upper hub relative to said platform is keyed by providing a detent in said platform positioned adjacent a center aperture, with a corresponding protuberance positioned at a lower portion of said sleeve of said upper hub, and sized and configured so as to extend into said keyed detent of said platform.

**14.** An apparatus in accordance with claim 1, characterized in that said slide means comprises pairs of linear slides, with each of pair of linear slides being connected to one of said plurality of said shelves.

**15.** An apparatus in accordance with claim 14, characterized in that each of said shelves is of a pie-shaped or wedge-shaped configuration, having an outer side, lateral sides and an apex, said lateral sides being angled so as to meet at said apex, which is a nearestmost position of said shelf to said support means, with each of said shelves further including a floor which is horizontally disposed within each of said shelves.

**16.** An apparatus in accordance with claim 15, characterized in that:

each of said linear slides of a linear slide pair associated with a corresponding one of said shelves extends radially outward from said support means and is received within a slot formed within a corresponding one of said lateral sides of a corresponding shelf, with said linear slides being received through said slots and positioned below said floor of said corresponding shelf;

said linear slides are secured to said corresponding shelf in a manner so that said corresponding shelf is permitted to slide radially outwardly from said support means; and

when a shelf is in an extended state, said shelf is supported in a cantilevered manner on said corresponding linear slides.

**17.** An apparatus in accordance with claim 1, characterized in that each of said shelves is of a wedge-shaped configuration, and comprises a finger nub for facilitating a user exerting pulling force on a shelf so as to move such shelf from a retracted position to said extended position.

**18.** An apparatus in accordance with claim 1, characterized in that:

each of said plurality of shelves comprises a wedge-shaped configuration; and

said platform is of a circular or kidney-shaped configuration.

**19.** An apparatus in accordance with claim 18, characterized in that said support means comprises a centralized pole.

**20.** A lazy susan-like apparatus adapted for use in supporting items and facilitating access to said items by a user, said apparatus comprising:

at least one platform having a circular or kidney-shaped configuration;

a centralized pole coupled to structure separate from said apparatus for supporting said apparatus, and for rotatably supporting said at least one platform;

slide means connected to said at least one platform, so as to provide for a configuration for moving certain elements between extended and retracted positions, relative to said platform; and

a plurality of shelves, each of said shelves having a wedge-shaped configuration, and mounted to said slide means so as to be moveable between retracted and extended positions, and wherein a shelf being in said extended position facilitates access by a user to items positioned on said shelf.

**21.** An apparatus in accordance with claim 20, characterized in that each of said shelves is movable between extended and retracted positions relative to said platform, independent of movement of others of said plurality of shelves.

**22.** A lazy susan-like apparatus adapted for use in supporting items and facilitating access to said items by a user, said apparatus comprising:

at least one platform or support base;

a plurality of shelves associated with said at least one platform, each of said plurality of shelves being movable between a retracted position and an extended position, and wherein a shelf being in said extended position facilitates access by a user to said items positioned on said shelf;

slide means connected to said at least one platform or support base and to said plurality of shelves, so that such shelves are movable in radial directions relative to said at least one platform;

bearing means positioned under said platform, and comprising an upper bearing race, lower bearing race and a set of bearings captured therebetween; and

said upper bearing race is coupled to said platform so as to be rotatable therewith, and said lower bearing race is coupled to a surface external of said apparatus, with said lower bearing race remaining stationary when said upper bearing race rotates with said platform.

**23.** An apparatus in accordance with claim 22, characterized in that said apparatus further comprises:

a pair of angled side rails coupled to the top of each of said shelves, and where each of said pair of side rails meets at a nearestmost location to the center of said platform; and

an outer rail coupled to the top of each of said shelves, with each of said outer rails being adjacent to outer ends of one of said pairs of angled side rails.

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