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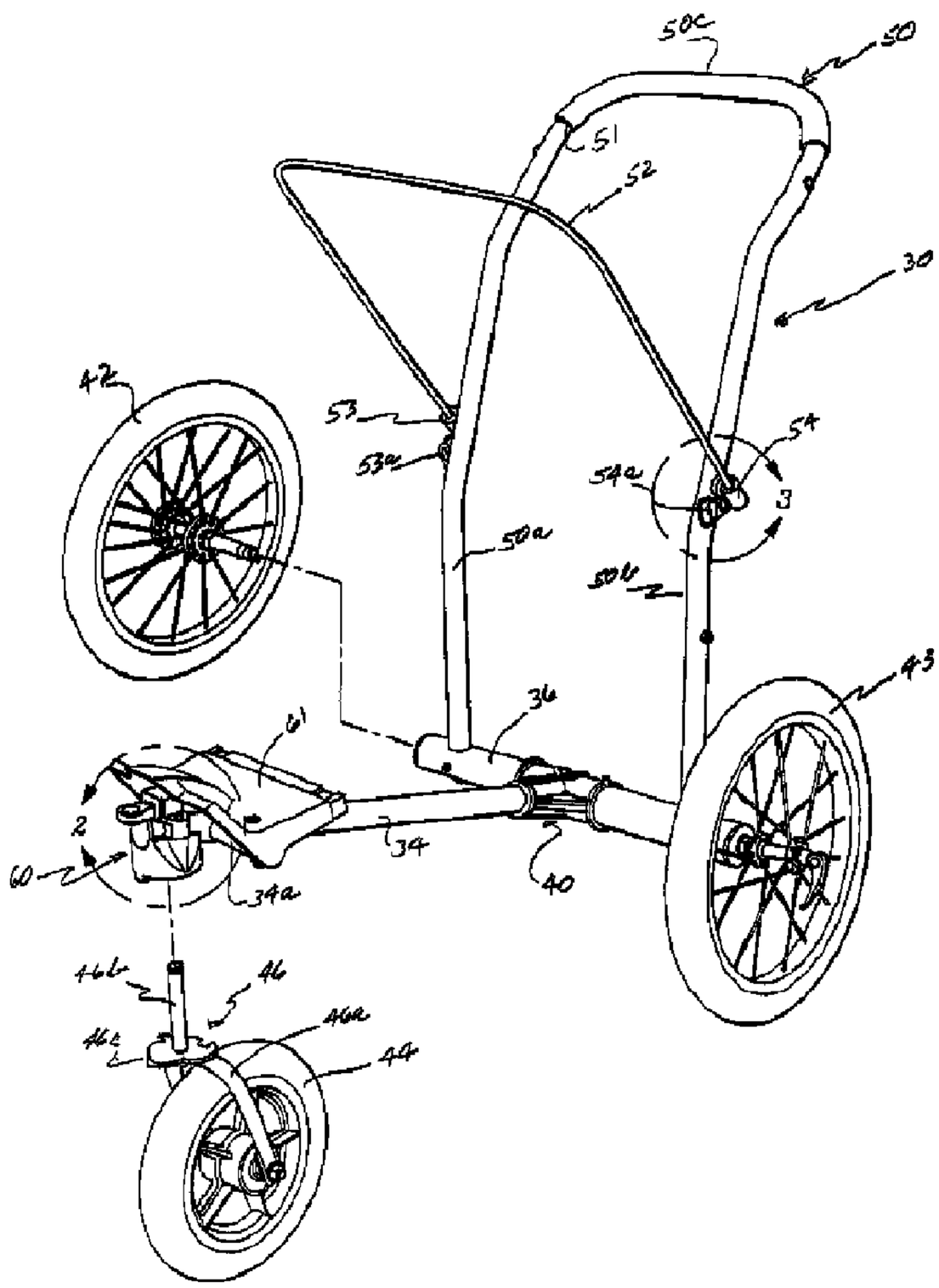
(54) **POUSSETTE DE JOGGING PLIANTE**

(54) **COLLAPSIBLE BABY JOGGING STROLLER**



(57) A collapsible frame assembly for a three-wheeled jogging stroller with demountable wheels and a removable cloth-like seat and canopy arrangement. The frame assembly includes a primary fore to aft main structural member with a rear axle assembly having a member of an enlarged diameter tubular construction with couplers at opposite ends thereof for supporting demountable or removable large diameter spoked wheel pneumatic tires with the axles thereof canted so that the wheels are downwardly divergent relative to the ground. A generally U-shaped handle member is affixed to the rear axle tube and dimensioned, configured and positioned for convenient gripping by a user. A T-shaped interconnection mechanism has the leg thereof secured to one end of the main structural member and the crossbar portion thereof receiving the tube of the rear axle assembly therein in perpendicular relation to the main

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structural member. The interconnection mechanism includes a cam lock device which enables selective relative sliding movement between the rear axle within the cross-bar portion from a first locked position with the handle member generally transverse to a plane formed by the main structural member and the rear axle tube and a second unlocked position with the handle and rear axle assembly pivoted toward the main structural member for positioning the handle proximate the main structural member. The front end of the main structural member has secured thereto a front fork receiving block assembly with a footrest attached on the structural member above the assembly. The block assembly has a vertical sleeve bearing or bushing therethrough for receiving the caster post of the fork assembly for the front wheel. The fork assembly and block assembly are matingly coactingly configured and arranged for enabling selection of front wheel movement to one of two positions - a first locked straight ahead position and a swivel caster position through an angle of about 180 degrees.

ABSTRACT OF THE DISCLOSURE

A collapsible frame assembly for a three-wheeled jogging stroller with demountable wheels and a removable cloth-like seat and canopy arrangement. The frame assembly includes a primary fore to aft main structural member with a rear axle assembly having a member of an enlarged diameter tubular construction with couplers at opposite ends thereof for supporting demountable or removable large diameter spoked wheel pneumatic tires with the axles thereof canted so that the wheels are downwardly divergent relative to the ground. A generally U-shaped handle member is affixed to the rear axle tube and dimensioned, configured and positioned for convenient gripping by a user. A T-shaped interconnection mechanism has the leg thereof secured to one end of the main structural member and the crossbar portion thereof receiving the tube of the rear axle assembly therein in perpendicular relation to the main structural member. The interconnection mechanism includes a cam lock device which enables selective relative sliding movement between the rear axle within the cross-bar portion from a first locked position with the handle member generally transverse to a plane formed by the main structural member and the rear axle tube and a second unlocked position with the handle and rear axle assembly pivoted toward the main structural member for positioning the handle proximate the main structural member. The front end of the main structural member has secured thereto a front fork receiving block assembly with a footrest attached on the structural member above the assembly. The block assembly has a vertical sleeve bearing or bushing therethrough for receiving the caster post of the fork assembly for the front wheel. The fork assembly and block assembly are matingly coactingly configured and arranged for enabling selection of front wheel movement to one of two positions – a first locked straight ahead position and a swivel caster position through an angle of about 180 degrees.

COLLAPSIBLE BABY JOGGING STROLLER

BACKGROUND OF THE INVENTION

The background of the invention will be discussed in two parts.

Field of the Invention

This invention relates to baby carriages or strollers, and more particularly to a stroller for an infant, which stroller may be utilized during jogging exercise.

Description of the Prior Art

Baby strollers are conventionally configured with a seating area for the infant and three or four wheel assemblies, which are sometimes arranged in pairs of wheels per assembly. In recent times, with physical fitness in mind, strollers have evolved into devices which can be utilized while running or jogging. Such vehicles are referred to as jogging strollers, whereby the parent, or other person, while pushing the infant therein, may conveniently exercise by jogging, or even running.

To provide a stable platform for the stroller, the stroller design includes pneumatic spoked wheel tires of larger diameter, approximating that of an elementary school child's bicycle. Furthermore, to provide a lightweight stroller, the construction of the seating portion is usually a flexible cloth-like material, while the frame assembly is formed of a tubular construction, such as aluminum tubes, which provide strength, as well as a light weight for the vehicle. Some such jogging strollers may be disassembled or folded, or a combination of both, for storage or transportation, that is, it is stowable.

In accordance with an aspect of the invention, there is provided a jogging stroller with removable wheels and a collapsible frame which may be readily assembled and disassembled, which stroller is compact, stable and lightweight.

SUMMARY OF THE INVENTION

In accordance with the invention there is provided a three-wheeled jogging stroller with demountable or removable wheels, a removable cloth-like seat and a collapsible frame assembly. The frame assembly includes a primary fore to aft main structural member with a rear axle assembly having a member of an enlarged diameter tubular construction with couplers at opposite ends thereof for supporting demountable or removable large diameter spoked wheel pneumatic tires with the axles thereof canted so that the wheels are downwardly divergent relative to the ground. A generally U-shaped handle member is affixed to the rear axle tube and dimensioned, configured and positioned for convenient gripping by a user.

A T-shaped interconnection mechanism has the leg thereof secured to one end of the main structural member and the crossbar portion thereof receiving the tube of the rear axle assembly therein in perpendicular relation to the main structural member. The interconnection mechanism includes a cam lock device which enables selective relative sliding movement between the rear axle within the cross-bar portion from a first locked position with the handle member generally transverse to a plane formed by the main structural member and the rear axle tube and a second unlocked position with the handle and rear axle assembly pivoted toward the main structural member for positioning the handle proximate the main structural member.

The front end of the main structural member has secured thereto a front fork receiving block assembly with a footrest attached on the structural member above the assembly. The block assembly has a vertical sleeve bearing or bushing therethrough for receiving the caster post of the fork assembly for the front wheel. The fork assembly and block assembly are matingly coactingly configured and arranged for enabling selection of front wheel movement to one of two positions – a first locked straight ahead position and a swivel caster position through an angle of about 180 degrees.

Other objects, features and advantages of the invention will become apparent from a reading of the specification, when taken in conjunction with the drawings, in which like reference numerals refer to like elements in the several views.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a perspective view of the collapsible frame of the stroller according to the invention, partially exploded;

Figure 2 is a perspective view of the front wheel fork and fork receiving block mounting assembly of the collapsible frame of the stroller of Figure 1;

Figure 3 is a sectional view of the front wheel mounting assembly of Figure 2 taken along line 3-3 thereof;

Figure 4 is a side elevational view of the assembled collapsible frame of Figure 1;

Figure 5 is an enlarged fragmentary side view of the rear wheel assembly of the collapsible frame of the stroller of Figure 1, shown partially in cross-section;

Figures 6 and 7 are cross-sectional views of the front wheel fork and fork receiving block mounting assembly of Figure 2 as taken along line 6,7-6,7 thereof, showing the caster post of the fork member in unlatched and latched positions, respectively;

Figure 8 is a plan view of a caster thrust bearing plate of the fork mechanism taken along line line 8-8 of Figure 6;

Figure 9 is a fragmentary bottom plan view of the T-shaped interconnection mechanism of the rear axle tube and the central frame member;

Figure 10 is a fragmentary top plan view of the T-shaped interconnection mechanism of the rear axle tube and the central frame member;

Figure 11 is a cross-sectional view of the T-shaped interconnection mechanism of Figure 9 as viewed along line 11-11 thereof;

Figures 12 and 13 are rear elevational views of the T-shaped interconnection mechanism of Figure 10 as viewed along line 12,13-12,13 thereof showing the cam lock lever in its unlatched and latched positions, respectively;

Figure 14 is a cross-sectional view of the T-shaped interconnection mechanism of Figure 10 as viewed along line 14-14 thereof;

Figures 15 through 17 are side elevational views of the collapsible frame of Figure 1 with the rear wheels and front wheel assembly removed and the frame in first, second and third positions of collapsing from an upright position to a folded position;

Figure 18 is a perspective view of the collapsible frame of the stroller according to the invention, with a flexible cloth-like seat and canopy members attached for use as a jogger;

Figure 19 is a side elevational view of the assembled jogging stroller of Figure 18;

Figure 20 is a bottom plan view of the assembled jogging stroller of Figure 18;

Figures 21 and 22 are diagrammatic views of the movement of the caster thrust bearing plate realtive to the front fork receiving block assembly with the bearing in the swivel position;

Figure 23 is an enlarged plan view of the slider latch used in the front fork receiving block assembly for retaining the fork therein; and

Figure 24 is a cross-sectional view of the slider latch of Figure 23.

DESCRIPTION OF THE PREFERRED EMBODIMENT

In accordance with the invention, there will be described a frame assembly for a jogger type stroller in which the frame is generally T-shaped with the interconnection being provided by a mechanism which enables selective displacement of the rear axle (and handle fixed thereto)

relative to a main structural member to enable pivoting of the axle/handle assembly within the interconnection to fold or collapse the unit. Wheel couplers are constructed for ready removal, as is the canopy and seat arrangement for the stroller. As a further feature, the front wheel of a tricycle wheel arrangement is assembled to a fork having an indexing type thrust bearing disc which is configured about its perimeter for manual selection of one of two movement positions of the front wheel, that is, swiveling through about 180 degrees or fixed for movement along a line in alignment with the main structural member.

Having provided a general overview, specifically referring now to the drawings, and particularly to Figure 1, there is shown a collapsible frame assembly, generally designated 30, for use as a three-wheeled jogging stroller. The frame assembly 30 includes a generally T-shaped frame structure formed of a main structural member 34, a rear axle tube 36 and a T-shaped interconnection mechanism, generally designated 40. An inverted generally U-shaped handle bar, generally designated 50, has the free ends of parallel bars 50a, 50b, thereof securely fastened to the axle tube 36, such as by welding. As best shown in Figure 4, the handle 50, when positioned for use, extends upwardly and then is bent rearwardly through two stages, that is, through two different angles, so that the bight portion 50c is conveniently positioned for the user. The bight portion 50c would preferably be covered with a frictional sleeve, such as synthetic rubber or plastic tubing 51.

The front end of the main structural member 34 has secured thereto a front fork receiving block assembly, generally designated 60 (See also Figure 2), with a foot rest 61 attached on the structural member 34 above the assembly 60. Referring also to Figures 6 through 8, the block assembly 60 has a vertical sleeve bearing or bushing 64 therethrough for receiving the caster post or spindle 46b of the fork assembly 46 for the front wheel. The front pneumatic tire wheel 44 is secured to a fork 46a of a fork assembly, generally designated 46, the assembly including a

spindle or shank 46b atop a caster thrust bearing disk 46c. The shank 46b. as will be described hereinafter. is a hollow tubular portion, the outer diameter of which is dimensioned for being received within a sleeve bearing 54 (See also Figs. 6 through 8) of a fork receiving block assembly, generally designated 60.

