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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
9 September 2016 (09.09.2016)

WIPO | PCT

(10) International Publication Number
WO 2016/140631 A1

(51) International Patent Classification:
B60N 3/00 (2006.01) *A47B 23/04* (2006.01)
B64D 11/06 (2006.01)

(21) International Application Number:
PCT/TR2015/050273

(22) International Filing Date:
25 December 2015 (25.12.2015)

(25) Filing Language: Turkish

(26) Publication Language: English

(30) Priority Data:
2015/02489 3 March 2015 (03.03.2015) TR

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(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC,

[Continued on next page]

(54) Title: VEHICLE SEAT TABLE ENABLING GRADUAL CHANGE IN THE POSITION OF AN OBJECT PLACED ON IT

(57) Abstract: The invention relates to a table (1) positioned at the seat backrests (10) of vehicle seats. Said table (1) comprises at least two channels (21), which are positioned on the top surface of the table (1), and which enable changing the position of an object positioned in them.

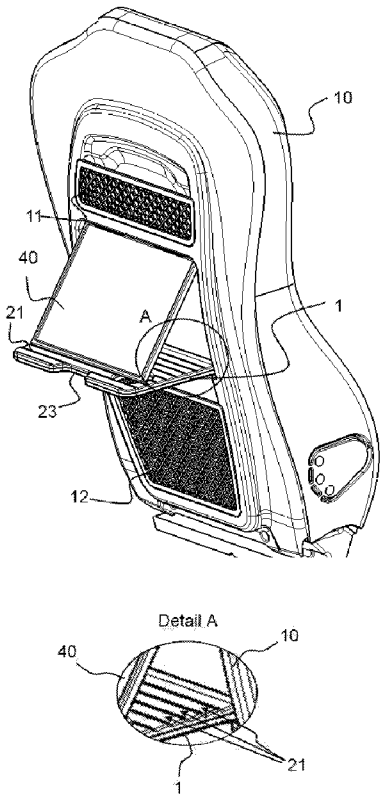

Figure 3a

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SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) **Designated States** *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

— *with international search report (Art. 21(3))*

Vehicle seat table enabling gradual change in the position of an object placed on it

DESCRIPTION

The Related Art

The invention relates to vehicle seat tables.

The invention particularly relates to tables provided for comfortable use of multimedia devices on backrest tables of vehicles.

The Prior Art

Nowadays, the tables of vehicle (bus, minibus etc.) seat backrests are mostly specialized for presenting foods and drinks and ensure eating, drinking without any problem during journey.

Since vehicle seat backrest tables are mostly used as service tables, various hardships are encountered while being used for other functions.

Nowadays, technology is fairly integrated into our daily lives. Following internet, slowly, computers, and then cell phones with internet, and tablet PCs have become more and more common. People use the internet at every opportunity they get or they use multimedia devices (tablet PCs and/or cell phones) for their works.

Especially, since long journeys take lots of time and there are not many alternative activities on vehicles, passengers commonly use the internet or tablet PCs during long journeys. During long journeys, students can use their tablets to study and surf the internet, and the people who work can prepare their presentations, gather information on the internet, or alternatively read books.

In the prior art, vehicle seat backrests are inadequate in this aspect. Even though there are tablet PC holders that can be attached to the seats, most of the time, these

tablet PC holders do not meet the demand and occupy space unnecessarily, if a tablet PC is not used.

Tables positioned at the vehicle seat backrests are not provided with ergonomic angles for placing multimedia devices. When a multimedia device is placed on the table, the screen of the multimedia device would glare (reflect light) or does not provide an ergonomic use.

As a result of these reasons, a vehicle seat backrest that presents a table and a multimedia device holder together has not been provided yet.

During the literature research, similar applications were encountered. One of these applications is the utility model No. TR 201402578, entitled: "Passenger seat service tablet having a tablet PC positioning channel." In the abstract of said application, it is disclosed that: "The invention relates to a passenger seat tablet, which is developed for use on passenger seats found on bus, minibus, train, ship, plane etc. transportation vehicles for seated transportation of passengers, enables passengers to place their goods and tablet PCs, and prevents breaking by folding under excessive pressure."

Another patent application is an American application with application No. US20120068504, entitled: "Apparatus for use of tablet PCs on vehicles." This invention relates to attachment of tablet, personal computer, or small TVs behind vehicle seats. The height, depth, and elbow angle can be adjusted on the X and Y axis planes.

However, as can be seen from the above given examples, the prior art tablet PC holders are either tablet PC holders that are positioned independent from seat backrests or they do not have adjustable characteristics by means of being gradual, even if they are positioned on the tables found at the seat backrests.

As a result of the above disclosed problems, a multimedia device holder, which is positioned on the tables found at the seat backrests, and which can adjust the

positioning angle of the screen due to its channelled structure has not been provided yet.

Purpose of the Invention

The invention relates to a multimedia device holder positioned at vehicle seat backrests, which meets the above said requirements, eliminates all of the drawbacks, and brings some additional advantages.

Main purpose of the invention is to enable changing the position of an object (such as a multimedia device) placed on the table in a gradual manner due to the indented form of the table surface, and thus enable use of the device at the position desired by the user.

Another purpose of the invention is to provide a multimedia device holder with screen angle adjusting characteristics due to the indented structure of the table, and thus provide an ergonomic use by means of preventing the multimedia device screen from glaring.

Another purpose of the invention is to increase product sales by means of adding another characteristic to the tables of seat backrests compared to rival companies.

