

A guide to
patent applications





A guide to patent applications

Generally speaking, patent applications can be difficult to understand, and now that your patent application has been drawn up, you need to make sure that you understand what it says. This is why we have written this guide, to help you work through your draft application as you check it for accuracy and completeness. It is this kind of attention to detail that ensures optimal protection for your inventions.

The four standard sections of a patent application:



1. THE CLOSEST PRIOR ART



2. PRESENTATION OF THE INVENTION



3. PATENT DRAWINGS WITH FURTHER EXPLANATION OF THE INVENTION



4. THE CLAIMS: DEFINING THE INVENTION

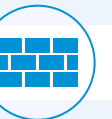
As clear and complete as possible



Legally speaking, you only get one chance to define an invention accurately, which is why a patent application needs to be as clear and as complete as possible, right from the start. Changes and/or additions to a patent application once you have filed it, are inadvisable. A patent application for your invention is a legal

document which must comply with specific legal requirements. This means that, as a result, its format and language are not always easy to understand. This guide will help you to assess your application. It explains how the application is structured, and gives a few pointers for important aspects you should bear in mind.

Structuring a patent application



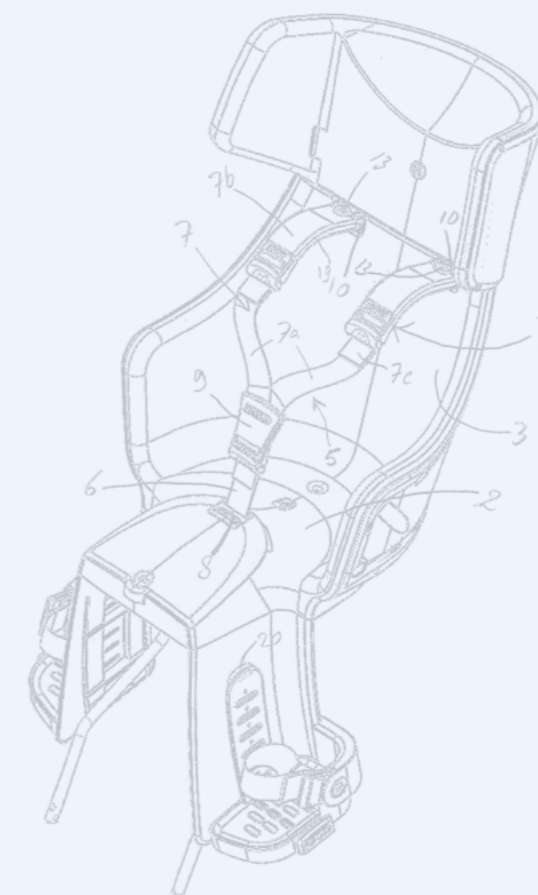
A patent application is made up of four sections. These are:

1. The closest prior art.
2. Presentation of the invention.
3. Patent drawings with further explanation of the invention.
4. The claims: a definition of the invention.

The most important part of the application, are the claims. These claims come at the end of the document and define exactly what exclusive rights you are applying for.

In other words, the contents of the claims determine the patent right you apply for. The features of your invention that are described in the claims will be protected by those patent rights. Anything that is not covered by the definitions in the claims, can be used by your competitors. It is therefore important to make sure that the claims cover every aspect of your invention.

The examples we use here, are from an existing patent for a three-point seatbelt on a child seat for bikes.



1. The closest prior art



The term prior art refers to any material that is publicly available up to the day on which the patent application is submitted. For the application, a publication will have been selected, which most closely resembles the invention. The selected publication generally tends to be a patent publication. This section of the application then stipulates the problems or disadvantages relating to this closest prior art.

See number [0004] in [Example 1](#) for an example.

2. Presentation of the invention



The presentation of the invention explains how your invention provides a solution to the problems or disadvantages mentioned about the prior art in the introduction. This information reflects the definitions set out in the claims, which is why it starts with a description of your invention in accordance with claim 1. Next, it presents a number of embodiments as described in the subclaims. Each factual description of an embodiment is followed by an explanation of its advantages.

The presentation of the invention starts at number [0005] in [Example 1](#). The different embodiments are described from number [0010] onwards.

