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2 October 2015

COLLISON & CO
GPO Box 2556,
Adelaide,
South Australia 5001
Australia

Re: Request for an International Preliminary Examination to be carried out on
Application number PCT/AU2015/000296 in the name of LIFE BELT PTY
LIMITED

Your Ref: 64210PCT JOM

Dear Madam/Sir,

Thank you for your request instructing IP Australia to issue an International Preliminary Examination Report.

Please find attached the International Preliminary Examination Report.

I apologise for any inconvenience resulting from the International Preliminary Examination Report not being issued within the time set out in our Customer Service Charter.

If you need further information please contact me on 0262832429. Alternatively, you may visit us at www.ipaustralia.gov.au

Yours Sincerely,

Naveen De Silva
Patent Examination B
A4 - Mechanical
0262832429

PATENT COOPERATION TREATY

From the:
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To: COLLISON & CO GPO Box 2556, Adelaide, South Australia 5001 Australia		PCT NOTIFICATION OF TRANSMITTAL OF INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter II of the Patent Cooperation Treaty) (PCT Rule 71.1)	
		Date of mailing <i>(day/month/year)</i> 02 October 2015	
Applicant's or agent's file reference 64210PCT JOM		IMPORTANT NOTIFICATION	
International application No. PCT/AU2015/000296	International filing date <i>(day/month/year)</i> 21 May 2015	Priority date <i>(day/month/year)</i> 22 May 2014	
Applicant LIFE BELT PTY LIMITED			

1.	The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary report on patentability and its annexes, if any, established on the international application.		
2.	A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.		
3.	Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translations to those Offices.		
4.	REMINDER The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301). Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned. For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the <i>PCT Applicant's Guide</i>. The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed invention is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.		
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 5px;"> Name and mailing address of the IPEA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA Email address: pct@ipaustalia.gov.au </td> <td style="width: 50%; padding: 5px;"> Authorised officer Naveen De Silva AUSTRALIAN PATENT OFFICE (ISO 9001 Quality Certified Service) Telephone No. 0262832429 </td> </tr> </table>		Name and mailing address of the IPEA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA Email address: pct@ipaustalia.gov.au	Authorised officer Naveen De Silva AUSTRALIAN PATENT OFFICE (ISO 9001 Quality Certified Service) Telephone No. 0262832429
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PATENT COOPERATION TREATY
PCT
INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 64210PCT JOM	FOR FURTHER ACTION		See Form PCT/IPEA/416																
International application No. PCT/AU2015/000296	International filing date (<i>day/month/year</i>) 21 May 2015	Priority date (<i>day/month/year</i>) 22 May 2014																	
International Patent Classification (IPC) or national classification and IPC B60R 22/195 (2006.01) B60R 22/12 (2006.01) B60R 22/10 (2006.01)																			
Applicant LIFEBELT PTY LIMITED																			
1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36. 2. This REPORT consists of a total of 4 sheets, including this cover sheet. 3. This report is also accompanied by ANNEXES, comprising: a. ☒ (<i>sent to the applicant and to the International Bureau</i>) a total of 15 sheets, as follows: ☒ sheets of the description, claims and/or drawings which have been amended and/or sheets containing rectifications authorized by this Authority, unless those sheets were superseded or cancelled, and any accompanying letters (see Rules 46.5, 66.8, 70.16, 91.2, and Section 607 of the Administrative Instructions). ☐ sheets containing rectifications not taken into account by this Authority because they were not available at the time when this Authority began to draw up this report, and any accompanying letters (Rules 66.4bis, 70.2(e), 70.16 and 91.2). ☐ Superseded sheets and any accompanying letters, where this Authority either considers that the superseding sheets contain an amendment that goes beyond the disclosure in the international application as filed, or the superseding sheets were not accompanied by a letter indicating the basis for the amendments in the application filed, as indicated in item 4 of Box No. I and the Supplemental Box (see Rule 70.16(b)). b. ☐ (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see paragraph 3bis of Annex C of the Administrative Instructions). 4. This report contains indications relating to the following items: <table style="margin-left: 20px; border: none;"> <tr><td>☒ Box No. I</td><td>Basis of the report</td></tr> <tr><td>☐ Box No. II</td><td>Priority</td></tr> <tr><td>☐ Box No. III</td><td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td></tr> <tr><td>☐ Box No. IV</td><td>Lack of unity of invention</td></tr> <tr><td>☒ Box No. V</td><td>Reasoned statement under Article 35(2) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement</td></tr> <tr><td>☐ Box No. VI</td><td>Certain documents cited</td></tr> <tr><td>☐ Box No. VII</td><td>Certain defects in the international application</td></tr> <tr><td>☐ Box No. VIII</td><td>Certain observations on the international application</td></tr> </table>				☒ Box No. I	Basis of the report	☐ Box No. II	Priority	☐ Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	☐ Box No. IV	Lack of unity of invention	☒ Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement	☐ Box No. VI	Certain documents cited	☐ Box No. VII	Certain defects in the international application	☐ Box No. VIII	Certain observations on the international application
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Date of submission of the demand 02 September 2015		Date of completion of this report 2 October 2015																	
Name and mailing address of the IPEA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA Email address: pct@ipaaustralia.gov.au		Authorised officer Naveen De Silva AUSTRALIAN PATENT OFFICE (ISO 9001 Quality Certified Service) Telephone No. 0262832429																	

