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(54) Pugilist's training apparatus

(57) Apparatus for a pugilist to punch during training, comprising means for attaching the apparatus to a wall, and one or more padded members for the pugilist to punch. Preferably the apparatus comprises a plurality of padded members arranged for the pugilist to practice different punches. Preferably the apparatus further comprises a substructure and one or more plates on which the padded members are attached. Shock absorbing means are preferably disposed between the substructure and the means for attaching the apparatus to the wall. A first embodiment has a first padded member arranged such that, in use, it is substantially perpendicular to the wall and faces substantially towards the floor; and second and third padded members arranged either side of the first padded member and configured such that, in use, they are substantially perpendicular to the wall and there is an angle of approximately 45° between the major outer face of each padded member and the floor. A second embodiment has a first padded member arranged such that, in use, it is substantially perpendicular to the wall and faces substantially towards the floor; second and third padded members arranged either side of the first padded member and configured such that, in use, they are substantially perpendicular to the wall and there is an angle of between about 80° and 90° between the major outer face of each padded member and the floor; and a fourth padded member arranged between the second and third padded members and configured such that, in use, its major outer face is parallel or near-parallel to the wall and faces away from the wall.

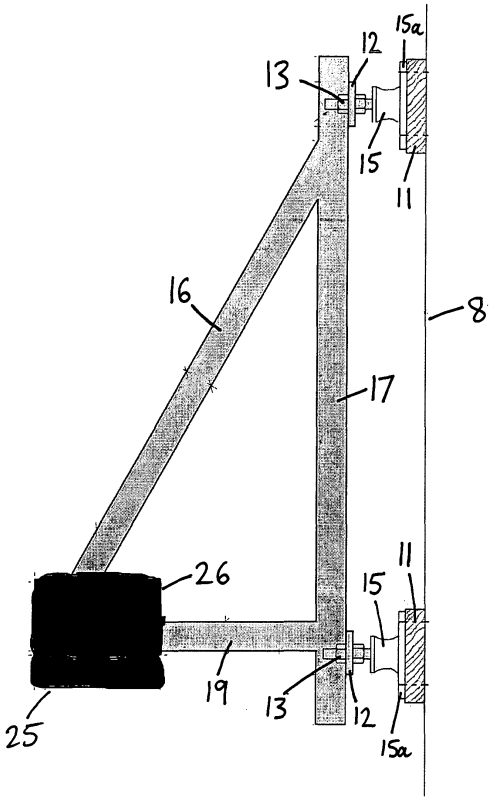

Figure 4

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Description

[0001] This invention relates to training apparatus for pugilists or boxers. It may also be used by other sportspeople or fitness enthusiasts, to develop general fitness and stamina.

Background to the Invention

[0002] For training, pugilists (otherwise known as boxers) often use punch bags, or larger so-called 'heavy' bags, to assist them in developing the strength, stamina and co-ordination required for competitive boxing. Punch bags and heavy bags are typically suspended from the ceiling in a gymnasium and are repeatedly punched by the pugilist during training.

[0003] To prepare a pugilist for competition, it is desirable for his training apparatus to respond to punches in a similar manner to a human competitor, in order to provide realistic training. However, the applicant has found that punch bags and heavy bags often provide more give when punched than would be the case with a real human competitor, and accordingly do not provide the pugilist with as realistic training as would be desired.

Summary of the Invention

[0004] According to the present invention there is provided apparatus for a pugilist to punch during training, comprising means for attaching the apparatus to a wall, and one or more padded members for the pugilist to punch. By virtue of being wall-mounted, the apparatus may be installed in rooms having a high ceiling, or in other locations in which it is not possible to suspend training apparatus from the ceiling.

[0005] Preferably the apparatus comprises a plurality of padded members arranged for the pugilist to practice different punches.

[0006] Preferably the apparatus further comprises a substructure and one or more plates on which the padded members are attached. The term "plate" as used herein should be interpreted broadly, to encompass any substrate or backing member(s) for supporting at least a substantial part of a padded member.

[0007] Particularly preferably the padded members are directly attached to the plates, which may be made of metal or another sufficiently strong material. By mounting the padded members in such a manner, this advantageously provides a firm and relatively unyielding article for the pugilist to punch, which may be configured to provide a similar amount of give as a human competitor. Accordingly, the pugilist's training may be made more realistic (compared to using traditional punch bags or heavy bags) and may more closely resemble actual competition.

[0008] Preferably the padded members are substantially cuboid in shape.

[0009] Preferably the apparatus further comprises shock absorbing means disposed between the substructure and the means for attaching the apparatus to the wall. Particularly preferably the shock absorbing means are made of rubber, such as the rubber used for engine mounts in vehicles. The shock absorbing means advantageously absorb impact forces delivered to the apparatus by the pugilist during training.

[0010] The padded members may be arranged in various different configurations, suitable for the pugilist to practice different punches. For example, for practicing uppercuts, a padded member may be arranged such that, in use, it is substantially perpendicular to the wall and its major outer surface faces substantially towards the floor. For practicing uppercuts or hooks from the left or right side, a padded member may be arranged such that, in use, it is substantially perpendicular to the wall and there is an angle of approximately 45° between the major outer face of the padded member and the floor.

[0011] For practicing straight punches and jabs, a padded member may be arranged such that, in use, its major outer face is parallel or near-parallel to the wall and faces away from the wall. For side punches and hooks, a padded member may be arranged such that, in use, it is substantially perpendicular to the wall and there is an angle of between about 80° and 90° (particularly preferably about 85°) between the major outer face of the padded member and the floor.

[0012] The padded members may be provided in various combinations as desired. For example, in a first embodiment, suitable for practicing body shots, the apparatus may have a first padded member arranged such that, in use, it is substantially perpendicular to the wall and its major outer surface faces substantially towards the floor; and second and third padded members arranged either side of the first padded member and configured such that, in use, they are substantially perpendicular to the wall and there is an angle of approximately 45° between the major outer face of each padded member and the floor.

[0013] In a second embodiment, suitable for practicing head shots, the apparatus has a first padded member arranged such that, in use, it is substantially perpendicular to the wall and its major outer surface faces substantially towards the floor; second and third padded members arranged either side of the first padded member and configured such that, in use, they are substantially perpendicular to the wall and there is an angle of between about 80° and 90° (particularly preferably about 85°) between the major outer face of each padded member and the floor; and a fourth padded member arranged between the second and third padded members and configured such that, in use, its major outer face is parallel or near-parallel to the wall and faces away from the wall.

[0014] Preferably the substructure is adapted to be reversibly attached to or removed from the means for attaching the apparatus to the wall. This enables different arrangements of padded members to be removed from or attached to the wall, as required for whichever punches

are to be practiced during training.

[0015] The substructure may comprise tubular metallic components, for example made from tubular steel. Alternatively the substructure may comprise fibre-reinforced composite components, for example a carbon-fibre-reinforced polymer composite or metallic composite. Other reinforcing fibres, such as Kevlar (RTM) may also be used, as will be appreciated by those skilled in the art of materials selection.

[0016] The position of the padded members on the apparatus may be adjustable, to suit pugilists of different heights.

Brief Description of the Drawings

[0017] Embodiments of the invention will now be described, by way of example, and with reference to the drawings in which:

Figure 1 illustrates a front view of a first embodiment, with the padded members removed;
Figure 2 illustrates a front view of the first embodiment, with the padded members;
Figure 3 illustrates a side view of the first embodiment, with the padded members removed;
Figure 4 illustrates a side view of the first embodiment, with the padded members;
Figures 5 to 8 are equivalent to Figures 1 to 4, showing example dimensions in millimetres;
Figure 9 illustrates a front view of a second embodiment, with the padded members removed;
Figure 10 illustrates a front view of the second embodiment, with the padded members;
Figure 11 illustrates a side view of the second embodiment, with the padded members removed;
Figure 12 illustrates a side view of the second embodiment, with the padded members; and
Figures 13 to 16 are equivalent to Figures 9 to 12, showing example dimensions in millimetres.

[0018] The dimensions indicated in Figures 5 to 8 and Figures 13 to 16 are provided by way of example only, as the apparatus may be made in a variety of shapes and sizes. Similarly, any angles referred to herein, or which may be measured from the drawings, are only provided by way of example, and should not be regarded as critical to the construction of the embodiments.

Detailed Description of Preferred Embodiments

[0019] The present embodiments represent the best ways known to the applicant of putting the invention into practice. However they are not the only ways in which this can be achieved.

[0020] In general terms, the embodiments of the invention provide apparatus for a pugilist to punch during training. In use, the apparatus is attached to a wall. A plurality of padded members are provided for the pugilist to punch.

[0021] A first embodiment of the invention is shown in Figures 1 to 8, and a second embodiment is shown in Figures 9 to 16.

[0022] With reference initially to Figures 1 to 4, the first embodiment 10 comprises a substructure 12, 14, 16, 17, 18, 19, which may be made using metallic components, for example welded tubular steel (e.g. for components 16, 17, 18 and 19) or plate metal (e.g. for components 12 and 14). Alternatively, parts of the substructure may be made of a composite material, for example a carbon-fibre-reinforced polymer composite, or a metallic composite. Other reinforcing fibres, such as Kevlar (RTM), may also be used as reinforcement, as will be appreciated by those skilled in the art of materials selection.

