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(54) **Footrest for a wheelchair**

(57) The invention concerns a footrest (1) for a wheelchair, said footrest comprising a footrest plate (2) and, connected thereto, at least one post (4), over which

is telescopically received a heel support strap (5), wherein said post (4) comprises at least one lower part (4b) connected to said footrest plate (2) and one upper part (4a) made from a flexible plastic material.

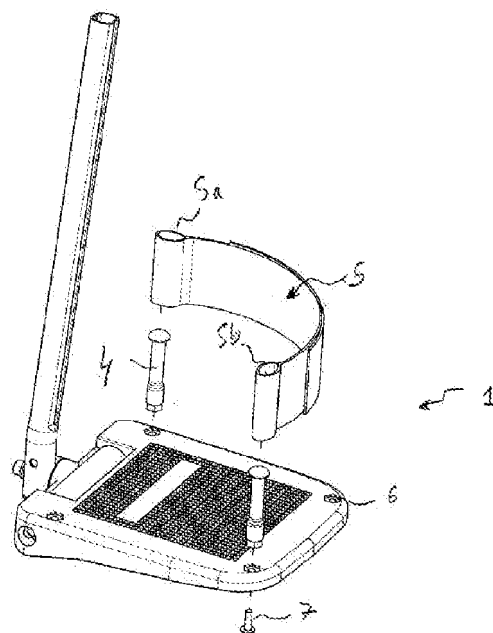


Fig. 2

Description

FIELD OF THE INVENTION

[0001] The present invention relates to a footrest for a wheelchair, said footrest being configured so as to prevent injuries of the user when he accidentally falls down and violently hits said footrest.

BACKGROUND OF THE INVENTION

[0002] Conventional wheelchairs are commonly equipped with two footrests adapted to support each foot of the person using the chair. Said footrests are mounted at the front of the chair and on either side of the wheelchair seat so as to form a plane support for the user's feet when he is sitting inside the wheelchair. Advantageously, each footrest may be commonly equipped with a heel strap, said strap being configured to support the heel of the user's foot. Said strap generally extends at the rear of the footrest and in an orthogonal position with regard to the footrest plate. The strap is generally received over one or several metallic posts fixedly connected to the footrest plate and positioned near the corners of the footrest plate. Such a configuration has been usually used in conventional wheelchairs for a long time. However, such a configuration may constitute a danger to the user if he accidentally falls down from the wheelchair and violently hits the footrests with his backside for instance. Indeed, in this case, the probability is high that he is seriously injured by the metallic posts of the footrests.

[0003] Surprisingly, despite this known danger for the user, no solution has been proposed in the state of art to the above mentioned problem.

[0004] The aim of the present invention is therefore to provide a footrest for a wheelchair, wherein the drawback mentioned of the known footrests is avoided.

SUMMARY OF THE INVENTION

[0005] In this view, the present invention is concerned with a footrest as claimed in claim 1. Important features of the device are defined in the dependent claims.

[0006] With a footrest according to the invention, the probability that the user is seriously injured when he hits the footrests is highly reduced. Indeed, in this case, when the user hits the footrests, the flexible posts of said footrests are configured to bend under the user's weight and, therefore, avoids that the user's body is pierced by said posts.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] Other features and advantages of the present invention will appear more clearly from the detailed description of one embodiment of the invention which is presented solely by way of a non-restricted example and

illustrated by the attached drawings in which:

Figure 1 is a perspective view of a footrest of the present invention;

Figure 2 is a perspective view similar to Figure 1 before the connection of the heel support strap;

Figure 3 is a front view of a post used in the footrest of Figure 1;

Figure 4 is a longitudinal section of the post of Figure 3.

DETAILED DESCRIPTION OF EMBODIMENTS OF THE INVENTION

[0008] In reference to Figures 1 and 2, a footrest conform to the present invention is shown.

