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(54) Title: A BOOSTER CUSHION

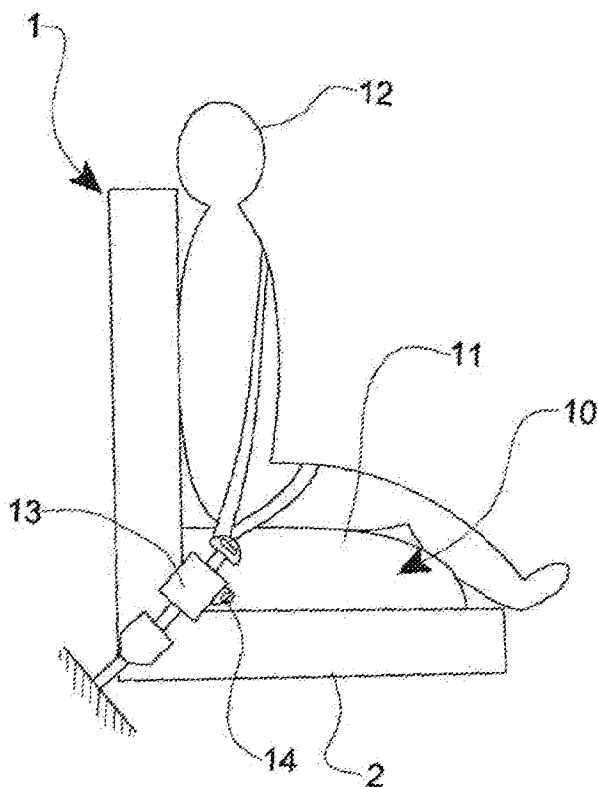


Figure 2

(57) Abstract: A booster cushion (10) for use with a vehicle seat (1) and for use belt and buckle arrangement (4). The booster cushion (10) is provided connector (13) which is configured to connect to a tongue provided on the belt (5) of the seat belt and buckle arrangement (4).

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5 "A Booster Cushion"

Description of Invention

10 THE PRESENT INVENTION relates to a booster cushion for use with a vehicle seat, and more particularly relates to a booster cushion for use with a vehicle seat in conjunction with a seat belt and buckle arrangement associated with the vehicle seat.

15 A booster cushion is designed to be placed on the squab of a vehicle seat to raise a small person, such as a child, above the level of the squab of the seat so that the person may be restrained correctly by a seat belt associated with the seat. The seat belt associated with the seat is provided with a tongue which is configured to releasably connect to a buckle provided on the seat to
20 restrain a person seated directly on the squab of the seat or a smaller person seated on a booster cushion provided on the squab of the seat.

It is known to provide a booster cushion with at least one ISOFIX attachment which is configured to attach to a corresponding ISOFIX attachment which is
25 provided within the vehicle. In use, the ISOFIX attachment on the booster cushion can be attached to the ISOFIX attachment within the vehicle to secure the booster cushion to the vehicle so that the booster cushion provides a secure platform on which a person can be seated.

30 There are several problems with conventional booster cushions of the type discussed above.

One problem is that the geometry of the seat belt is often not optimum for comfort and safety when a conventional booster cushion of the type described above is used. For example, the lap part of the seat belt often extends across the torso of an occupant seated on the booster cushion, rather than over the
5 pelvis region of the person. This incorrect positioning of the lap part of the seat belt can lead to discomfort and can even be dangerous for a person using the seat belt during a crash situation because the seat belt may exert a large force on the weak torso of the person.

10 It has been proposed previously to provide a booster cushion with projections or "horns" on either side to guide the seat belt away from the torso of a person seated on the booster cushion and towards the pelvis region of the person. Whilst this modification improves belt geometry for the person seated on the booster cushion, the modification increases the complexity and cost of the
15 booster cushion and makes the booster cushion bulkier and more cumbersome.

The present invention seeks to provide an improved booster cushion.

20 According to one aspect of the present invention, there is provided a booster cushion for use with a vehicle seat and for use with a seat belt and buckle arrangement associated with the vehicle seat, wherein the cushion incorporates a connector which is configured to connect releasably to part of a tongue provided on the seat belt so that, in use, the seat belt can be
25 connected to the cushion.

Preferably the connector is provided with a connector tongue which is configured to connect releasably to the buckle of the vehicle seat to connect releasably the cushion to the vehicle seat.

30

Conveniently the connector incorporates a body which is mounted to the cushion and a connector buckle which is moveably mounted to the body, the

connector buckle being configured to connect releasably to part of the tongue of the seat belt.

Advantageously the connector further comprises a load limiting arrangement which only permits the connector buckle to move relative to the body if a force in excess of a predetermined threshold is applied to the connector buckle relative to the body.

In one embodiment the connector tongue and the connector buckle are interconnected by a flexible element.

In another embodiment the connector tongue and the connector buckle are interconnected by a rigid element.

Preferably the predetermined threshold is between 2kN and 4kN.

Conveniently the predetermined threshold is less than 5.5kN.

Advantageously the load limiting arrangement comprises an elongate deformable element which is connected between the connector buckle and the body, the deformable element being configured to deform and absorb energy when the connector buckle moves relative to the body.

Preferably the deformable element is attached to one of the connector buckle and the body and part of the deformable element at least partly surrounds a blocking element provided on the other of the connector buckle and the body.

In one embodiment the deformable element is substantially U-shaped with the curved part of the U-shape partly surrounding the blocking element, the deformable element being configured to at least partly straighten when the connector buckle moves relative to the body.

In another embodiment the deformable element is wound around the blocking element at least once, the deformable element being configured to at least partly unwind from the blocking element when the connector buckle moves relative to the body.

5

Preferably a spindle is rotatably mounted to the blocking element and the deformable element is wound around the spindle.

10 Conveniently the connector buckle is provided with a stopping element which is configured to engage part of the body of the connector to stop the connector buckle deforming the deformable element to such a degree that the deformable element no longer at least partly surrounds the blocking element.

In one embodiment the connector is fixed rigidly to the cushion.

15

In another embodiment the connector is pivotally mounted to the cushion.

20 Preferably the connector incorporates a sensor arrangement which is configured to generate a signal when the connector tongue is connected to the buckle of the vehicle seat, and the connector buckle is provided with a control arrangement which is configured to permit the tongue of the seat belt to be connected to the connector buckle only following generation of the signal by the sensor arrangement.

25 In one embodiment the sensor arrangement comprises a mechanical sensor element which is moved relative to the connector tongue when the connector tongue is connected to the buckle of the vehicle seat.

30 In another embodiment the sensor arrangement comprises an electrical sensor which senses electronically when the connector tongue is connected to the buckle of the vehicle seat.

Preferably the cushion incorporates at least one ISOFIX connector which is configured to be connected to an ISOFIX connector provided within a vehicle.

In order that the invention may be more readily understood, and so that further features thereof may be appreciated, embodiments of the invention will now be described, by way of example, with reference to the accompanying drawings in which:

FIGURE 1 is a diagrammatic side view of a vehicle seat in use with a conventional seat belt and buckle arrangement,

FIGURE 2 is a view corresponding to figure 1 with a booster cushion in accordance with a preferred embodiment of the invention provided on the vehicle seat,

FIGURE 3 is a diagrammatic perspective view of a connector of the booster cushion of figure 2, the connector being shown in a normal condition,

FIGURE 4 is a part cutaway view of the connector of figure 3,

FIGURE 5 is a view corresponding to figure 4 with the connector being viewed from above,

FIGURE 6 is a part cutaway view corresponding to figure 3, with the connector being shown in an actuated condition,

FIGURE 7 is a view corresponding to figure 3 with the connector being shown in an actuated condition,

FIGURE 8 is a part cutaway view of a connector in accordance with a further embodiment of the invention, the connector being shown in a normal condition,

FIGURE 9 is a view corresponding to figure 8, with the connector being shown from above,

FIGURE 10 is a view corresponding to figure 8, with the connector being shown in an actuated condition, and

FIGURE 11 is a view corresponding to figure 10, with the connector being shown from above.