The fork assembly 46 and block assembly 60 have parts thereof matingly coactingly configured and arranged for enabling manual selection of front wheel 44 movement to one of two positions – a first locked straight ahead position and a swivel caster position through an angle of about 180 degrees. To accomplish this, the fork assembly 46 is provided with a lock disk or thrust bearing 46c intermediate the fork 46a and the caster post or spindle 46b. Referring specifically to Figure 8, the perimeter of the thrust bearing disk 46c is provide with a reduced diameter edge 46d, extending through an angle of about 180 degrees, with a lock notch 46e diametrically opposite the midpoint of the arc of 46d. As will be described, the notch 46e, when engaged, locks the fork 46a so that the wheel 44 is pointed along the line of the member 34. When the arc edge 46d is engaged, the wheel 44 is free to swivel through an angle of about 180 degrees. As will be described hereinafter, the spindle 46b is releasably received within the sleeve bearing 64.

By reference to Figures 1, 3 and 4 (as well as Figures 15-20) a generally U-shaped canopy bracket 52 has the ends thereof pivotably attached to suitable spring-loaded fittings 53. 54 (See also Fig. 3) fastened on the sides of the handle uprights 50a and 50b. Triangular eyelets or D-rings 53a, 54a are attached at the same position for securing the flexible clothlike seat arrangement as will be described.

The rear axle assembly has the axle 36 formed of an enlarged diameter tubular construction with couplers at opposite ends thereof for supporting demountable or removable large diameter spoked wheel pneumatic tires 42, 43 with the axles thereof canted so that the

wheels are downwardly divergent relative to the ground. The pneumatic tire rear wheels 42, 43 are releasably attached to the rear axle 36 by a suitable cam lever release mechanism, generally designated 48 which is depicted in Figure 5 and more fully shown and described in Applicant's co-pending application Serial No. 09/342,032, filed 28 June 1999 , which mechanism forms no part of the instant invention.

Having provided a general description of the major components, a detailed description will now be provided. The main structural member 34 is formed as a metallic tubular member, such as aluminum, with a pair of aligned oppositely projecting stubs 34a (only one of which is shown in Figures 1 and 2), these stubs being used, in part, to support the generally L-shaped footrest 62, which is secured such as by screws 35 to the stubs 34a. The leading edge (the edge in the forward direction of movement) of the foot rest 61 is provided with a slight bulge which is conformed to overly the fork receiving block assembly 60. As shown in Figures 1, 2, 6 and 7, the block assembly 60 is secured to the leading edge of the main structural member 34 and a sleeve bearing 64 passes through the block 60 and the frame member 34 with the longitudinal centerline of this bearing 64 being along a line which is generally perpendicular (or at a nominal angle to) the surface on which the jogger will ride in operation.

As shown in Figures 6 and 7, and more particularly in diagrammatic form in Figures 21 and 22, the undersurface 60a of the block 60 is generally planar and the block 60 includes an integrally formed post 63 depending from this surface, the post 63 being located, relative to the centerline of bearing 64, a distance slightly greater than the radius of the arced edge 46d of the caster thrust bearing 46c, which radius also corresponds to the radius of the seat portion of notch 46e. By suitably removing and rotating the spindle 46b, either the notch 46e or the arced edge 46d can be positioned in proximate relation to the post 63.

For enabling captive retention, while permitting release, of the fork assembly 46, as shown in Figures 6 and 7, there is provided a slider latch 68, slidably mounted within a slot 69 formed in the upper end of the block assembly 60. Referring also to Figures 23 and 24, the slider latch 68 is generally bar shaped of fixed thickness with a relieved surface 68a at the inner portion thereof, the surface 68a having a keyhole opening 71 therein, the larger diameter of which is slightly greater than the diameter of the head of a bolt 70 secured within spindle 64, with the slotted portion of the keyhole slot 71 having a width slightly greater than the bolt 70 shank diameter. As best depicted in Figure 23, the slot 72 in latch 68 is open at the end opposite the handle to enable spreading during movement of the bolt 70 within slot 72. The opening 71 is slightly larger than the head of bolt 70, whereas the diameter of the opening 71a is of smaller diameter, generally corresponding to the diameter of the shaft of bolt 70.

Figure 6 shows the latch 68 withdrawn, in which position, the head of bolt 70 conveniently passes through the enlarged aperture of the keyhole slot 71, while in Figure 7, the latch 68 is inserted with the slotted portion of keyhole slot 71 engaging the shank of bolt 70 with the head of bolt 70 resting atop the relived surface 68a. In both views, the caster thrust bearing 46c is in position for providing swiveling action of the fork assembly 46.

Briefly, by reference to Figure 3, as well as Figure 1, the spring-loaded connection 54 of the canopy bar 52 to the handle 50 will be described. The canopy bar 52 is received within a tubular member or sleeve 52a, which is secured to a first lock washer member 55a which coacts with a second like washer member 55b which is fixed relative to handle 50b. A bolt 75 passes through the handle 50b and through the center openings of washers 55a, 55b, which are provided with mating coacting radially serrated surfaces in facing relation. These surfaces are held in frictional coaction by means of a spring 76 encircling the shaft of bolt 75 to abut the outer surface of washer 55a and the inner surface of a cap washer 77 which is secured on bolt 75 by

means of a nut 78. As can be seen, the spring 76 is in a state of compression which can be adjusted by means of adjusting the nut 77, the intent being to provide a sufficient amount of compression on washer 55b to hold the canopy bar 52 in a desired position while permitting adjustment by exerting force on pivoting of the canopy bar 52 to cause separation of the coacting washer surfaces.

Figure 5 shows the cam lever release mechanism, generally designated 48, heretofore referenced with respect to Applicant's co-pending application. Briefly, the end of axle 36 has secured thereto a wheel receiving member 80 having an axle receiving opening 81 passing therethrough at an angle "Z" to the centerline of axle 36. The hub of the wheel 42 of the pneumatic tire has a cam operated mechanism 48 passing therethrough into engagement with the member 80 for releasably retaining the wheel thereon. Of course, wheel 43 will have a like arrangement on the other end of axle 36. The angled orientation of the axles of the hubs of wheels 42 and 43 result in an outwardly and downwardly divergent relation of the wheels to the axle 36.

Referring now to Figures 9 through 14, the details pertaining to the interconnection of the main structural member 34 to the rear axle 36 will be described. As previously mention the two parts are held together by a T-shaped interconnection mechanism, generally designated 40, which has the leg 40a thereof secured to one end of the main structural member 34 and the crossbar portion 40b thereof receiving the tube 36 of the rear axle assembly therein in perpendicular relation to the main structural member 34. The interconnection mechanism 40 includes a cam lock device which enables selective relative sliding movement between the rear axle within the cross-bar portion from a first locked position with the handle member generally transverse to a plane formed by the main structural member and the rear axle tube 36 and a

second unlocked position with the handle 50 and rear axle 36 assembly pivoted toward the main structural member 34 for folding or collapsing.

The interconnection mechanism 40 is preferably formed of two shell-like halves of metal, preferably formed of cast aluminum. The assembled mechanism 40 is essentially a T formed with a tubular opening 84 extending through the crossbar 85 and an intersecting tubular opening 86 extending through the leg 87 (See especially Figure 14). The free ends of crossbar 85 and leg 87 are flanged. The inner diameter of opening 86 is slightly greater than the outer diameter of main structural frame member 34. The end of member 34 is secured within the opening 86 by suitable means such as frictional clamping engagement, by welding or by use of suitable fasteners passing through the leg 87 into tube frame 34. Correspondingly, the inner diameter of crossbar 85 is slightly greater than the outer diameter of rear axle 36, with the tolerance being sufficient to permit sliding of the rear axle 36 within the crossbar 85, at least sliding in a limited amount as will become apparent.

By reference particularly to Figures 9 and 10 which represent the bottom and top views respectively, Figure 10 is a view of the mechanism 40 showing Figure 9 rotated 180 degrees along the centerline of the leg 87. The purpose of this statement is to clarify that Figure 9 shows a stop pin 90b projecting radially outwardly of the axle 36, and Figure 10 shows a stop pin 90a projecting radially outwardly of the axle 35. By reference to Figure 11, it can be seen that these stop pins are diametrically opposed along a common diameter and both are on the same side relative to an edge of the crossbar 85. At the adjacent edge of crossbar 85, arcuate cutouts 91a and 91b are formed for fixedly engaging the corresponding stop pins 90a, 90b with the crossbar 85 in the position shown in Figures 9 and 10 relative to the axle 36.

As shown in Figure 10, there is a horseshoe-shaped rib 93 formed in the upper shell of the mechanism 40, the inner part of this horseshoe shape being cutaway to reveal the axle 36

thereunder. Effectively, as will become apparent, this cutaway and rib 93 configuration provides a cam follower shoulder and an operating slot for movement of a cam lever 95. As shown more particularly in Figure 10, the pivot axis provided by screw 96 of the cam lever 95 is offset relative to the longitudinal centerline of the horseshoe shaped rib 93, which is center along the axial centerline of the leg 87. With the lever 95 pivoted to the position shown in Figure 10, this is the lock position at which the relation of frame member 34 to the axle 36 and handle 50 unit are as shown in Figure 4, that is ready for use. Immediately to the right of crossbar 85 (Figure 10) there is a retractable spring-loaded pin 98 abutting against the shoulder of crossbar 85. With stop pins 90a and 90b fitted and received snugly within cutouts 91a and 91b, along with retractable lock pin 98 urging against the opposite side of crossbar 85, the parts are in fixed relation, that is, axle 36 is fixed relative to mechanism 40, and consequently relative to frame member 34.

The position of lever 95 in Figure 10 corresponds to the position of the lever as illustrated in Figure 13. As shown in Figure 13, the lock pin 98 is spring biased by means of being positioned at one free end of a U-shaped spring member 98a retained within the interior of axle 36 with the other end of spring 98a having the pin 98 secured thereto for protruding through an aperture 99. When the locking cam lever 95 is pivoted counterclockwise from the position shown in Figure 13 to the intermediate position shown in Figure 12, relative sliding movement occurs between crossbar 85 and axle 36 with axle 36 being relatively displaced in the direction as indicated by the arrow 36a in Figure 12. During this action the outer periphery of the cam lobe 95a of lever 95 abuttingly engages rib (and shoulder) 93 which operates as a cam follower. As this sliding relative movement occurs, the right edge of crossbar 85 urges the spring biased stop pin 98 downwardly against the force of its bias (that is, inwardly relative to axle 36).

After release of stop pins 90a, 90b from cutouts 91a, 91b, as depicted in Figure 14, relative pivoting motion can be effected between axle 36 within opening 84 in the counterclockwise direction shown by arrow 84a, thus moving lever 95 within the cutaway portion defined by the interior edges of rib 93 from solid position 95 to dotted line position 95'. This effectively equates to movement of the handle 50/axle 36 unit relative to frame member 34 from the initial position shown in Figure 4 (with lever 95 in the solid position shown in Figure 14) through the intermediate stages of frame folding sequentially shown in Figures 15, 16 and 17, respectively, where the component positions shown in Figure 17 generally corresponds to the lever 95' positions shown in dotted lines in Figure 14. Figures 15 through 17 show the primary jogger frame components with the wheels removed, along with the seat and canopy to be hereinafter described.

Referring now to Figures 18 through 20, the jogger frame is completed with a flexible cloth like seating arrangement, generally designated 100 and a canopy, generally designated 102. Referring first to Figure 4 (as well as Figure 20), there is a first D-ring 54a connected to the handle 50 adjacent the spring loaded canopy support fitting 54. A like fitting 53 and ring 53a is positioned on the opposite side of the handle 50. A companion D-ring 61a is positioned beneath the footrest 61 (with a like companion ring 61b on the opposite side of the footrest 61). These D-rings operate as a pair for providing support to a seat, specifically, a flexible and adjustable strap 110 (and 112) is coupled to D-rings 54a, 61a (and 53a, 61b). These two straps 110, 112 provide the main support for the flexible seat which includes a seat pouch portion 120, a seat back portion 122 with interconnecting generally triangularly configured seat side panels 123 and 124. and a leg support region 125 intermediate the seat and the footrest 61. The various parts are provided on the exterior with straps sewn to the seat portions, with the ends of the straps having suitable means for attachment to one of the metallic handle 50 as well as the straps 110, 112.

The straps, such as strap 111 securing seat pouch 120 to handle 50 may be of the adjustable buckle type or may be a hook and eye fastener such as a Velcro™ fastener.

Velcro™ fasteners strips are also employed on the underside of the seat portion encircling the straps 110 and 112 as depicted in Figure 20. The strips are not shown but would be intermediate the abutting overlying portions at the line of securing to the straps. To complete the protection for the occupier of the seat 120, a suitable adjustable seat belt 130 is provided and suitably attached primarily to the seat back portion 120. For sun or weather protection, a separable canopy 140 has the front end thereof secured to the bight portion of the canopy support 52, the back attached between the handle portions 50a and 50 (and secured such as by snap fittings) with the sides having the lower ends thereof attached to snaps adjacent the canopy pivot fittings 53, 54.

While the description has utilized directional references, such as up, down, right, left, clockwise, etc., it is to be understood that these terms are utilized with reference to the orientations in the figures and are not intended to be limiting. The construction of the jogger stroller frame assembly 30 is primarily of lightweight stable materials such as aluminum rod and of aluminum tubing. The canopy and seat may be formed of any convenient material such as cloth, plastic or other synthetic composition material suitable for the intended purpose.

In use, the stroller 30 is stable and efficient in the use of the energy of the operator, whether walking or jogging. In side elevational view, as shown in Figure 4, the sections that make up the handlebar form lines along two different angles to place the gripping portion at a convenient location relative to a runner or jogger. Furthermore, with the large diameter canted rear wheels 42, 43, lateral stability is provided during movement. In addition, as previously mentioned, with the seat positioned relative to the frame such that the center of gravity of an infant seated therein lies in general vertical alignment with, or slightly forward of, the axes of the

rear wheels 42, 43, the stroller 30, whether being pushed slowly or rapidly, places the majority of the weight of the combination of the stroller and infant just forward of the rear wheels.

