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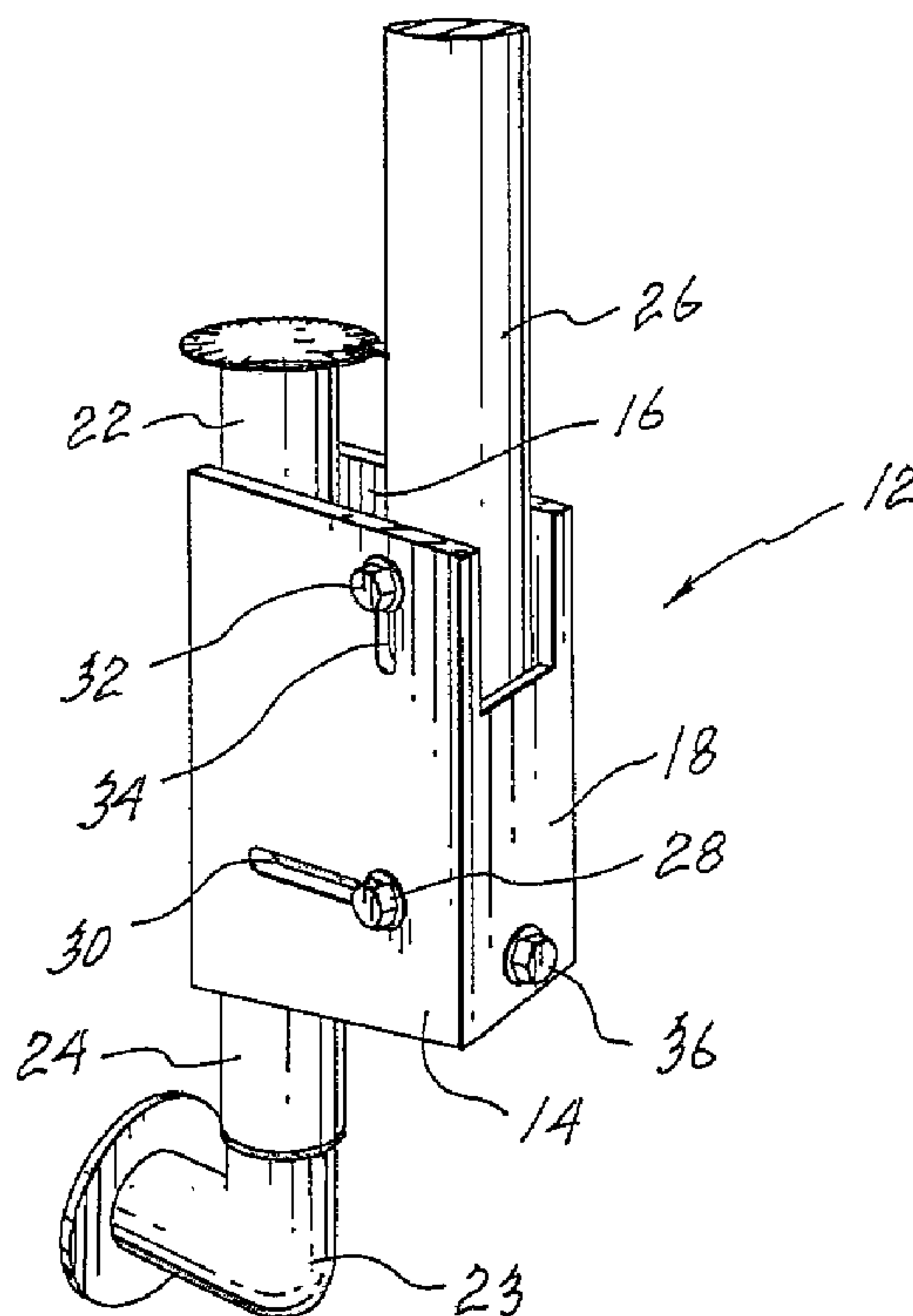
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(54) **SUPPORT POUR POTEAU D'ANTENNE ORIENTABLE**

(54) **SUPPORT BRACKET FOR AN ANTENNA HAVING ADJUSTING
MEANS**



(57) There is provided a bracket for securing an antenna mast in a generally vertical orientation while permitting adjustment thereof, the bracket preferably comprising spaced apart plates adapted to receive the masts therebetween. A first attachment member extends through the plates and mast proximate a lower portion of the mast while a second attachment member extends through the brackets and masts upwardly thereof. A generally horizontal slot is provided to permit horizontal movement of the first attachment member and a generally vertical slot is provided to permit vertical and pivotable movement of the second attachment member.

