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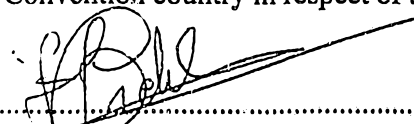
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PATENTS ACT 1990

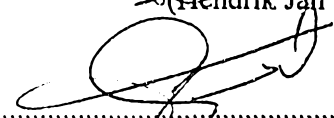
NOTICE OF ENTITLEMENT

We, **HENDRIK JAN ORDELMAN**, of Bosstraat 13, NL-7161 XX, Neede, The Netherlands, **GERHARD TEMMINK**, of Wiedenbroeksingel 32, NL-7481 BT, Haaksbergen, The Netherlands, **HERMAN WILLEM HENDRIK STOKKERS**, of Vonkenkamp 3, NL-7482 GB, Haaksbergen, The Netherlands and **HARM HENDRIK BRAAM**, of Spoelsterstraat 6, NL-7481 KG, Haaksbergen, The Netherlands, being the applicants and nominated persons in respect of Application No. 11238/95, state the following:-

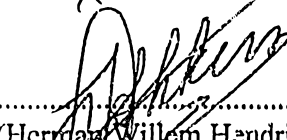
1. The persons nominated for the grant of the patent are the actual inventors.
2. The persons nominated for the grant of the patent are the applicants of the application listed in the declaration under Article 8 of the PCT.
3. The basic application listed in the declaration under Article 8 of the PCT is the first application made in a Convention country in respect of the invention.


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(Hendrik Jan Ordelman)

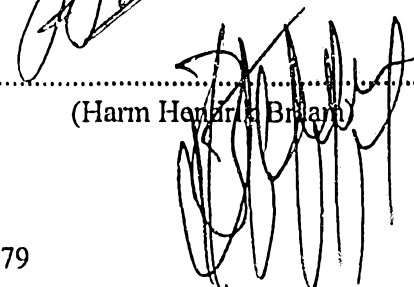
..... 2 July 1996
(Date)


.....
(Gerhard Temmink)

..... 2 July 1996
(Date)


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(Herman Willem Hendrik Stokkers)

..... 2 July 1996
(Date)


.....
(Harm Hendrik Braam)

..... 2 July 1996
(Date)

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- (71) Applicant(s)
HENDRIK JAN ORDELMAN; GERHARD TEMMINK; HERMAN WILLEM HENDRIK STOKKERS; HARM HENDRIK BRAAM
- (72) Inventor(s)
HENDRIK JAN ORDELMAN; GERHARD TEMMINK; HERMAN WILLEM HENDRIK STOKKERS; HARM HENDRIK BRAAM
- (74) Attorney or Agent
SHELSTON WATERS , Level 21, 60 Margaret Street, SYDNEY NSW 2000
- (56) Prior Art Documents
FR 2573304
GB 2200084
- (57) Claim

1. Collapsible wheelchair comprising:
a frame comprising:
a first side frame;
a second side frame substantially the same as the first side frame;

coupling means holding the two said side frames at least in the operative situation in the same positions at a mutual distance;

wheels arranged on the frame;
a seat arranged on the frame; and
a seat back arranged on the frame;
in which:

each side frame comprises:
a first middle sub-frame which in the operative situation extends more or less horizontally;

a front sub-frame which in the operative situation extends from the front side of the first middle sub-frame inclining downward in forward direction and which bears a front wheel;

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a rear sub-frame which in the operative situation extends from the rear side of the first middle sub-frame inclining upward in rearward direction and which bears a rear wheel and together with the other rear sub-frame supports the seat back;

the front and rear sub-frames are pivotable relative to the first middle sub-frame by means of a hinge joint;

the coupling means are embodied as spacers holding corresponding sub-frames at fixed mutual distance;

a second middle sub-frame is arranged between the front and rear sub-frame for pivoting relative to both these sub-frames by means of a hinge joint such that each side frame, and thus the whole frame, can be folded round horizontal

pivot axes until the three sub-frames lie at least substantially on top of each other; and

stop means are present between a middle sub-frame and at least one of the other sub-frames which determine a stable operating position of the wheelchair;

characterized in that

the location of the hinge joint between the second middle sub-frame and the front sub-frame is adjustable along that front sub-frame

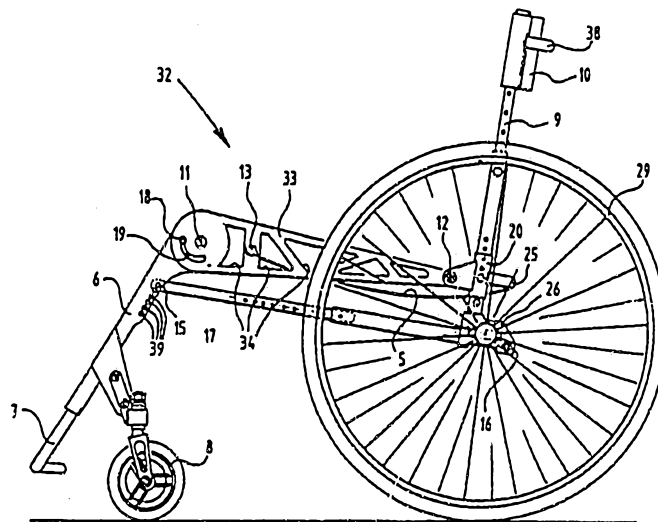


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(71)(72) Applicants and Inventors: ORDELMAN, Hendrik, Jan [NL/NL]; Bosstraat 13, NL-7161 XX Neede (NL). TEM-MINK, Gerhard [NL/NL]; Wiedenbroeksingel 32, NL-7481 BT Haaksbergen (NL). STOKKERS, Herman, Willem, Hendrik [NL/NL]; Vonkenkade 3, NL-7482 GB Haaksbergen (NL). BRAAM, Harm, Hendrik [NL/NL]; Spoelsterstraat 6, NL-7481 KG Haaksbergen (NL).		Published With international search report. In English translation (filed in Dutch).	
(74) Agent: SCHUMANN, Bernard, Herman, Johan; Arnold & Siedsma, Sweelinckplein 1, NL-2517 GK The Hague (NL).			



677136

(54) Title: COLLAPSIBLE WHEELCHAIR



(57) Abstract

The invention relates to a collapsible wheelchair comprising a frame comprising: a first side frame; a second side frame substantially the same as the first side frame; coupling means holding the two said side frames at least in the operative situation in the same positions at a mutual distance. The invention provides a wheelchair which has the feature that each side frame comprises: a first middle sub-frame, a front sub-frame, a rear sub-frame; the front and rear sub-frames are pivotable relative to the first middle sub-frame by means of a hinge joint; the coupling means are embodied as spacers holding corresponding sub-frames at fixed mutual distance; a second middle sub-frame is arranged between the front and rear sub-frame for pivoting relative to both these sub-frames by means of a hinge joint such that each side frame, and therefore the whole frame, can be folded round horizontal pivot axes until the three sub-frames lie at least substantially on top of each other; and stop means are present between a middle sub-frame and at least one of the other sub-frames which determine a stable operating position of the wheelchair.

