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(54) **CONNECTION ASSEMBLY, AUXILIARY ELEMENT, WHEELCHAIR, METHOD FOR CONNECTING AND RELEASABLY LOCKING, AND METHOD OF UNLOCKING AND RELEASING**

(57) The disclosure relates to a connection assembly (1) for connecting an auxiliary element (30) to a personal mobility vehicle, in particular in form of a wheelchair (50), comprising at least one first body (10) adapted to be attached to the auxiliary element (30); at least one second body (20) adapted to be attached to the personal mobility vehicle; and at least one locking assembly (40) adapted to lock the connection of the at least one first body (10) and the at least one second body (20); characterized in that the at least one locking assembly (40) comprises at least one locking spring (42) coupled to at least one locking member (43) and biasing the at least one locking member (43) into a locking position, and at least one return spring (41) coupled to at least one unlocking actuator and biasing the at least one unlocking actuator into a locked position, wherein actuating the at least one unlocking actuator causes the at least one locking assembly (40) to unlock, and the at least one locking member (43) of the at least one locking assembly (40) is allowed to be in a locking position, when the unlocking actuator is pushed or moved into the locked position.

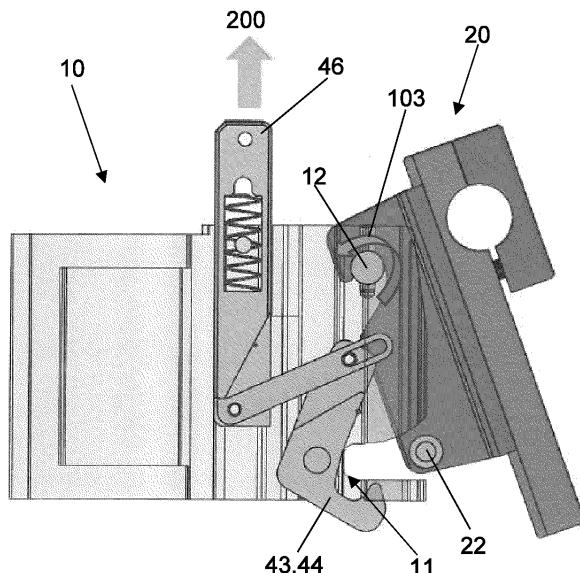


Fig. 4c



EUROPEAN SEARCH REPORT

Application Number

EP 24 16 4463

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
10	X US 2022/054332 A1 (PALTSEV DMITRY [CA] ET AL) 24 February 2022 (2022-02-24) A * paragraphs [0024] - [0075]; figures 1-14 * -----	1,3-7,9, 10,17 2,15,16, 18,19	INV. A61G5/04
15	X WO 2021/094100 A1 (FOND DENTREPRISE SAFRAN POUR L'INSERTION [FR]; OMNI [FR]) 20 May 2021 (2021-05-20) A * page 21, line 15 - page 42, line 4; figures 1a-9f *	1-7,9, 10,17 8,15,16, 18,19	
20	X WO 2022/090973 A1 (MASCULL ROGER THOMAS [NZ]; MASCULL ELIZABETH JOCELYN [NZ]) 5 May 2022 (2022-05-05) A * page 10, line 24 - page 40, line 3; figures 1-24 *	1-6,8-10 7	
25	A WO 2017/175103 A1 (KLAXON MOBILITY GMBH [AT]) 12 October 2017 (2017-10-12) * page 4, line 11 - page 15, line 18; figures 1-16 *	1-10	
30			TECHNICAL FIELDS SEARCHED (IPC) A61G
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50	2 The present search report has been drawn up for all claims		
55	Place of search The Hague	Date of completion of the search 29 November 2024	Examiner Petzold, Jan
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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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

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Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

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No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

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LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

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see sheet B

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All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

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As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

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Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

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None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

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The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).



LACK OF UNITY OF INVENTION
SHEET B

Application Number
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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

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1. claims: 1-10

A connection assembly

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2. claims: 11, 12

An auxiliary element

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3. claims: 13, 14

A wheelchair

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4. claims: 15-19

Method of connecting and releasably locking and method of
unlocking and releasing

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

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5 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.

29-11-2024

10	Patent document cited in search report	Publication date		Patent family member(s)	Publication date
	US 2022054332 A1	24-02-2022	CA	3090535 A1	18-02-2022
			US	2022054332 A1	24-02-2022
15	WO 2021094100 A1	20-05-2021	EP	4057972 A1	21-09-2022
			FR	3102927 A1	14-05-2021
			WO	2021094100 A1	20-05-2021
20	WO 2022090973 A1	05-05-2022	AU	2021368607 A1	08-06-2023
			CA	3196960 A1	05-05-2022
			EP	4221660 A1	09-08-2023
			US	2024325222 A1	03-10-2024
			WO	2022090973 A1	05-05-2022
25	WO 2017175103 A1	12-10-2017	AU	2017247763 A1	12-07-2018
			CA	3009467 A1	12-10-2017
			CN	109069335 A	21-12-2018
			DK	3439604 T3	20-04-2020
			EP	3439604 A1	13-02-2019
30			ES	2784967 T3	02-10-2020
			PL	3439604 T3	07-09-2020
			US	2019015272 A1	17-01-2019
			WO	2017175103 A1	12-10-2017
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