(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) **EP 2 077 082 A1**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
08.07.2009 Bulletin 2009/28

(51) Int Cl.:
A47D 1/10 *(2006.01)*

(21) Application number: **09150051.2**

(22) Date of filing: **05.01.2009**

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK TR
Designated Extension States:
AL BA RS

(30) Priority: **04.01.2008 GB 0800098**

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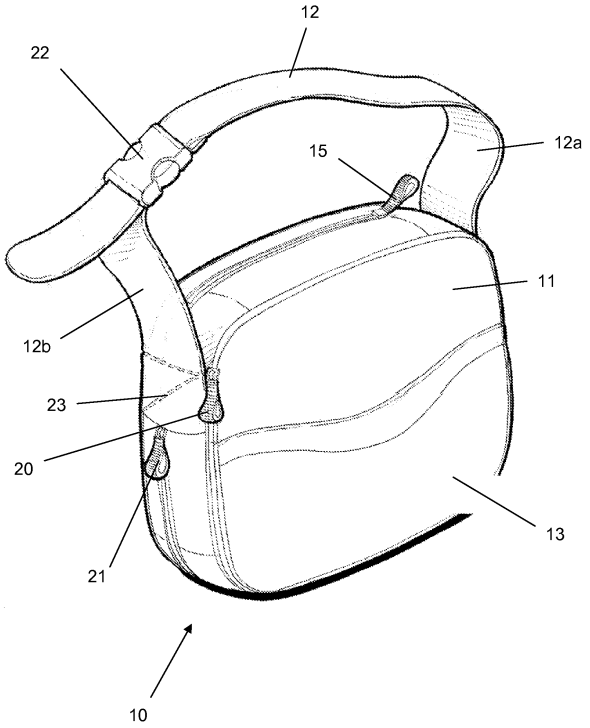
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(54) **Booster seat**

(57) The present invention relates to an infant booster seat, in particular to an infant booster seat which is interchangeable/convertible with a bag. We describe a multifunctional bag, convertible between a bag configuration and a seat configuration. The bag comprises: a seat base; a seat back, hingedly attached towards a rear portion of the seat base; and an adjustable strap. The strap is a shoulder strap for carrying when the multifunctional bag is in a bag configuration, and a seat retention means when the multifunctional bag is in a seat configuration. The seat base of the bag comprises a pocket for the accommodation of a removable padding.

Figure 1



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Description

[0001] The present invention relates to an infant booster seat, in particular to an infant booster seat which is interchangeable/convertible with a bag.

[0002] Baby changing bags are well known as a means for carrying and storing essential baby items such as nappies, wipes, creams and baby feed etc. These bags come in a variety of shapes, sizes and styles and generally include storage pockets which may be shaped specifically for bottles, baby food jars or pacifiers. The may also include a portable changing mat, a dirty nappy bag and further pockets for toys and spare clothing.

[0003] Various styles of baby changing bags cater for all life and dress styles, from the practical to the designer, and generally take the form of either a backpack or shoulder bag style.

[0004] GB 2 430 143 A describes a baby changing bag comprising a changing mat and a pocket for holding at least one item of baby changing materials. The changing mat may either be directly attached to the bag or is attachable thereto, and can be used for changing a baby when so attached to the bag. A dispensing area is also exposed when the bag is in the baby-changing configuration to allow access to changing materials stored within the bag.

[0005] Bags which convert into booster seats are also known. For example, US 6 692 072 B2 describes a shoulder bag which can be converted into a booster seat by unzipping a flap from a section of the bag body and opening to a chair configuration, in which the flap forms the back of the seat. A second zip around the periphery of the bag-body can then be opened to allow air to flow into a pocket which contains compressed, self-inflating, foam, which inflates to form a padded seat base.

[0006] For parents with small children, these multifunctional bags make trips away from the home much more convenient as they permit a greater degree of flexibility. Accordingly, the number of items that must be carried is significantly reduced due to the fact that a single item may perform several functions.

[0007] This is especially advantageous since there is a limit to how much a parent can carry when also managing a small child, and the ability to carry lots of 'essential' child items can be somewhat restricted. For example, a family with a baby or young infant wishing to go on a holiday whether by car or, in particular, when flying, will be limited by the weight, size and number of items they can carry. Further, upon arrival at their destination, they will require some form of baby changing facilities. However, to travel with conventional baby changing means would be unacceptably constraining due to the size and sheer volume of items which may be required. In addition, it will also be desirable, if not essential, for the family to have some kind of seat, and preferably a booster seat, for the child. Travelling with conventional baby changing means and a child seat, whilst possible, would be entirely impractical, especially for families with two or more small children.

[0008] Accordingly, there is a demand to reduce the number, volume and weight of items required when travelling with a small child or children, and for making the process more practical.

[0009] The present invention provides a multifunctional bag, convertible between a bag configuration and a seat configuration, comprising:

i) a seat base;
ii) a seat back, hingedly attached towards a rear portion of the seat base; and
iii) an adjustable strap,

wherein the strap provides a shoulder strap for carrying when the multifunctional bag is in a bag configuration, and a seat retention means when the multifunctional bag is in a seat configuration, characterised in that the seat base comprises a pocket for the accommodation of a removable padding.

[0010] Preferably, the multifunctional bag further comprises a removable padding. More preferably, the removable padding is a foldable changing mat. Suitably, the changing mat has side portions extending along at least a portion of the longitudinal edges of the mat. Preferably, the changing mat is divided into three regions in which at least two adjacent regions have raised side portions such that in a folded configuration the at least two adjacent regions form a void, and in an unfolded configuration the raised side portions help to prevent a baby from rolling off the mat. Suitably, the void can accommodate at least one unused nappy and/or optional baby changing materials. Preferably, the void can accommodate two or more unused nappies and/or optional baby changing materials. Suitably, the changing mat is foldable such that, in use, one of the regions of the mat fills the void in instances where no items are stored within the void.