Box No. I

Basis of the report

1. With regard to the **language**, this report has been established on the basis of:
- ☒ The international application in the language in which it was filed:
- ☐ A translation of the international application into , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3(a) and 23.1 (b)).
- ☐ publication of the international application (under Rule 12.4(a)).
- ☐ international preliminary examination (Rules 55.2(a) and/or 55.3(a) and (b)).
2. With regard to the **elements** of the international application, this report is based on (*replacement sheets which have been furnished to the receiving office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):
- ☐ the international application as originally filed/furnished, or
- ☒ the description: pages **1-13** , as originally filed/furnished
pages , received by this Authority on with the letter of
- ☒ the claims: pages , as originally filed/furnished
pages , as amended (together with any statement) under Article 19,
pages **14-17** , received by this Authority on **02 September 2015** with the letter of **02 September 2015**
- ☒ the drawings: pages **1-10** , as originally filed/furnished
pages , received by this Authority on with the letter of
- ☐ a sequence listing - see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (specify):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since either they are considered to go beyond the disclosure as filed, or they were not accompanied by a letter indicating the basis for the amendments in the application as filed, as indicated in the Supplemental Box (Rules 70.2(c) and (c-bis)):
- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (specify):
5. ☐ This report has been established:
- ☐ taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rules 66.1(d-bis) and 70.2(e)).
- ☐ without taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rules 66.4bis and 70.2(e)).
6. With regard to top-up searches (Rules 66.1ter and 70.2(f)):
- ☒ A top-up search was carried out by this Authority on 30 September 2015.
- ☐ Additional relevant documents have been discovered during the top-up search.
- ☐ No top-up search was carried out by this Authority because it would serve no useful purpose.
7. ☐ Supplementary international search report(s) from Authority(ies)
has/have been received and taken into account in establishing this report (Rule 45bis.8(b) and (c)).

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International Application No.

PCT/AU2015/000296

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims 1-13	YES
	Claims NONE	NO
Inventive step (IS)	Claims 1-13	YES
	Claims NONE	NO
Industrial applicability (IA)	Claims 1-13	YES
	Claims NONE	NO

2. CITATIONS AND EXPLANATIONS:

CITATIONS

D1: WO 2012/048363 A1 (LIFEBELT PTY LIMITED) 19 April 2012
D2: US 2004/0070191 A1 (HIGUCHI et al.) 15 April 2004
D3: US 7469766 B2 (GUO et al.) 30 December 2008
D4: US 5076608 A (SHIMOSE) 31 December 1991
D5: EP 2371630 B1 (HONDA MOTOR CO., LTD.) 19 December 2012

NOVELTY (N)

YES: Claims 1-13

Document D1 is considered to represent the closest prior art.

D1 discloses a motor vehicle seatbelt restraint arrangement (10, figure 1), said arrangement including; a continuous seatbelt, said continuous seatbelt at an upper end anchored at the back and at the top (14) of a motor vehicle seat to which said motor vehicle seat an occupant would be restrained therein; said continuous seatbelt extendable longitudinally down a first side (5) of the motor vehicle seat for engagement with a first anchored guide (20) at or towards the base of the motor vehicle seat, said first anchored guide (20) arranged to allow the continuous seatbelt to be positioned on or under a seating surface of the motor vehicle seat to provide for an underside belt portion, wherein the continuous seatbelt at the end of the underside belt portion terminates and is anchored at a first anchor point (23, figure 1) to a second side (3) of the motor vehicle seat (page 8, line 25 – page 9, line 5); a seatbelt buckle (9) mountable on the second side of the motor vehicle seat, wherein the seatbelt buckle is fixed mounted at a second anchor point, wherein the second anchor point is rearward of the first anchor point (page 8, lines 8-16); a seatbelt buckle tongue (9), said seatbelt buckle tongue slidably engagable with the continuous belt such that when the occupant is seated in the motor vehicle seat the seatbelt buckle tongue is drawn across the body of the occupant and fastened into the seatbelt buckle.

