



(22) Date de dépôt/Filing Date: 2010/03/05

(41) Mise à la disp. pub./Open to Public Insp.: 2011/09/05

(51) Cl.Int./Int.Cl. *E04H 12/22* (2006.01)

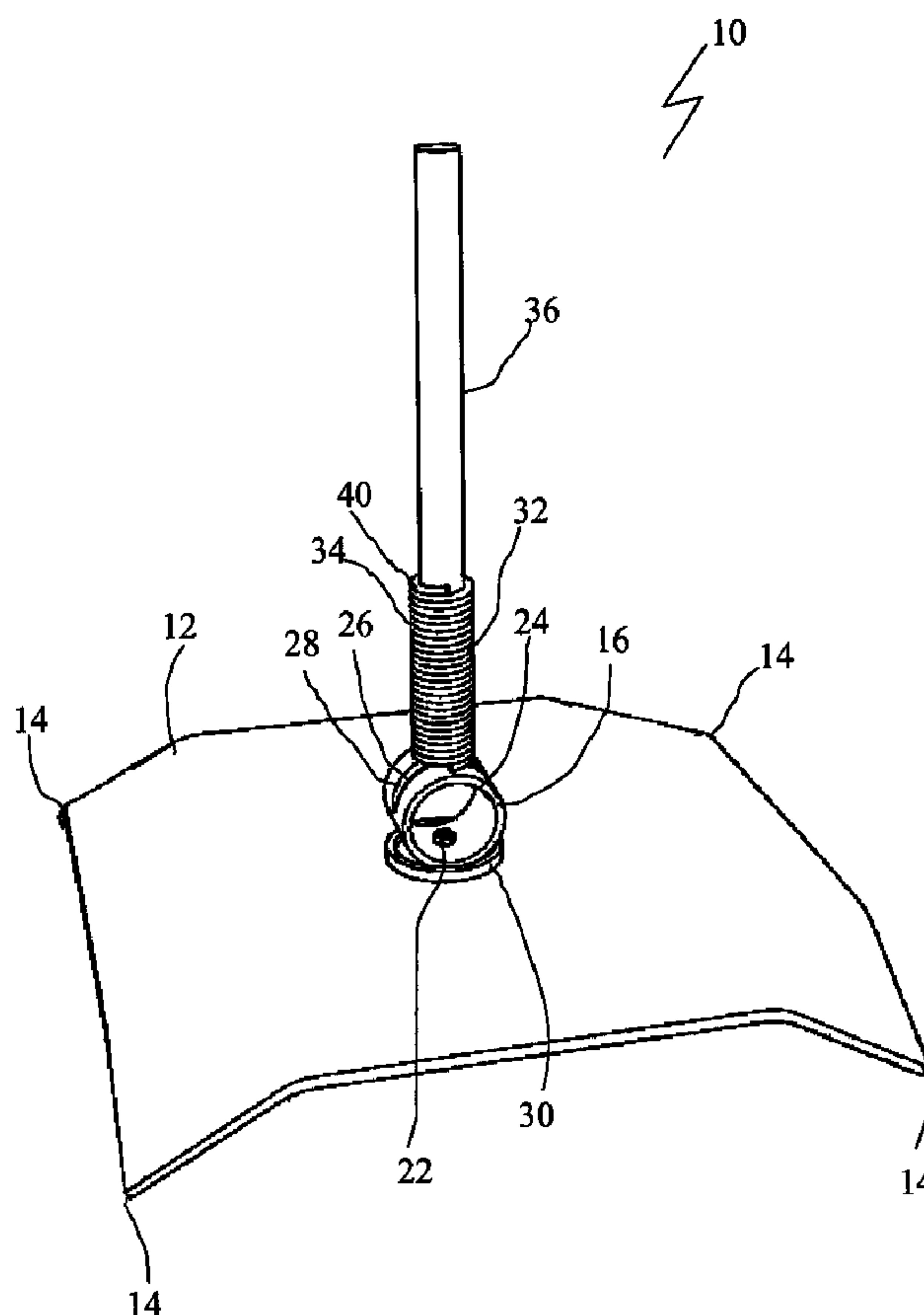
(71) Demandeur/Applicant:
STERLING, ROBERT, CA

(72) Inventeur/Inventor:
STERLING, ROBERT, CA

(74) Agent: WOODRUFF, NATHAN V.

