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(54) **Hand grip for a rollator and rollator**

(57) The present invention is directed at a hand grip (20) for a rollator (1) comprising a first hand grip part (21) and a second hand grip part (22). The second hand grip part is positioned in front of the first hand grip part, where-

in the first hand grip part is adapted to be held during movement of the rollator, and the second grip part is adapted to be a stand-up support. Furthermore, a rollator (1) having a hand grip, preferably two hand grips as described.

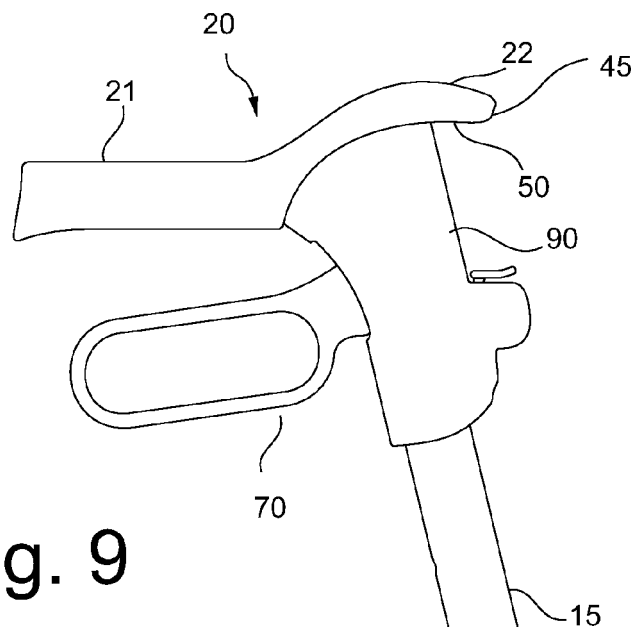


Fig. 9

Description

FIELD OF THE INVENTION

[0001] The present disclosure relates generally to a supportive device used by lame people as an aid in walking, such as a rollator, and a hand grip thereof. More particularly, the present disclosure relates to a grip for a rollator and a rollator with extended functionality.

BACKGROUND OF THE INVENTION

[0002] Certain health conditions hinder vertical balance and other mechanics of walking. So-called rollators are used for helping disabled or old person's activity and assuring his/her security. Rollators as understood herein are wheeled supports which aid individuals who have function in their lower limbs, but lack the strength or balance to enable them to walk unsupported. A rollator should be constructed firm, secure, and reliable to avoid any possible accident. Generally, a rollator include four wheels or at least three wheels in order to avoid the need to lift the device as is the case for walkers. Further, these devices usually include a seat so that a user may use the device to sit and rest.

[0003] Herein, the hand grip of a rollator is of particular interest. The two hand grips of a rollator are positioned on either side of the user. In use, the user holds both hand grips for several reasons. By holding the hand grips, the rollator can give the needed support to the user. The user can hold the hand grip in order to support him/herself. In other words, the hand grip is capable of withstanding a vertical force. Secondly, the rollator provides strength also with respect to any side instability of the user. Thirdly, by pushing the rollator via the hand grip, the rollator is moved into the desired direction.

[0004] Most rollators additionally include brakes which allow the user to stop the rollator, or to reduce the rollator's speed.

[0005] Fig. 1 shows an example of a rollator. The rollator 1 includes four wheels. Normally, the two front wheels 11 are twistable whereas the two back wheels 12 are fixed. The rollator may include further features such as a seat 18, a bag (not shown) or a basket. The rollator has two support bars 15 supporting the hand grips 10. As mentioned, known rollators may additionally have brake handles 17.

[0006] The rollators known assist the user in walking once the user has stood up. However, known rollators do not specifically assist the user in standing up.

BRIEF SUMMARY OF THE INVENTION

[0007] In view of the above, a hand grip for a rollator is provided with a first hand grip part and a second hand grip part, wherein the second hand grip part is positioned in front of the first hand grip part. The first hand grip part is adapted to be held during movement of the rollator, and the second grip part is adapted to be a stand-up support.

[0008] According to a further aspect, a rollator is provided having a hand grip as described herein. Preferably, the rollator includes two of the hand grips described wherein the two hand grips are typically identical.

[0009] Further aspects, details and embodiments are evident from the dependent claims, the description and the accompanying drawings.

[0010] A hand grip typically includes an axial direction along which the hand grip is mounted to the respective support at the rollator. The axial direction typically coincides with the straight forward direction of the rollator if the rollator is uniformly pushed.

[0011] The feature, namely the second hand part is positioned in front of the first hand part, is understood in that the second hand part is ahead of the first hand part with respect to the axial direction. In other words, the second hand grip part is further away from the user in operation of the rollator than the first hand part.

[0012] Generally, the first hand grip part is held by the user when the user pushes the rollator. Although the second hand grip part may also be held, the second hand grip part shall assist the user to stand up. Therefore, the second hand grip part is provided with a specific shaping.