[0023] The substructure comprises a vertical member 17 that is attached to a pair of horizontal plate-like members 12, 14. Extending perpendicularly forward from the vertical member 17 is a substantially horizontal member 19. A diagonal member 16 is also provided, which contributes towards the rigidity of the overall structure. Transverse horizontal members 18a and 18b are connected to the diagonal member 16. In the presently-preferred embodiment, components 16, 17, 18a, 18b and 19 are welded together from tubular steel.

[0024] Attached to members 18a, 18b and 19 of the substructure are three metallic plates 20, 21 and 22. Onto each plate 20, 21, 22 a corresponding padded member 24, 25, 26 is attached. Although the supports for the padded members 24, 25, 26 are preferably in the form of plates, it will be appreciated that alternative support means for the padded members may be used instead. For example, the rear face of each padded member 24, 25, 26 may be supported by some other form of substrate, or a series of metal strips which together effectively form a plate, or some kind of support frame. However, in the preferred embodiments, each padded member 24, 25, 26 is supported by separate metallic plates 20, 21, 22, which may be joined along adjacent edges (to enhance the rigidity of the structure) or formed from a single piece of metal bent to form the separate plate portions 20, 21, 22.

[0025] Plate 21 is substantially perpendicular to the wall 8, and the major outer surface 25a of padded member 25 faces substantially towards the floor. This may be used for practicing uppercuts. Plates 20 and 22 are also substantially perpendicular to the wall 8, with an angle of approximately 45° between the major outer surface 24a, 26a of each plate and the floor. The corresponding padded members 24 and 26 may be used for practicing uppercuts or hooks from the left or right.

[0026] The padded members 24, 25, 26 are substantially cuboid in shape, and are effectively firm cushions, made to receive the pugilist's punches with minimal give. The feel to the pugilist is similar to that of punching a real human competitor, and accordingly this benefits the pugilist's training. In the currently-preferred embodiments, the padded members 24, 25, 26 are filled with a hard

foam material and are covered by leather, although alternative materials may be used, as will be appreciated by those skilled in the art of materials selection. Straps or other fastening means may be provided to attach the padded members to their corresponding plates.

[0027] In use, the substructure is attached to a wall 8. To install the apparatus, wooden members 11 are first securely attached to the wall 8. The wooden members 11 extend horizontally across the width of the apparatus. The plate-like members 12, 14 of the substructure are then attached to the wooden members 11 using bolts 13 and shock absorber members 15. The shock absorbers 15 may be made of rubber, such as the rubber used for engine mounts in vehicles. Mounting plates 15a (e.g. made of metal) may be provided to support the shock absorbers 15. In use, the shock absorbing means absorb impact forces delivered to the apparatus by the pugilist during training.

[0028] When assembled, the apparatus 10 is substantially rigid and moves very little (in comparison to punch bags and heavy bags) when punched. Again, this gives a more realistic sensation to the pugilist when training.

[0029] The first embodiment 10 may be used to practice body punches, uppercuts and hooks. From Figures 1 to 8, it will be appreciated that the substructure is configured such that the padded members 24, 25, 26 are positioned a comfortable distance from the wall, such that the pugilist can punch the padded members without danger of hitting the wall.

[0030] Turning now to Figures 9 to 12, the second embodiment 30 comprises a substructure 36, 37, 38, 39, 40, 41, 42, 43, which (as with the first embodiment 10) may be made from metal, composite material, or any other suitable material as will be apparent to those skilled in the art of materials selection.

[0031] The substructure comprises a vertical member 37 that is attached to a pair of horizontal plate-like members 41, 43. These horizontal members 41, 43 are attached to larger horizontal plate-like members 40, 42. Horizontal members 40, 42 are then attached to a pair of vertical plate-like members 38, 39. The assembly of members 37, 38, 39, 40, 41, 42 and 43 gives rise to a very rigid overall structure.

[0032] Extending perpendicularly forward from the vertical member 37 is a horizontal member 35. A diagonal member 36 is also provided to aid in the rigidity of the overall structure.

[0033] In the presently-preferred embodiment, members 38, 39, 40, 41, 42 and 43 are made of plate metal, and members 35, 36 and 37 are made of welded tubular metal, although other materials and forms of construction are possible.

[0034] As with the first embodiment 10, in use, the substructure is attached to a wall 8, using wooden members 11. With this second embodiment 30, the vertical plate-like members 38, 39 of the substructure are attached to the wooden members 11, using bolts 33 and shock absorber members 15 (with mounting plates 15a) as before.

[0035] Attached to member 35 of the substructure are four metallic plates 50, 51, 52, 53, which are themselves joined together along adjacent edges in the interest of structural rigidity. Onto each plate 50, 51, 52, 53 a corresponding padded member 54, 55, 56, 57 is attached. Again, although the supports for the padded members are preferably in the form of plates, it will be appreciated that alternative support means for the padded members may be used instead.

[0036] Plate 51 is substantially perpendicular to the wall 8, and padded member 55 faces substantially towards the floor. This may be used for practicing uppercuts. Plates 50 and 52 are also substantially perpendicular to the wall 8, with an angle of between about 80° and 90° (particularly preferably about 85°) between the plate and the floor. The corresponding padded members 54 and 56 may be used for practicing side punches or hooks from the left or right. For practicing straight punches and jabs, plate 53 is arranged such that the outer surface of the corresponding padded member 57 is parallel or near-parallel to the wall and faces away from the wall. In the preferred embodiment as illustrated, plate 53 is inclined by about 5° from the vertical, so that the outer face of the padded member 57 faces downwards a little.

[0037] The second embodiment 30 may be used to practice head punches, uppercuts and hooks.

[0038] The first embodiment 10 and second embodiment 30 may be interchangeably attached to or removed from the wooden support members 11. This enables the pugilist to replace one embodiment with the other, as his training programme may require.

[0039] The positions of the padded members in the embodiments described herein are only some examples of possible positions. Those skilled in the art of pugilism may identify other possible positions and angles in which padded members may be arranged. Moreover, in further embodiments, the height of the padded members on the apparatus may be user-adjustable, to suit pugilists of different heights.

Claims

1. Apparatus for a pugilist to punch during training, comprising means for attaching the apparatus to a wall, and one or more padded members for the pugilist to punch.

2. Apparatus as claimed in Claim 1, comprising a plurality of padded members arranged for the pugilist to practice different punches.

3. Apparatus as claimed in Claim 1 or Claim 2, further comprising a substructure and one or more plates on which the padded members are attached.

4. Apparatus as claimed in any preceding claim, wherein the padded members are substantially cuboid in

shape.

5. Apparatus as claimed in Claim 3 or Claim 4, further comprising shock absorbing means disposed between the substructure and the means for attaching the apparatus to the wall.

6. Apparatus as claimed in Claim 5, wherein the shock absorbing means are made of rubber.

7. Apparatus as claimed in any preceding claim, wherein a padded member is arranged such that, in use, it is substantially perpendicular to the wall and its major outer surface faces substantially towards the floor.

8. Apparatus as claimed in any preceding claim, wherein a padded member is arranged such that, in use, it is substantially perpendicular to the wall and there is an angle of approximately 45° between the major outer face of the padded member and the floor.

9. Apparatus as claimed in any preceding claim, wherein a padded member is arranged such that, in use, its major outer face is parallel or near-parallel to the wall and faces away from the wall.

10. Apparatus as claimed in any preceding claim, wherein a padded member is arranged such that, in use, it is substantially perpendicular to the wall and there is an angle of between 80° and 90° between the major outer face of the padded member and the floor.

11. Apparatus as claimed in any of Claims 1 to 6, comprising:

a first padded member arranged such that, in use, it is substantially perpendicular to the wall and its major outer surface faces substantially towards the floor; and
second and third padded members arranged either side of the first padded member and configured such that, in use, they are substantially perpendicular to the wall and there is an angle of approximately 45° between the major outer face of each padded member and the floor.

12. Apparatus as claimed in any of Claims 1 to 6, comprising:

a first padded member arranged such that, in use, it is substantially perpendicular to the wall and its major outer surface faces substantially towards the floor;
second and third padded members arranged either side of the first padded member and configured such that, in use, they are substantially perpendicular to the wall and there is an angle of between about 80° and 90° between the major outer face of each padded member and the floor; and
a fourth padded member arranged between the second and third padded members and configured such that, in use, its major outer face is parallel or near-parallel to the wall and faces away from the wall.

13. Apparatus as claimed in any of Claims 3 to 12, wherein the substructure is adapted to be reversibly attached to or removed from the means for attaching the apparatus to the wall.

14. Apparatus as claimed in any of Claims 3 to 13, wherein the substructure comprises tubular metallic components.

15. Apparatus as claimed in any of Claims 3 to 14, wherein the substructure comprises fibre-reinforced composite components.