For collapsibility, the jogger has a modular construction with the frame 30 being one component, the front wheel fork assembly 46 being a second component and the wheels 42, 43 comprising third and fourth components, the latter three components being readily removable and attachable to the frame 30. The fork assembly 46 provides the unique option of selecting one of two modes of operation of the front wheel 44 relative to the other two wheels, that is a fixed position or a swiveling condition. In addition, the T-shaped interconnection mechanism 40 provides an uncomplicated mechanism for enabling collapsing of the frame assembly as heretofore described. While there has been shown and described a preferred embodiment, other adaptations and modifications may be made without departing from the spirit and scope of the invention.

What is claimed is:

CLAIMS

1. A frame assembly for a stroller for conveying an infant or toddler. said frame assembly comprising:

a main structural frame member;

a fork receiving mounting block assembly secured to one end of said frame member;

a rear axle configured for rotatably supporting a pair of wheels at the end thereof;

a generally inverted U-shaped handle member having the ends thereof fixedly secured to said rear axle in generally symmetrical relation to the ends of said axle;

a T-shaped interconnection mechanism having the leg thereof secured to the other end of said frame member and the cross-bar portion thereof having a tubular opening extending therethrough for slidably receiving said axle therein;

cam lever means pivotable relative to said rear axle and interoperatively engaging said interconnection mechanism for enabling relative displacement of said mechanism and said axle on pivoting thereof between a first locked position with said handle member erect for use and a second position wherein said axle and said handle can be pivoted as a unit toward said frame member for collapsing said frame assembly.

2. The assembly of claim 1 wherein said interconnection mechanism is formed of two shell like halves.

3. The assembly of claim 1 wherein said fork receiving block assembly includes a sleeve bearing therein along a line generally perpendicular to a plane formed by the rear axle and

the frame member and said assembly further includes a wheel receiving fork having a spindle pivotably and removably received within said bearing.

4. The assembly of claim 3 wherein a thrust bearing is provided on said spindle adjacent said fork, said thrust bearing being in the form of a disk with a reduced diameter edge extending through an angle of about 180 degrees with a lock notch diametrically opposite the midpoint of the arc of the reduced diameter edge, and means are provided for manually selecting one of said notch and said edge for locking the fork with the wheel fixed for movement only in one direction on selection of said notch and, for enabling swiveling of said fork through an angle of about 180 degrees on selection of said edge.

5. A frame assembly for a stroller for conveying an infant or toddler, said frame assembly comprising:

a main structural frame member;

a rear axle configured for rotatably supporting a pair of wheels at the end thereof;

a generally inverted U-shaped handle member having the ends thereof attached to said rear axle in generally symmetrical relation to the ends of said axle;

an interconnection mechanism for securing one end of said frame member in generally perpendicular relation to said rear axle adjacent the midpoint of said axle;

a fork for rotatably supporting the front wheel of the stroller, said fork having a spindle member;

a fork receiving mounting block assembly secured to the other end of said frame member and having a spindle receiving opening therein; and

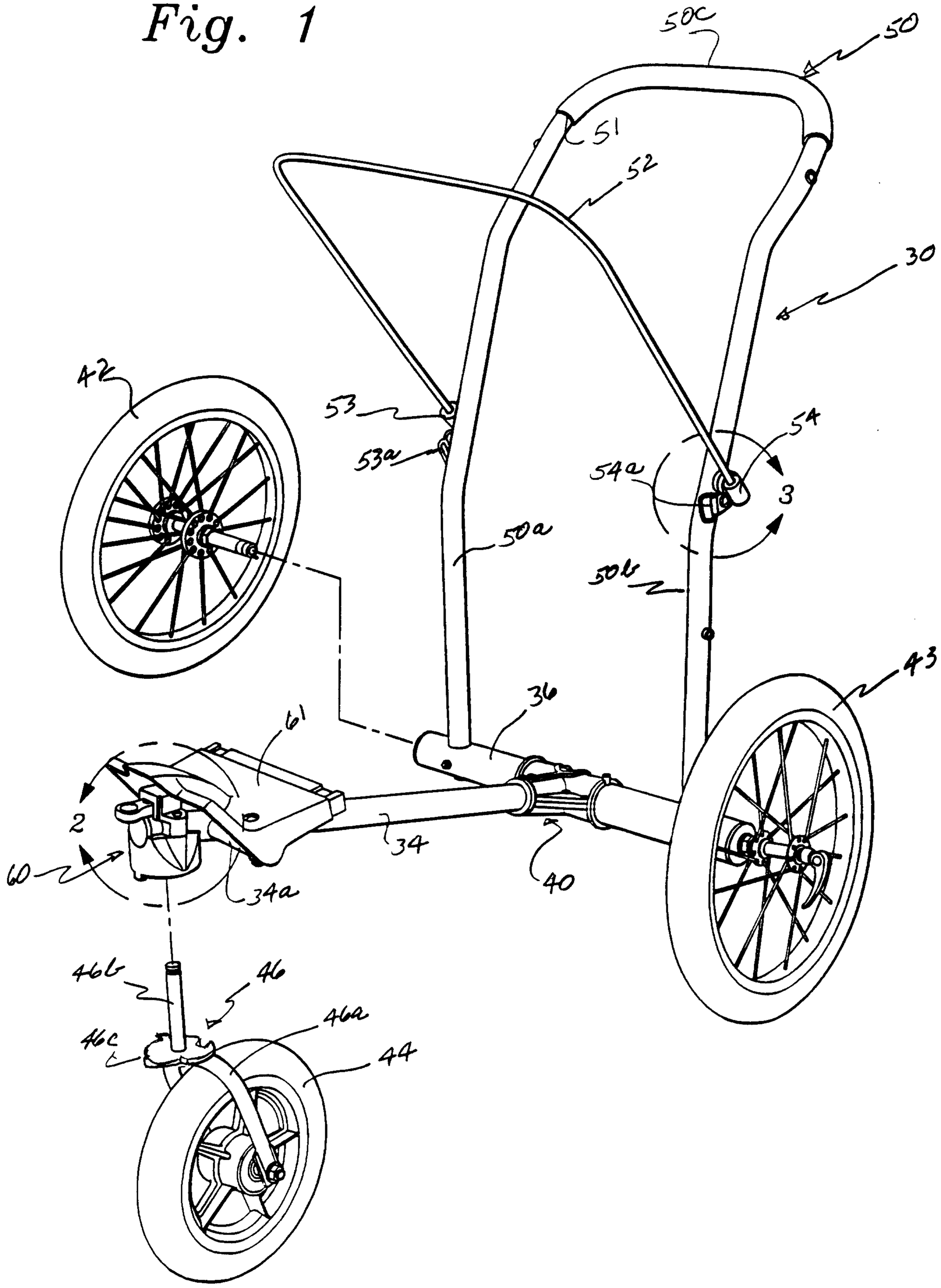
coacting means on said fork and said block assembly for enabling selection of one of two modes of operation of the fork, one of said modes latching the fork relative to said block assembly and the other of said modes enabling swiveling movement of said fork through an angle approximating 180 degrees.

6. The assembly of claim 5 wherein said coacting means includes a disk member having a reduced diameter edge of about 180 degrees and a notch diametrically opposite the midpoint of said edge, said disk member being attached at the base of said spindle, said coacting means further including a stop post fixedly positioned on said block assembly for either positioning within said notch or slidably abutting against said edge.

7. The assembly of claim 5 wherein said interconnection mechanism includes a portion slidable relative to said rear axle and said rear axle include means operable into or out of engagement with said slidable portion to thereby enable locking of the two parts one relative to the other, or to permit relative pivoting of the two parts to permit collapsing or folding of the frame.

8. The assembly of claim 5 wherein said interconnection mechanism is T-shaped with a cross-bar portion having a tubular opening extending therethrough for slidably receiving said axle therein, and cam lever means pivotable relative to said rear axle and interoperatively engaging said interconnection mechanism for enabling relative displacement of said mechanism and said axle on pivoting thereof between a first locked position with said handle member erect for use and a second position wherein said axle and said handle can be pivoted as a unit toward said frame member for collapsing said frame assembly

Fig. 1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44

Fig. 2

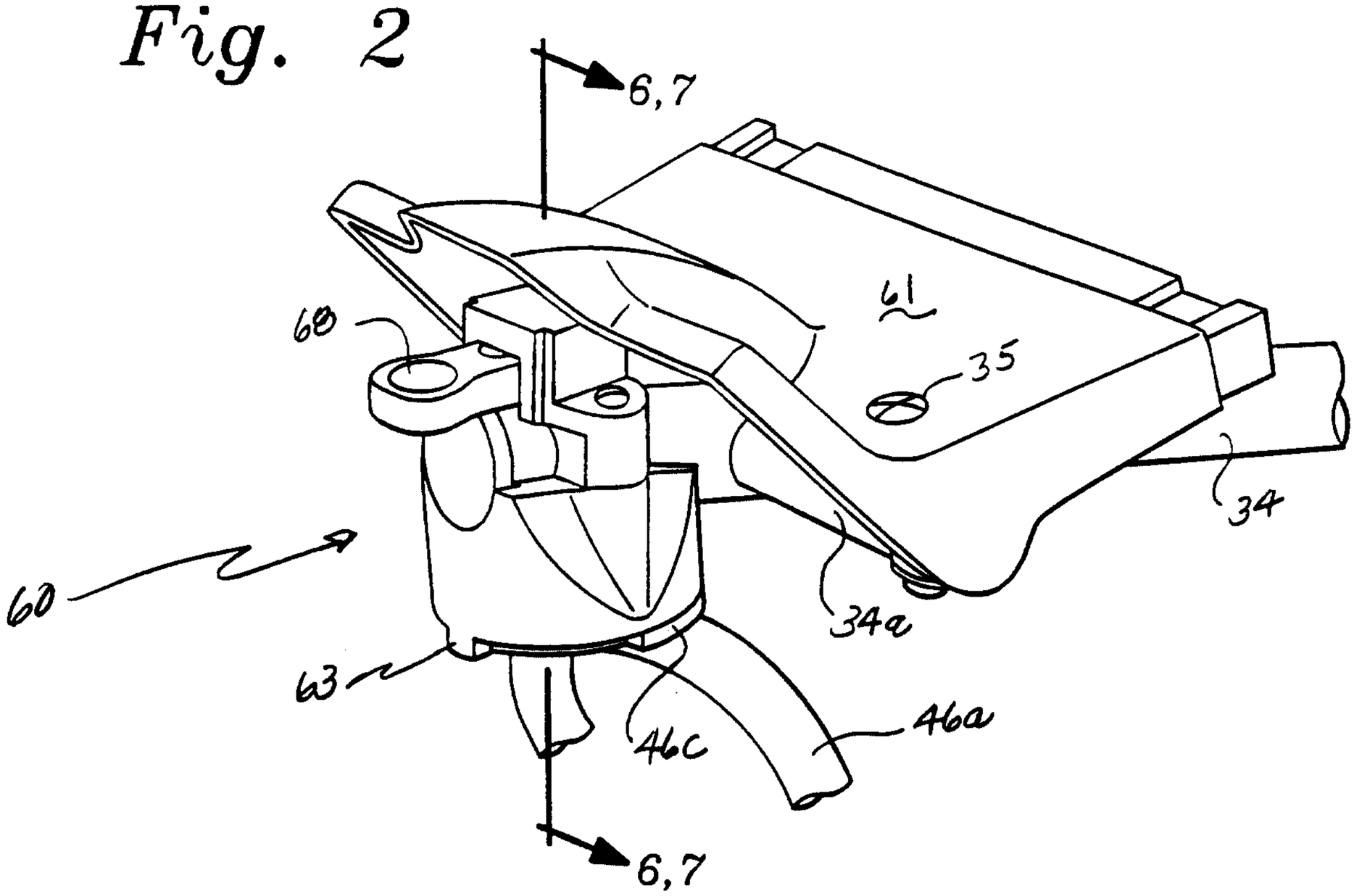
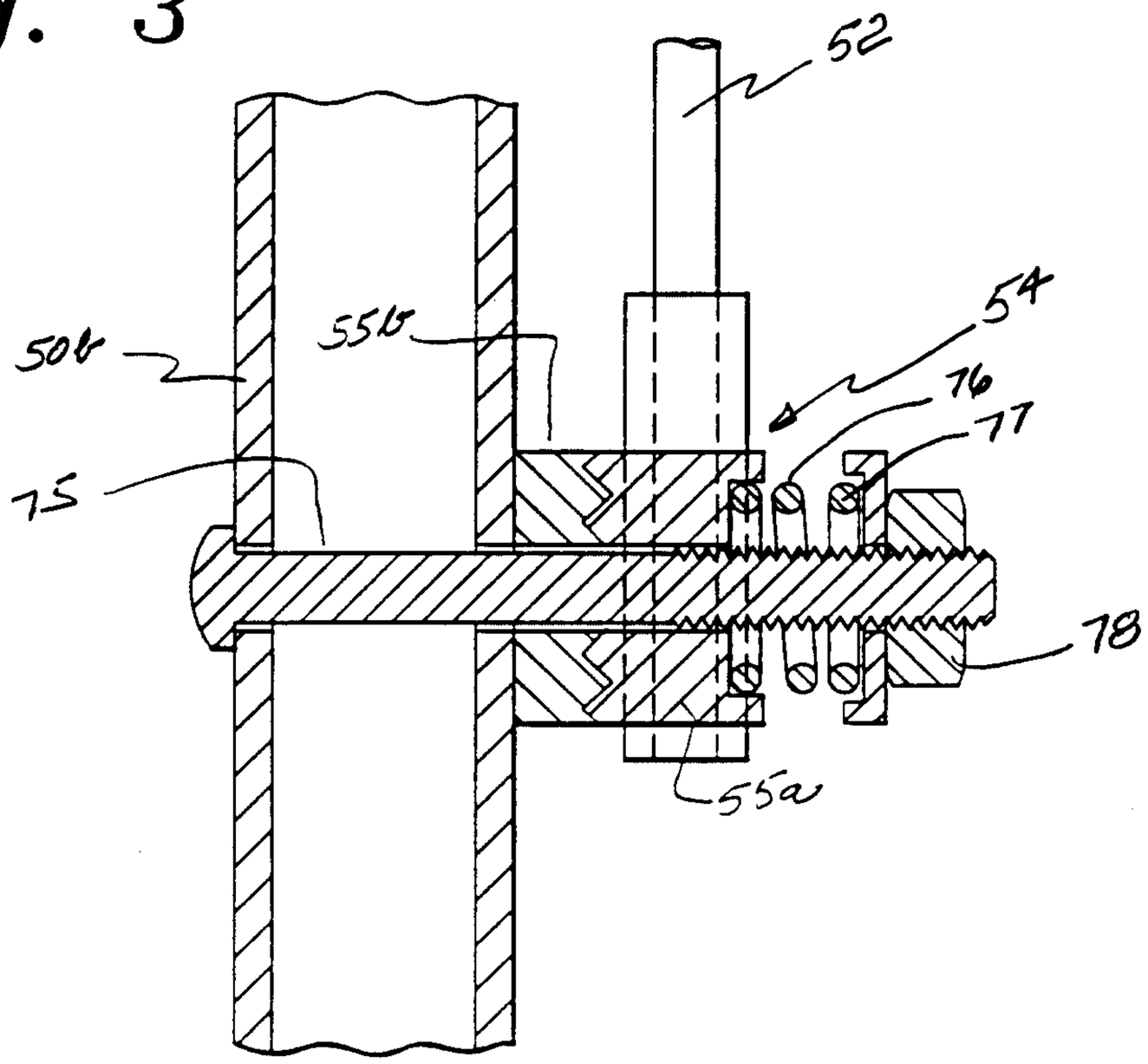


