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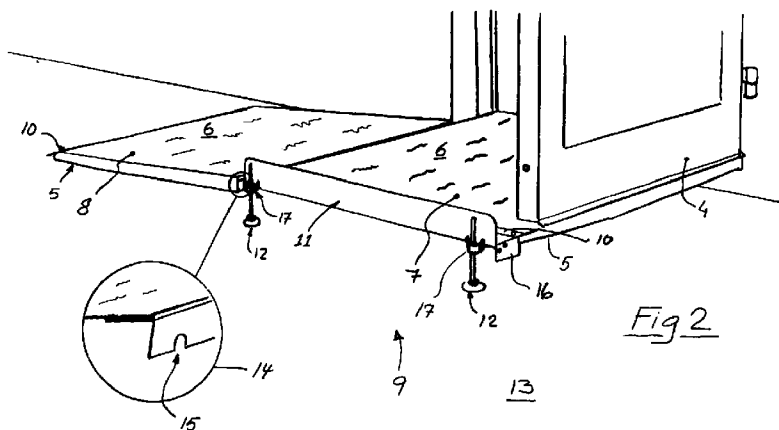
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(54) **Miniramp**

(57) Arrangement (9) for the adaptation of entrances of balconies or terraces having comparatively small surrounding surfaces for people being dependent on a walking frame or a wheel-chair. Two elements (7, 8) built as entering ramps (1) are interconnected enclosing a right angle between themselves. The one unit (7)

will then act as a turning-/rest plane while the other unit (8), being arranged at an arbitrary inclination angle to the horizontal all the way down to the present floor of a balcony or a terrace, acts as an entrance ramp.



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## Description

[0001] The present invention relates to a miniramp built in modules as a walking- or driving ramp, as aptation for handicapped people preferably at balconies or terraces having comparatively narrow surrounding surfaces.

[0002] Ramps with rest surfaces are in most cases a prerequisite for allowing handicapped persons to keep their personal ability to move when they are dependent on means of assistance such as a wheel-chair or a walking frame.

[0003] Regarding exiting onto a balcony or a terrace with a wheel-chair or a walking frame, normally existing railings or balustrades constitutes an obstacle being impossible to pass to the handicapped person. The cause is obvious, railings or balustrades, certainly aimed as such, does not admit space enough both for turning and changing the level from a threshold down to the floor of balcony or terrace. As far as we know no arrangement exist to overcome the problem.

[0004] Thus, there is a dissatisfying non-correspondence between conventional handicap-aid such as walking frames and/or wheel-chairs and conventional arrangements at balconies or terraces. The consequence may be that the handicapped person without the help of a personal assistant never will have the possibility to get out to get a nip of fresh air.

[0005] It is therefore a purpose with the present invention to achieve an arrangement, which, in a simple but yet safe and efficient way, makes it possible to person bound to use a walking frame or a wheel-chair to get out on a comparatively narrow balcony or terrace.

[0006] The purpose is achieved with an arrangement as mentioned above, which is characterized by the interconnection of the two elements built like entrance ramps while between them enclosing a mutual angle of 90 degrees, wherein one of the elements acts as a turning-/restplane and the other element, being arranged at an arbitrary angle to the plane of the balcony/terrace or the ground, acts as an entrance ramp.

[0007] By being built from two entrance ramps of standard kind, the miniramp gives an extremely favourable synergetic effect using a minimum amount of adaptation components. Since the constructional and functional requirements on such equipment are very high, not least bearing in mind that they primarily are to be used by people being handicapped, this is an essential advantage which can not be despised. Since a couple of years there are also requirements on possibilities to reuse equipment of this kind when they are no longer needed at a certain location. It is true that this mainly is a question of economy of the local government, but it is certainly a question of significance for the potential of the invention on the market. The mini-ramp with its rest-plane will completely eliminate the step normally existing between most balcony/terrace entrances, which for obvious reasons cannot be passed by people being

dependent of aids of said kind.

[0008] Being built from metal profiles and expanded metal of standard dimensions, the arrangement becomes cheap to manufacture, while the requirements regarding the quality are maintained with interest. The side edges of each entrance ramp portion are to some extension obliquely cut in relation to the driving surface of the ramp. Hereby the adaptation between the ramp portion and ground or floor surface is simplified.

[0009] The part of the compounded arrangement acting as a restplane has furthermore been provided with a security edge, making it impossible to pass the edge of the ramp. By arranging this edge, at a part normally supposed to act as an entrance edge, at least one of the at least two necessary fasteners for the part of the compounded arrangement acting as an entrance ramp are achieved.

[0010] Below the invention will be more closely described with reference to an embodiment shown in the enclosed drawings, wherein

Fig. 1 as a perspective view shows a lower portion of an entrance to a terrace, which has been provided with an entrance ramp for handicapped people,

Fig. 2 like Fig. 1 shows as a perspective view how two entrance ramps are compounded into an arrangement according to the invention.

