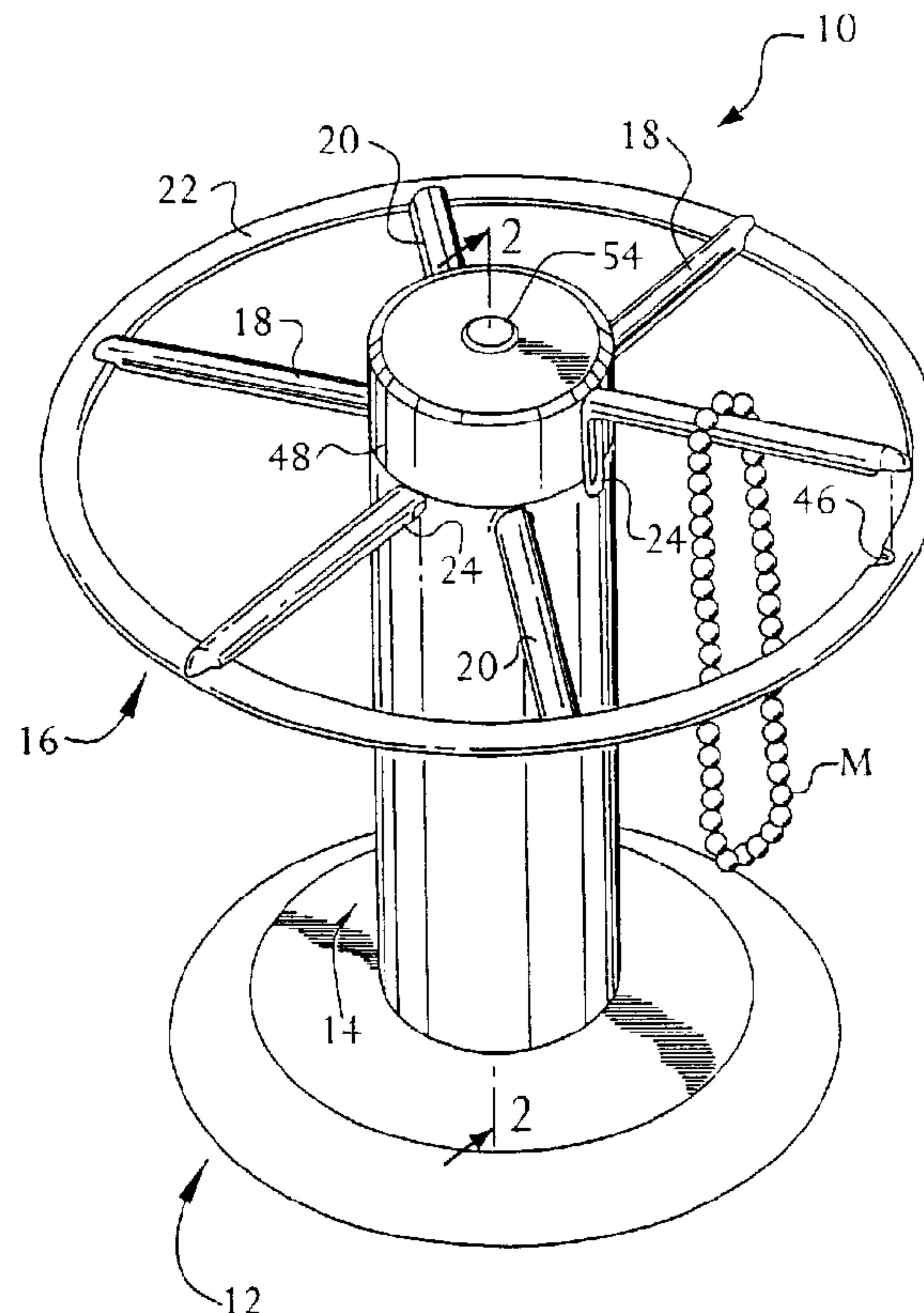




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(54) Title: DISPLAY STAND



(57) Abrégé/Abstract:

A jewelry display stand (10) having a vertical post assembly (14) mounted on a base (12). A plurality of spokes (18) and a retaining ring (22) are mounted at the upper end of the post (14). The spokes (18) are mounted to be normally spring biased in an upward direction. Rotatably attached to the upper end of the post (14) is a center cap (48) adapted to retain the spokes (18) depressed with the post (14). The cap (48) has an axial slot permitting a selected one of the spokes (18) to automatically raise, when properly rotated.



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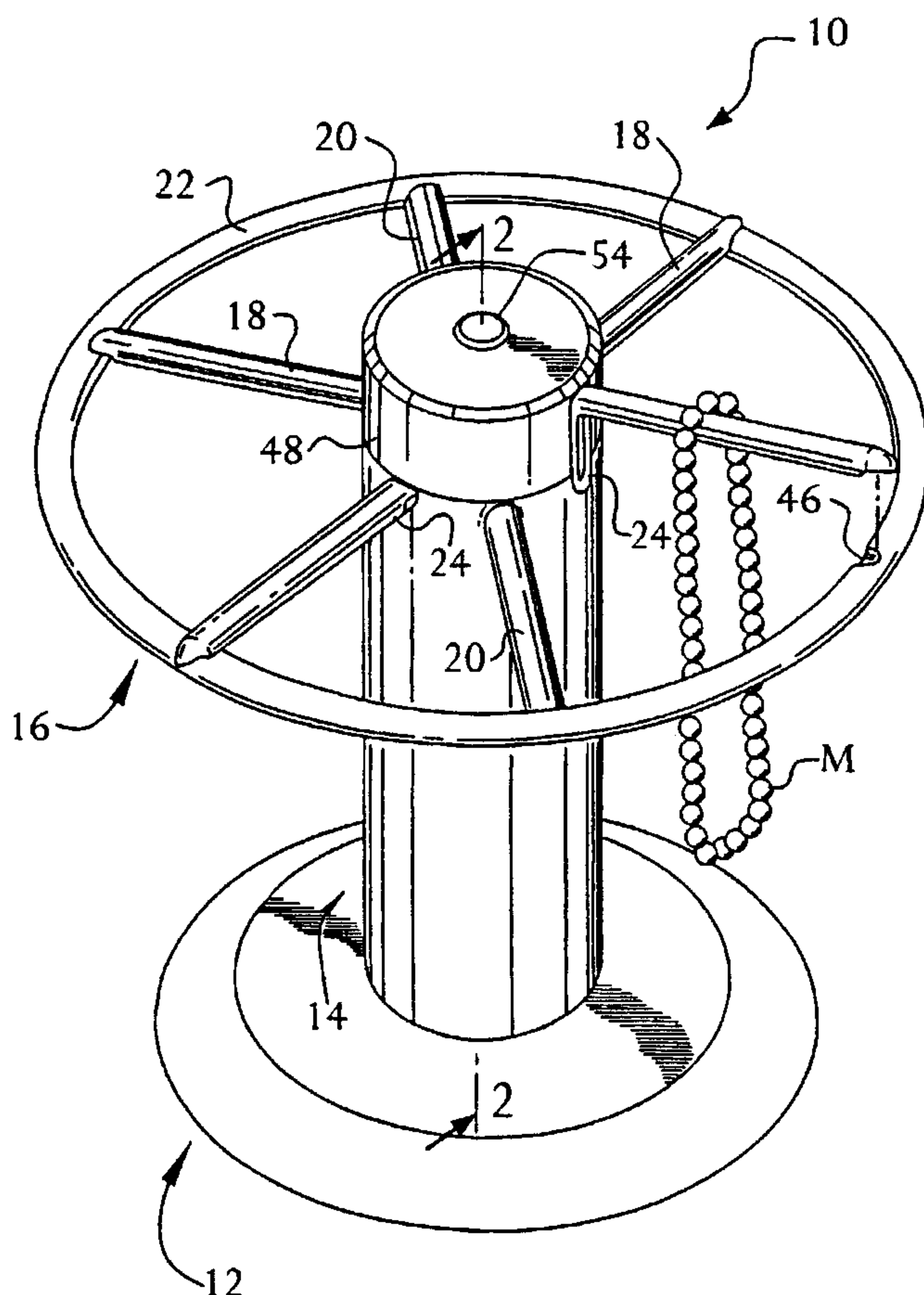
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(54) Title: DISPLAY STAND