However, none of the cited documents discloses a pre-impact configuration of the seatbelt restraint arrangement, pre-impact configuration providing a loop arrangement of the continuous seatbelt wherein the loop arrangement for the pre-impact configuration includes a lap belt portion of the continuous seatbelt that rests on the hips or upper legs of the occupant rearward vertically offset relative to the underside belt portion, wherein pre-impact configuration of the lap belt portion vertically offset relative to the underside belt portion is provided by the seatbelt buckle fixed mounted at the second anchor point rearward of the first anchor point; and an impact configuration of the seatbelt restraint arrangement, wherein the loop arrangement of the continuous seatbelt in the impact configuration is characterised by a reduction in the rearward vertically offset between the lap belt portion and the underside belt portion of the continuous seatbelt to provide a substantially vertically aligned lap belt portion and the underside belt portion for the loop arrangement around the hips or upper legs of the occupant at the moment of impact thereby preventing submarining of the occupant out from the motor vehicle seat during impact.

Claims 1 to 13 are therefore novel and complies with PCT Article 33(2).

INVENTIVE STEP (IS)**YES: Claims 1-13**

The invention defined in Claims 1-13 is not obvious to a person skilled in the art from the cited documents, when taken individually or in any combination. Therefore Claims 1-13 involves an inventive step and therefore complies with PCT Article 33(3).

INDUSTRIAL APPLICABILITY (IA)**YES: Claims 1-13**

The invention defined in the claims 1-13 is considered to meet the requirements of Industrial Applicability under Article 33(4) of the PCT because it can be made by, or used in, industry.

Patent and Trade Mark Attorneys

- AUSTRALIA
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Please quote our reference

Our Ref: 64210PCT JOM:JP

2 September 2015

**THE COMMISSIONER OF PATENTS
WODEN ACT 2606**

Commissioner

**P.C.T. Patent Application No: PCT/AU2015/000296
A MOTOR VEHICLE SEATBELT RESTRAINT ARRANGEMENT
LIFEBELT PTY LIMITED**

We thank the Examiner, Naveen De Silva, for the Written Opinion provided on this PCT application and dated 24 June 2015.

In response to the issued Written Opinion, please find enclosed herewith a request for International Preliminary Examination (IPE) in respect to this PCT application.

The applicant has had the opportunity of reviewing the Examiner's reasoned statement with respect to novelty, inventiveness and industrial applicability under Item 1 of Box No. V as well as the citations and explanations provided under Item 2 of Box No. V.

By way in part of addressing those matters raised in relation to novelty and inventiveness, we enclose herewith a Statement of Amendments of which changes we ask be included into the document.

From the outset, the applicant would like to make it clear that it was never the intention to define and present a claim set to cover the arrangements referenced by the Examiner. The applicant is acutely aware of the prior art in this area of technology and notably its own prior published PCT application referenced by the Examiner as D1.

The scope of this invention as originally drafted was not expected to be interpreted so broadly to take in such arrangements as referenced under citation D1, nor were the original claims meant to present an invention consistent in teaching with what has been disclosed in citation D2, as the kinds of arrangements referenced in citations D1 and D2 would not be able to meet the requirements of the objects of this invention in overcoming the listed problems as detailed on page 3, paragraphs 10, 11, 12 and 13 of this PCT application.

The amended claim set enclosed herewith has been re-worded and restricted, supported from the description as originally filed, so as to more appropriately define the essential aspects of this invention, notably the establishment of a seatbelt restraint arrangement wherein the occupant at first instance when being buckled into the seat establishes a pre-impact position such that at the time of impact the occupant's momentarily repositioning results in a unique alignment of the lap belt portion and the under belt portion to establish a requisite loop that would tension and wrap around the upper legs and noose the anterior aspects of the pelvis of the seat occupant to maximise the prevention of the occupant submarining and translocation forward out from the seat than hitherto would have been expected from the prior art arrangements reference in citations D1 and D2.