10 Referring initially to figure 1 of the accompanying drawings, a vehicle seat 1 comprises a squab 2 and a backrest 3. The vehicle seat 1 is a conventional vehicle seat which may be a front or rear vehicle seat. A seat belt and buckle arrangement 4 is associated with the seat 1 for use with the seat 1. The seat belt and buckle arrangement 4 comprises a seat belt 5. The seat belt 5 is shown here as a 3-point seat belt, but it is to be appreciated that the seat belt 15 5 may be any other type of seat belt, for instance a lap belt. The seat belt 5 is provided with a tongue 6 which is slidably mounted on the seat belt 5. The seat belt tongue 6 is configured to releasably connect to a buckle 7 which is mounted to part of the vehicle 8 adjacent the vehicle seat 1. Figure 1 shows 20 the seat belt and buckle arrangement 4 in use so as to restrain an occupant 9 seated on the vehicle seat 1.

It is to be understood that the seat belt and buckle arrangement 4 described thusfar is designed to fit and restrain an average sized adult, such as a 50 25 percentile male, who is seated on the vehicle seat 1.

Referring now to figure 2, a booster cushion 10 in accordance with a preferred embodiment of the invention is positioned on the squab 2 of the vehicle seat 1. The booster cushion 10 comprises a cushion body 11 which provides a raised 30 platform to support a small person 12 who might, for instance, be a child.

In this preferred embodiment, the booster cushion 10 incorporates a plurality of ISOFIX connectors (not shown) which, in use, connect to a corresponding number of ISOFIX connectors provided within the vehicle so that the booster cushion 10 can be secured in the vehicle. It is, however, to be appreciated that in other embodiments of the invention the booster cushion 10 is not provided with any ISOFIX connectors.

A connector 13 is pivotally mounted via a bolt and bracket arrangement 14 to one side of the cushion body 11. In other embodiments the connector 13 is rigidly mounted to the cushion body 11 so that the position of the connector 13 is fixed relative to the cushion body 11. In further embodiments the connector 13 is moveably mounted to the cushion body 11 by a flexible member, such as a piece of webbing or a wire, to allow the connector 13 to move in any direction relative to the cushion body 11. The connector 13 will now be described with reference to figures 3 to 7 of the accompanying drawings.

The connector 13 has a body 15 which, in this preferred embodiment, is of a metal such as steel. The body 15 has a generally rectangular planar base 16, with two elongate generally planar side walls 17,18 which are formed integrally with the base 16. The side walls 17,18 extend respectively perpendicularly upwardly from each side of the base 16. The lower ends of the side walls 17 are rounded to define respective rounded sections 19,20. Each wall 17,18 is provided with a respective generally rectangular elongate slot which extends along the wall 17,18, adjacent where the wall 17,18 joins the base 16. The purpose of the slots 21,22 will become clear from the description below.

The connector 13 incorporates a planar connector tongue 23 which is formed integrally with the base 16. The connector tongue 23 is a planar extension of the base 16 which extends from the end of the base 16 adjacent the lower curved ends of the side walls 17,18. The connector tongue 23 is designed to releasably connect to the buckle 7 of the vehicle seat 1. It is to be appreciated that the shape of the connector tongue 23 may vary between embodiments of

the invention. For instance, the connector tongue 23 may be shaped differently so as to be compatible with different types of vehicle seat buckle or vehicle seat buckles which are made by different manufacturers.

5 The connector 13 incorporates a connector buckle 24. The connector buckle 24 is slidably mounted to the connector body 15 by a generally T-shaped support bar 25. The connector buckle 24 is a buckle which is designed to releasably connect to the tongue 6 of the seat belt 5. It is to be appreciated that the actual configuration of the connector buckle 24 may vary between
10 embodiments of the invention to be compatible with different types of seat belt tongue or seat belt tongues made by different manufacturers.

The connector buckle 24 is generally box-shaped, with a lower planar face which rests over part of the base 16 of the connector body 15. The generally
15 T-shaped support element 25 depends from the middle of the lower end of the connector buckle 24, and also rests over part of the base 16. The support element 25 has an elongate crossbar 26 which is longer than the width of the connector buckle 24. Each end of the crossbar 26 is slidably retained in a respective one of the slots 21,22 in the side walls 17,18. It is to be
20 appreciated that the support element 25 and the slots 21,22 retain the connector buckle 24 with a sliding fit between the walls 17,18 of the connector body 15.

The connector 13 is provided with a load limiting arrangement 27. The load
25 limiting arrangement 27 comprises a blocking element 28 which is defined by an elongate cylindrical metal bar. The blocking element 28 is fixed at each end to a respective one of the side walls 17,18 so that the blocking element 28 extends between the side walls 17,18.

30 The load limiting arrangement 27 further comprises a deformable element 29 which, in this preferred embodiment, is an elongate metal element of generally rectangular cross-section. The deformable element 29 has a first end 30

which is fixed to the support element 25. The deformable element 29 is formed into a U-shape around the blocking element 28, with a curved part 31 of the deformable element 29 partly surrounding the blocking element 28. The deformable element 29 has a second, free, end 32 which is positioned adjacent but spaced apart from the support element 25.

The load limiting arrangement 27 is configured to only permit the connector buckle 24 to move relative to the connector body 15 if a force in excess of a predetermined level is applied to the connector buckle 24 relative to the connector body 15. In this preferred embodiment the predetermined force threshold is between 2kN and 4kN. In other embodiments the predetermined force threshold is less than 5.5kN.

The connector 13 incorporates a sensor arrangement (not shown) which is configured to generate a signal when the connector tongue 23 is connected to the seat buckle 7. The connector buckle 24 is provided with a control arrangement (not shown) which is configured to permit the seat belt tongue 6 to be connected to the connector buckle 24 only following generation of the signal by the sensor arrangement. The sensor and control arrangements ensure that the seat belt tongue 6 can only be connected to the connector 13 if the connector tongue 23 is connected to the vehicle seat buckle 7. The vehicle seat belt 5 can thus only be used with the booster cushion 10 when the connector 13 has been connected to the vehicle seat buckle 7 to secure the booster cushion 10 to the vehicle. This helps to ensure that the booster cushion 10 is only used when it is installed correctly in a vehicle.

In this preferred embodiment the sensor arrangement comprises a mechanical sensor element which is moved relative to the connector tongue 23 when the connector tongue 23 is connected to the vehicle seat buckle 7. However, in other embodiments, the sensor arrangement comprises an electrical sensor which senses electronically when the connector tongue 23 is connected to the vehicle seat buckle 7.

The connector 13 has a generally L-shaped planar cover 33 which fits over the connector buckle 22 and the load limiting arrangement 27 to seal the components between the side walls 17,18 and give the connector 13 a neat appearance.

In use, the booster cushion 10 is installed in the vehicle by connecting the ISOFIX connectors on the booster cushion 10 to the corresponding ISOFIX connectors provided within the vehicle. The booster cushion 10 is further secured to the vehicle by connecting the connector tongue 23 to the vehicle seat buckle 7, as seen in figure 2. The connector 13 thus advantageously allows the booster cushion 10 to be secured within the vehicle via the vehicle seat buckle 7 as well as via the ISOFIX attachments.

Once the booster cushion 10 has been installed on the squab 2 of the seat 1, a person 12 can be restrained on the booster cushion 10 by connecting the seat belt 5 to the connector 13.