(57) Abstract: A jewelry display stand (10) having a vertical post assembly (14) mounted on a base (12). A plurality of spokes (18) and a retaining ring (22) are mounted at the upper end of the post (14). The spokes (18) are mounted to be normally spring biased in an upward direction. Rotatably attached to the upper end of the post (14) is a center cap (48) adapted to retain the spokes (18) depressed with the post (14). The cap (48) has an axial slot permitting a selected one of the spokes (18) to automatically raise, when properly rotated.

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-- DISPLAY STAND --

FIELD OF THE INVENTION

The present invention relates to an improved merchandise display stand for supporting jewelry chains or necklaces

BACKGROUND OF THE INVENTION

In the inventor's earlier patent, U.S. 5,848,710, there is disclosed a merchandise display stand comprising a vertical post mounted on a base. A plurality of radially spaced spokes adapted to hold the merchandise to be displayed is mounted on the upper end of the post. A separate closure ring adapted to co-operate with the spokes is also attached to the upper end of the post. The spokes and/or the ring are manually movable in a vertical direction relative to the post to allow merchandise to be placed on the spoke or removed therefrom.

As a result a sales clerk must manually raise each spoke and hold each spoke in the raised position in order to open the spoke from the ring so as to hang or to remove the merchandise from display. During the sales day the sales clerk needs to constantly re-raise and hold each spoke to accommodate the customers. To do so the clerk is required to use both hands in order to handle the merchandise, i.e. she must hold the spoke raised with one hand while simultaneously handling the merchandise with her free hand. The display device of my prior patent, while successfully an improved display stand for holding and exhibiting articles of jewelry.

SUMMARY OF THE INVENTION

In one aspect, the invention provides a display stand which maintains features for preventing or minimizing theft, shop lifting or pilferage therefrom while simplifying the use and manual operation of the device.

In another aspect, the invention provides a display stand which is simple to construct, aesthetically appealing, inexpensive to manufacture.

These aspects together with other embodiments and advantages are set forth in the following disclosure of the present invention.

In general, the display stand of the present invention comprises a vertical post assembly mounted on a base. A plurality of spokes and a retaining ring are mounted at the upper end of the post. The spokes are movably mounted to be normally biased in an upward direction. Rotatably attached to the upper end of the post is a center cap adapted to retain said spokes depressed with the post. The cap has an axial slot permitting a selected one of said spokes to automatically raise, when properly rotated.

Full details of the present invention are set forth in the following description of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

10 The invention will be best understood by reference to the present invention;

FIG. 1 is a perspective view, of a display stand showing the present invention;

FIG. 2 is an enlarged cross sectional view taken along A-A of FIG. 1;

FIG. 3 is an enlarged perspective view, partially sectioned, of a display stand showing the internal construction of the post assembly.

15 FIG. 4 is an enlarged perspective view, partially sectioned, of the display stand cap and locking mechanism;

FIG. 5 is a perspective view, of a second embodiment of a display stand incorporating the inventive features of the present invention;

FIG. 6 is an enlarged perspective view of an additional embodiment of the display apparatus according to the present invention;

20 FIG. 7 is a side elevational view of an additional embodiment of the

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display apparatus according to the present invention; and

FIG. 8 is an enlarged perspective view of the closing features of the embodiment shown in FIG. 7.

DETAILED DESCRIPTION OF THE INVENTION

As seen, the display stand generally designated by reference numeral 10, comprises a base 12, a vertically oriented hollow cylindrical post 14 mounted thereon and a horizontally oriented hanger assembly 16 mounted at the upper end of the post 14. The hanger assembly 16 comprises a plurality of spokes 18 arrayed radially from the post 14 and a closure ring 22 fixed by a pair of arms 20 to the post 14. The closure ring 22 acts to normally close the end of the spoke 18 to retain merchandise M thereon, thereby acting as an anti-removal device.

The lower end of the post 14 is removably secured to a central opening preferably should have mating threads to allow the post 14 to be secured to the base 12. Attached to the upper end of the center post 14 is a pair of diametrically extending arms 20 to the radial outer ends of which is attached a closure ring 22. The top edge or rim of the center post 14 is provided with a plurality of notches 24 into which the spokes 18 sit.

Located within the upper end of the post 14 is a shaft 52 on which is hung a pair of plates 28 and 30, both of which are provided with guide holes 32. Plate 28 is fixed to the mid-point of the interior of the center post 14 while the other plate 30 is fixed to the upper end of center post 14 just below the notches 24. The plates 28 and 30 are aligned such that all of the holes 32 axially correspond to one another as well as being radially aligned with each notch 24 so as to guide the spokes 18.

The spokes 18 are the longitudinal extensions of an elongated rod 34 bent mid-way between the ends, in an L-shaped fashion. Each rod 34 passes loosely through a respective guide hole 32 and a respective hole 28 so as to be vertically movable. A cotter pin 36 prevents the rod 34 from rising out of hole 32. While a cotter pin is used to prevent the rod

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from rising out of the hole 32 any other retention means (i.e. a cap) may be used. The rod 34 is also provided with a circumferential groove 38 spaced a distance upward means which would cause the compression spring 40 to become compressed as the rod 34 is lowered. In normal use, the compression spring 42 keeps the spokes 18 biased upwardly.

Having the upper end of each rod 34 pass through guide holes 32 ensures that each rod 34 is raised and lowered solely in a vertical axis. Each guide hole 32 is provided with a bushing 44 for smooth axial movement of each rod 34.

The closure ring 22 is provided with a plurality of indents or recesses 46 on its upper surface into which the ends of the spokes 18 are received so that when each rod 34 is in the lowered second position, the end of the spoke 18 sits in a corresponding recess 46 preventing unauthorized removal of merchandise. When the rod 34 is in the raised first position, the end of the spoke 18 is spaced a vertical distance away from the recess 46 so that merchandise can be added or removed from the display 10 as needed.