[0009] The footrest 1 comprises a footrest plate 2 defining an upper plane surface 2a adapted to receive the foot of a user, said upper surface 2a having an approximately rectangular form. The footrest plate 2 is connected at one of its lateral end 2b to the lower end of a legrest 3 of the wheelchair. At two diagonally opposite corners of said footrest plate 2 is positioned two posts 4 over which is telescopically received a heel support strap 5. In the embodiment shown, the heel support strap 5 forms, at its respective ends 5a and 5b, a loop configured to tightly lodge a post 4. Said strap 5 may be formed from canvas, plastic, leather or other flexible material. Each post 4 is fixedly connected to the footrest plate 2 by means of a screw 7 received inside a threaded hole 6 of the footrest plate 2.

[0010] In reference to Figures 3 and 4, a post used in the footrest of Figure 1 is shown.

[0011] The post 4 comprises an upper part 4a and a lower part 4b. A threaded hole 4c is formed in the lower end 4d of the upper part 4a so as to permit a screwing connection between the lower part 4b and the upper part 4a. For similar reasons, a threaded hole 4e is formed in the lower end 4f of the lower part 4b so as to receive the screw 7. In the embodiment shown, the upper part 4a has an approximately cylindrical form in a middle area 4g comprised between the upper end 4h and the lower end 4d. The upper end 4h of the upper part 4a has a hemi-spherical form that is defined by its circular base 4i, the diameter d1 of said base 4i being greater than the diameter d of the middle area 4g so as to form an abutment for the heel support strap 5 when said strap 5 is tightly received over said middle area 4g. In a preferred embodiment of the invention, the difference between d1 and d will be comprised between 0,5 to 2 mm. In addition, the length L of the upper part 4a will be advantageously comprised between 10 and 25 mm and will be 0,5 to 2 mm higher than the width of the heel support strap 5.

[0012] The post 4 is also configured so as to flex downwardly when someone exerts a vertical pressure from top to bottom. Accordingly, the upper part 4a of said post 4 is advantageously made in a flexible plastic material. Said material is also configured so as to be sufficiently

rigid to resist to lateral pulling efforts exerted by the user's feet via the heel support strap 5. Advantageously, said material will have an hardness comprised between 60 and 90 shore and will be chosen among polyurethan. In addition, the lower part 4b of the post 4 is advantageously made in a rigid plastic material, in particular in a polyamid with 30% glass fibres.

Claims

1. Footrest (1) for a wheelchair, said footrest comprising a footrest plate (2) and, connected thereto, at least one post (4), over which is telescopically received a heel support strap (5), wherein said post (4) comprises at least one lower part (4b) connected to said footrest plate (1) and one upper part (4a) made in a flexible plastic material. 5
2. Footrest (1) according to claim 1, wherein the plastic material is a polyurethan. 10
3. Footrest (1) according to any one of the preceding claims, wherein the plastic material has an hardness comprised between 60 and 90 shore. 15
4. Footrest (1) according to any one of the preceding claims, wherein the upper part (4a) of the post (4) has an approximately cylindrical form. 20
5. Footrest (1) according to claim 4, wherein the lenght (L) of the upper part (4a) is comprised between 10 and 25 mm. 25
6. Footrest (1) according to claim 4 or 5, wherein the lenght (L) of the upper part (4a) is 0,5 to 2 mm higher than the width of the heel support strap (5). 30
7. Footrest (1) according to any one of the claims 4 to 6, wherein the upper end (4h) of the upper part (4a) is wider than the area (4g) of the upper part (4a) telescopically receiving the heel support strap (5) so as to form an abutment for the heel support strap (5). 35
8. Footrest (1) according to claim 7, wherein the upper end (4h) of the upper part (4a) is 0,5 to 2 mm wider than said area (4g). 40
9. Footrest (1) according to any one of the preceding claims, wherein a threaded hole (4c) is formed in the lower end (4d) of the upper part (4a) so as to permit the screwing connection between the lower part (4b) and the upper part (4a). 45
10. Footrest (1) according to any one of the preceding claims, wherein the lower part (4b) is screwed to the footrest plate (1). 50