16. Apparatus as claimed in any preceding claim, wherein the position of the padded members on the apparatus is adjustable.

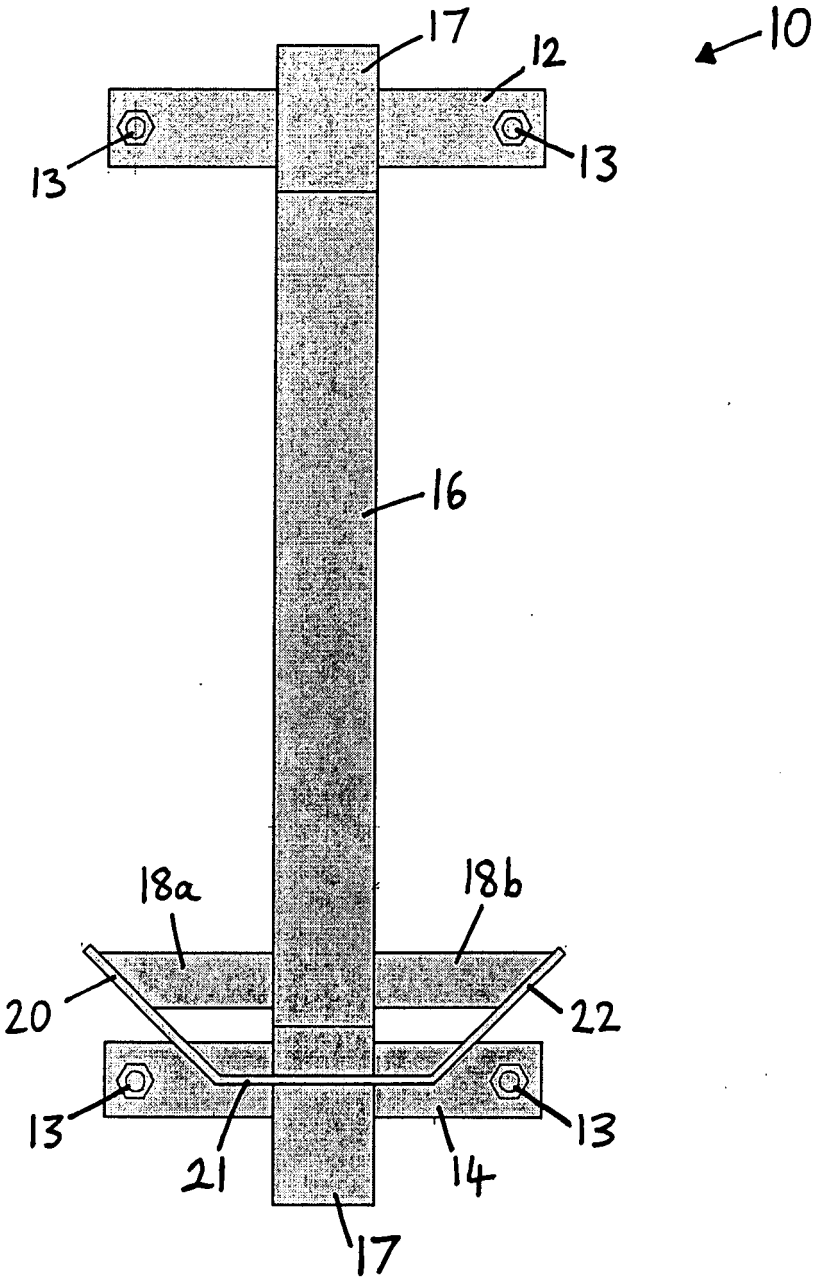

Figure 1

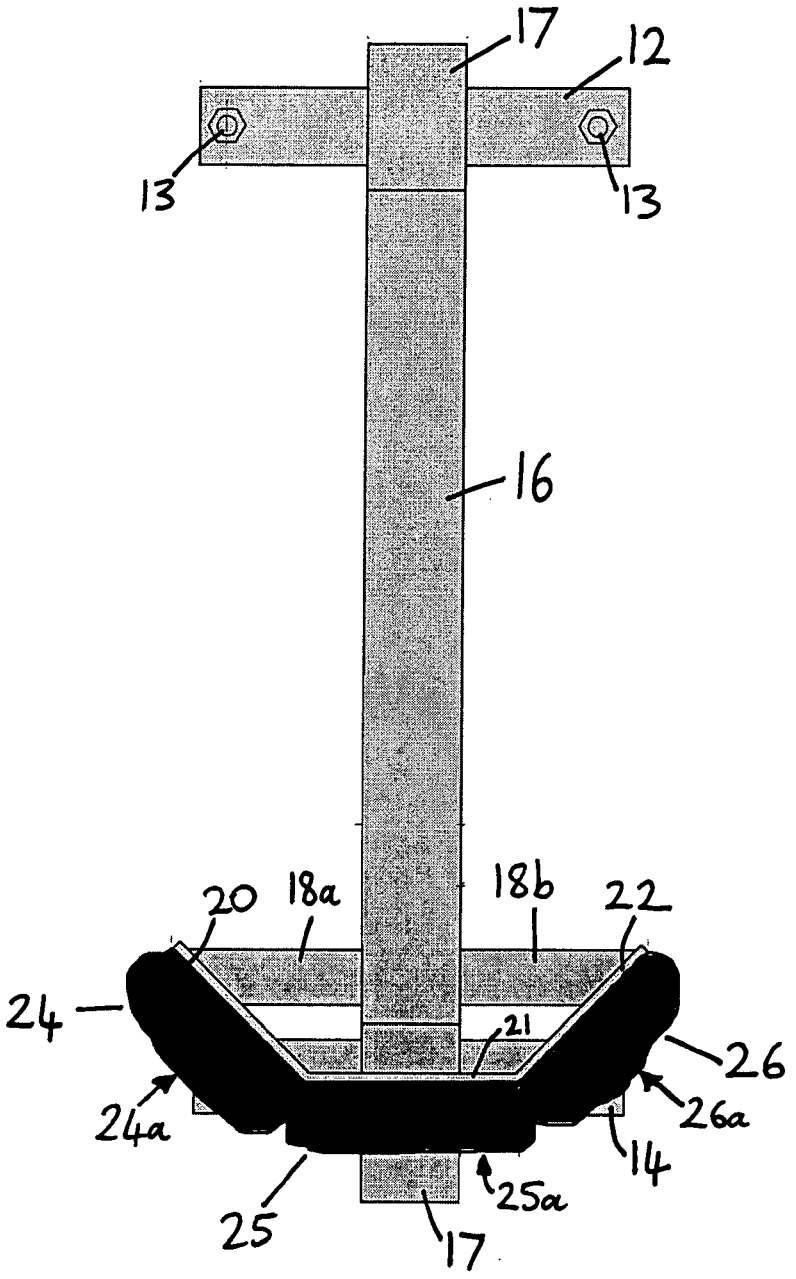

Figure 2

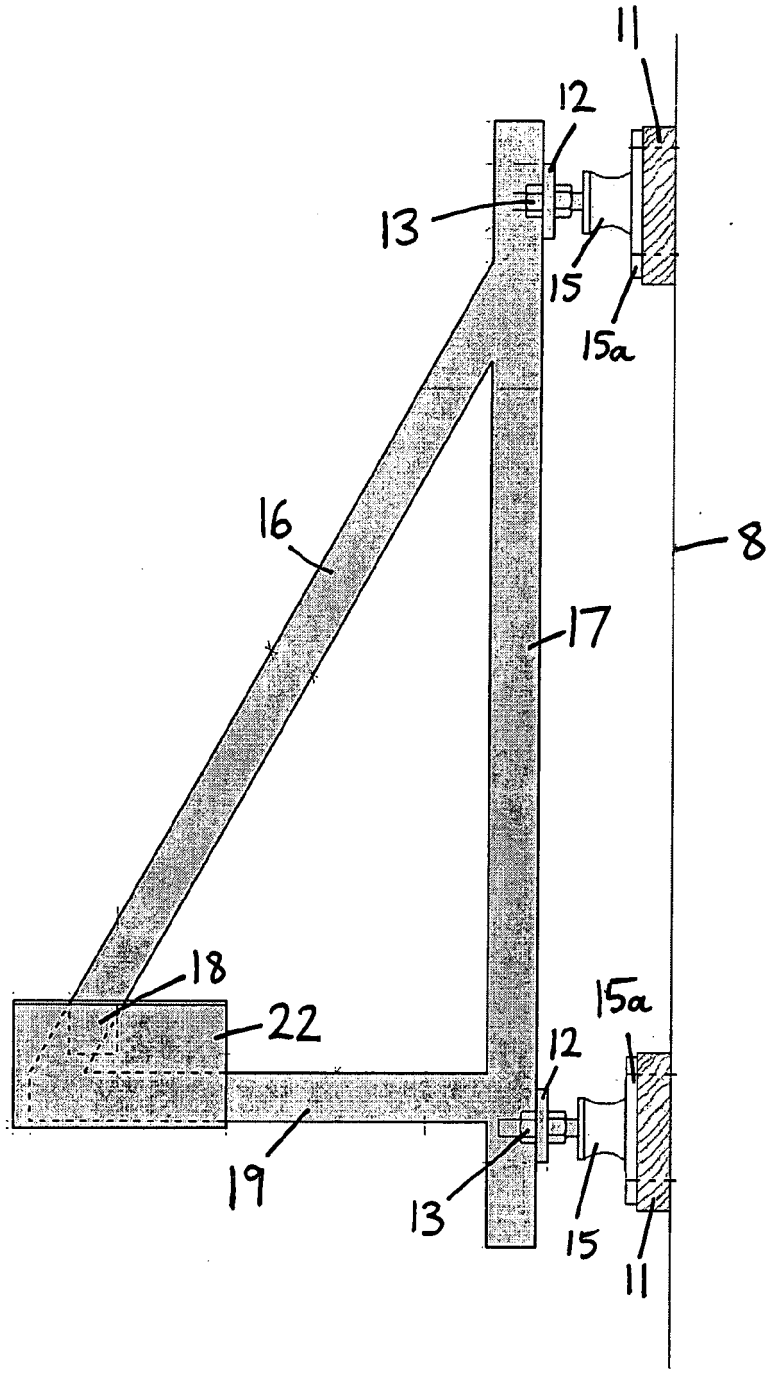

Figure 3

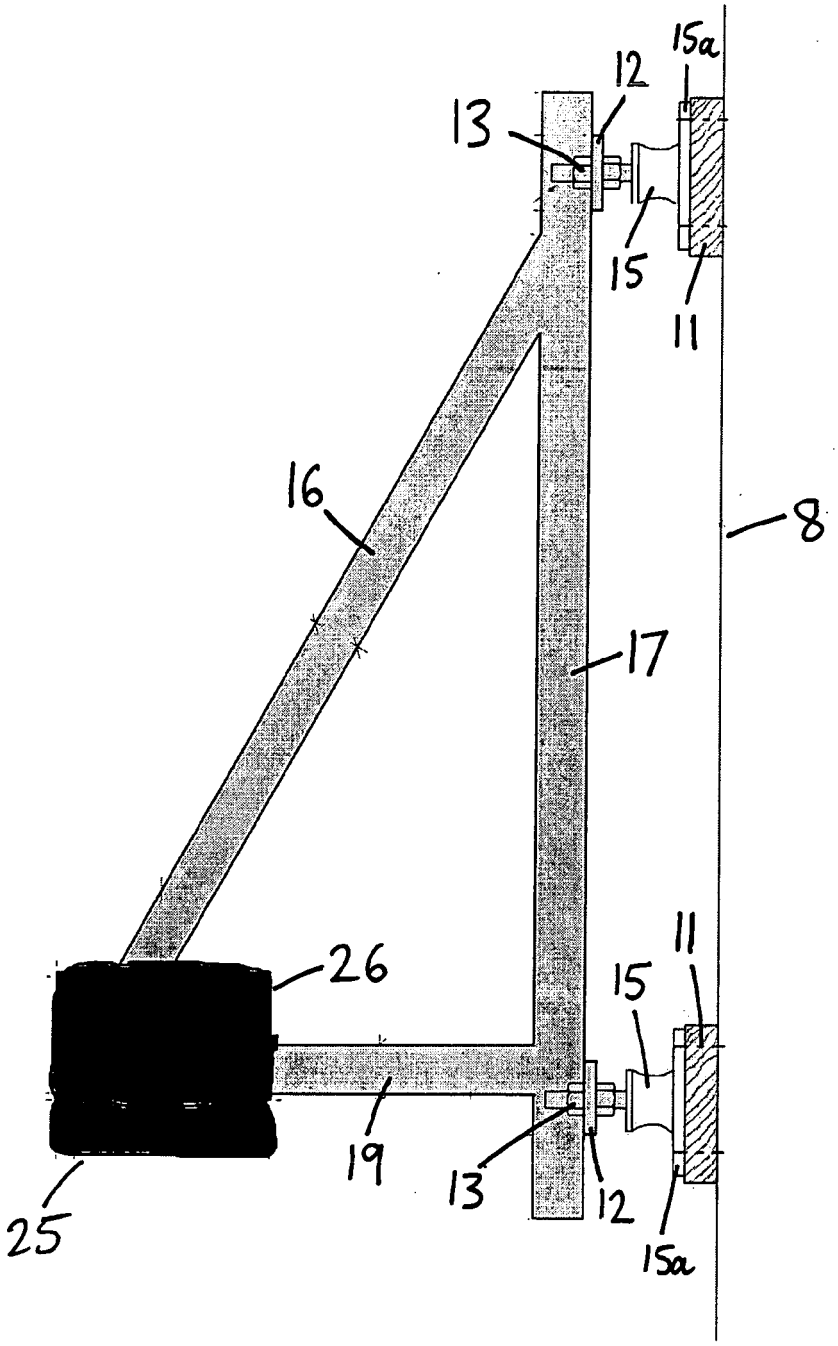

Figure 4

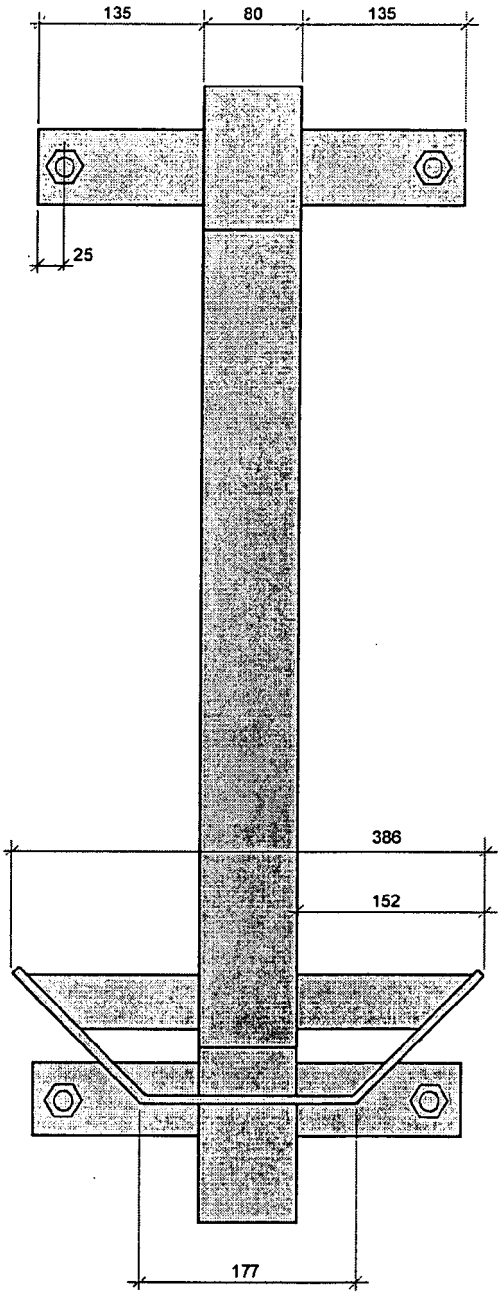