Movement of the integral spoke 18 and rod 34 is controlled by a cap 48 which is rotatably journaled, by bearing 50, to the upper end of a center shaft 52, the outer race of bearing 50 is fixedly attached to the center of the cap 48 while the inner race of bearing 50 is fixedly attached to the upper end of center shaft 52. The center shaft 52 passes through the center of the plates 28 and 30 respectively and is secured in place by a threaded nut 54. In this manner, the cap 48 is free to rotate about the center shaft 52.

The cap 48 is cup shaped, having a horizontal wall and depending skirt. The cap 48 is provided with a single axial cut 56 in its skirt which does not extend to the horizontal wall. The bottom of the slot 56 creates a stop 58. The lower peripheral edge, or lip of the cap 48, except for the opening of the slot 56, provides a cam surface against which the spokes 18 ride when the cap 48 is rotated.

In use, all of the spokes 18 are initially in a second depressed

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position and the cap 48 rotated so that the slot 56 is out of register with any of the spokes 18. The lower edge of cap 48 acts as a barrier which prevents the spokes 18 from rising until the slot 56 is moved into alignment with a selected spoke 18. When the slot 56 of the rotating cap 48 is moved in line with the selected spoke 18, the selected spoke 18 is automatically raised to a first position under bias of the compression spring 42. The display 10 is thus opened and remains in an opened position, locked in place by the continual force of the compression spring 42. To close the display 10, the sales clerk pushes down on the spoke 18, thus re-compressing the spring 42, and thereafter rotates the cap 48 so as to move the edge of the lip above the spoke 18.

In order to provide for the automatic return of the cap 48 to a closed position, wherein all of the spokes are depressed, a coil or spiral spring 60 is attached at one end to the cap 48 and at its other end to the center shaft 52. In this manner the cap 48 is rotatively biased with respect to the post 14 into its initial normal position.

The cap 48 may also be provided with locking means comprising a tongue 62 and a key operated pivot 64 which prevents any spoke 18 from being inadvertently raised, no matter what rotation of the cap 48 occurs.

The display stand of the present invention may be built of metal tubing, i.e. chrome or brass which are most suitable for their appearance as well. Other metals can, of course, be used.

While the base 12 is depicted as being circular in shape it may, in fact, take any shape or form. Also, while the post 14 is cylindrical, any ornamental contour can be utilized or any finish applied to create the aesthetic effect desired by the retailer.

In Figures 5 to 8 a modified display stand 100 employing the present invention is shown. The display stand is generally formed of a cylindrical post 102, mounted on a conventional base 104, on which is located a display wheel 106, consisting of a cylindrical hub 108 having an inner diameter slightly larger than the outer diameter of the post 102 so that it

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fits over and seats on the top of the post 102. A plurality of radially extending arms 110 (4 being shown) are fixedly attached to the hub 108. Each arm 110 has a plurality of hangers 112 on which product is held. Supported on the hub 108 is a manifold receptacle 114 housing the guide plate in which a plurality of retention spokes 116 are located. The arms 110 are angularly offset from the radius as depicted in Fig. 5 in order to accommodate the radially extending spokes 116. A cap 118 is rotatably mounted over the manifold receptacle 114 and the entire assembly held together by a central shaft 120 all operating in the manner previously described.

The retention spokes 116 are normally closed over the hangers 112 of the display wheel 106 to prevent removal of the products being displayed, thereby acting as an anti-removal element. The selection cap 118 is rotatable to specifically select a single retention spoke 116 allowing it to be raised for the removal only of the goods held by the corresponding arm 110. The arms 110 are fixed at their outer ends to a ring 122 which joins the arms 110, in common and acts to stabilize the arms 110.

The manifold receptacle 114 comprises a cylindrical stub body having a smaller exterior diameter, at its lower end, than the interior diameter of the post 102, and a slightly larger diameter at its upper end providing a shoulder 128 against which the hub 108 and post 102 will seat when the narrower end of the manifold receptacle 114 is inserted in the post 102. The wall of the manifold receptacle 114 is provided with an L-shaped slot 132 into which a pin 134 extending inwardly from the surface of the hub 108 fits, allowing the manifold receptacle 114 to be locked into place, bayonet fashion.

Each of the post 102, the hub 108 and the manifold receptacle 114 are formed with a threaded hole 124, 134 and 136 respectively. The post 102, hub 108 and manifold receptacle 114 are then fastened together in fixed position by a screw 126.

Secured within the body of the manifold receptacle 114 is a

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transverse plate 138 having a central opening 140 and a plurality of bushings 142 arrayed about the central opening. The number of bushings 142 will generally conform to the number of retention spokes 116 each bushing 142 is adapted to receive the elongated stem 144 of a respective spoke 116. Each of the spokes 116 are constructed similar to those shown and described earlier and are biased by compression springs in the same manner. To allow for full seating of the spokes 116, the upper edge of the manifold receptacle 114 is provided with semi-circular indents or notches 150 corresponding to each spoke 116.

From this point in the disclosure on, the construction of the post 102, the spokes 116, the cap 118, the biasing means and the like are identical to the structure previously shown and described and further description is referred thereto.

The entire device is assembled by first installing each of the spokes 116 by their stems 144 through the bushings 142 and the compression springs 146 positioned into place. Thereafter the display wheel 106 is placed onto the post 102 and by then installing the manifold receptacle 114 onto the hub 108 and post 102. The selection cap 118 is thereafter inserted over the manifold receptacle 114 so that the central shaft 120 passes through the center of the manifold receptacle 114 until an enlarged upper end 160 of the central shaft 120 abuts against the plate 138 within the manifold receptacle 114. Each of the spokes 116 are thus retained within their respective notches 150.

In another embodiment, shown in Figure 6, the arms 110 terminate in a free end having a cavity or recess 170 rather than in a ring 122. On the other hand the spokes 116 terminate in a downturned end 168 which is inserted into the cavity 170, when spoke 116 is lowered to the closed position, preventing the removal of the product therefrom.

In this embodiment, the arms 110 do not have offset hangers 112 although they are provided with a plurality of uniformly spaced indents 172 along their upper edge. Pins 174 may be inserted along the length of each arm 110 for the display of jewelry which has a clasp.

The display shown in FIG. 6 is particularly useful with jewelry having a clasp which includes a retaining ring. The pins 174 permit the clasp ring to be slipped over the end of pin 174 and prevented from being removed therefrom when arm 110 is lowered to the closed position to come into contact with the ends of each pin 174. A plurality of evenly spaced upside down cups (not shown) are located along the underside of each arm 110 and aligned with each pin 174. Thus, when the arm 110 is lowered to the closed position, the cups engage the pins 174 and thus further preventing possible removal of the jewelry therefrom. In this way, both clasped and unclasped jewelry can be displayed without fear of unauthorized removal.

In yet another embodiment, shown in Figures 7 and 8, the arms 110 as well as the spokes 116 are modified to tilt downward. In this configuration, merchandise, such as handbags, may be hung from the hangers 112 of arms 110 by their shoulder straps and allowed to freely hang down. Similarly cups (not shown) can be located along the underside of each arm 110 for engaging the free ends of the hangers 112 when in the closed position.