[0011] As mentioned above the buyers of equipment of the said kind are mainly local authorities, the demand being strongly accelerating. This probably depends on still increasing homecare. The demand is thereby directed towards an arrangement which is safely built, simple to assemble and disassemble being at the same time adaptable, and during best circumstances useful in different contexts. This is all achieved by the arrangement according to the present invention. Simply expressed, the invention lies in the knowledge to combine two entrance ramps of the kind shown in Fig. 1 in the described way to thereby constitute a so called miniramp.

[0012] Fig. 1 shows how an entrance ramp 1 is arranged in its normal use. By fixing a threshold fixation profile at the rear end edge of the ramp 1 as seen in the entering direction, the ramp may be fixed to a door threshold 3 present, using one or more bolts (not shown). This may be achieved by making the threshold fixation so slender that it can be situated between a door 4 the threshold 3 in a door opening. As also can be seen from Fig. 1 the side edges of the entrance ramp are at its front portions in the direction of entrance obliquely cut along approximately one third of the length of the edges, the purpose of which is to make it easier to connect the inclination of the entrance ramp to a floor or a ground surface. The entrance ramp 1 is generally seen manufactured from steel or beam profiles, the main plane 6 of the ramp being a plane consisting of

expanded metal.

[0013] In a perspective view Fig. 2 shows as well, how according to the invention two elements 7, 8 originally built as entrance ramps 1 are combined in order to create a so called miniramp 9. The first element 7, or the part constituting a rest plane surface, is to be able to function as intended provided with a security edge 11. The security edge 11 is fixed using bolts (not shown) at the part of the element 7, which in its normal function is supposed to act as an entrance edge. The security edge 11 also comprises the function to keep the rest surface portion 7 horizontal by being provided with two tapped mounts 12 in which support legs 12 are vertically adjustable. The support leg 12 is contained in a tapped ear 7 on the security edge 11. At one of the side edges of the rest surface portion 7 yet another element or entrance ramp 8 has been arranged in order to make it possible to use a wheel-chair or a walking frame to get down to the ground or a balcony-/terrace floor 13 after turning thereof.

[0014] As a detail enlargement 14 is seen from Fig. 2 in said ramp portion 8 is easily hooked onto a specially designed recess 15 at its rear edge and the side portion 16 on the security edge 11. Due to symmetry the side portion 16 is shown from the other side of the rest plane surface 7. After attachment thereof said details are secured by use of said bolt joints.

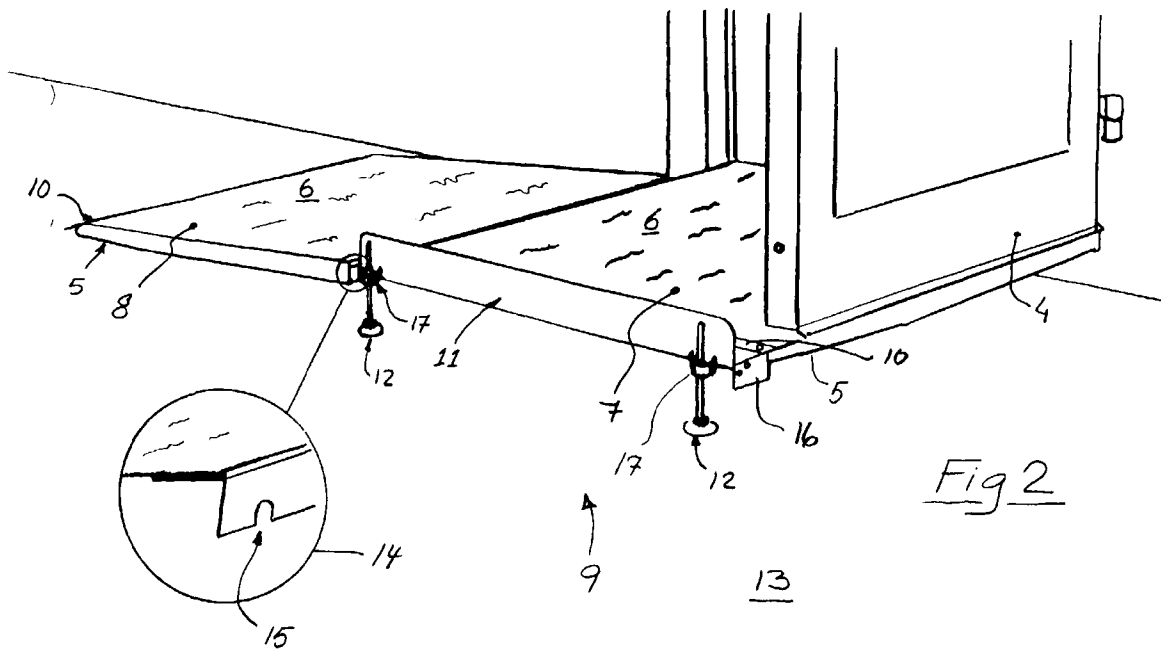
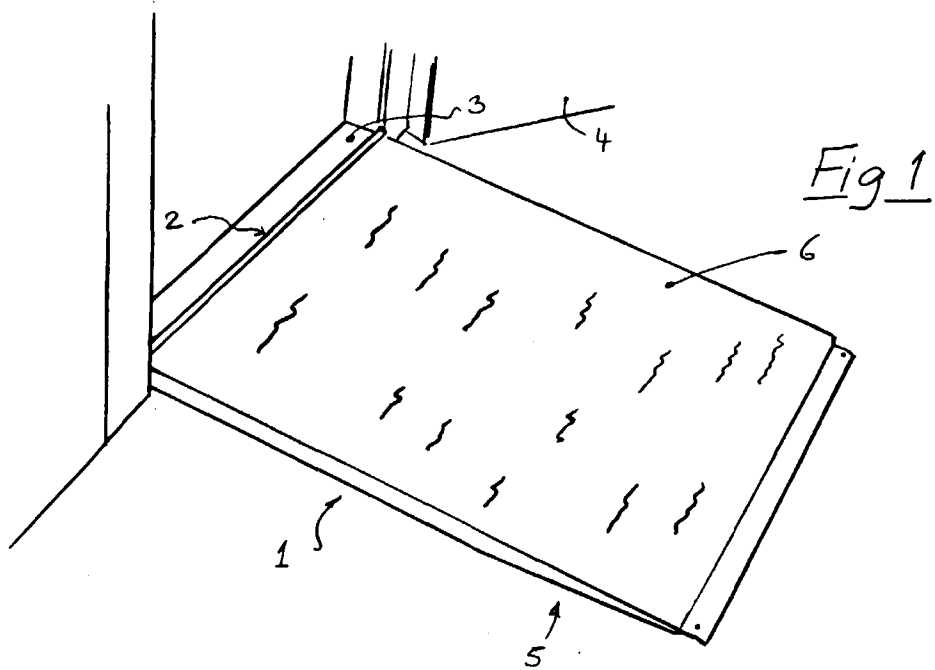
[0015] For obvious reasons it is of course possible to arrange entrance ramps on the one or both sides of the rest plane surface 7.

