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(54) **Stretcher carrier**

(57) The present invention relates to a stretcher carrier (1) comprising a base (2) susceptible of being coupled to the inner floor of an emergency vehicle, a platform (3) shiftably assembled on the base (2) and suitable for supporting at least one stretcher and drive means (4)

driving the movement of the platform (3) with respect to the base (2). The platform further comprises motor-operated driving means (6) for the stretcher, suitable for fastening the stretcher and for shifting it longitudinally above the platform from a coupling position to a loading position in which the stretcher rests on said platform.

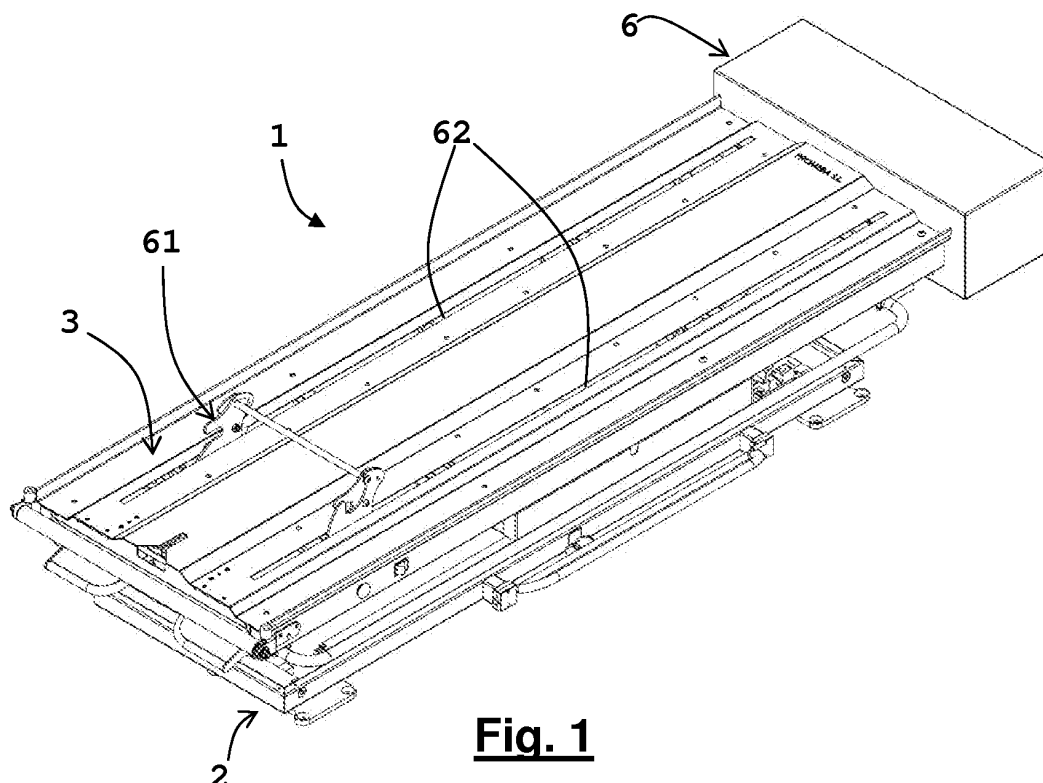


Fig. 1

Description

Technical Field of the Invention

[0001] The present invention relates to a stretcher carrier comprising a base susceptible of being coupled to the inner floor of an emergency vehicle, a platform shiftably assembled on the base and suitable for supporting the stretcher and drive means driving the movement of the platform with respect to the base.

Background of the Invention

[0002] In the field of transport of wounded people, sick people or patients by means of vehicles which are generally called emergency vehicles, such as ambulances, the use of stretchers for supporting and moving them is widely known. Furthermore, there are different regulations to that respect which regulate what said stretchers must be like and how they must be securely fastened to the floor of the vehicles used for said purpose of transporting and moving people.