[0013] Thus, according to typical embodiments, in case brakes are provided, the brake handles can be reached by the user when the user holds the first hand grip part. According to many embodiments, though, it is not necessary that the user can reach the brake handles when holding the second hand grip part.

[0014] According to embodiments, the maximal width of the second hand grip part is larger than the maximal width of the first hand grip part. The width of the hand grip is defined as the hand grip part's extension perpendicular to its longitudinal extension. Typically, the extension is defined as the extension in projection. The first hand grip part is optimized for both supporting the user and allowing him to guide the rollator. Since the user needs full control about all possible movement directions, it is typical that the first hand grip part is largely or totally enclosed by the user's hands when the rollator is guided. Hereto in contrast, the second hand grip typically has an enlarged support surface as compared to the first hand grip part's extension. The width of the second hand grip may be such that it is adapted to receive the complete user's heel of hand. According to embodiments, the support has a width of at least 4 cm.

[0015] According to embodiment, the second hand grip part is inclined with respect to the first hand grip part. Typically, the first hand grip part's longitudinal axis is oriented vertically, possibly with a +/- 10% deviation. The second hand grip's part longitudinal axis, however, is typically inclined with respect to the first hand grip part's longitudinal axis. For instance, it may be inclined by up to 30° with respect to the vertical axis. The inclination helps the user grip the second hand grip part and helps pushing the rollator while standing up. In other words, during the stand up procedure, the user needs to transfer weight to the rollator. The direction of the force applied to the rollator during the stand up procedure is thus oriented somewhere between the vertical and the horizontal. By providing the inclined second hand grip part, the user can hold the second hand grip part in such a way that the force transferred thereto can be perpendicular or almost perpendicular to the second hand grip part's surface.

[0016] Typically, the height of the second hand grip part is higher than the height of the first hand grip part. As mentioned, the second hand grip part assists the standing up procedure whereas the first hand grip part mainly serves holding to and guiding of the rollator.

[0017] According to embodiments, at least part of the second hand grip part is protruding. The term "protruding" as understood herein includes a part that stands out from the surrounding. In particular, the protruding part of the second hand grip part can typically be gripped by a user from above and from below the second hand grip part. Accordingly, it can be enfolded by the user's hands. This allows a high level of stability, in particular, by enclosing the protrusion the user can pull him/herself up and transfer weight to the grip at the same time. It is thus typical that the protruding part protrudes in a direction opposite to the location of the first hand grip part. That is, the protruding part protrudes in an axial direction of the hand grip, namely the forward direction.

[0018] The second hand grip part is typically adapted that the user can enclose the front part of the second hand grip part. That is, the second hand grip part has a limitation in the forward direction so that a user can grip the second hand grip part in such a way to counterbalance a backward force, for instance, during stand up procedure.

[0019] According to embodiments, the hand grip including the first hand grip part and the second hand grip are made of one part. They can be comprised of the same material. According to other embodiments, the first hand grip part and the second hand grip part are detachable from each other, e.g., by means of screws or the like.

[0020] The hand grip is typically connected to a brake. The brake normally includes a brake handle which can be pulled in order to govern the brakes acting on the wheels. According to embodiments, the brake handle must be pulled in order to stop the rollator. In this case, the rollator is typically provided with a brake handle fixation which can be pushed in order to permanently pull the brake. According to other embodiments, the brake handle must be released in order to stop the rollator, i.e., the brake is pulled if the brake handle is released.

[0021] In any case, it is typical that the brake handle is positioned substantially below the first hand grip part. The term "substantially" in this context typically refers to a situation wherein at least 70% of the brake handle's extension is below the first hand grip part. According to embodiments, the brake handle cannot be reached when the user's hands rest on the second hand grip part.

[0022] According to embodiments, a connection part is provided which is adapted for being connected to support bars of the rollator. The connection part is typically positioned substantially below the second hand grip part. The term "substantially" in this context refers typically to a situation wherein at least 80% of the connection part's extension is below the second hand grip part.

[0023] According to embodiments, the surface of the second hand grip part is flat or may have a small curvature, in particular a curvature of maximally 20°. The surface may be provided with some structure, such as a roughening, that increases the user's grip when holding the second hand grip part. A small curvature or a flat surface help receive the user's heel of hand, and the user can transmit weight to the second hand grip part throughout the complete heel of hand. This can become particularly relevant during stand up procedure where the user has to stand with flexed legs. A high ratio of weight should be transmitted to the second hand grip part.

[0024] According to embodiments, the length of the hand grip is between 15 cm and 25 cm: In particular, the length of the second hand grip is between 5 cm and 15 cm, preferably between 5 cm and 10 cm.

[0025] According to an aspect, the rollator includes two hand grip parts. The hand grip parts are separate elements which are non-connected to each other. The term "non-connected to each other" is understood in that there is no direct connection between the two hand grip parts, for instance, by a connecting bar or the like.