Fig. 3



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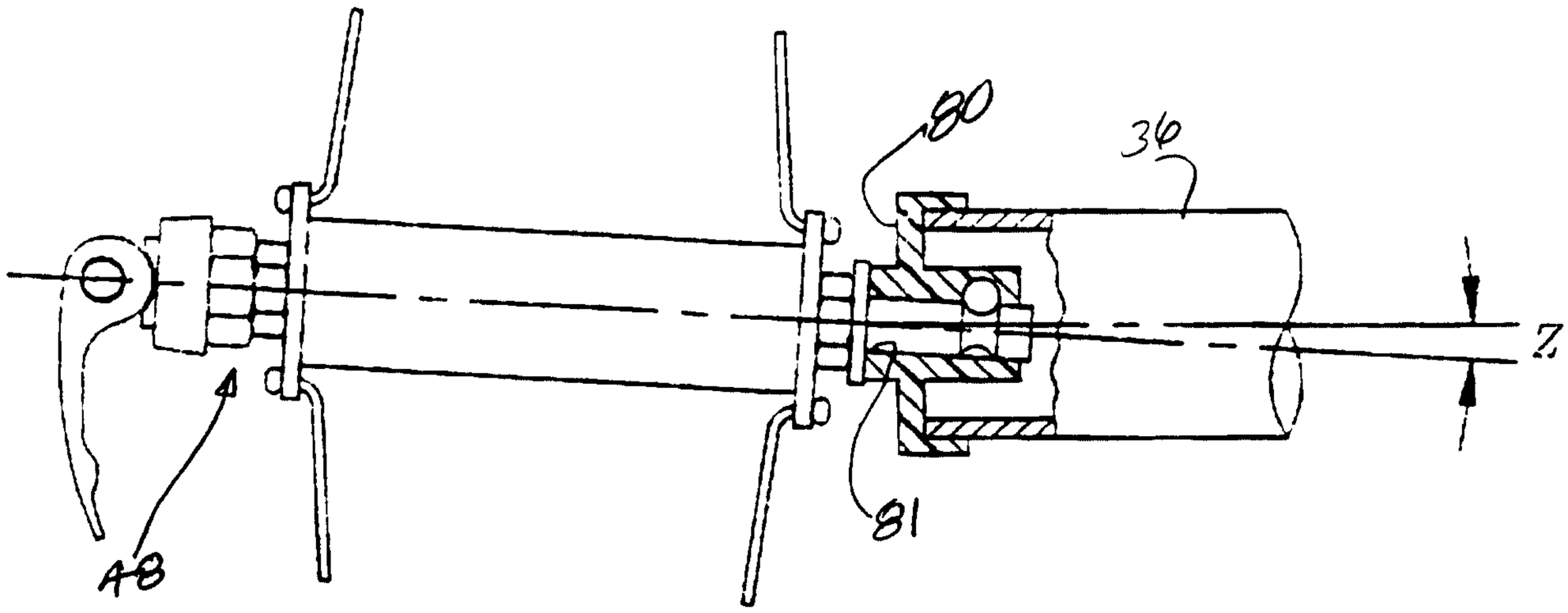

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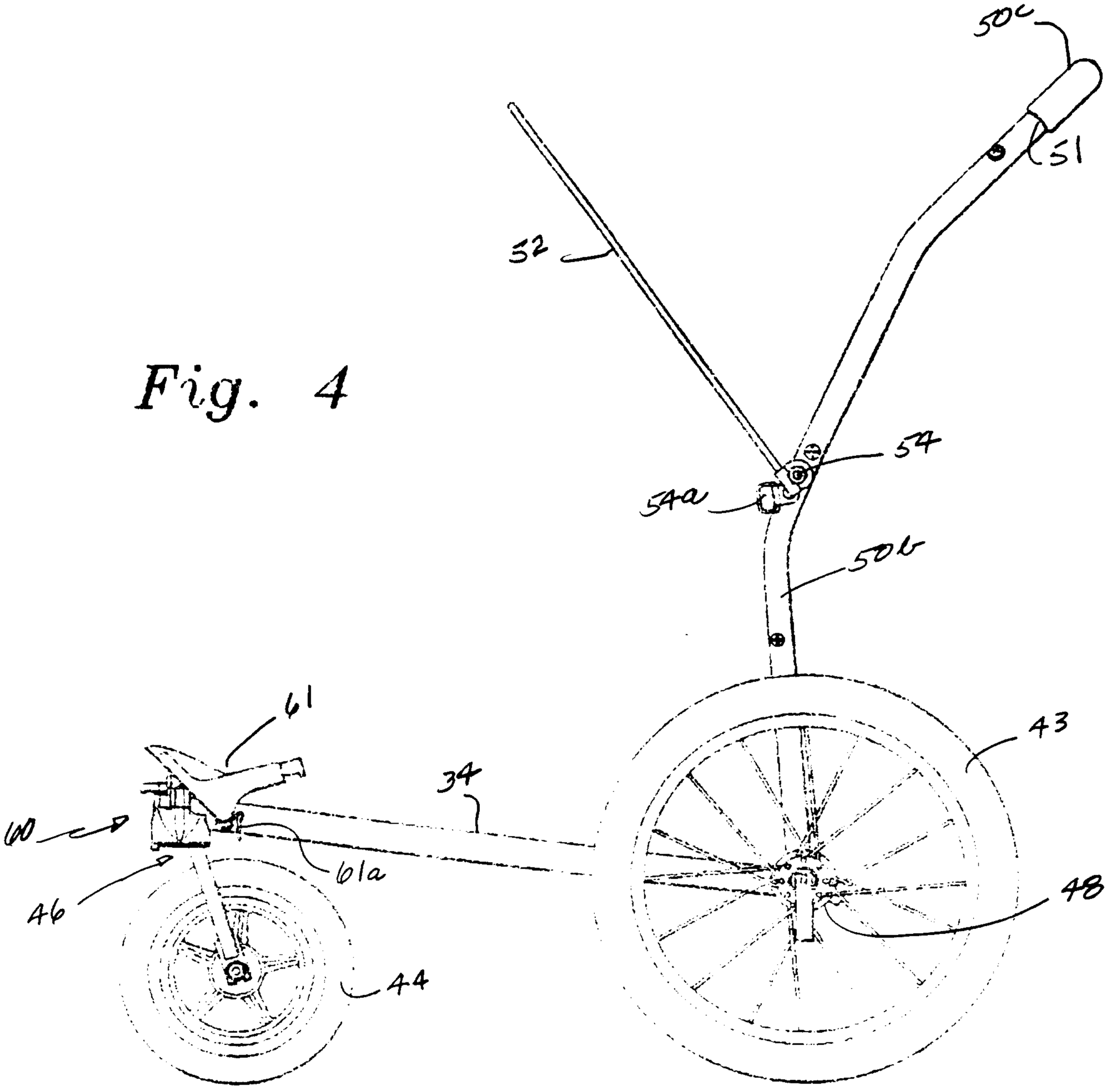

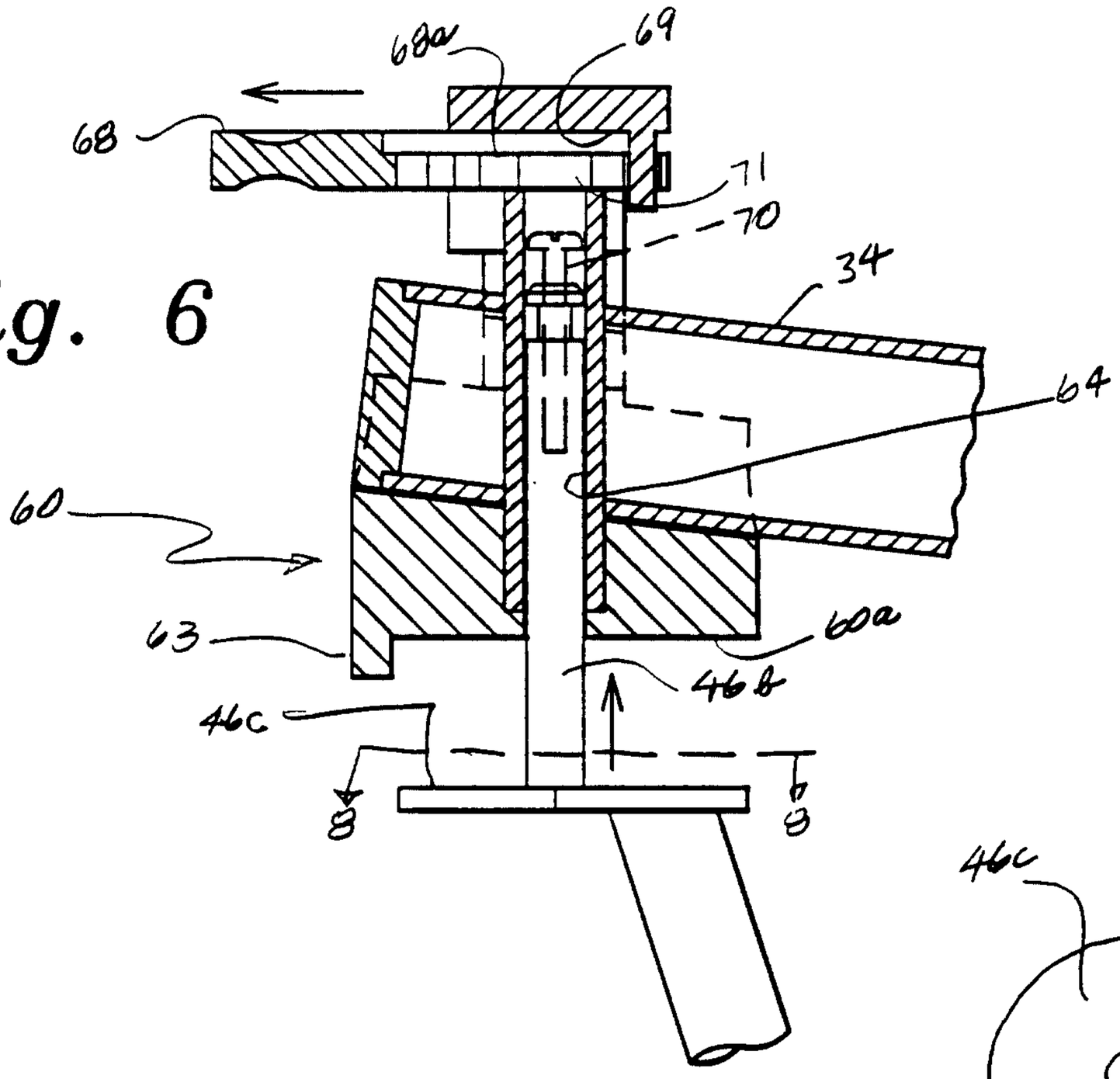

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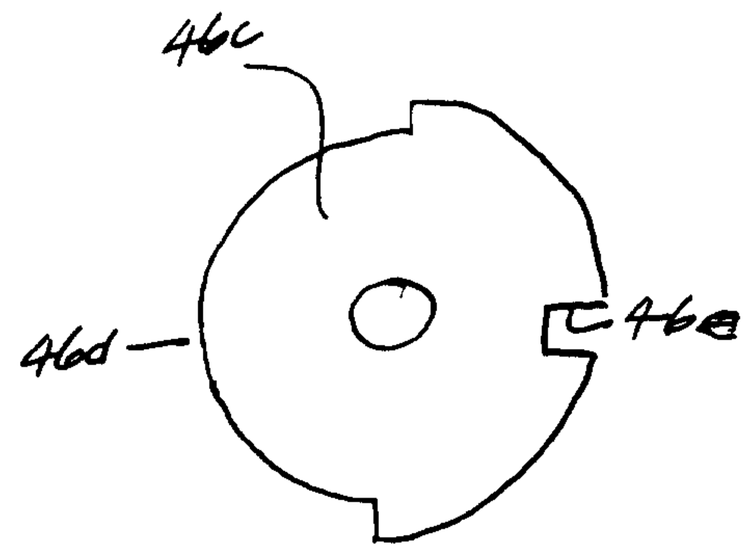