ABSTRACT

There is provided a bracket for securing an antenna mast in a generally vertical orientation while permitting adjustment thereof, the bracket preferably comprising spaced apart plates adapted to receive the masts therebetween. A first attachment member extends through the plates and mast proximate a lower portion of the mast while a second attachment member extends through the brackets and masts upwardly thereof. A generally horizontal slot is provided to permit horizontal movement of the first attachment member and a generally vertical slot is provided to permit vertical and pivotable movement of the second attachment member.

The present invention relates to a bracket and particularly, relates to a bracket for mounting of an antenna mast to a fixed structure.

Many different types of brackets are known in the art for mounting antenna masts. One may refer to, for example, U. S. patent 5,029,799 which teaches a mechanical bracket for the mounting of an antenna suitable for cellular telephony. In this arrangement, the mast for the antenna is mounted such that it can pivot about a point at its free end and a locking assembly is provided for locking it in place. One problem which arises with such a structure is the fact that it becomes a difficult operation for one man to make the required adjustments since one must both tighten the locking assembly and support the mast in the desired position. Since the masts are conventionally made of steel or other heavy metallic component, frequently two people are required to adjust the vertical orientation of the mast.

It is an object of the present invention to provide a bracket for a mast, the bracket permitting vertical adjustability of the mast by a single person.

According to one aspect of the present invention, there is provided a bracket for securing an antenna mast in a generally vertical orientation while permitting adjustment thereof. The bracket comprises means for securing the bracket to a fixed structure, a first attachment means for adjustably attaching a lower portion of the mast to the bracket and a second attachment means located upwardly of

the first attachment means for adjustably attaching the mast to the bracket.

The first attachment means is arranged so as to permit a horizontal movement and also a pivotable movement of the attachment means with respect to the bracket. The second attachment means is also arranged so as to permit a substantially vertical movement and a pivotable movement of the attachment means with respect to the bracket. There are also provided means for moving a lower portion of the mast in a substantially horizontal direction to thereby adjust the vertical angle of the mast.

The bracket may be made of any suitable material and conventionally would be of a suitable steel material although other materials such as plastics having the required strength could be utilized.

The bracket includes means for attachment to a support structure; normally, in the field of cellular telephony, the support structure would be a post or other type of tower. However, it would be within the scope of this invention to utilize other suitable support structures to which the bracket could be attached.

Having thus generally described the invention, reference will be made to the accompanying drawings illustrating an embodiment thereof, in which:

Figure 1 is a perspective view of a bracket according to the present invention;

Figure 2 is a top view illustrating adjustment thereof;

Figure 3 is a side elevational view thereof; and

Figure 4 is a side view, partially in section, illustrating functioning of the mounting bracket.

Referring to the drawings in greater detail, and by reference characters thereto, there is provided a bracket 12 formed of a suitable material and which includes a first side wall 14 and an opposed side wall 16. Side walls 14 and 16 are substantial mirror images of each other and thus, only side wall 14 will be described in detail.

Interconnecting side walls 14 and 16 is a front wall 18 and a rear wall 20 (see Figure 4).

Bracket 12 may conveniently include an upper mounting member 22 and a lower mounting member 24 which are adapted to mount the bracket to a support structure 23. Conveniently, each of mounting members 22 and 24 may comprise a cylindrical conduit which is suitably attached to walls 14 and 16 by means such as welding.

The bracket is adapted to receive the mast 26 of an antenna (not shown). Mast 26 extends between side walls 14 and 16 and is supported by two mounting attachments.

A lower mounting attachment means comprises a nut and bolt assembly 18 extending between walls 14 and 16 and which passes through an aperture within mast 26. As will be noted, a substantially horizontally extending slot 30 is provided in

wall 14 (a similar slot is provided in wall 16) to enable nut and bolt assembly 28 to pass therethrough.

A second upper attachment means comprises a nut and bolt assembly 32 which extends through slot 34 in wall 14 (a similar slot being provided in wall 16) and which also extends through an aperture in mast 26.

Located proximate the lower end of mast 26 is an attachment point 38 adapted to receive a threaded screw member 36 to thereby provide means for controllably moving a lower segment of mast 26. Screw member 36 extends through front wall 18 and rear wall 20 and can be turned as indicated by arrow 40.

