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01150 24/02/89

COMMONWEALTH OF AUSTRALIA  
Patents Act 1952-1966

CONVENTION APPLICATION FOR A PATENT

INSTRUCTIONS

Full name(s) of applicant(s).

~~I/We~~ ROMER-BRITAX AUTOGURTE GmbH

PATENT, TRADE MARKS & DESIGNS SUB-OFFICE  
24 FEB 1989  
SOUTH AUSTRALIA

Address(es) of applicant(s).

of Postfach 3449  
Blaubeurer Strasse 35-37  
7900 Ulm, Germany

hereby apply for the grant of a Patent for an invention entitled  
"CHILD'S SAFETY SEAT"

Title of invention.

which is described in the accompanying complete specification. This application is a Convention application and is based on the following application or applications for a patent or patents or similar protection made in the following country or countries.

Country(ies) in which basic application(s) was/were made and date and number(s) of basic application(s).

in Great Britain on 25th February 1980 No. 8804469

in on 19 No.

in on 19 No.

~~My/Our~~ address for service is care of R. K. MADDERN and ASSOCIATES, Patent Attorneys.  
34597 King William Street, Adelaide, South Australia 5000.

Dated this 24th day of February 1989

May be signed by Australian Patent Agent

01150

~~ROMER-BRITAX~~ AUTOGURTE GmbH  
By its Patent Attorneys  
R K MADDERN & ASSOCIATES

*[Signature]*  
R S CATT

APPLICATION ACCEPTED AND AMENDMENTS

ALLOWED 5-2-91

To: The Commissioner of Patents  
Commonwealth of Australia.

APPLICATION TO BE IN PERSONAL NAMES UNLESS BY BODIES  
INCORPORATED BY LAW.

COMMONWEALTH OF AUSTRALIA  
Patents Act 1952-1966

INSTRUCTIONS  
INSTRUKTIONEN

DECLARATION IN SUPPORT OF A CONVENTION APPLICATION  
FOR A PATENT OR PATENT ADDITION

Insert No. if available.  
Wenn moeglich, Nummer  
anfuehren.

Full name(s) of  
applicant(s).  
Voller Name oder  
Namen des/der  
Anmelder(s).

Title of Invention.  
Name der Erfindung.

Full name(s) of  
declarant(s).  
Voller Name oder Namen  
des/der Deklaranten.

Address(es) of  
declarant(s).  
Adresse des/derselben.

In support of the Convention application made by

Romer-Britax Autogurte GmbH

for a patent/~~patent of addition~~ for an invention entitled...

Child's Safety Seat

I/We WALDEMAR CZERNAKOWSKI

of Ferdinand-Sauerbruch Strasse 3  
7901 Blaustein 1  
West Germany

RECEIVED  
8 FEB 1989  
PATENT DEPT.

do solemnly and sincerely declare as follows:—

1. ~~I am/We are the applicant(s) for the patent/patent of addition~~  
(or, in the case of an application by a body corporate)  
(oder im Falle einer Anmeldung einer juristischen Person)

1. I am/We are authorized by the abovementioned applicant(s) for the patent/patent of addition to make this declaration on its/their behalf.

2. The basic application(s) as defined by section 141 of the Act was/were made in the following country or countries on the following date(s) by the following applicant(s) namely:—

in Great Britain on 25 February 1988  
by Romer-Britax Autogurte GmbH

~~in~~ ~~on~~ ~~19~~  
~~by~~

~~in~~ ~~on~~ ~~19~~  
~~by~~

3. ~~I am/We are the actual inventor(s) of the invention referred to in the basic application~~  
(or, where a person other than the inventor is the applicant)  
(oder wenn der Anmelder eine andere Person als der Erfinder ist)

- 1) HERMANN WETTER of Alpenstrasse 60, 7900 Ulm, West Germany, and
- 2) CHRISTIAN STYSCH of Eberhardtstrasse 46/8, 7900 Ulm, West Germany

of

is/are the actual inventor(s) of the invention and the facts upon which the applicant(s) is/are entitled to make the application are as follows:—  
The Applicant is the assignee of the invention from the actual inventors.