3. Patent drawings and description



This section includes drawings of your invention, usually as a direct reflection of the claims. It also includes further description of the invention, starting with the context, for example a machine or a process in which your invention can be used. This is followed by a more detailed description of the invention which is, in turn, followed by a description of one or more variants. The variants are linked to aspects in the subclaims.

This section starts at number [0018] in [Example 2](#).

Example 1

Description

[0001] The present invention relates to a child safety seat for transporting a child.

[0002] In particular the invention relates to a child bicycle seat comprising a seat portion and a backrest portion, the seat being provided with fixing means for fixing the child seat on a bicycle, the seat furthermore including a belt assembly for securing a child in the child seat, which belt assembly comprises a pair of shoulder belts and a crotch belt, said crotch belt being fixedly connected to the seat portion.

[0003] In practise when the child is placed in the seat, the parent usually has to hold the bicycle with one hand to keep it from falling. Also when the child is seated in the seat the parent will mostly hold on to the bicycle to keep it stable. **Begin stand van techniek: [0004]**

[0004] From for example EP 1 759 967 A2 a child bicycle seat is known which has a seat portion and a backrest portion. The seat includes a belt assembly for retaining the child in the seat. The belt assembly comprises a crotch belt which is anchored to the seat portion and a pair of shoulder belts which form a loop. The shoulder belts are anchored to the backrest portion of the seat. The shoulder belts are connectable to the crotch belt by closing elements provided on the crotch belt and the shoulder belts respectively. In use a child is placed in the seat and the loop of the shoulder belts is pulled over the head of the child such that the shoulder belts rest on the shoulders of the child. The crotch belt is extending upwards between the legs of the child after which the closing elements are brought into engagement with each other to close the belt assembly. Applying the belt assembly in this way can be somewhat cumbersome since it is often required to use two hands to close the belt assembly. Furthermore it is rather inconvenient to close the belt assembly between the legs of the child.

Begin Presentatie van de uitvinding: [0005]

[0005] The present invention has for an object to provide an improved child bicycle seat.

[0006] This object is achieved by a child bicycle seat according to the preamble of claim 1, wherein the shoulder belts are, at a lower end, fixedly connected to the crotch belt, and, at an upper end, connectable to the backrest portion via a quick-lock/quick-release mechanism so as to provide a quick locking of the shoulder belts to the backrest portion when a child is seated in the seat and to provide a quick release of the shoulder belts when a child is to be taken out of the seat.

[0007] In use, the child is placed in the seat and the belt assembly is hanging down at the front of the seat, the belt assembly being anchored to the seat portion through the crotch belt. Next, one of the shoulder belts can be grabbed at its free end and moved upwards and backwards over the child's torso towards the backrest portion of the seat. The shoulder belt concerned is then connected to the backrest portion by means of the quick-lock mechanism. This movement and locking can be done by the use of one hand only. Next the other shoulder

belt is grabbed and brought to the backrest and secured thereto in a similar way as the first shoulder belt.

[0008] Contrary to the prior art seat, where only one locking action is necessary to close the belt assembly, in the present invention two locking actions are necessary to close the belt assembly. It is advantageous however that the shoulder belts can be attached to the backrest in this way, because the backrest portion provides a firm support onto which the free end of the shoulder straps can be pushed and locked without the use of two hands. This contrary to the wobbly connecting of the crotch belt and shoulder belts in the prior art seat of EP 1 759 967 A2.

[0009] Another advantage of the invention is that a child seated in the child seat cannot see and cannot easily release the shoulder belts itself as the locking mechanism is located behind it. Thus a safer belt assembly is provided which prevents the child to release itself during travel. **Begin uitvoeringsvormen: [0010]**

[0010] In a possible embodiment of the invention, the quick-lock/quick-release mechanism for connecting the shoulder straps to the backrest portion of the seat may include a latch mechanism.

[0011] Preferably, the belt assembly is a three-point belt assembly with a crotch belt and two shoulder belts, which crotch belt and shoulder belts are interconnected by a connecting element, wherein the crotch belt is fixedly anchored to the seat portion of the seat. It is also conceivable to have for example a five-point belt.

