(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 1 386 596 A1

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
04.02.2004 Bulletin 2004/06

(51) Int Cl.[7]: **A61H 3/04**

(21) Application number: **02380218.4**

(22) Date of filing: **24.10.2002**

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SK TR
Designated Extension States:
AL LT LV MK RO SI

(30) Priority: **29.07.2002 ES 200201936**

(71) Applicant: **Porras Jimenez, Francisco**
41590 La Roda de Andalucia, Sevilla (ES)

(72) Inventor: **Porras Jimenez, Francisco**
41590 La Roda de Andalucia, Sevilla (ES)

(74) Representative: **Davila Baz, Angel et al**
c/o Clarke, Modet & Co.,
Goya, 11
28001 Madrid (ES)

(54) Walker to facilitate movement for physically handicapped people

(57) Walker to facilitate the movement of physically handicapped people, which comprises a platform (1) equipped with wheels (2,3) below for support and with driving means for the same, as well as with upper columns (4) for supporting the user. The walker also comprises three wheels (2,3), two of which are arranged with their axes aligned and are mounted on a common axle (10), which is connected, by means of a transmission element, with the driving means. Said driving means and the transmission element are located, together with the wheels, on the lower surface of the platform.

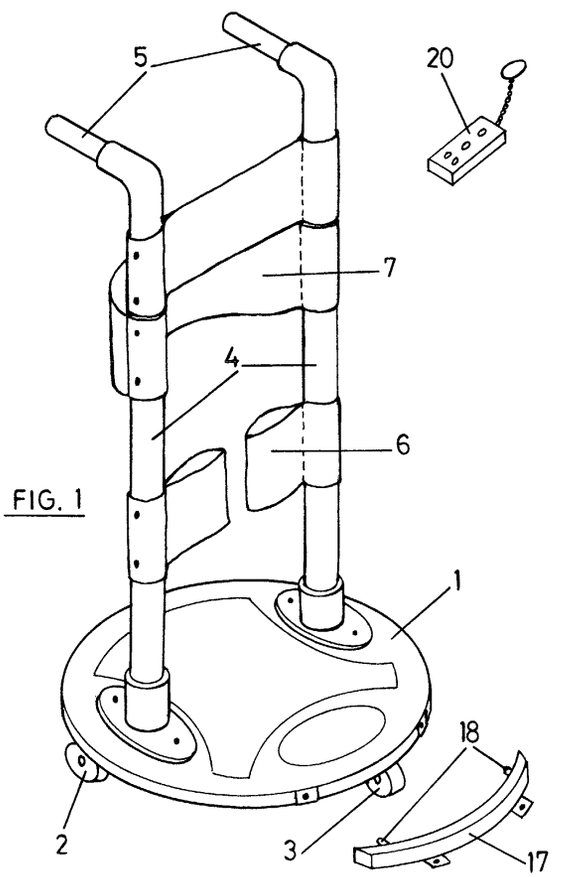

FIG. 1

EP 1 386 596 A1

Description

[0001] The present invention relates to a walker to facilitate the movement of physically handicapped people, such as paraplegics and especially for people that cannot stand upright.

[0002] The walkers intended to facilitate the movement of physically handicapped people are generally designed in the form of chairs, to transport the disabled person in a seated position.

[0003] The object of the invention is a walker for the end mentioned, in which the person that is going to make use thereof will position and maintain himself or herself over the same on foot, being in this way applicable to cases in which both ascending and descending operations of the walker will be facilitated, at the same time as it can cooperate in maintaining this position.

[0004] The walker of the invention is composed of a platform which is fitted with lower supporting wheels and also with means of driving said wheels, with the purpose of constituting a self-propelling element. The walker of the invention also includes upper columns, perpendicular to the platform, for supporting the user.

[0005] The walker of the invention comprises three wheels preferably, two of which are arranged with their axes aligned and are mounted on a common axle, which is connected, by means of a transmission element, with the driving means. Thus the two wheels mentioned constitute the drive wheels of the vehicle.

[0006] The third wheel can be free-turning, to steer the movement of the walker and it can also be connected with an upper column for steering.

[0007] The driving means and the transmission element will be located, together with the wheels, on the underside of the platform. All these mechanisms can be protected by means of a cover through the bottom or base of which only the drive and steering wheels emerge.

[0008] The driving means can be constituted by a single motor or by two motors. In any case, the shaft of the motor or motors will include a pulley or toothed wheel between which and one or two pulleys or toothed wheels firmly joined to the shaft one or two transmission belts or chains will be mounted.