COLLAPSIBLE WHEELCHAIR

The invention relates to a collapsable wheelchair comprising:

- a frame comprising:
 - a first side frame;
 - 5 a second side frame substantially the same as the first side frame;
 - coupling means holding the two said side frames at least in the operative situation in the same positions at a mutual distance;
 - 10 wheels arranged on the frame;
 - a seat arranged on the frame; and
 - a seat back arranged on the frame.

Such a wheelchair is known. In the known wheelchair the side frames are movable toward each other by means of a
15 hinged cross connection by exerting an inward pressure force from the sides. In the thus obtained folded situation the wheelchair has the same dimensions in the vertical plane as in the non-collapsed state.

The invention has for its object to embody a wheelchair
20 such that in collapsed state it occupies considerably less effective space than the known wheelchair and for instance has dimensions such that it can be taken as hand-luggage aboard an aircraft which for obvious reasons is considerably more practical for a wheelchair user. The wheelchair user can
25 transport himself or, if necessary, be transported with the help of a third party into the aircraft. The wheelchair can there be folded up to dimensions which are at most equal to the maximum permissible dimensions for hand-luggage. After the flight the wheelchair is again immediately available to
30 the wheelchair user.

Also in the case of other forms of transport such as public transport or a car it may be desired that a wheelchair can be collapsed to comparatively small dimensions.

With a view to the above the invention provides a
5 collapsable wheelchair which has the feature that each side frame comprises:

a first middle sub-frame which in the operative situation extends more or less horizontally, at least roughly at the height of the seat;

10 a front sub-frame which in the operative situation extends from the front side of the first middle sub-frame inclining downward in forward direction and which bears a relatively small front wheel;

a rear sub-frame which in the operative situation
15 extends from the rear side of the first middle sub-frame inclining upward in rearward direction and which bears a relatively large rear wheel and together with the other rear sub-frame supports the seat back;

the front and rear sub-frames are pivotable relative to
20 the first middle sub-frame by means of a hinge joint;

the coupling means are embodied as spacers holding corresponding sub-frames at fixed mutual distance;

a second middle sub-frame is arranged between the front and rear sub-frame for pivoting relative to both these sub-
25 frames by means of a hinge joint such that each side frame, and thus the whole frame, can be folded round horizontal pivot axes until the three sub-frames lie at least substantially on top of each other; and

stop means are present between a middle sub-frame and
30 at least one of the other sub-frames which determine a stable operating position of the wheelchair.

It is advantageous to be able to adjust the diverse mutual relationships, in particular the angular positions of the component parts, in accordance with the wishes of the
35 user.

For this purpose the wheelchair can have the feature that the location of the hinge joint between the first middle sub-frame and the rear sub-frame is adjustable along that rear sub-frame.

The wheelchair can also have the feature that the location of the hinge joint between the second middle sub-frame and the front sub-frame is adjustable along that front sub-frame.

- 5 The wheelchair can have the additional feature that the length of the second middle sub-frame is adjustable.

Other than in the case of the known wheelchair briefly described above, wherein a pivotable scissor construction mutually couples the two side frames, in the wheelchair
10 according to the invention the side frames must be as inherently stiff as possible in the vertical plane. To this end the wheelchair according to the invention can display the feature that, in the main plane of the side frame and at least in the zone adjoining the hinge joint to the front sub-
15 frame, the first middle sub-frame has larger dimensions than in transverse direction for increasing the bending stiffness in that plane. The first middle sub-frame can for instance be more or less plate-like, and have an increasing vertical dimension at least in the direction of its forward side.
20 However, in order to save as much weight as possible use can also be made of a cut-away structure.

The requirement of an increased bending stiffness also applies for the front sub-frame, but to a somewhat lesser extent. In this respect the wheelchair can have the feature
25 that in the main plane of the side frame and at least in the zone adjoining the hinge joint to the first middle sub-frame, the front sub-frame has a larger dimension than in transverse direction for increasing the bending stiffness in that plane.

In order to enable the easiest possible folding of the
30 wheelchair after detaching the wheels it can display the special feature that the rear wheels are releasably coupled to the rear sub-frame by means of a rapid-action coupling.

This variant can have the particular characteristic that the rear sub-frame bears a releasable block which
35 supports a shaft to which a rear wheel is releasably coupled, which block supports the shaft at an angle determining the alignment angle of the rear wheel.

The longitudinal position of the rear wheels is to a large extent decisive for the balance of the wheelchair. As

this balance differs from user to user and may also depend on the adjustment of the diverse, mutually adjustable parts and the parts of adjustable length, the wheelchair can display the special feature that the position of the shaft is
5 adjustable in the travel direction of the rear wheel.

In a particular embodiment the wheelchair has the special feature that the two first middle sub-frames are mutually connected by a first spacer.

In another embodiment the wheelchair has the special
10 feature that the block is hingedly connected to the second middle sub-frame and the two second middle sub-frames are mutually connected by a second spacer.

In particular a combination of the two latter special features provides a strong and stable mechanical structure,
15 wherein the whole space under the said two spacers is freely accessible. This may be of importance for coupling of the wheelchair to an auxiliary device such as described in applicant's earlier, as yet unpublished Netherlands patent application NL-93 01322 which is based on the European
20 priority patent application EP-93.201601.1 of 4 June 1993.

A still greater stiffness is ensured with a variant wherein the two rear sub-frames are mutually connected by a
third spacer in the zone adjoining the first middle sub-frame.

25 A very simple, reliable embodiment of the wheelchair according to the invention has the characteristic that the stop means comprise a pin axially displaceable by means of actuating means counter to the action of spring means, which pin is mounted in a sub-frame and can be in locking co-action
30 with a hole in an adjacent sub-frame.

The construction of the wheelchair is preferably symmetrical. In this respect the said embodiment can have the special feature that two pins are present at corresponding positions in both its frames.

35 Easy to operate is the embodiment in which the two pins are connected by a flexible pulling member, for example a cord or cable, such that by exerting a pulling force on that pulling member a user can move both pins out of their locking

co-action with the respective hole counter to the action of the respective spring means.

The invention will now be elucidated with reference to the annexed drawings. Herein:

5 figure 1 shows a partly broken away perspective view of a wheelchair according to the invention;

figure 2 shows a partly broken away perspective view on enlarged scale of the structure in the region of the coupling block for the left-hand rear wheel;

10 figure 3 is a schematic side view of the wheelchair in which the manner of folding is indicated;

figure 4 is a perspective view of the wheelchair in folded state after the rear wheels have been removed;

figure 5 is a side view of a variant;

15 figure 6 is a side view of the wheelchair of figure 5 which is coupled to an auxiliary device as according to NL-93 01322; and

figure 7 shows a partly broken away perspective view of a detail of a variant.

20 In all figures the same components are designated with the same reference numerals.

Figure 1 shows a collapsable wheelchair according to the invention. The wheelchair comprises a left-hand side frame 2 and a right-hand side frame 2'. These side frames 2
25 and 2' are the same but embodied mirror symmetrically. For the sake of brevity in the description only side frame 2 will be described where appropriate.