During normal vehicle operation, the connector 13 is in the normal condition, with the connector buckle 24 retracted adjacent the connector body 15, as shown in figures 3 to 5. If the vehicle is involved in an accident situation then the person 12 seated on the booster cushion 10 will exert a force on the seat belt 5. If the force is in excess of the predetermined threshold of the load limiting arrangement 27 then the force will deform the deformable element 29, allowing the connector buckle 24 to move and slide out from the connector 13. The deformable element 29 deforms the U-shape of the deformable element 29 is substantially straightened as the U-shape is pulled against the blocking element 28. The connector buckle 24 slides outwardly from the connector 13 until the ends of the cross-bar 26 of the support element 25 hit the ends of the slots 21,22 in the walls 17,18. The ends of the slots 21,22 thus define stopping components which stop further movement of the connector buckle 24 so that the connector buckle 24 is not pulled free from the connector 13.

The length of the deformable element 29 is selected such that part of the deformable element 29 still partially surrounds the blocking element 28 when the connector 13 is in its fully actuated condition, as seen in figure 6 and 7.

5 The load limiting arrangement 27 thus provides a load limiting effect throughout the movement of the connector buckle 24 relative to the connector body 15.

The deformable element 29 absorbs energy as it is deformed. The load
10 limiting arrangement 27 thus absorbs energy from a person 12 moving against the seat belt 5 so that the person 12 is decelerated gradually in a safe manner.

Figures 8 to 11 of the accompanying drawings show a further embodiment of the invention which has many components which are the same as components
15 of the preferred embodiment described above. For ease of reference, the corresponding components are given the same reference numerals as those used for the preferred embodiment described above.

The load limiting arrangement 27 of this further embodiment is a modified
20 version of the load limiting arrangement of the preferred embodiment described above. In this further embodiment the deformable element is in the form of a deformable steel wire 34 which is wound a plurality of times around a spindle 35 that is rotatably mounted on the blocking element 28. One end of the wire 34 is attached to the support element 25 at an attachment point 36
25 and the other end of the wire 34 is attached to the spindle 35 at an attachment block 37 provided on the spindle 35.

If a force in excess of the predetermined threshold of the load limiting
30 arrangement 27 is applied to the connector buckle 24 relative to the connector body 15 then the wire 34 becomes deformed and unwinds from the spindle 35, absorbing energy as it is deformed. The ends of the slots 21,22 of this further embodiments are positioned such that movement of the connector buckle 24 is

blocked when the connector 13 is in its fully actuated condition, as seen in figures 10 and 11. Movement of the connector buckle 24 is blocked before the wire 34 is completely unwound from the spindle 35 so that part of the wire surrounds the spindle 35 when the connector 13 is in the fully actuated condition.

Booster cushions 10 of embodiments of the invention may provide the following advantages:

10 The provision of the connector 13 on the side of the booster cushion 10 improves the belt geometry when a vehicle seat belt 5 is used with the booster cushion 10. Belt geometry is improved because the seat belt tongue 6 is retained at a position adjacent and close to a person 12 seated on the booster cushion 10. The position of the connector 13 thus maximises the chances of
15 the lap part of the seat belt 5 extending over the pelvis region of the person 12 rather than across the torso of the person 12.

It is easy to connect the seat belt 6 tongue to the connector 13, because the connector 13 is positioned conveniently on the side of the booster cushion 10.

20

The booster cushion 10 of embodiments of the invention is securely fastened to the vehicle via the seat belt buckle 7. The connection between the connector 13 and the seat belt buckle 7 reduces the load exerted on the booster cushion 10 during an accident situation as compared with if the
25 booster cushion 10 was not connected to the seat belt buckle 7 because the force exerted on the seat belt 5 is communicated directly to the vehicle via the seat belt buckle 7 and not via the booster cushion. This minimises the chances of the booster cushion 10 moving relative to the person 12 during an accident situation.

30

The provision of the connector 13 on the booster cushion 10 allows for the force thresholds of the load limiting arrangement 27 to be selected correctly for

the weight of the smaller than average person that would be seated on the booster cushion 10. Therefore, the booster cushion 10 does not have to rely on a generic load limiting level provided by apparatus which may be associated with the seat belt 5 which is usually designed for average sized adults.

Whilst in embodiments described thusfar the connector tongue 23 is rigidly connected to the connector body 15, in other embodiments of the invention the connector tongue 23 may be connected to the connector body 15 by a flexible element, such as flexible webbing. In these other embodiments of the invention, the flexible element is provided to allow the booster cushion 10 to be used with different configurations of vehicle seats in which the position of the vehicle seat buckle relative to the seat may vary between configurations.

Whilst in embodiments described thusfar the deformable element 29 is attached to the connector buckle 24 and at least partially surrounds the blocking element 28 which is connected to the connector body 15, in further embodiments of the invention the configuration may be reversed, that is to say the deformable element 29 is attached to part of the connector body 15 and the connector buckle 24 is provided with the blocking element 28 which is partially surrounded by the deformable element 29. In these further embodiments the blocking element 28 moves together with the connector buckle 24 to deform the deformable element 29.

When used in this specification and claims, the terms "comprises" and "comprising" and variations thereof mean that the specified features, steps or integers are included. The terms are not to be interpreted to exclude the presence of other features, steps or components.

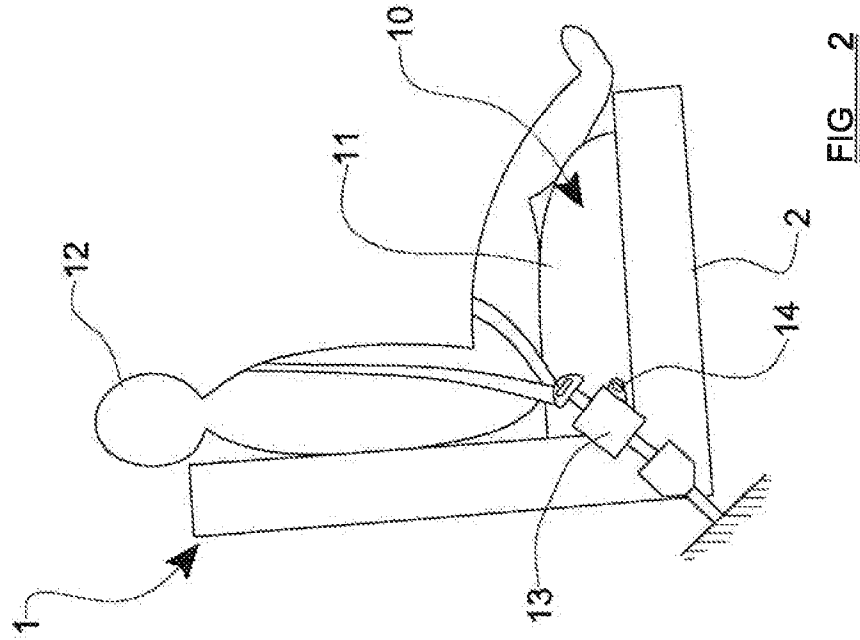
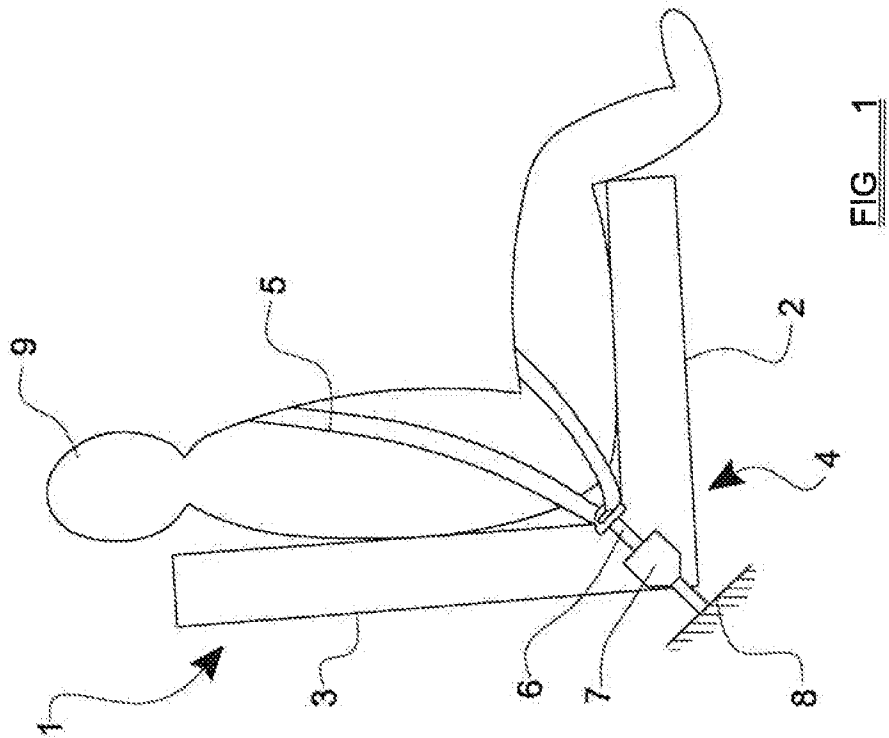
Claims