[0011] Suitably, the multifunctional bag further includes at least one storage pocket. Preferably, the multifunctional bag comprises two or more storage pockets in which at least one is suitable for storing a liquid container. Suitably, at least one of the two or more storage pockets is expandable and optionally formed from a mesh material. Optionally, the pockets are expandable. Suitably, the pockets are expandable by elasticated means. Alternatively, the pocket periphery comprises a zipped region which is unfastenable to permit expansion of the pocket.

[0012] Optionally, the seat base pocket periphery comprises a zipped region which is unfastenable to permit expansion of the pocket.

[0013] Preferably, the multifunctional bag includes a waste pouch for the storage of waste nappies and the like. Preferably, the waste pouch is sealable to prevent leakage of waste materials and/or odours. Suitably, the waste pouch is lined with a waterproof, wipeable material. Optionally, the waste pouch further includes a disposable liner.

[0014] Suitably, the multifunctional bag further includes side panels which link the seat base to the seat back, when the bag is in a seat configuration. Preferably, the side panels fold into the bag interior, between the seat back and an upper surface of the seat base, in a bag configuration. Preferably, the side panels are formed from a plastics material having a memory. Suitably, side panels are formed from a single sheet of plastics material. Suitably, the plastics material is a polypropylene or polyphenylene oxide (PPO). Preferably, the side panels are formed from a polypropylene or PPO core encased in a PVC outer membrane. This arrangement provides rigidity to the side panels of the seat. Preferably, the memory is a moulded fold which enables the panel to pop open naturally when a relevant zip is unfastened. Optionally, the bag is held in a seat configuration by elasticated means. This provides a chair-like quality to the booster seat and helps to keep the child in the seat.

[0015] Optionally, the booster seat further comprises side reinforcement clips. Preferably, the side reinforcement clips are mounted to, and adapted to swivel and lock about, the side panels.

[0016] Preferably, the seat further includes a child restraining means. Suitably, the child restraining means comprises a pair of waist straps and a gusset strap. Suitably, the waist straps are fixed at one end to the seat back, and the gusset strap is fixed at one end to the seat base. Preferably, the waist straps are attachable to and detachable from the gusset strap by detachable means. Preferably, the detachable means comprise detachable clips. Preferably, the waist straps are adjustable. Suitably, the child restraining means is accommodated within, and fold into, the bag interior, between the seat back and an upper surface of the seat base, when in a bag configuration.

[0017] Suitably, a chair engaging portion of the bag is provided with an anti-slip means, suitably in the form of rubber studs, strips or a combination thereof. These are provided to stop the seat from slipping whilst on a chair surface.

[0018] In preferred embodiments, the mat is at least partially resiliently compressible to reduce the overall size of the bag and permit greater storage capacity for other items. This is achieved by an additional peripheral zip which, when zipped closed, acts to compress to the seat padding and the pocket in which it is stored.

[0019] The above and other aspects of the present invention will now be illustrated in further detail, by way of example only, with reference to the accompanying drawings in which:

Figure 1 is a perspective view from the front and a first side of a first embodiment of a multifunctional bag in accordance with the present invention, in a bag configuration;

Figure 2 is a front view of the embodiment of Figure 1;

Figure 3 is a side view of the embodiment of Figure 1;

Figure 4 is a perspective view from the front and a first side of the embodiment of Figure 1 in a seat configuration;

Figure 5 is a part view from the front of the child restraining means, of the embodiment of Figure 4;

Figure 6 is a side view of the embodiment of Figure 4;

Figure 7 show two different modes of attachment of the embodiment of Figure 4 to a conventional chair; and

Figure 8 is a perspective view of an example of a removable seat padding, in a folded configuration, for insertion into a pocket as seat padding, and in an unfolded configuration, as a changing mat.

[0020] Referring to Figures 1 to 3, there is shown a multifunctional bag 10 having a bag body 11 and a shoulder strap 12. The bag body 11 includes a front side pocket 13 into which items may be placed from above, and an upper pocket, to which access is gained by the opening of zip fastener 15. A first peripheral zip fastener 20 permits conversion of the bag 10 to a seat configuration, described below in relation to Figure 4, and a second peripheral zip fastener 21 permits removal of seat padding/changing mat (not shown).

[0021] Shoulder strap 12 comprises first and second strap portions 12a, 12b linked by an adjustment means in the form of buckle 22, which permits the overall strap length to be quickly and easily adjusted. The buckle 22 can be unclipped to allow the first and second strap portions 12a, 12b to be respectively slipped underneath a chair seat and subsequently re-clipped so that the bag 10, when in a seat configuration, can be secured to a chair.

[0022] The shoulder strap 12 is attached to each side of the bag body 11 by stitching 23 at an angle of around 45° such that, in a bag configuration, the bag has the appearance of a typical over-the-shoulder bag. Whereas, in a booster seat configuration (Figure 4), due to the nature of the attachment of the shoulder strap 12 to the bag 10, the strap can be conveniently twisted to permit anchorage of the booster seat to either the base or the back of a chair, as more clearly depicted in Figure 6.

[0023] In alternative embodiments, not shown, the shoulder strap further comprises attachment means for attaching any loose strap portions, which result when the strap length is less than its optimum length, to the bag body 11. Such means may be in the form of any suitable attachment means such as respective hook and eye fastenings, such as Velcro®, or press-studs.