BRIEF DESCRIPTION OF THE DRAWINGS

[0026] A full and enabling disclosure is set forth more particularly in the remainder of the specification, including reference to the accompanying figures wherein:

Fig. 1 shows a schematic view of a rollator known in the art;

Fig. 2 shows a perspective schematic view of a hand grip according to embodiments.

- Fig. 3 shows an enlarged schematic view of the second part's upper surface of a hand grip according to embodiments.
- Figs. 4, 5A, 5B and 6 show schematic sectional views of a hand grip according to embodiments.
- Fig. 7 shows a schematic cross-sectional view of a hand grip attached to a support bar with a brake handle according to embodiments.
- Fig. 8A is a perspective schematic view of a hand grip according to embodiments.
- Fig. 8B is the plan view of the hand grip according to embodiments illustrated in Fig. 8A.
- Fig. 9 is a plan view of a hand grip supported by a connection part with a brake handle according to embodiments.
- Fig. 10 is a schematic three-dimensional view of a rollator according to embodiments described herein.

DETAILED DESCRIPTION

[0027] Reference will now be made in detail to the various embodiments, one or more examples of which are illustrated in each figure. Each example is provided by way of explanation and is not meant as a limitation. For example, features illustrated or described as part of one embodiment can be used on or in conjunction with other embodiments to yield yet further embodiments. It is intended that the present disclosure includes such modifications and variations.

[0028] Referring to the drawings, where like or similar elements are designated with identical reference numbers throughout the different figures, Fig. 2 is a schematic three-dimensional view of a hand grip 20 according to embodiments. The hand grip includes a longitudinal axis 25 wherein the direction indicated in Fig. 2 is understood as forward direction. The first hand grip part 21 is positioned behind the second hand grip part 22 with respect to the forward direction. The first hand grip part can be a handle as known in the art, for instance the handle 10 as shown in Fig. 1. The first hand grip part is adapted to be held during movement of the roller. The first hand grip part could generally thus also be called "handle bar" because it is gripped by the user, and the rollator is guided via the handle bar by the user.

[0029] According to an aspect of the present invention, the rollator 1 additionally includes a second hand grip part which is denoted with reference numbers 22 herein. The second hand grip part serves to support the user during standing up. The second hand grip part typically has a support surface 24 for receiving a hand, in particular for receiving the heel of hand. The second hand grip may have a width of at least 3 cm, typically at least 4 cm or even at least 5 cm (such as 5.8cm).

[0030] According to embodiments, the second hand grip part is not adapted to be held by the user during movement of the rollator. For instance, the second hand grip part is typically positioned such that the brake handle is not reachable if the hand rests on the second hand grip part.

[0031] The surface 24 of the second hand grip part, which is also called support surface, may be flat or may have a maximum curvature of 20°, typically 15°. This is illustrated in Fig. 3 wherein the angle α is shown referring to the curvature 30 of the support surface 24. In general terms, the support surface's curvature is defined as the angle of the respective circular segment with which the support surface overlaps. The curvature of the second hand grip part's surface can extend sideways with respect to the longitudinal direction. This is what is shown in Fig. 3. Alternatively or additionally, it is also possible that the surface curvature extends along the longitudinal direction, as it will be illustrated in Figs. 6 and 8-10.

[0032] According to an aspect, the second hand grip part is inclined with respect to the first hand grip part. For instance, as shown in Fig. 4, the support surface 24 of the second hand grip part 22 is slightly inclined with respect to the completely horizontal orientation of the first hand grip part 21. The inclination angle is determined as the angle between the longitudinal axis of the second hand grip part and the longitudinal axis of the first hand grip part (which is normally horizontally oriented). The inclination angle β between the first hand grip part and the second hand grip part is illustrated in Fig. 4. The inclination angle is typically at least 10°, more typically at least 15°, and even more typically at least 20°.

[0033] The inclination of the second part eases the user to support him/herself on the second hand grip part, for instance, while standing up from a seat or the like. The user can push the second grip part, thus transferring weight to the rollator, thus reducing the remaining body weight which must be carried by the user's legs.

[0034] Generally and only exemplarily shown with regard to Fig. 4, the second hand grip part has a limitation 45 in the forward direction of the hand grip for allowing the user to enclose the hand grip part. In particular, given this limitation, the user can enclose the limitation at the front side of the second hand grip part and is thus able to pull the hand grip towards the backward direction, for instance, while the user stands up.

[0035] According to some embodiments, the second hand grip part is protruding. This is illustrated in the exemplary embodiment of Figs. 5A and 5B wherein the second hand grip part 22 includes a protrusion 50 which extends from the remainder of the second hand grip part. As described herein, the phrase that at least part of the second hand grip part is protruding can be understood that at least part of the second hand grip part is thinner than the rest of the second hand grip part and/or the first hand grip part. That is, the second hand grip part has a thin protrusion 50, which could also be called extension, and which can easily be gripped by a user. Generally, and not limited to this embodiment, the protrusion 50 has typically a maximal thickness of 2 cm, more typically of maximally 1.5 cm.