In operation, mast 26 may originally be installed in a vertical manner. When adjustment is required, operation of screw 36 will cause a pivoting movement about nut and bolt assembly 32. At the same time, the horizontal or linear movement of nut and bolt assembly 28 is accommodated by means of slot 30.

As will be appreciated, since the weight of the mast 26 is supported through nut and bolt assembly 28 and also through nut and bolt assembly 32, adjustment of the angle can be readily done by a single person since it is not required that any weight be supported during the adjustment operation.

In conjunction with the above, there may be provided an orientation device 44 adapted to fit on the top of upper mounting member 22. In conjunction with a pointer 46, the bracket 12 may be rotated on support 23 to a desired orientation and then secured thereat by suitable means (not shown).

It will be understood that the above described embodiment is for purposes of illustration only and that changes and modifications may be made thereto without departing from the spirit and scope of the invention.

The embodiments of an invention in which an exclusive property or privilege is claimed are defined as follows:

1. A bracket for securing an antenna mast in a generally vertical orientation while permitting adjustment thereof, said bracket comprising means for securing said bracket to a structure, a first attachment means for adjustably attaching a lower portion of said mast to said bracket, a second attachment means located upwardly of said first attachment means for adjustably attaching said mast to said bracket, said first attachment means being such so as to permit a substantially horizontal movement and a pivotable movement of the first attachment means and mast with respect to the bracket, said second attachment means being such so as to permit a substantially vertical movement of said second attachment means and said mast and a pivotable movement of said mast with respect to said bracket, and means for controllably moving a lower segment of said mast in a substantially horizontal direction to thereby adjust the vertical angle of said mast.
2. The bracket of claim 1 wherein said bracket includes a pair of spaced apart opposed plates adapted to receive said mast therebetween, said first attachment means comprising a member extending through said plate and said mast, a substantially horizontal slot being provided in each of said opposed plates to permit movement of said member, a second member forming said second attachment means extending through said plate and said mast, and a substantially vertically oriented slot being provided in each of said plates.

3. The device of claim 2 wherein said means for controllably moving said lower portion of said mast comprises a screw member attached to a lower portion of said mast.

4. The bracket of Claim 2 wherein said member extending through said plates and said mast comprises a locking nut and bolt assembly.

5. The mast of Claim 2 wherein said second member extending through said plates and said mast comprises a locking nut and bolt assembly.