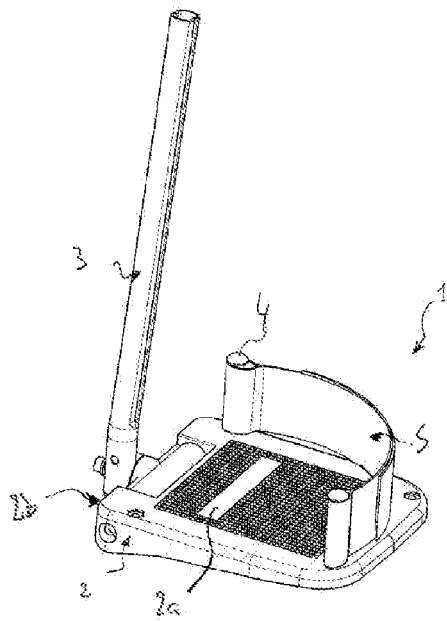


Fig. 1

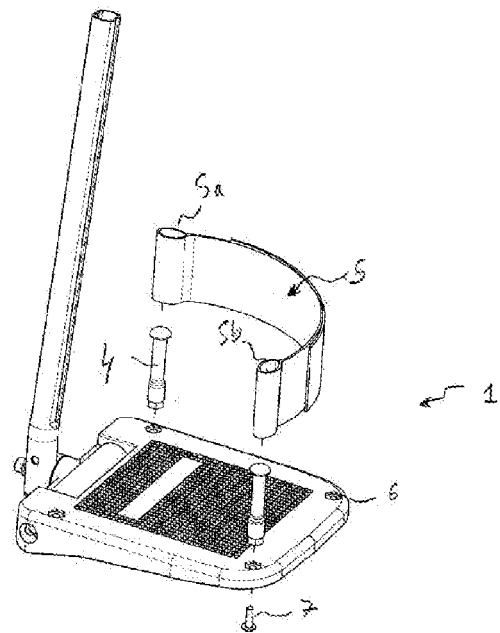


Fig. 2

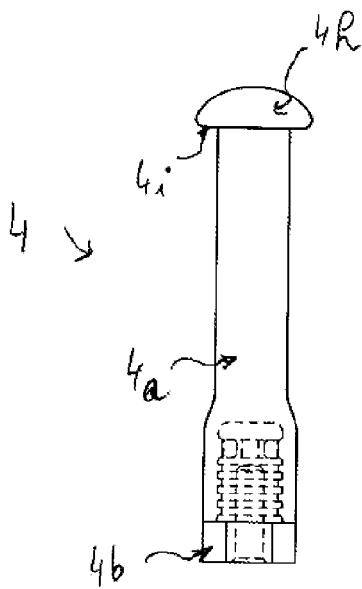


Fig. 3

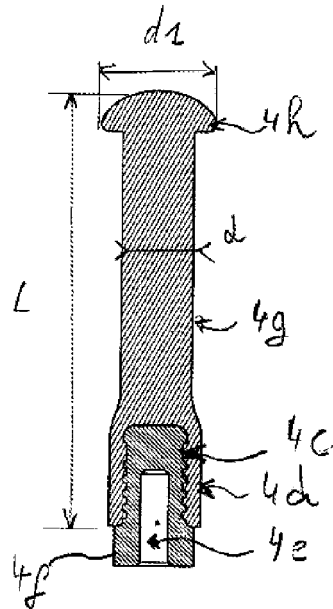


Fig. 4



EUROPEAN SEARCH REPORT

Application Number
EP 10 16 2175

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	US 4 840 390 A (LOCKARD WALTER G [US] ET AL) 20 June 1989 (1989-06-20) * the whole document *	1	INV. A61G5/12
A	DE 20 2005 018526 U1 (DIETZ GMBH [DE]) 19 January 2006 (2006-01-19) * the whole document *	1	
A	US 6 302 429 B1 (FRIEDRICH PAUL [US]) 16 October 2001 (2001-10-16) * the whole document *	1	
			TECHNICAL FIELDS SEARCHED (IPC)
			A61G
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 1 October 2010	Examiner Edlauer, Martin
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	

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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 10 16 2175

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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01-10-2010

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 4840390 A	20-06-1989	NONE	
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