1. A booster cushion (10) for use with a vehicle seat (1) and for use with a seat belt and buckle arrangement (4) associated with the vehicle seat (1),
5 characterised in that the cushion (10) incorporates a connector (13) which is configured to connect releasably to part of a tongue (6) provided on the seat belt (5) so that, in use, the seat belt (5) can be connected to the cushion (10).
2. A cushion according to claim 1, wherein the connector (13) is provided
10 with a connector tongue (23) which is configured to connect releasably to the buckle (7) of the vehicle seat (1) to connect releasably the cushion (10) to the vehicle seat (1).
3. A cushion according to claim 1 or claim 2, wherein the connector (13)
15 incorporates a body (15) which is mounted to the cushion (10) and a connector buckle (24) which is moveably mounted to the body (15), the connector buckle (24) being configured to connect releasably to part of the tongue (6) of the seat belt (5).
- 20 4. A cushion according to claim 3, wherein the connector (13) further comprises a load limiting arrangement (27) which only permits the connector buckle (24) to move relative to the body (15) if a force in excess of a predetermined threshold is applied to the connector buckle (24) relative to the body (15).
- 25 5. A cushion according to claim 3 or claim 4 as dependent upon claim 2, wherein the connector tongue (23) and the connector buckle (24) are interconnected by a flexible element.
- 30 6. A cushion according to claim 3 or claim 4 as dependent upon claim 2, wherein the connector tongue (23) and the connector buckle (24) are interconnected by a rigid element.

7. A cushion according to any one of claims 4 to 6, wherein the predetermined threshold is between 2kN and 4kN.
- 5 8. A cushion according to any one of claims 4 to 6, wherein the predetermined threshold is less than 5.5kN.
9. A cushion according to any one of claims 4 to 8, wherein the load limiting arrangement (27) comprises an elongate deformable element (29)
10 which is connected between the connector buckle (24) and the body (15), the deformable element (29) being configured to deform and absorb energy when the connector buckle (24) moves relative to the body (15).
10. A cushion according to claim 9, wherein the deformable element (29) is
15 attached to one of the connector buckle (24) and the body (15) and part of the deformable element (29) at least partly surrounds a blocking element (28) provided on the other of the connector buckle (24) and the body (15).
11. A cushion according to claim 10, wherein the deformable element (29)
20 is substantially U-shaped with the curved part (31) of the U-shape partly surrounding the blocking element (28), the deformable element (29) being configured to at least partly straighten when the connector buckle (24) moves relative to the body (15).
- 25 12. A cushion according to claim 10, wherein the deformable element (34) is wound around the blocking element (28) at least once, the deformable element (34) being configured to at least partly unwind from the blocking element when the connector buckle (24) moves relative to the body (15).
- 30 13. A cushion according to claim 12, wherein a spindle (35) is rotatably mounted to the blocking element (28) and the deformable element (34) is wound around the spindle (35).

14. A cushion according to any one of claims 10 to 13, wherein the connector buckle (24) is provided with a stopping element (26) which is configured to engage part of the body (15) of the connector (13) to stop the connector buckle (24) deforming the deformable element (29) to such a degree that the deformable element (29) no longer at least partly surrounds the blocking element (28).
15. A cushion according to any one of the preceding claims, wherein the connector (13) is fixed rigidly to the cushion (10).
16. A cushion according to any one of claims 1 to 14, wherein the connector (13) is pivotally mounted to the cushion (10).
17. A cushion according to any one of claims 1 to 14, wherein the connector (13) is moveably mounted to the cushion (10) by a flexible member.
18. A cushion according to any one claims 3 to 17, wherein the connector (13) incorporates a sensor arrangement which is configured to generate a signal when the connector tongue (23) is connected to the buckle (7) of the vehicle seat (1), and the connector buckle (24) is provided with a control arrangement which is configured to permit the tongue (6) of the seat belt (5) to be connected to the connector buckle (24) only following generation of the signal by the sensor arrangement.
19. A cushion according to claim 18, wherein the sensor arrangement comprises a mechanical sensor element which is moved relative to the connector tongue (23) when the connector tongue (23) is connected to the buckle (7) of the vehicle seat.

20. A cushion according to claim 18, wherein the sensor arrangement comprises an electrical sensor which senses electronically when the connector tongue (23) is connected to the buckle (7) of the vehicle seat (1).
- 5 21. A cushion according to any one of the preceding claims, wherein the cushion (10) incorporates at least one ISOFIX connector which is configured to be connected to an ISOFIX connector provided within a vehicle.