Side frame 2 comprises: a first middle sub-frame 4 which in the operative state shown in figure 1 extends more
30 or less horizontally, in any case roughly at the height of a seat 5;

a front sub-frame 6 which in the operative situation shown in figure 1 extends from the front side of the first middle sub-frame 4 inclining downward in forward direction
35 and which bears a support member 7 for a foot-rest and a relatively small pivotable front wheel 8;

a rear sub-frame 9 which in the operative situation shown in figure 1 extends from the rear side of the first middle sub-frame 4 inclining upward in rearward direction and

which bears a relatively large rear wheel 29 and together with the other rear sub-frame 9' supports a seat back 10. The front sub-frame 6 and the rear sub-frame 9 are pivotable relative to the first middle sub-frame 4 by means of
5 respective hinge joints 11, 12. The support member 7 mutually joins the left and right-hand front sub-frames and thus contributes to the self-supporting character of the wheelchair.

 The side frames 2, 2' are connected to coupling means.
10 These are embodied as spacers holding corresponding sub-frames at fixed mutual distance. The first middle sub-frames 4, 4' are coupled by means of a spacer 13. The rear sub-frames 9, 9' are coupled by a spacer 14. A second middle sub-frame 17 is arranged between the front sub-frame 6 and the
15 rear sub-frame 9 for pivoting relative to both these sub-frames by means of hinge joints 15, 16 such that each side frame 2, 2', and thus the whole frame, can be folded round horizontal pivot axes until the three sub-frames 6, 4, 9; 6', 4', 9' lie at least substantially on top of each other.
20 Present between the first middle sub-frame 4 and the front sub-frame 6 are stop means which determine a stable operating position of wheelchair 1. Connected to the front sub-frame 6 for this purpose is a pin 18 which is movable in a slotted hole 19 in the first middle sub-frame 4 which is concentric
25 to joint 11.

 The location of the hinge joint 12 between the first middle sub-frame 4 and 9 is adjustable along that rear sub-frame 9. Particular reference is made in this respect to figure 2. A sleeve 20 is slidable along the rear sub-frame 9
30 and fixable relative thereto in chosen positions by means of holes 21 and a pin 22. Sleeve 20 carries two ears 23 which hingedly support the first middle sub-frame 4 by means of a bolt 24. The corresponding sleeves 20, 20' are mutually connected by a tube 25 which serves as spacer, therefore
35 stiffens the construction and also fulfills the function of support for the seat 5 which is supported at the front by the spacer 13.

 The location of the hinge joint 15 between the second middle sub-frame 17 and the front sub-frame 6 is adjustable

along that front sub-frame. For this purpose a series of holes 39 is arranged in that sub-frame 6.

The length of the second middle sub-frame 17 is adjustable. The embodiment of this adjustability is of a per se known type, related to the adjustment of the sleeve 20 relative to the rear sub-frame 9 as shown in figure 2. This does not therefore require further discussion.

In wholly analogous manner the support member 7 is adjustable relative to the front sub-frame 6.

10 The first middle sub-frame 4 has in the main plane of the side frame a larger dimension than in transverse direction for increasing the bending stiffness in that plane. Figure 1 shows that the relevant dimension increases as the distance to the hinge joint 11 decreases.

15 The front sub-frame 6 has in the main plane of the side frame a larger dimension than in transverse direction for increasing the bending stiffness in that plane. As this front sub-frame 6 is subject to a less strong moment than the first middle sub-frame 4 the relevant dimension does not have to be
20 as large as in the case of the first middle sub-frame 4.

 The rear wheel 29 is coupled to the rear sub-frame 9 by means of a per se known rapid-action coupling 40. Particular reference is made in this respect to figure 2. The rear sub-frame 9 bears for this purpose a block 26 which is releasably
25 coupled thereto by means of a bolt 25 and which supports a shaft 27 to which the rear wheel 29 is detachably coupled by means of rapid-action coupling 40. The block 26 carries the shaft 27 at an angle determining the alignment angle of rear wheel 29. Block 26 carries the spacer 14 pivotally. The
30 second middle sub-frame 17 is connected to spacer 14 by means of a weld joint 28. The position of shaft 27 is adjustable at least roughly in the travel direction of the rear wheel 29. To this end the block 26 is provided with a slotted hole 30 in which shaft 27 is slidable. Fixation in a desired position
35 takes place by means of a nut 31. The block 26 is easily detachable so that if desired it can be replaced with another block with which a user can obtain another desired alignment angle of rear wheel 29.

Figure 3 shows a side view of wheelchair 1 elucidating the manner in which folding takes place. It will be apparent that the respective sub-frames 9, 4, 6, 17 can be folded while pivoting mutually until they assume a mutual position
5 occupying the minimum space.

Figure 4 shows in perspective view this folded situation.

Figure 5 shows a side view of a wheelchair 32 which differs from wheelchair 1 according to figures 1-4 insofar
10 that the first middle sub-frame 33, at variance with sub-frame 4 of figures 1-4, has an open structure. With the perforations, all designated with 34 for the sake of convenience, the bending stiffness is reduced to only a negligible extent, although a considerable weight reduction
15 is realized.

Attention is drawn to the fact that in the situation shown in figure 5 and the figure 6 to be discussed here-inbelow the blocks 26, 26' have a reversed position. The user hereby acquires a still greater adjustability of the position
20 of rear wheels 29, 29'.

Figure 6 shows the coupling of wheelchair 32 to an auxiliary device as according to applicant's earlier, as yet unpublished Netherlands patent application NL-93 01322 which is based on the European priority patent application
25 EP-93.201601.1 of 4 June 1993. This auxiliary device 35 can be coupled in very simple manner to wheelchair 32 and then provides the user with a manual control 36 for driving and steering wheelchair 32 by means of the front wheel 37 forming part of auxiliary device 35. The front wheels 8, 8' of
30 wheelchair 32 are raised from the ground in the coupled situation of wheelchair 32 and auxiliary device 35. The combination 32, 35 therefore travels only on rear wheels 29, 29' and front wheel 37.

Essential to the coupling between auxiliary device 35
35 and wheelchair 32 is the structure according to the invention, according to which the spacers 13, 14 are freely accessible from the front without this accessibility being obstructed by the presence of a pivotable cross frame as according to the prior art.

The rear sub-frames 9, 9' are coupled at their top, in the region of the seat back 10, by a hand-grip 38 which can serve for manual propulsion of wheelchair 1, 32 by a third party.

5 Attention is drawn to the fact that block 26 is embodied such that it essentially forms an integrating component of the frame. Figure 2 in particular shows this aspect clearly. Block 26 is embodied such that it can support the tubular sub-frame 9 with bending stiffness. For this
10 purpose block 26 must be manufactured from a material which can resist the associated mechanical load. Such a material is for instance aluminium.

 Attention is drawn to the fact that the second middle sub-frame 17 has an adjustable length. In combination with
15 the series of fastening holes 39 corresponding with the positions at which the second middle sub-frame 17 is connected to the front sub-frame 9, this ensures the desired adjustability with the correct collapsability, i.e. a collapsability into the position shown in figure 4 in which
20 the respective sub-frames lie on top of one another taking up the minimum of space.