Technology involving seatbelt restraints for a motor vehicle, while at first instance to the Examiner, to whom takes on the mantle of the "Person Skilled in the Art" may not seem to involve advanced and/or high end mechanical and structural engineering prowess, the fact remains that subtle changes in structural configuration in a seatbelt design can result in significant unexpected outcomes that can either provide substantial improvements to occupant safety and well being, or actually exposure to enhanced potential hazards that could place the occupant's life at risk in an event of vehicle impact.

The applicant in this invention has been able to significantly improve upon embodiments presented in its own earlier citation D1 and presents a fundamentally different design to those embodiments listed in citation D2, notably figures 2 and 3 to which the PCT Examiner for the most part relies upon in his "inventive step" comments against claim 1.

The claims now as amended, consistent with all the preferred embodiments discussed in the specification, firstly requires that the continuous seatbelt at the end of the underside portion "terminates and is anchored at a first anchor point" which is on the opposing side to which the continuous belt was originally anchored at an upper end at the back, rearward and/or at the top of the motor vehicle seat in which the occupant would be restrained therein.

Secondly, of fundamental importance of this invention is the requirement that the seatbelt buckle is not only mounted on the same side as the "the first anchor point" but the seatbelt buckle must be "fixed mounted at a second anchor point, wherein the second anchor point is **rearward** of the first anchor point".

By having the seatbelt buckle separated from the continuous belt and fixed mounted at the second anchor point rearward of the first anchor point to which the continuous belt terminates there at, this then provides for the pre-impact configuration of the seatbelt arrangement, wherein rather than having, as is the case with citation D1, the loop configuration having the lap belt portion of the continuous belt and the underside belt portion of the continuous belt substantially vertically aligned and/or overlapping one with respect to the other, there is a clear rearward vertically offset of the lap belt portion of the continuous belt to that of the underside belt portion when the vehicle seat occupant initially draws the seat belt buckle tongue across his or her body to then fasten the buckle tongue into the fixed mounted buckle at the second anchor

point which is rearward of the first anchor point to which the continuous seatbelt terminates at.

For citation D1 at first instance based on the PCT Examiner's comments with respect to novelty and/or inventiveness, there appears to have been a mistaken interpretation of Figure 1 made by the Examiner which appears to be inconsistent with what has been described as the invention for citation D1.

The PCT Examiner states that "the seat buckle (9) is not depicted in the figures". We attach herewith an extract taken from WIPO of the published citation D1 for Figure 1 wherein we have highlighted by way of a red circle both around the reference numeral (9) and the feature of the "seatbelt buckle (9)" itself, which unequivocally shows the presence of the seatbelt buckle (9) in Figure 1.

The applicant however accepts that the seat buckle (9) depicted in Figure 1 while being present, is ambiguous in recognising how the seat buckle (9) is anchored, the seat buckle (9) relevance in relation to the continuous belt per se and whether or not the seatbelt buckle (9) positions the lap belt portion relative to the under side belt portion to establish the requisite pre and post impact loop arrangement of the continuous seatbelt as defined in this PCT application.

Given the ambiguity associated with the seatbelt buckle (9) pictorially shown in figure 1 of citation D1 it would be inappropriate to rely upon an inconclusive schematic simplification of the seatbelt arrangement and more correct to reference the description in the specification which the applicant argues provides a contradictory interpretation to what the PCT Examiner is attempting to obtain from Figure 1 of citation D1 relative to claim 1 of this invention.

Figure 1 of citation D1 needs to be placed in the context of being a preferred embodiment to achieve the outcomes to overcome the problems of the invention as introduced in the background discussion of the invention presented for citation D1.

Citation D1's purpose was to overcome the potential risk to the seat occupant during impact from the seatbelt buckle rising upwards potentially causing abdominal injuries when the vehicle was in an accident.

Figure 1 if to be placed in context of what has been described for the invention in citation D1, the seatbelt buckle (9) "must have a certain amount of relative movement".

Accordingly Figure 1 of citation D1 at best shows the impact configuration of the seatbelt for this invention as the starting position rather than a "pre-impact configuration".

For citation D1 the occupant draws the slidable tongue across into the buckle, and as the buckle is at the end of the continuous belt and the buckle is also slidable rather than fixed against relative movement, the buckle is brought forward such that the fastening of the slidable tongue into the buckle presented in citation D1 allows for a lap sash configuration which as stated in the description several times throughout the specification "encircles the upper thighs of the occupant's seat".