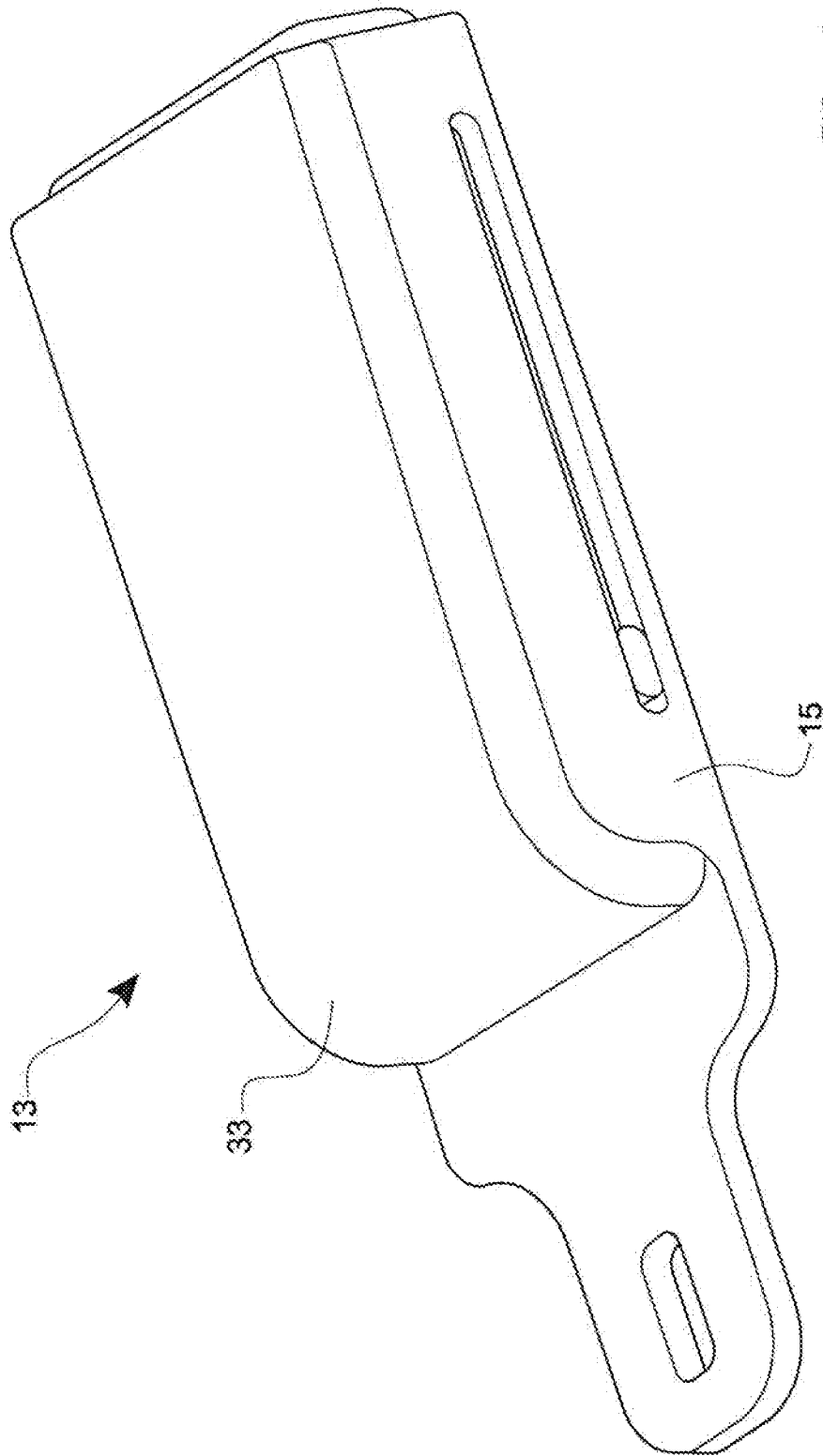


FIG. 3

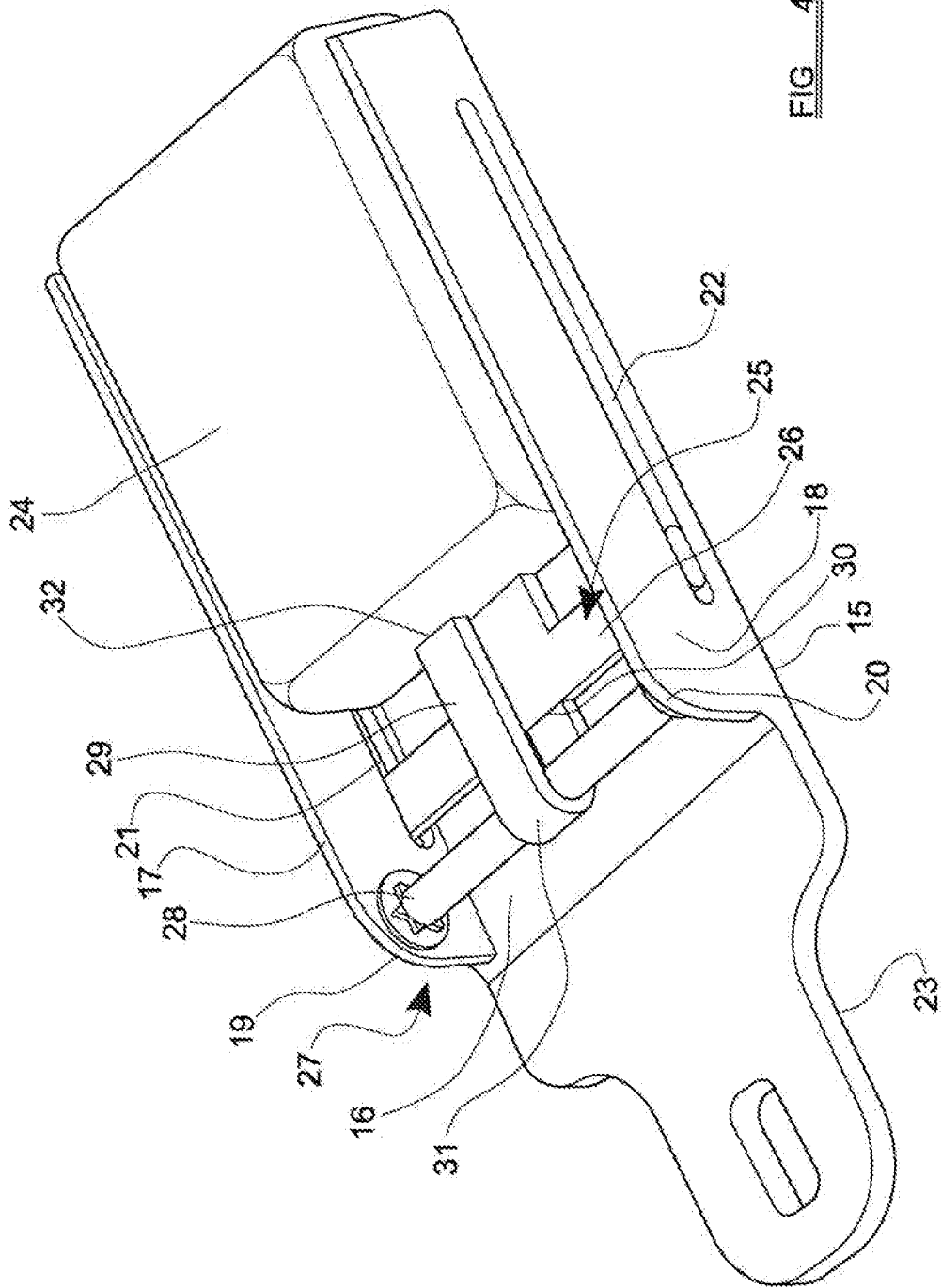