 The frame of the wheelchair according to the invention is wholly self-supporting and has considerable bending stiffness. A width adjustment is very simple to realize, if
25 desired. The diverse cross connections shown in figure 1 between both side frames can be replaced for this purpose with elements with adapted length. These adaptations are wholly linear and correspond exactly with the desired width adjustment. In known collapsable wheelchairs with for
30 instance scissor mechanisms such adaptations are not linear with the desired width adjustment

 Diverse materials are suitable for the frame. These are for instance metals, in particular light materials such as aluminium, plastics, optionally with fibre reinforcement, of
35 great mechanical strength, for instance ABS, in addition to sandwich and composite structures.

 It will be further apparent that the spacer 13 can also be arranged at other positions in the vicinity of the hinge joints 11, subject to design considerations.

With reference to the embodiment of figure 5 and figure 6 it is finally noted that the continuous holes or perforations 34 in the middle sub-frame 33 have dimensions which decrease in transverse direction relative to the longitudinal direction of that sub-frame 33, running from the hinge joint 11 to the hinge joint 12.

Figure 7 shows that an axially displaceable locking pin 51 is mounted on both sides in the first sub-frame 6. This comprises a collar 52 which serves as stop for a pressure spring 53 which serves to carry the pin 51 outward into a blind hole 54 which is present in the middle sub-frame 4' and with which the pin 51 can thus co-act for locking. As a result of the distance between the hinge joint 11' and the pin-hole connection 51,54 the sub-frames 4',6 are mutually connected so as to be locked against rotation. A cord 55 mutually connects the pins 51 in the left and right-hand frame. By exerting a pulling force on cord 55 a user can pull the pins 51 inward counter to the action of the respective springs 53, whereby the hinge locking between sub-frames 4',6 is disengaged and the wheelchair can be collapsed.

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New claims

1. Collapsible wheelchair comprising:
a frame comprising:
a first side frame;
a second side frame substantially the same as the first
5 side frame;
coupling means holding the two said side frames at
least in the operative situation in the same positions at a
mutual distance;
wheels arranged on the frame;
10 a seat arranged on the frame; and
a seat back arranged on the frame;
in which:
each side frame comprises:
a first middle sub-frame which in the operative
15 situation extends more or less horizontally;
a front sub-frame which in the operative situation
extends from the front side of the first middle sub-frame
inclining downward in forward direction and which bears a
front wheel;
20 a rear sub-frame which in the operative situation
extends from the rear side of the first middle sub-frame
inclining upward in rearward direction and which bears a rear
wheel and together with the other rear sub-frame supports the
seat back;
25 the front and rear sub-frames are pivotable relative to
the first middle sub-frame by means of a hinge joint;
the coupling means are embodied as spacers holding
corresponding sub-frames at fixed mutual distance;
a second middle sub-frame is arranged between the front
30 and rear sub-frame for pivoting relative to both these sub-
frames by means of a hinge joint such that each side frame,
and thus the whole frame, can be folded round horizontal



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pivot axes until the three sub-frames lie at least substantially on top of each other; and

stop means are present between a middle sub-frame and at least one of the other sub-frames which determine a stable
5 operating position of the wheelchair;

characterized in that

the location of the hinge joint between the second middle sub-frame and the front sub-frame is adjustable along that front sub-frame

10 2. Collapsible wheelchair comprising:

a frame comprising:

a first side frame;

a second side frame substantially the same as the first side frame;

15 coupling means holding the two said side frames at least in the operative situation in the same positions at a mutual distance;

wheels arranged on the frame;

a seat arranged on the frame; and

20 a seat back arranged on the frame;

in which:

each side frame comprises:

a first middle sub-frame which in the operative situation extends more or less horizontally;

25 a front sub-frame which in the operative situation extends from the front side of the first middle sub-frame inclining downward in forward direction and which bears a front wheel;

a rear sub-frame which in the operative situation
30 extends from the rear side of the first middle sub-frame inclining upward in rearward direction and which bears a rear wheel and together with the other rear sub-frame supports the seat back;

the front and rear sub-frames are pivotable relative to
35 the first middle sub-frame by means of a hinge joint;

the coupling means are embodied as spacers holding corresponding sub-frames at a fixed mutual distance;

a second middle sub-frame is arranged between the front and rear sub-frame for pivoting relative to both these sub-



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frames by means of a hinge joint such that each side frame, and thus the whole frame, can be folded round horizontal pivot axes until the three sub-frames lie at least substantially on top of each other; and

- 5 stop means are present between a middle sub-frame and at least one of the other sub-frames which determine a stable operating position of the wheelchair;

characterized in that

- the length of the second middle sub-frame is
10 adjustable.

3. Wheelchair as claimed in claims 1 or 2, characterized in that the location of the hinge joint between the first middle sub-frame and the rear sub-frame is adjustable along that rear sub-frame.

- 15 4. Wheelchair as claimed in claims 1 or 2, characterized in that in the main plane of the side frame and at least in the zone adjoining the hinge joint to the front sub-frame the first middle sub-frame has a larger dimension than in transverse direction for increasing the bending
20 stiffness in that plane.

5. Wheelchair as claimed in claim 4, characterized in that in the main plane of the side frame and at least in the zone adjoining the hinge joint to the first middle sub-frame the front sub-frame has a larger dimension than in transverse
25 direction for increasing the bending stiffness in that plane.

6. Wheelchair as claimed in claims 1 or 2, characterized in that the rear wheels are releasably coupled to the rear sub-frame by means of a rapid-action coupling.

7. Wheelchair as claimed in claim 6, characterized in
30 that the rear sub-frame bears a releasable block which supports a shaft to which a rear wheel is releasably coupled, which block supports the shaft at an angle determining the alignment angle of the rear wheel.

8. Wheelchair as claimed in claim 7, characterized in
35 that the position of the shaft is adjustable in the travel direction of the rear wheel.

9. Wheelchair as claimed in claims 1 or 2, characterized in that the two first middle sub-frames are mutually connected by a first spacer.



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10. Wheelchair as claimed in claim 7, characterized in that the block is hingedly connected to the second middle sub-frame and the two second middle sub-frames are mutually connected by a second spacer.

5 11. Wheelchair as claimed in claims 1 or 2, characterized in that the two rear sub-frames are mutually connected by a third spacer in the zone adjoining the first middle sub-frame.

10 12. Wheelchair as claimed in claims 1 or 2, characterized in that the stop means comprise a pin axially displaceable by means of actuating means counter to the action of spring means, which pin is mounted in a sub-frame and can be in locking co-action with a hole in an adjacent sub-frame.

15 13. Wheelchair as claimed in claim 12, characterized in that two pins are present at corresponding positions in both its frames.

20 14. Wheelchair as claimed in claim 13, characterized in that the two pins are connected by a flexible pulling member, for example a cord or cable, such that by exerting a pulling force on that pulling member a user can move both pins out of their locking co-action with the respective hole counter to the action of the respective spring means.