The purpose of the lap sash configuration as described in Citation D1 and if placed in context as illustrated in all figures, is that as the lap belt portion and the underside belt portion of the continuous seat belt have already vertically overlapped and become aligned to encircle the upper thighs of the occupant in the seat once the slidable tongue has been fixed into the relatively moveable seat buckle, this provides a starting "pre impact configuration" structurally and functionally different to the "pre impact configuration" of this invention.

In citation D1 "the buckle or that part of the retractable extendible belt that is encircling the thighs of the occupant of the seat attempts to ride substantially vertically upwards wherein the slidable pull down wedge is forced to move forwardly along the support length thereby substantially preventing vertically upward movement of the buckle and/or upward movement of that part of the retractable/extendible belt that encircles the occupant's thighs.

Hence in citation D1 generally there is no altering, and most certainly no reduction in the rearward vertically offset between the lap belt portion and the underside belt portion of the continuous seatbelt.

The lap belt portion and the underside belt portion remain substantially in their same vertical alignment.

Even if one was to take a contrary interpretation of Figure 1 when compared with the description in the specification, if there was a slight degree of rearward vertical offset between the lap belt portion and the underside belt portion initially in the pre-impact configuration, then that rearward vertical offset has not been reduced any further during the impact because as articulated out by the results of the invention in citation D1, during impact the use or the introduction of the feature involving the slidable pull down wedge, absent from this invention but a requisite in the seatbelt restraint of citation D1, functions not to alter the rearward vertical offset between the lap belt portion and the underside belt portion but simply to maintain the existing "encircling" configuration to prevent the vertical upward movement of the buckle where it could cause occupant abdominal injuries.

Hence the use of the slidable pull down wedge in citation D1 purpose is to maintain the same "encircling configuration about the occupant's thighs" for both the pre and impact configurations and to do so such that on impact rather than changing the loop configuration between the rearward vertical offset between the lap belt portion and the underside belt portion simply stop the seatbelt buckle from riding up and into the abdomen of the occupant.

While the applicant acknowledges that citation D1 had its merits, on testing the concept failed. Importantly for this invention the applicant has made significant structural changes that rely on features neither anticipated nor in any way taught in citations D1 and D2 and in fact are quite contrary to scenarios suggested and presented in these documents.

The applicant, as confirmed by the amendments now included with this response, has recognised that if the impact configuration is established when the occupant initially restrains themselves within the seatbelt then on impact the appropriate encircling of the lap belt portion and the underside belt portion will not be arranged to

as effectively prevent submarining and translocating of the occupant out from the motor vehicle seat during impact.

Importantly for this invention the seatbelt buckle rather than being connected to the continuous belt and/or mounted forwardly of the anchor point of the continuous seatbelt means that when the occupant first restrains themselves in the motor vehicle seat a loop arrangement is established such that the pre-impact configuration will see the lap belt portion of the continuous seatbelt that rests on the hips or upper legs of the occupant being rearward vertically offset relative to the underside belt portion.

This is achieved only because the seatbelt buckle is mounted and fixed rearward of the first anchor point, thereby the buckle is prevented from any relative movement per se from its fixed anchor point, and wherein as introduced above that fixed anchor point is purposely rearward of the first anchor point which secures the terminated end of the continuous belt.

By allowing "upright vertical" movement of the seat buckle of citation D1 does not equate to a reconfiguration of the loop arrangement of the continuous belt for the pre-impact configuration to the impact configuration of this invention.

The applicant above has already reiterated several times that if the Examiner is taking pictorially from Figure 1 such an interpretation then this is contrary and inappropriate as the description referencing Figure 1 unambiguously describes no change in the actual loop arrangement of the rearward vertical offset between the lap belt portion and the underside belt portion, but simply presents arguably a pre-impact configuration wherein vertical offset between the lap belt portion and the underside belt portion remains unchanged during impact wherein the only difference is the utilisation of the slidable pull down wedge which stops the upright vertical movement of the belt buckle on impact.

As citation D2 has been used as depriving the inventive step of claim 1 of this invention, this might be suggestive that the PCT Examiner has taken this invention out of context from the prior art from which it is derived.

As discussed in the background art in the specification, this invention acknowledges hitherto arrangements which have come up with credible configurations that generally prevent submarining of the occupant out from the motor vehicle seat during impact.

The applicant acknowledges that the prior art provides for arrangements that can reduce the likelihood of submarining of the occupant out from the motor vehicle seat during impact if one provided a generally continuous belt which would extend over the shoulder of the main upper body part of the occupant within the seat and allow a lap belt generally aligned within a loop configuration with that part of the belt on the underside of the occupant.