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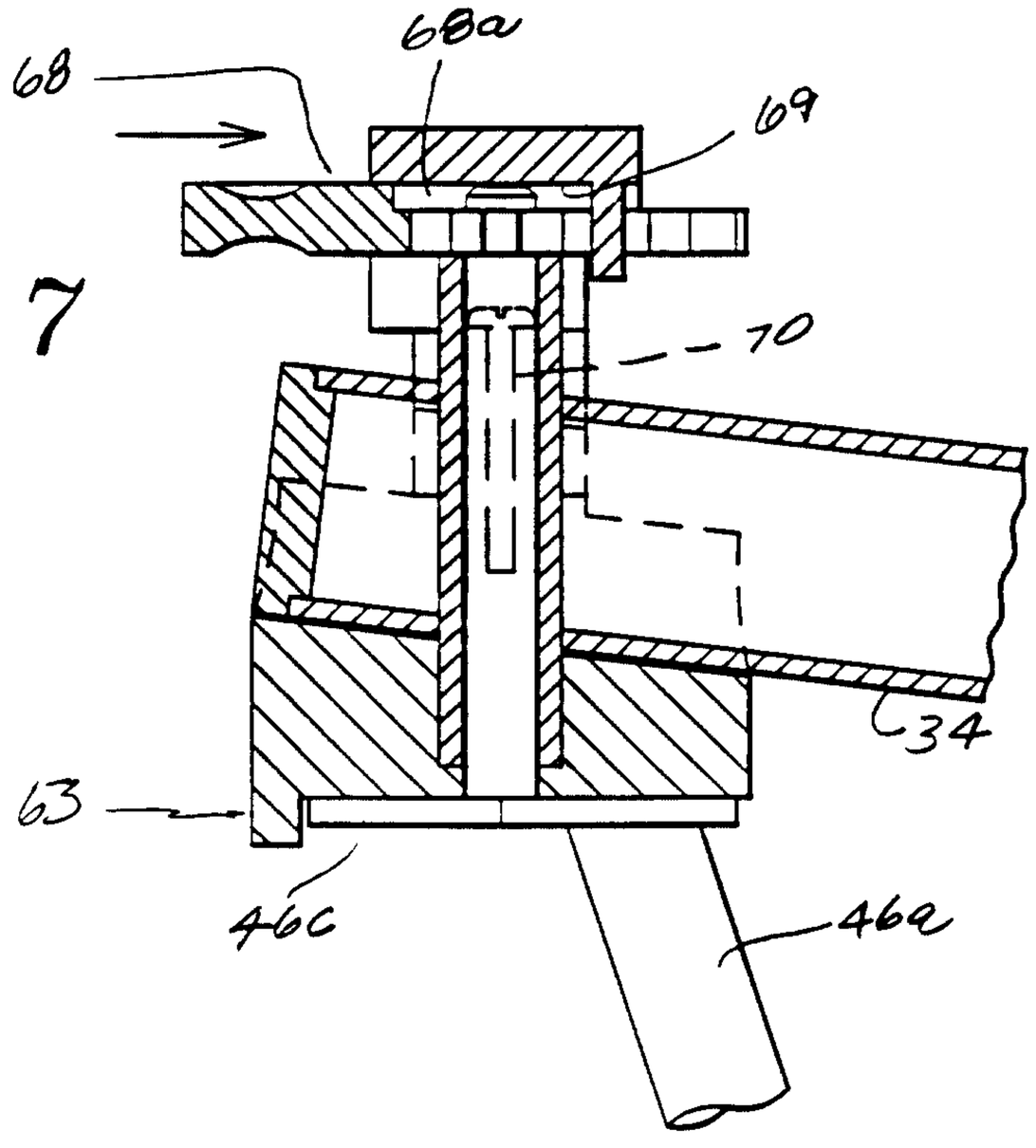
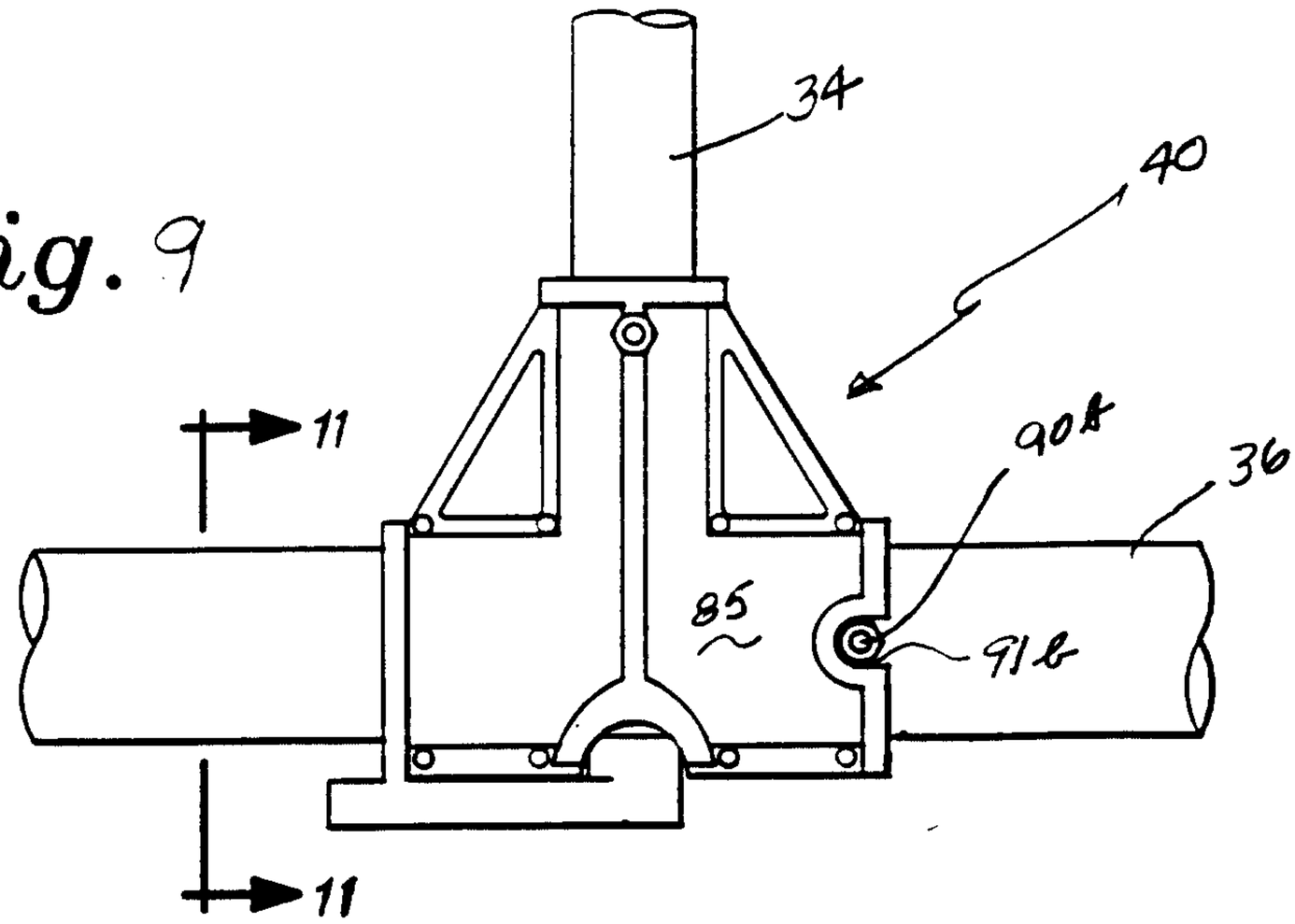


Fig. 7

Fig. 9



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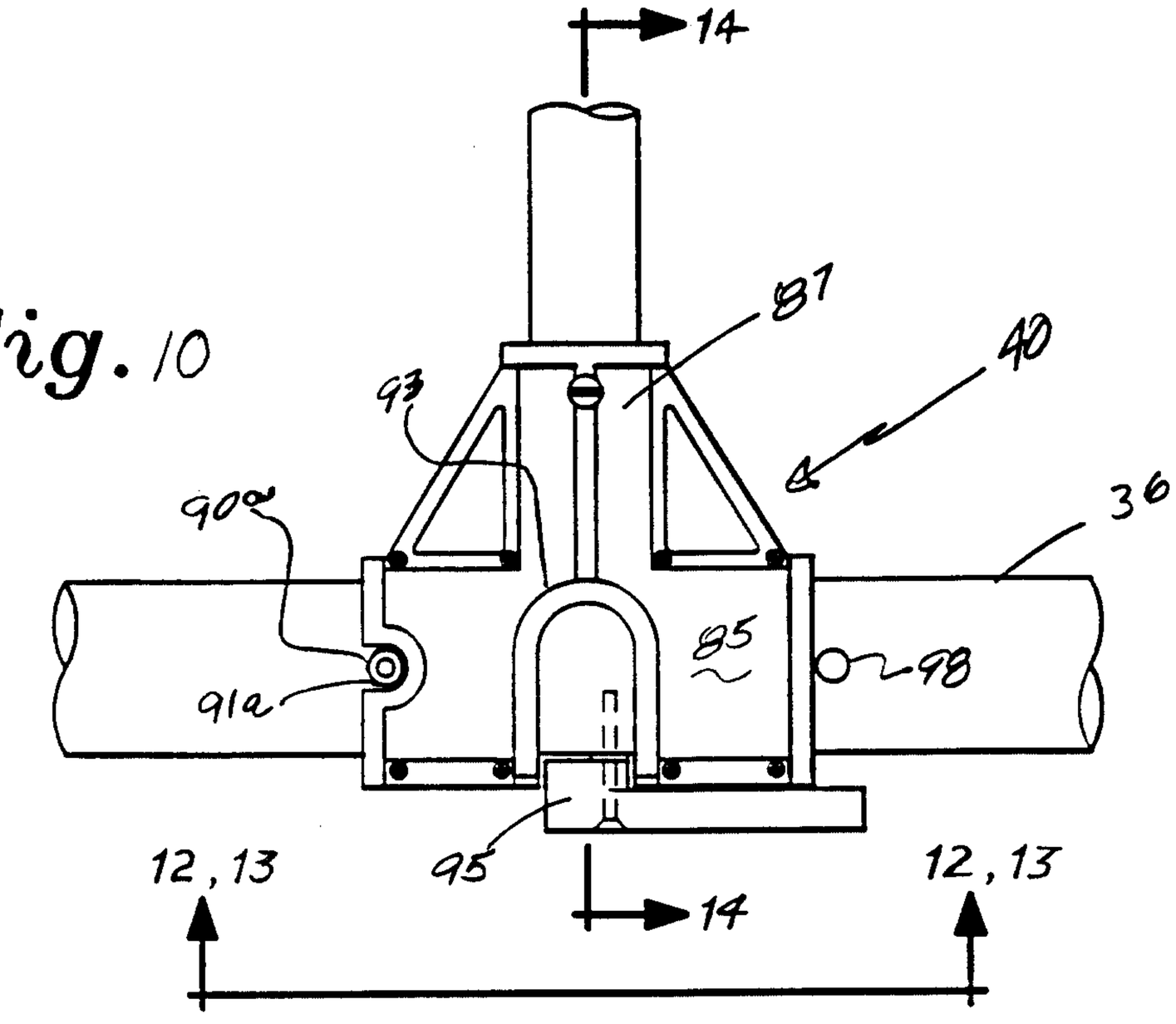

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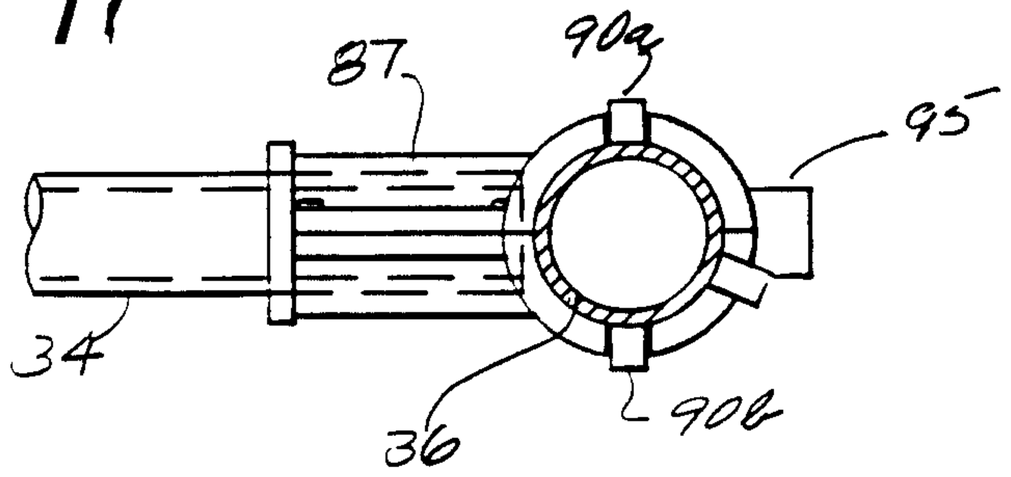

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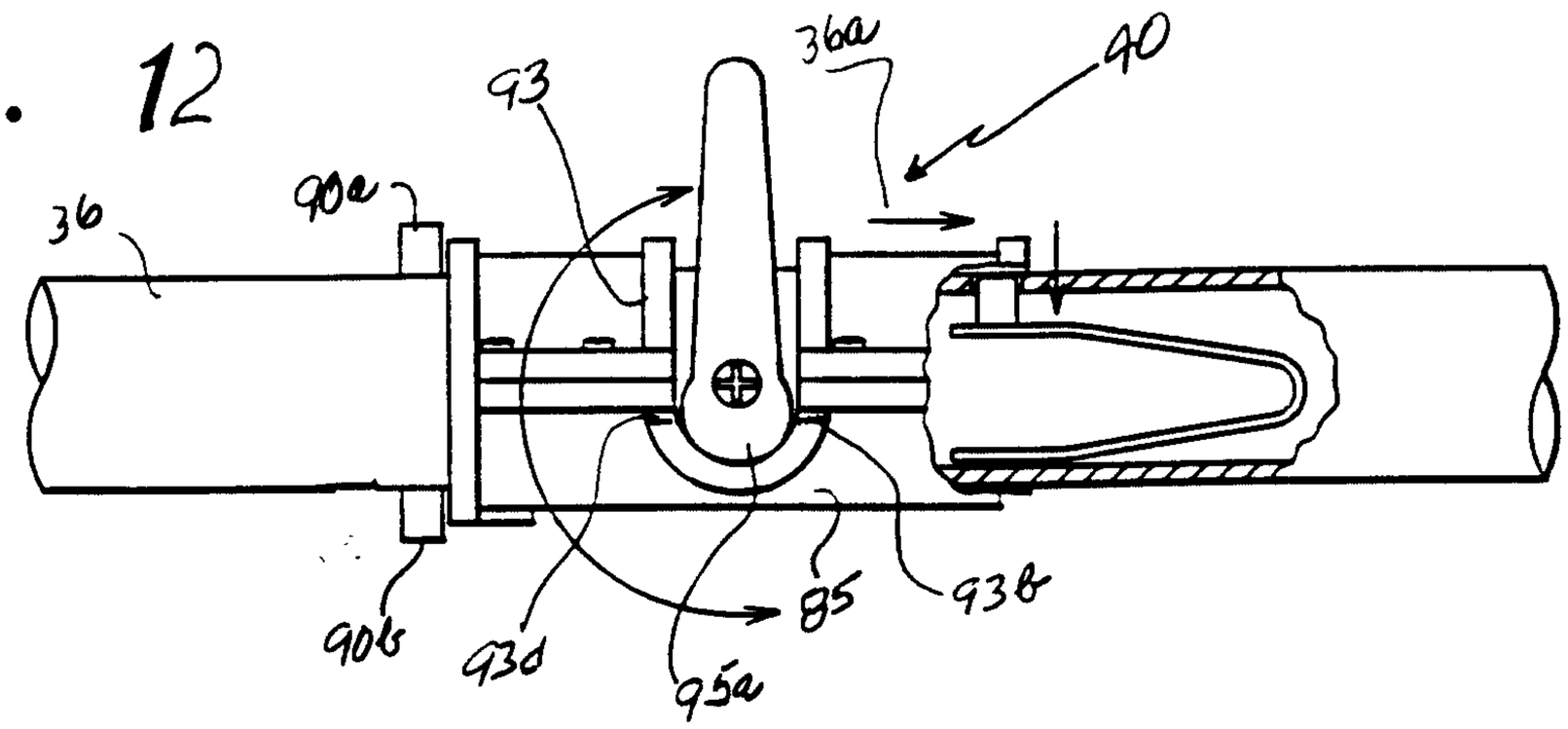