(54) Titre : SUPPORT A ANGLE REGLABLE

(54) Title: ANGULARLY ADJUSTABLE SUPPORT



(57) **Abrégé/Abstract:**

An angularly adjustable support includes a base and a cylindrical body having a longitudinal axis. The body is rotatable relative to the base about a pivot axis which is transverse to the longitudinal axis. The body has a circumferential sidewall with a track extending partially around the sidewall. A mounting is movable along the track to a selected angular position. A clamp secures the mounting in the selected angular position.



ABSTRACT OF THE DISCLOSURE

An angularly adjustable support includes a base and a cylindrical body having a longitudinal axis. The body is rotatable relative to the base about a pivot axis which is transverse to the longitudinal axis. The body has a circumferential sidewall with a track
5 extending partially around the sidewall. A mounting is movable along the track to a selected angular position. A clamp secures the mounting in the selected angular position.

TITLE

[0001] Angularly Adjustable Support

FIELD

- 5 [0002] There is described an angularly adjustable support which may be used to support a vertical site marker, a post, a railing or any installation requiring angular adjustment.

BACKGROUND

- 10 [0003] When a site marker or post must be installed on a slope, there is a need for a support which is capable of angular adjustment, so the site marker or post can be placed in a vertical orientation. Examples supports capable of angular adjustment include United States Patents 3,081,114 (Esty) entitled "Anchoring Device For Pipe And The Like"; 5,884,874 (Speece et al) entitled "Swivel Post Anchor"; 6,273,390 (Meyer) entitled "Post Holder With Upright Adjustment" and 7,219,872 (Walker) entitled "Adjustable Post Support".

15

SUMMARY

- 20 [0004] There is provided an angularly adjustable support which includes a base and a cylindrical body having a longitudinal axis. The body is rotatable relative to the base about a pivot axis which is transverse to the longitudinal axis. The body has a circumferential sidewall with a track extending partially around the sidewall. A mounting is movable along the track to a selected angular position. Means are provided for securing the mounting in the selected angular position.

- 25 [0005] The angularly adjustable support, as described above, was developed for use with site markers. Site markers have shafts which are supposed to extend vertically. An angularly adjustable support is required in order to ensure that the site markers are positioned vertically, even when the base is on a sloped surface. For such applications, the mounting is equipped with a receiver for receiving a shaft, post or similar elongated member.

- 30 [0006] Some additional features have been added to the angularly adjustable support in order to address particular field requirements for site markers. In environmentally sensitive areas, there is a need for a means to secure the site markers to the ground with minimal ground disturbance. To address this need the base was provided with ground piercing

downwardly oriented corners, as opposed to using stakes to secure the base to the ground. In farming areas, there is a need to have the site markers able to withstand abuse by livestock. To address this need, the mounting includes a spring. The spring flexes when an animal leans against the shaft of the site marker and then returns the shaft to its vertical orientation when pressure is withdrawn. In addition, a rotational stop is provided to lock the body in a selected rotational position relative to the base, so the position of the body is not altered by an impact from an animal.

BRIEF DESCRIPTION OF THE DRAWINGS

10 [0007] These and other features will become more apparent from the following description in which reference is made to the appended drawings, the drawings are for the purpose of illustration only and are not intended to be in any way limiting, wherein:

FIG. 1 is a side elevation view of the angularly adjustable support

15 **FIG. 2** is a side elevation view of the angularly adjustable support shown in **FIG. 1**, with the base angled and the body in a vertical orientation.

FIG. 3 is a detailed perspective view of the pivot axis of the angularly adjustable support shown in **FIG. 1**.

FIG. 4 is a perspective view of the base and pivot axis of the angularly adjustable support shown in **FIG. 1** with the spring removed.

20 **FIG. 5** is a simplified sectional view of the cylindrical body of the angularly adjustable support shown in **FIG. 1**.