[0009] The electric motor or motors will be fed by a battery which will also be mounted on the lower surface of the platform and hidden by the protective cover.

[0010] Also on the lower surface of the platform, a signal receiver can be mounted through which, by means of a remote control, the driving motor or motors can be connected or disconnected.

[0011] On the upper side the platform can include two single columns, with grips and adjustable intermediate supports for supporting the body and resting the knees, it also being possible to include a third column fixed to the free-turning wheel, also with grips, for steering the walker.

[0012] The platform will also come equipped with a lateral support with electric sockets for connection to the mains, for the purpose of recharging the battery or batteries which will supply the driving motor or motors.

[0013] The characteristics of the walker of the invention will be better understood with the following description, made with reference to the enclosed drawings, wherein a non-restrictive embodiment is shown. In the drawings:

Figure 1 is an upper perspective of a walker incorporated in accordance with the invention.

Figure 2 is a similar perspective, showing a variant of embodiment.

Figure 3 is a perspective from below of the platform of the walker.

Figure 4 is a similar perspective to figure 2, showing a variant of embodiment.

[0014] In figure 1 a walker is shown which comprises a platform 1, of circular configuration, standing on wheels 2 and 3 below. From the upper surface columns 4 emerge perpendicularly which are finished in grips 5. Between the columns 4 supports or bands 7 can be mounted, for supporting the body and knees.

[0015] The walker shown in figure 2 is of similar construction to that of figure 1, including a third column 8 which can rotate, which is fixed to the free-turning wheel 3, said column having upper grips 9, to constitute a guide or steering element.

[0016] Apart from this, the walker of figure 2 is identical to that of figure 1 and the same reference numbers are used to designate similar elements or components.

[0017] Preferably the walker will have three wheels, as can be appreciated in figure 3. Two of these wheels, which are referred to with the number 2, have their axes in alignment and are mounted on a common axle 10, which includes a pulley or toothed wheel 11. On the lower surface of the platform 1 a drive motor 12 is mounted, through which a pulley or toothed wheel 13 is driven between which and the pulley or toothed wheel 11 runs a transmission belt or chain 14.

[0018] Also on the lower surface of the platform, the battery 15 providing the supply for the motor 12 will be mounted.

[0019] The third wheel, which is referred to with the number 3, will be free-turning and can be fixed to an upper steering column 8, as has been explained with reference to figure 2.

[0020] In figure 3 the anchorages 16 of the upper columns 4 are also shown.

[0021] In figure 4 a variant of embodiment is shown in which the driving means are constituted by two electric motors 12 which can be fed by a common battery 15. Each of the motors has a pulley or toothed wheel 13, the axle 10 carrying two pulleys or toothed wheels 11 and 11a, each of which is connected with the pulley or toothed wheel 13 by means of the corresponding transmission chain 14-14a.

[0022] The platform 1, as can be better appreciated in figure 1, can carry a support 17 which can have a connection element to the mains and positive and negative contacts 18 for feeding and recharging the battery or batteries 15.

[0023] The walker of the invention can also be fitted with a signal receiver 19, capable of picking up the signals emitted by a remote control 20, for connection and disconnection of the motors 12, it being possible also to include other functions.

[0024] Lastly, the platform 1 can be equipped on the underside with a support 21 which will serve for the positioning of the walker, when it is at rest, impeding its accidental displacement.

[0025] All the mechanisms mounted on the lower surface of the platform 1 can be protected by a cover not shown in the drawings, through the bottom or base of which will emerge only the wheels 2 and 3.

Claims

1. Walker to facilitate the movement of physically handicapped people, which comprises a platform (1) fitted with wheels (2,3) below for support and with a means of driving the same, as well as with upper columns (4) for supporting the user, **characterised in that** it comprises three wheels (2,3), two of which are arranged with their axes aligned and come mounted on a common axle (10), which is connected, by means of a transmission element, with the driving means, said driving means and the transmission element being located, together with the wheels, on the lower surface of the platform.

2. Walker according to claim 1, **characterised in that** the driving means are constituted by at least one electric motor (12) which works a pulley or toothed wheel (13) between which and a second pulley or toothed wheel (11,11a) firmly joined to the axle, a transmission chain or belt (14,14a) is mounted.

3. Walker according to claim 2, **characterised in that** the driving means are constituted by two electric motors (12) which work a like number of pulleys or toothed wheels and which are connected to a like number of parallel transmission chains or belts (14,14a) with two pulleys or toothed wheels (11,11a) firmly joined to the axle.