4. The basic application(s) referred to in paragraph 2 of this Declaration was/were the first application(s) made in a Convention country in respect of the invention the subject of the application.

Declared at Ulm, Germany this sixth day of February 19 89

Address(es) of actual  
inventor(s).  
Adresse des/derselben.

Rights in which  
applicant(s) derive(s)  
title from actual  
inventor(s).  
e.g., (the applicant(s)  
is/are the assignee(s)  
of the actual inventor(s).

Angabe durch welchen  
Umstand der/die  
Anmelder befuert sind den  
Titel der Erfindung  
von dem eigentlichen  
Erfinder zu erhalten,  
z.B. Der Anmelder ist  
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Paragraph 4—strike out  
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required).  
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benoetigt.

*W. Czernakowski*  
.....  
W. CZERNAKOWSKI - Director  
.....

To: The Commissioner of Patents,  
Commonwealth of Australia.

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(12) PATENT ABRIDGMENT (11) Document No. AU-B-30714/89  
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(54) Title  
CHILD'S SAFETY SEAT

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(56) Prior Art Documents  
AU 38635/72  
US 3948556

(57) Claim

1. A child's safety seat for use on a vehicle seat of a motor vehicle, said vehicle seat comprising a seat member and a backrest member and having an adult seat belt with bottom anchorages, said safety seat comprising a seat body and a base member pivotally coupled to the seat body and adapted to rest on the seat member of the vehicle seat so as to support the seat body out of contact with the seat member of the vehicle seat as the seat body pivots between an upright position and a reclined position, the seat body having a seat portion, a backrest portion and a member extending rearwardly from the backrest portion and defining an opening for receiving the adult seat belt so that the seat body is movable between its upright position and its reclined position without unfastening such adult seat belt, said opening having a rear edge of arcuate shape such that, when a rear edge of the rearwardly-extending member is in contact with the backrest member of the vehicle seat, the shortest

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(10) 609257

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distance between the rear edge of the opening and the bottom anchorages of the adult seat belt remains substantially constant as the seat body is moved between its upright position and its reclined position.

COMMONWEALTH OF AUSTRALIA  
PATENTS ACT 1952-62

609257 Form 10

# COMPLETE SPECIFICATION

(ORIGINAL)

FOR OFFICE USE:

Application Number:  
Lodged:

Class

Int. Class

Complete Specification Lodged:  
Accepted:  
Published:

Priority:

Related Art:

This document contains the  
amendments made under  
Section 49 and is correct for  
printing.

Name of Applicant: TO BE COMPLETED BY APPLICANT  
ROMER-BRITAX AUTOCURTE GmbH

Address of Applicant: Postfach 3449  
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Actual Inventors: Hermann WETTER and Christian STYSCH

Address for Service: C/- R K Maddern & Associates, 345 King William Street,  
Adelaide, South Australia, Australia,

Complete Specification for the invention entitled:  
"CHILD'S SAFETY SEAT"

The following statement is a full description of this invention, including the best method of performing it  
known to me. us.

## ABSTRACT

### CHILD'S SAFETY SEAT

A child's safety seat for use in a motor vehicle, consists of a seat body (16) having a seat portion (18) and a backrest portion (20) with a flange (22, 24) extends rearwardly from the backrest portion (20). A  
5 base member (32) is pivotally coupled to the seat body (16) and arranged to rest on the seat portion (10) of a vehicle seat so as to support the seat body (16) either in an upright position or in a reclined position. The flange (22, 24) has an opening (26) for receiving an  
10 adult seat belt (14) with a rear edge (40) of arcuate shape such that, when a rear edge of the flange (22, 24) is in contact with the backrest portion (12) of the vehicle seat, the shortest distance between the rear edge (40) of the opening (26) and the bottom anchorages (15)  
15 for the adult seat belt (14) remains substantially constant as the seat body (16) is moved between its upright position and its reclined position.