DETAILED DESCRIPTION

25 [0008] An angularly adjustable support generally identified by reference numeral 10, will now be described with reference to **FIG. 1** through 5.

Structure and Relationship of Parts:

30 [0009] Referring to **FIG. 2**, angularly adjustable support 10 has a polygon base 12 with ground piercing downwardly oriented corners 14. Referring to **FIG. 5**, a cylindrical body 16 has a longitudinal axis 18 and is rotatable relative to the base 12 about a pivot axis 20 defined by a first screw clamp 22 which is transverse to the longitudinal axis. Referring to **FIG. 3**,

cylindrical body 16 has a circumferential sidewall 24 with a track 26 defined by a slot 28 extending partially around sidewall 24. First screw clamp 22 clamps cylindrical body 16 along with an underlying ring 30 to base 12. Ring 30 engages cylindrical body 16 and serves as a rotational stop to lock cylindrical body 16 in a selected rotational position relative to base

5 12. A mounting 32 is formed from a spring 34 and is movable along slot 28 to a selected angular position. Referring to **FIG. 1**, mounting 32 has a receiver 40 for receiving a shaft, post or similar elongated member 36. Referring to **FIG. 4**, a second screw clamp 38 is used to secure mounting 32 in a selected angular position along slot 28.

10 **Operation:**

[0010] Referring to **FIG. 2**, base 12 is positioned on the ground such that the ground piercing corners 14 contact and engage the ground. Base 12 may be set on a horizontal surface or a slanted surface. Referring to **FIG. 5**, cylindrical body 16 is rotated about pivot axis 20. Referring to **FIG. 2**, cylindrical body 16 is rotated to orientate slot 28 in alignment
15 with the slope. First screw clamp 22 is tightened to lock cylindrical body in the selected rotational position relative to base 12. Mounting 32 is moved along slot 28 to a selected angular position to position the receiver 40 in a vertical orientation. Referring to **FIG. 4**, second screw clamp 38 is tightened to secure mounting 32 in the selected angular position.

20 [0011] In this patent document, the word "comprising" is used in its non-limiting sense to mean that items following the word are included, but items not specifically mentioned are not excluded. A reference to an element by the indefinite article "a" does not exclude the possibility that more than one of the element is present, unless the context clearly requires that there be one and only one of the elements.

25

[0012] The following claims are to be understood to include what is specifically illustrated and described above, what is conceptually equivalent, and what can be obviously substituted. Those skilled in the art will appreciate that various adaptations and modifications of the described embodiments can be configured without departing from the scope of the
30 claims. The illustrated embodiments have been set forth only as examples and should not be taken as limiting the invention. It is to be understood that, within the scope of the following

claims, the invention may be practiced other than as specifically illustrated and described.

What is Claimed is:

1. An angularly adjustable support, comprising:
 - 5 a base;
a cylindrical body having a longitudinal axis, the body being rotatable relative to the base about a pivot axis which is transverse to the longitudinal axis, the body having a circumferential sidewall with a track extending partially around the sidewall;
a mounting movable along the track to a selected angular position; and
 - 10 means for securing the mounting in the selected angular position.
2. The angularly adjustable support of Claim 1, wherein the means for securing the mounting in a selected angular position is a screw clamp.
- 15 3. The angularly adjustable support of Claim 1, wherein the track is defined by a slot.
4. The angularly adjustable support of Claim 1, wherein the mounting has a receiver for receiving a shaft, post or similar elongated member.
- 20 5. The angularly adjustable support of Claim 1, wherein the mounting includes a spring.
6. The angularly adjustable support of Claim 1, wherein a rotational stop is provided to lock the body in a selected rotational position relative to the base.
- 25 7. The angularly adjustable support of Claim 1, wherein a screw clamp serves as the pivot axis.
8. The angularly adjustable support of Claim 6, wherein a ring underlying the body serves as a rotational stop.
- 30 9. The angularly adjustable support of Claim 1, wherein the base is a polygon with ground

piercing downwardly oriented corners.