It should be pointed out that while the invention has been described in conjunction with women's fashion items such as jewelry, bracelets, necklaces and handbags it must be realized that the invention can be effectively used for storing or holding a variety of other articles such as men's belts, chains, ties and the like. The invention effectively minimizes unauthorized removal of articles from the display device, and jewelry is highly susceptible to theft.

Various embodiments and modifications have been suggested herein and other changes and modifications will be obvious to those skilled in this art. Therefore, it is intended that the present disclosure be given wide scope and the invention limited only by the claims appendant hereto.

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I claim:

1. A merchandise display stand, comprising:

5 a center post supporting at its upper end an array of hanger elements and
at least one anti-removal element, each said hanger element being movable
between a first position where said hanger element is in engagement with the
anti-removal element so as to prevent merchandise from being removed from
said hanger element and a second position where said hanger element is
10 separated from said anti-removal element so as to permit merchandise to be
placed on and removed from said hanger element, each hanger element
including a mounting portion located within the center post,

a plurality of springs mounted within the center post, each spring being
associated and in contact with the mounting portion of a hanger element for
biasing the hanger elements upwards towards said second position; and

15 a cap mounted on the upper end of said center post having a lower edge
adapted to engage and depress said hanger elements into said first position
against the upward bias, wherein said cap is provided with a slot permitting entry
of one of said hanger elements and permitting said hanger element to rise, and
wherein said cap is rotatable about a vertical axis to permit said slot to be aligned
20 with a selected one of said hanger elements.

2. The merchandise display stand according to claim 1, wherein said
rotatable cap is spring biased to an orientation in which said slot is out of
alignment with all of said hanger elements.

25

3. The merchandise display stand according to claim 2, wherein said cap
is provided with locking means for preventing rotation of the cap.

4. The merchandise display stand according to claim 1, wherein the at
30 least one anti-removal element includes a ring mounted to said center post and
wherein said hanging elements extend radially from said center post to a radius
at least substantially equal to the radius of said ring.

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5. The merchandise display stand according to claim 1, wherein said center post is mounted at its lower end to a base.

5 6. The merchandise display stand according to claim 1, wherein said hanger elements further comprise a plurality of upwardly projecting pins.

7. The merchandise display stand according to claim 6, wherein said anti-removal element further comprises a plurality of downwardly oriented caps for
10 engaging said pins.

8. The merchandise display stand according to claim 1, wherein the plurality of springs mounted within the center post has one spring associated with each mounting portion.
15

9. The merchandise display stand according to claim 8, wherein the mounting portion of each hanger element comprises a rod extending down into the center shaft, and wherein the spring is disposed about a portion of the rod, and engaged with a stop on the rod for biasing the rod upward.
20

10. A merchandise display stand, comprising:
a center post supporting at its upper end an array of hanger elements and at least one anti-removal element, said anti-removal element being movable between a first position where said anti-removal element is in engagement with
25 one of said hanger elements preventing merchandise from being removed from said hanger element and a second position where said anti-removal element is separated from said hanger element permitting merchandise to be placed on and removed from said hanger element, wherein said anti-removal element is biased upwards towards said second position; and

30 a cap mounted on the upper end of said center post having a lower edge adapted to engage and depress said anti-removal element into said first position against the upward bias, wherein said cap is provided with a slot permitting entry

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of said anti-removal element and permitting said anti-removal element to rise, and wherein said cap is rotatable about a vertical axis to permit said slot to be aligned with said anti-removal element.

5 11. The merchandise display stand according to claim 10, wherein said rotatable cap is spring biased to an orientation in which said slot is out of alignment with said anti-removal element.

10 12. The merchandise display stand according to claim 10, wherein said cap is provided with locking means for preventing entry of said anti-removal element into said slot.

15 13. The merchandise display stand according to claim 10, wherein said center post is mounted at its lower end to a base.

 14. The merchandise display stand according to claim 10, wherein said hanger elements further comprise a plurality of upwardly projecting pins.

20 15. The merchandise display stand according to claim 14, wherein said anti-removal element is a plurality of downwardly oriented caps for engaging said pins.

25 16. The merchandise display stand according to claim 15, wherein each cap includes a mounting portion located within the center post, and wherein the biasing of the anti-removal element includes at least one spring mounted within the center post and in contact with the mounting portion of the caps for biasing the caps toward said second position.

30 17. The merchandise display stand according to claim 16, wherein there are a plurality of springs mounted within the center post, one spring associated with each mounting portion.

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18. The merchandise display stand according to claim 10, wherein the at least one anti-removal element includes a ring mounted to said center post and wherein said hanging elements extend radially from said center post to a radius
5 at least substantially equal to the radius of said ring.

19. A merchandise display stand, comprising:
a center post supporting at its upper end an array of hanger elements and at least one anti-removal element, wherein in a first position each of said hanger
10 elements and the anti-removal element are in engagement and co-operate to prevent merchandise from being removed from said hanger elements, said hanger elements or said anti-removal element being individually movable to a second position, wherein when either the hanger element or the anti-removal
15 element or anti-removal element is in its second position it is separated from its cooperating hanger element or anti-removal element to permit merchandise to be placed on and removed from said hanger element, and wherein each hanger element including a mounting portion located within the center post;

a plurality of springs mounted within the center post, each spring being associated and in contact with the mounting portion of a movable element for
20 biasing the movable element towards said second position; and

a cap attached to the center post, the cap adapted to engage and retain said movable element in said first position, wherein said cap is rotatable to select said movable element, and is arranged to permit only said selected movable element to move to said second position.