recess (15) for a bolt joint.

- 5 5. Arrangement according to anyone of the preceding claims, **characterized** in that the side edges of the ramp are slightly and obliquely cut (at 5) in relation to the surface of the ramp (6) in order to simplify the adaptation of the ramp to the ground or to the floor (13).
- 10 6. Arrangement according to claim 3, **characterized** in that the ramp element acting as a rest plane, at its edge provided with the entering edge (10), is provided with a security edge, which preferably is bolted to the entering edge (10).

## Claims

1. Arrangement for the adaptation of entrances of balconies or terraces having comparatively limited surrounding surfaces for people being dependent on a walking frame and/or a wheel-chair, **characterized** in that two elements (7, 8) initially designed as entrance ramps are interconnected enclosing a mutual angle of 90° between themselves, wherein one element (7) acts as a turning-/rest plane and the other element (8), being arranged at an arbitrary inclination angle relative to the horizontal down to the plane of the balcony or the terrace, acts as an entrance ramp.
2. Arrangement according to claim 1, **characterized** in that it is built from metal profiles and comprises a non slippery surface.
3. Arrangement according to claim 2, **characterized** that a fore edge in the entering direction of the ramp comprises an entering edge (10) being slightly bent.
4. Arrangement according to claim 2, **characterized** in that a rear edge, as seen from an entering direction of the ramp, comprises at least one hooked





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# EUROPEAN SEARCH REPORT

Application Number  
EP 99 10 9067

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.5)
A	GB 2 196 604 A (LAWLESS LINDA MARGARET) 5 May 1988 (1988-05-05) * page 1, line 102 - page 2, line 50; figures 1-3 *	1	E04F11/00
A	US 5 446 937 A (HASKINS CRAIG A) 5 September 1995 (1995-09-05) * column 3, line 30 - column 5, line 10; figures 1-17 *	1-3,5	
A	GB 2 238 289 A (JACKSON RICHARD STEPHEN;KELLETT ROY STUART) 29 May 1991 (1991-05-29) * page 4, line 9 - page 7, line 14; figures 1-3 *	1-3,6	
P,A	EP 0 877 129 A (CARL KERUBOEAE AB) 11 November 1998 (1998-11-11) * the whole document *	1-3,6	
			TECHNICAL FIELDS SEARCHED (Int.Cl.5)
			E04F
The present search report has been drawn up for all claims			
Place of search <b>THE HAGUE</b>		Date of completion of the search <b>20 September 1999</b>	Examiner <b>Ayter, J</b>
<p><b>CATEGORY OF CITED DOCUMENTS</b></p> <p>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</p> <p>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 &amp; : member of the same patent family, corresponding document</p>			

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

EP 99 10 9067

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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20-09-1999

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