1 "3ED SHEET

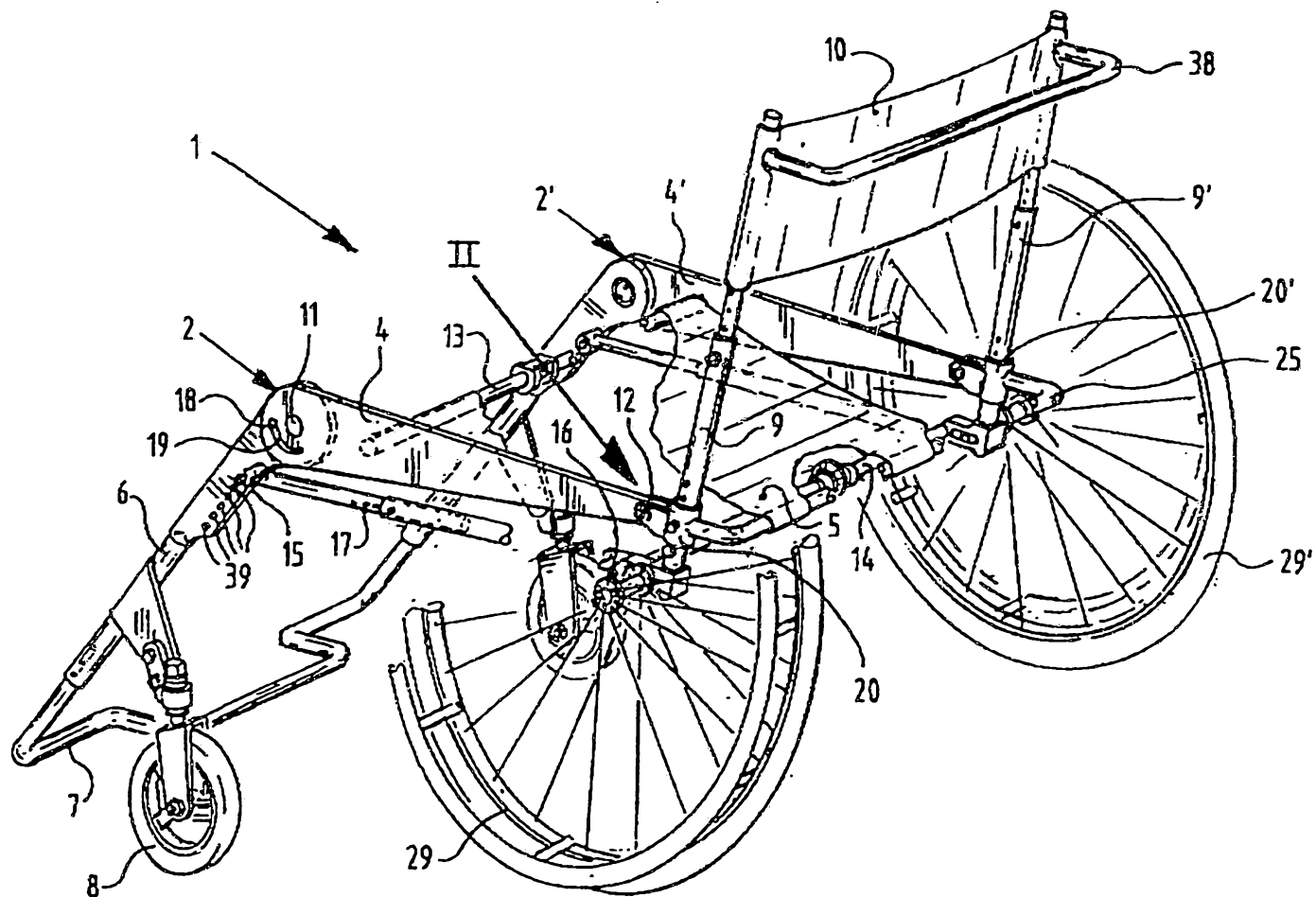
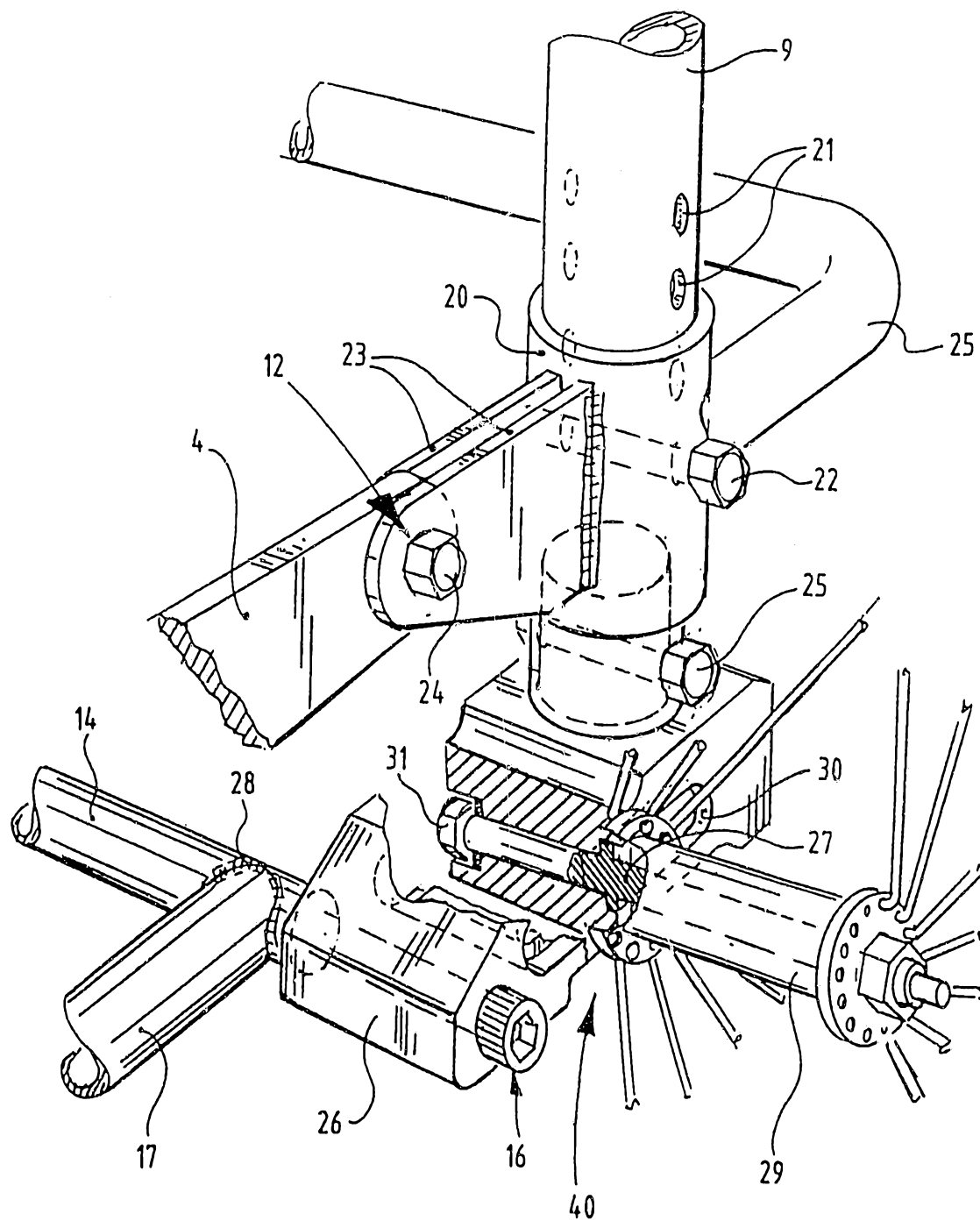
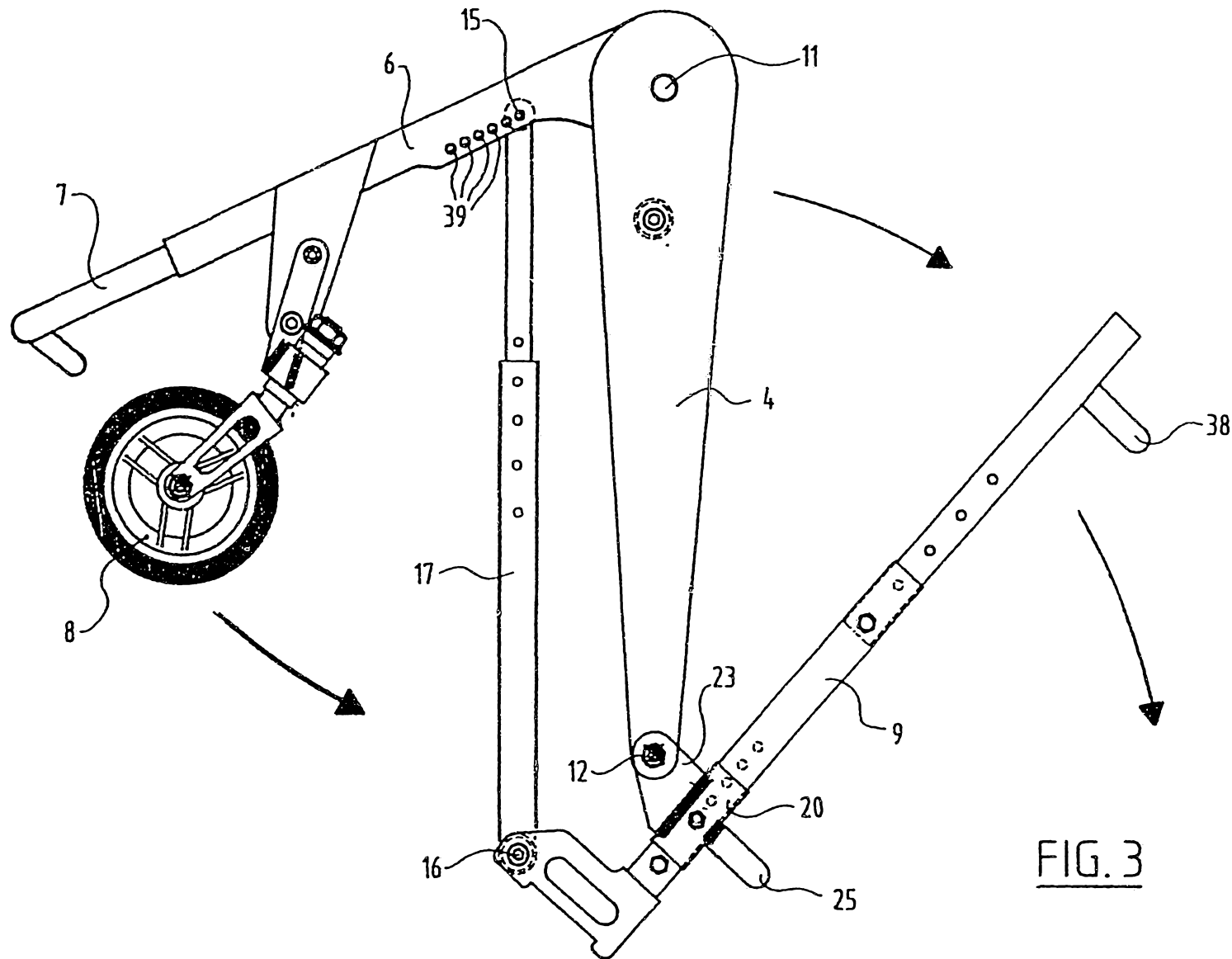