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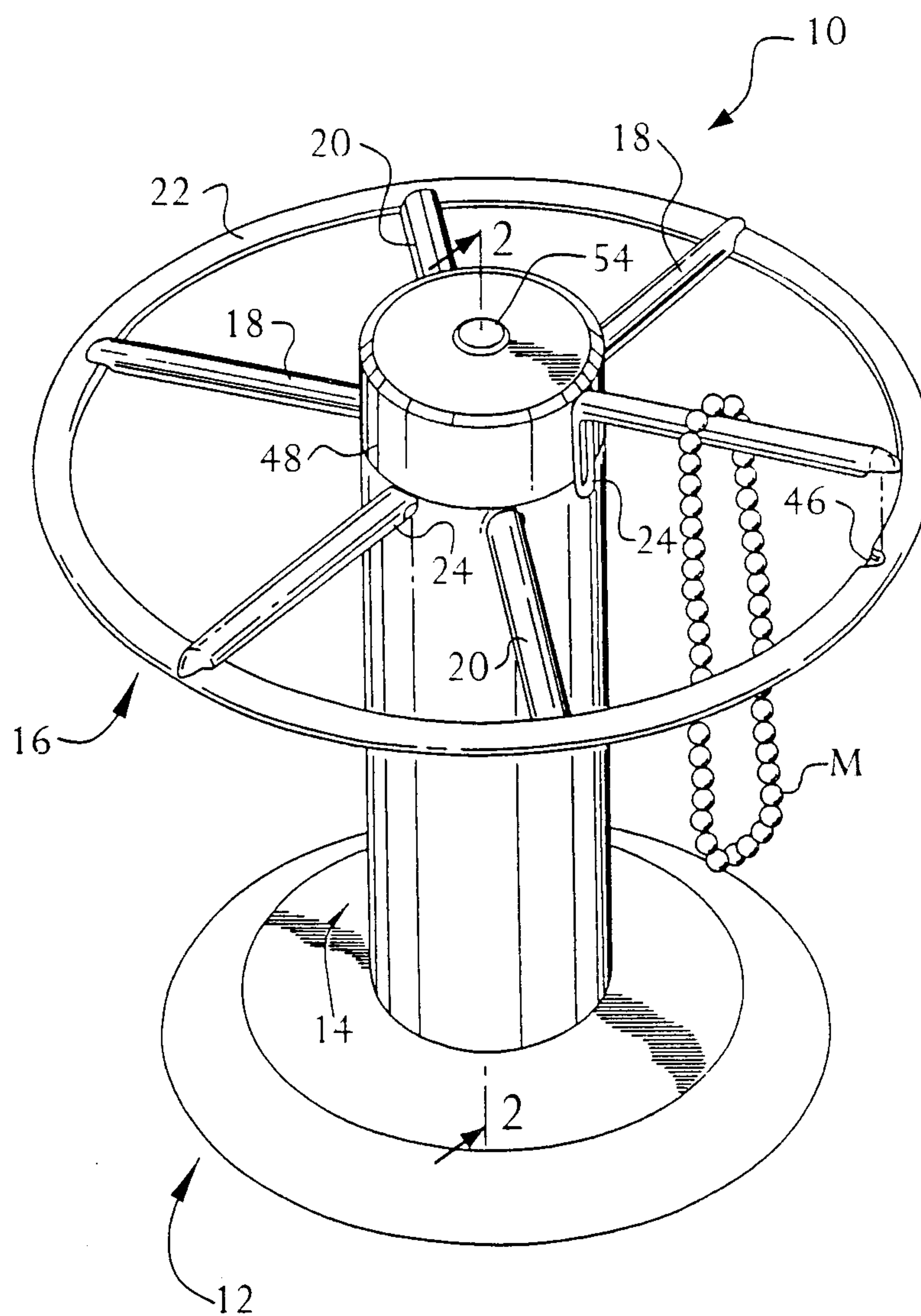