[0036] Fig. 5B shows a hand grip of a rollator when held by a user. The user's hand 55 rests on the surface 24 of the second hand grip part. The user can enclose the extension 50 with his/her fingers 56. This provides an increased stability, and in addition, the user can also exert a force to the hand grip into the back direction of the rollator (which is to the right in the shown perspective). In this case, it is certainly recommendable that the rollator is equipped with brakes which can be adapted to be permanently pulled in order to prevent the rollator from moving. The user can thus not only transfer part of his body weight to the rollator, he/she can also pull him/herself up by gripping the extension.

[0037] Fig. 6 shows a perspective view of embodiments of the hand grip 20. As shown, the second hand grip part 22 may not only have a curvature oriented sideways to the longitudinal axis of the hand grip. Additionally or alternatively, it is possible that the surface 24 of the second hand grip part has a curvature in the forward direction. The term "forward direction" of the hand grip refers to the direction perpendicular to the side direction, and refers to the positioning of the hand grip at the rollator. The forward direction of the rollator is the direction into which the rollator moves if it is pushed in a straight fashion.

[0038] The curvature of the second hand grip part in the forward direction may include a rising part 60. Additionally or alternatively, the curvature of the second hand grip part may also have a sloping part 61 in the forward direction. In Fig. 6, the dashed line 65 indicates the maximal height of the second hand grip part separating the rising part 60 and the sloping part 61. The sloping part is typically adapted to be enfolded by the user's fingers, whereas the rising part is typically adapted to receive user's heel of hand.

[0039] Fig. 7 illustrates further embodiments. Generally, and not limited to the illustrated embodiments, the second hand grip part has an extension which is higher than the extension of the first hand grip part when the hand grip is in operation, that is, when it is attached to the rollator. This is illustrated in Fig. 6 by the maximal height h of the second hand grip part which extends over the maximal height of the first hand grip part.

[0040] According to the embodiments illustrated in Fig. 7, the hand grip is mounted to the support bars 15 of the rollator in such a way that the support bars are substantially below the second hand grip part 22. It is also possible that a connection part (not shown in Fig. 7) is provided between the hand grip and the support bar. Furthermore, a brake handle 70 may be provided which is typically positioned below the first hand grip part. Thus, the user can activate the brake when moving the rollator by holding the first hand grip part.

[0041] Typically, and not limited to any of the embodiments described in detail, the second hand grip part is symmetric. According to embodiments, at least a part of the second hand grip part is typically broader than the first hand grip part. The hand grip's corners are typically flattened in order to avoid injuries.

[0042] The embodiments illustrated in Fig. 8A show a schematic three-dimensional view of a hand grip. The second part 22 has a curved support surface 24. The first hand grip part 21 includes a broadened section 80 which is typically positioned laterally with respect to the longitudinal direction. The broadening, which can be provided in all embodiments described herein, eases gripping the first part of the hand grip when moving the rollator. It increases the support surface of the hand when holding the first hand grip part. The broadening of the first hand grip part is typically asymmetric in the sense that only one lateral side of the first hand grip part is provided with such a broadening. If the hand grip is supposed to be mounted to the right side of the rollator, the broadening is positioned on the right side with respect to the longitudinal direction. If the hand grip is supposed to be mounted to the left side of the rollator, the broadening is positioned on the left side with respect to the longitudinal direction.

[0043] The hand grip may be easily mounted to the support bars of the rollator, for instance, by help of a connection part. The reference number 81 shown in Fig. 8A refers to a connection mechanism allowing the connection part to be received by the hand grip. The connection can be performed by a snap fit, or by attaching the hand grip with screws or the like.

[0044] Fig. 8B illustrates schematically the hand grip shown Fig. 8A in a top view.

[0045] Fig. 9 illustrates embodiments of a hand grip and an excerpt from a rollator. The hand grip 20 as described herein may be connected to the support bar 15 directly or, as shown in Fig. 9, via the connection part 90. The connection part may be provided with a connection device for attaching the hand grip, in particular the second part of the hand grip, such as a socket or the like. The connection part may be configured to receive and/or cooperate with a brake handle 70. A connection to the support bar 15 is provided typically opposite to the connection of the hand grip 20 (in terms of vertical direction).

[0046] Fig. 10 illustrates a rollator 1 according to embodiments having two hand grips 20 according to embodiments described herein.