The prior art disclosed that the looping arrangement between the lap belt portion correctly aligned with the underside belt portion, when the belt restraint was initially fastened would provide an appropriate configuration of the seatbelt restraint such that upon impact as the occupant applies downward force during impact, as the underside seatbelt portion is aligned and continuous with the lap belt portion of the

continuous belt, then this would result in a tightening of the loop configuration of the belt wrapping around the upper legs of the occupant being restrained in the seat, thereby preventing submarining.

However, on further research the applicant identified deficiencies in the prior art, notably if the lap belt portion and the underside belt portion were generally vertically arranged one above the other, rather than having any rearward vertical offset when the occupant initially restrain themselves within the seat, ie a pre-impact position, at the time of impact the occupant's momentary re-positioning resulted in the lap belt portion moving forward with respect to the underside belt portion and therefore the requisite loop that should have been created that would encircle and wrap around the upper legs of the occupant upon tensioning of the seatbelt during impact no longer existed.

Figure 2 in citation D2, rather than solving the problem outlined in this current PCT application, discloses and provides embodiments completely contradictory which would only exacerbate safety concerns.

As Figures 2 and 3 of citation D2 clearly illustrates and which is reinforced by the supporting description to these drawings, even from a starting position the lap belt portion of the continuous belt is forwardly vertically offset relative to the underside belt portion.

There is no ambiguity in coming to such a conclusion reviewing Figure 2 because as the PCT Examiner has stated in his own review of the relevance of Figure 2, the seatbelt buckle (28) is fixedly mounted forwardly of the terminating mount of the underside belt portion (31).

Hence from a pre-impact configuration relying upon the teachings of Figures 2 and 3 of citation D2 there is an immediate safety concern and hazard for an occupant restrained in this motor vehicle seat. On impact rather than reducing the rearward vertical offset in order to try and establish vertical alignment between the lap belt portion and the underside belt portion of this invention, citation D2 results in an entirely opposite scenario of increasing the rearward vertical offset between the lap belt portion and the underside belt portion when one moves from a "pre-impact configuration" to an "impact configuration".

As there is no substantial vertical alignment of the lap belt portion and the underside belt portion to create the requisite loop at impact, the appropriate encircling of the occupant's upper legs is not realised and therefore opportunity of preventing submarining and translocating of the occupant from the vehicle seat at impact based on the disclosures of citation D2 are significantly reduced which is completely contrary to the improved outcome expected against submarining and translocating provided by this invention as amended herewith.

Accordingly in light of the above and the enclosed amendments, claim 1 is both novel and inventive.

As the remaining claims ultimately depend from the independent claim 1, it is submitted that these appended claims are allowable at least for the same reasons as claim 1 in relation to novelty and inventive step.

The applicant now calls for an issuing of a favourable Written Report confirming the claims as amended are novel, include an inventive step and have industrial applicability that defines an invention that meets the requirements of Article 6 of the PCT.

Yours faithfully
COLLISON & CO


JOHN O'MAHONEY
(Partner)

Enc.

CLAIMS

1. A motor vehicle seatbelt restraint arrangement, said arrangement including;

a continuous seatbelt, said continuous seatbelt at an upper end anchored at the back, rearward and/or at the top of a motor vehicle seat to which said motor vehicle seat an occupant would be restrainable therein;

said continuous seatbelt extendable longitudinally down a first side of the motor vehicle seat for engagement with a first anchored guide at or towards the base of the motor vehicle seat, said first anchored guide arranged to allow the continuous seatbelt to be positionable on or under a seating surface of the motor vehicle seat to provide for an underside belt portion, wherein the continuous seatbelt at the end of the underside belt portion terminates and is anchored at a first anchor point to a second side of the motor vehicle seat;

a seatbelt buckle mountable on the second side of the motor vehicle seat, wherein the seatbelt buckle is fixed mounted at a second anchor point, wherein the second anchor point is rearward of the first anchor point;

a seatbelt buckle tongue, said seatbelt buckle tongue slidably engagable with the continuous belt such that when the occupant is seated in the motor vehicle seat the seatbelt buckle tongue is drawable across the body of the occupant fastenable into the seatbelt buckle providing;

firstly, a pre-impact configuration of the seatbelt restraint arrangement, pre-impact configuration providing a loop arrangement of the continuous seatbelt wherein the loop arrangement for the pre-impact configuration includes a lap belt portion of the continuous seatbelt that rests on the hips or upper legs of the occupant rearward vertically offset relative to the underside belt portion, wherein

pre-impact configuration of the lap belt portion vertically offset relative to the underside belt portion is provided by the seatbelt buckle fixed mounted at the second anchor point rearward of the first anchor point;

and secondly, an impact configuration of the seatbelt restraint arrangement, wherein the loop arrangement of the continuous seatbelt in the impact configuration is characterised by a reduction in the rearward vertically offset between the lap belt portion and the underside belt portion of the continuous seatbelt to provide a substantially vertically aligned lap belt portion and the underside belt portion for the loop arrangement around the hips or upper legs of the occupant at the moment of impact thereby preventing submarining of the occupant out from the motor vehicle seat during impact.