FIG. 1

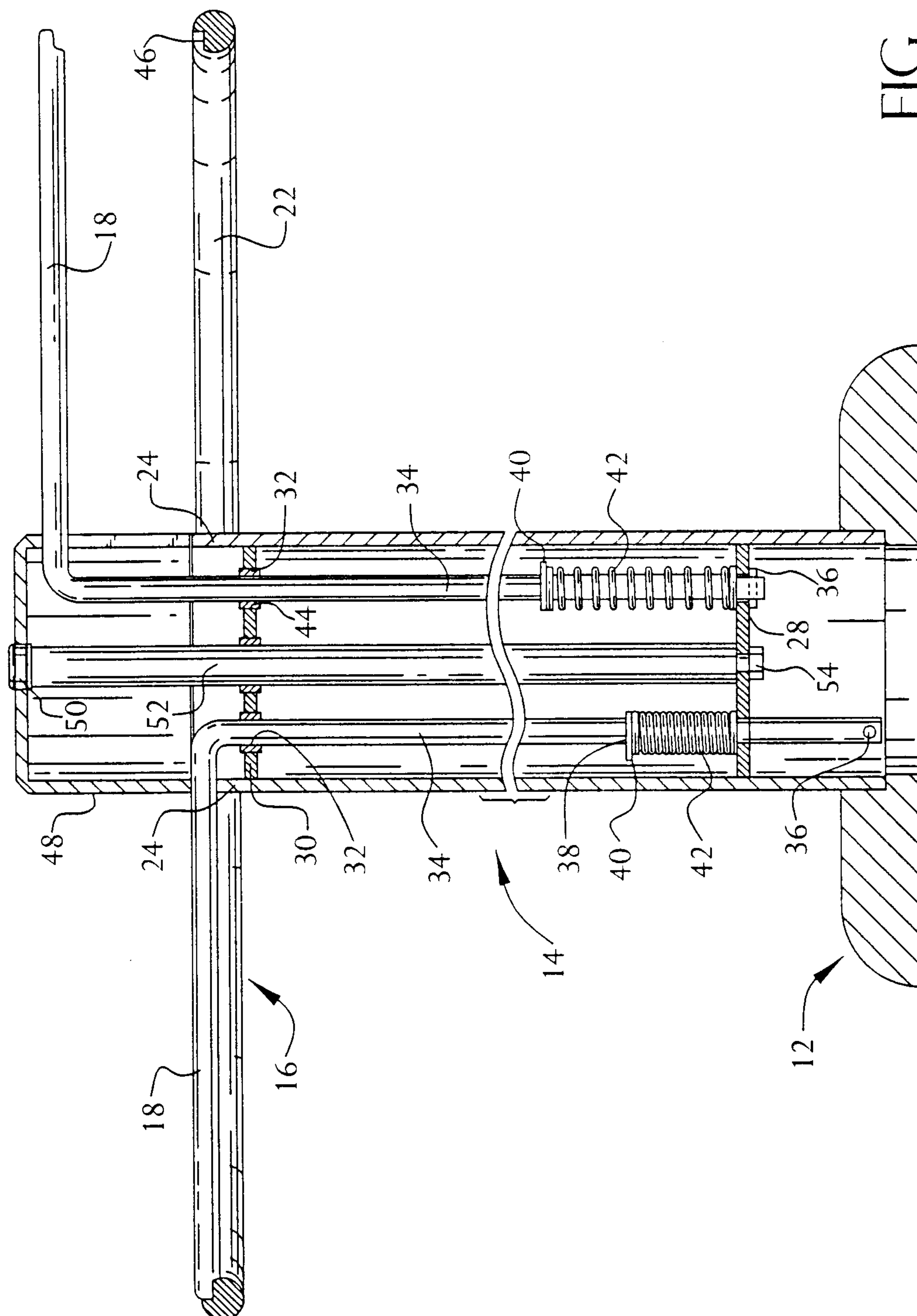


FIG. 2

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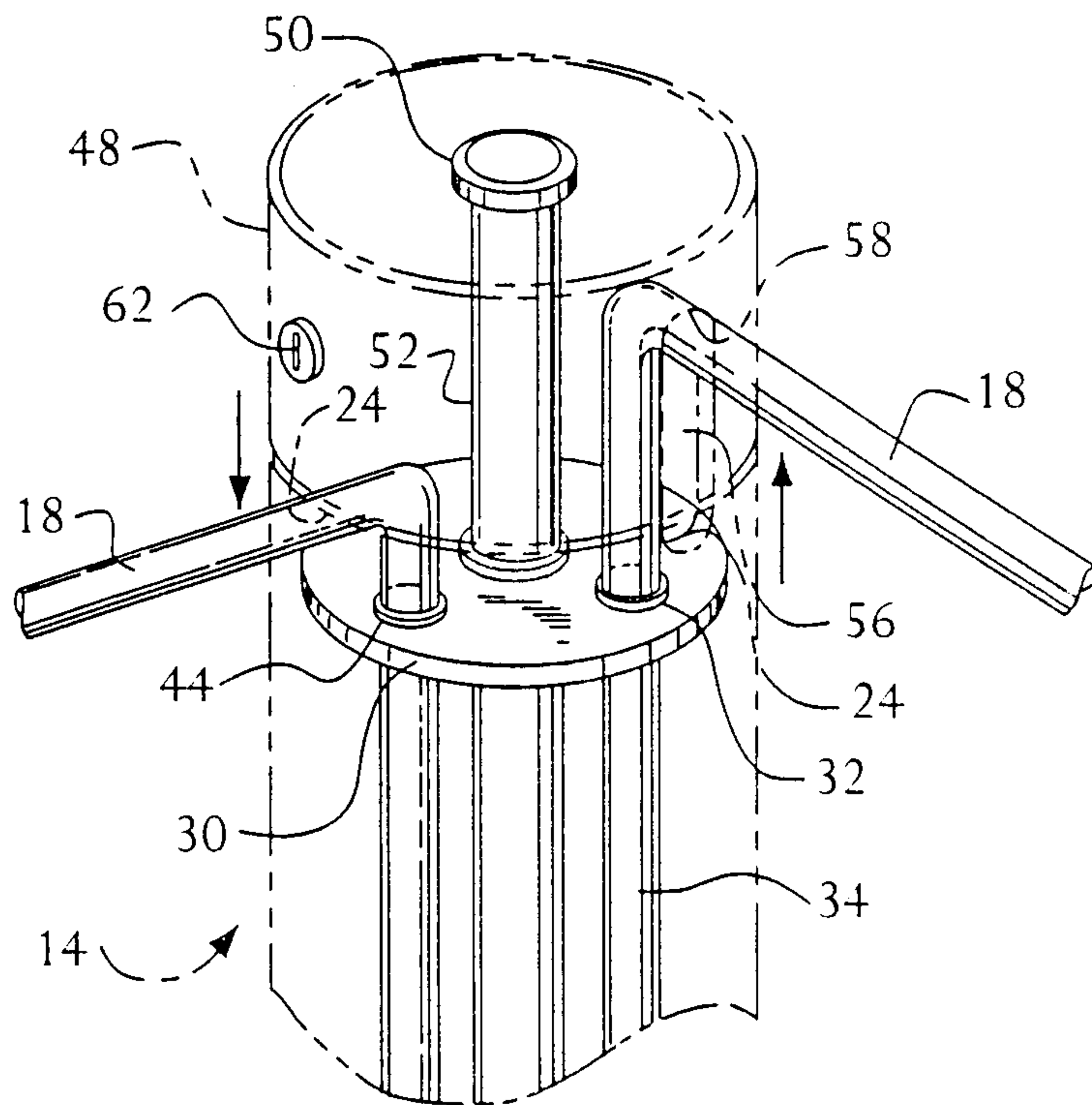