Claims

1. Hand grip (20) for a rollator (1) comprising a first hand grip part (21) and a second hand grip part (22), the second hand grip part being positioned in front of the first hand grip part, wherein the first hand grip part is adapted to be held during movement of the rollator, and the second grip part is adapted to be a stand-up support.
2. Hand grip according to any of the preceding claims, wherein the maximal width of the second hand grip part (22) is larger than the maximal width of the first hand grip part (21).
3. Hand grip according to any of the preceding claims, wherein the surface (24) of the second hand grip part (22) is inclined (β) with respect to the surface of the first hand grip part (21).
4. Hand grip according to any of the preceding claims, wherein the maximal height (h) of the second hand grip part is larger than the maximal height of the first hand grip part.
5. Hand grip according to any of the preceding claims, wherein at least part of the second hand grip part is protruding (50).
6. Hand grip according to claim 5, wherein the protruding part (50) of the second hand grip part (21) protrudes in a direction opposite to the location of the first hand grip part.
7. Hand grip according to any of the preceding claims, wherein the first hand grip part and the second hand grip part are made of one part.
8. Hand grip according to any of the preceding claims, further comprising a brake, wherein the brake has a brake handle (70) which is positioned substantially below the first grip part (21).
9. Hand grip according to any of the preceding claims, further comprising a connection part (90) adapted for being connected to support bars (15) of the rollator, wherein the connection part is positioned substantially below the second hand grip part (22).
10. Hand grip according to any of the preceding claims, wherein the second grip part has a surface (24) which is flat or has a maximum curvature (30) of 20° .
11. Hand grip according to any of the preceding claims, wherein the length of the hand grip is between 15 cm and 25 cm, and wherein in particular the length of the second hand grip is between 5 cm and 15 cm, preferably between 5 cm and 10 cm.
12. Hand grip according to any of the preceding claims, wherein the second hand grip part (22) has a limitation (45) in the forward direction for allowing the user to enclose the hand grip part in particular at the front side of the second hand grip part.
13. Rollator (1) comprising a hand grip, preferably two hand grips, according to any of the preceding claims.
14. Rollator according to claim 13, wherein the first hand grip part is positioned behind the second hand grip part with respect to the forward direction of the rollator.
15. Rollator according to any of claims 13-14, wherein the rollator comprises two hand grip parts, and wherein the hand grip parts are separate elements which are non-connected to each other.

