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(54) **Base for motor and universal frame for a toy car**

(57) The invention relates to a base for an electric toy car, comprising a base (7) with a seat (1) for the motor of an electric toy car, the base (7) being substantially rectangular, and the seat (1) arranged in an oblique position with respect to the longitudinal sides (2) of the base, respective widened sections (3) being defined from the longitudinal sides (2). The present invention additionally comprises a frame (8) in which a base (7) is assembled with a seat (1) for the motor of an electric toy car, in which a base (7) with an oblique seat (1) is coupled by means of widened sections (10) in the opening (9) for the base (7), and a base (7) with a longitudinal seat (17) or a transverse seat (18) is coupled by means of adapting parts (11).

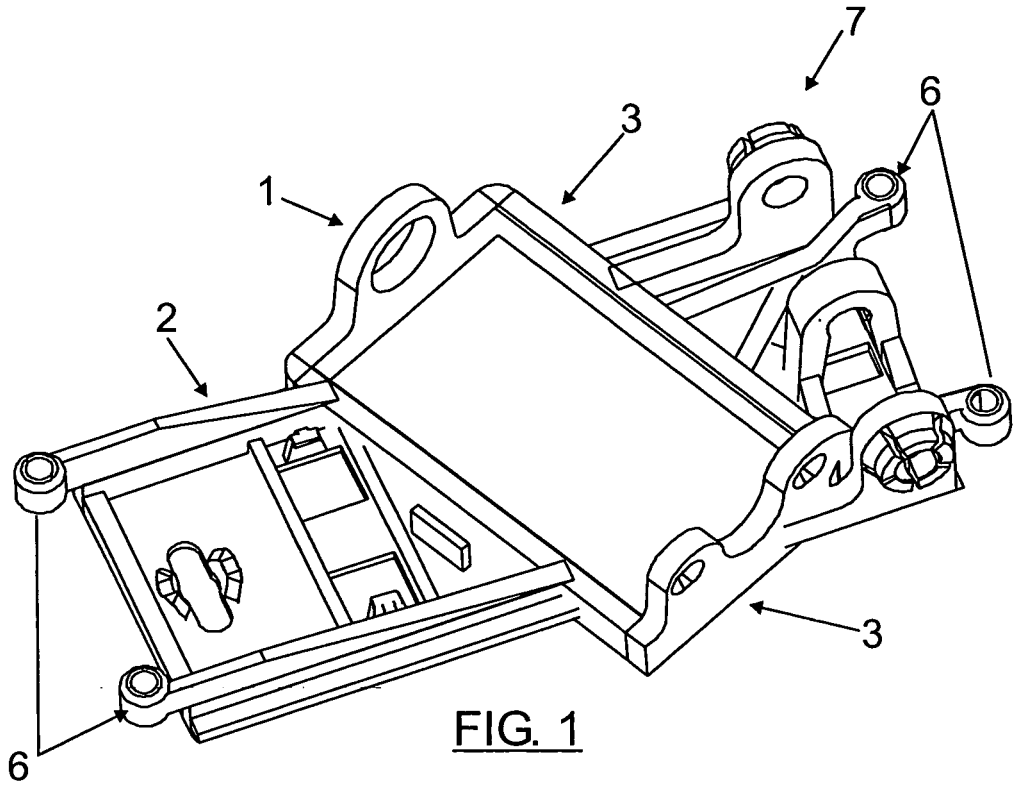

FIG. 1

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Description

TECHNICAL FIELD OF THE INVENTION

[0001] The present invention relates to a removable base for supporting motors located in an oblique position with respect to the longitudinal axis of a frame, especially designed to be applied in toy cars of the type that run on surfaces provided with grooved guides and actuated by an electric micromotor.

[0002] The present invention additionally relates to a universal frame especially designed to be applied in these toy cars, allowing the adaptation of removable bases for supporting the motors located in an oblique, longitudinal or transverse position with respect to the longitudinal axis of the chassis.

BACKGROUND OF THE INVENTION

[0003] As is known, the toy cars of the previously mentioned type are provided with an electric drive micromotor located on a seat the orientation of which can be longitudinal, transverse or oblique with respect to the longitudinal axis of the frame of the vehicle.

[0004] Each of the previous configurations has certain features and all of them are of great application. By way of example, a car the motor of which is in a transverse configuration has a center of gravity close to the rear part, which improves the traction in said area but, on the other hand, favors the front part of the car lifting as a result of the lack of weight. In the case of a car the motor of which is in a longitudinal configuration, the center of gravity is close to its center but tending towards the front part, which results in loss of traction in the rear part. Finally, the oblique configuration is particularly interesting because it achieves better mass balance in the vehicle than that provided by the previous configurations.

