#### (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

## (19) World Intellectual Property Organization

International Bureau



# I NEUR BUNDIN IN BOUND DEUR BUNN BENNE BUNN DE HER HELD BUNN BENNE BUNN BERNE BUNN BERNE BERNE BERN DER DUN BE

### (43) International Publication Date 23 November 2006 (23.11.2006)

**PCT** 

# (10) International Publication Number WO 2006/124674 A3

(51) International Patent Classification: *B60N 2/14* (2006.01) *B60N 2/36* (2006.01) *B60N 2/30* (2006.01)

(21) International Application Number:

PCT/US2006/018551

(22) International Filing Date: 12 May 2006 (12.05.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data: 60/680,597 13 May 2005 (13.05.2005) US

(71) Applicant (for all designated States except US): JOHN-SON CONTROLS TECHNOLOGY COMPANY [US/US]; 915 East 32nd Street, Holland, Michigan 49423 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): HANCOCK, Robert, L. [US/US]; 3321 Alton Ct., Ann Arbor, Michigan 48105 (US). ADAMS, Robert [US/US] (US). **EKERN, David, F.** [US/US]; 378 Joy Road, Plymouth, Michigan 48170 (US). **ZEKAVICA, Ornela** [US/US]; 19180 Northridge, Northville, Michigan 48167 (US).

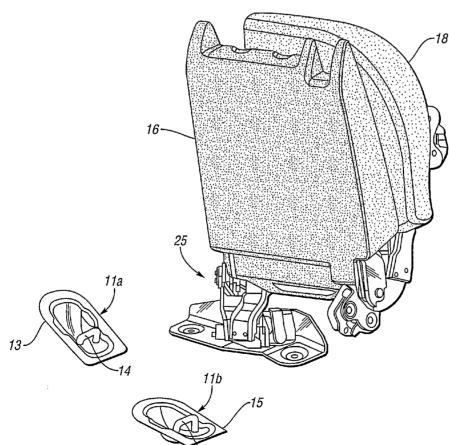
(74) Agent: DOWNING, Kristy, J.; Foley & Lardner LLP, 777 East Wisconsin Avenue, Milwaukee, Wisconsin 53202 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),

[Continued on next page]

(54) Title: VEHICLE SEATING SYSTEM



(57) Abstract: A vehicle seat assembly includes a seat frame having a seat back and stadium-type seat base for movement between a seating position and a storage position to improve ease of entry to the vehicle area behind the vehicle seat. The vehicle seat assembly includes a swing assembly coupled to the seat back and configured to rotate the folded seat assembly around a substantially vertical axis. A single handle operation is included for unlatching the seat latches - the seat base automatically flips up - and pivoting the entire vehicle seat toward the interior of the vehicle to allow easy entry behind the vehicle seat.

### WO 2006/124674 A3



European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

### **Declarations under Rule 4.17:**

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

#### Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

## (88) Date of publication of the international search report:

22 February 2007

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

### INTERNATIONAL SEARCH REPORT

International application No PCT/US2006/018551

a. classii INV .	EICATION OF SUBJECT MATTER B60N2/14 B60N2/30 B60N2/3	6						
According to International Patent Classification (IPC) or to both national classification and IPC  B. FIELDS SEARCHED  Minimum documentation searched (classification system followed by classification symbols)								
B60N								
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched								
Electronic data base consulted during the international search (name of data base and, where practical, search terms used)  EPO-Internal, WPI Data, PAJ								
C. DOCUMENTS CONSIDERED TO BE RELEVANT								
Category*	Citation of document, with indication, where appropriate, of the rele	evant passages	Relevant to claim No.					
Х	US 6 231 103 B1 (ELSON GERALD LE 15 May 2001 (2001-05-15) column 2, line 11 - column 4, li figures		1,2					
Α	US 5 707 103 A (BALK ET AL) 13 January 1998 (1998-01-13) the whole document		1,2					
А	US 5 328 231 A (RAYMOND ET AL) 12 July 1994 (1994-07-12) the whole document		1,2					
Further documents are listed in the continuation of Box C. X See patent family annex.								
* Special categories of cited documents:  "A" document defining the general state of the art which is not considered to be of particular relevance  "E" earlier document but published on or after the international filing date  "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)  "O" document referring to an oral disclosure, use, exhibition or other means		"T' later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention  "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone  "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combined with one or more other such documents, such combination being obvious to a person skilled						
"P" document published prior to the international filing date but later than the priority date claimed "&" document member of the same patent family								
Date of the actual completion of the international search  29 September 2006		Date of mailing of the international search report  2 1, 12, 06						
Name and i	nailing address of the ISA/	Authorized officer						
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016		Jazbec, Simon						

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/US2006/018551

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 6231103	B1	15-05-2001	NONE		
US 5707103	Α	13-01-1998	DE WO	19882254 T0 9842532 A1	24-02-2000 01-10-1998
US 5328231	Α	12-07-1994	NONE		

International application No. PCT/US2006/018551

### INTERNATIONAL SEARCH REPORT

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)					
This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:					
1. Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:					
Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:					
3. Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).					
Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)					
This International Searching Authority found multiple inventions in this international application, as follows:					
see additional sheet					
As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.					
2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.					
3. As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:					
4. No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:  See annex					
Remark on Protest  The additional search fees were accompanied by the applicant's protest.  No protest accompanied the payment of additional search fees.					

### FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

### 1. claims: 1,2

relate to a seat assembly comprising a pivotable seat base and a backrest, a first latch configured to selectively, pivotably lock the seat base relative to the backrest, a second latch coupled to the seat base and configured to selectively couple the seat base to the vehicle, a reclining assembly coupled to the backrest and configured to control the angular orientation of the backrest relative to the seat base, and a swing assembly configured to pivot the seat about its vertical pivot axis.

#### 2. claim: 3

relates to a seat assembly comprising a backrest, a pivotable seat base, a seat frame, a biasing mechanism coupled between the seat base and the backrest to bias the seat base to move toward the backrest, a latch coupled to the seat base and configured to selectively couple the seat base to the vehicle, a swing assembly coupling the seat back to the vehicle to rotate the seat assembly about a pivot axis and a handle located on the backrest and coupled to the latch for releasing the latch and to move seat assembly into an easy entry position.