[0024] Figure 4 shows the multifunctional bag 10 in a

booster seat configuration. In the embodiment exemplified, conversion between bag 10 and booster seat 24 is carried out by unfastening the first peripheral zip 20, which releases a hinged portion of the bag, constituting the seat back 25, from the bag body 11. Within the pocket or void formed between these two components is stored child restraining means in the form of a gusset strap 30 and a pair of side straps 31a, 31b, and side panels 33 which link the seat base 32 to the seat back 25.

[0025] The gusset strap 30 is generally of a T-shape, as shown in Figure 5, and includes a pair of releasable waist clips 34 which allow the side straps 31a, 31b to be clipped thereto. This arrangement is generally known and permits the legs of a child to pass thereunder and the upper part of the gusset strap 30 and side straps 31a, 31b to restrain a child from falling out of the seat. The seat size can be adjusted side straps 31a, 31b and waist clips 34.

[0026] In preferred embodiments, the side panels 33 are adapted to self-erect when the seat back 25 is moved away from the seat base 32, and fold into the bag interior, between the seat back 25 and an upper surface of the seat base 32, in the bag configuration. The side panels 33 can be formed from any suitable plastics material and generally a single piece construction. A single-piece construction allows the side panels 33 to be formed with a 'memory', typically in the form of a moulded fold 41 which provides a spring or elasticated hinge. Additionally, further elasticated means, for example in the form of elasticated straps, may be provided to help maintain the bag in a seat configuration. A specific advantage of this arrangement is that it permits a one-handed conversion of the bag to the seat configuration.

[0027] Suitable materials for the formation of the side panels 33 include polypropylene or polyphenylene oxide (PPO). The side panels can also be coated and covered with other materials, including padding, to provide rigidity and generally improve the quality of finish. In preferred embodiments, the side panels 33 are formed from a PPO core encased in a PVC outer membrane.

[0028] The side panels 33 optionally include side reinforcement clips 40, pivotally connected to the side panel 33 and rotatable to a locked configuration in which the moulded fold or spring hinge is held open, as shown in Figures 4 and 6.

[0029] Once the bag has been converted to the booster seat 24 configuration, the seat 24 can be secured to a chair with the shoulder strap 12. Referring now to Figure 7, there are shown two variations of the attachment of a booster seat 24, in accordance with the present invention, to a chair 42. In the illustrated embodiment, the shoulder strap 12 is used to secure the booster seat 24 to a chair 42. This is achieved by unclipping the buckle 22 of shoulder strap 12 and either placing it around the back of the chair and then re-clipping the buckle followed by tightening the strap 12, or unclipping the buckle 22, twisting the strap 12a, 12b about the stitching 23 and passing the straps 12a, 12b under the chair seat and re-clipping, followed by tightening the strap 12.

[0030] In alternative embodiments, not shown, the strap can be longitudinally split into two straps by unfastening a zip, or other suitable means, and the buckle can be separated into two respective buckles, one corresponding to each strap. Such an arrangement permits the booster seat to be secured simultaneously to a chair by both of the mechanisms described above.

[0031] In preferred embodiments, the face of the bag which contacts a chair when the bag is in a booster seat configuration is provided with anti-slip means (not shown). The anti-slip means are preferably in the form of rubberised studs or strips.

[0032] Referring now to Figures 4 and 8, the region of the bag body 11 corresponding to the seat base 32 comprises a soft inner cushion as seat padding. This seat padding 50 is removable from the bag 10 and booster seat 24, when second peripheral zip 21 is unfastened, and can be conveniently unfolded to become a foldable changing mat 51, as shown in Figure 8.

[0033] The foldable changing mat 51, and also the booster seat 24, are formed from materials which can be easily wiped clean. The changing mat 51 is constructed with side portions, in the form of a peripheral lip 52, which help prevent a baby from rolling off the mat 51 whilst it is being changed. The lip 52 can be the same thickness as the base of the mat 53, or thicker. In either construction, when the mat 51 is folded prior to insertion into the seat base 32 of the booster seat 24 or bag 10, due to the difference in height between the top of the lip 52 and the base of the mat 53, a void is created which permits unused nappies 54 and other baby changing items such as wipes etc (not shown) to be stored therein. Additionally, in instances where no changing items are to be stored in the void, the changing mat can be re-folded so that a region of the mat fills the void to enhance the seat padding.

[0034] In embodiments in which the lip is of a thicker construction of the base a larger recess is created for storage. In this arrangement it is preferred that the mat is at least partially resiliently compressible for storage. Accordingly, the bag/booster seat is provided with a third peripheral zip which permits the bag base and the seat padding 50 to be held in a compressed state. The provision of a third peripheral zip permits compression of the padding and pocket leading to an overall reduction in size of the bag. This allows smaller sized bags to be produced, or in alternative embodiments, more pockets to be incorporated to increase the bags storage capacity.

[0035] The bag also provides additional space for the storage of baby wipes, a bottle and some food essentials, and may comprise elasticised side and/ or front mesh pockets.

[0036] A booster bag according the invention constitutes a novel combination of booster seat and changing bag which limits the amount of equipment that a parent requires when travelling, whether to the shops or on holiday. The bag can be easily converted into a booster seat

by unfastening a zip to release the seat back, and securing the seat to a chair by utilising, for example, a shoulder strap. In preferred embodiments, the bag shoulder strap is used to secure the booster seat to a chair. The seat-base comprises an inner soft cushion as a seat padding which is removable from the bag and can be conveniently unfolded into a changing mat. The booster seat and changing mat are constructed from materials which can be easily wiped clean. The bag also provides some space for storage of nappies, baby wipes, a bottle and some food essentials.

