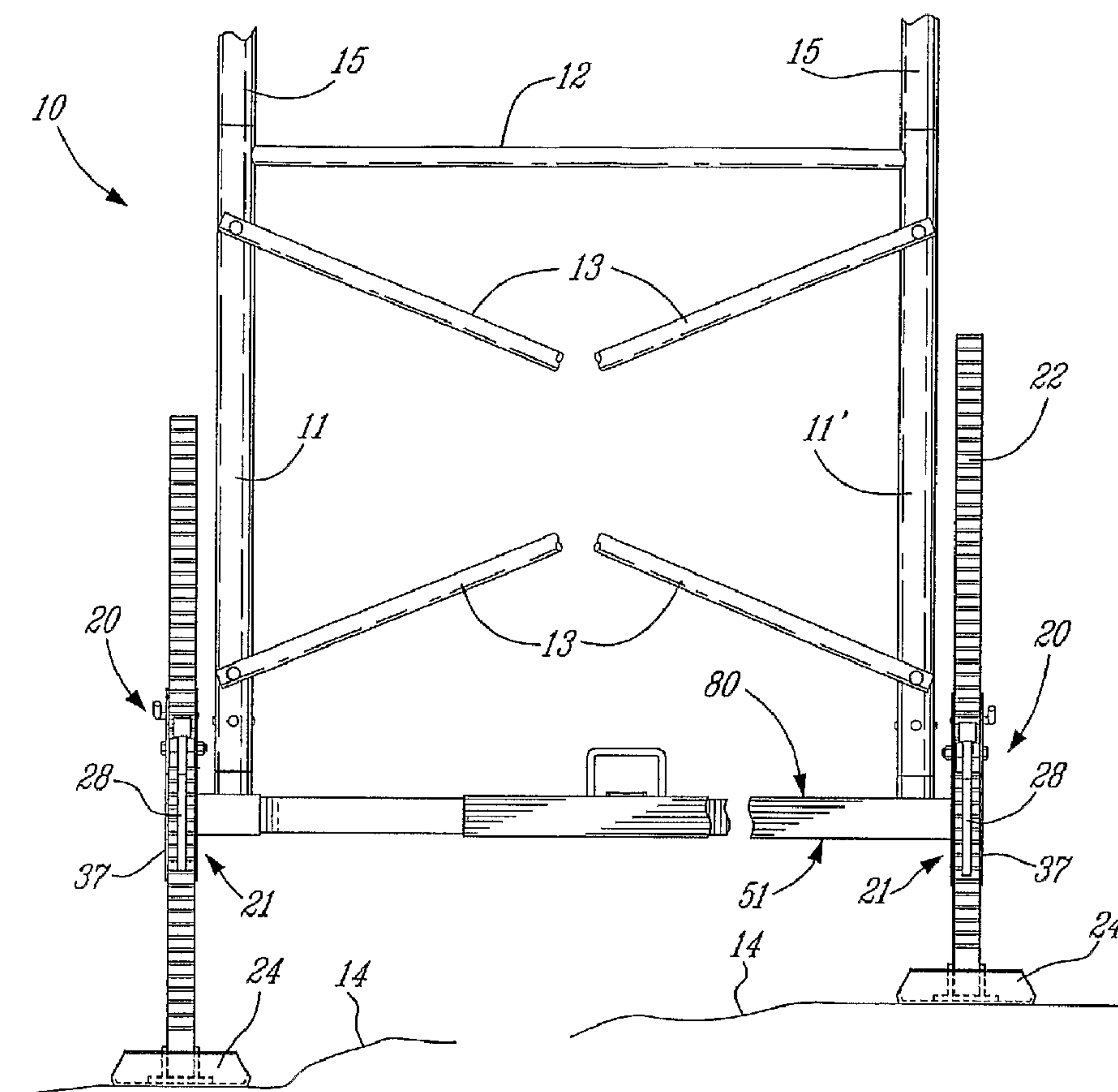




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(72) Inventeurs/Inventors:
GRENON, DANIEL, CA;
ROBIDOUX, MARCO, CA;
BOUCHER, RICHARD, CA
(73) Propriétaires/Owners:
GRENON, DANIEL, CA;
ROBIDOUX, MARCO, CA;
BOUCHER, RICHARD, CA
(74) Agent: NORTON ROSE CANADA
S.E.N.C.R.L./S.R.L./LLP

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(54) Title: ADJUSTABLE AND TRANSPORTABLE SCAFFOLDING



(57) Abrégé/Abstract:

An adjustable and transportable scaffolding (10) is described. It comprises an adjustable leg support mechanism (20) for a scaffolding having vertical corner frame members (11) connected to horizontal frame members (12) and cross-braces (13). The



(57) Abrégé(suite)/Abstract(continued):

mechanism (20) comprises an open-ended sleeve (21) adapted to receive a support rod (22) therethrough and wherein the support rod has at least a horizontal toothed edge section (23) adapted to secure to a bottom support foot (24). A tooth engaging member (25) is pivotally secured to the sleeve (21) and has a tooth engaging head (26) biased against the toothed edge (23) inside the sleeve (21) for supporting the sleeve about the support rod (22) while permitting upward displacement of the sleeve about the rod. The tooth engaging member (25) can be unbiased from the toothed edge (23) of the support rod (22) to permit downward displacement of the sleeve (21) about the rod (22). A locking member (40) is provided to lock the tooth engaging member (25) in arresting position with the toothed edge (23). The sleeve (21) is also provided with a connector (52) for support engagement with one of the corner frame members (11) of the scaffolding (10).

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(71) Applicants and

(72) Inventors: **GRENON, Daniel** [CA/CA]; 1298, Des Berges, Sorel-Tracy, Québec J3P 7X4 (CA). **ROBIDOUX, Marco** [CA/CA]; 301, Côte St-Jean, St-Roch de Richelieu, Québec J0L 2M0 (CA). **BOUCHER, Richard** [CA/CA]; 8850, Chemin St-Roch, Sorel-Tracy, Québec J3R 5E4 (CA).

(74) Agent: **OGILVY RENAULT LLP/S.E.N.C.R.L., s.r.l.**; Suite 1600, 1981 McGill College Avenue, Montréal, Québec H3A 2Y3 (CA).

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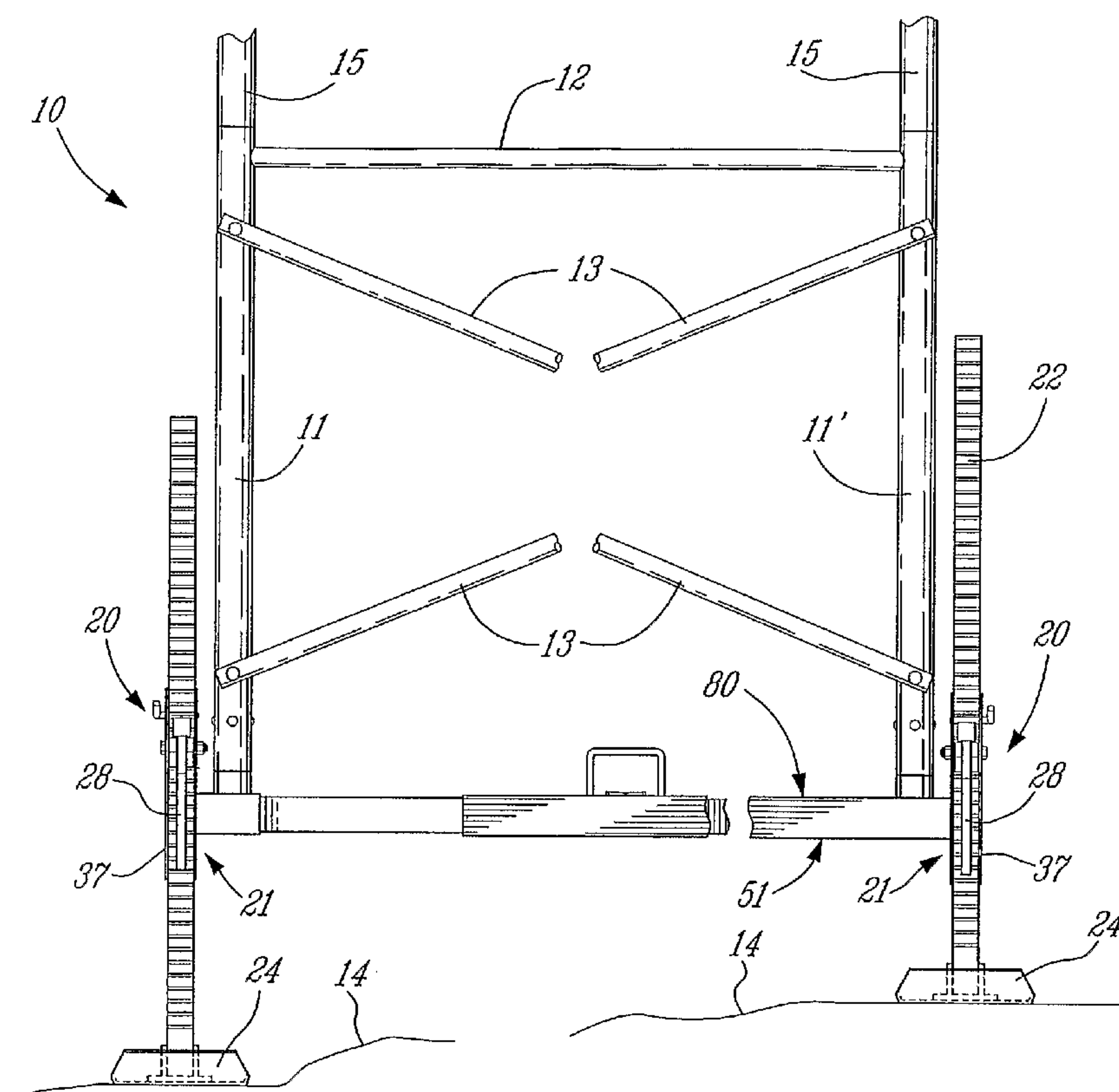
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(54) Title: ADJUSTABLE AND TRANSPORTABLE SCAFFOLDING



(57) Abstract: An adjustable and transportable scaffolding (10) is described. It comprises an adjustable leg support mechanism (20) for a scaffolding having vertical corner frame members (11) connected to horizontal frame members (12) and cross-braces (13). The mechanism (20) comprises an open-ended sleeve (21) adapted to receive a support rod (22) therethrough and wherein the support rod has at least a horizontal toothed edge section (23) adapted to secure to a bottom support foot (24). A tooth engaging member (25) is pivotally secured to the sleeve (21) and has a tooth engaging head (26) biased against the toothed edge (23) inside the sleeve (21) for supporting the sleeve about the support rod (22) while permitting upward displacement of the sleeve about the rod. The tooth engaging member (25) can be unbiased from the toothed edge (23) of the support rod (22) to permit downward displacement of the sleeve (21) about the rod (22). A locking member (40) is provided to lock the

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ADJUSTABLE AND TRANSPORTABLE SCAFFOLDING

TECHNICAL FIELD

The present invention relates to an adjustable and
5 transportable scaffolding and more particularly to an
adjustable leg support mechanism which provides ease of
leveling and transporting a scaffolding on an irregular
ground support surface.