Figure 5

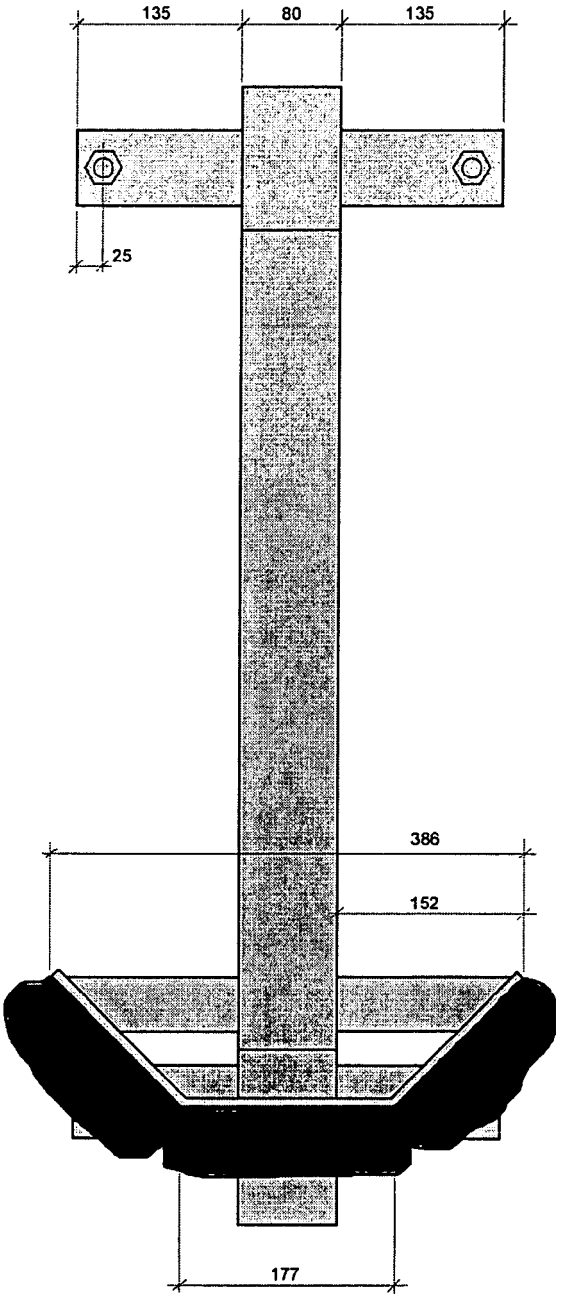

Figure 6

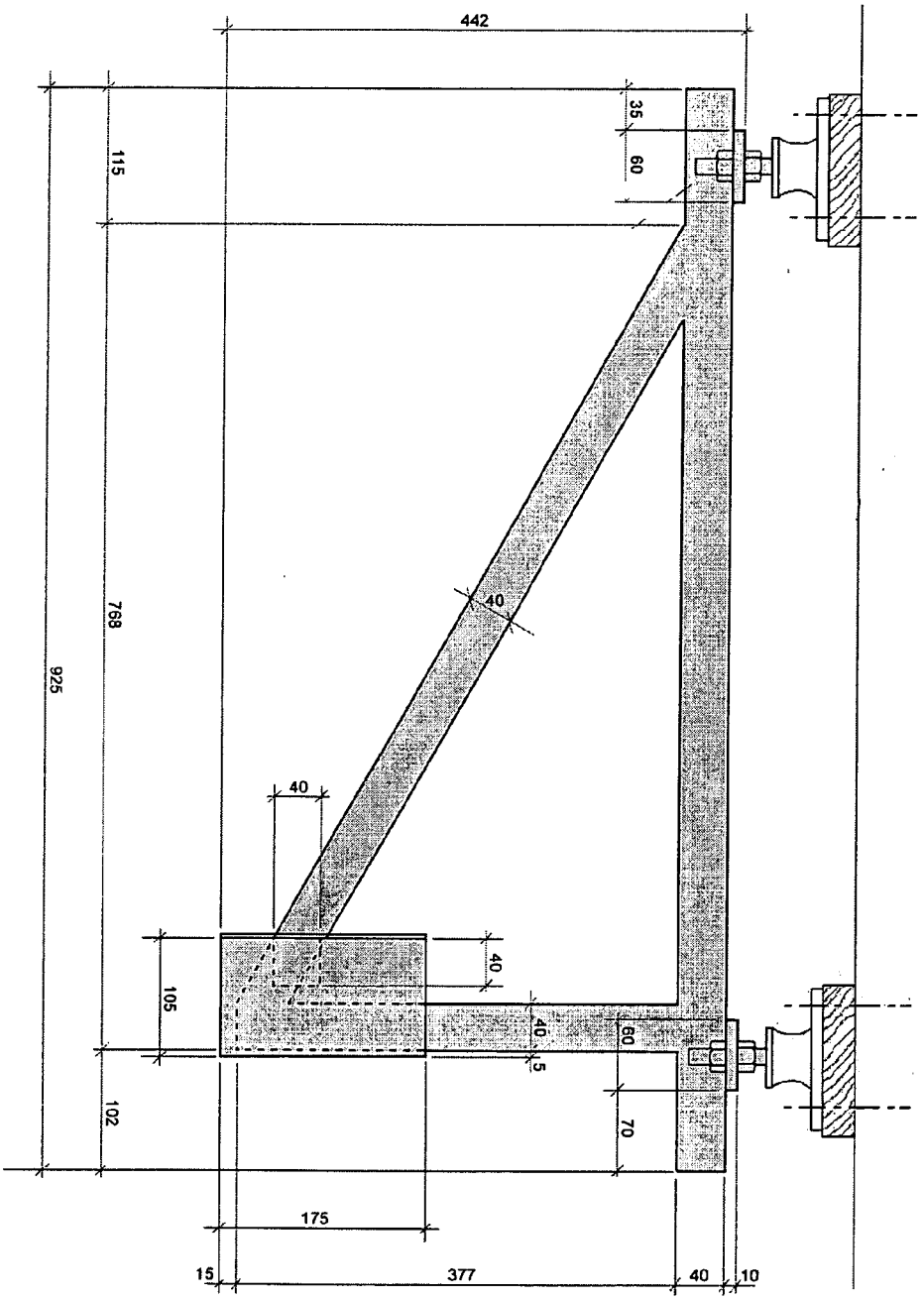

Figure 7

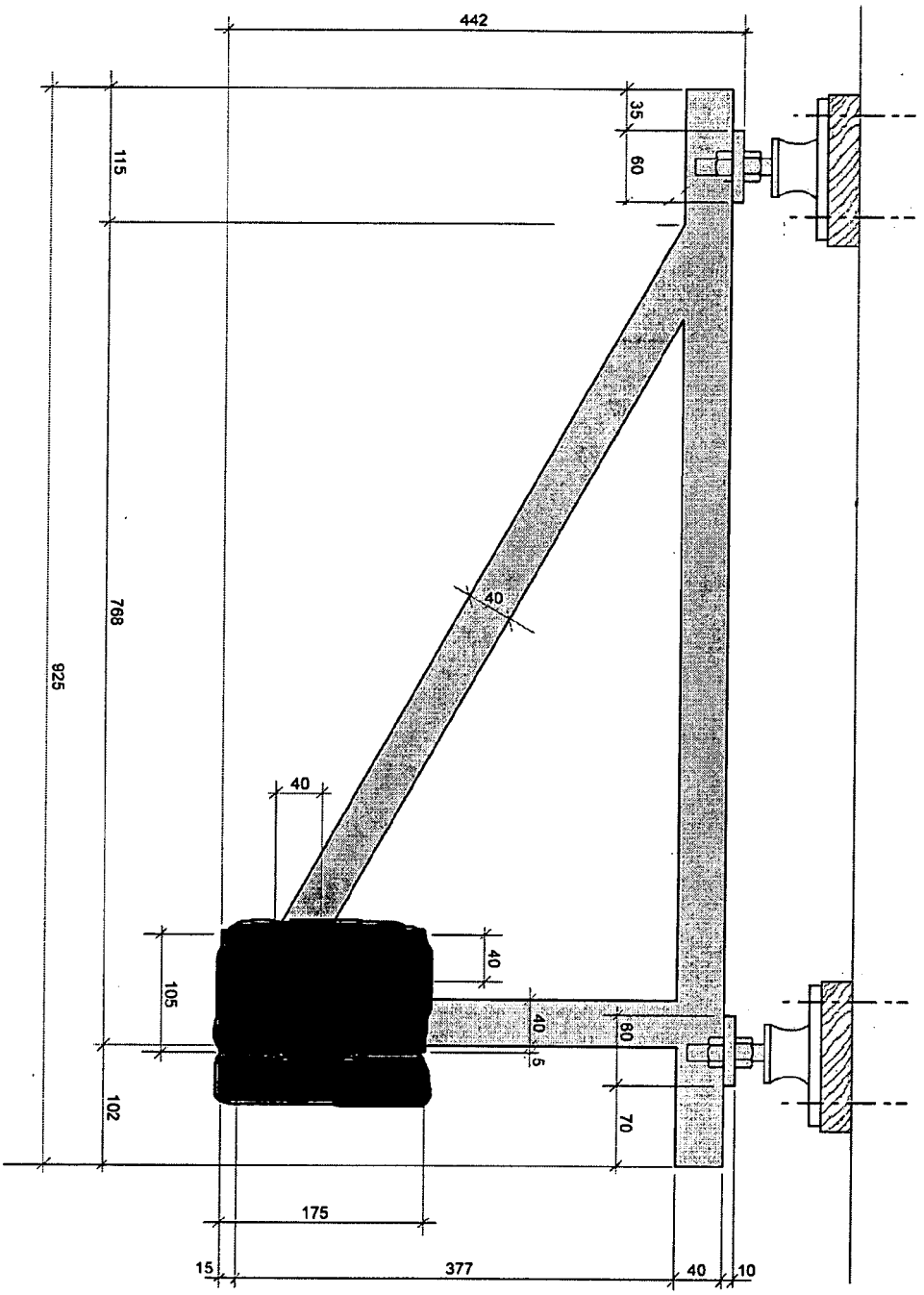

Figure 8

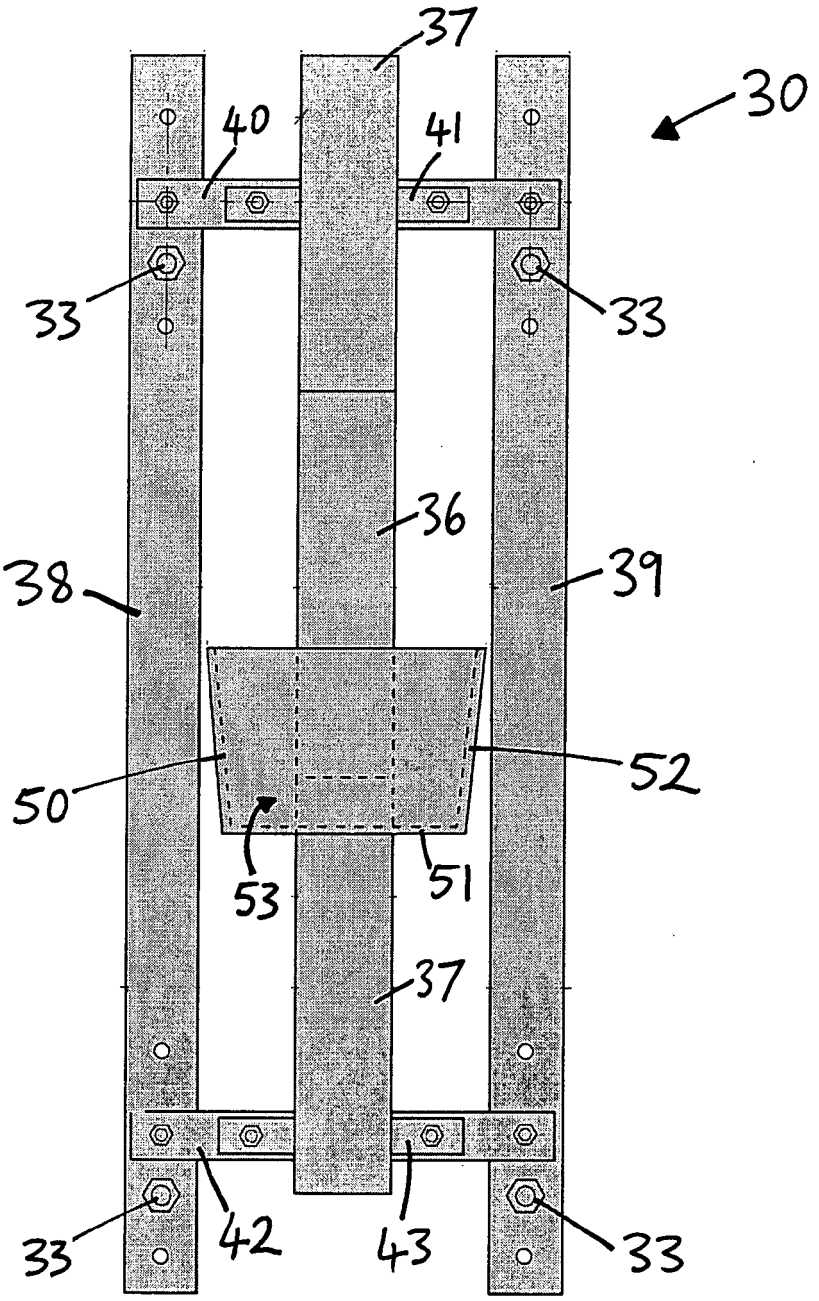

Figure 9

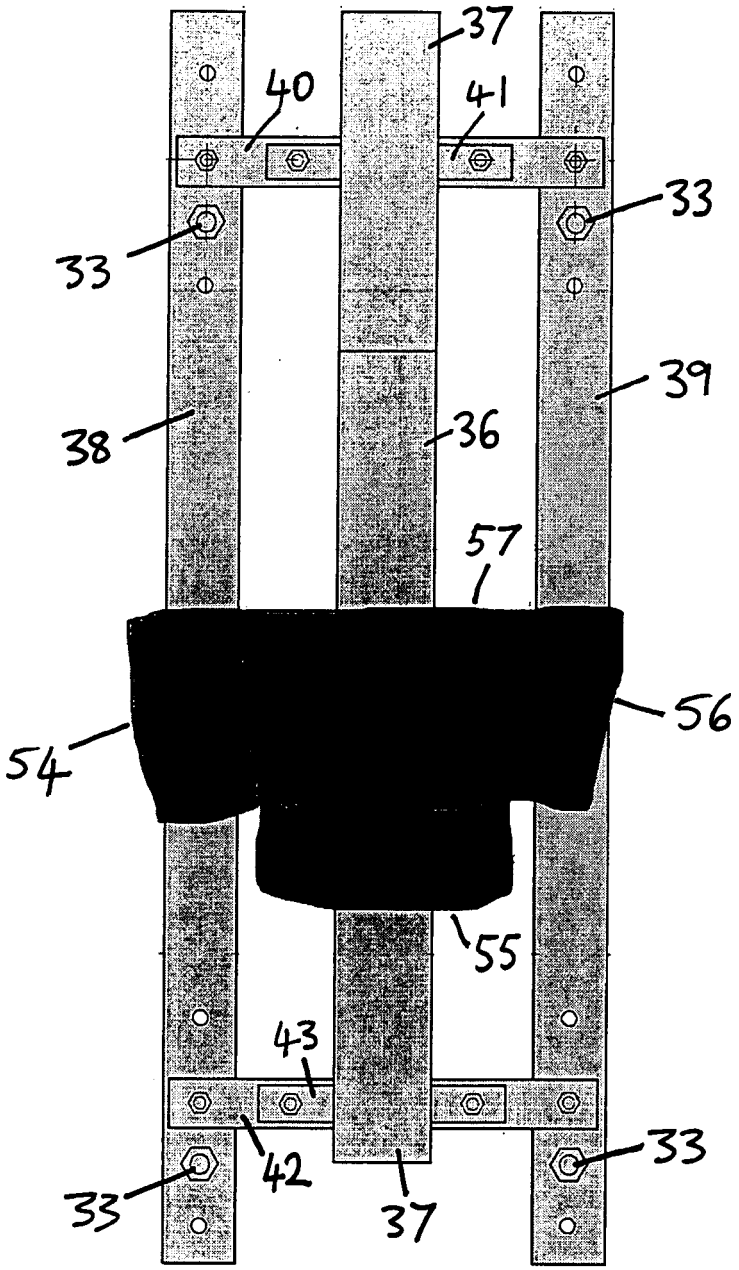

Figure 10

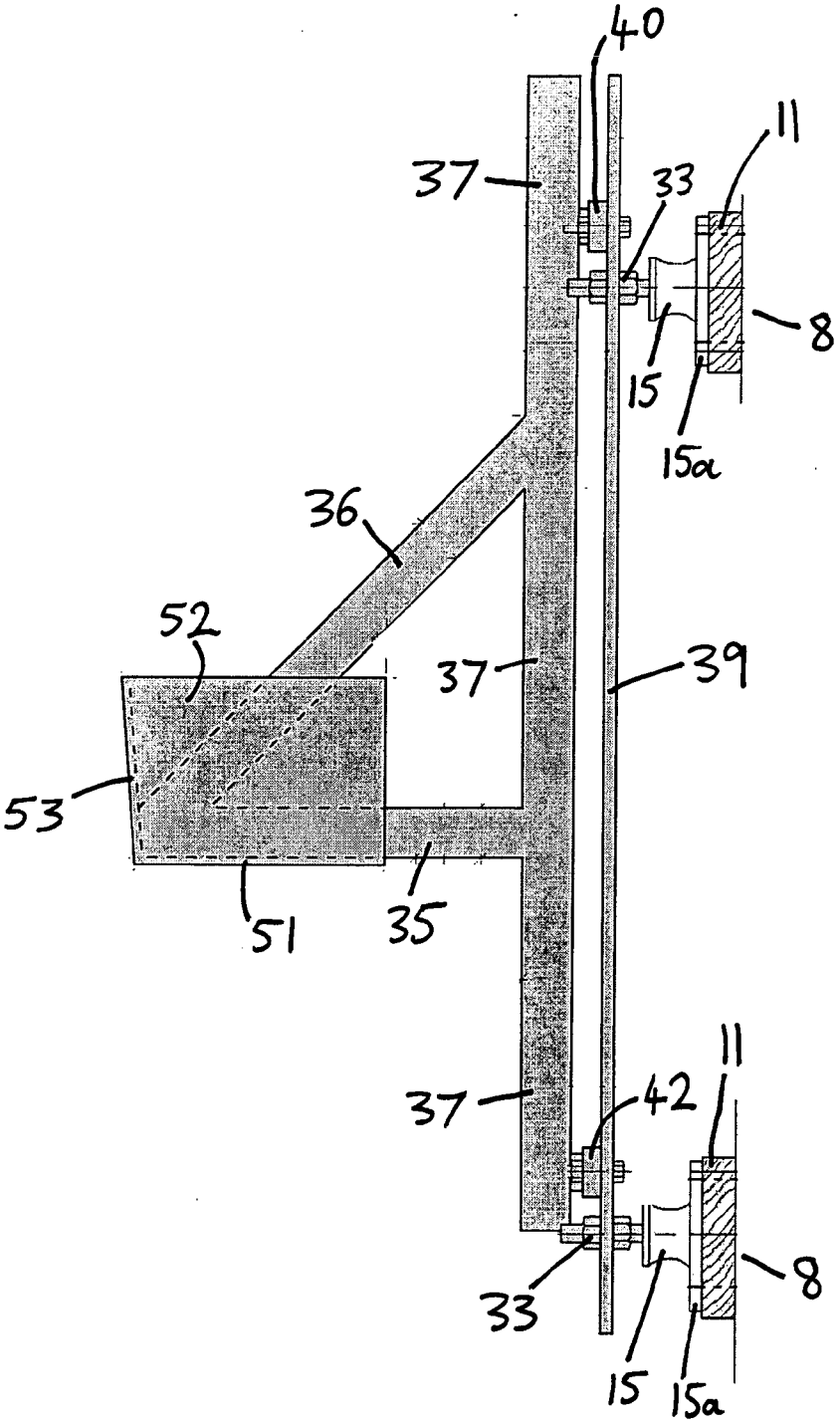

Figure 11

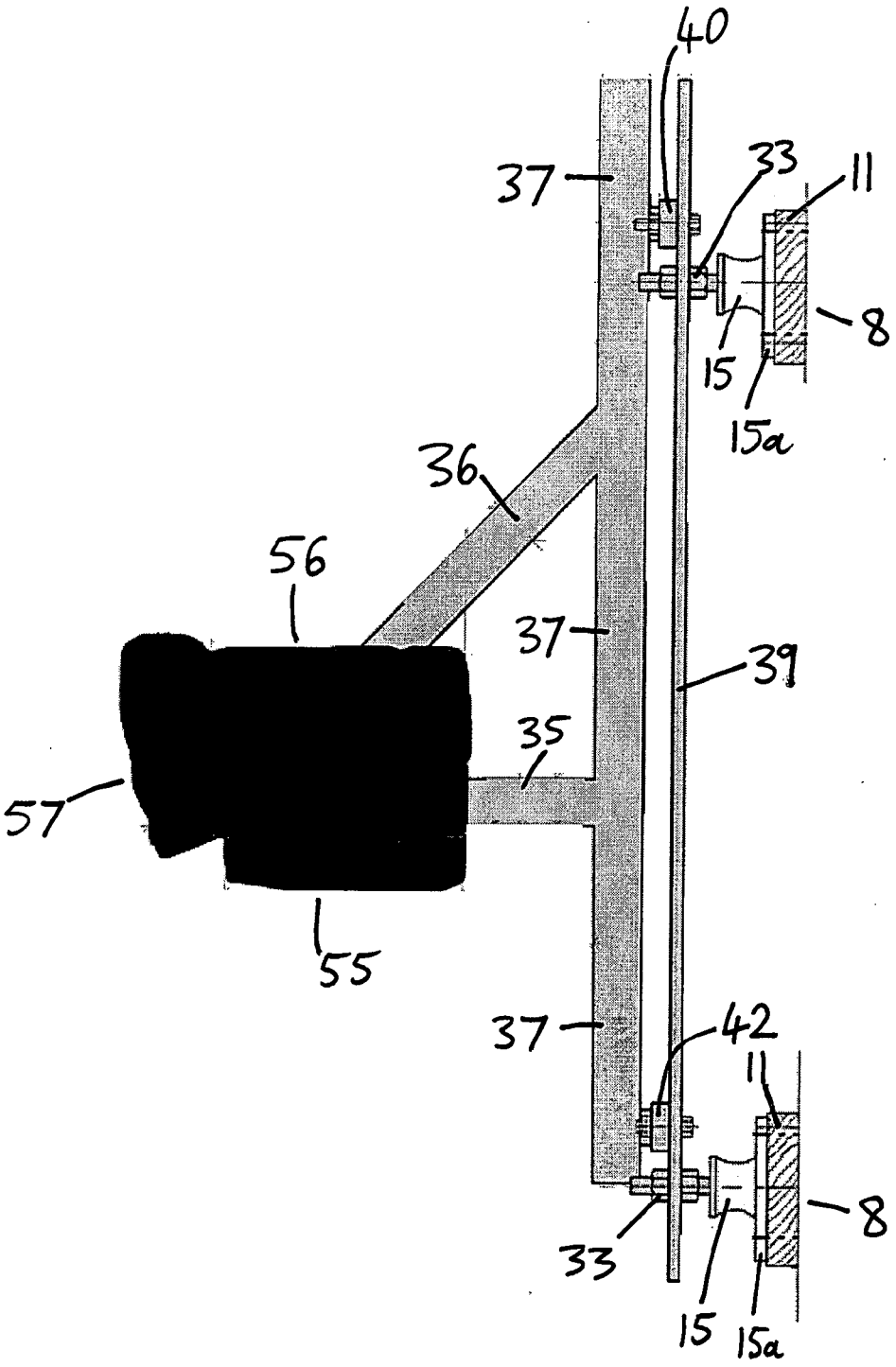