[0005] However, micromotors in longitudinal and transverse configuration are generally assembled on seats in removable bases, with a substantially rectangular shape, easily disassembled from the frame of the vehicle, whereas the motors located in an oblique position are assembled on a seat integral with the frame of the vehicle, the frame and the seat forming one element, making maintenance and repair operations more difficult.

[0006] Frames today only allow the coupling and assembly of removable bases for supporting motors in a transverse or longitudinal position. Said frames have an opening with a substantially rectangular shape which fits with the profile of both types of bases, but is incompatible with bases for supporting the motors in an oblique configuration.

[0007] The applicant is therefore unaware of the existence of a universal frame which allows the coupling of bases for supporting the motors in an oblique configuration, and which can further allow adapting the bases for supporting motors in transverse or longitudinal configuration.

DESCRIPTION OF THE INVENTION

[0008] The removable base of the present invention solves in a fully satisfactory manner the previously mentioned drawbacks, making the frame and the seat independent in the motor configurations in an oblique position.

[0009] To that end and more specifically, the seat is arranged in an oblique position with respect to the longitudinal sides of the base, respective widened sections being defined from each of the mentioned longitudinal sides of the base and the entire assembly forming an element independent from the frame.

[0010] The base has through holes facing corresponding holes made in the frame of the car for fixing both elements by using screws.

[0011] Another feature of the present invention involves the possibility of incorporating anchoring parts integral with the corners of the widened sections of the base.

[0012] Each of said anchoring parts has through holes for the fixing thereof to the frame by using additional screws, different from those mentioned in the preceding paragraph, and thus reducing the seesaw movements of the base with respect to the frame.

[0013] The base of the present invention thus facilitates maintenance and repair operations in this type of vehicles.

[0014] The universal frame of the present invention additionally solves in a fully satisfactory manner the aforementioned drawbacks of adapting different bases in a frame, making it possible that bases for supporting motors in an oblique arrangement and bases for supporting motors in a longitudinal or transverse arrangement can be coupled and adapted on the same frame, respectively.

[0015] To that end and more specifically, the universal frame comprises an opening with widened sections from the longitudinal edges, positioned and shaped to receive laterally projecting portions of a base with an oblique seat for the drive motor.

[0016] The bases for motors in a longitudinal or transverse arrangement are adapted by means of auxiliary adapting parts which are fixed to the frame and coupled to the widened sections, shaping an outline coinciding with the outline of a base with a seat in a longitudinal or transverse arrangement for a motor.

[0017] Each of said auxiliary adapting parts is provided with holes coinciding with studs projecting from the frame and close to each of the widened sections, allowing their easy assembly/disassembly without the need for any type of tool.

[0018] The universal frame of the present invention thus allows assembling motors in any of the oblique, longitudinal or transverse arrangements and facilitates the maintenance operations for all of them.

DESCRIPTION OF THE FIGURES

[0019]

Figure 1 shows a perspective view of the base with an oblique seat in a first embodiment of the invention.
Figure 2 shows a perspective view of the base in a second embodiment of the invention.
Figure 3 shows a perspective view of the frame.
Figure 4 shows in a perspective view of the coupling of the frame and the base with an oblique seat.
Figure 5 shows a perspective view of the frame and the auxiliary adapting parts fixed to it, observing the rectangular shape which allows coupling the bases with motor seats in a longitudinal or transverse arrangement.
Figure 6 shows a perspective view of the frame, to which a base with a motor seat in a transverse arrangement has been adapted.
Figure 7 shows a perspective view of the frame, to which a base with a motor seat in a longitudinal arrangement has been adapted.
Figure 8: Shows a perspective view of the auxiliary adapting parts.
Figure 9 shows an exploded perspective view of another embodiment of the invention.

DESCRIPTION OF A PREFERRED EMBODIMENT OF THE INVENTION

[0020] The invention will now be described, only by way of illustration, through the following example which, by no means, can be considered to limit the scope of the invention.

[0021] According to a first embodiment, Figure 1 shows a removable base 7, observing thereon the seat 1 arranged in an oblique position with respect to the longitudinal sides 2 of the base 7, the respective widened sections 3 being defined from each of the mentioned longitudinal sides 2 of the base 7 and the entire assembly forming an element independent from the frame 8.

[0022] The base 7 has through holes 6 facing corresponding holes 15 made in the frame 8 of the car for fixing both elements by using screws.