10 BACKGROUND ART

Scaffolding devices comprising interconnectable
tubular frame members are well known in the art whereby to
support people and material in an elevated position whereby
to facilitate working on structures such as building
15 structures or working adjacent or under elevated ceilings.
When working on scaffolding outdoors, often the ground area
adjacent the structure is irregular and it is therefore
necessary before climbing such scaffolding or erecting such
scaffolding that the ground be preferably level or else the
20 vertical corner posts of the scaffolding are shimmed by
using all sorts of material whereby the base of the
scaffolding lies substantially in a planar horizontal plane.
A problem with such shimming is that often it becomes
disengaged and this can cause the scaffolding to collapse
25 resulting in injuries and sometimes death to personnel
working on such structures or in the vicinity of such
structure.

Another disadvantage of scaffolding is that once
erected they are difficult to transport to relocate at a
30 different site close by. Usually the entire scaffolding
structure is disassembled and re-assembled at the new site
where again it may be required to shim the corner vertical
post to re-level the structure prior to assembly thereof.
This is a time consuming process.

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Solutions have been proposed to remedy these problems and reference is made to U.S. Patent 4,171,033 which proposes such a solution. One solution is to mount the scaffolding on wheels which may be retracted, as
5 illustrated in U.S. Patent 5,937,967. In order to maintain the working platform of the scaffolding substantially horizontal at a desired position, telescopic legs have also been proposed as described and shown in U.S. Patent 4,171,033. However, such proposed solution is very time-
10 consuming and is permanently adapted to a specific scaffolding platform. There is therefore a need to also provide a scaffolding which incorporates features of adjustability and transportability and which is easy to disassemble and assemble and which can be transported by
15 small transport vehicles such as a pick-up truck or the like small vehicles. There is also a need to provide an adjustable and transportable scaffolding which is safe to use and which can be erected very quickly and easily displaceable without disassembling the scaffolding.

20 U.S. Patent 5,588,500 discloses a scaffolding wherein at the corner post of the scaffolding there is provided outriggers that can be positioned so as to protrude outside the corner post of the scaffolding to elevate the entire scaffolding in order to stabilize it as a security
25 precaution. It is preferable to elevate it during use so that it is not turned over or moved accidentally. When the scaffolding is not used, these outriggers are folded and accommodated in the side surfaces of the scaffolding. These outriggers are not used to hold the scaffolding in a
30 horizontal plane when supported on an angulated surface nor was it designed to do so. U.S. Patent 1,442,075 describes a scaffolding hoist which is secured to two spaced-apart upright posts. The hoist engages the post and a person or two people standing on the scaffold operate the hoist so as

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to lift the support platform in a substantially horizontal plane. This hoist has no relationship to the ground support for the post but merely a means for elevating a platform on two support posts. If each of the hoists was to be operated
5 independently then the support platform would be angulated and become dangerous. Thus, with this patent the scaffold hoist must be operated substantially in synchronism to maintain the support platform substantially horizontal.

10 DISCLOSURE OF INVENTION

It is therefore a feature of the present invention to provide an adjustable and transportable scaffolding which substantially overcomes the disadvantages of the above-mentioned prior art and which provides for the required
15 existing needs.

Another feature of the present invention is to provide an adjustable leg support mechanism which is securable to vertical corner posts of a scaffolding structure and which is easy to connect thereto, and which is
20 quick and easy to adjust by a single person.

Another feature of the present invention is to provide an adjustable leg support mechanism to which is

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connectable wheels whereby to transport and displace an assembled scaffolding from different locations.

Another feature of the present invention is to provide a scaffolding and wherein the wheels can be
5 displaced and locked about the scaffolding corner posts for ease of displacing the scaffolding.

According to a still further feature of the present invention there is provided a support foot for a scaffolding which is slidably displaced over a ground
10 support surface even when covered with snow.

According to the above features, from a broad aspect, the present invention provides an adjustable leg support mechanism for a scaffolding having vertical corner frame members connected to horizontal frame members and
15 cross-braces. The mechanism is characterized in that it comprises an open-ended sleeve adapted to receive a support rod therethrough and wherein the support rod has at least a longitudinal toothed edge section and a bottom support foot. A tooth engaging member is pivotally secured to the sleeve
20 and has a tooth engaging head biased against the toothed edge inside the sleeve for supporting the sleeve about the support rod while permitting upward displacement of the sleeve about the rod. Means is provided to unbias the tooth engaging head from the toothed edge to permit downward
25 displacement of the sleeve about the rod. Arresting means is provided to lock the tooth engaging head in arresting position with the toothed edge. A rod connector is secured to the sleeve for connection to a transverse tubular rod interconnecting two opposed leg support mechanisms together.
30 A vertical connecting post is secured to the rod connector for release engagement with a hollow tubular end of one of the vertical corner frame members whereby said scaffolding can be leveled at a bottom end thereof on an irregular ground surface.

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BRIEF DESCRIPTION OF THE DRAWINGS

A preferred embodiment of the present invention will now be described with reference to the accompanying drawings in which:

5 FIGURE 1 is a simplified side view, partly fragmented, showing a section of a scaffolding and to which is secured an adjustable leg support mechanism to each of two vertical corner posts of the scaffolding for ease of level adjustment of the scaffolding on an irregular ground
10 surface;

FIGURE 2 is a side view, partly sectioned, illustrating the construction of the open-ended sleeve and some of its component parts for displaceable connection about a support rod;

15 FIGURE 3 is a top view of the open-ended sleeve substantially as illustrated in Figure 2;

FIGURE 4 is a side view illustrating the support sleeve and its rod connector and attachment means to secure to a vertical connecting post of a scaffolding structure;

20 FIGURE 5 is a side section view similar to Figure 2 but showing the support rod having a serrated edge and extending through the open-ended sleeve;

FIGURE 6 is a side view, partly sectioned, of the sliding foot plate and its vertical connector to secure
25 to the bottom of a hollow corner frame member of a scaffolding;

FIGURE 7A is a side view showing the support rod secured to the foot plate;

FIGURE 7B is an end view of Figure 7A;

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FIGURE 8 is a partly sectioned side view of the sleeve showing a support wheel secured thereto as well as an adjustable rod connector secured to the sleeve;

FIGURE 9 is a top view illustrating the construction of the arcuate horizontal lock flange;

FIGURE 10 is a side view of Figure 9 illustrating the disposition of the lock flange relative to a pivot connecting flange secured to the open-ended sleeve;

FIGURE 11 is a top view showing an adjustable leg support mechanism with the attachments as shown in Figure 8 and secured to a telescopic horizontal rod;

FIGURE 12 is a side view showing the other side of a tandem arrangement of two adjustable leg support mechanisms with wheels secured together by the telescopic rod;

FIGURE 13 is a top view illustrating the construction of a carriage assembly secured to the adjustable leg support mechanism of a tandem arrangement; and

FIGURE 14 is a view similar to Figure 13 but showing the wheels interconnected to the adjustable leg support mechanism at different angles with respect to the corner post of a scaffolding whereby to displace the scaffolding sideways or at an angle.

MODES FOR CARRYING OUT THE INVENTION

Referring now to the drawings and more particularly to Figure 1, there is shown generally at 10, typical scaffolding structure constructed of tubular frame members. Only a bottom end section of a scaffolding structure 10 is illustrated and it comprises of vertical corner frame members or posts (usually tubular rods) 11 and 11' connected to horizontal frame members 12 and to cross-braces 13, as is well known in the art, whereby to construct

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a stable and rigid scaffolding assembly. Usually the bottom section of a scaffolding assembly is assembled on a ground surface 14 with the vertical corner frame members shimmed to level the lower section. After being leveled, further sections 15 are assembled on top of the bottom section and planks are placed on top of the horizontal frame members.

The present invention provides for an adjustable leg support mechanism 20 which is connectable to one or more of the vertical corner frame members 11. The adjustable leg support mechanism will now be described with further reference to Figures 2 to 5.

The adjustable leg support mechanism 20 comprises an open-ended sleeve 21 which is adapted to receive a support rod 22 therethrough and wherein the support rod 22 has at least a longitudinal toothed edge section 23 and is adapted to secure to a bottom support foot 24, as illustrated in Figure 6. A tooth engaging member 25 is pivotally secured to the sleeve 21 and has a tooth engaging head 26 which is biased against the toothed edge 23 inside the sleeve 22 for supporting the sleeve about the support rod 22 at a desired location therealong. The tooth engaging member is a ratchet-like member and permits upward displacement of the sleeve 21 about the support rod 22 by simply pulling the sleeve upwardly along the rod 22.