## CHILD'S SAFETY SEAT

5 This invention relates to a child's safety seat for use on a vehicle seat of a motor vehicle, said vehicle seat comprising a seat member and a backrest member and having an adult seat belt with bottom anchorages, said safety seat comprising a seat body and a base member pivotally coupled to the seat body and adapted to rest on the seat member of the vehicle seat so as to support the seat body out of contact with the seat member of the vehicle seat as the seat body pivots between an upright position and a reclined position, the seat body having a seat portion, a backrest portion and a member extending rearwardly from the backrest portion and defining an opening for receiving the adult seat belt so that the seat body is movable between its upright position and its reclined position without unfastening such adult seat belt.

10 A child's seat of this type is disclosed in US-A-3948556. The connection between the seat body and the base is such that the adult belt must be slackened to allow the seat can to moved between its upright position and its reclined position. The present invention aims to provide a child's seat which is not subject to this disadvantage.

15 According to the invention in a safety seat of the foregoing type, the rear edge of the opening in the member extending rearwardly from the backrest portion is of arcuate shape such that, when a rear edge of the flange is in contact with the backrest portion of the vehicle seat, the shortest distance between the rear edge of the opening and the bottom anchorages for the adult seat belt remain substantially constant as the seat body is moved between its upright position and its reclined position.

20 The member extending rearwardly from the backrest portion may comprise a flange formed in one piece with the seat body.

25 Preferably the base member has a handle at its front end.

30 Manually releasable locking means may be provided for resisting relative angular movement between the seat body and the base member.



pivots between its upright position and its inclined position, and the opening in the flange on the seat body has a rear edge of arcuate shape such that, when a rear edge of the flange is in contact with the back rest portion of the vehicle seat, the shortest distance between the rear edge of the opening and the bottom anchorages for the adult seat belt remains substantially constant as the seat body is moved between its upright position and its reclined position.

Preferably the base member has a handle at its front end.

Manually releaseable locking means may be provided for resisting relative angular movement between the seat body and the base member.

An embodiment of the invention will now be described, by way of example, with reference to the accompanying drawing, in which:

Figure 1 is a side view of a child safety seat in accordance with the invention, positioned in its upright position on a vehicle seat;

Figure 2 is a side view, similar to Figure 1, but showing the child seat in its reclined position; and

Figure 3 is a sectional view taken on the line 3 - 3 in Figure 1, but with the vehicle seat omitted.

As can be seen from the drawings, a vehicle seat comprises a seat portion 10 and a back rest portion 12. An adult seat belt 14 is secured to anchorages 15 and projects through a gap between the seat portion 10 and the back rest portion 12.

A child's safety seat in accordance with the invention comprises a seat body 16 having a seat portion 18 and a back rest portion 20, together with a pair of side flanges 22 and 24 (Figure 3), each of which is secured to a respective side edge of both the seat portion 18 and the back rest portion 20 so as to project both forwardly/upwardly and rearwardly/downwardly

therefrom. The forward/upward part of each flange 22, 24 serves to form a conventional armrest and head support wing on each side of the seat body 16. The rearwardly/downwardly projecting part of each of the flanges 22, 24 has an opening 26 behind the backrest 22, and a V-shaped recess 28, 30 in its outer face, below the seat portion 18.

A base member 32 rests on the seat portion 10 of the vehicle seat and has a pair of upwardly projecting V-shaped brackets 34, 36, each of which engages in the V-shaped recess 28, 30 in a respective one of the flanges 22, 24. The recesses 28, 30 are wider than the brackets 34, 36 by an amount chosen to permit the required range of relative angular movement between the upright position and the reclined position of the seat body 16. The brackets 34, 36 are connected to the seat body 16 by pivot pins 38, which engage in oversize holes so that, in normal use, the seat body 16 is supported on the base member 32 by engagement of the top edge of each bracket 34, 36 with the abutting edge of the corresponding recess 28, 30. The pivot pins 38 merely serve to keep the seat body 16 and the base member 32 interconnected when the vehicle seat belt 14 is unfastened.