FIG. 3

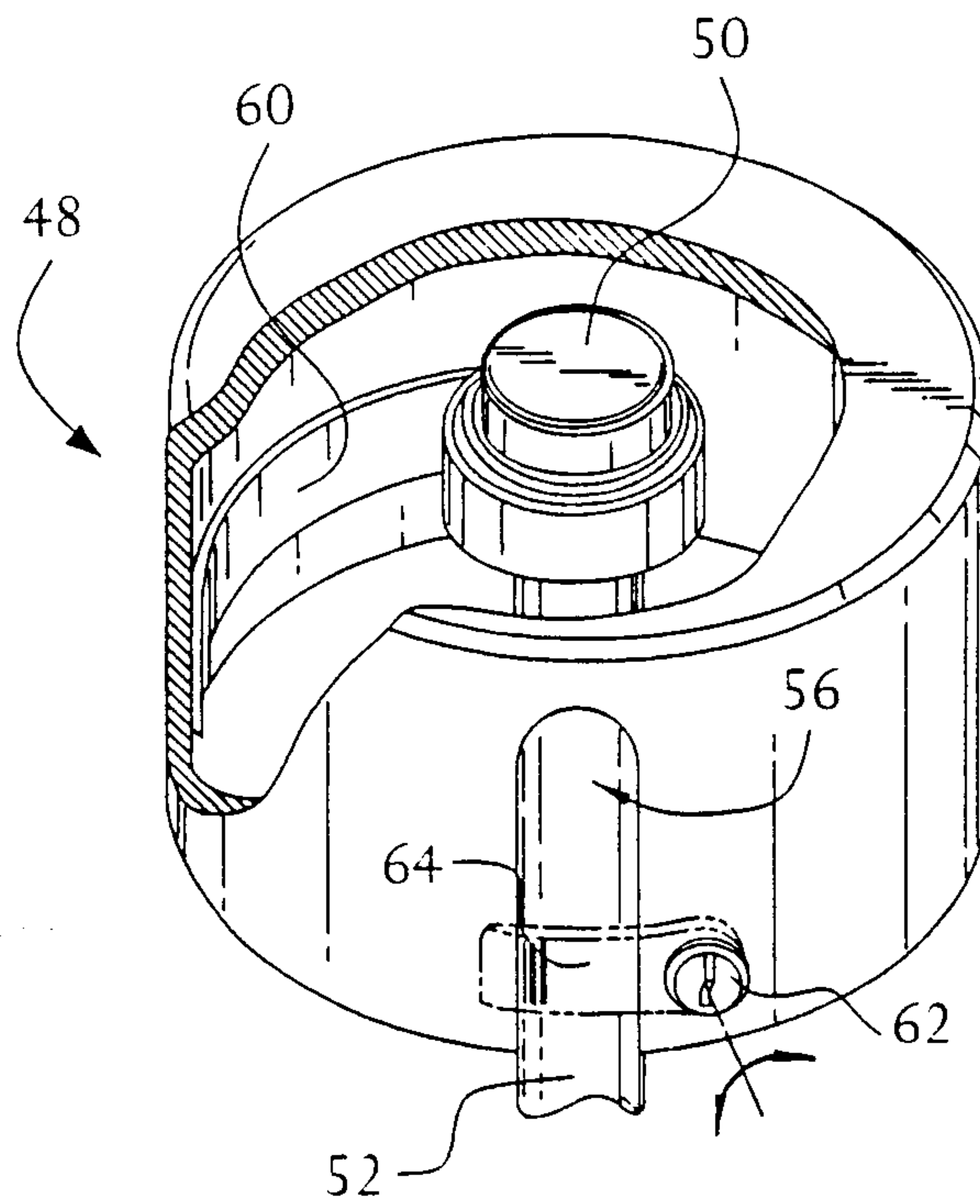


FIG. 4

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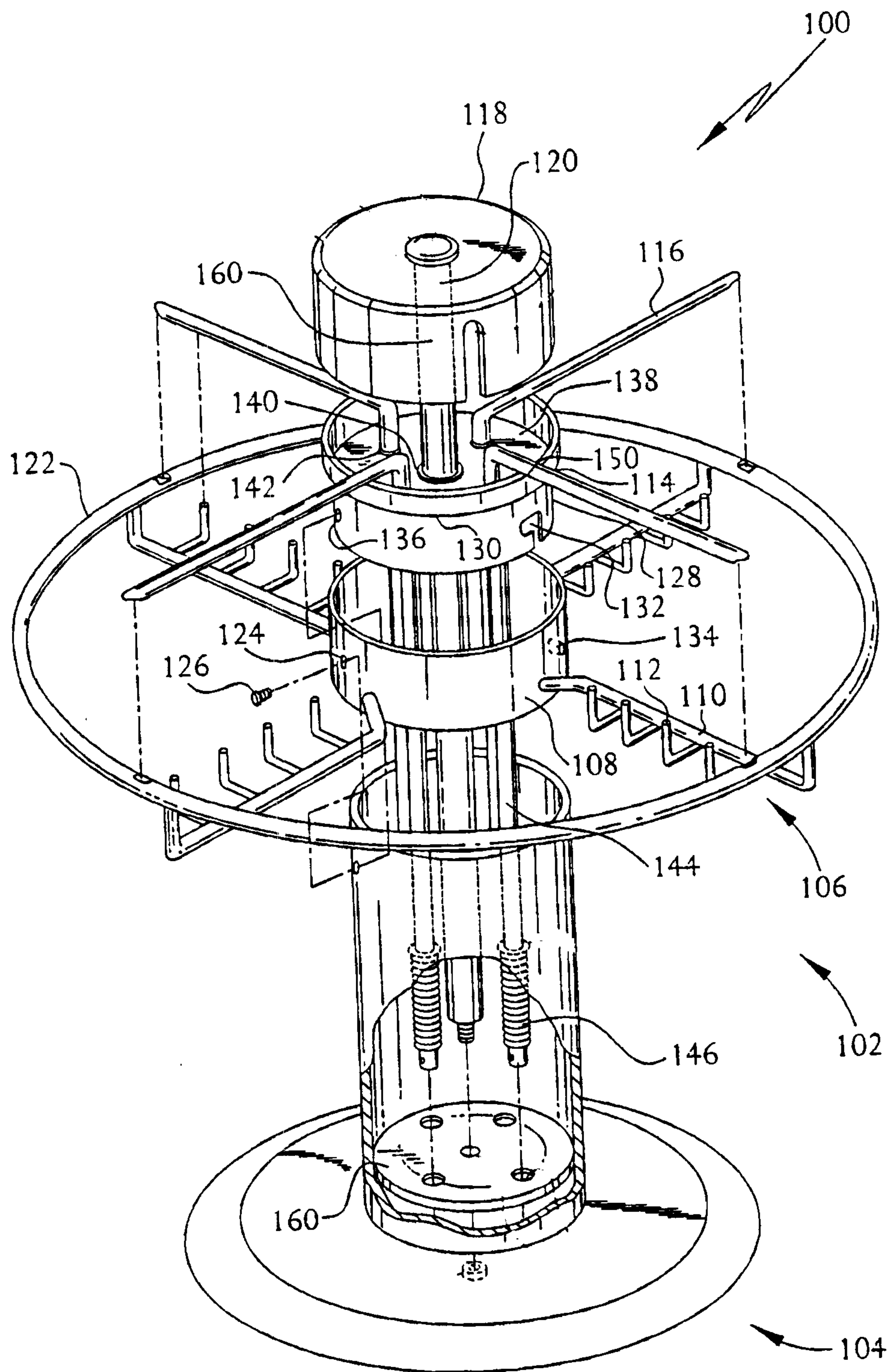


FIG. 5

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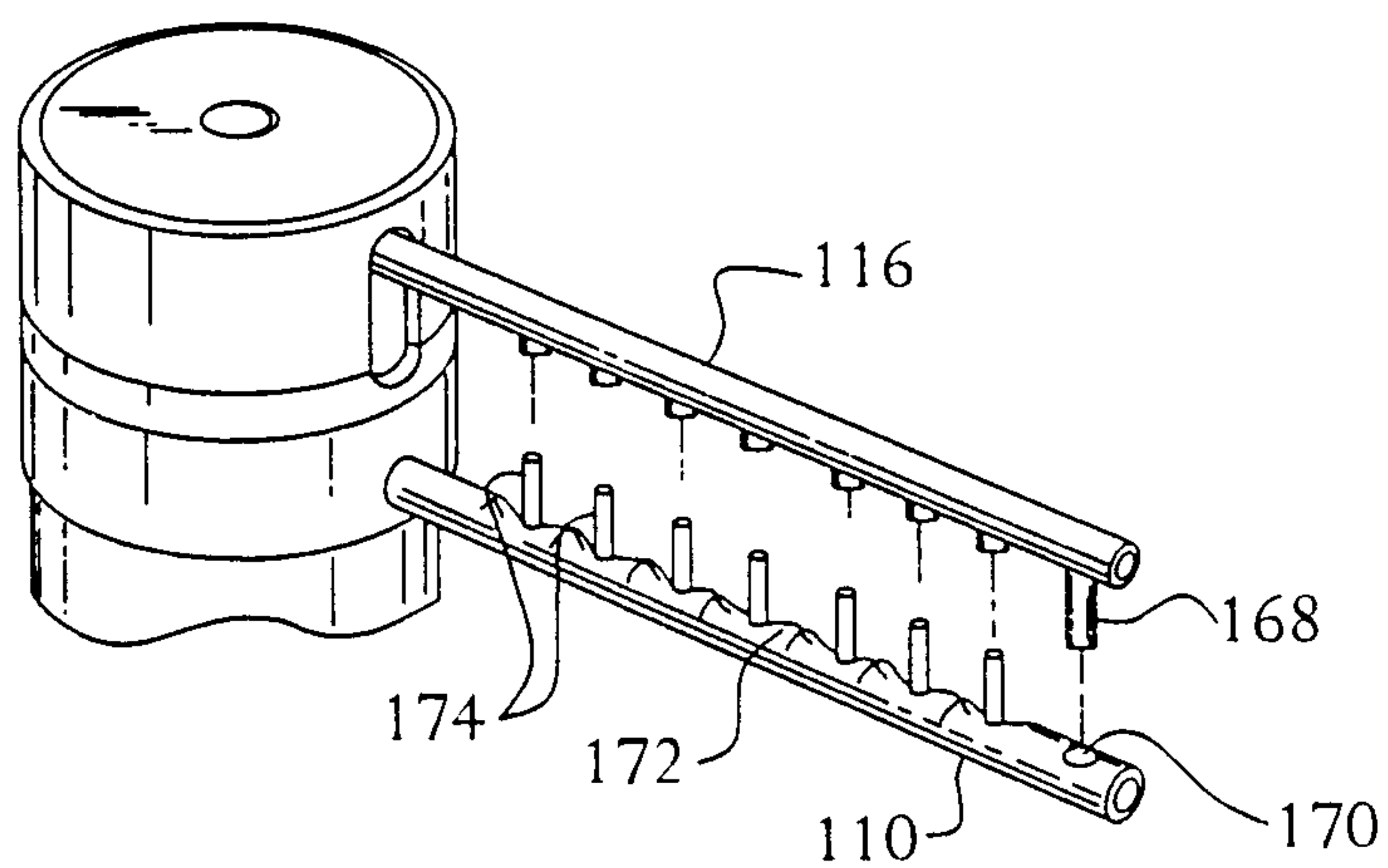