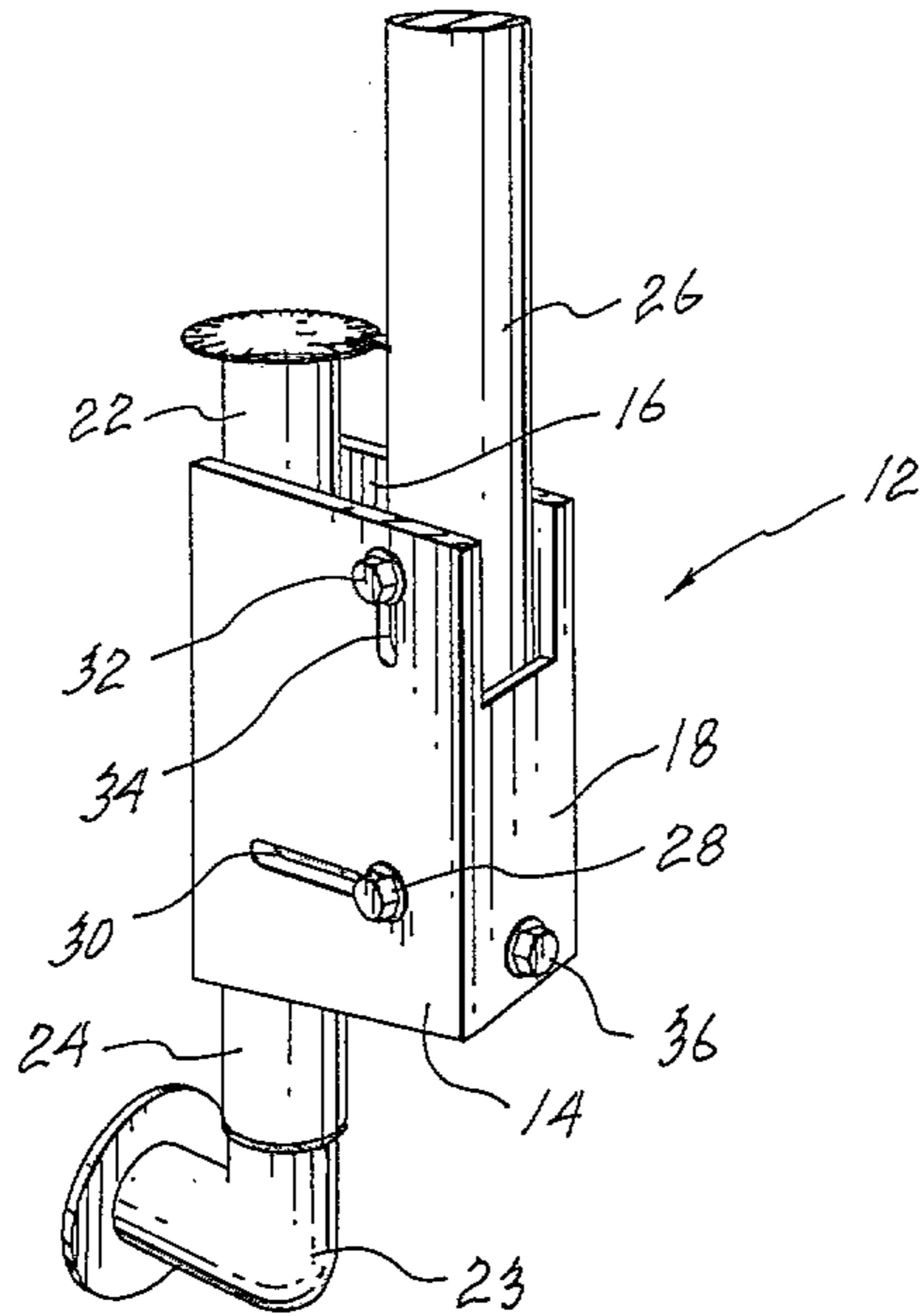


Fig-1