FIG. 1

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FIG. 2



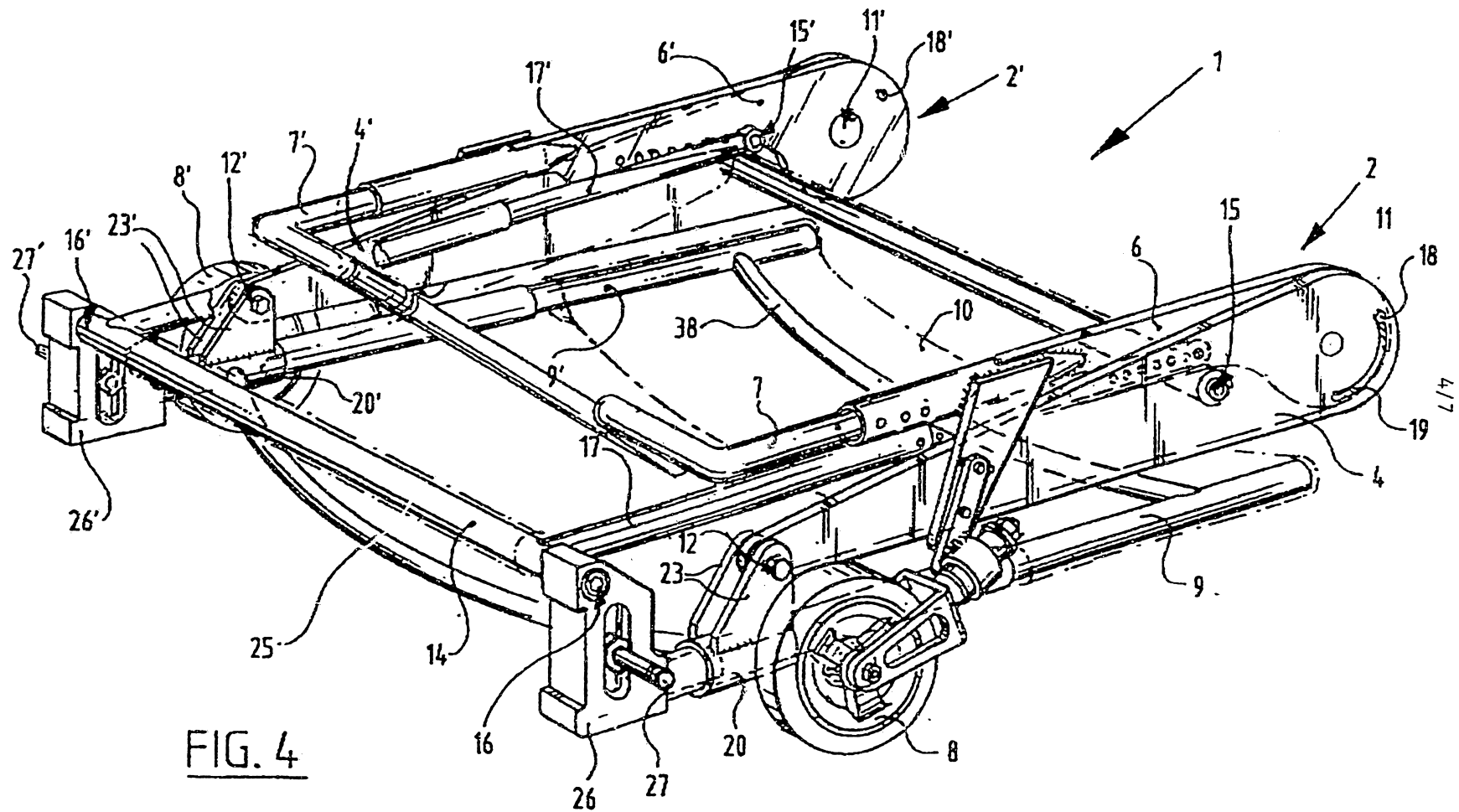