[0003] Notably, all the efforts up until now have been aimed at creating stretchers with an easy manoeuvrability, i.e., for example stretchers which can adopt different positions according to the need required, such as a position in which the stretcher is at the height of the floor or in a position in which the stretcher is at a higher position so that the healthcare personnel can care for the patient in situ without having to bend down. Another type of development has been aimed at offering systems or devices allowing the secure fastening of the stretcher inside the vehicle, for the purpose of preventing the stretcher from moving inside the vehicle during its transport or systems allowing the regulation of the height of the stretcher inside the vehicle.

[0004] Furthermore, there is another type of development which is aimed at providing the stretcher or systems associated therewith with elements which allow supporting objects or devices necessary for treating the sick people and/or wounded people who are being cared for during their transport from the site of the accident to the corresponding hospital centre.

[0005] All these developments are also accompanied by automatic, hydraulic or electric systems facilitating the different operations and movements which may be performed by the healthcare personnel with the stretchers such as the lifting of the bed with respect to the floor or the movement of the base when the stretcher is loaded or unloaded from the vehicle.

[0006] Even so, all the known developments are deficient in that although the healthcare or emergency personnel have more elements and features for their work and the safety of the patients, such personnel are prone to suffering from considerably back injuries due to the physical efforts that they must still make in order to perform the tasks of loading and unloading the patient or sick person.

Disclosure of the Invention

[0007] For the purpose of providing a stretcher carrier solving the problems set forth above, a stretcher carrier is disclosed which comprises a base susceptible of being coupled to the inner floor of an emergency vehicle, a platform shiftably assembled on the base and suitable for supporting at least one stretcher and drive means driving the movement of the platform with respect to the base.

[0008] The stretcher carrier object of the present invention is essentially **characterized in that** the platform comprises motor-operated driving means for the stretcher, suitable for fastening the stretcher and for shifting it longitudinally above the platform from a coupling position to a loading position in which the stretcher rests on said platform.

[0009] Advantageously, with the installation in the stretcher carrier of said driving means it is not necessary to use the strength and effort of the emergency personnel to load and unload the stretchers in the emergency vehicles as occurs in current stretcher carriers and which inevitably entails considerable injuries to said personnel.

[0010] According to another feature of the invention, the driving means comprises fastening means for fastening the stretcher, longitudinally shiftable along respective guides provided for such purpose on the surface of the platform.

[0011] According to another feature, the fastening means comprises a nut coupled by screwing to a motor-operated rotating spindle, the fastening means being prevented from rotating by means of the respective guides, such that the rotation of the spindle in one direction or another causes the longitudinal shift of the fastening means along the guides towards one end or another of the platform, respectively.

[0012] According to another feature, the fastening means comprises at least one hook. Said hook of the fastening means is sinkable, being susceptible of adopting at least two positions, a sunken position with respect to the platform and an extracted position, in which the hook is subjected to the action of elastic means maintaining it in said extracted position, especially suitable for fastening the stretcher.

[0013] According to another feature, the fastening means further comprises stop means adjacent and complementary to the hook which facilitate the secure fastening of the stretcher and prevent it from moving.

Brief Description of the Drawings

[0014] The attached drawings show, by way of a non-limiting example, an embodiment of the stretcher carrier of the invention. Specifically:

Figure 1 is a schematic and perspective view of the stretcher carrier according to the invention;

Figure 2 is a schematic and perspective view of Fig-

ure 1 omitting some elements in order to identify others which are more concealed;

Figure 3 is a schematic and side view of the stretcher carrier according to the invention;

Figure 4 is a schematic plan view of the stretcher carrier of Figure 3; and

Figure 5 is a schematic and rear view of the stretcher carrier of Figure 3.

Detailed Description of the Drawings

[0015] The stretcher carrier 1 depicted in Figures 1 to 5 comprises a base 2 suitable for being coupled to the inner floor of an emergency vehicle, not depicted, a platform 3 shiftably assembled on the base 2 and drive means 4 connecting and driving the movement of the platform 3 with respect to the base 2.

[0016] The platform 3 is the one suitable for receiving and supporting at least one stretcher, not depicted. In Figure 2, part of the platform 3 has been concealed, specifically the outermost surface thereof and which is where the stretcher to be supported rests, in order to be able to observe other details of the stretcher carrier 1 of the invention which are described below.