10. An angularly adjustable support, comprising:

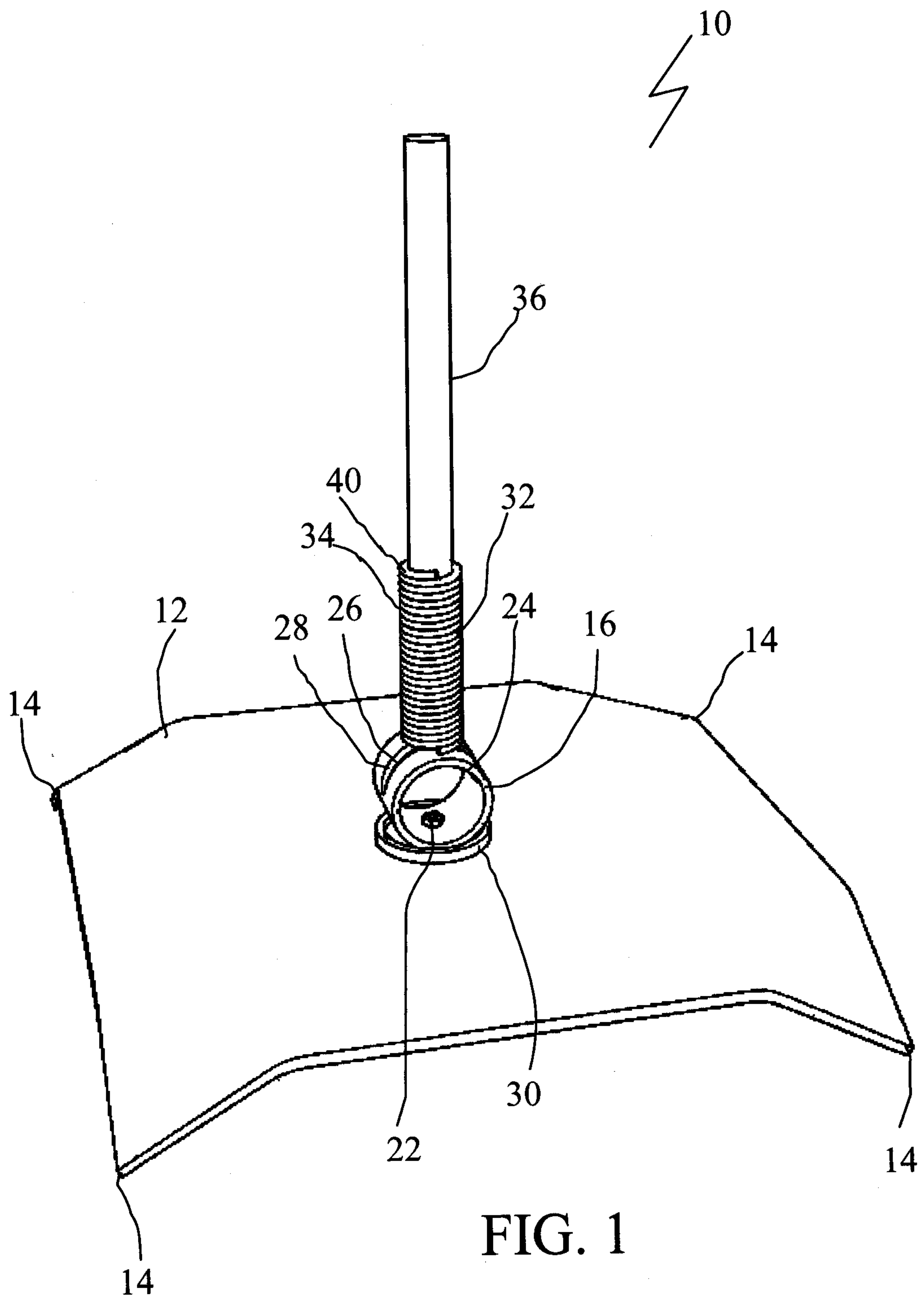
a polygon base with ground piercing downwardly oriented corners;

5 a cylindrical body having a longitudinal axis, the body being rotatable relative to the base about a pivot axis defined by a first screw clamp which is transverse to the longitudinal axis, the body having a circumferential sidewall with a track defined by a slot extending partially around the sidewall;