The tooth engaging head 26 is mounted on a pivot pin 27 and is provided with a lever arm 28 integrally formed therewith and which constitutes a means to unbias the tooth engaging head from the toothed edge 23 to permit downward displacement of the sleeve 21 about the rod 22. The lever 28, due to its own weight, biases the tooth engaging head inwardly of a rectangular passage of the open-ended sleeve through an aperture 30 formed in a side wall 31 of the sleeve 21. It is pointed out that the support rod 22 is of

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square cross-section and received in close sliding fit within the rectangular passage 29 of the sleeve.

As shown in Figure 5, the saw tooth formations 23' each define a horizontal support ledge 32 and an outwardly sloping wall section 33. The tooth engaging head 26 has an engaging projection 34 which is of wedge-shaped formation 34' and defines a flat bottom wall 35 for seated engagement on a support ledge 32 of the saw tooth formation and a rearwardly sloping upper wall 36 for frictional sliding engagement against the outwardly sloping wall section 33 when the sleeve is retracted upwardly along the support rod and thereby providing the ratchet effect.

As better illustrated in Figures 2 and 3, the tooth engaging head 26 is pivotally secured by the pivot pin 27 which is supported between a pair of support flanges 37 secured to the sleeve 21 and herein shown as forming an integral part thereof extending beyond the rectangular passage 29. In order to disconnect the sleeve from the support rod, it is merely necessary to pull the lever arm 28 upwardly in the direction of arrow 38, as shown in Figure 2 thereby causing the wedge shape formation 34 to retract outwardly of the rectangular passage 29 through the aperture 30.

With further reference to Figures 2 and 5, there is illustrated an arresting means in the form of a locking lever 40 which is hingedly connected to the sleeve support flanges 37 by a pivot connection 41. The locking lever 40 has an arresting formation 42 for removable engagement with the tooth engaging head 26 to prevent displacement of the lever arm 28 and disengagement of the engaging projection 34 with the toothed edge section 23 of the support rod 22. This locking lever 40 has a finger engaging formation 43 to provide disconnection of the arresting formation 42 from a

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notch 44 provided in a rear top portion of the tooth engaging head 26.

As shown in Figures 3 and 4, a rod connector 50 in the form of a tubular member is secured to the sleeve 21 for connection to a transverse tubular rod 51, as will be described later in detail, whereby to interconnect two opposed leg support mechanisms 20 together in tandem, as illustrated in Figures 1, 13 and 14.

Attachment means in the form of a vertical connecting post 52 is also secured to the sleeve 21 and herein via the rod connector 50 on a top wall thereof and projects upwardly on a vertical axis 52' which is parallel to the longitudinal axis 53 of the sleeve. The connector 50 extends on a transverse longitudinal axis 54. The vertical post 52 is structured for release engagement with a hollow tubular end section 55, see Figure 6, of a vertical corner frame member, herein a hollow tubular frame member 11 as is illustrated in Figure 6.

The sleeve 21 is further provided with locking means in the form of a spring-bias lock pin 56 which is spring-biased inside the rectangular passage 29 by a spring 57 whereby to lock the support rod with the sleeve at one or more predetermined positions as dictated by holes 58 (see Figures 7A and 7B) provided in a wall 59 of the support rod 22 opposed to the toothed edge section 23. Accordingly, when the sleeve is displaced upwardly or downwardly it will be arrested from the displacement when the pin enters one of the holes 58 delimiting the upward and downward trajectory of the sleeve over the support rod 22. The lock pin 56 is further provided with a retracting finger engaging head 59 to disengage the pin 56 from the hole 58. This pin is constantly urged against the wall 59 of the support rod and slides therealong during the displacement of the sleeve thereabout.

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Referring now to Figure 8 it can be seen that a support wheel 60 is also securable to the sleeve by support means herein an attachment sleeve 61 welded to the sleeve 21 and projecting along the horizontal axis 54. The wheel 60 is secured to the attachment sleeve 61 by a lock pin 62. The wheel 60 is mounted with its planar axis of rotation 63 extending parallel to the longitudinal axis 53 of the sleeve 21 and transverse to the axis 54. By removing the lock pin 62 the wheel is easily removable from the attachment sleeve 61 which is permanently secured to the open-ended sleeve 21.

Referring now to Figures 8 to 12, there is shown a further embodiment wherein the rod connector 50 is constructed differently than that illustrated in Figures 3 and 4. As hereinshown, the rod connector comprises a horizontal lock flange 70 which is secured to the sleeve 21 and has an arcuate outer edge 71 (see Figure 9) provided with two or more locking cavities 72 disposed therealong. A pivot connecting flange 73 is secured to the sleeve 21 and is disposed a predetermined distance above the horizontal lock flange 70 and extends parallel thereto. Both the lock flange 70 and pivot connecting flange 73 are provided with through bores 70' and 73', respectively, to receive a pivot pin 74 therethrough, see Figure 8. The horizontal rod 51 is provided with a transverse bushing 75 at an end thereof and constitutes a rod connector which is simply connected between the lock flange 70 and the pivot connecting flange 73 by the pivot pin 74 as illustrated in Figure 8. As also shown in Figure 8, the vertical connecting post 52 is herein secured adjacent the connecting end of the horizontal rod 51 for release engagement with the hollow tubular end 55 of a vertical corner frame member 11 of a scaffolding assembly. The lock flanges 70, 73 permit the foot plates 24 to be angulated at a desired angle independent from one another to

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adapt to the support surface on which they need to rest, i.e. a narrow step or stair, etc.

A position arresting pin 76 interconnects the rod connector or rod end 51' to the lock flange 70 when the pin 5 76 is received in one of the locking cavities 72. The position arresting pin 76 is provided with finger engaging means in the form of a top handle 77 to retract the arresting pin from one of the locking cavities 72 for disengagement therewith. Accordingly, the sleeve 22 and its 10 wheel 60 can be locked at different angles with respect to the rod 51.

As can be seen from Figures 11 to 12, the transverse tubular rod 51 is a telescopic rod 80 for adjustment and for connection to scaffolding having vertical 15 corner posts 11, 11' spaced at different distances from one another. This telescopic tubular rod 80 is capable of adjusting the spacing between two vertical post connectors 52 at opposed ends of the tubular rod whereby to interconnect two opposed leg support mechanisms 20 in a 20 tandem arrangement. The lock pin 81 interconnects the two pipe sections 80' and 80" together, once the tubular rod 80 is of proper length. A handle 82 is connected to the tubular rod 80 to facilitate the horizontal adjustment of the tandem arrangement by simply providing a means to pull 25 up on the opposed leg support mechanisms whereby the sleeve 21 rides up on the respective support rods 22. A level 83 is secured to the top of the tubular rod 80 and indicates the proper level of the rod. Of course a further level, not shown, could also be mounted transverse to the level 83 to 30 provide for the leveling along the transverse axis or in a transverse plane when the tandem arrangement is connected to a scaffolding assembly.

With reference now to Figures 13 and 14 there is shown the construction of a carriage frame 85 which is

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secured to carriage connectors 86 and 86' each secured to a respective one of the wheel attachment sleeves 61 and 61'. The carriage connectors 86 and 86' are each constituted by an elongated flange 87 having a slot 88 therein to receive a
5 free end of a carriage frame connecting rod 89 attached thereto by a connecting pin element 90 whereby to permit displacement of the connecting end of the connecting rods 89 along the flange 86.

As hereinshown, the carriage frame 85 has a pair
10 of these connecting rods 89 and 89' connected to a pivoting bar 91 which is pivotally connected at an end 92 to the tubular rod 80. The other end of the connecting rods 89 and 89' are pivotally attached to a forward end of the pivotal bar 91 on pivot connections 93 and 93', respectively. A
15 handle 94 is secured to the free end of the pivotal bar 91 whereby to provide ease of pulling a scaffolding secured to the tandem arrangement. As shown in Figure 3, the wheels 60 of the tandem arrangement are disposed transverse to the tubular rod 80 but these can swivel about the ends of the
20 tubular rod by adjusting the angle of the wheels by withdrawing the lock pin 76 from engagement with the horizontal locking flange 70 and displacing the wheels by pushing laterally on the pulling handle 94 until the lock pin 76 falls by gravity into the adjacent locking cavity 72
25 whereby both wheels can be locked at an angular position. As shown in Figure 14, the wheels have been displaced 90 degrees about the ends of the tubular rod 80 whereby a scaffolding structure connected thereto can be easily pulled sideways.

30 Referring now to Figures 6, 7A and 7B, there will be described the construction of the bottom support foot 24 which is secured at the bottom of the corner post 11 of a scaffolding assembly. As hereinshown, the support foot 24 is formed from a rectangular metal plate which is configured

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to form a sliding plate 99 defining a contacting bottom wall 100 for sliding displacement on a support surface. This slide plate 99 also has opposed outwardly angled end flanges 101 to permit the displacement of the scaffolding over an irregular ground surface as these angled end flanges provide for the sliding plate to slide or be guided over objects or irregularities on a ground surface. They also provide for the scaffolding to be easily displaced on a snow covered surface.

Referring to Figure 6, it can be seen that the center of the bottom wall 100 of the plate has a cavitatted section 102 whereby to permit the securement of a vertical connector 103 for connection with the bottom end of a vertical corner frame member 11, as previously described. The vertical connector 103 is disposed substantially central on the top wall 104 of the slide plate and provides removable connection with the lower hollow end section 55 of the corner frame member or post 11. It is provided with spring-loaded prongs 105 to engage within the locking holes 106 provided in the end section 55 of the corner posts 11. Such interconnection is well known in the art. Accordingly, the present invention also encompasses a novel support foot structure for connection directly to the scaffolding corner posts.