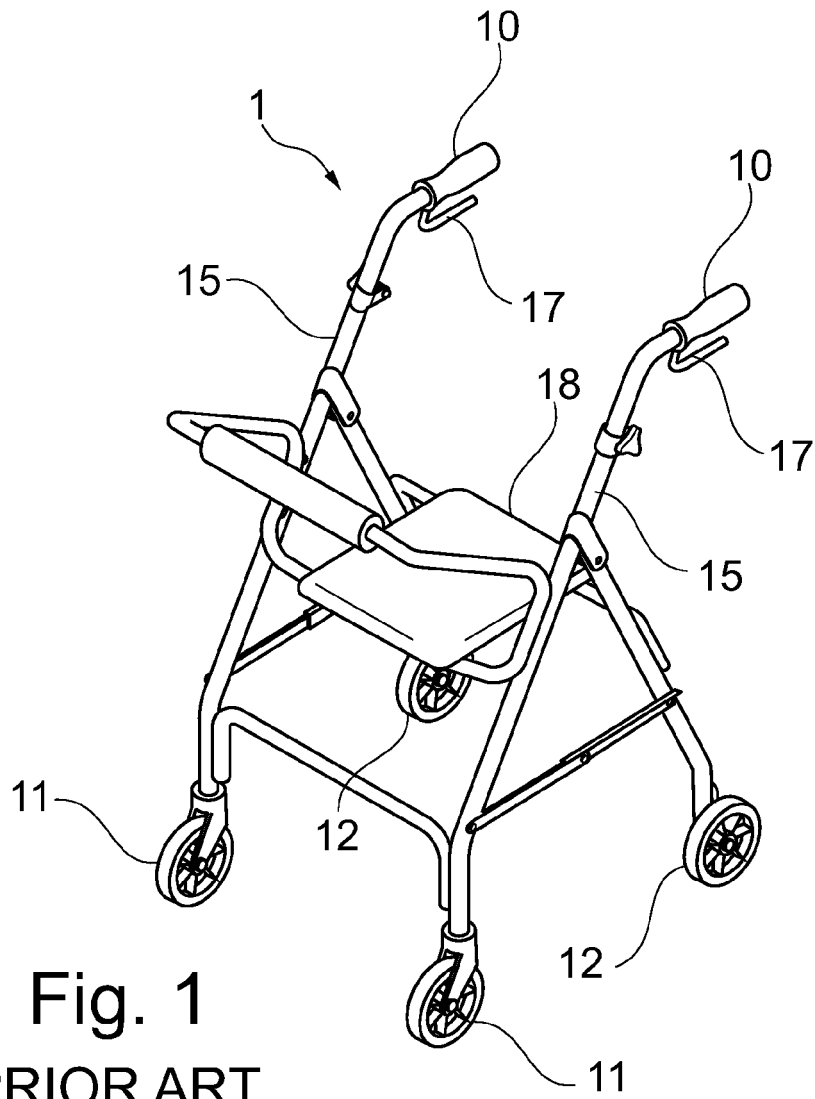


Fig. 1
PRIOR ART

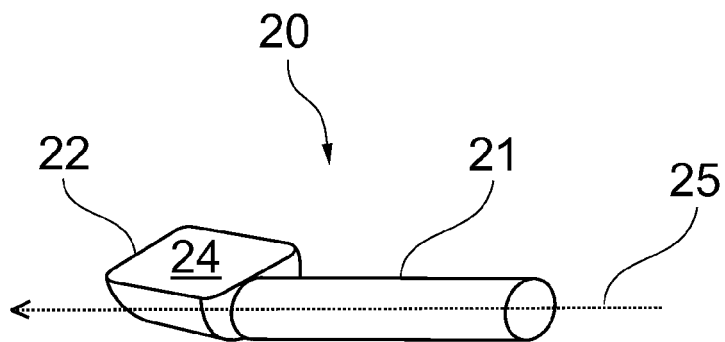


Fig. 2

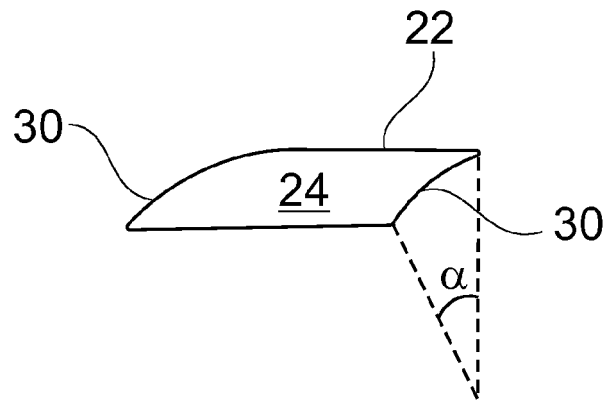


Fig. 3

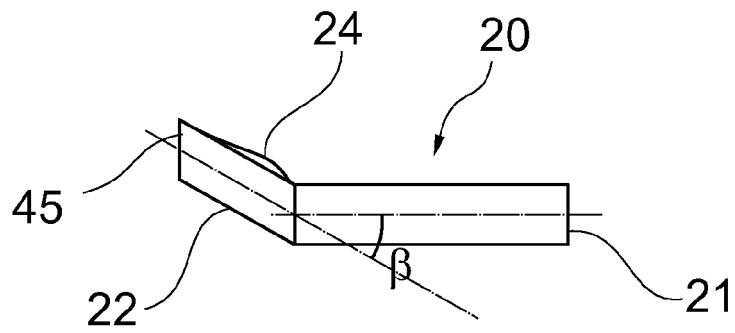


Fig. 4

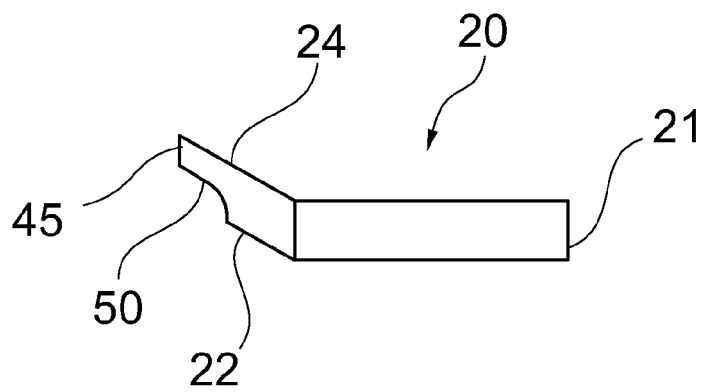


Fig. 5A

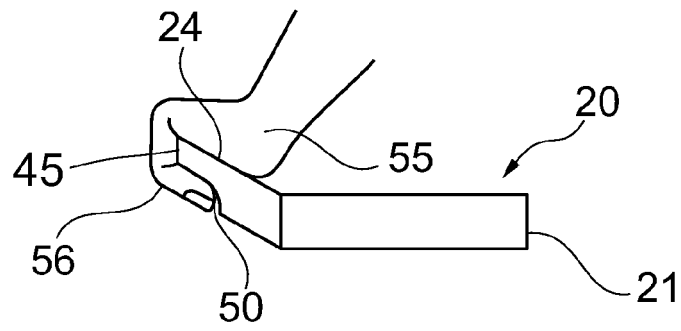


Fig. 5B

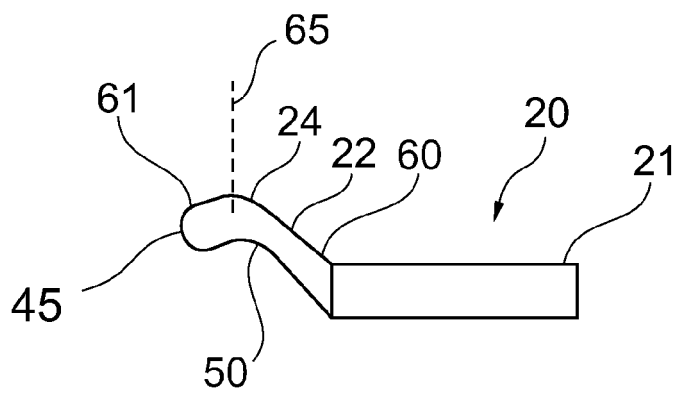


Fig. 6

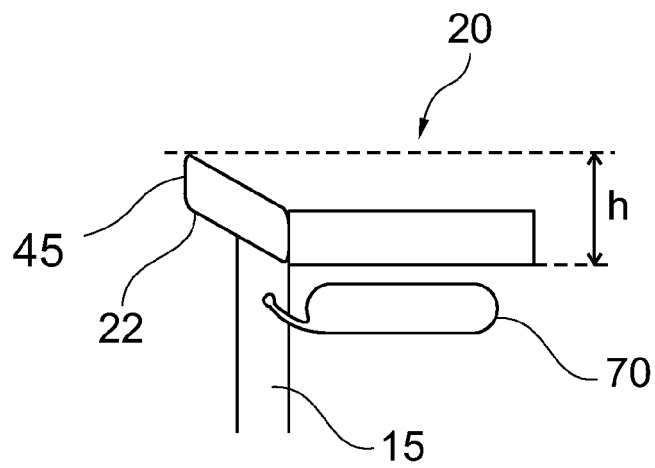


Fig. 7

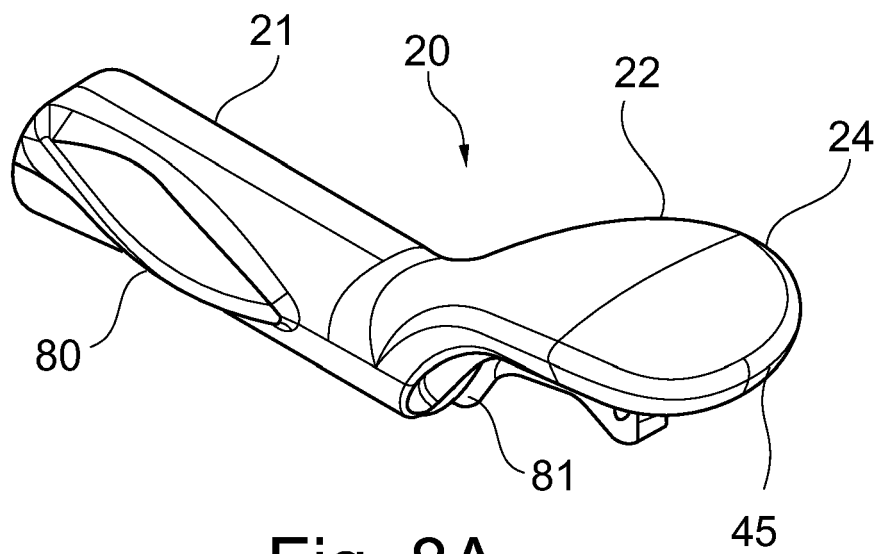