4. Walker according to claim 1, **characterised in that** it comprises a third free-turning wheel (3), which is connected to an upper steering chain.

5. Walker according to claim 1, **characterised in that** the platform has mounted on its lower surface a supply battery (15) and a signal receiver (13), operable by means of a remote control for starting or stopping of the electric motors.

6. Walker according to claim 1, **characterised in that** the platform includes on its periphery contacts for connection to a power supply, for recharging the battery.

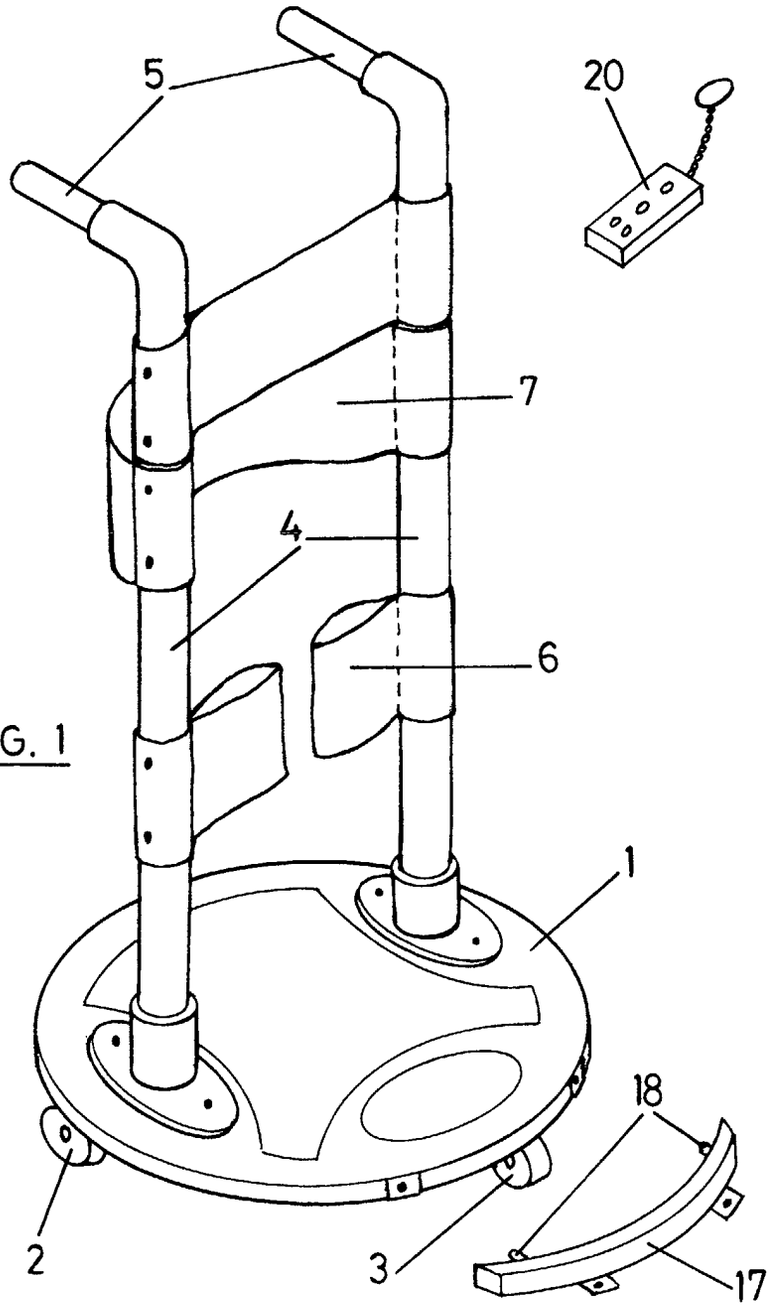

FIG. 1

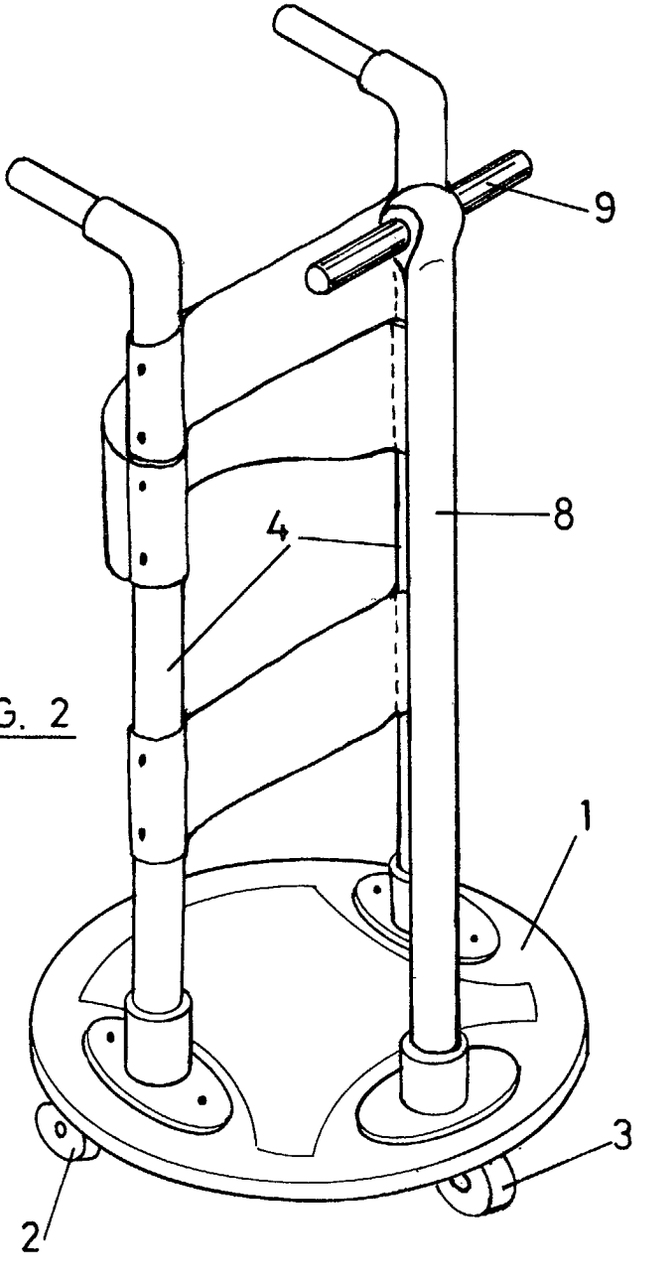

FIG. 2

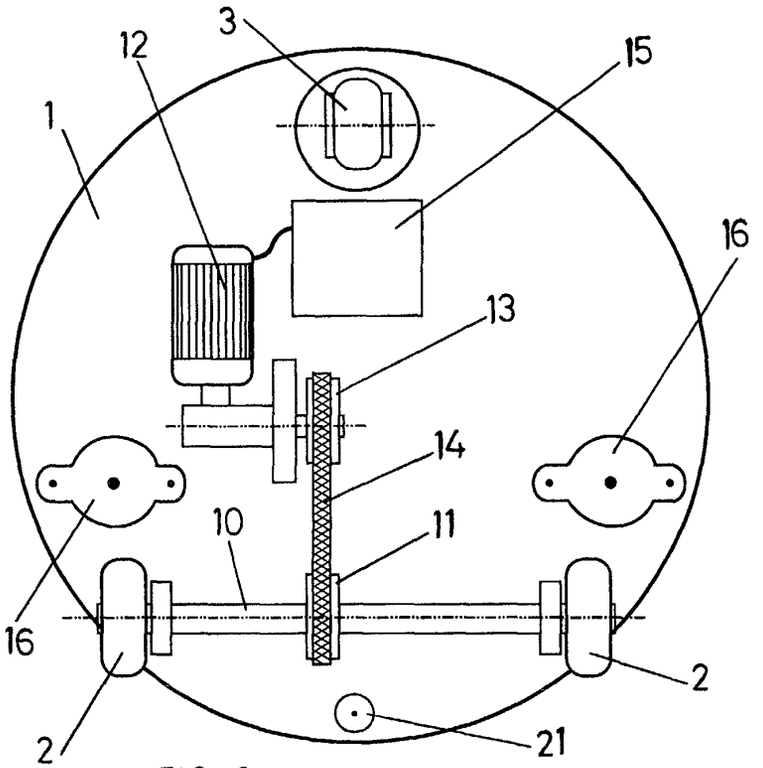
3
12
15
1
16
13
14
10
11
16
2
2
21

FIG. 3

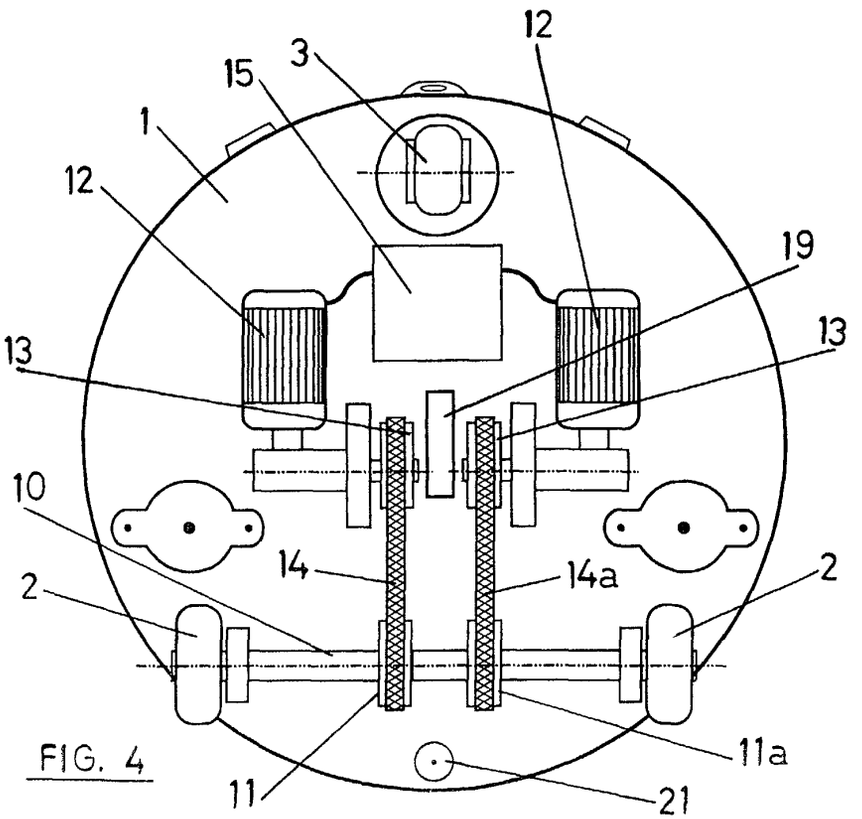
12
3
15
1
12
19
13
13
10
14
14a
2
2
11a
11
21

FIG. 4