[0017] It should be mentioned that the drive means 4 connecting and linking the platform 3 with the base 2 are formed by an electric system which allow the lifting of the platform 3 with respect to the base 2 (see arrow A of Figure 3), as well as the tilting of the platform 3 on the horizontal (see arrow B). Furthermore, it is provided that said drive means 4 are hydraulic in other embodiments.

[0018] In addition to these elements, the platform 3 of the stretcher carrier 1 comprises motor-operated driving means 6 for the stretcher. Said driving means 6 are suitable for allowing the fastening of the stretcher and for being able to shift it longitudinally above the platform 3 from an initial coupling position to a loading position in which the stretcher rests on said platform 3.

[0019] Specifically, as observed in Figures 1, 2 and 3, the driving means 6 comprise fastening means 61 for fastening the stretcher. The platform 3 is provided with respective guides 62 on its surface allowing the mentioned fastening means 61 to shift longitudinally along them, and therefore the stretcher. This shift of the fastening means 61 is due to the fact that the mentioned fastening means 61 comprise, as observed in Figure 2, a nut coupled by screwing to a motor-operated rotating spindle 63, the fastening means 61 being prevented from rotating by means of the mentioned respective guides 62, such that the rotation of the rotating spindle 63 in one direction or another (see arrow C) causes the longitudinal shift of the fastening means 61 along the guides 62 towards one end or another of the platform 3, respectively (as indicated with arrow D).

[0020] Together with said longitudinal shift movement of the fastening means 61 with respect to the platform 3 of the stretcher carrier 1 and with the tilting movement caused with the drive means 4 connecting the platform

3 with the base 2, the loading, unloading and handling of the stretcher in the stretcher carrier 1 are allowed without needing to use the physical effort of the healthcare and emergency personnel handling said stretcher carrier 1.

[0021] In the embodiment depicted in the figures it is observed that the fastening means 61 are formed by two hooks, which are sinkable, i.e., they are susceptible of adopting at least two positions: a sunken position with respect to the surface of the platform 3 and an extracted position, in which the hooks are subjected to the action of elastic means maintaining them in said extracted position, especially suitable for fastening the stretcher.

[0022] The fastening of the stretcher during the operations of loading and/or unloading the stretcher of the stretcher carrier 1, even its fastening when the stretcher is supported in the platform 3 of the stretcher carrier 1 during the transport of the patient or wounded person in the emergency vehicle, is allowed by means of said hooks of the fastening means 61.

[0023] In a complementary manner, it is provided that the fastening means 61 further comprise stop means adjacent and complementary to the hook which facilitate the secure fastening of the stretcher and prevent it from moving, i.e., the correct fastening of the stretcher in the stretcher carrier 1 without it being accidentally released from the fastening means 61 is thus ensured.

[0024] It must be emphasized that this stretcher carrier 1 is suitable for fastening and driving the stretchers which are conventionally used and in accordance with the regulations required in this type of system and mechanism used by emergency services.

Claims

1. A stretcher carrier (1) comprising
a base (2) susceptible of being coupled to the inner floor of an emergency vehicle,
a platform (3) shiftably assembled on the base and suitable for supporting at least one stretcher and drive means (4) driving the movement of the platform with respect to the base,
characterized in that the platform (3) comprises motor-operated driving means (6) for the stretcher, suitable for fastening the stretcher and for shifting it longitudinally above the platform from a coupling position to a loading position in which the stretcher rests on said platform.
2. The stretcher carrier (1) according to the previous claim, **characterized in that** the driving means (6) comprise fastening means (61) for fastening the stretcher, longitudinally shiftable along respective guides (62) provided for such purpose on the surface of the platform (3).
3. The stretcher carrier (1) according to the previous

claim, **characterized in that** the fastening means (61) comprise a nut coupled by screwing to a motor-operated rotating spindle (63), the fastening means being prevented from rotating by means of the respective guides (62), such that the rotation of the spindle in one direction or another causes the longitudinal shift of the fastening means along the guides towards one end or another of the platform (3), respectively.