[0012] In one possible embodiment each of the shoulder belts includes a first locking element at the upper end, and the backrest portion is provided with second locking elements which are releasably connectable with the respective first locking elements on the shoulder belts.

[0013] In a further preferred embodiment the backrest portion, on a front side thereof, is provided with at least one pair of apertures, wherein the second locking elements are arranged in the backrest behind said apertures, such that the first locking elements, provided on the shoulder belts, are insertable in said apertures so as to connect the first locking elements with the second locking elements.

[0014] In a further preferred embodiment the first locking elements are provided with an operating button for releasing the quick-lock/quick-release mechanism, such that the first locking elements can be pulled from the second locking elements and the child can be taken out of the seat.

[0015] In a preferred embodiment the shoulder belts are provided with a padding to engage the shoulder of the child.

[0016] In another preferred embodiment the shoulder belts include a strap and, in a shoulder engaging section thereof, include a relatively stiff structure, connected to the strap for withholding and supporting the child. This relatively stiff structure provides a firm harness-like feel for the child when it leans forward, e.g. when the child

falls asleep in the seat. Furthermore the more stiff structure, extending from the anchoring point of the shoulder belt at the backrest portion, prevents that the shoulder belts can slide from the shoulder of the child during travel. Thereby a safer child bicycle seat is provided.

[0017] In a further preferred embodiment the shoulder belts, preferably at a lower end of the relatively stiff structure mentioned above, are provided with an adjustment mechanism for the straps. Placement of the adjustment mechanism on this position provides an easy accessible adjustment of the strap.

[0018] The invention will be described in more detail with reference to the drawing, in which:

Begin figuurbeschrijving: [0018]

Fig. 1 shows a preferred embodiment of a child bicycle seat according to the invention with a belt assembly in a closed state.

Fig. 2 shows the seat of Fig. 1 with the belt assembly in an open state.

Fig. 3 shows an exploded view of the belt assembly of the seat shown in Fig. 1.

Fig. 4 shows schematically an alternative embodiment of the child seat according to the invention, and Fig. 5 shows schematically another alternative embodiment of the child seat according to the invention.

[0019] In Figs 1 and 2 is shown a child bicycle seat 1. The seat 1 comprises a seat portion 2 on which a child is seated and a backrest portion 3 for supporting the back of the child.

[0020] The specific embodiment of the seat 1 shown in the figures is provided with coupling rods 4 for fixing the child bicycle seat 1 to a bicycle. The specific fixing means for fixing the seat 1 to the bicycle are not material to the present invention and therefore the rods 4 may be replaced by other suitable fixing means.

[0021] The seat is provided with a belt assembly 5 for restraining the child when seated in the seat 1. The belt assembly 5 is in the preferred embodiment a three-point belt assembly substantially comprising a crotch belt 6 and a pair of shoulder belts 7. The crotch belt 6 has a lower end which is anchored to the seat portion 2 of the seat 1 at an anchor point indicated by reference numeral 8. The upper end of the crotch belt 6 is attached to a connection element 9. A lower end of each of the shoulder belts 7 is attached to the belt assembly lying on and/or hanging from the front side of the seat 1. Alternatively, the locking elements 10 can be inserted into retaining elements 20 (see Fig. 1) provided at the footrests of the seat 1 as is shown in Fig. 2. In this way the shoulder belts are not hanging loosely around when the child seat is not in use.

[0022] The upper end of each of the shoulder belts 7 is provided with a locking element 10. In the backrest portion 3 of the seat 1 is provided a pair of slot-like apertures 11. The apertures 11 provide each access to a locking element 12, which is housed inside the backrest portion 3 of the seat 1. The locking element 12 is adapted to cooperate with the locking element 10 on the upper end of the shoulder belt 7.