Claims

1. A multifunctional bag, convertible between a bag configuration and a seat configuration, comprising:

i) a seat base;
ii) a seat back, hingedly attached towards a rear portion of the seat base; and
iii) an adjustable strap,

wherein the strap provides a shoulder strap for carrying when the multifunctional bag is in a bag configuration, and a seat retention means when the multifunctional bag is in a seat configuration, wherein the seat base further comprises a pocket comprising a removable padding; and
wherein the removable padding is a foldable changing mat.

2. A multifunctional bag as claimed in claim 1, wherein the changing mat is divided into three regions in which at least two adjacent regions have raised side portions such that, in use, in a folded configuration, the at least two adjacent regions form a void, and in an unfolded configuration the raised side portions help to prevent a baby from rolling off the mat.

3. A multifunctional bag as claimed in claim 2, wherein the changing mat is foldable such that, in use, one of the regions of the mat fills the void in instances where no items are stored within the void.

4. A multifunctional bag as claimed in any one of the preceding claims, wherein the multifunctional bag further includes at least one storage pocket.

5. A multifunctional bag as claimed in claim 4, wherein the at least one storage pocket is expandable and optionally formed from a mesh material.

6. A multifunctional bag as claimed in claim 4 or claim 5, wherein at least one of the seat base pocket periphery and the at least one storage pocket periphery comprises a zipped region which is unfastenable to permit expansion of the respective pocket.

7. A multifunctional bag as claimed in any one of the preceding claims, wherein the multifunctional bag further includes side-panels which link the seat base to the seat back, wherein the side-panels are foldable into the bag interior, between the seat back and an upper surface of the seat base, in a bag configuration.

8. A multifunctional bag as claimed in claim 7, wherein the side-panels are formed from a plastics material having a memory and wherein each side-panel is preferably formed from a single sheet of the plastics material.

9. A multifunctional bag as claimed in claim 8, wherein the plastics material is a polypropylene or polyphenylene oxide (PPO), and wherein the side-panels are preferably formed from a polypropylene or PPO core encased in a PVC outer membrane.

10. A multifunctional bag as claimed in claim 8 or claim 9, wherein the memory is a moulded fold which enables the panel to pop open naturally when the respective seat back is released, in use.

11. A multifunctional bag as claimed in any one of claims 7 to 10, wherein the booster seat further comprises side-panel reinforcement clips.

12. A multifunctional bag as claimed in any one of the preceding claims, wherein the seat further comprises a child restraining means.

13. A multifunctional bag as claimed in claim 12, wherein the child restraining means comprises a pair of waist straps and a gusset strap.

14. A multifunctional bag as claimed in claim 13, wherein the waist straps are attachable to and detachable from the gusset strap by detachable means, preferably in the form of one or more detachable clips.

15. A multifunctional bag as claimed in any one of the preceding claims, wherein the multifunctional bag further comprises a waste pouch for the storage of waste nappies and the like.