FIG. 6

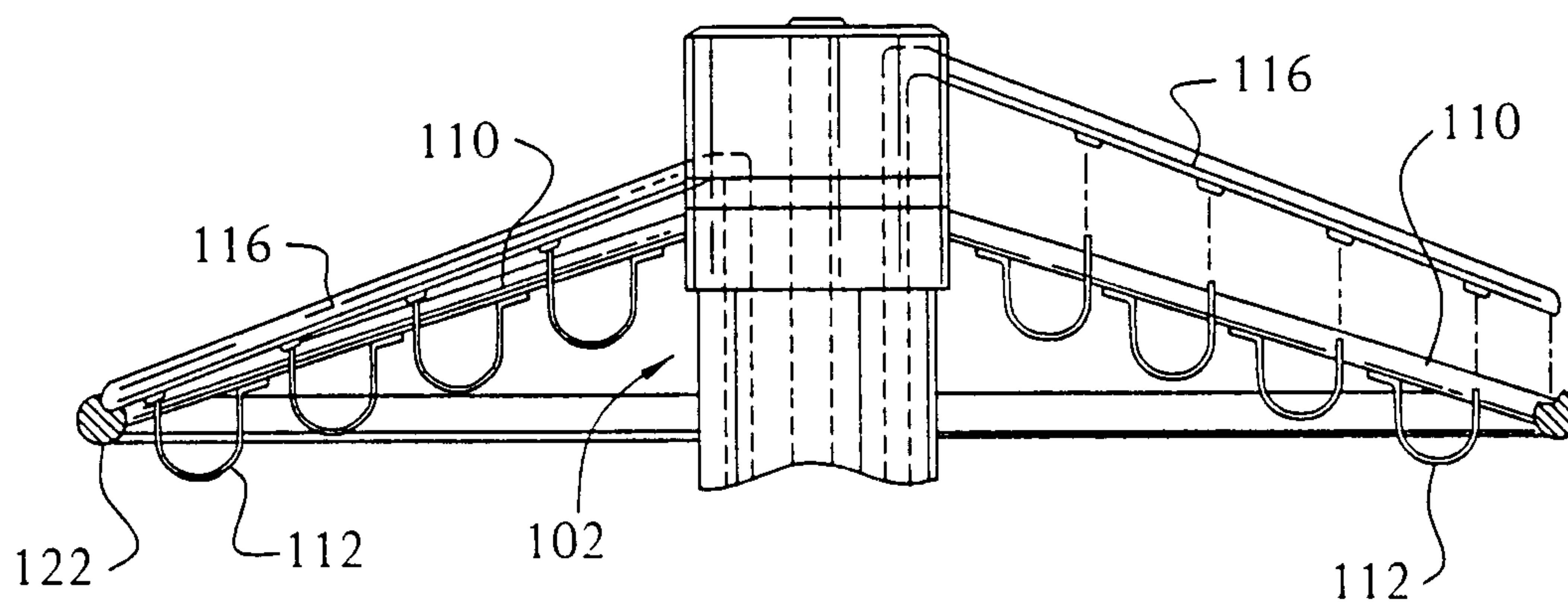


FIG. 7

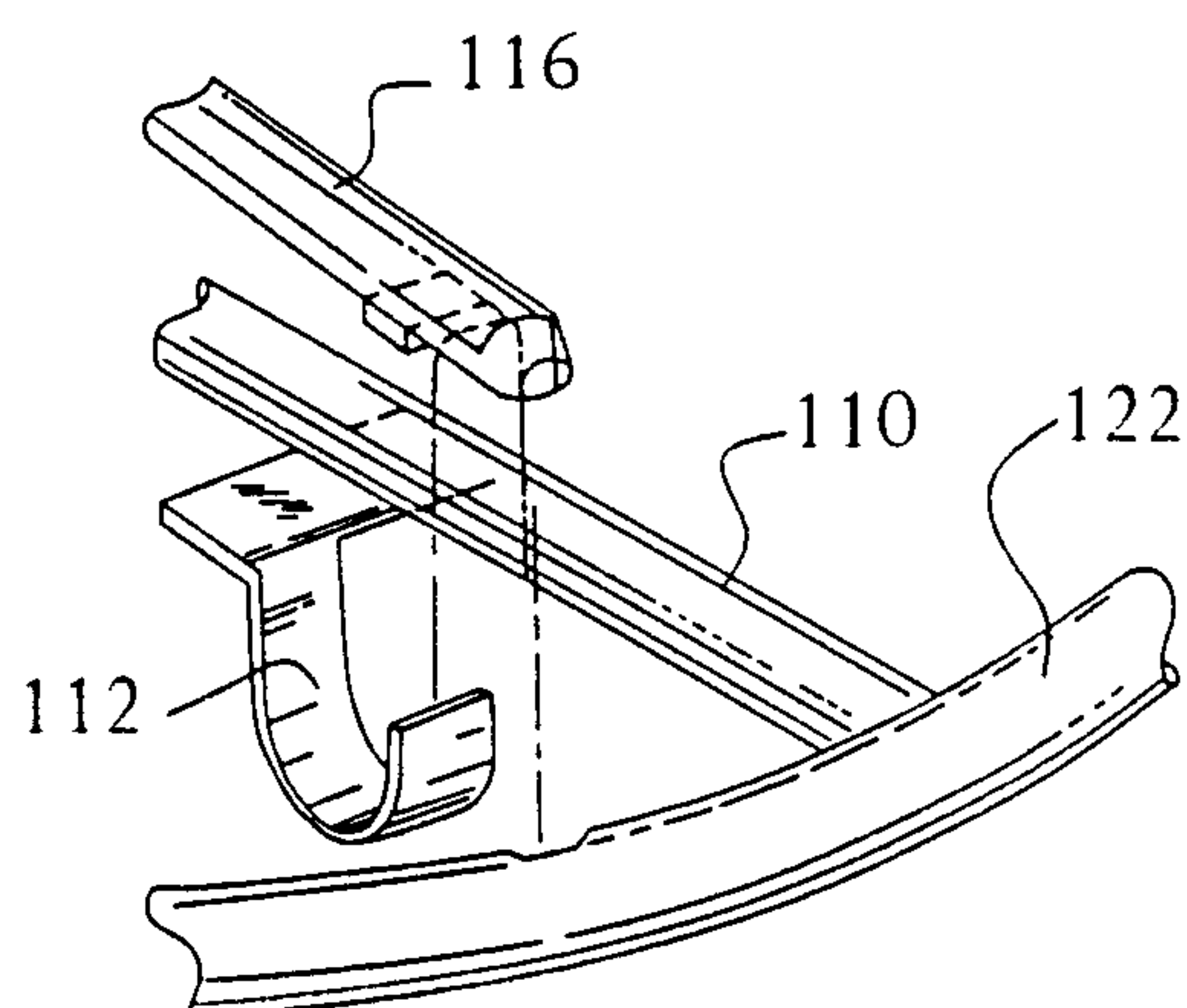


FIG. 8