In accordance with the invention, the rear edge of each of the openings 26 in the flanges 22, 24 includes an arcuate portion 40 which is shaped and positioned so that, provided that as the rear edges 42 of the flanges 22, 24 remaining in contact with the front face of the vehicle seat back 12 as the seat body 16 moves between its upright position shown in Figure 1 and its reclined position shown in Figure 2, the length of the seat belt 14 can remain unaltered. It is therefore possible to move the seat body 16 between its two positions without disturbing a sleeping occupant of the child's seat. A handle 44 is provided on the front of the base member 32 to facilitate this movement.

Referring particularly to Figure 3, the side flange 22 on the seat occupant's left hand side has a pair of blind holes 46 and 48 in its inner side face opposite to the recess 28 and below the pivot pin 38. A locking rod 50 is slidably mounted in a bracket 52 on the base member 32 so that one end thereof its movable into the front hole 46 when the seat body 16 is in its upright position, as shown in Figures 1 and 3, and into the rear hole 48 when the seat body 16 is in its reclined position, as shown in Figure 2. The other end of the rod 50 is connected by a pivot pin 54 to one end of a bell-crank lever 56 which is mounted on a pivot pin 58 secured to the base member 32. The other end of the bell-crank lever 56 is coupled by a pivot pin 60 to the rear end of an actuating rod 62 which has a hand grip 64 on its front end. The hand grip 64 is mounted in guide brackets 66 and 68 so as to be positioned closely behind the handle 44 on the base member 32. A tension spring 70, connected between the rear end of the actuating rod 62 and an anchorage 72 on the base member 32, biases the locking rod 50 into one or other of the holes 46 and 48. Squeezing the hand grip 64 against the handle 44 displaces the locking rod 50 out of the hole 46, 48 in which it is engaged, allowing the seat body 16 to pivot between its upright position and its reclined position.

A conventional child's harness is provided for retaining a child occupant in the child's seat body 16 but, since this forms no part of the invention, it is not illustrated.

## THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. A child's safety seat for use on a vehicle seat of a motor vehicle, said vehicle seat comprising a seat member and a backrest member and having an adult seat belt with bottom anchorages, said safety seat comprising a seat body and a base member pivotally coupled to the seat body and adapted to rest on the seat member of the vehicle seat so as to support the seat body out of contact with the seat member of the vehicle seat as the seat body pivots between an upright position and a reclined position, the seat body having a seat portion, a backrest portion and a member extending rearwardly from the backrest portion and defining an opening for receiving the adult seat belt so that the seat body is movable between its upright position and its reclined position without unfastening such adult seat belt, said opening having a rear edge of arcuate shape such that, when a rear edge of the rearwardly-extending member is in contact with the backrest member of the vehicle seat, the shortest distance between the rear edge of the opening and the bottom anchorages of the adult seat belt remains substantially constant as the seat body is moved between its upright position and its reclined position.

2. A child's safety seat according to claim 1, wherein the member extending rearwardly from the backrest portion comprises a flange formed in one piece with the seat body.

3. A child's safety seat according to claim 2, wherein a respective flange extends rearwardly from each side of the backrest portion of the seat body, each flange having an opening with a rear edge of said arcuate shape.

4. A child's safety seat according to claim 3, wherein each rearwardly-extending flange also has a downwardly-extending portion projecting from the seat portion of the seat body and connected to the base member by pivotal couplings.



5. A child's safety seat for use in a motor vehicle,  
substantially as hereinbefore described with reference to the  
accompanying drawings.

DATED this 24th day of February, 1989.

ROMER-BRITAX AUTOGURTE GmbH  
By its Patent Attorneys  
R K MADDERN & ASSOCIATES

*RK*





30714/89.

Fig. 3.