2. A motor vehicle seatbelt restraint arrangement of claim 1 wherein the first anchored guide is further adapted to laterally extend the continuous seatbelt to a forwardly mounted second anchored guide on the first side of the motor vehicle seat, wherein the second anchored guide allows the continuous seat belt access there from across either above or under the seating surface of the motor vehicle seat to provide for an underside belt portion for the occupant, wherein the continuous seatbelt at the end of the underside belt portion is anchored at the continuous seatbelt anchor point on the second side of the motor vehicle seat.

3. The motor vehicle seatbelt restraint arrangement of claim 1 further including a clip fastenable to said underside belt portion, said clip accessible to the occupant of the motor vehicle seat.

4. The motor vehicle seatbelt restraint arrangement of claim 3 wherein when the lap belt portion of the continuous seatbelt is established by the seatbelt buckle tongue being drawn across the body of the occupant and fastened into the seatbelt buckle so that the lap belt portion of the continuous seatbelt rests on the hips or upper legs of the occupant said lap belt portion is fastenable to the clip so as to provide a pair of loops about each upper leg of the occupant.

5. The motor vehicle seatbelt restraint arrangement of anyone of claims 1 to 4 further including a second belt.
6. The motor vehicle seatbelt restraint arrangement of claim 5 wherein the second belt is anchored on the first side of the motor vehicle seat and configured to extend across the seating surface of the motor vehicle seat to provide for a second underside belt portion.
7. The motor vehicle seatbelt restraint arrangement of claim 6 wherein the second underside belt portion is configured substantially parallel and rearward of the underside belt portion of the continuous seatbelt.
8. The motor vehicle seatbelt restraint arrangement of claims 6 or 7 wherein the second underside belt portion is mounted to a fixed anchor on the first side of the motor vehicle seat and to a guide anchor on the second side of the motor vehicle.
9. The motor vehicle seatbelt restraint arrangement of claim 8 wherein the guide anchor is configured to guide the second belt into a fixed engagement with the seatbelt buckle mountable on the second side of the motor vehicle seat.
10. The motor vehicle seatbelt restraint arrangement of claims 5 or 6 wherein the second underside belt portion extends substantially diagonally across the seating surface of the motor vehicle seat and wherein the underside belt portion of the continuous seatbelt extends substantially diagonally across the seating surface of the motor vehicle seat.
11. The motor vehicle seatbelt restraint arrangement of claim 10 wherein the second underside belt portion is anchored at one end to the seatbelt buckle on the second side of the motor vehicle seat and wherein the second underside belt portion is guided by a fixed anchor guide on the first side of the motor vehicle seat to extend back across the seating surface of the motor vehicle seat to be

anchored at the other end of said second underside belt portion to provide for a third underside belt portion.

12. The motor vehicle seatbelt restraint arrangement of anyone of claims 1 to 11 wherein the occupant has a body structure that includes the body structure of a 10 year old child.

13. The motor vehicle seatbelt restraint arrangement of anyone of claims 1 to 12 wherein the continuous seatbelt is anchored to the vehicle via an inertia reel mechanism.

CLAIMS

1. A motor vehicle seatbelt restraint arrangement, said arrangement including;

a continuous seatbelt, said continuous seatbelt at an upper end anchored at the back, rearward and/or at the top of a motor vehicle seat to which said motor vehicle seat an occupant would be restrainable therein;

said continuous seatbelt extendable longitudinally down a first side of the motor vehicle seat for engagement with a first anchored guide at or towards the base of the motor vehicle seat, said first anchored guide arranged to allow the continuous seatbelt to be positionable on or under a seating surface of the motor vehicle seat to provide for an underside belt portion, wherein the continuous seatbelt at the end of the underside belt portion terminates and is anchored at a ~~continuous seatbelt first~~ anchor point to a second side of the motor vehicle seat;