Fig. 13

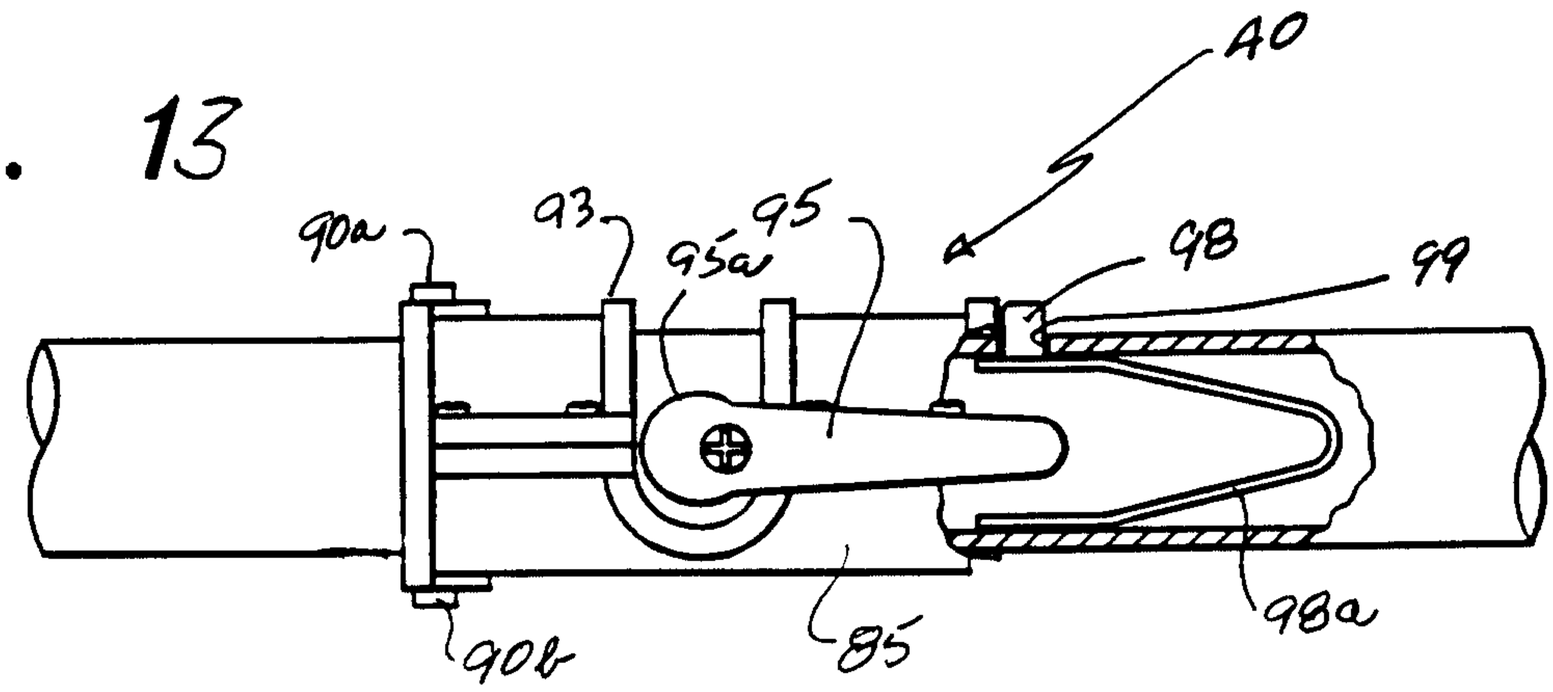
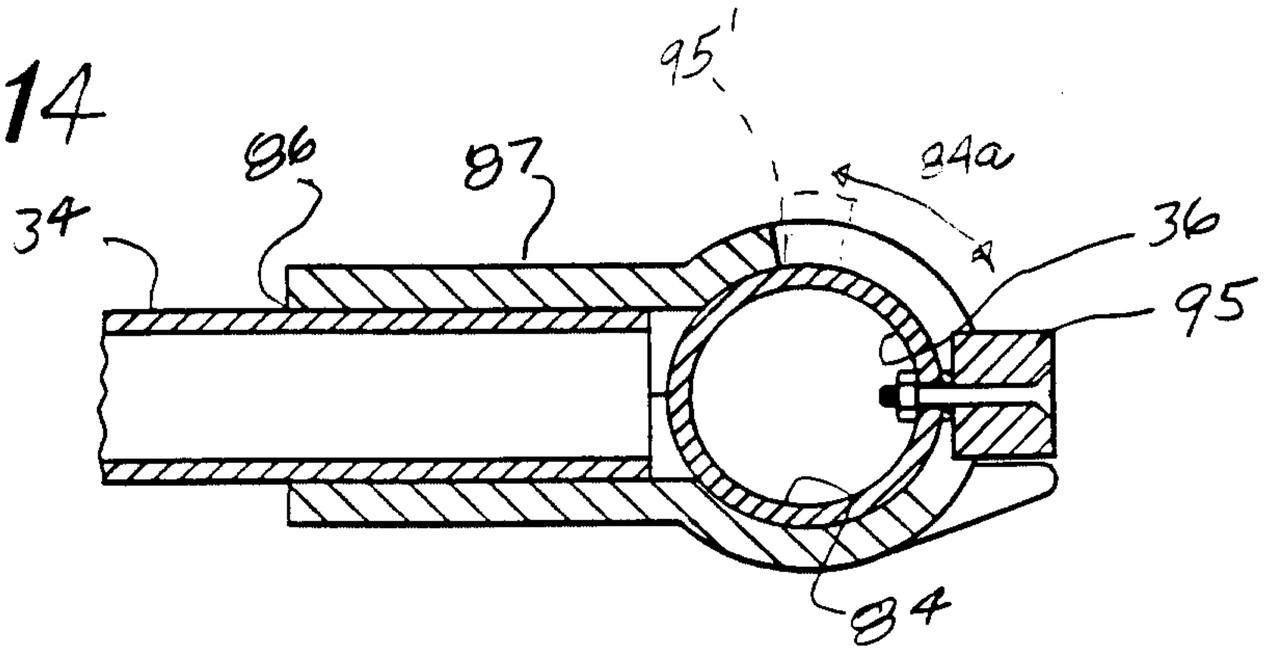
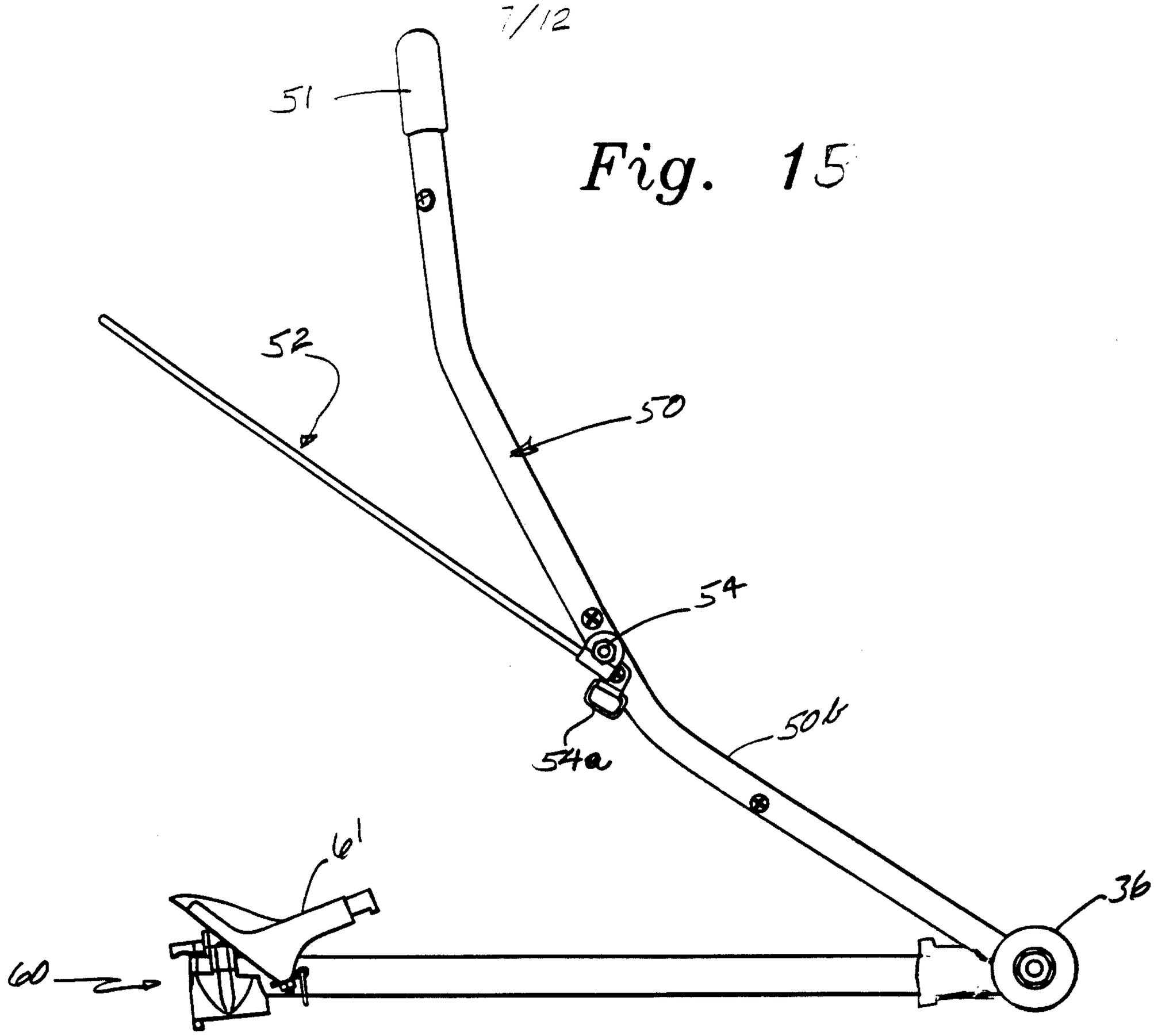