FIG. 4

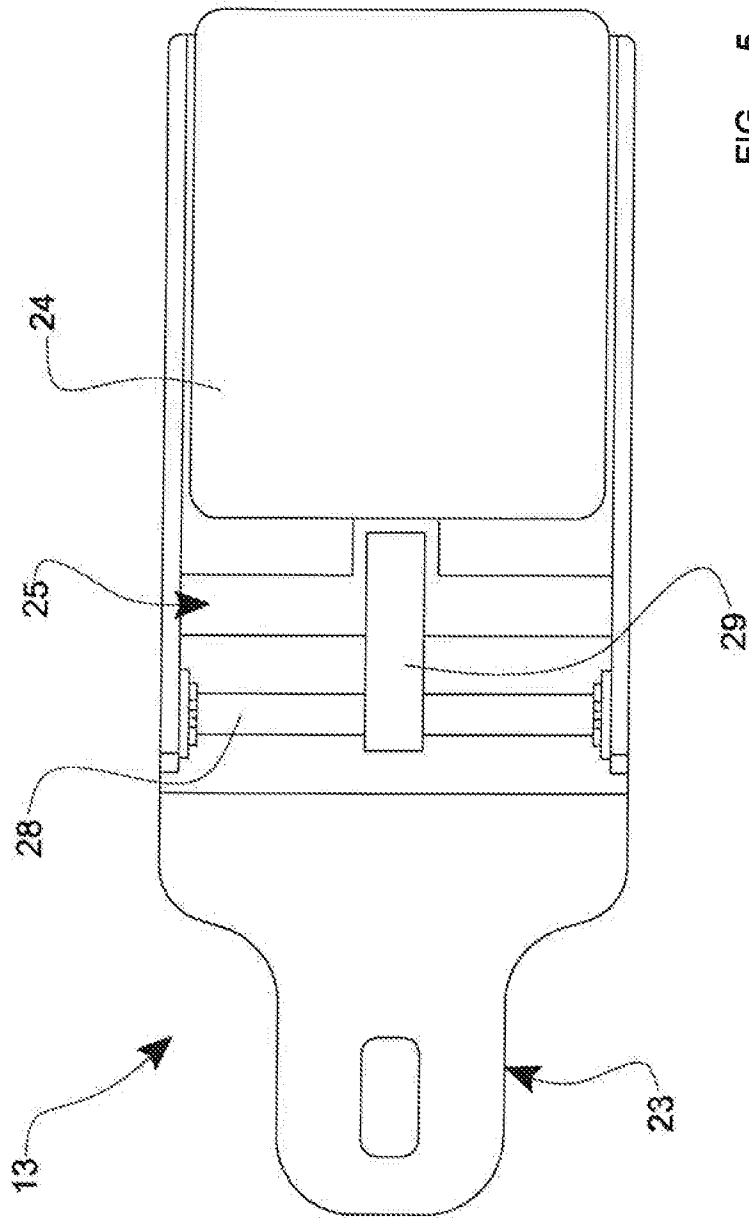


FIG 5

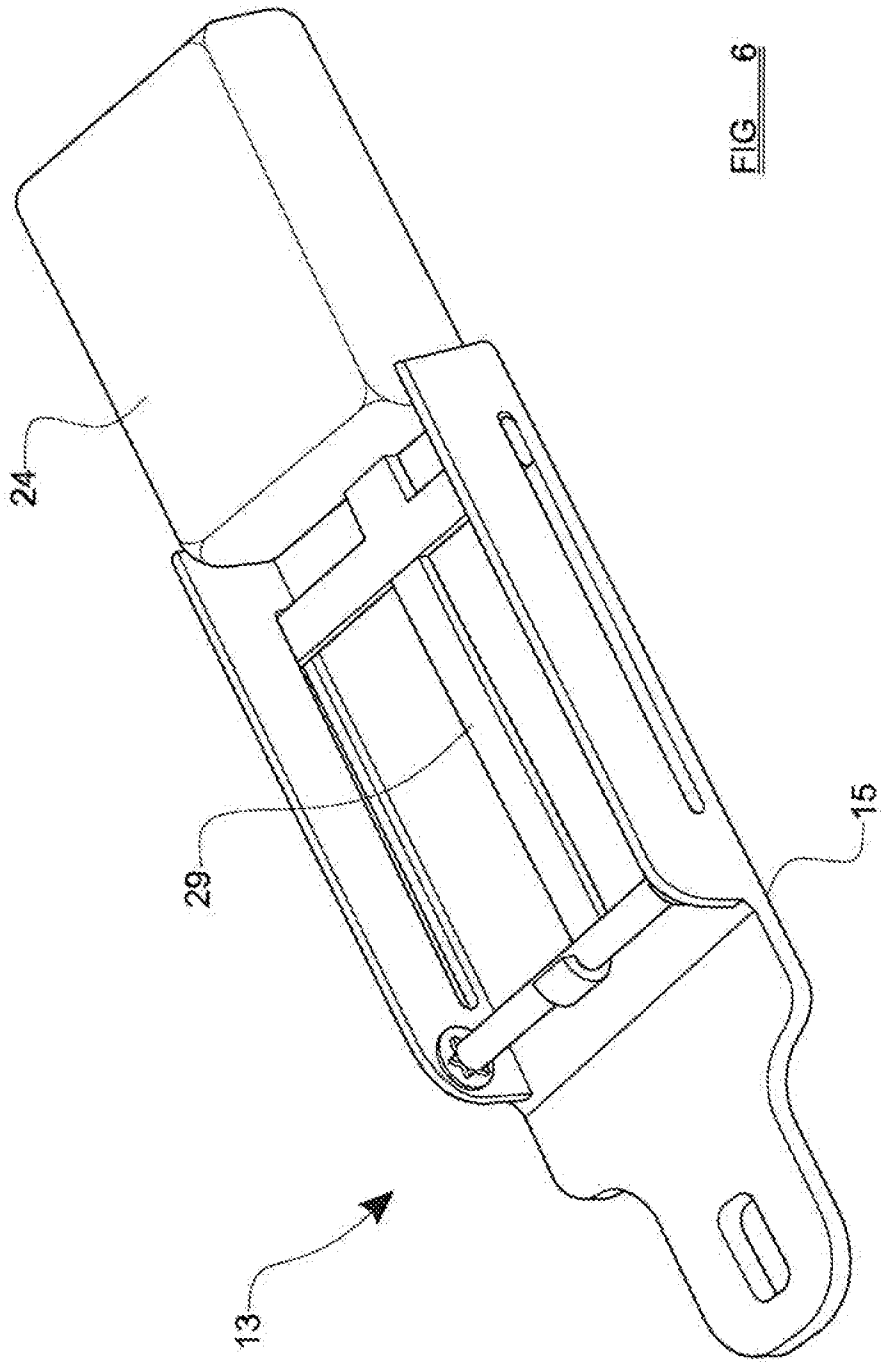