Referring now to Figures 7A and 7B, there is shown the slide plate as previously described but wherein the support rod 22 is secured thereto at a lower end 22' by a suitable connecting means 103'. Therefore, in order to render a scaffolding assembly easily displaceable over a ground surface, a tandem arrangement is secured to one pair of corner posts of a rectangular scaffolding assembly and the other pair of corner posts are connected directly to a respective one of the sliding plates. Therefore, the entire

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assembled scaffolding structure is easily displaced over a ground surface.

As above described, the present invention provides an adjustable leg support mechanism which can be easily assembled and disassembled in component parts for ease of transport and storage. Also, some of the component parts are considered to be optional, such as the support wheels or the carriage frame and the support wheels can be adapted to the leg support mechanisms only when required. When it is required to transport a scaffolding assembly the sleeve 21 is disconnected from the toothed edge of the support rod 22 and the sleeve is lowered therealong until the support wheel rests on the ground surface. The support rod 22 is then pulled upwardly above the ground surface and the sleeve is relocked thereto to maintain the support foot or slide plate 24 elevated from the ground surface. The tandem arrangement is then supported on its opposed support wheel 60. Of course, these tandem arrangements can be connected to opposed sides of a scaffolding structure wherein all corners are adjustable and provided with wheels.

It is within the ambit of the present invention to cover any obvious modifications of the preferred embodiment described herein, provided such examples fall within the scope of the appended claims.

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CLAIMS,

1. An adjustable leg support mechanism 20 for a scaffolding 10 having vertical corner frame members 11 connected to horizontal frame members 12 and cross-braces 13, said mechanism being characterized in that it comprises an open-ended sleeve 21 adapted to receive a support rod 22 therethrough and wherein said support rod has at least a longitudinal toothed edge section 23 and is adapted to secure to a bottom support foot 24, a tooth engaging member 25 pivotally secured to said sleeve 21 and having a tooth engaging head 26 biased against said toothed edge 23 inside said sleeve 21 for supporting said sleeve about said support rod 22 while permitting upward displacement of said sleeve about said rod, means 27, 28 to unbias said tooth engaging head 26 from said toothed edge to permit downward displacement of said sleeve about said rod, arresting means 40 to lock said tooth engaging head 26 in arresting position with said toothed edge 23 and a rod connector 50 secured to said sleeve 21 for connection to a transverse tubular rod 51 interconnecting two opposed leg support mechanisms 20 together, and a vertical connecting post 52 secured to said rod connector for release engagement with a hollow tubular end 55 of one of said vertical corner frame member 11, whereby said scaffolding can be leveled at a bottom end thereof on an irregular ground surface.

2. An adjustable leg support mechanism as claimed in claim 1 characterized in that said means to unbias said tooth engaging head is a lever arm 28 formed integral with said tooth engaging head 26, said tooth engaging head 26 having an engaging projection 34 projecting through an aperture 30 inside said open-ended sleeve.

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3. An adjustable leg support mechanism as claimed in claim 2 characterized in that said sleeve 21 has a substantially rectangular cross-section for receiving therethrough said support rod 22 which is of substantially square cross-section, said toothed edge section 23 being constituted by a plurality of saw tooth formations 23' formed along a side wall of said support rod and facing said aperture 30 of said sleeve 21.

4. An adjustable leg support mechanism as claimed in claim 3 characterized in that said saw tooth formations 23' each define a horizontal support ledge 32 and an outwardly sloping wall section 33, said engaging projection 34 having a wedge shape formation 34' defining a flat bottom wall 35 for seated engagement on said support ledge 32 and a rearwardly sloping upper wall 36 for frictional sliding engagement against said outwardly sloping wall section 33 of said tooth.

5. An adjustable leg support mechanism as claimed in claim 4 characterized in that said tooth engaging head 26 is pivotally connected by a pivot connection 27 between a pair of support flanges 37 secured to said sleeve 21 on opposed sides of a side wall 31 of said sleeve having said aperture 30, said wedge-shaped formation 24' being biased against said saw tooth formation 23 by the weight of said lever arm, said lever arm when displaced upwardly about said pivot connection 27 causing said wedge shape formation to retract through said aperture.

6. An adjustable leg support mechanism as claimed in claim 2 characterized in that said arresting means 40 is a locking lever pivotally connected 41 to said sleeve 21 and having an arresting formation 42 for removable engagement with said tooth engaging head to prevent displacement of

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said lever arm 28 and disengagement of said engaging projection with said toothed edge section 23 of said support rod 22.

7. An adjustable leg support mechanism as claimed in claim 1 characterized in that said bottom support foot 24 is a slide plate 99 for sliding displacement on a ground support surface 14.

8. An adjustable leg support mechanism as claimed in claim 1 characterized in that there is further provided locking means 56 to automatically lock said support rod 22 with said sleeve 21 at one or more predetermined positions.

9. An adjustable leg support mechanism as claimed in claim 8 characterized in that said locking means is a spring-biased lock pin 52 secured to said sleeve 21 and having a spring-biased rod 56 urged against a side wall 59 of said support rod 22 for engagement in a hole 58 formed in said side wall 59 at said one or more predetermined positions.

10. An adjustable leg support mechanism as claimed in claim 1 characterized in that there is further provided a support wheel 60 secured to wheel support means 61 secured to said sleeve 21, said wheel 60 having its planar axis of rotation extending parallel to said sleeve.

11. An adjustable leg support mechanism as claimed in claim 10 characterized in that said wheel 60 is removably secured to said wheel support means 61 which is constituted by a wheel attachment sleeve 61 secured to said sleeve 21.

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12. An adjustable leg support mechanism as claimed in claim 10 characterized in that there is further provided a rod connector 50 secured to said sleeve 21 for connection to a transverse tubular rod 51 for interconnecting two opposed leg support mechanisms 20 together in tandem arrangement, a carriage frame connector 86, 86' secured to said wheel support means 61, 61', each of said two opposed leg support mechanisms 20 adapted for interconnection with carriage frame connecting rods 89, 89' to displace said tandem arrangement on said support wheels 60.

13. An adjustable leg support mechanism as claimed in claim 12 characterized in that said rod connector 50 is pivotally secured to said sleeve 21, and a vertical connecting post 52 secured to said rod connector for release engagement with a hollow tubular end 55 of said vertical corner frame member 11, and lock means 76 for arresting said wheel support means 61 at a desired angular portion relative to said sleeves 21 of said tandem arrangement to displace said tandem arrangement along a desired direction.

14. An adjustable leg support mechanism as claimed in claim 13 characterized in that said carriage frame connector is an elongated flange 86, 86' having a slot 88 therein to receive a connecting pin element 90 secured to a connecting end of said carriage connecting rods 89, 89' to permit displacement of said connecting end along said slot 88, said carriage connecting rods 89, 89' being pivotally secured 93, 93' at a remote end to a handle 94 to effect said displacement of said tandem arrangement.

15. An adjustable leg support mechanism as claimed in claim 13 characterized in that said lock means 76 comprises a horizontal lock flange 70 secured to said sleeve 21 and having an arcuate outer edge 71 provided with two or more

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locking cavities 72 disposed therealong, a pivot connecting flange 73 spaced above said lock flange 70 and extending parallel thereto, said rod connector 50 being pivotally connected between said lock flange 70 and said pivot connecting flange 73 by a pivot pin 74, and a position arresting pin 76 spring-biased against a top peripheral edge of said lock flange 70 and secured to said rod connector, said position arresting pin 76 interconnecting said rod connector to said lock flange when received in one of said locking cavities 72.

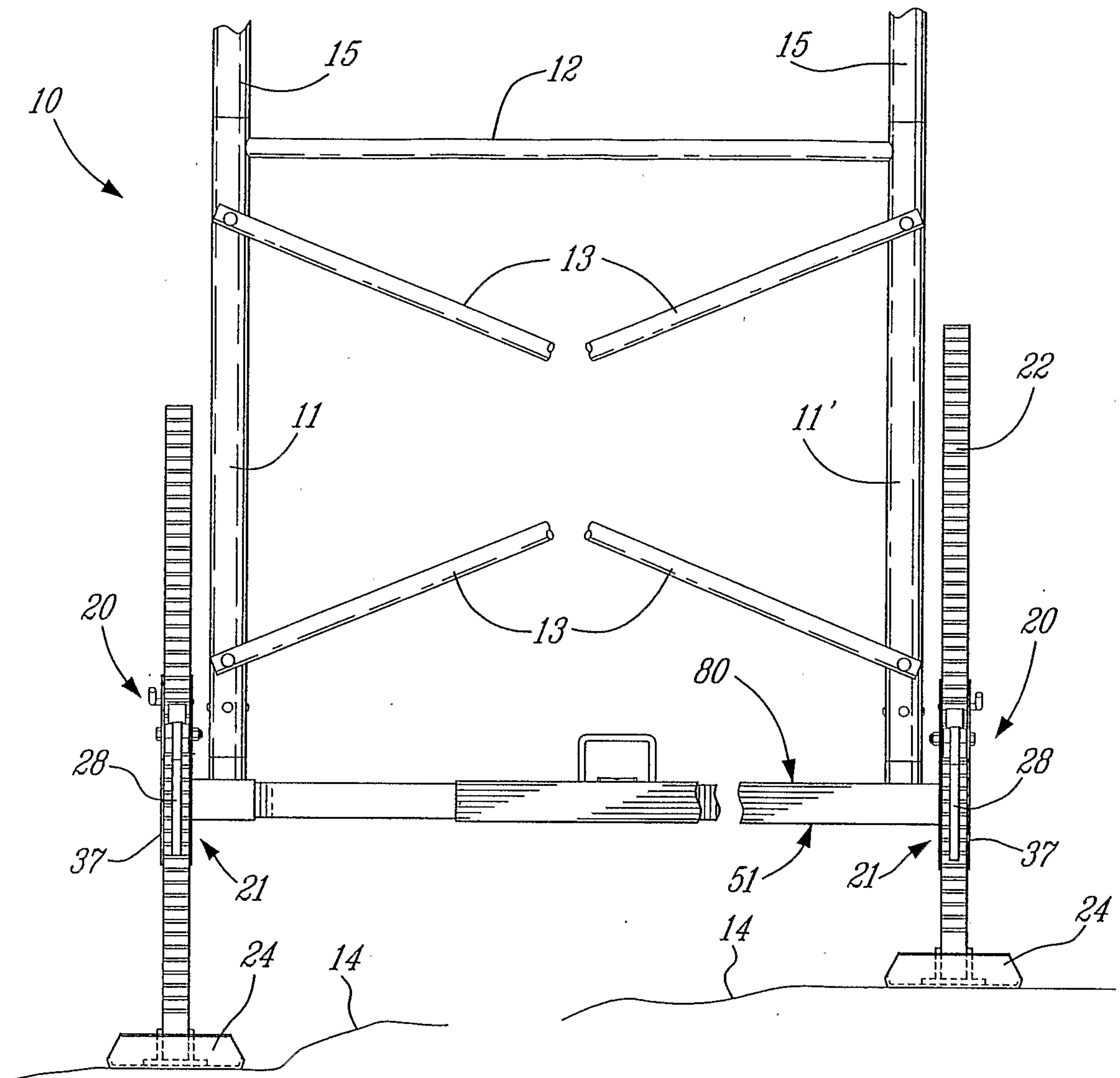
16. An adjustable leg support mechanism as claimed in claim 15 characterized in that said position arresting pin 76 is provided with engaging means 77 to retract said arresting pin from one of said locking cavities 72 for disengagement.