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4. The stretcher carrier (1) according to claim 2 or 3, **characterized in that** the fastening means (61) comprise at least one hook.
5. The stretcher carrier (1) according to the claim 4, **characterized in that** the hook of the fastening means (61) is sinkable, being susceptible of adopting at least two positions, a sunken position with respect to the platform (3) and an extracted position, in which the hook is subjected to the action of elastic means maintaining it in said extracted position, especially suitable for fastening the stretcher.
6. The stretcher carrier (1) according to claim 4 or 5, **characterized in that** the fastening means (61) further comprise stop means adjacent and complementary to the hook which facilitate the secure fastening of the stretcher and prevent it from moving.

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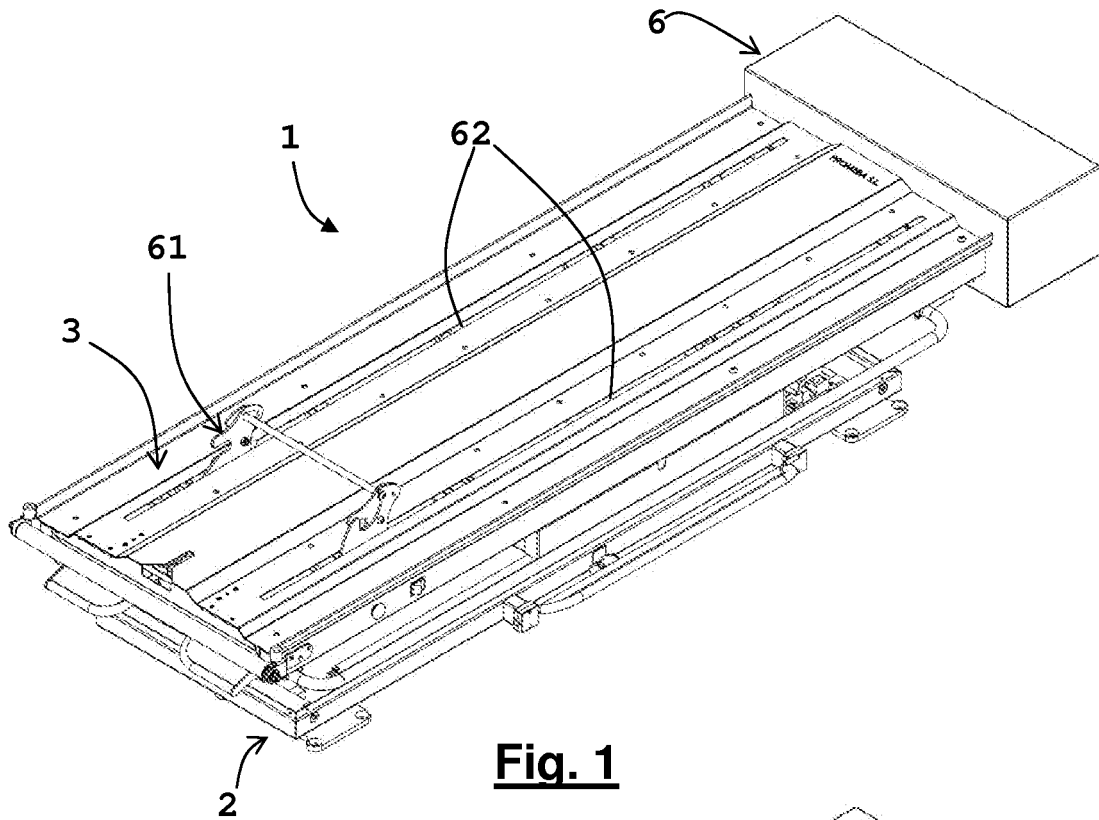