FIG. 6

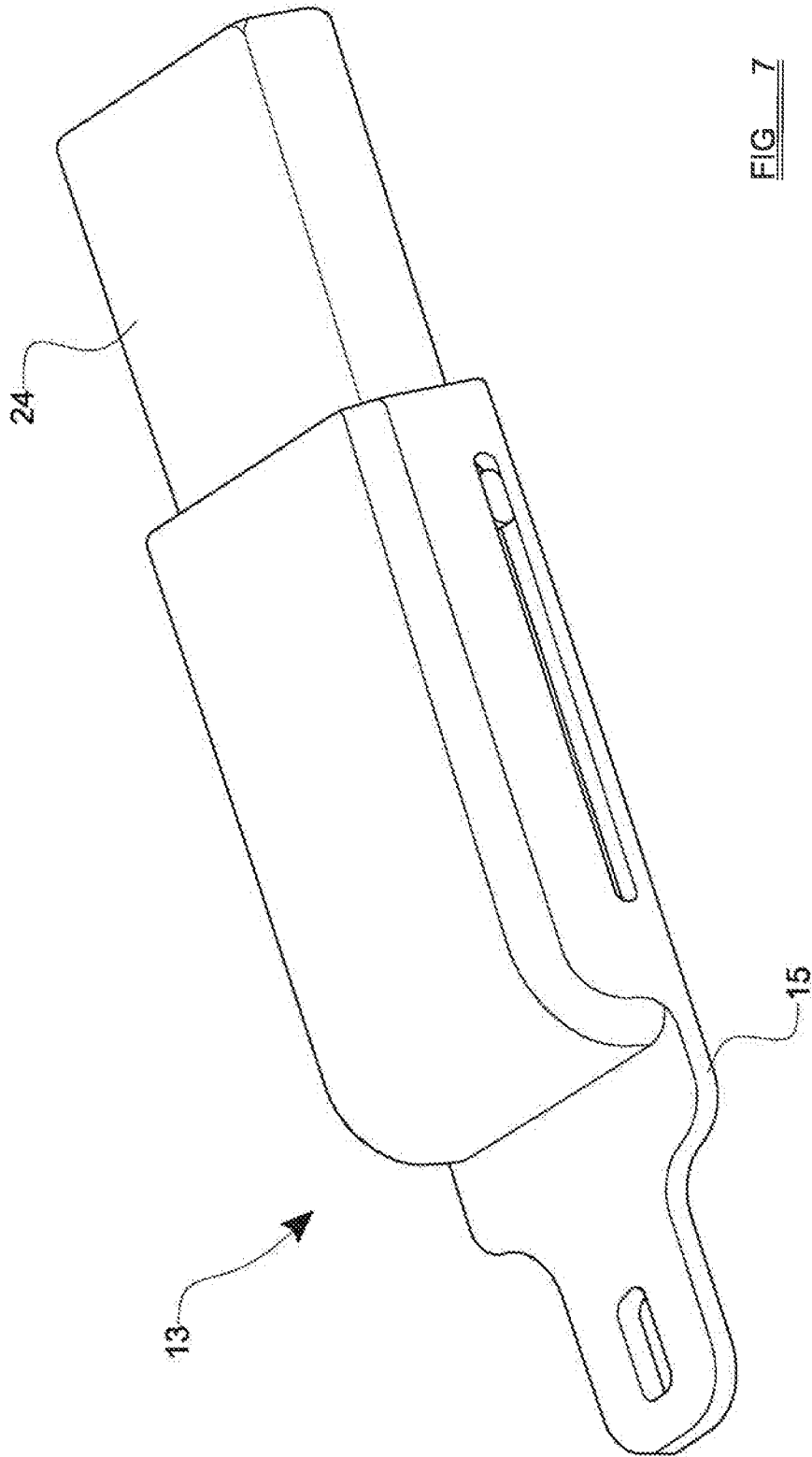
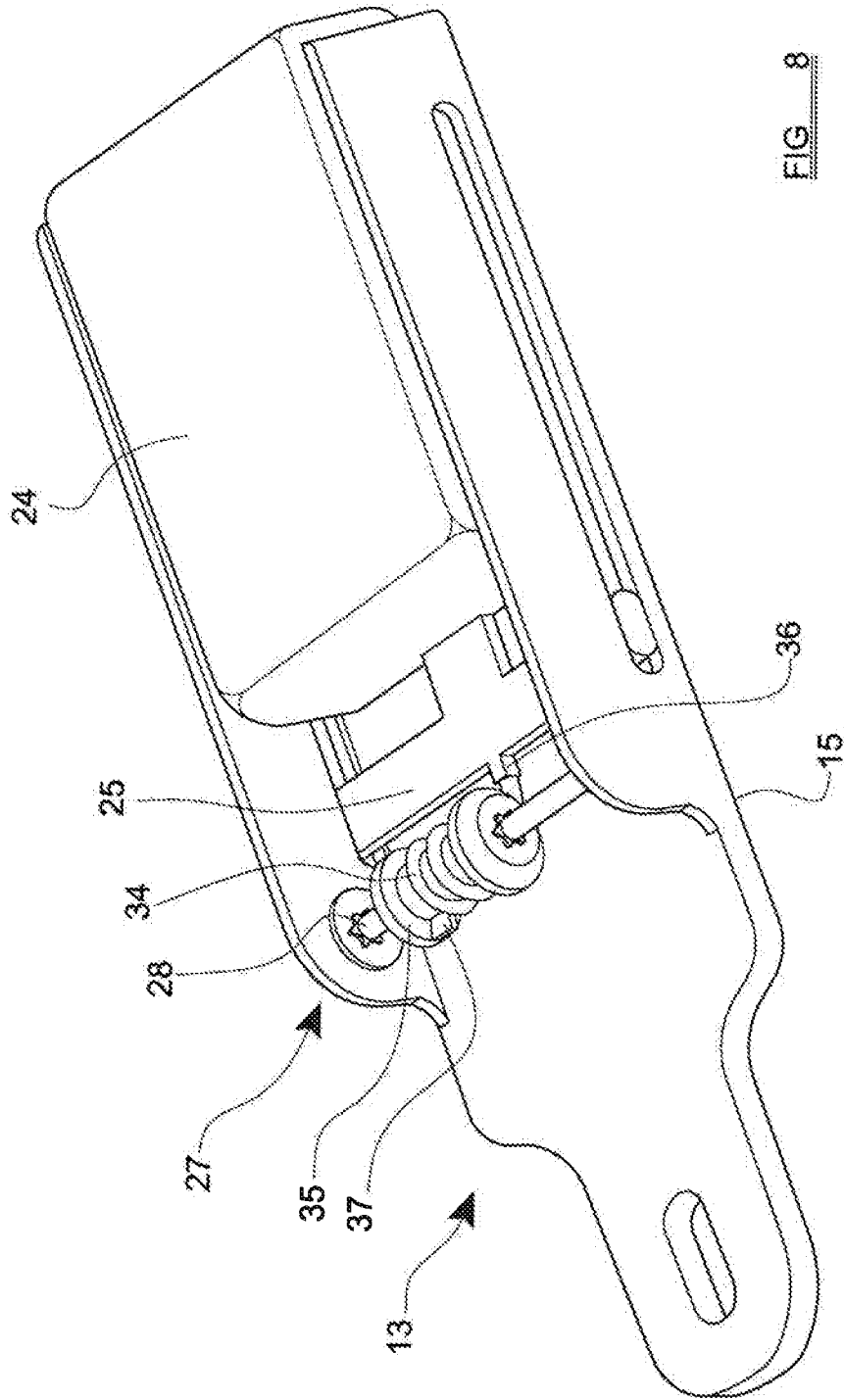