[0023] Figure 2 shows a second embodiment of the present invention incorporating anchoring parts 4 fixed to the corners of the widened sections 3 of the base 7. Each of said anchoring parts 4 has through holes 5 in addition to through holes 6, for the fixing thereof to the frame 8 by using screws, which allows reducing the seesaw movements of the base 7 with respect to the frame 8.

[0024] Figure 3 shows a frame 8 comprising an opening 9 with widened sections 10 from the longitudinal edges, positioned and shaped to receive laterally projecting portions 3 of a base 7 with an oblique seat 1 for the drive motor, as shown in Figure 1. The coupling of both elements, frame 8 and base 7 with an oblique seat 1 is shown in Figure 4.

[0025] Figure 5 shows the assembly of the adapting parts 11 to the frame 8, observing the rectangular outline which allows coupling the bases 7 with the seat in a longitudinal arrangement 18 or a transverse arrangement 19.

[0026] The adapting parts 11 are preferably snapped on the frame 8, without the need for tools, making the corresponding holes 12 of the auxiliary adapting parts 11 match up, which can be seen in Figure 8, with the corresponding studs 13 projecting from the frame 8, which can be seen in Figure 3.

[0027] Figures 6 and 7 correspond, respectively, to examples of adapting a base 7 with a seat in a transverse arrangement 18 and a base with a seat in a longitudinal arrangement 17 to a frame 8, the adapting parts 11 having been previously fixed.

[0028] Figure 9 corresponds to an exploded view of another embodiment, in which the frame 8 has through holes 15 facing the corresponding holes 5 made in anchoring parts 4 of a base 7 with an oblique seat 1 for fixing both elements by using screws 14.

Claims

1. A base for a motor for an electric toy car, comprising a seat (1) to house the drive motor of the car, the base (7) of which has a substantially rectangular shape, **characterized in that** the seat (1) is arranged in an oblique manner with respect to the longitudinal sides (2) of the base (7), respective widened sections (3) being defined after each of the mentioned longitudinal sides (2) of the base (7).

2. A base for a motor according to claim 1, **characterized in that** the corners of the widened sections (3) are provided with anchoring parts (4) for fixing them to the frame (8) of the car.

3. A base for a motor according to claim 2, **characterized in that** the anchoring parts (4) are integral with the mentioned base (7), and **in that** each of them has through holes (5) facing corresponding holes (15) made in the frame (8) of the car for fixing both elements by using screws.

4. A frame for an electric toy car, comprising an opening (9) in which a base (7) is assembled with a seat (1) for a drive motor, **characterized in that** the opening (9) of the frame (8) is provided with means for coupling bases (7) with an oblique seat (1), and for adapting bases (7) with a longitudinal seat (17) or a transverse seat (18) for the motor, said means comprising widened sections (10) from the longitudinal edges of the mentioned opening (9), positioned and shaped to receive laterally projecting portions (3) of a base (7) with an oblique seat (1) for the motor, and auxiliary adapting parts (11) which can be coupled

and fixed on said widened sections (10), which with the edges of the opening (9) complete an outline coinciding with the outline of a base (7) with a longitudinal seat (17) or a transverse seat (18) for a motor.

5. A frame according to claim 4, **characterized in that** the auxiliary adapting parts (11) are provided with holes (12) coinciding with studs (13) projecting from the frame (8).

6. A frame according to any of claims 4 to 5, **characterized in that** it has through holes (15) facing the corresponding holes (5) made in anchoring parts (4) of a base (7) with an oblique seat (1) for fixing both elements by using screws (14).