Fig. 8A

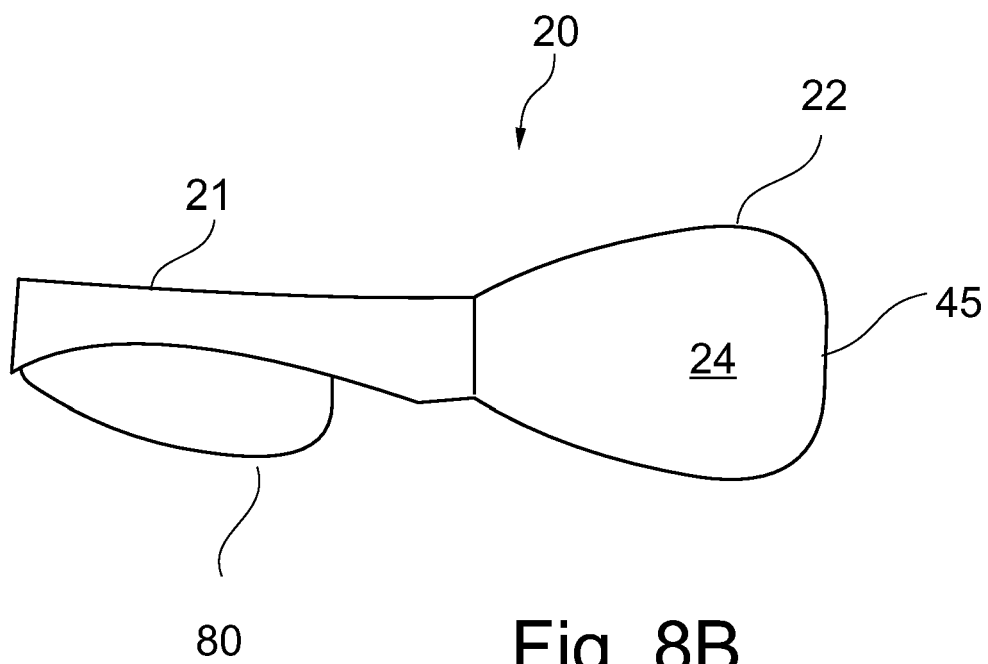


Fig. 8B

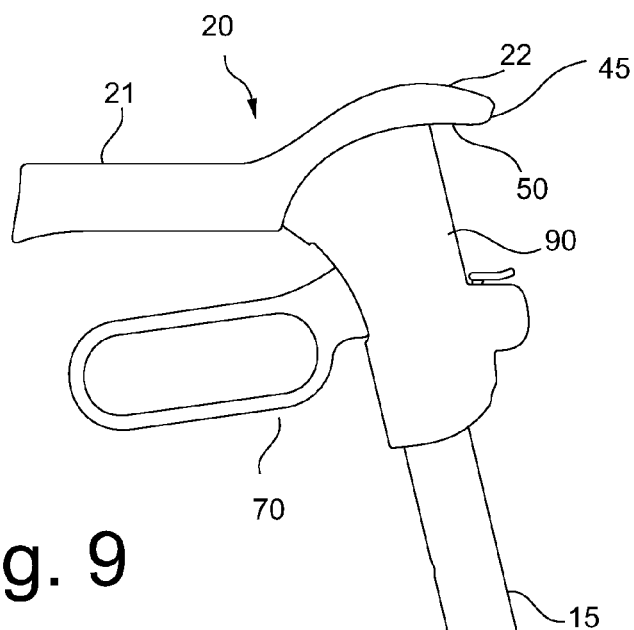


Fig. 9

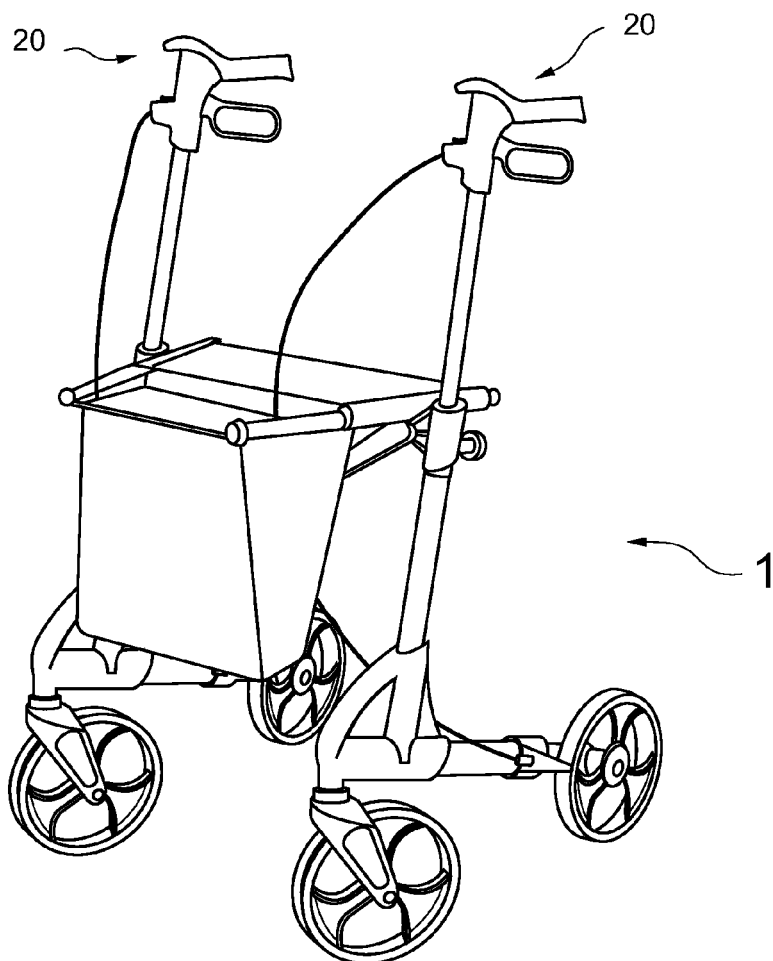


Fig. 10



EUROPEAN SEARCH REPORT

Application Number
EP 11 16 4478

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X A	US 2007/267054 A1 (MEYERS DANIEL SETH [CA] ET AL) 22 November 2007 (2007-11-22) * paragraphs [0006], [0034], [0041] - [0047]; figures *	1-11, 13-15 12	INV. A61H3/04 B62B9/20
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The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 28 September 2011	Examiner Teissier, Sara
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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 11 16 4478

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
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28-09-2011

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