17. An adjustable leg support mechanism as claimed in claim 13 characterized in that said rod connector 50 is a connecting end of said transverse tubular rod 51.

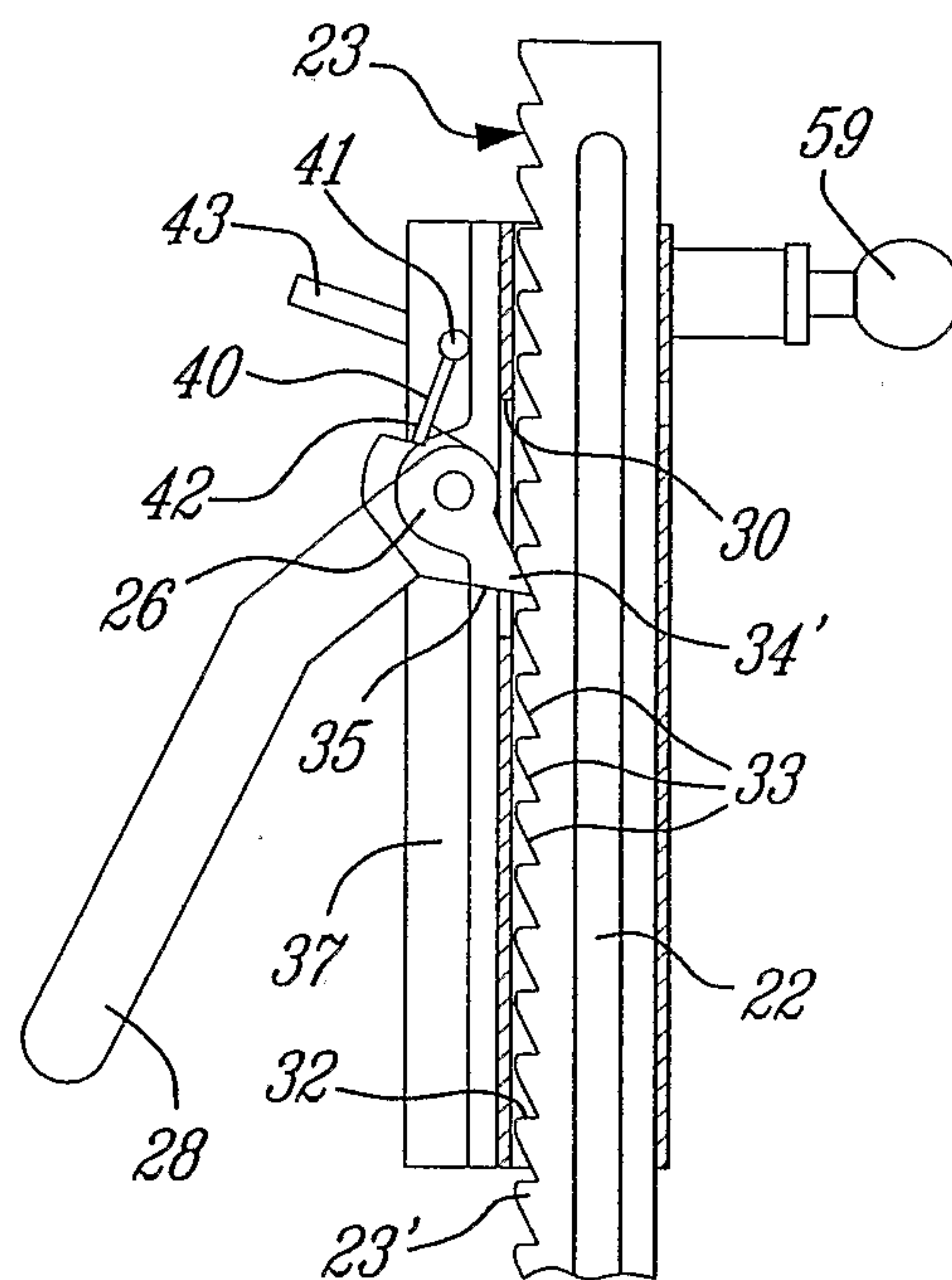
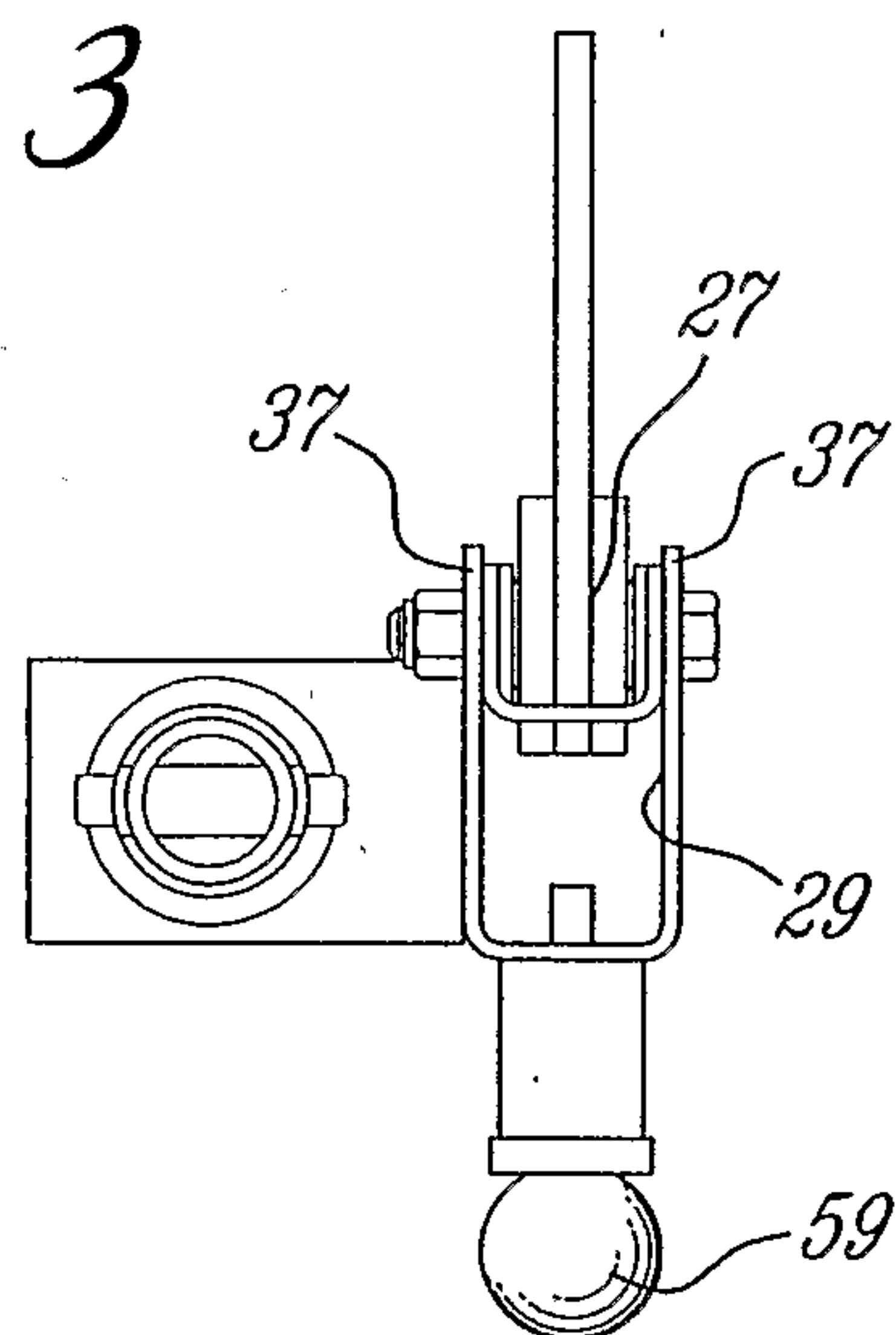
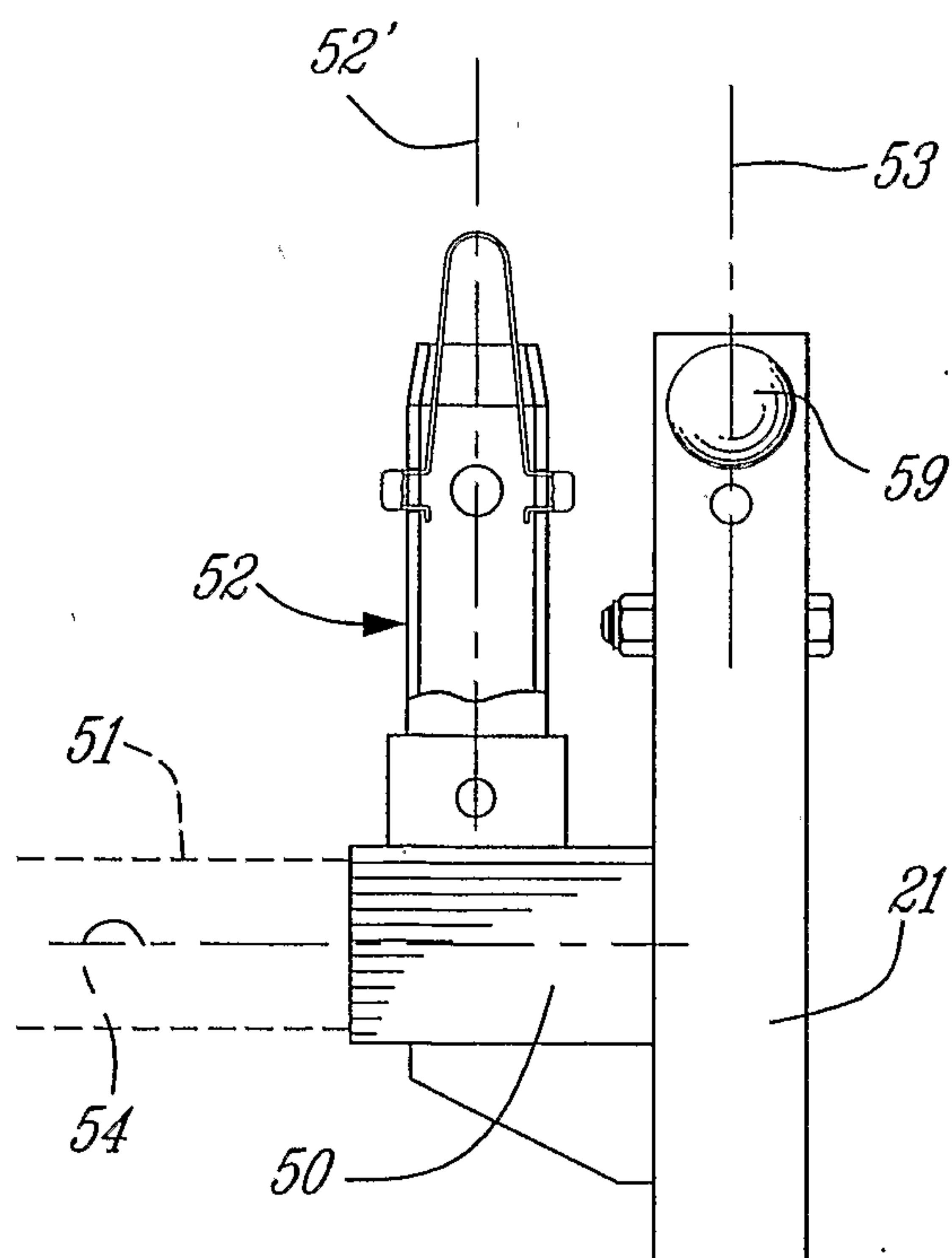
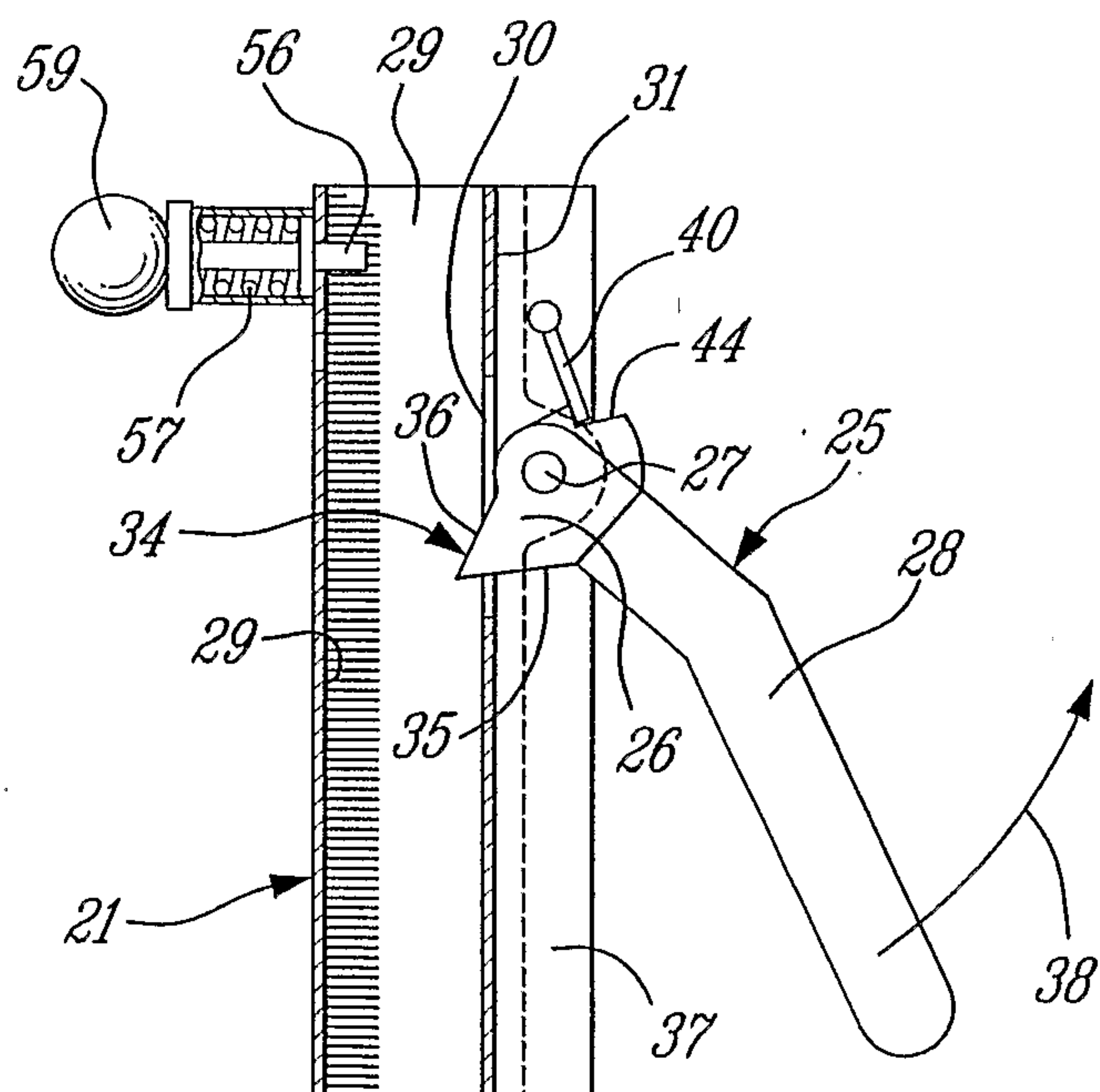
18. An adjustable leg support mechanism as claimed in claim 17 characterized in that said transverse tubular rod 51 is a telescopic rod 80 having interconnection means 81.