Figure 1

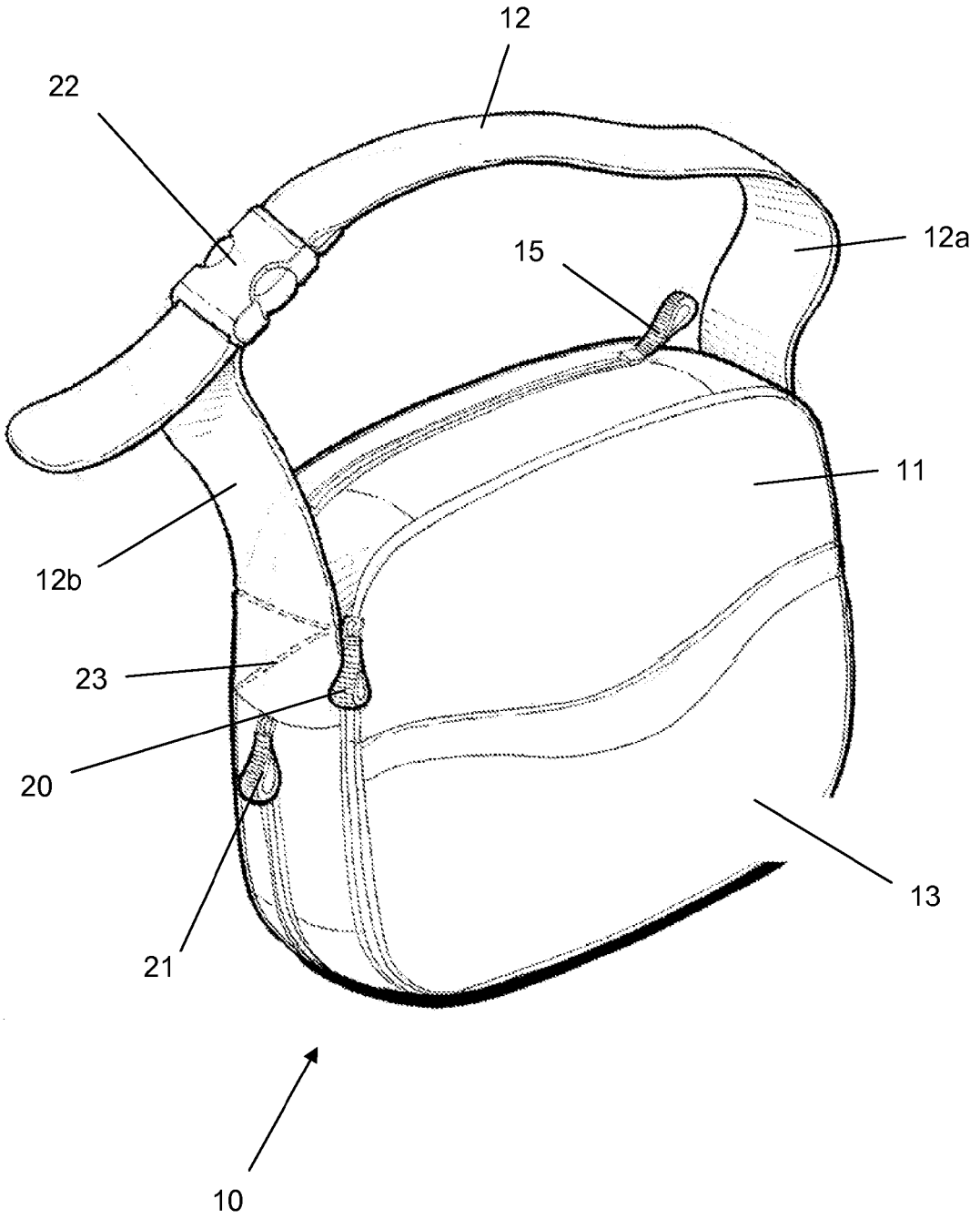


Figure 3

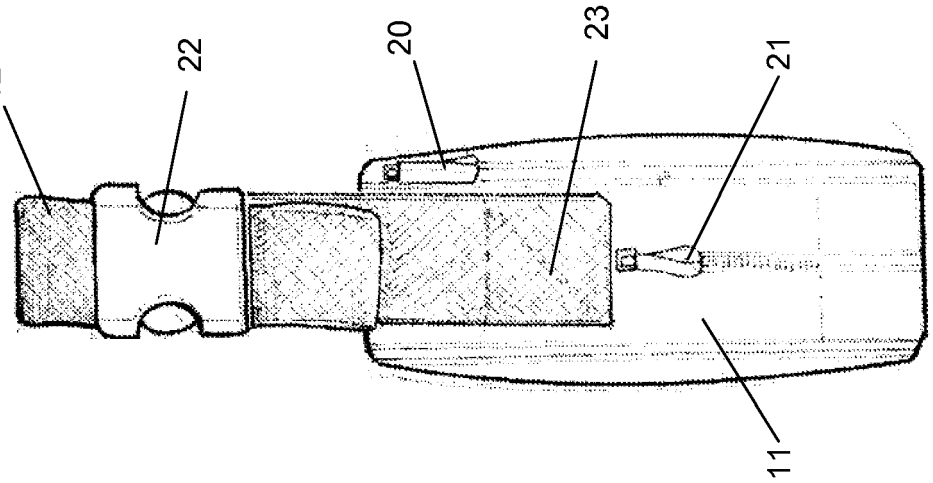