Figure 12

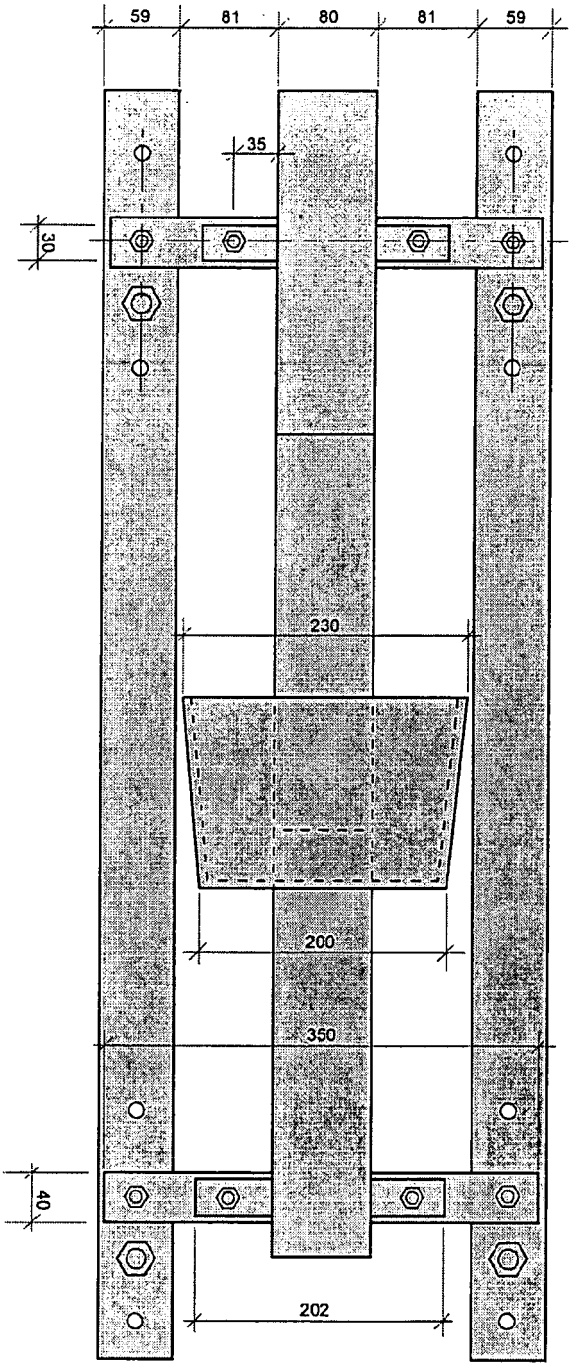

Figure 13

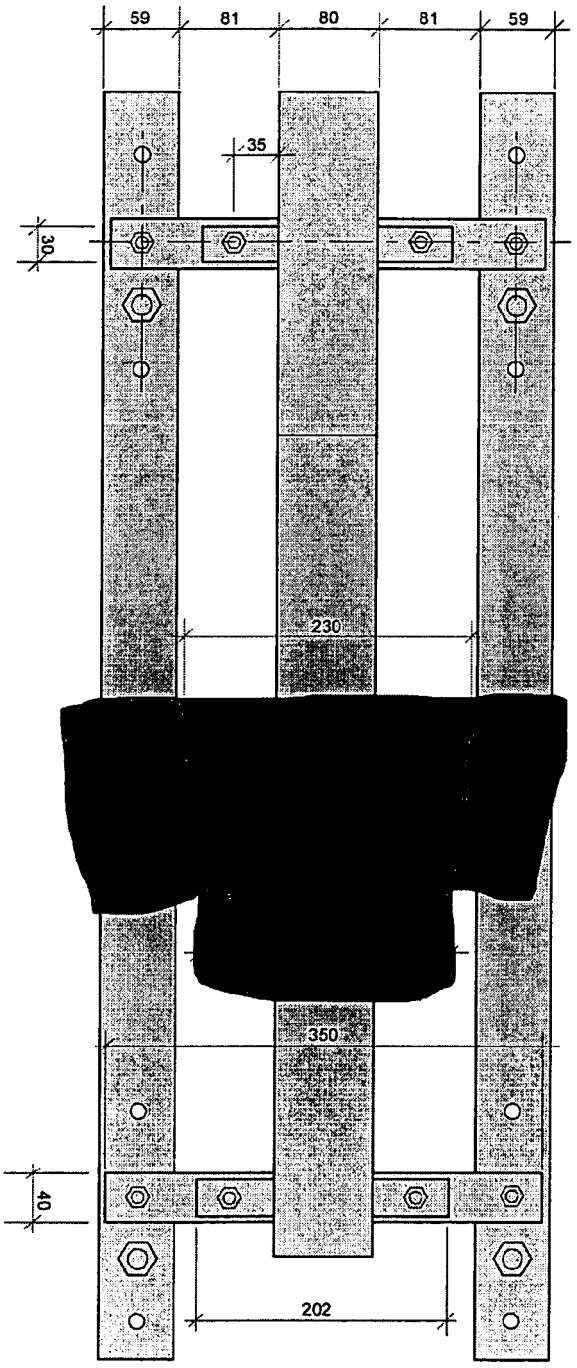

Figure 14

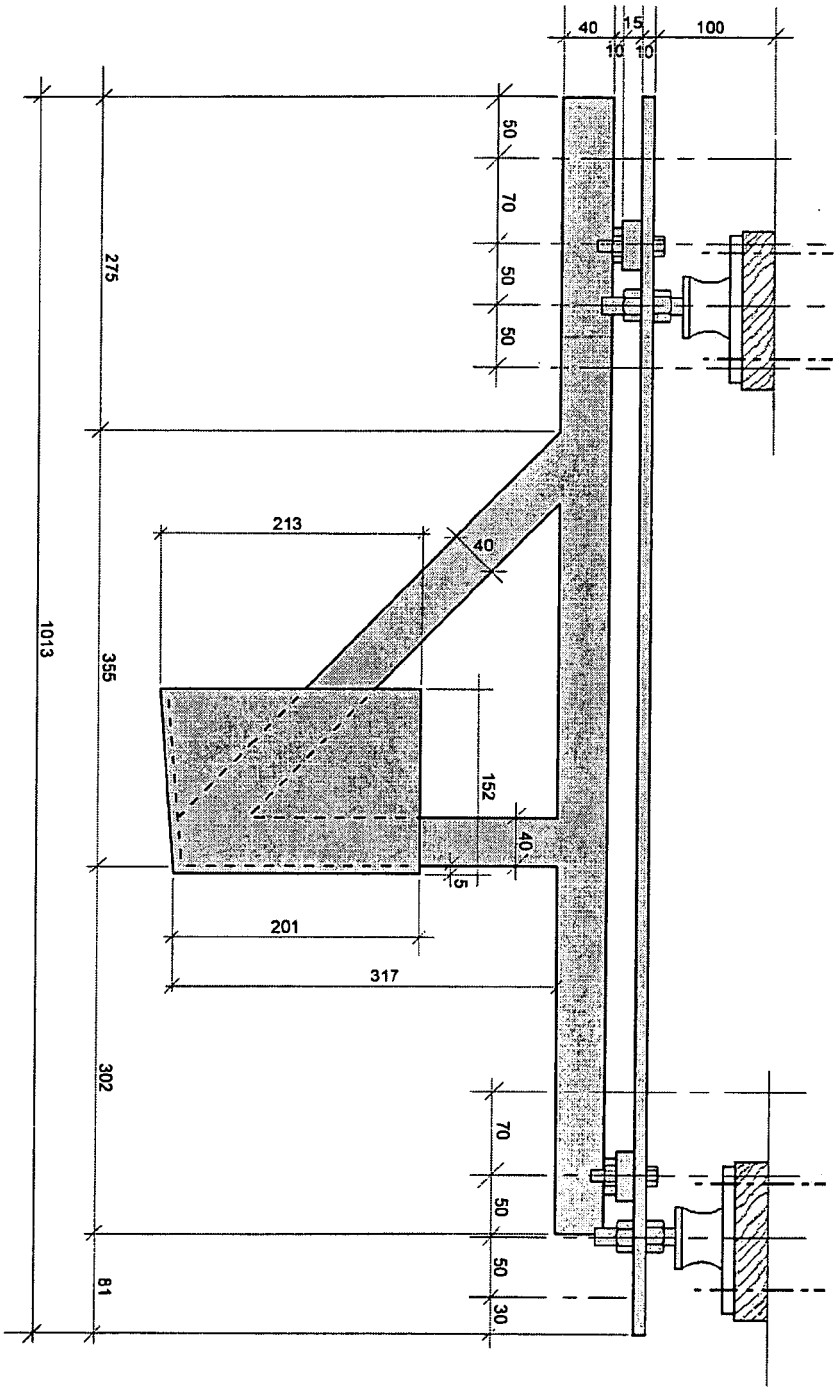
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Figure 15

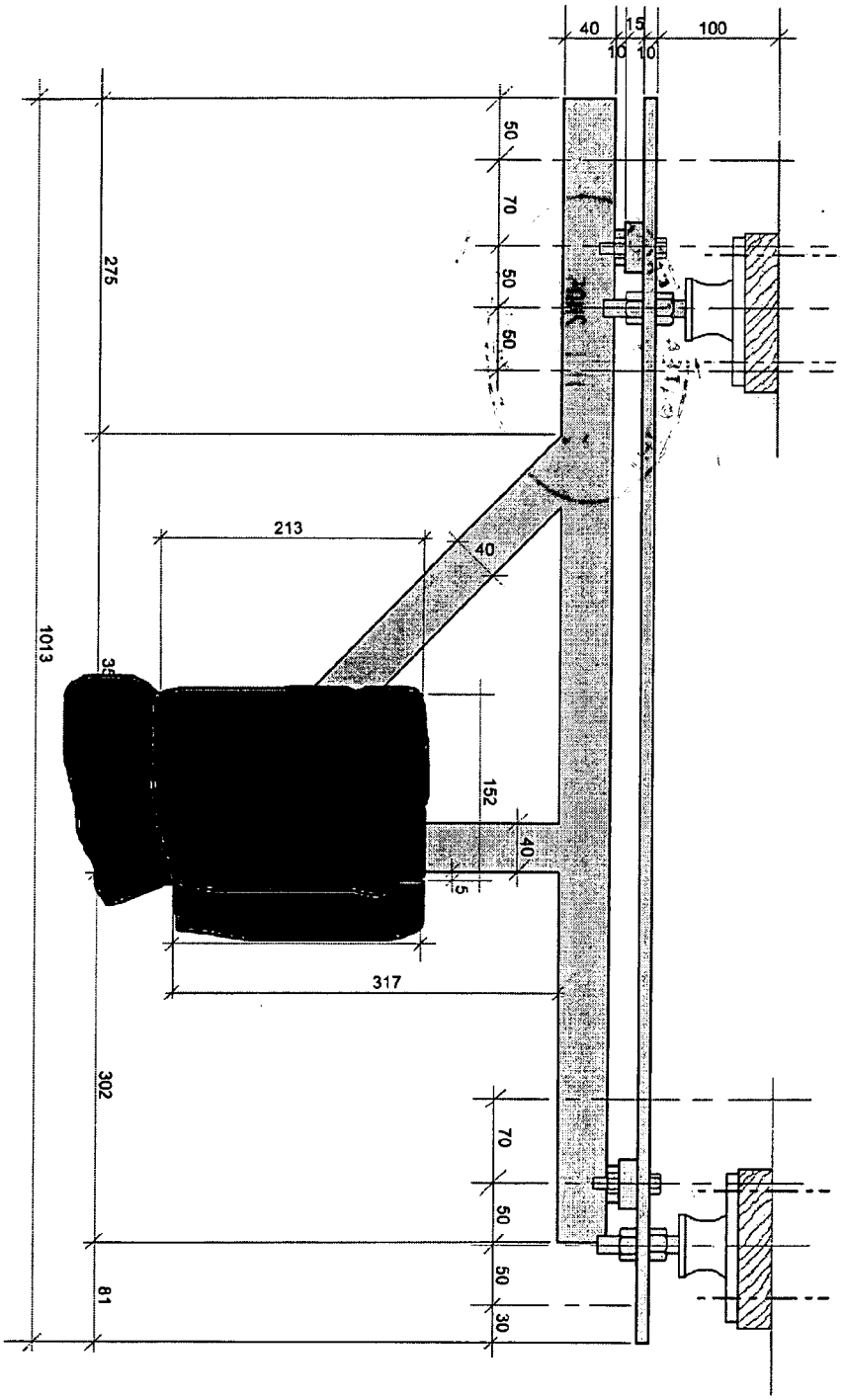
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Figure 16

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 05 25 4581

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 5 735 775 A (MIASSERIAN ET AL) 7 April 1998 (1998-04-07) * column 1 - column 6; figures 2,5,8 * -----	1-3,5,6, 9,13-16	INV. A63B69/20
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X	EP 1 221 333 A (BRUNEL UNIVERSITY; UNIVERSITY COLLEGE CHICHESTER) 10 July 2002 (2002-07-10) * figures * -----	1-3,7-14	
X	SU 1 151 252 A1 (LE POLT I IM.M.I.KALININA) 23 April 1985 (1985-04-23) * the whole document * -----	1	
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E	WO 2005/089889 A (URIZZI, ALESSANDRO, MANTHOS, PANAGIOTIS; DIEDERIKS, GRAHAM, ERNEST) 29 September 2005 (2005-09-29) * the whole document * -----	1-3, 5-10,14, 16	A63B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	22 September 2006	Knoflacher, Nikolaus

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
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D : document cited in the application
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EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 05 25 4581

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