Fig. 1

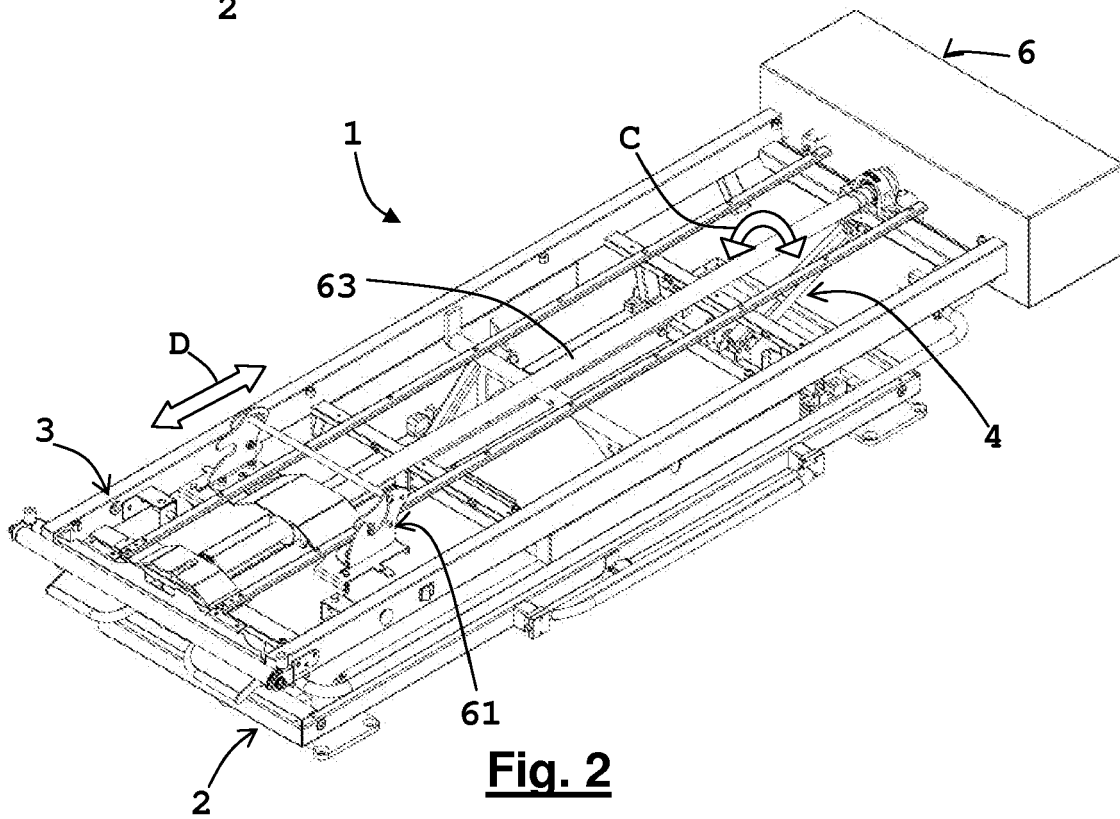
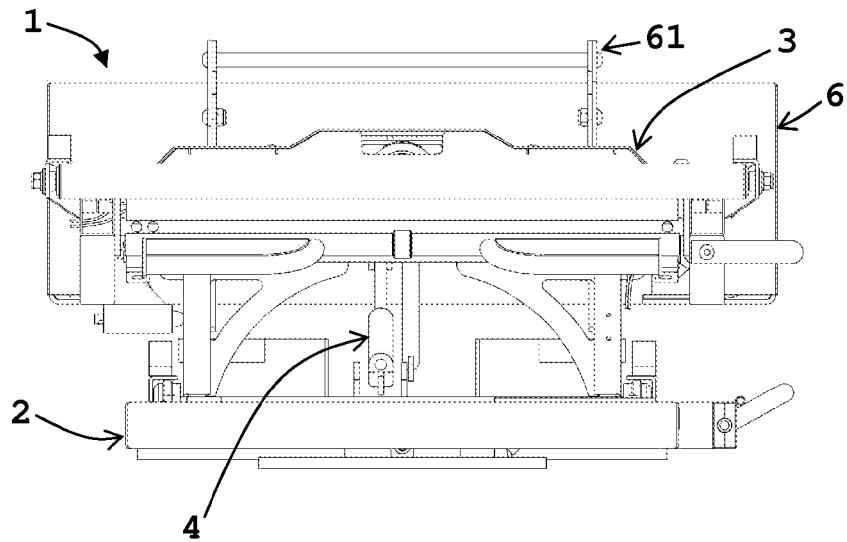
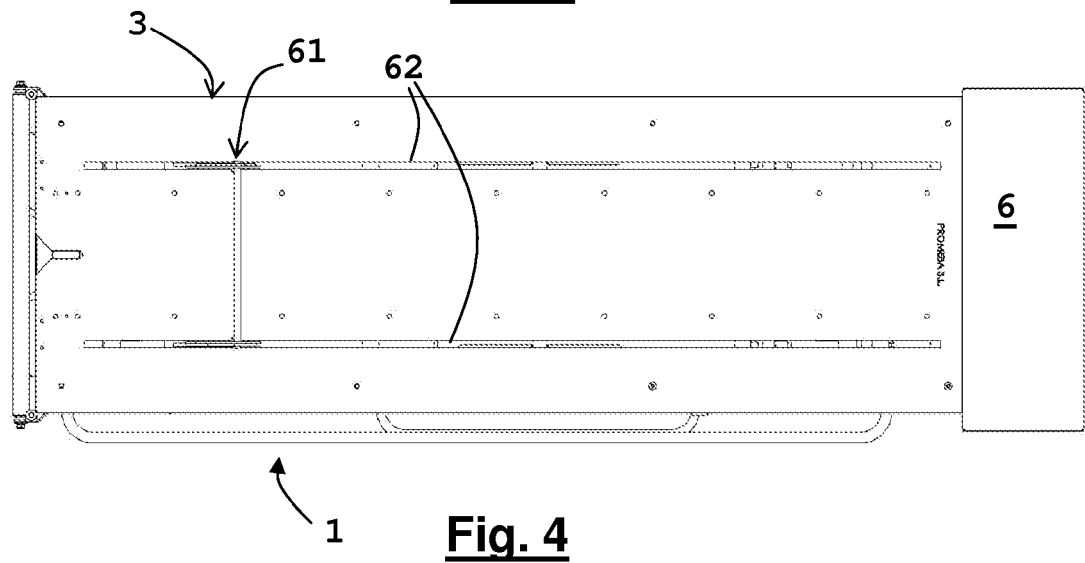
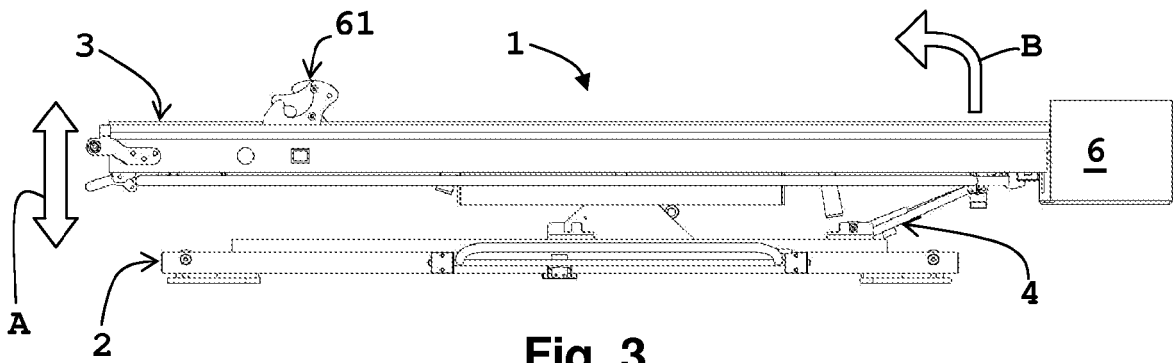


Fig. 2





EUROPEAN SEARCH REPORT

Application Number
EP 09 38 2293

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	DE 39 29 959 C1 (BINZ GMBH) 8 November 1990 (1990-11-08) * column 3, line 10 - column 5, line 60; figures 1-3 *	1-5	INV. A61G1/06 A61G3/02
X,P	DE 10 2008 005900 A1 (BAYERISCHES ROTES KREUZ KOERPE [DE]) 30 July 2009 (2009-07-30) * paragraphs [0025] - [0091]; claims 1,42; figures 1-12 *	1-4	
A	FR 2 723 534 A1 (BOULLET CHRISTIAN [FR]) 16 February 1996 (1996-02-16) * page 1; figure 1 *	6	
			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 11 May 2010	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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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 09 38 2293

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The members are as contained in the European Patent Office EDP file on
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11-05-2010

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