Figure 2

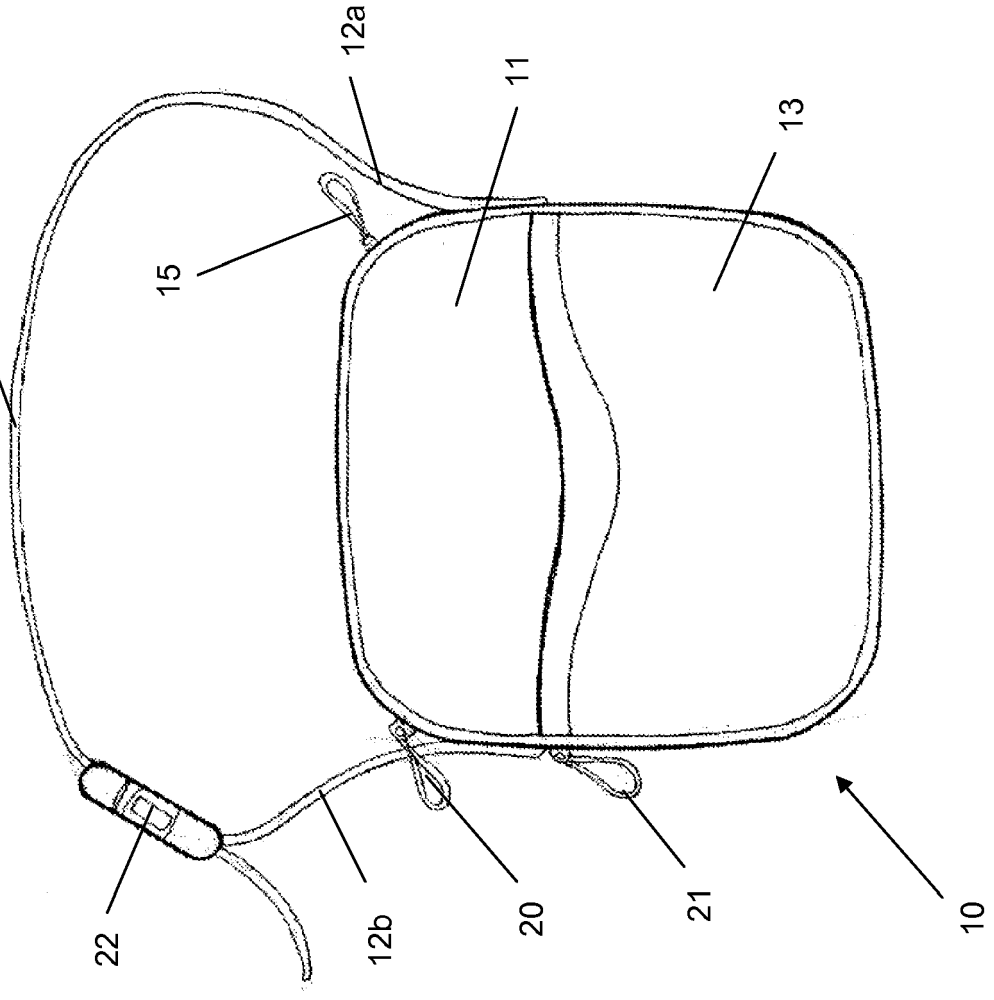


Figure 4

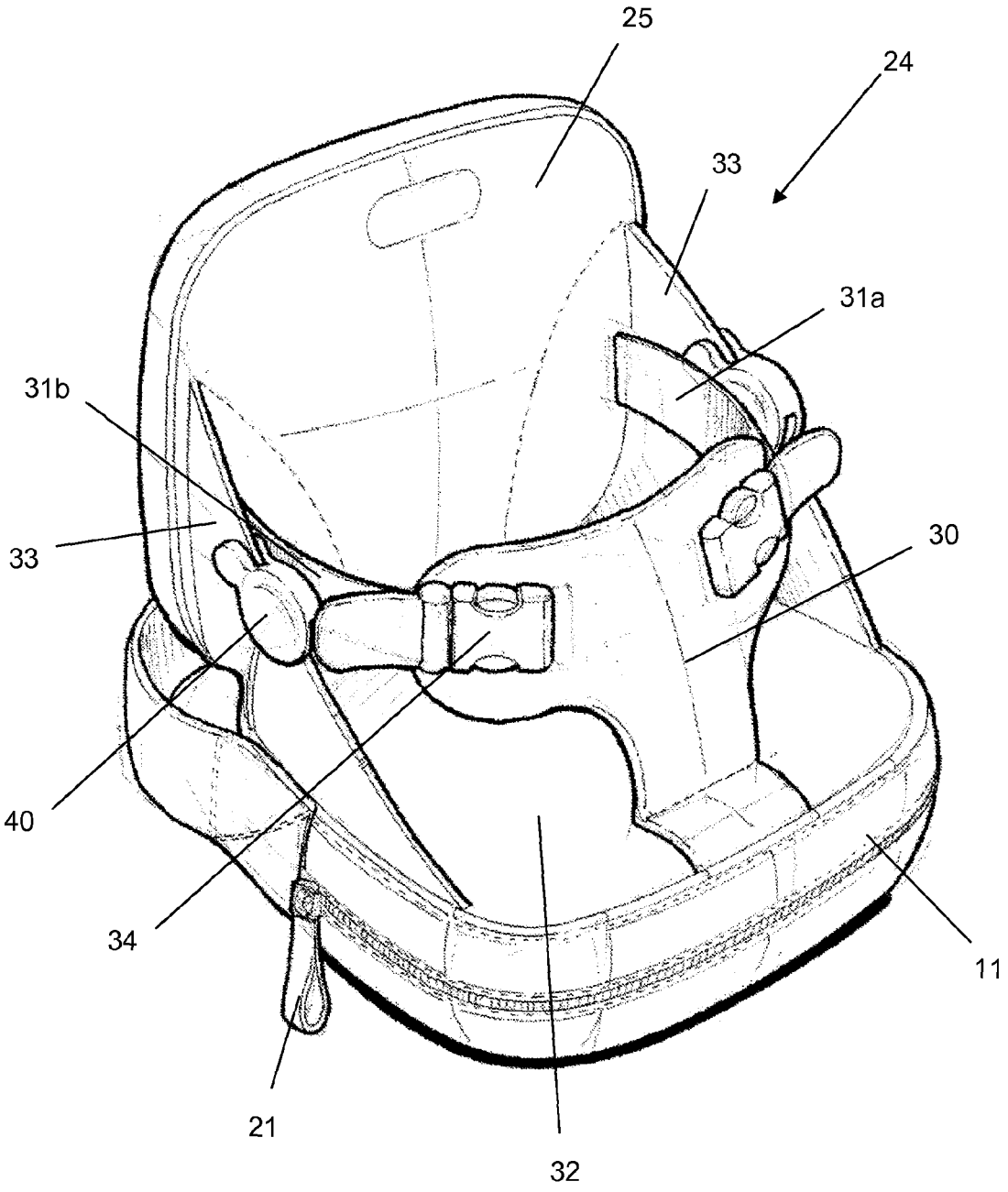