Fig. 14





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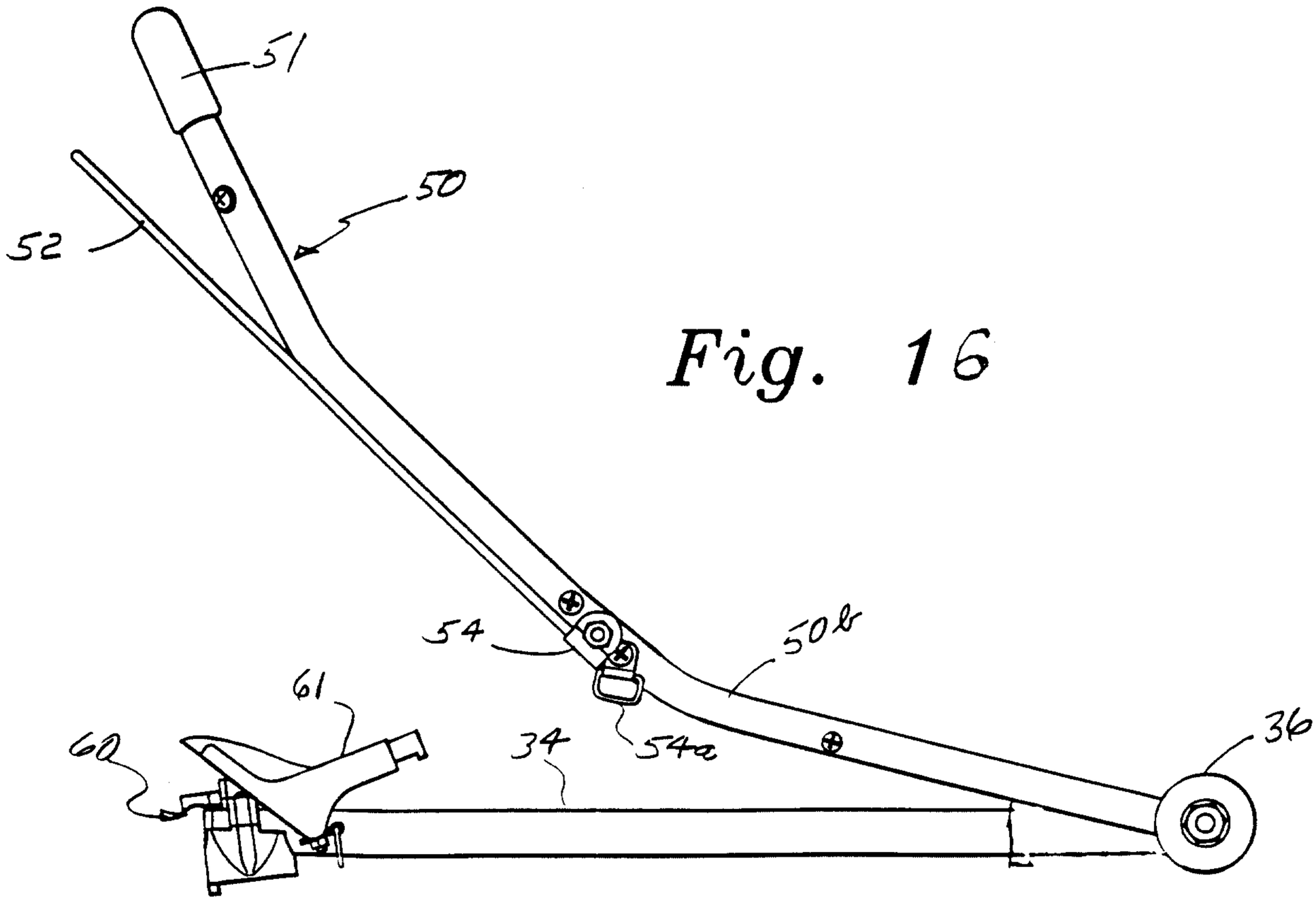
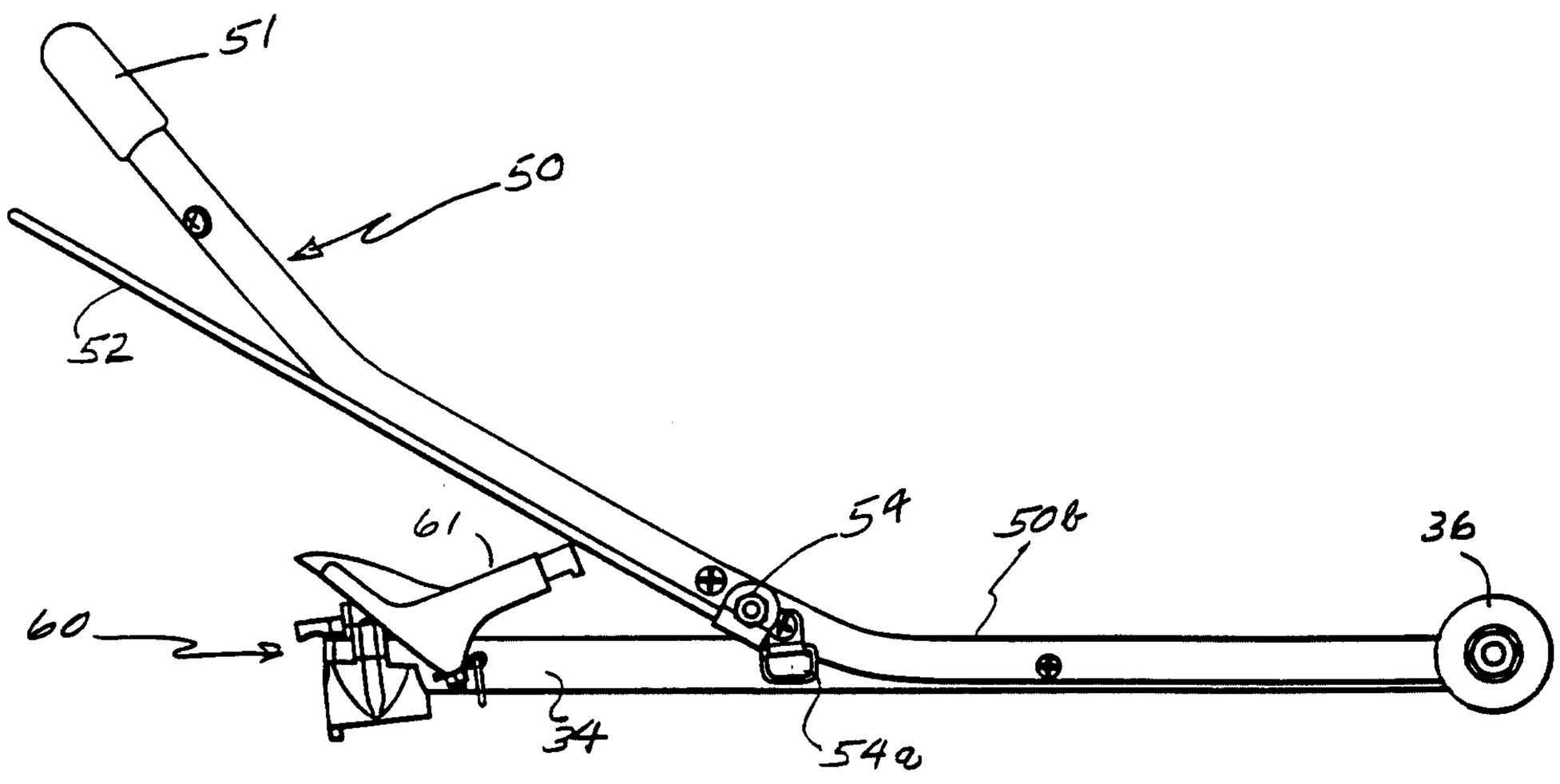


Fig. 16

Fig. 17



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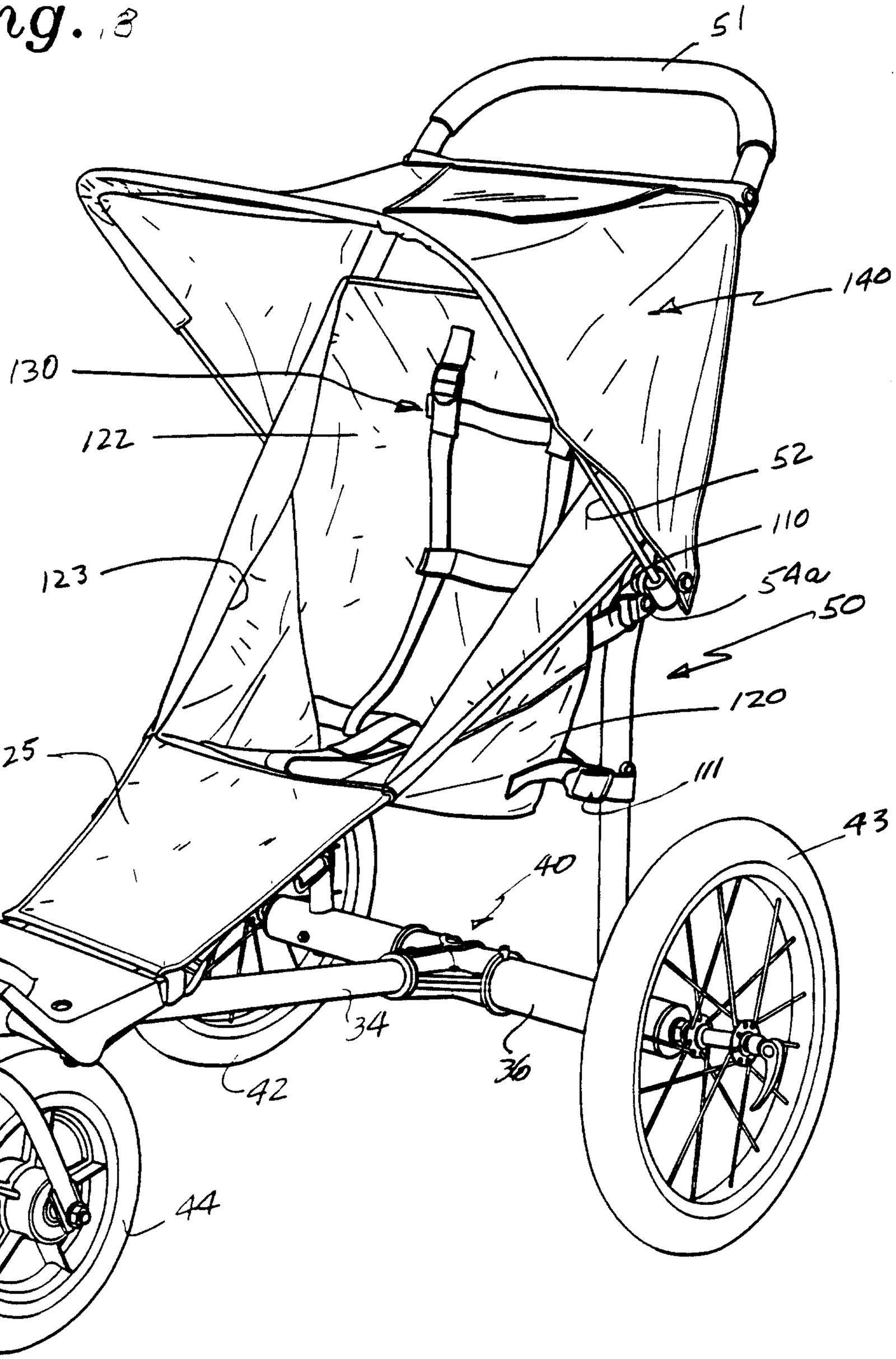
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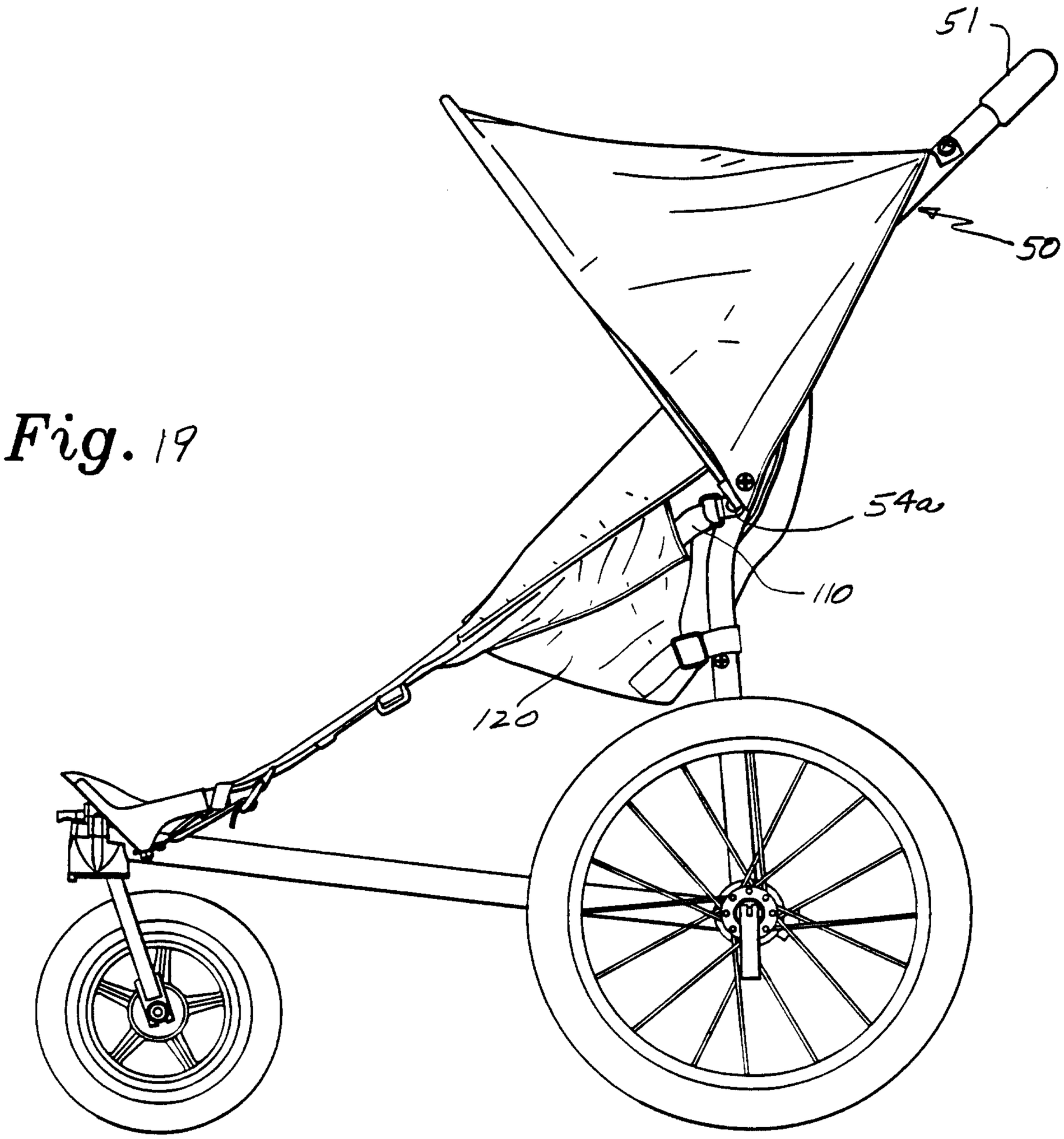
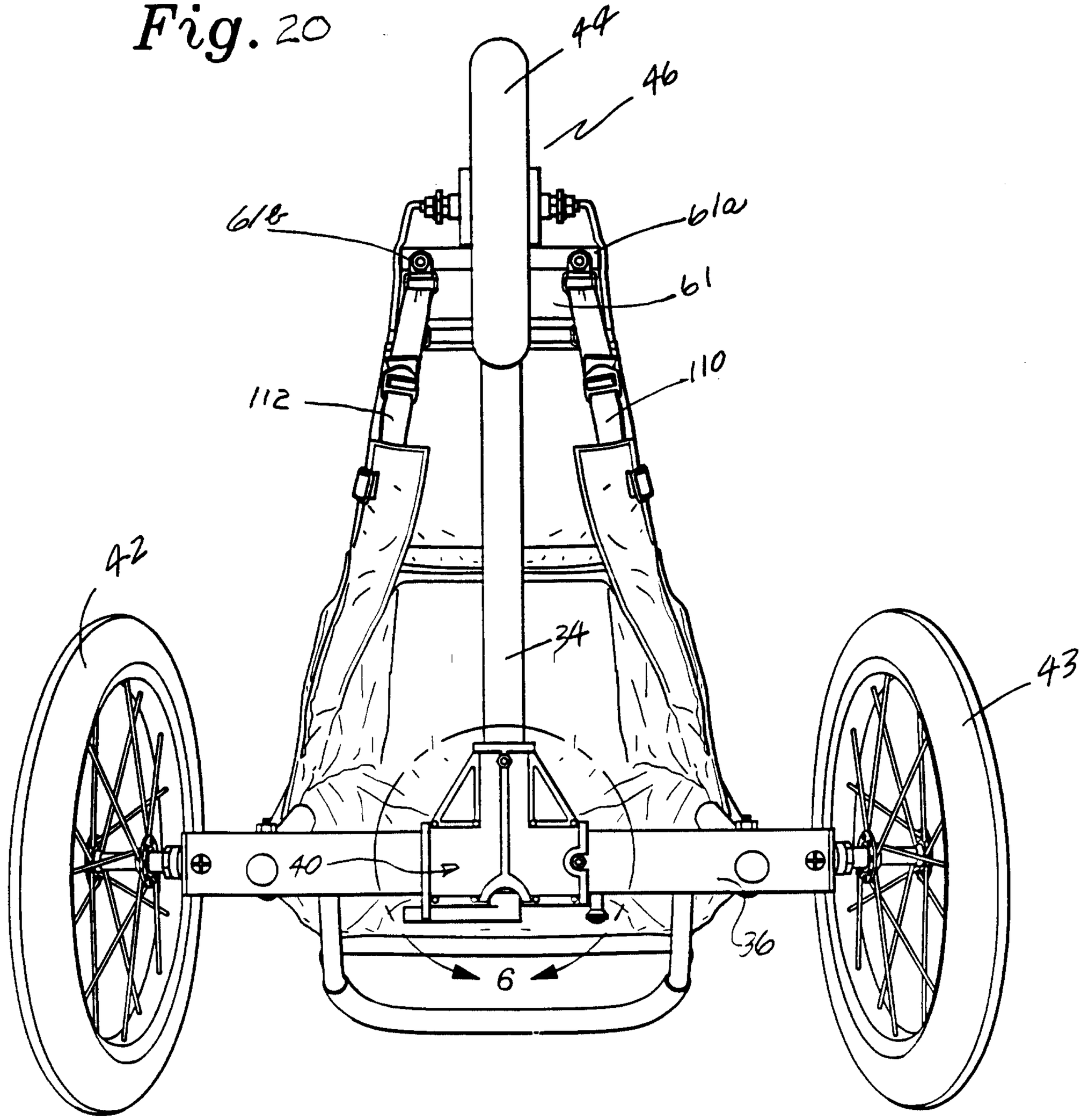