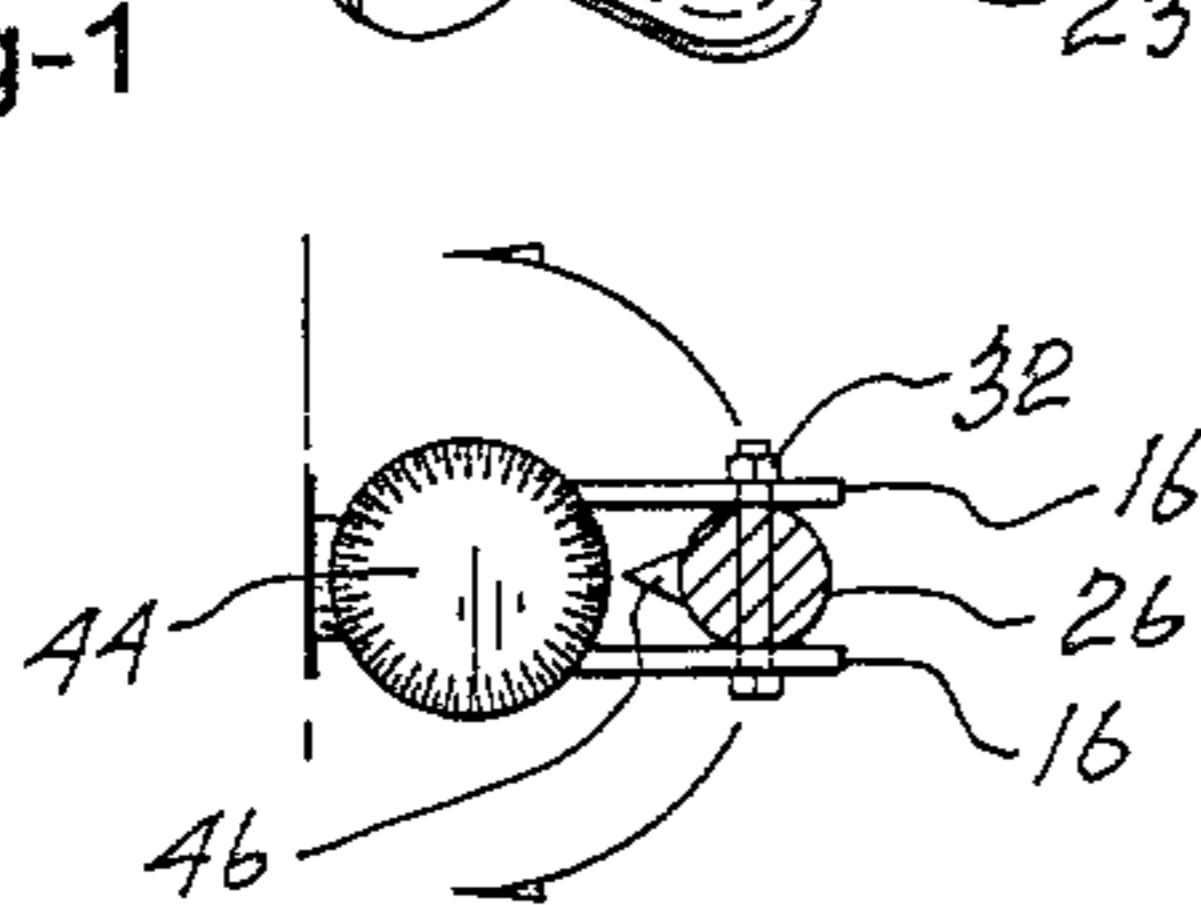


Fig-2

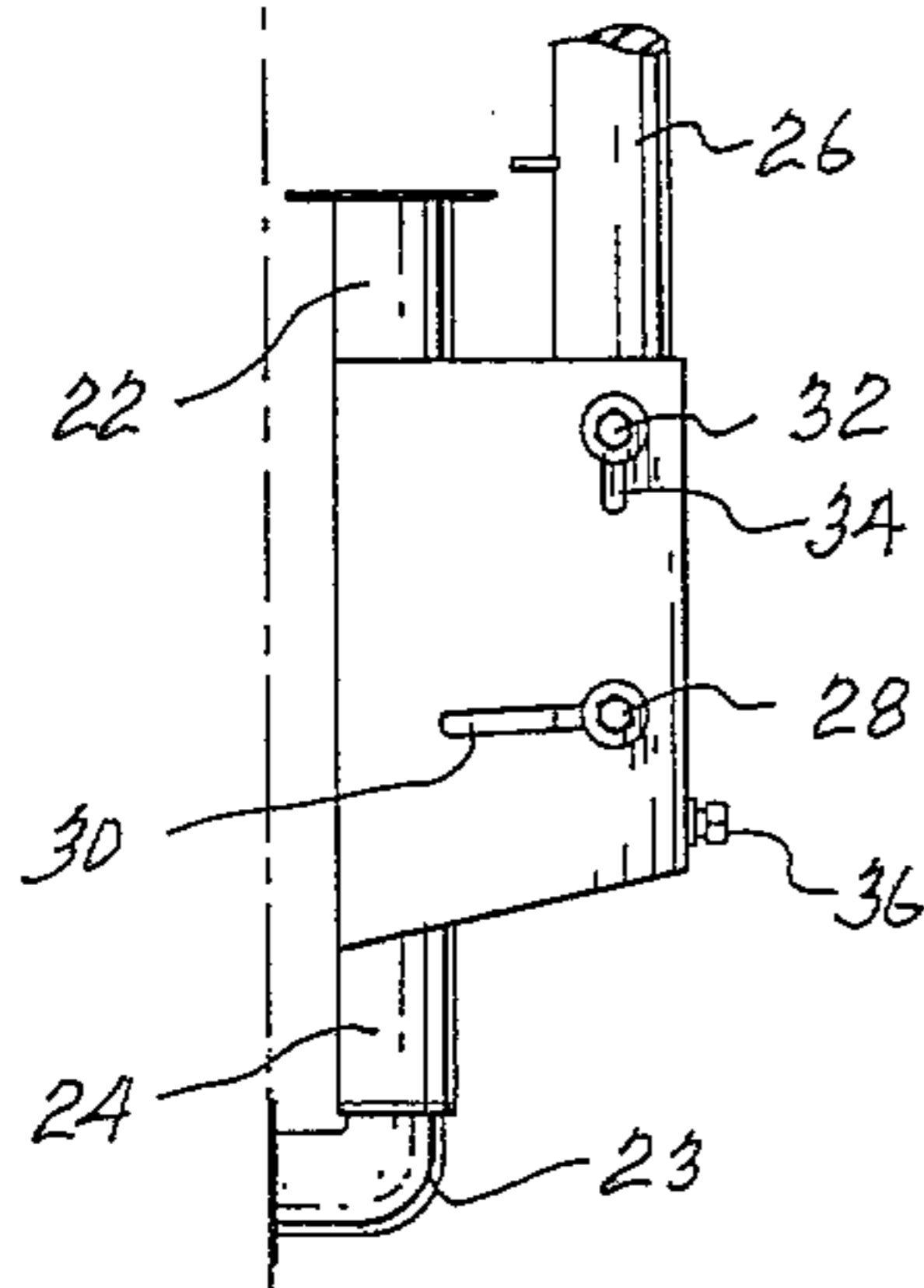