Figure 5

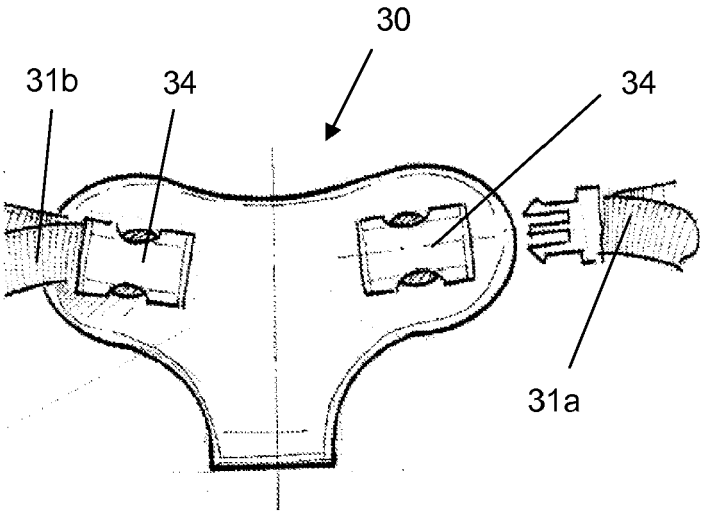
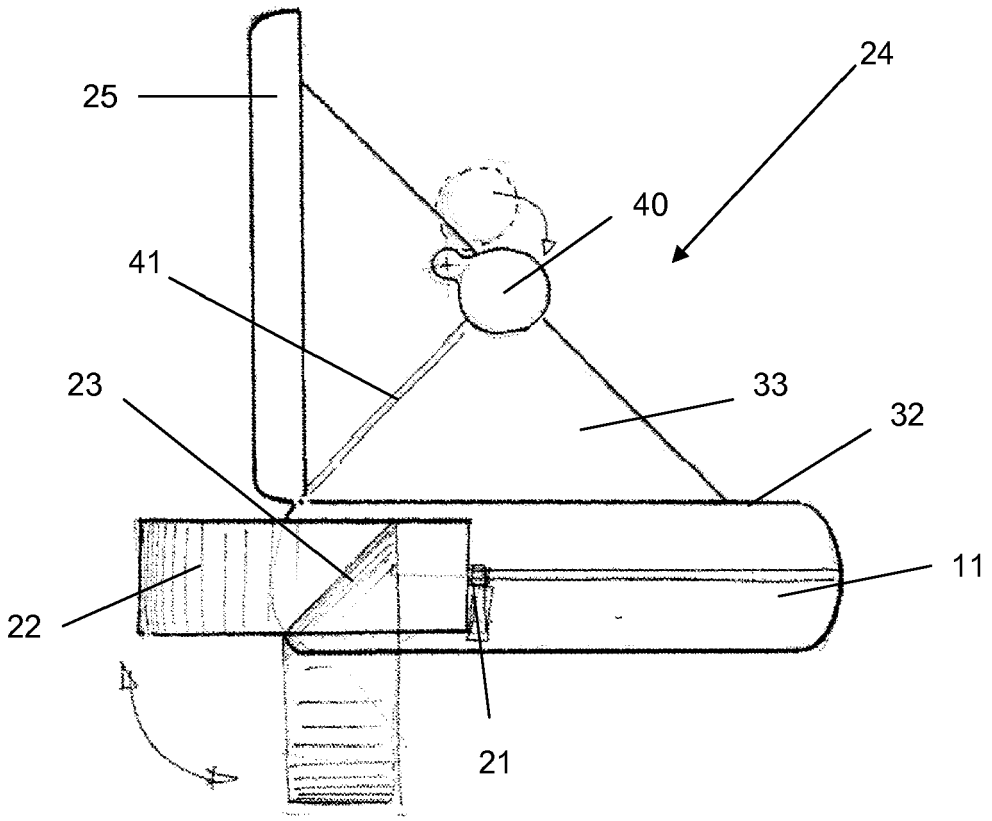