[0023] The locking element 10 on the shoulder belt 7 comprises in the preferred embodiment a latch which is coupled to an operating button 13. The locking element 12 in the backrest portion 3 comprises a counterpart co-

operating with the latch to provide the locking action. In the locked state, when a parent wants to release the shoulder belt, he/she can push the button 13 to disengage the latch from the counterpart in the locking element 12 and then pull the locking element 10 from the aperture 11. Thereby the attachment of the shoulder belt 7 with the backrest portion 3 is released. In the unlocked state the parent can simply insert the locking element 10 into the aperture 11 whereby the latch snaps into engagement with the counterpart in the locking element 12. Thus a quick-lock/quick-release mechanism is provided which is easy to operate, also with one hand.

[0024] In the preferred embodiment shown in the figures the shoulder belts 7 comprise two parts: A lower part which is constituted by a strap 7a and an upper part which is constituted by a more rigid structure 7b.

[0025] In Fig. 3 an exploded view is shown of the belt assembly. It can be seen in Fig. 3 that the more rigid structure is constituted by a plastic part 14 with a bendable body 15. At one end of the bendable body 15 the locking element 10 is provided. At the opposite end of the bendable body 15 a housing 16 is provided in which a clip 17 is housed. The end of the strap 7a is arranged in a loop indicated at 18 through an aperture 16a in the housing 16 and around a transverse element 17a the clip 17. By pushing the clip 17 inwardly into the housing 16, the loop of the strap 7a is released and can be adjusted by pulling the free end 7c of the strap 7a (shortening of the length) or by pulling the portion of the strap 7a extending between the connection element 9 and the housing 16 (extending the length).

[0026] The bendable body 15 of the plastic part 14 is enveloped in a padding element which is indicated in the figures by reference numeral 19. The more rigid structure 7b prevents that the shoulder belts 7 can slide from the shoulder of the child during travel. Thereby a safer child seat is provided.

[0027] The crotch strap 6 is also adjustable in length by means of a clip 9c in the connection element 9. This functions in essentially the same manner as described for the clips 17 for adjustment of the shoulder straps 7a. The connection element 9 comprises a front portion 9a, a rear portion 9b and a clip 9c for releasing the strap 6a for adjustment of the length as is shown in Fig. 3.

[0028] In use a child will be placed in the seat 1 with the belt assembly lying on and/or hanging from the front side of the seat 1. Alternatively, the locking elements 10 can be inserted into retaining elements 20 (see Fig. 1) provided at the footrests of the seat 1 as is shown in Fig. 2. In this way the shoulder belts are not hanging loosely around when the child seat is not in use.

[0029] When the child is seated, the parent can grab one shoulder belt 7 and move its free end provided with the locking element 10 upwards and rearwards towards the backrest portion 3 of the seat 1. The locking element 10 is then inserted into the apertures 11 after which the locking element 10, in particular the latch thereof snaps into locking engagement with the locking element 12 in-

4. The claims: defining the invention



incorporated in the backrest portion 3 behind the aperture 11. Next, the other shoulder belt 7 is grabbed and is attached to the backrest portion 3 in the same manner after which the child is restrained in the seat 1. If necessary the length of the crotch belt 6 and/or the shoulder belts 7 can be adjusted after the belt assembly is locked to the seat 1.

[0030] When a child has to be released from the seat 1, the parent can simply push the operating buttons 13 on the shoulder belts 7, after which the locking element 10 can be withdrawn from the locking element 12 and the aperture 11 in the backrest portion 3. Then the child can be taken from the seat 1.

[0031] In the embodiment of the seat shown in the Figs 1 and 2, the backrest portion is provided with one pair of apertures 11 with locking elements 12.

[0032] In another possible embodiment of the child bicycle seat, which is shown in Fig. 4, there are provided in the backrest portion 3 a plurality of such pairs of apertures 11 with locking elements 12. The pairs of apertures 11 are situated above one another. This provides the possibility to connect the shoulder belts 7 to the backrest portion 3 at a height which is suitable for the size of the specific child seated in the seat.

[0033] In yet another possible embodiment of the child bicycle seat, which is shown in Fig. 5, the backrest portion 3 may comprise a lower backrest portion 3a and a headrest portion 3b, wherein the height of the headrest portion 3b is adjustable with regard to the lower backrest portion 3a. In this embodiment the pair of apertures 11 and corresponding locking elements 12 may be arranged in the headrest portion 3b, preferably at or near a lower end thereof, such that upon adjustment of the headrest portion 3b, the connection points of the shoulder belts 7 are automatically adjusted as well to suit the specific height of the child seated in the seat.