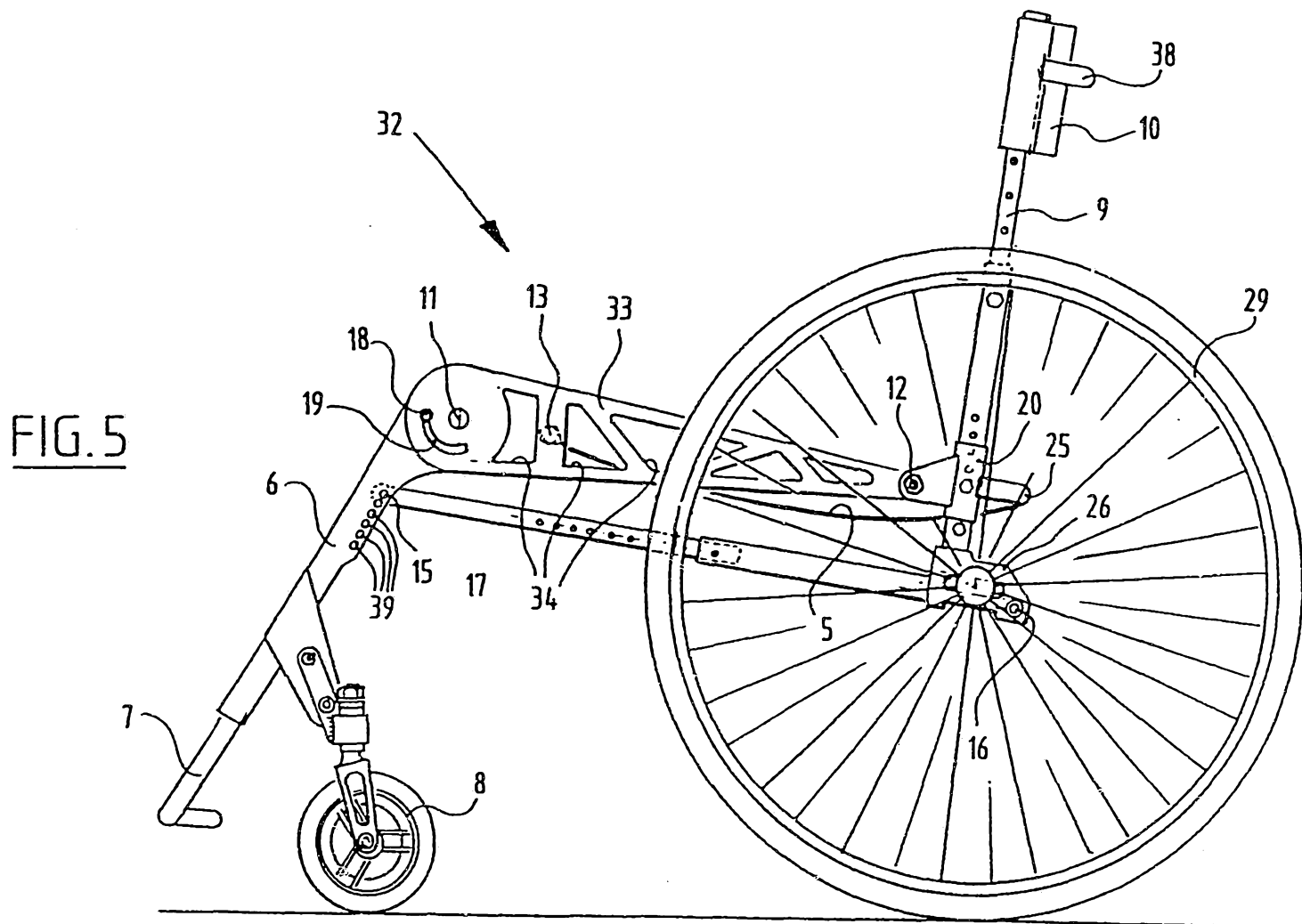
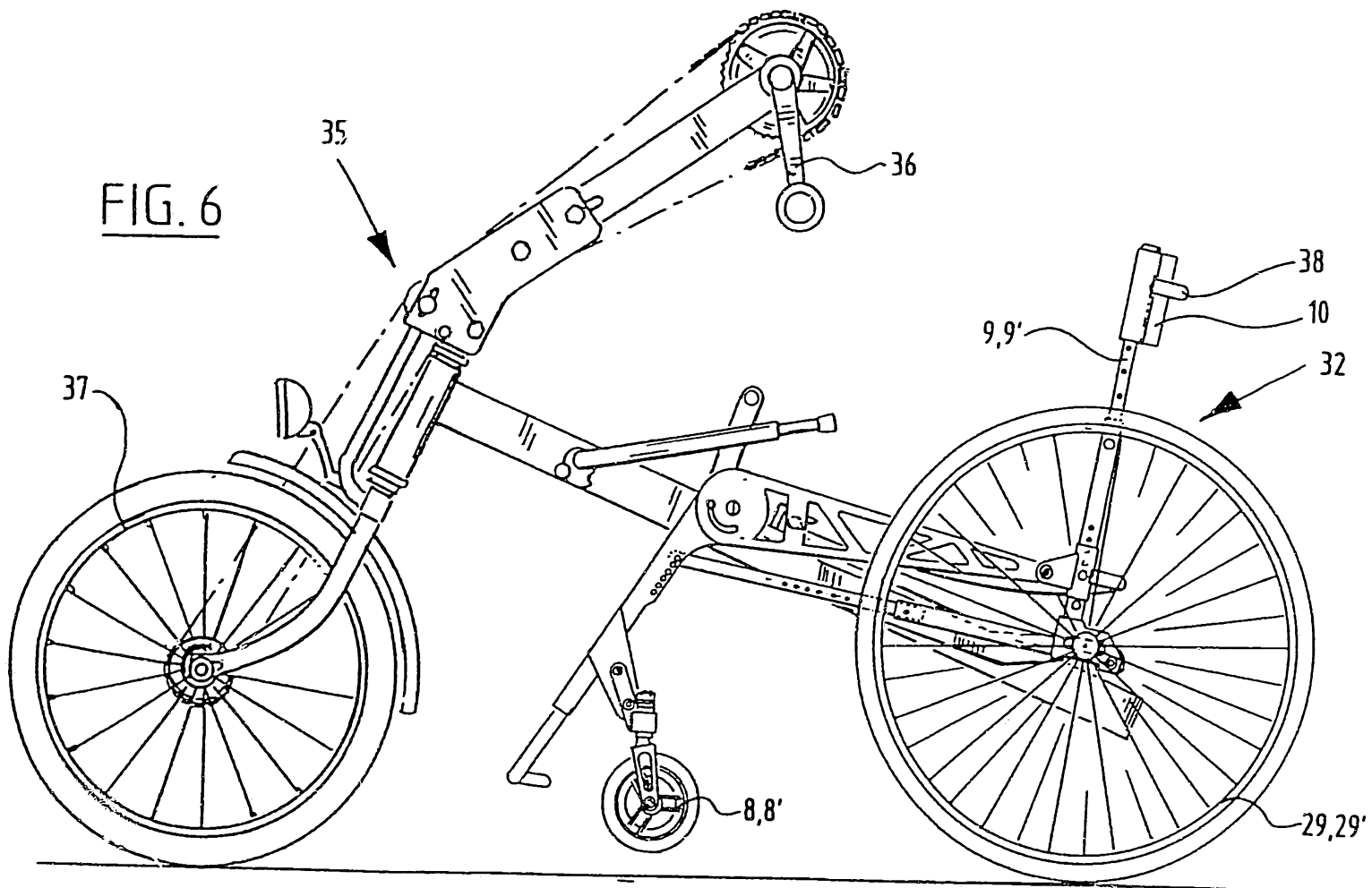