Figure 6



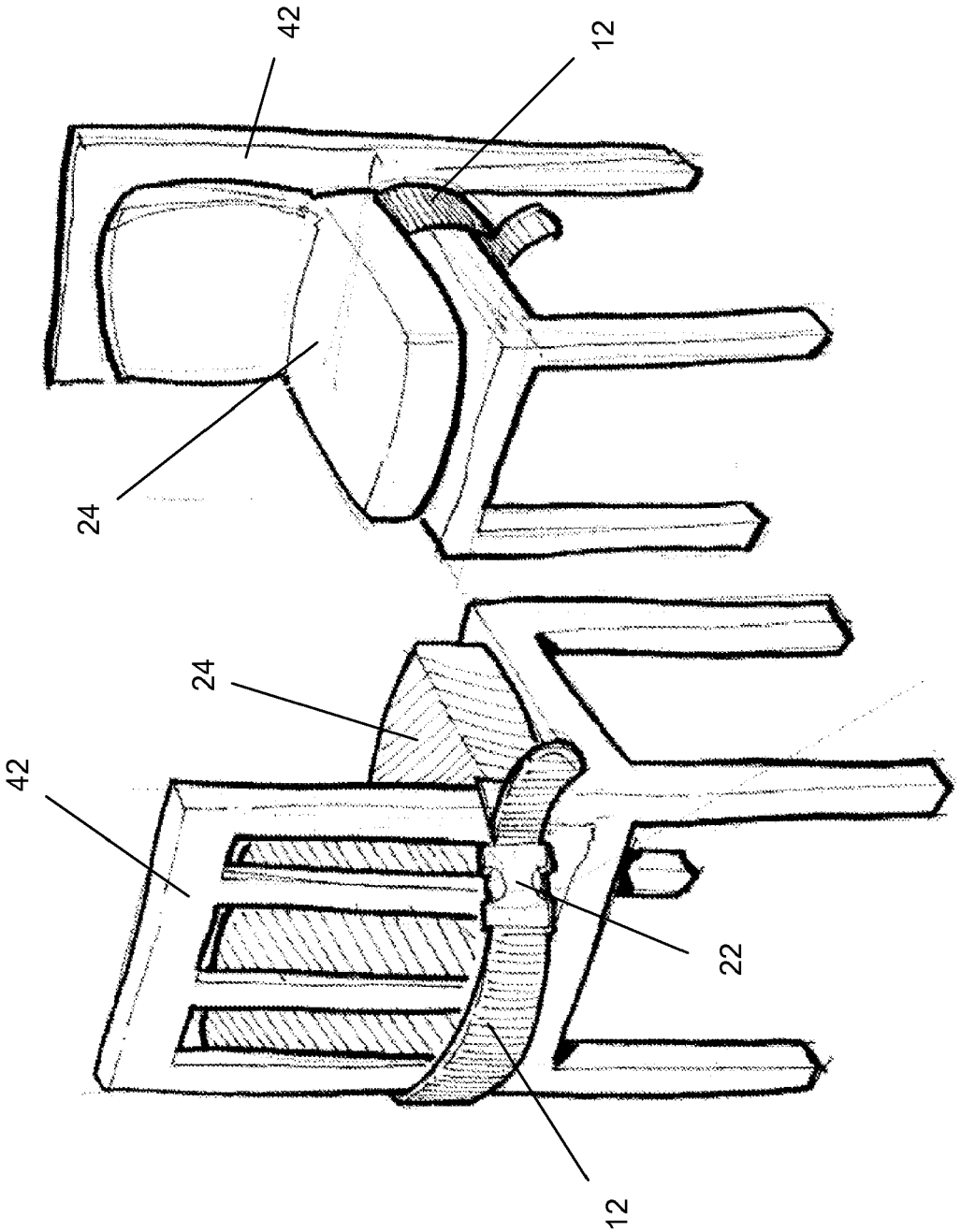


Figure 7

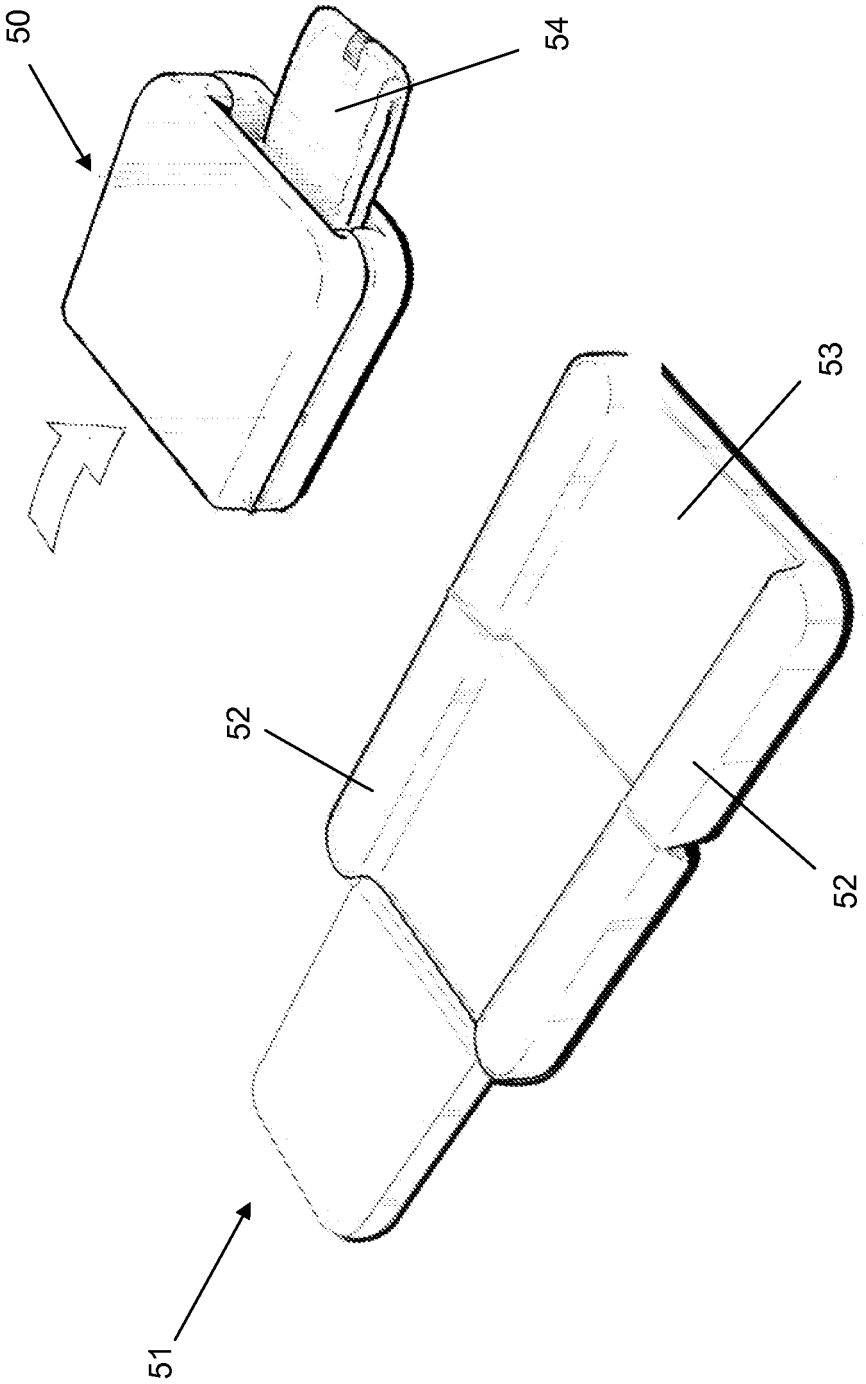


Figure 8

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EUROPEAN SEARCH REPORT

Application Number
EP 09 15 0051

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 4 527 830 A (MEYERS ROGER A) 9 July 1985 (1985-07-09) * column 3, lines 27-32 *	1,4	INV. A47D1/10
A,D	US 6 692 072 B2 (NELSON ELIZABETH ET AL) 17 February 2004 (2004-02-17) * the whole document *	1,4-7, 12-14	
A	US 6 390 345 B1 (BROWN BRYAN M ET AL) 21 May 2002 (2002-05-21) * figure 4 *	1,4-7,15	
A	US 5 234 143 A (MAHVI A PASCAL ET AL) 10 August 1993 (1993-08-10) * column 5, lines 63-66; figures 10,23 *	1,4,12, 15	

TECHNICAL FIELDS SEARCHED (IPC)

A47D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	16 February 2009	Reichhardt, Otto

CATEGORY OF CITED DOCUMENTS

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16-02-2009

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US 6692072 B2	17-02-2004	US 2002167214 A1	14-11-2002
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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

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- US 6692072 B2 **[0005]**