Fig. 19

Fig. 20



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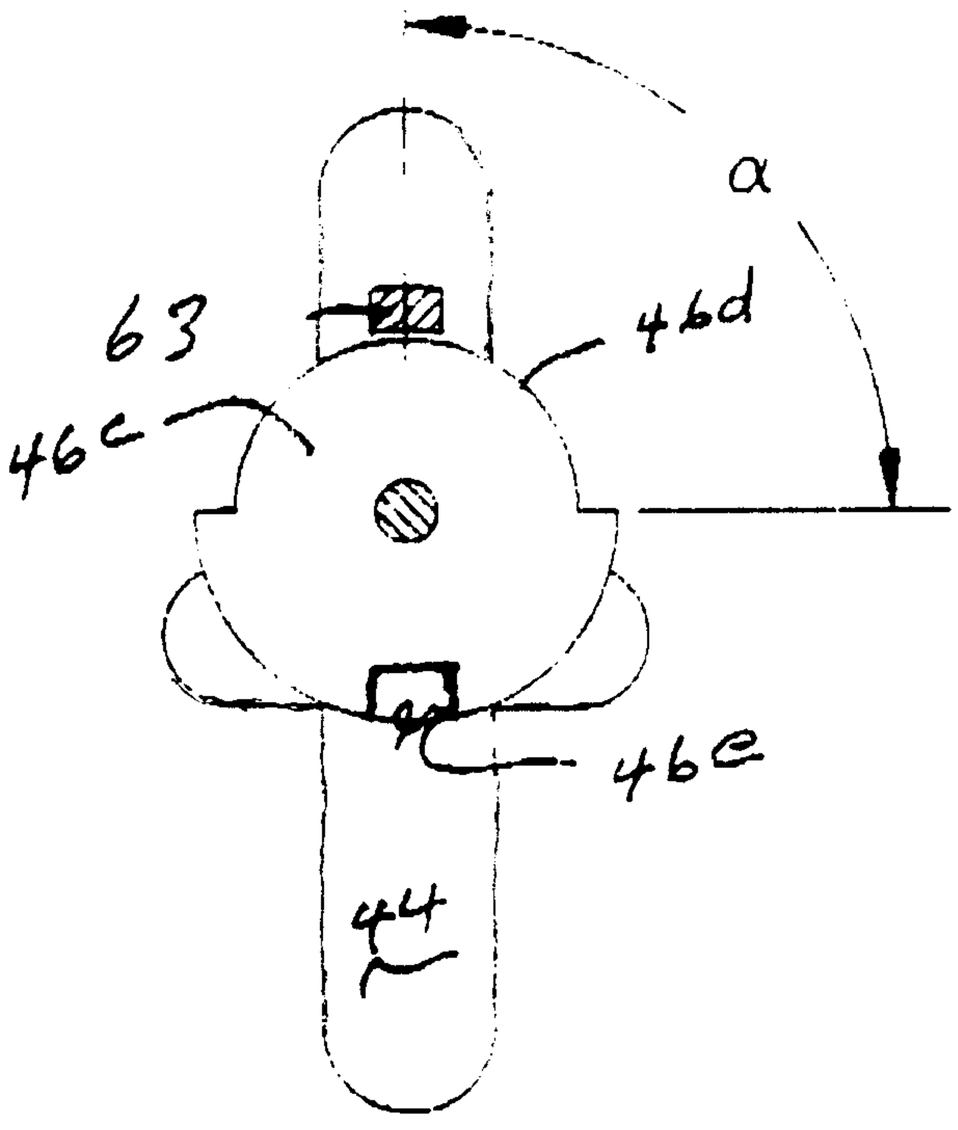

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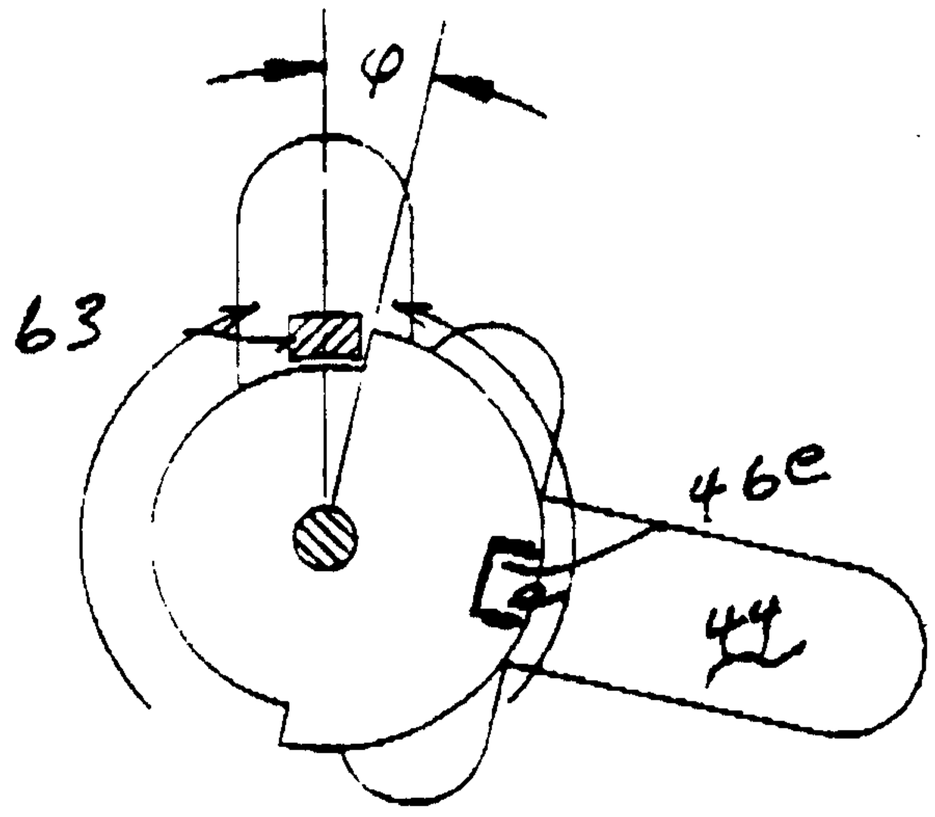

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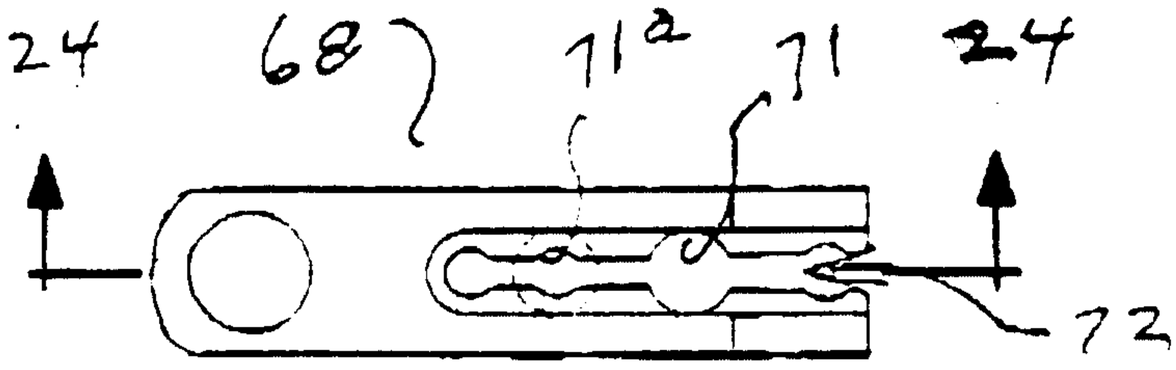

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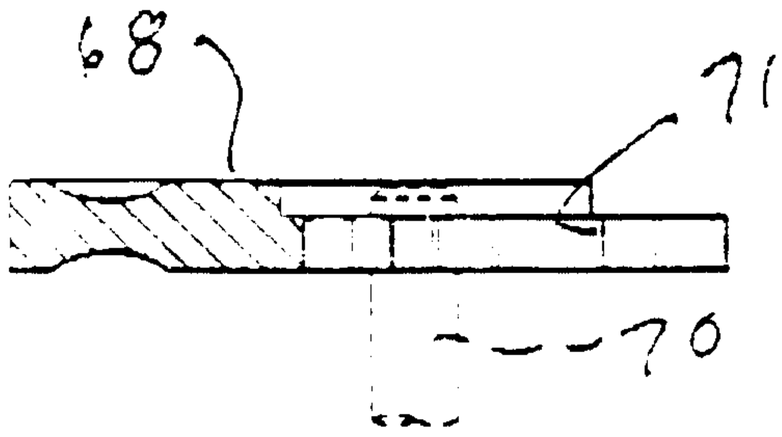

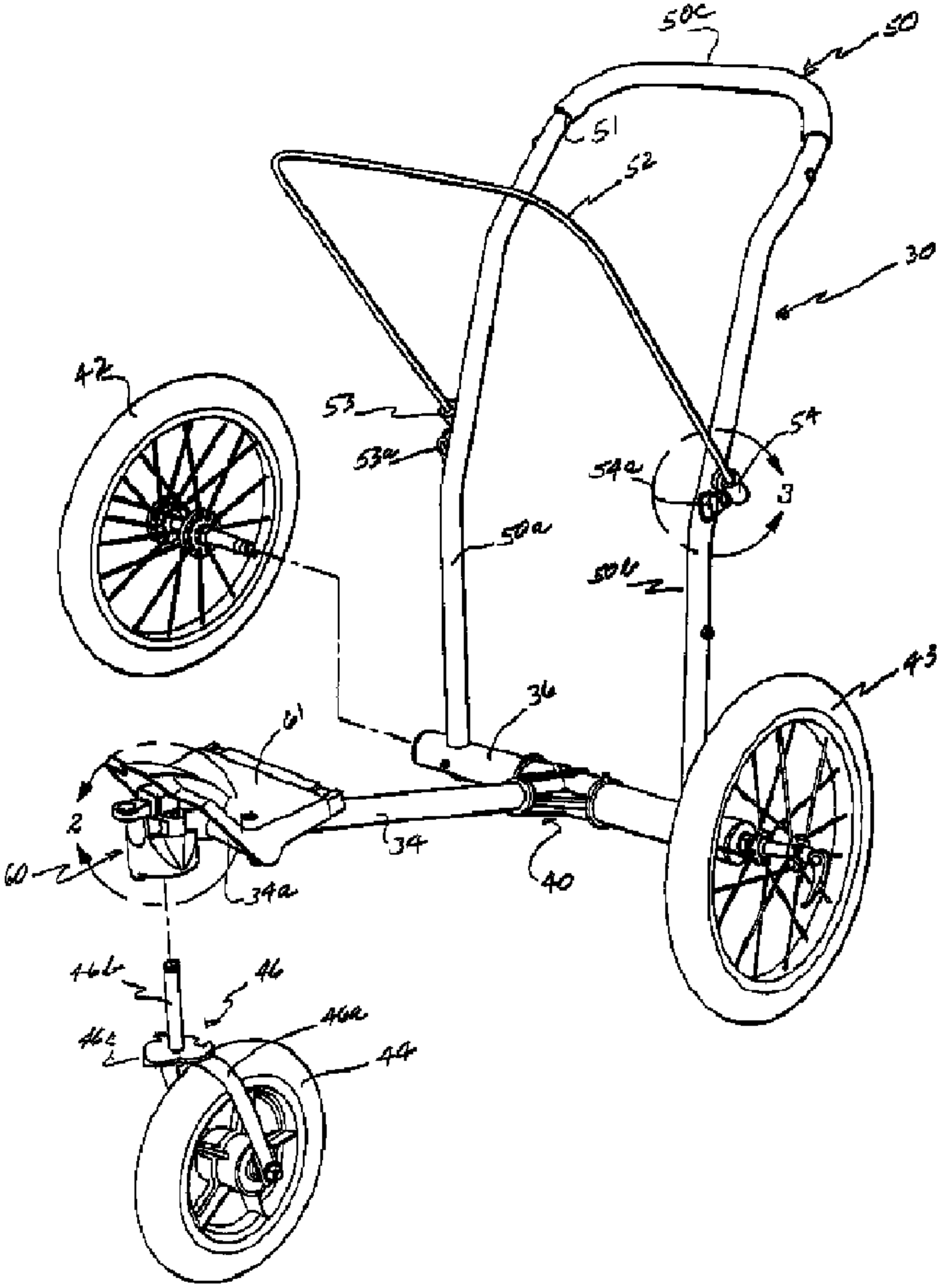
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