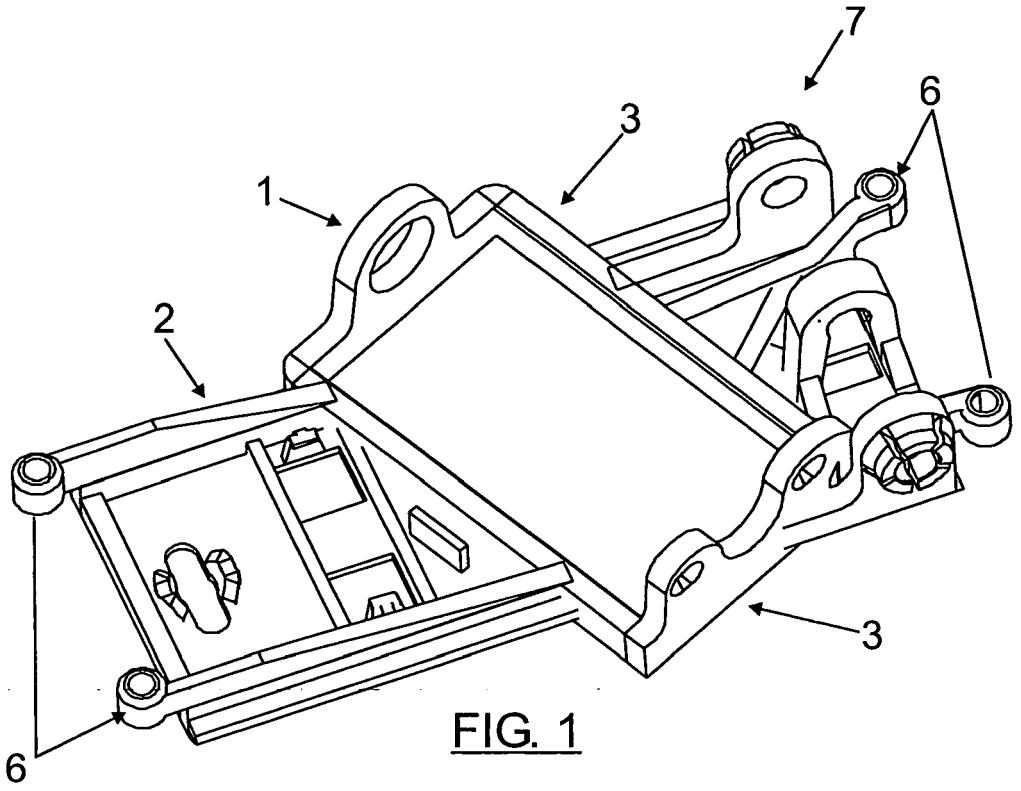

FIG. 1

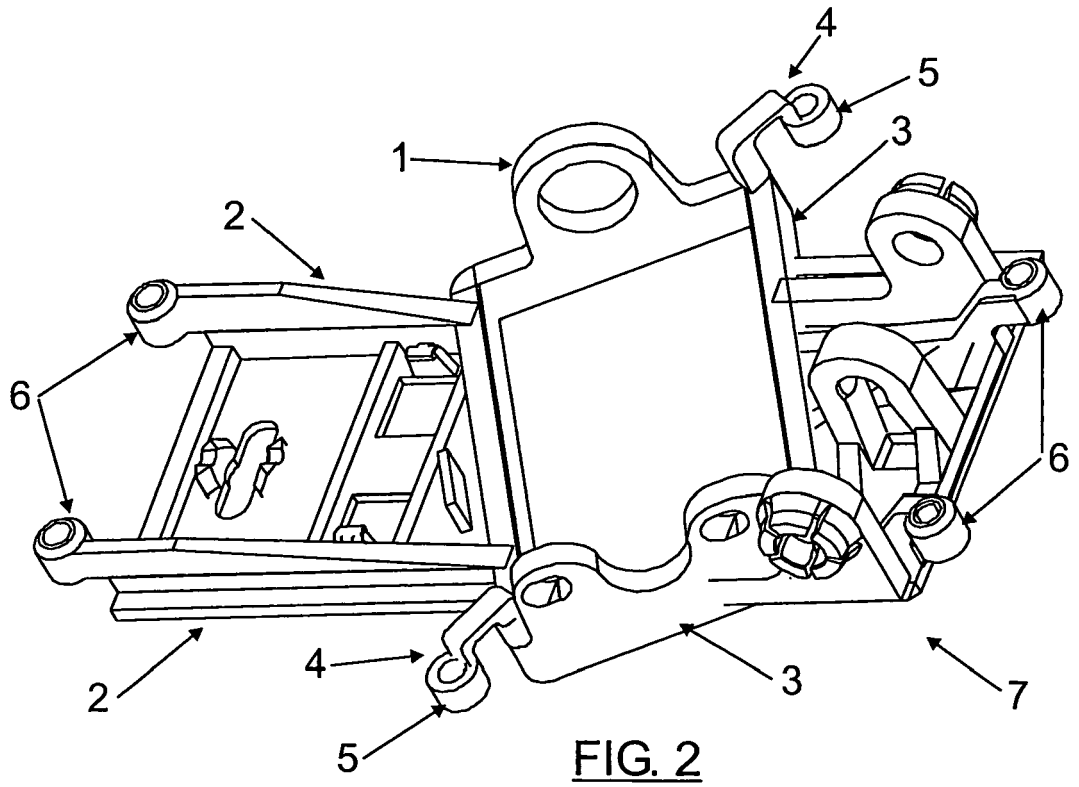

FIG. 2

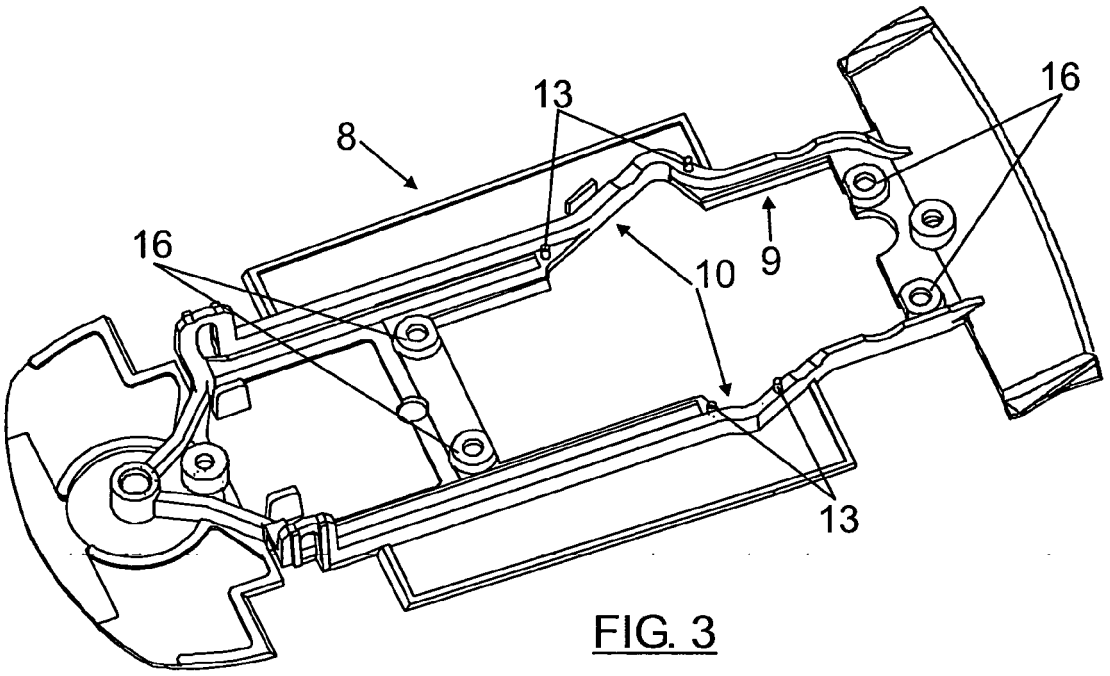

FIG. 3

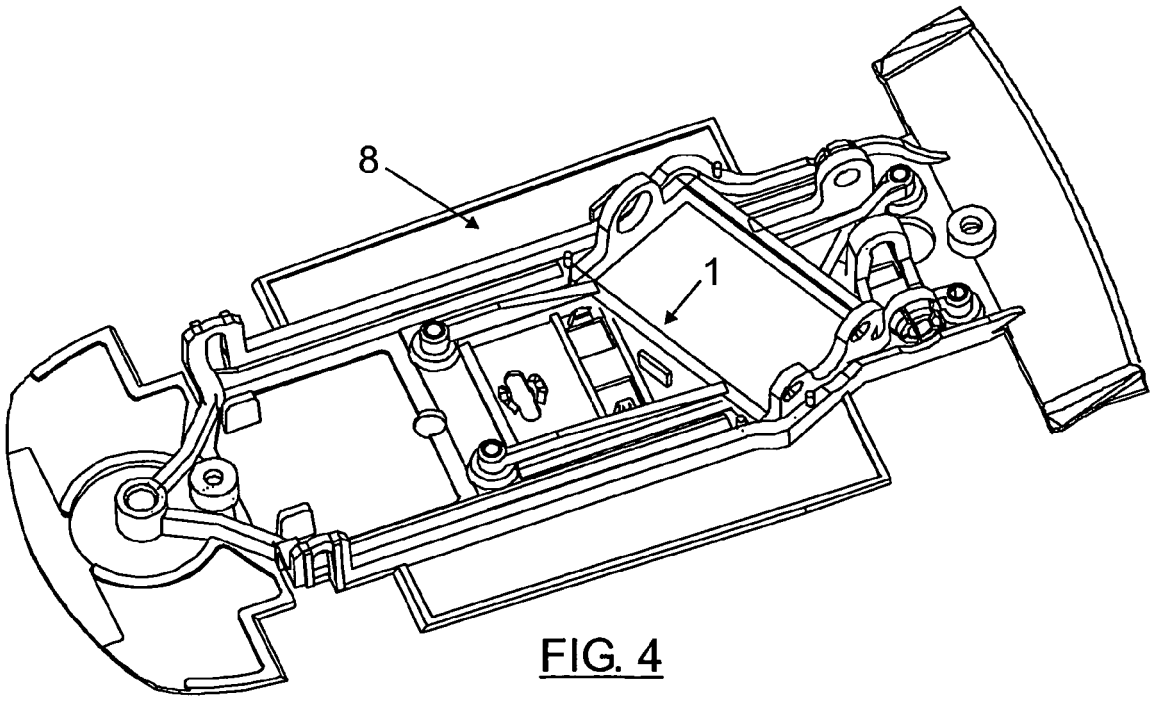