[0034] It is noted that the invention is not limited to the specific embodiments shown in the drawing. The embodiments shown serve as an example. Modifications and variations are readily conceivable by a person skilled in the art and must be considered to fall within the scope of the invention.

Hier beginnen de conclusies Claims

1. Child bicycle seat comprising a seat portion and a backrest portion, the seat being provided with fixing means for fixing the child seat on a bicycle, and the seat furthermore including a belt assembly for securing a child in the child seat, which belt assembly comprises a pair of shoulder belts and a crotch belt, said crotch belt being fixedly connected to the seat portion, **characterized in that** the shoulder belts are at a lower end fixedly connected to the crotch belt, and at an upper end connectable to the backrest portion via a quick-lock/quick-release mechanism so as to provide a quick locking of the shoulder belts to

the backrest portion when a child is seated in the seat and to provide a quick release of the shoulder belts when a child is to be taken out of the seat.

2. Child bicycle seat according to claim 1, wherein the belt assembly is a three-point belt assembly with a crotch belt and two shoulder belts, which crotch belt and shoulder belts are interconnected by a connecting element, wherein the crotch belt is fixedly anchored to the seat portion of the seat.

3. Child bicycle seat according to claim 1 or 2, wherein each of the shoulder belts includes a first locking element at the upper end, and wherein the backrest portion is provided with second locking elements which are releasably connectable with the respective first locking elements on the shoulder belts.

4. Child bicycle seat according to claim 3, wherein the backrest portion, on a front side thereof, is provided with at least one pair of apertures, wherein the second locking elements are arranged in the backrest behind said apertures, such that the first locking elements, provided on the shoulder belts, are insertable in said apertures so as to connect the first locking elements with the second locking elements.

5. Child bicycle seat according to any one of the preceding claims, wherein the quick-lock/quick-release mechanism includes a latch mechanism.

6. Child bicycle seat according to any one of claims 3 - 5, wherein the first locking elements are provided with an operating button for releasing the quick-lock/quick-release mechanism, such that the first locking elements can be pulled from the second locking elements and the child can be taken out of the seat.

7. Child bicycle seat according to any one of the preceding claims, wherein the shoulder belts are provided with a padding to engage the shoulder of the child.

8. Child bicycle seat according to any one of the preceding claims, wherein the shoulder belts include a strap and, in a shoulder engaging section thereof, include a relatively stiff structure, connected to the strap for withholding and supporting the child.

9. Child bicycle seat according to claim 8, wherein the shoulder belts, preferably at a lower end of the relatively stiff structure mentioned in claim 8, are provided with an adjustment mechanism for the straps.

Example 3

You can see how the claims can be formulated in [Example 3](#).

The above-mentioned examples give you an introduction how to structure a patent application. Your contact person at EP&C will be more than happy to go through the draft patent application with you in more detail. We start by looking at and discussing claim 1. Once we are both convinced that the patent application is as clear and complete as possible, then we can file the application. The day on which the application is filed, consequently determines the day on which you can present the invention that is described in your patent application, to the outside world. For more detailed information on the rules that apply, please see our White Paper entitled *Putting the world at your fingertips with priority rights*.

It's our business to put your business first

Example 2

Set your sights on optimal protection

Our attorneys are used to dealing with areas of technology in which a great many patents have already been granted. These can leave you feeling like there is little room for manoeuvre. However, with help from our experienced attorneys, you'll be able to navigate your way past these obstacles, and set your sights on optimal patent protection for your inventions.

Rijswijk

Sir Winston Churchilllaan 295a
2288 DC Rijswijk
The Netherlands
T +31 70 414 54 54

Utrecht

Newtonlaan 115
3584 BH Utrecht
The Netherlands
T +31 30 273 75 10

Amsterdam

Rietlandpark 301
1019 DW Amsterdam
The Netherlands
T +31 20 305 28 88

Turnhout

Antoine Coppenslaan 27-B4
B-2300 Turnhout
Belgium
T +32 14 481 040



www.epc.nl/en

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