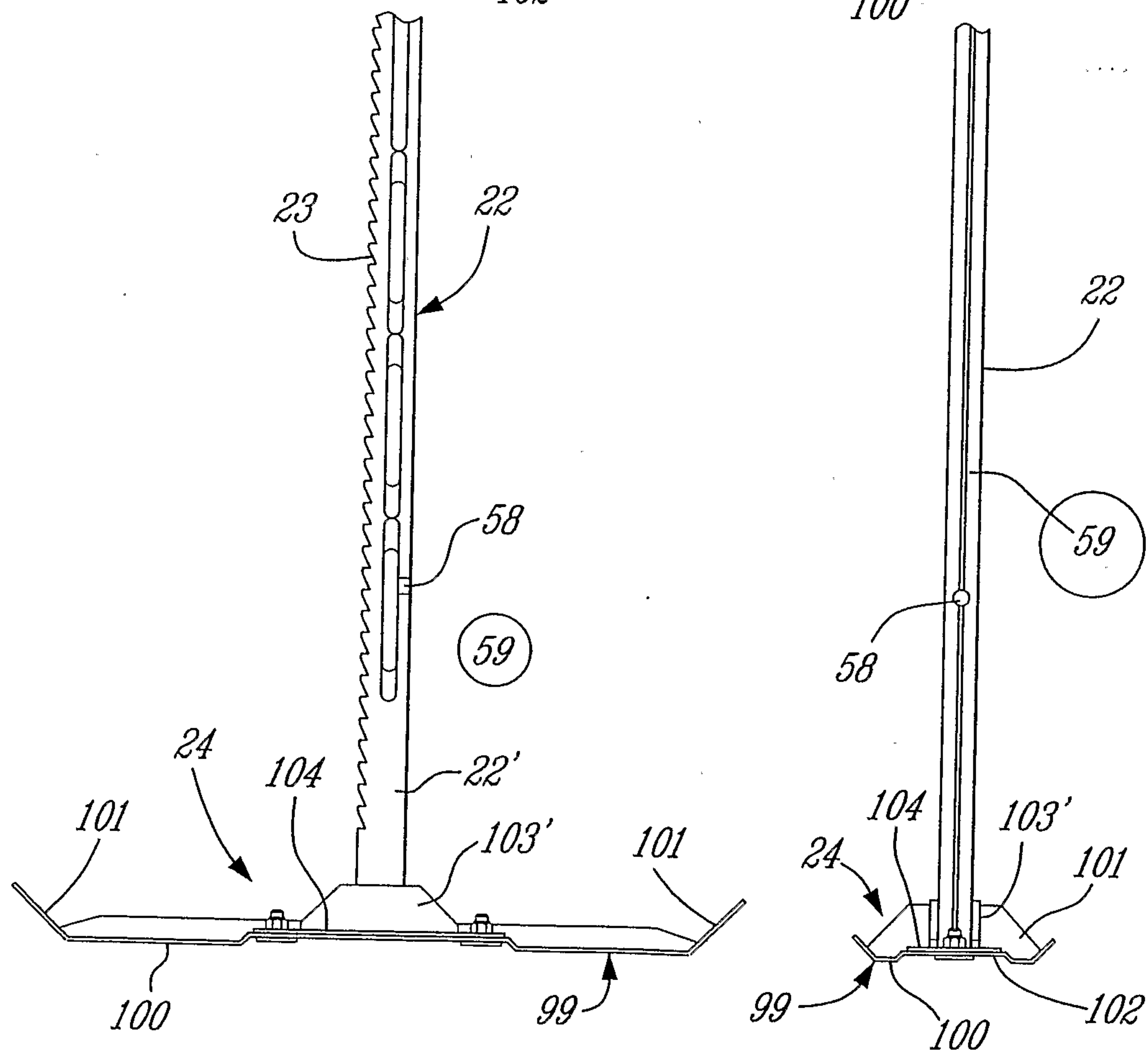
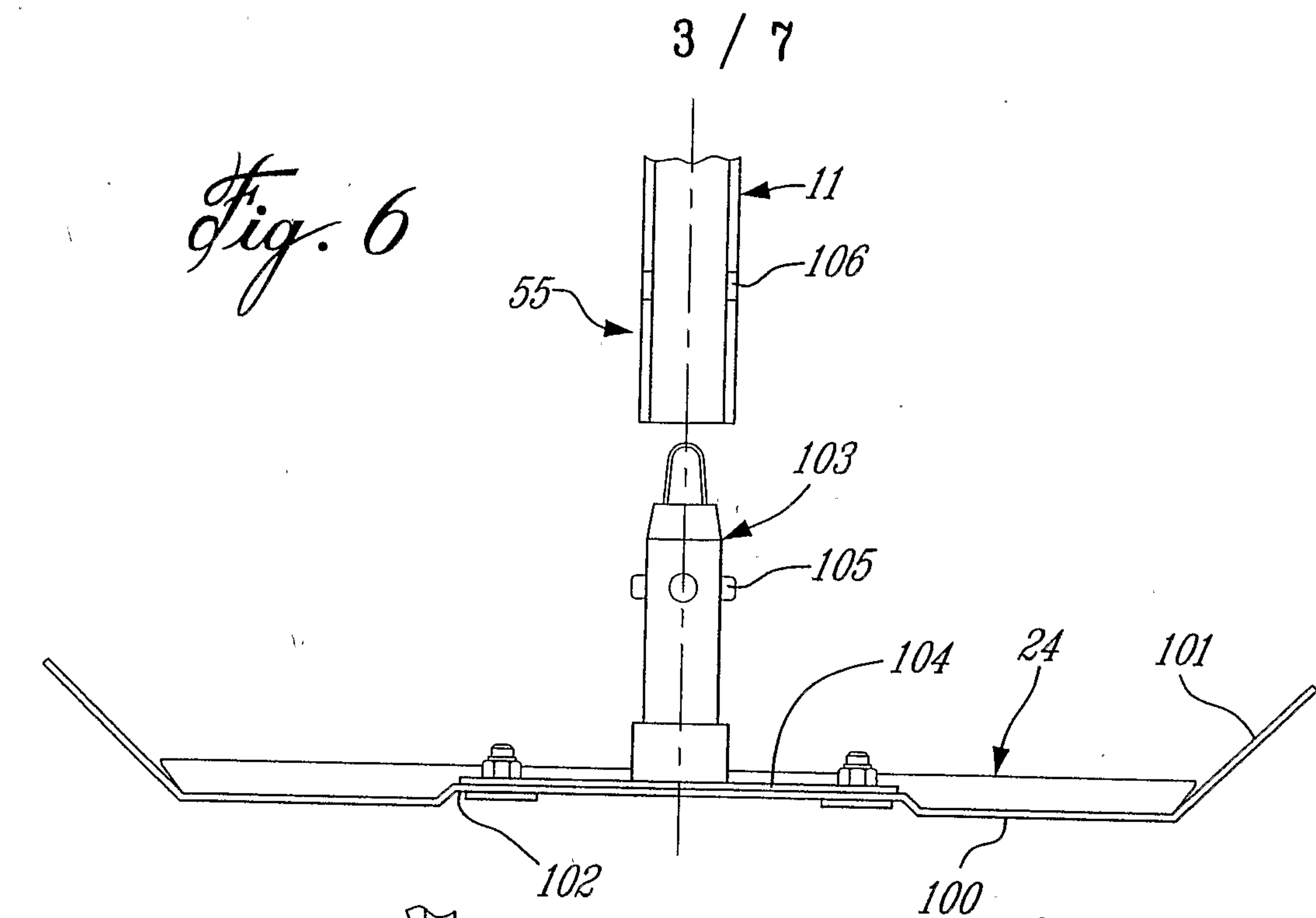
19. An adjustable leg support mechanism as claimed in claim 17 characterized in that a leveling device 83 is secured to said transverse tubular rod 51, 80 to assist in locking a scaffolding tubular structure secured to said tandem arrangement.