FIG. 4

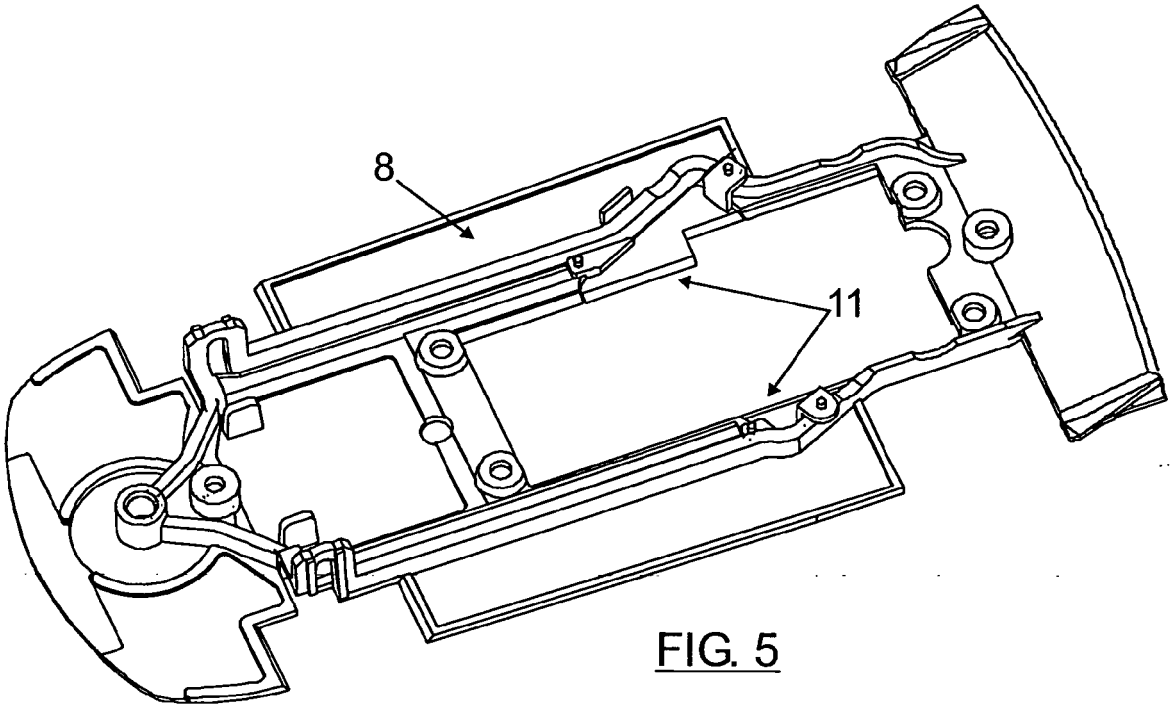

FIG. 5

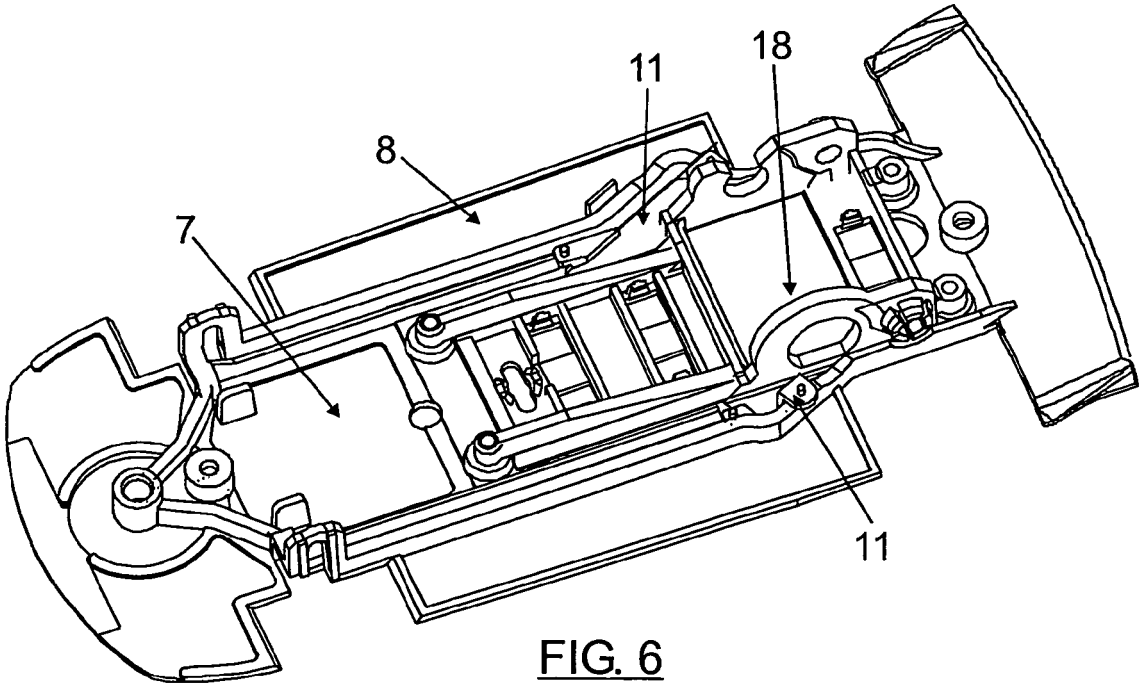

FIG. 6

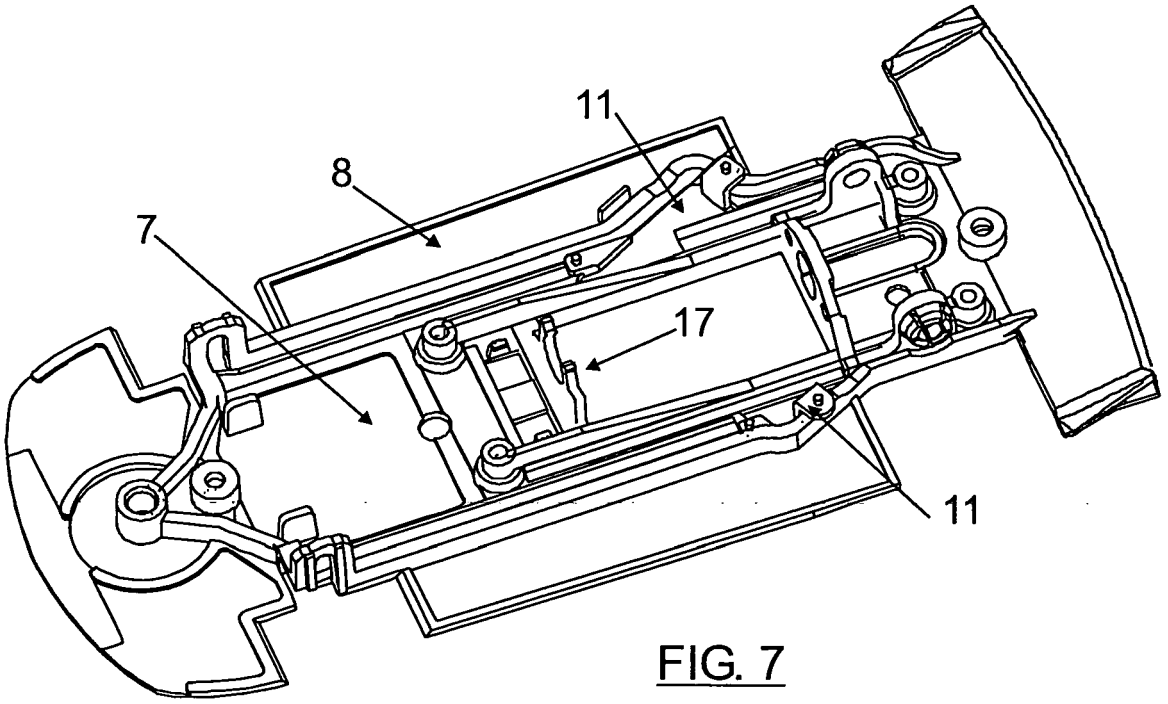

FIG. 7

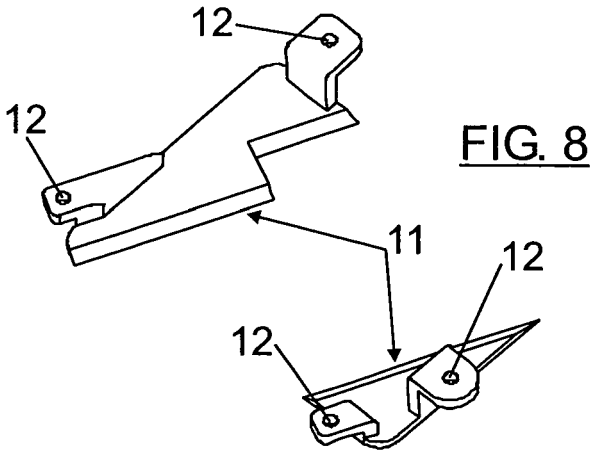