a seatbelt buckle mountable on the second side of the motor vehicle seat, wherein the seatbelt buckle is fixed mounted at a second anchor point, wherein the second anchor point is rearward of the first anchor point; ~~continuous seatbelt anchored point on the second side of the motor vehicle seat~~;

a seatbelt buckle tongue, said seatbelt buckle tongue slidably engagable with the continuous belt such that when the occupant is seated in the motor vehicle seat the seatbelt buckle tongue is drawable across the body of the occupant fastenable into the seatbelt buckle providing;

firstly, a pre-impact configuration of the seatbelt restraint arrangement, pre-impact configuration providing a loop arrangement of the continuous seatbelt wherein the loop arrangement for the pre-impact configuration includes a lap belt portion of the continuous seatbelt that rests on the hips or upper legs of the

occupant rearward vertically offset relative to the underside belt portion, wherein pre-impact configuration of the lap belt portion vertically offset relative to the underside belt portion is provided by the seatbelt buckle fixed mounted at the second anchor point rearward of the first anchor point;

and secondly, an impact configuration of the seatbelt restraint arrangement, wherein the loop arrangement of the continuous seatbelt in the impact configuration is characterised by a reduction in the rearward vertically offset between the lap belt portion and the underside belt portion of the continuous seatbelt to provide a substantially vertically aligned lap belt portion and the underside belt portion for the loop arrangement around the hips or upper legs of the occupant at the moment of impact thereby preventing submarining of the occupant out from the motor vehicle seat during impact.

2. A motor vehicle seatbelt restraint arrangement of claim 1 wherein the first anchored guide is further adapted to laterally extend the continuous seatbelt to a forwardly mounted second anchored guide on the first side of the motor vehicle seat, wherein the second anchored guide allows the continuous seat belt access there from across either above or under the seating surface of the motor vehicle seat to provide for an underside belt portion for the occupant, wherein the continuous seatbelt at the end of the underside belt portion is anchored at the continuous seatbelt anchor point on the second side of the motor vehicle seat.

3. The motor vehicle seatbelt restraint arrangement of claim 1 further including a clip fastenable to said underside belt portion, said clip accessible to the occupant of the motor vehicle seat.

4. The motor vehicle seatbelt restraint arrangement of claim 3 wherein when the lap belt portion of the continuous seatbelt is established by the seatbelt buckle tongue being drawn across the body of the occupant and fastened into the seatbelt buckle so that the lap belt portion of the continuous seatbelt rests on

the hips or upper legs of the occupant said lap belt portion is fastenable to the clip so as to provide a pair of loops about each upper leg of the occupant.

5. The motor vehicle seatbelt restraint arrangement of anyone of claims 1 to 4 further including a second belt.

6. The motor vehicle seatbelt restraint arrangement of claim 5 wherein the second belt is anchored on the first side of the motor vehicle seat and configured to extend across the seating surface of the motor vehicle seat to provide for a second underside belt portion.

7. The motor vehicle seatbelt restraint arrangement of claim 6 wherein the second underside belt portion is configured substantially parallel and rearward of the underside belt portion of the continuous seatbelt.

8. The motor vehicle seatbelt restraint arrangement of claims 6 or 7 wherein the second underside belt portion is mounted to a fixed anchor on the first side of the motor vehicle seat and to a guide anchor on the second side of the motor vehicle.

9. The motor vehicle seatbelt restraint arrangement of claim 8 wherein the guide anchor is configured to guide the second belt into a fixed engagement with the seatbelt buckle mountable on the second side of the motor vehicle seat.

10. The motor vehicle seatbelt restraint arrangement of claims 5 or 6 wherein the second underside belt portion extends substantially diagonally across the seating surface of the motor vehicle seat and wherein the underside belt portion of the continuous seatbelt extends substantially diagonally across the seating surface of the motor vehicle seat.

11. The motor vehicle seatbelt restraint arrangement of claim 10 wherein the second underside belt portion is anchored at one end to the seatbelt buckle on

the second side of the motor vehicle seat and wherein the second underside belt portion is guided by a fixed anchor guide on the first side of the motor vehicle seat to extend back across the seating surface of the motor vehicle seat to be anchored at the other end of said second underside belt portion to provide for a third underside belt portion.

12. The motor vehicle seatbelt restraint arrangement of anyone of claims 1 to 11 wherein the occupant has a body structure that includes the body structure of a 10 year old child.

13. The motor vehicle seatbelt restraint arrangement of anyone of claims 1 to 12 wherein the continuous seatbelt is anchored to the vehicle via an inertia reel mechanism.