FIG. 7



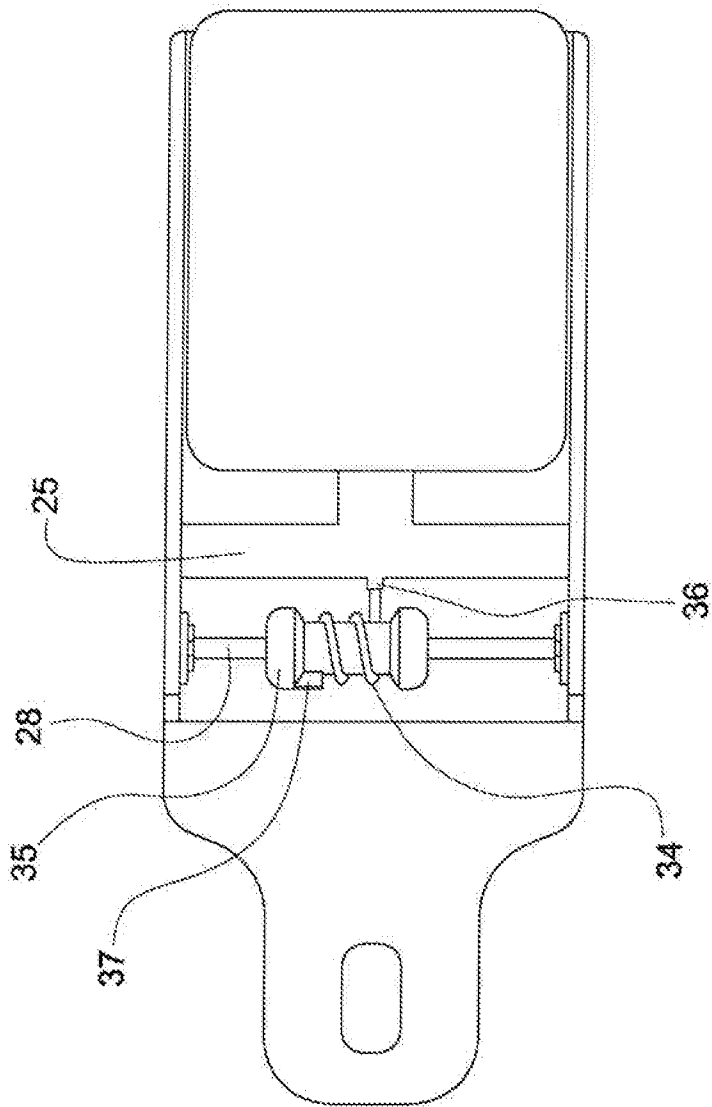


FIG. 9

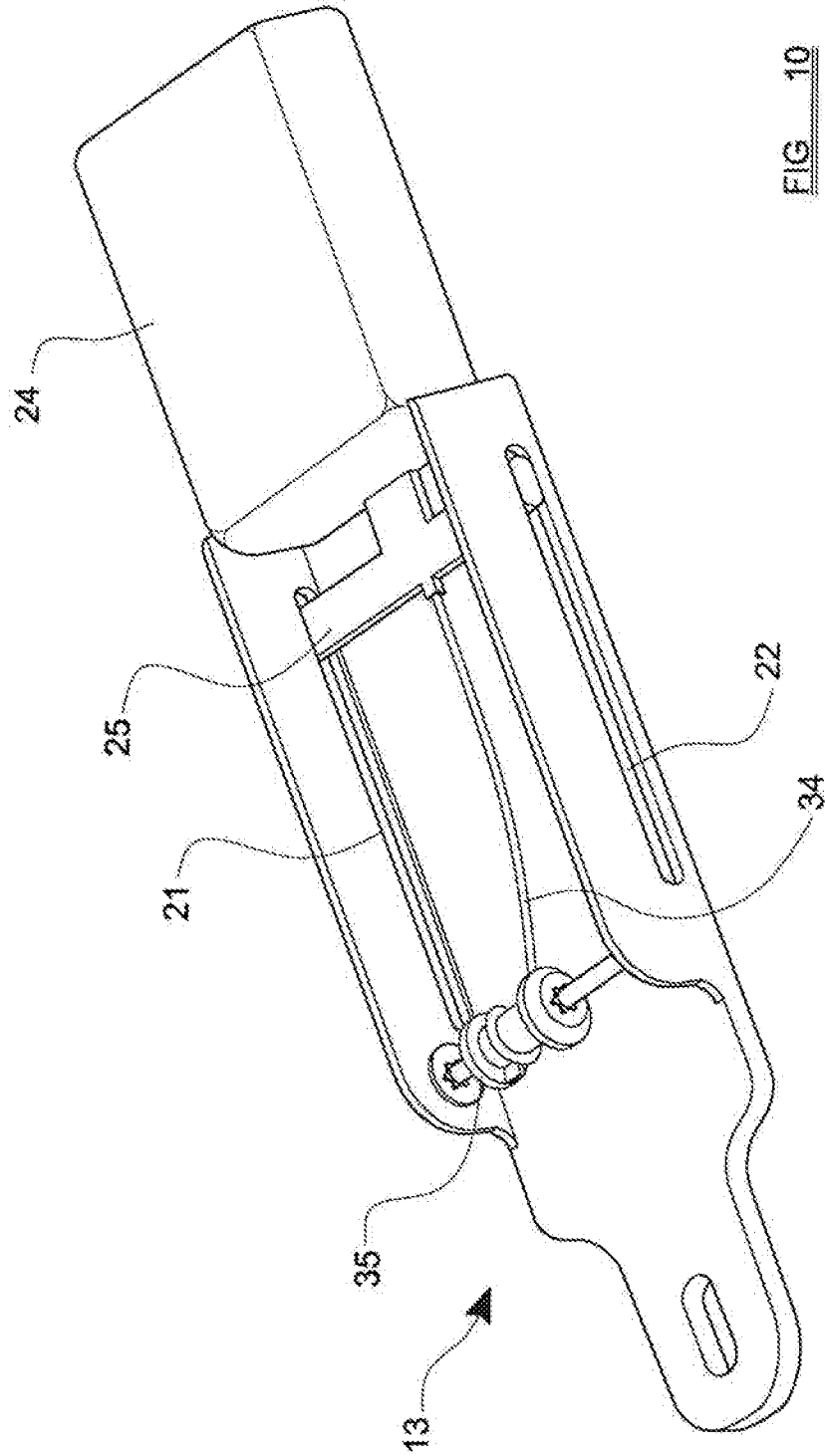


FIG. 10

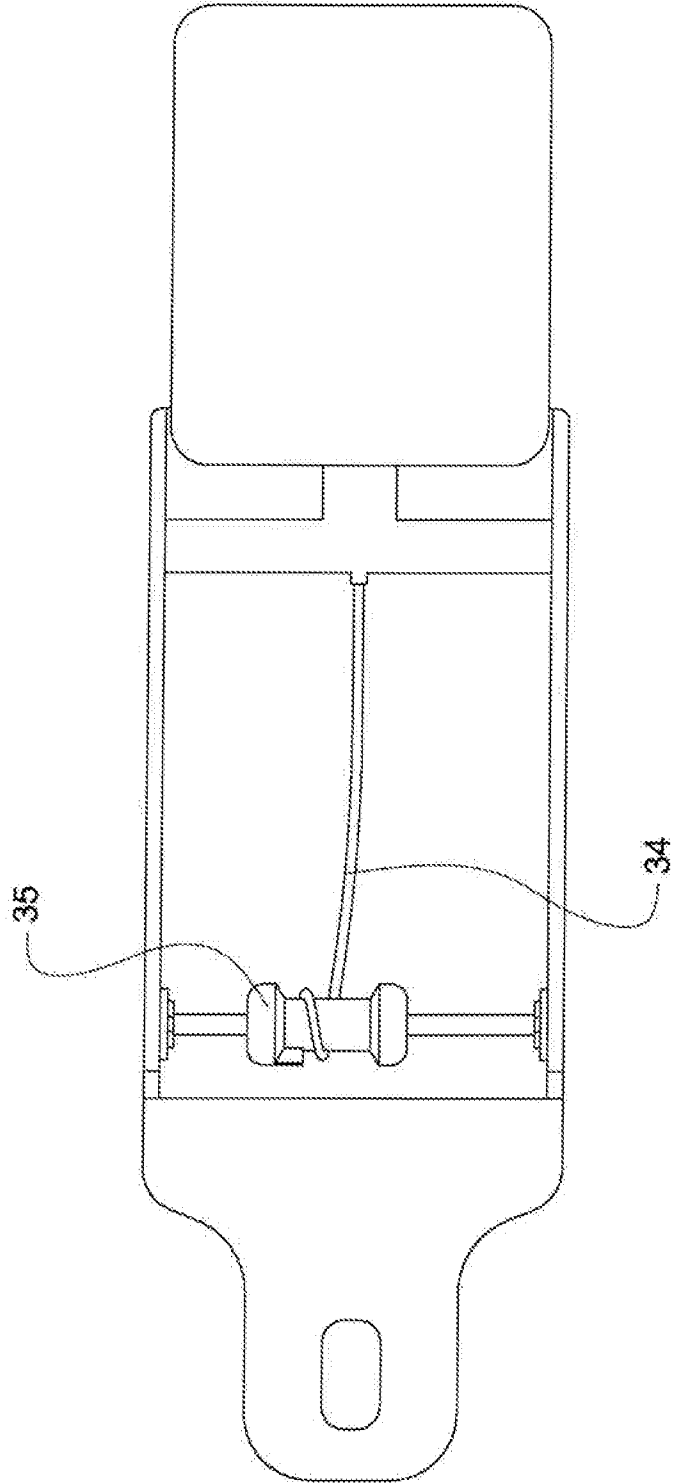


FIG. 11

INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE2008/050020

A. CLASSIFICATION OF SUBJECT MATTER

IPC: see extra sheet

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC: B60N, B60R

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-INTERNAL, WPI DATA, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	FR 2715357 A1 (AUTOMOBILES PEUGEOT ET AL), 28 July 1995 (28.07.1995), abstract --	1-21
A	US 5381590 A (LION ET AL), 17 January 1995 (17.01.1995), abstract --	1-21
A	US 5627512 A (BOGAR), 6 May 1997 (06.05.1997), abstract --	1-21
A	US 20070130505 A1 (YUN), 19 Sept 2002 (19.09.2002), abstract --	1-21

 Further documents are listed in the continuation of Box C.
 See patent family annex.

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Date of the actual completion of the international search

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Date of mailing of the international search report

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/SE2008/050020

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 20060267394 A1 (DAVID ET AL), 30 November 2006 (30.11.2006), abstract -----	1-21

International patent classification (IPC)

B60N 2/28 (2006.01)

B60R 22/10 (2006.01)

B60R 22/28 (2006.01)

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INTERNATIONAL SEARCH REPORT

Information on patent family members

26/01/2008

International application No.

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