FIG. 8

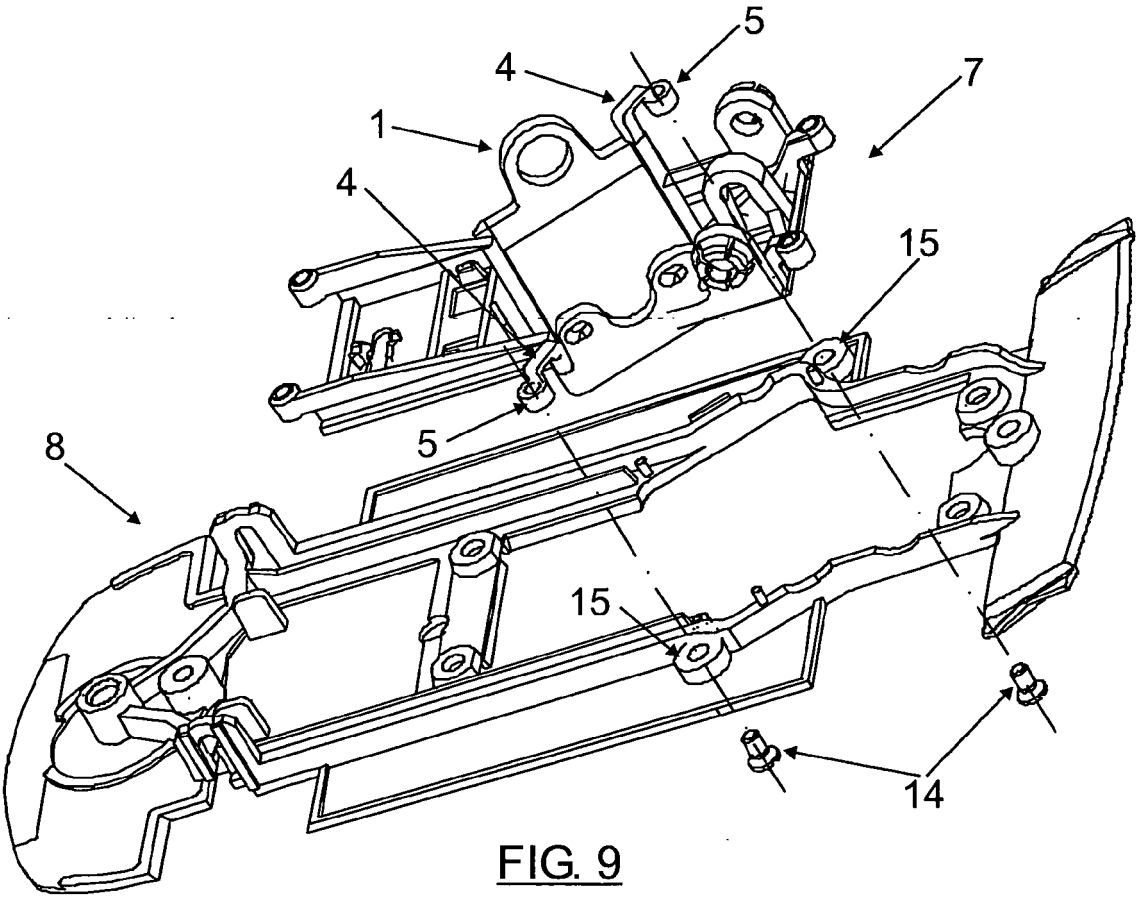

FIG. 9

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EUROPEAN SEARCH REPORT

Application Number
EP 07 38 0149

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	US 3 618 258 A (CLARK CHARLES WILLIAM) 9 November 1971 (1971-11-09) * figures *	1-6	INV. A63H17/14
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TECHNICAL FIELDS SEARCHED (IPC)

A63H

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	4 October 2007	Shmonin, Vladimir

CATEGORY OF CITED DOCUMENTS

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