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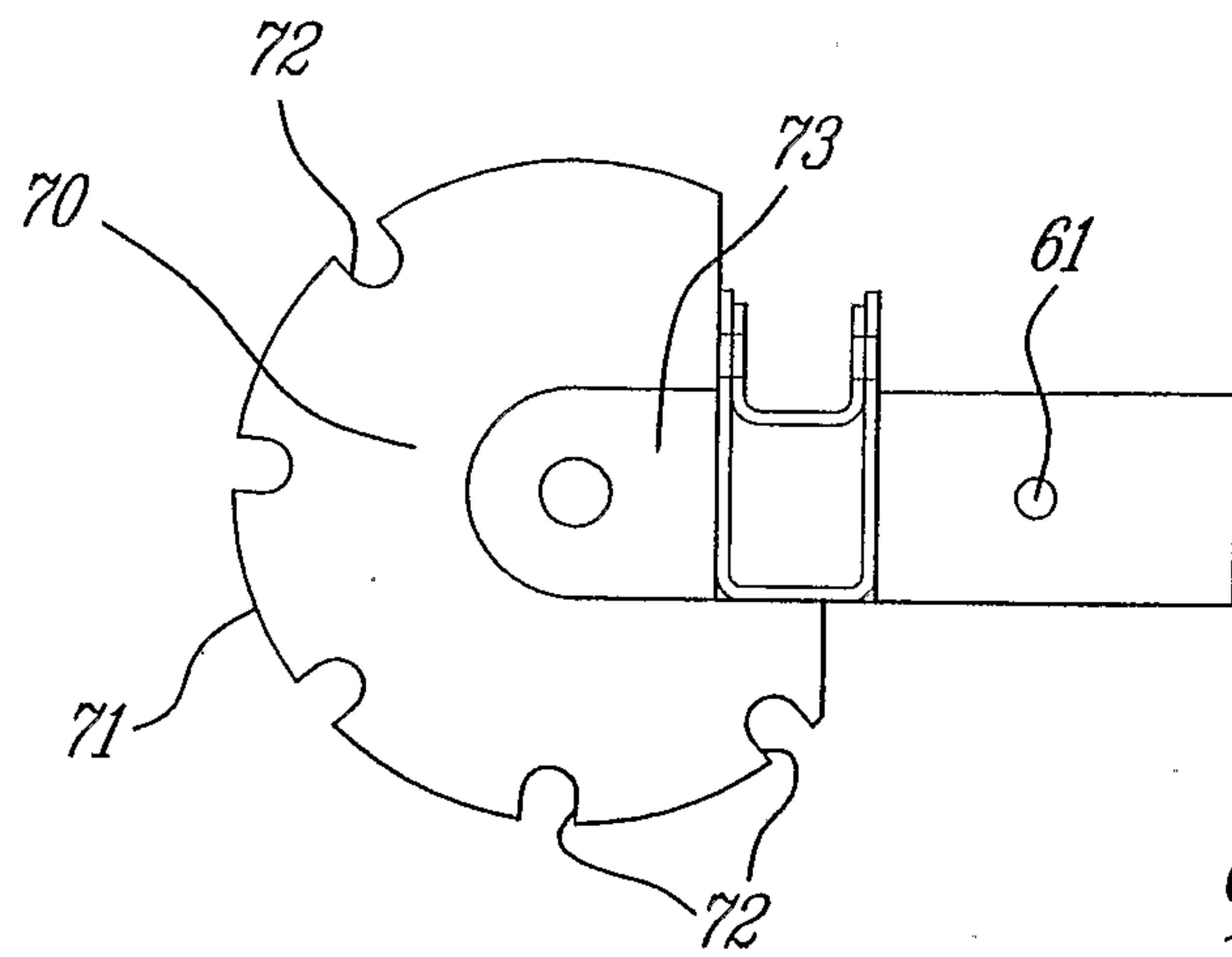
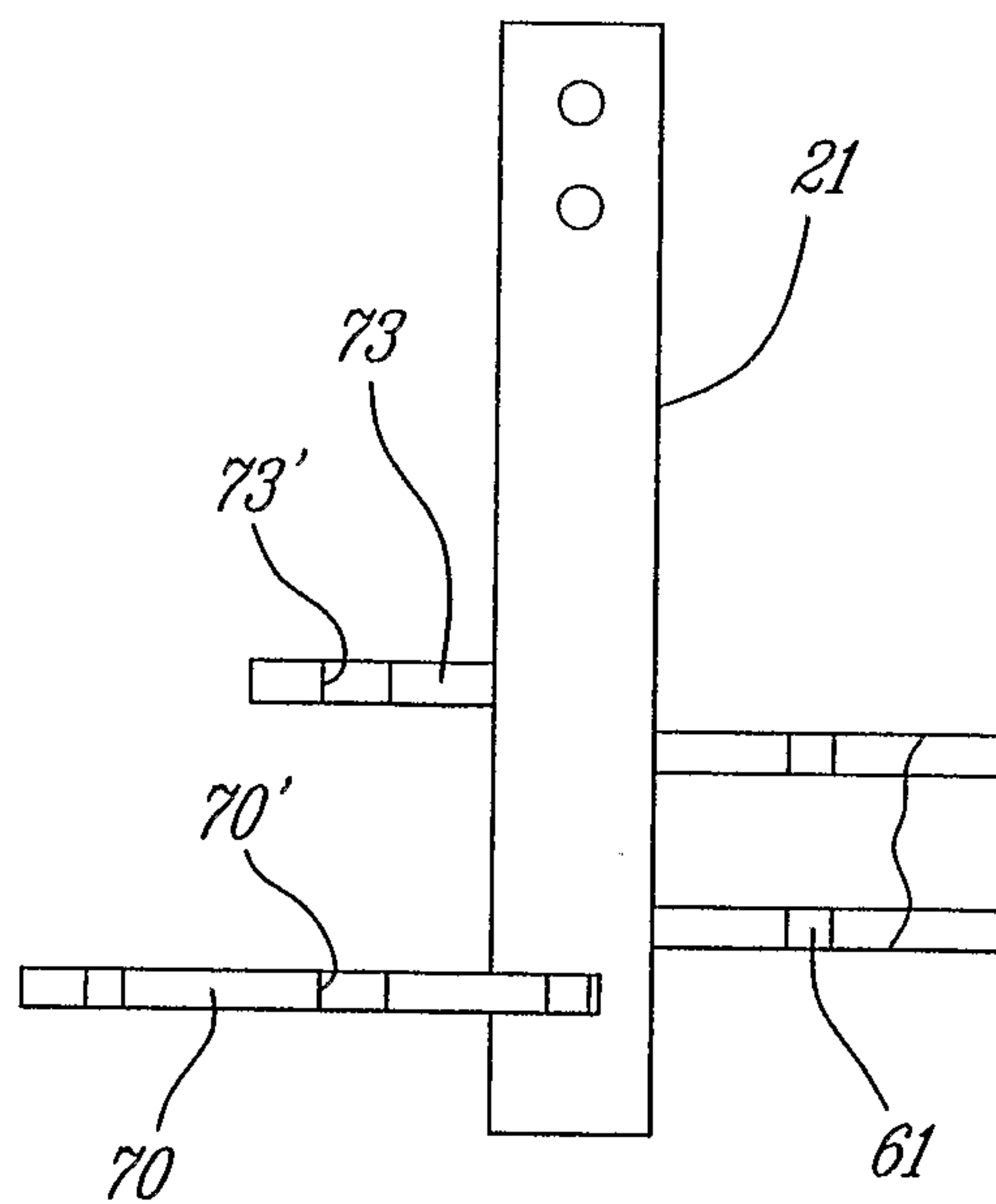
*Fig. 1*