FIG. 4

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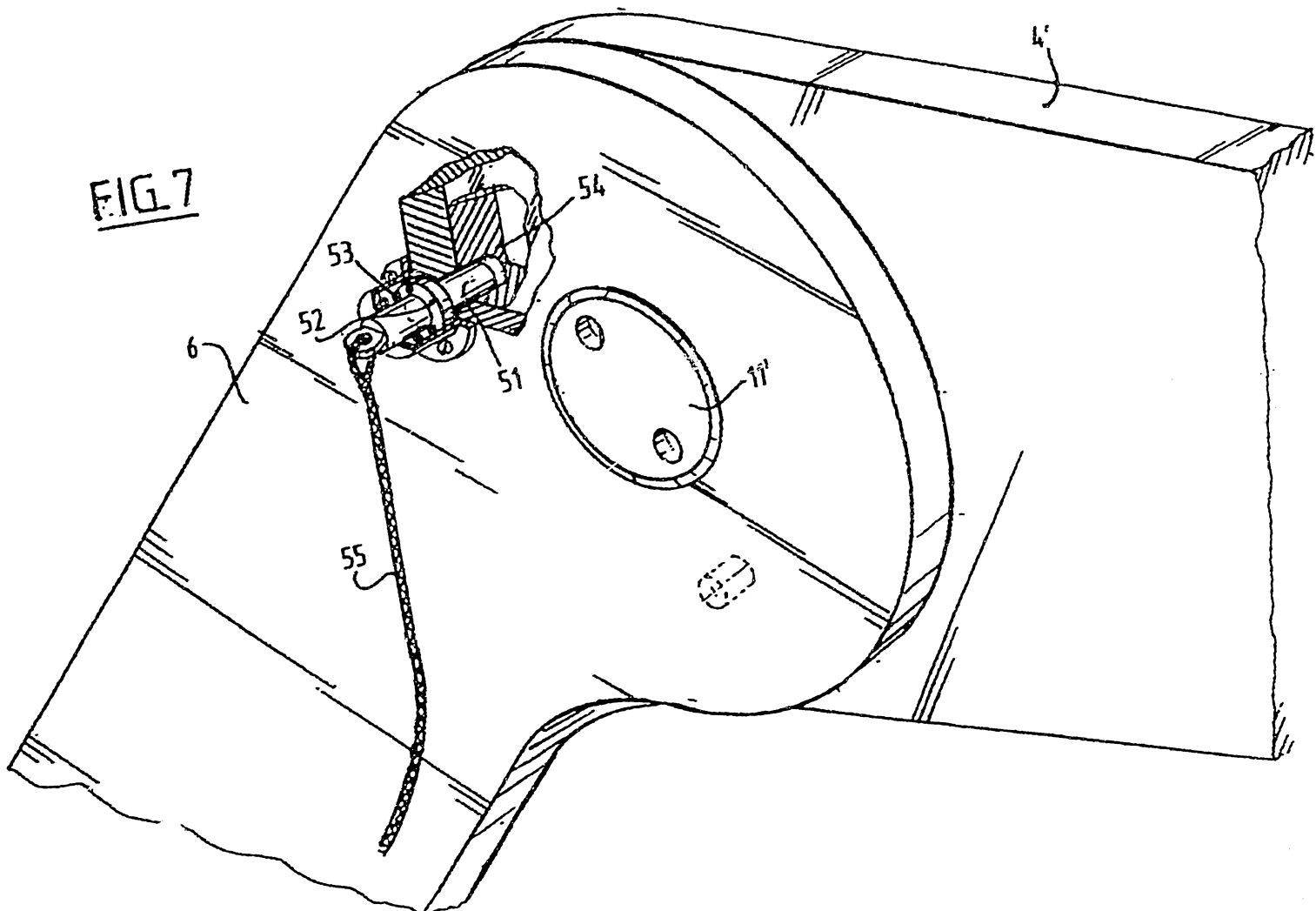


FIG. 7

INTERNATIONAL SEARCH REPORT

Inter national Application No

PCT/NL 94/00275

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 A61G5/08

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 A61G

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	FR,A,2 573 304 (ETABLISSEMENTS LACOSTE S.A.) 23 May 1986 see page 5, line 33 - page 6, line 5 see page 10, line 1 - line 15; figures ---	1,4, 7-10, 12-15
Y	GB,A,2 200 084 (TUNTURIPYORA OY) 27 July 1988 see figures 2,3 -----	1,4, 7-10, 12-15

☐ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents :

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Date of the actual completion of the international search

14 February 1995

Date of mailing of the international search report

03.03.95

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
 NL - 2280 HV Rijswijk
 Tel. (+31-70) 340-2040, Tx. 31 631 epo nl,
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Godot, T

INTERNATIONAL SEARCH REPORT

International Application No

PCT/NL 94/00275

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
FR-A-2573304	23-05-86	US-A- 4684171	04-08-87
GB-A-2200084	27-07-88	DE-A- 3800659	28-07-88
		SE-A- 8800131	21-07-88