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 02 38 0218

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
Y	EP 0 578 884 A (RODENBORN EUGENE P) 19 January 1994 (1994-01-19) * column 2, line 18 - column 3, line 14; figures 1-3 *	1,2,4-6	A61H3/04
Y	US 4 768 536 A (HAWKINS F JR) 6 September 1988 (1988-09-06) * column 1, line 50 - line 68; figure 1 *	1,2,4-6	
Y	GB 2 242 404 A (BEER JANE ;MOCKLER THOMOND (IE); SULLIVAN GERALD (IE)) 2 October 1991 (1991-10-02) * page 3, line 15 - page 4, line 34; figures 1-3,8 *	1,2,4-6	
Y	EP 0 836 985 A (CIANCHETTI CARLO) 22 April 1998 (1998-04-22) * column 3, line 20 - line 35; figures 9,10 *	1,2,4-6	
A		3	
A	WO 87 02633 A (CATTELL RUPERT PAUL) 7 May 1987 (1987-05-07) * page 3, paragraph 4 - page 7, paragraph 3; figures *	1-4,6	TECHNICAL FIELDS SEARCHED (Int.Cl.7) A61H B62D A61G B62K
A	EP 1 092 406 A (ULRICH ALBER GMBH & CO KG) 18 April 2001 (2001-04-18) * paragraphs [0005],[0011] *	5	

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
MUNICH	17 November 2003	Fischer, E

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 02 38 0218

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

17-11-2003

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0578884 A	19-01-1994	US 5168947 A	08-12-1992
		EP 0578884 A1	19-01-1994
US 4768536 A	06-09-1988	NONE	
GB 2242404 A	02-10-1991	NONE	
EP 0836985 A	22-04-1998	IT MO960134 A1	17-04-1998
		EP 0836985 A2	22-04-1998
WO 8702633 A	07-05-1987	AU 6625686 A	19-05-1987
		WO 8702633 A1	07-05-1987
		EP 0245377 A1	19-11-1987
EP 1092406 A	18-04-2001	DE 10040521 A1	10-05-2001
		DE 19949405 C1	26-10-2000
		EP 1092406 A2	18-04-2001
		EP 1092407 A2	18-04-2001

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82