Fig-3

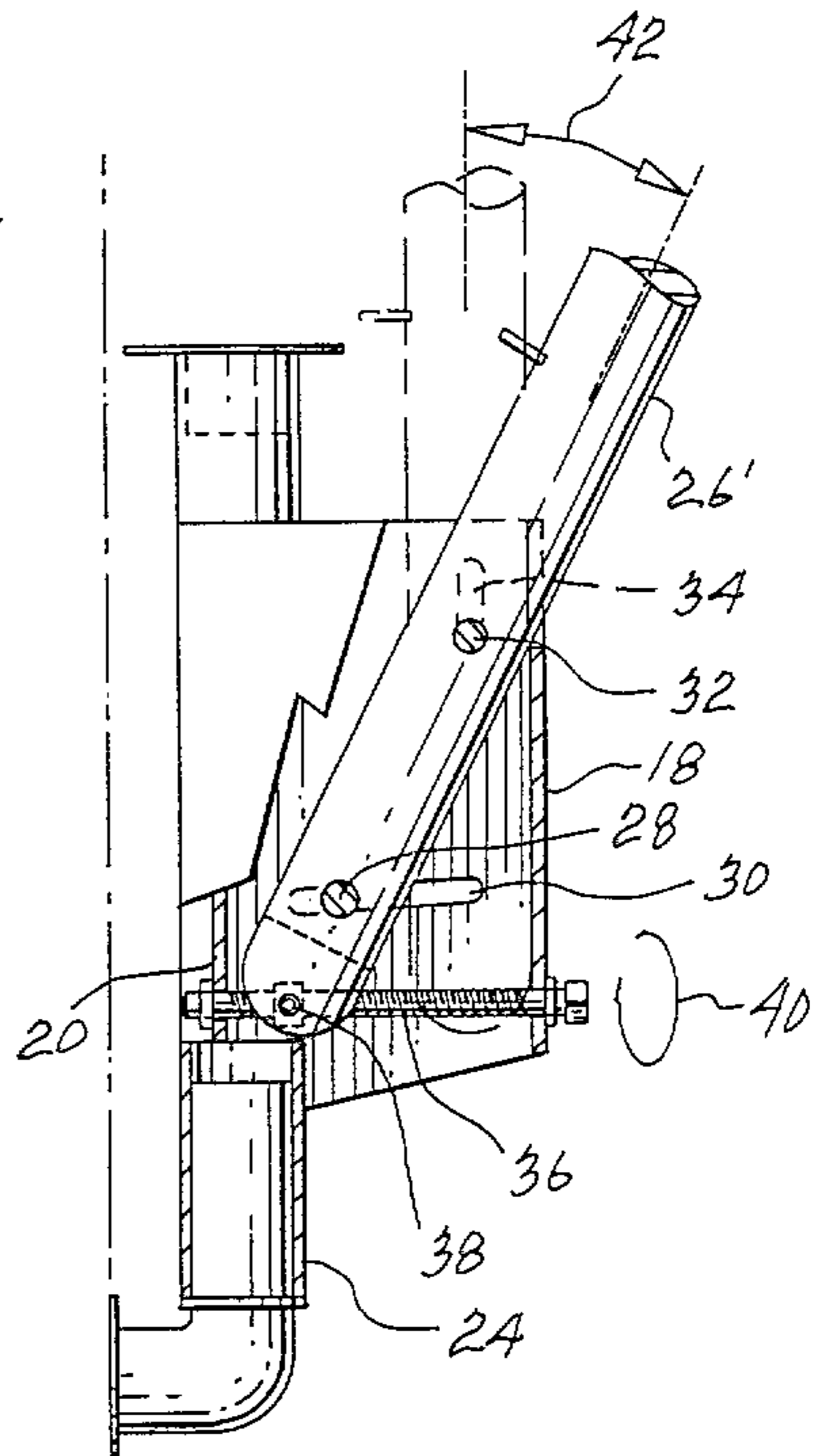


Fig-4