10 a ring underlying the body, the first screw clamp clamping the ring and the body to the base, with the ring engaging the body and serving as a rotational stop to lock the body in a selected rotational position relative to the base;

a mounting formed from a spring, the mounting being movable along the slot to a selected angular position, the mounting having a receiver for receiving a shaft, post or similar elongated member; and

15 a second screw clamp for securing the mounting in a selected angular position along the slot, in use the body being rotated about the pivot axis to place the slot in alignment with the slope, the first screw clamp is tightened to lock the body in the selected rotational position relative to the base, the mounting is moved along the slot to a selected angular position to position the receiver in a vertical orientation and then the second screw clamp is tightened to
20 secure the mounting in the selected angular position.



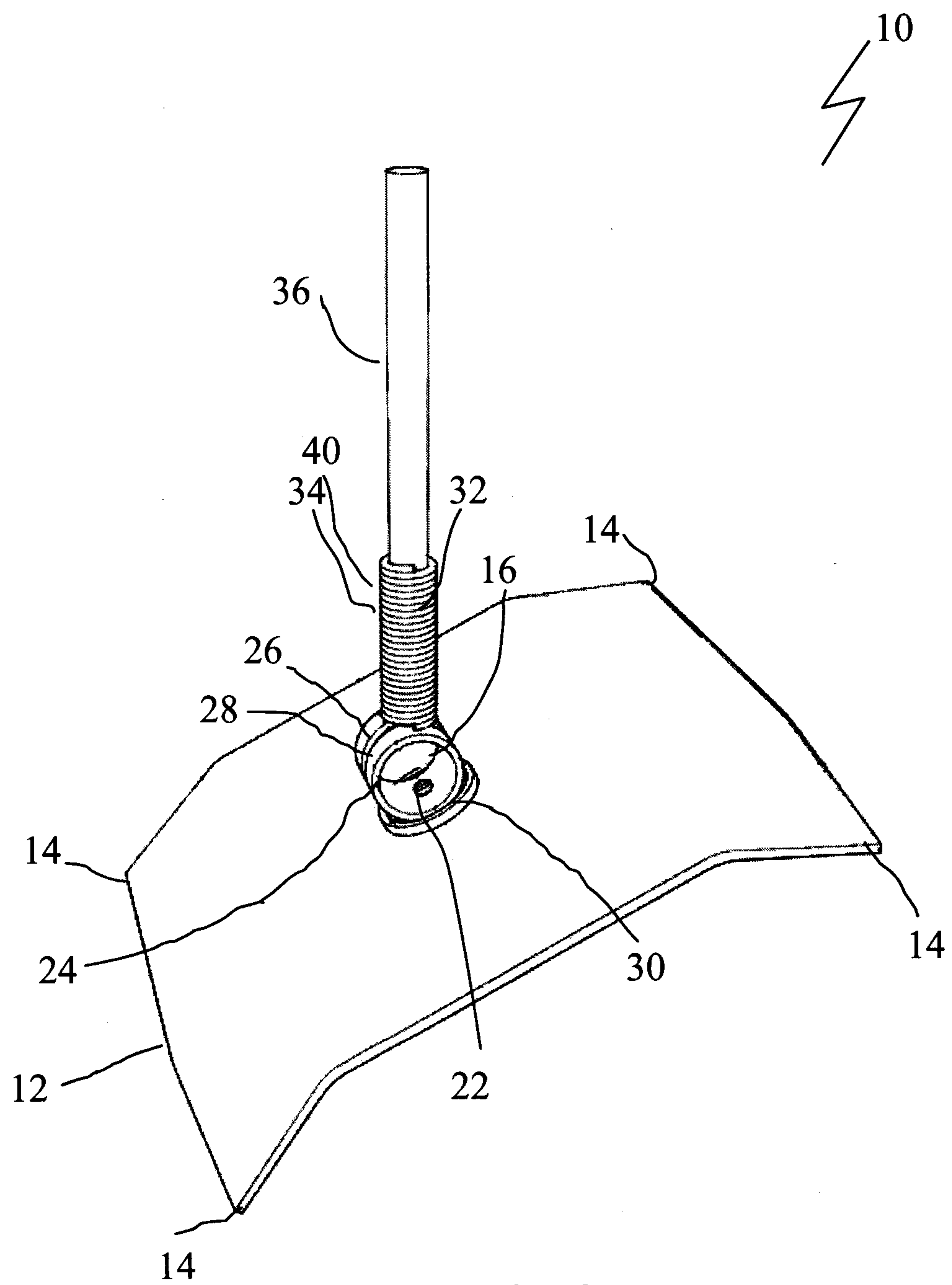


FIG. 2

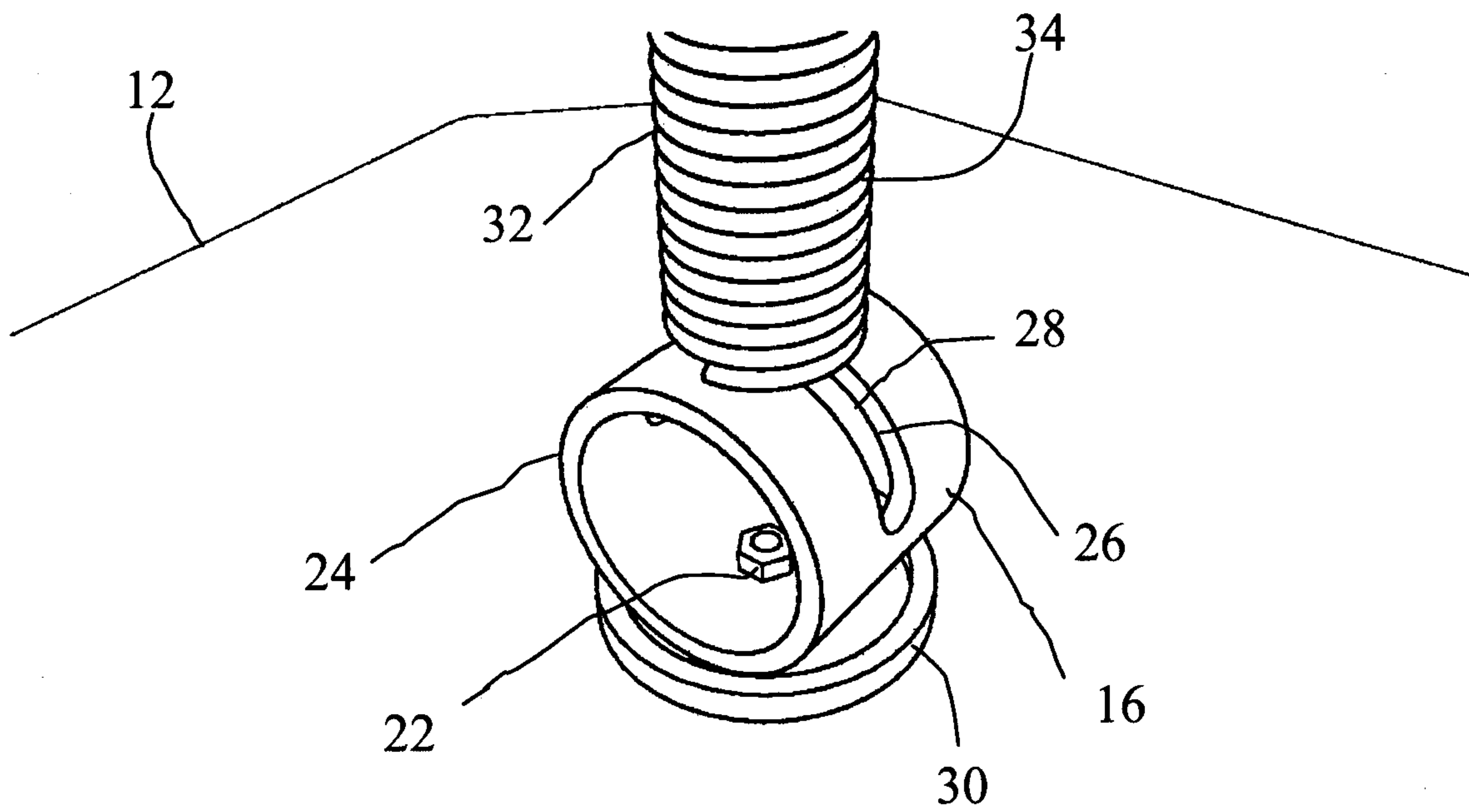


FIG. 3

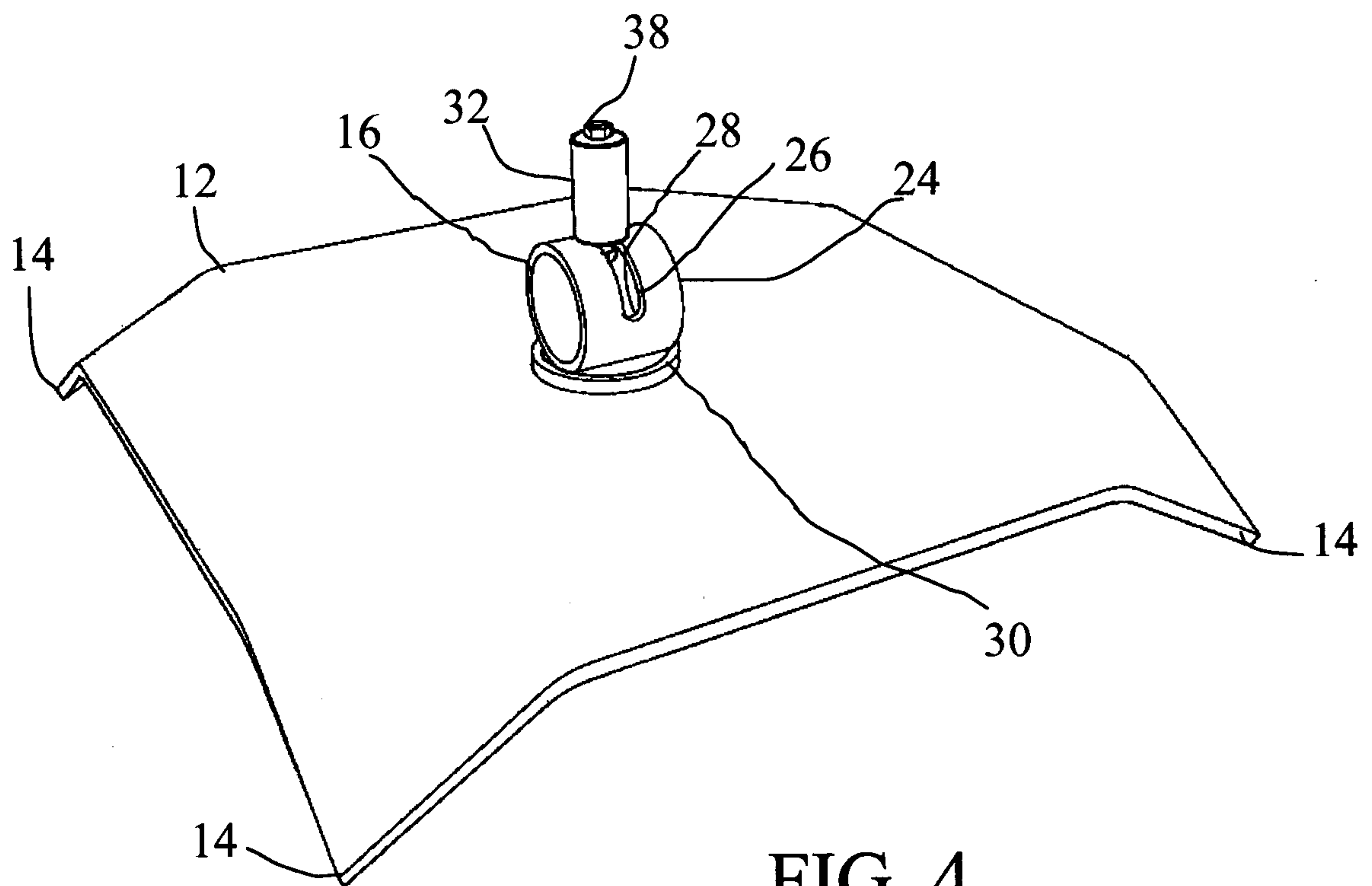


FIG. 4

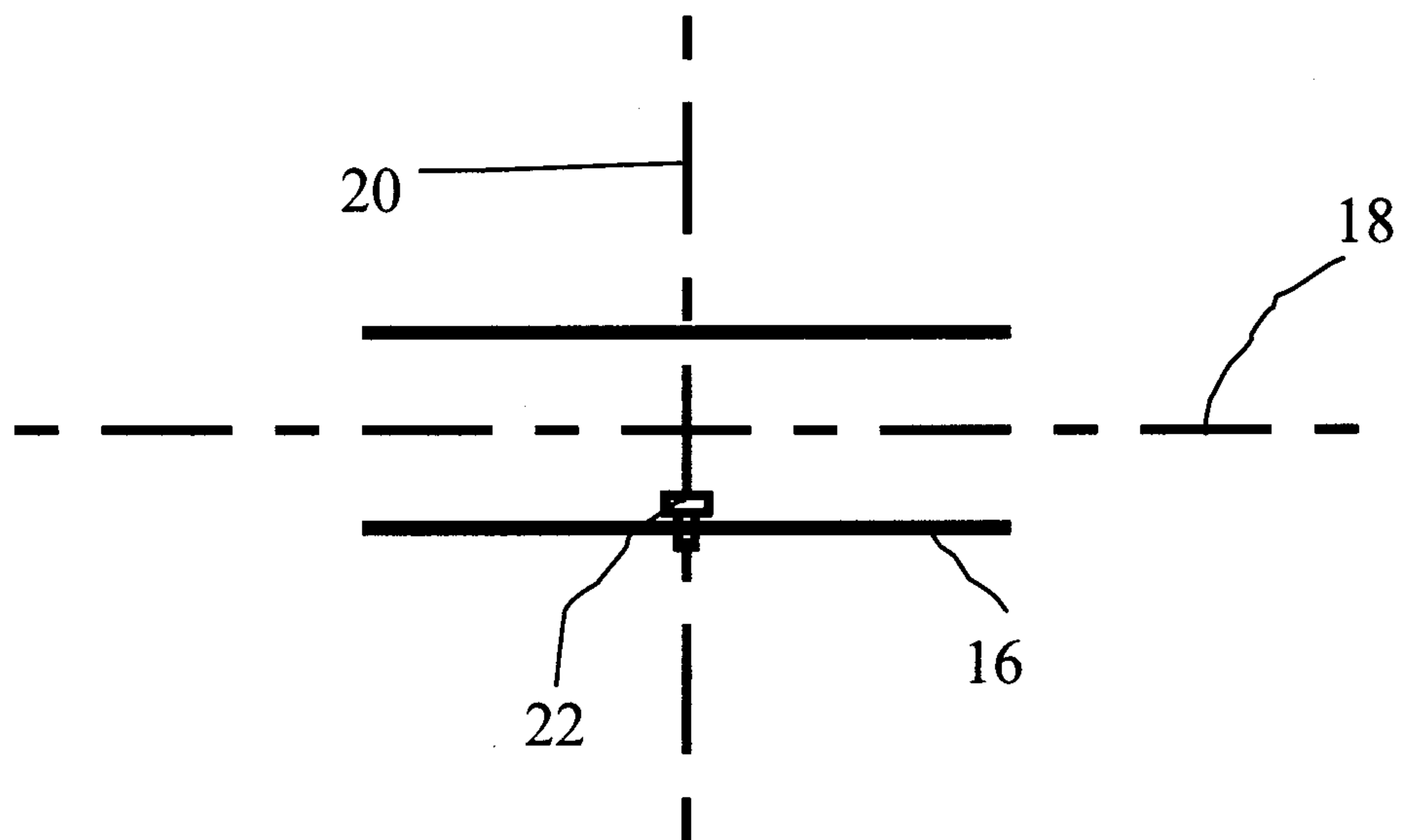


FIG. 5