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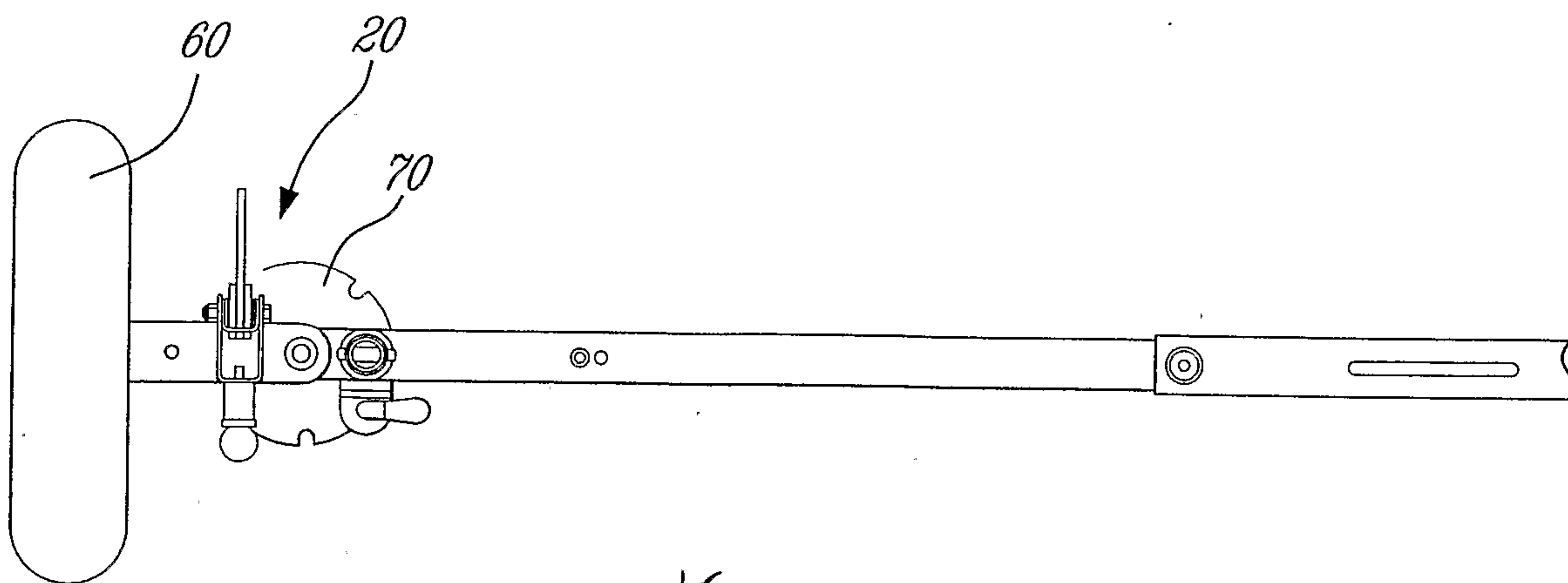
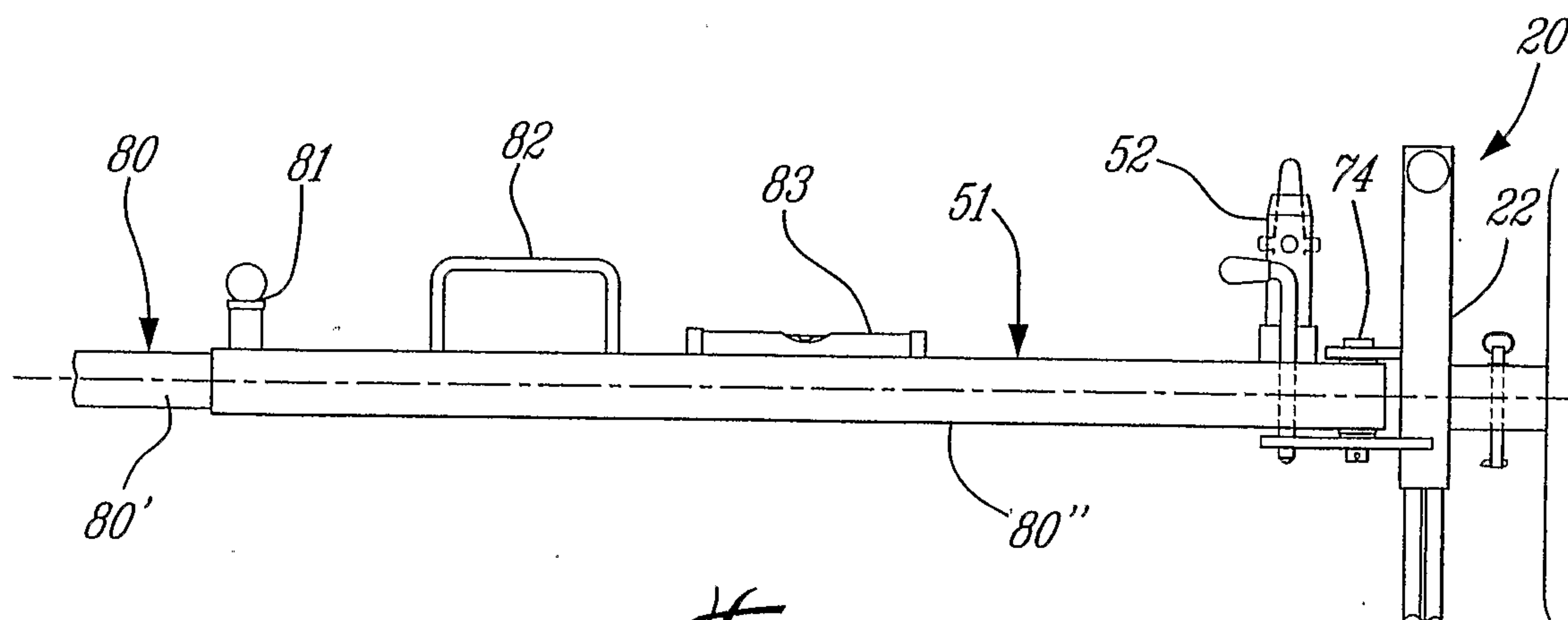
Fig. 3*Fig. 5**Fig. 4**Fig. 2*



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*Fig. 9**Fig. 10*

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*Fig. 11**Fig. 12*

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