Another purpose of the invention is to improve durability and usefulness via its gradual structure.

In order to achieve the above said purposes, a table positioned at the seat backrests of vehicle seats is developed. Said table comprises at least two channels, which are positioned on the top surface of the table, and which enable changing the position of an object positioned in them.

The structural and characteristic features of the invention and all of its advantages shall be understood better with the figures and the detailed description given below in

reference to the figures, and therefore, the assessment should be made by taking into account the said figures and detailed explanations.

Figures for Better Understanding of the Invention

Figure-1: is a perspective view of the closed state of the present invention multimedia device holder table positioned at the seat backrests.

Figure-2: is a perspective view of the open state of the present invention multimedia device holder table positioned at the seat backrests.

Figure-3a: is a perspective view of the present invention multimedia device holder table positioned at the seat backrests, on which a tablet PC is placed.

Figure 3b: is a perspective view of the present invention multimedia device holder table positioned at the seat backrests, on which a tablet PC is placed at a different angle.

Figure-4: is a perspective view of the closed state of the present invention multimedia device holder table positioned at the seat backrests, wherein the tablet PC is placed in the lower netting.

Drawings do not have to be scaled and details not necessary for understanding the present invention may be neglected. Moreover, components which are at least widely equal or which have at least widely equal functions are shown with the same number.

Description of Parts References

1 – Table
10 – Seat backrest
11 – Upper netting
12 – Lower netting
20 – Holder section
21 – Channel
22 – Cup holder
23 – Holding recess
30 – Seat backrest connection
40 – Multimedia device

Detailed Description of the Invention

In this detailed description, the preferred embodiments of the present invention table (1) having object holder characteristics and positioned at the seat backrests (10) of the seats of vehicles, where passengers sit is only disclosed for better understanding of the subject without forming any limiting effect.

In this detailed description, the object to be positioned on the top surface of the table (1), or in other words, the holder section (20) is given as a tablet PC, which is a multimedia device (40). However, besides this multimedia device (40), this object can be a cell phone or any other multimedia device (40) or another object that is desired to be positioned at different angles on a table, such as a book.

The invention is particularly applied at the rear part of seat backrests (10) and the holder section (20) found at the top surface of the table (1) is formed in an indented manner such that channels (21) are formed on the holder section (20). The table (1) acts as a tablet PC holder with an adjustable tablet PC screen angle due to the channels (21) found on the holder section (20).

Figure 1 shows a perspective view of the closed state of the present invention multimedia device (40) holder table (1) positioned at the seat backrests (10). In a preferred embodiment, the seat backrest (10) is provided with an upper netting (11) in which various small products can be placed. The upper netting (11) has an elastic flexible structure. The table (1) is positioned below the upper netting (11). The table (1) both performs the task of a tray on which foods and drinks are placed during eating and also acts as a tablet PC holder. At the lower part of the table (1), a lower netting (12) is found, which also has a flexible structure.

Figure 2 shows a perspective view of the open state of the present invention multimedia device (40) holder table (1) according to the invention, positioned at the seat backrests (10). The table (1) opens with an angle of approximately ninety degrees to its closed state, and in open state, it stays in parallel to the floor. The table

(1) is mounted on the seat backrest (10) with the help of a seat backrest connection (30) found at its rear part.

Figure 3a shows a perspective view of the present invention multimedia device (40) holder table (1) positioned at the seat backrests (10), on which a tablet PC is placed. Figure 3b shows a perspective view of the present invention multimedia device (40) holder table (1) positioned at the seat backrests (10), on which a tablet PC is placed on a different channel (21) than the channel (21) it is positioned in Figure 3a so that it would be adjusted in a different angle.

Figure 4 shows a perspective view of the closed state of the present invention multimedia device (40) holder table (1) positioned at the seat backrests (10) and the tablet PC placed in the lower netting (12). The lower netting (12) is provided with an elastic flexible structure. In this way, tablet PCs, wallets, and various sizes of books and magazines can be squeezed in this section and thus this section can be used as a compartment.

The table (1) according to the present invention with the characteristics of multimedia device (40) holders positioned at the back of seat backrests (10), in general terms, has a rectangular shape with rounded corners as in the prior art. The middle portion of the table (1) front part is formed with a holding recess (23) that has a rectangular recess form. The table (1) can be opened and closed by means of holding from this part. The table (1) has a structure that is mounted on the seat backrest (10) with the help of a seat backrest connection (30) found at its rear part. A circular hole is found on the table (1). This part is designed as a cup holder (22) so that cups can be fixed at this part during the service of foods and drinks.

In the preferred embodiments, the top surface of the table (1) holder section (20) has an indented (21) structure formed as a result of forming triangular or wave-shaped indented structures (Figure 3a, detail A). More than one channel (21) should be formed at the holder section (20) in order to change the positions of objects. The number of these channels (21) should be at least two, and they can be more than two. By means of this structure having at least two channels (21), the position of the tablet PC can be changed gradually by means of bringing closer to the position that is

parallel to the holder section (20) upper surface and bringing closer to the position that is perpendicular to the top surface, and in this way, the screen of the tablet PC can be used at the desired angle positioning.

Changing the tablet PC angle is made as follows: First of all, the top end of the tablet PC is leaned against the seat backrest (10), while the lower end is placed on the table (1) top surface, or in other words, into the channel (21) found on the holder section (20). If the user wants to use the tablet PC in a different position, he/she places the lower end of the tablet PC into another channel (21) found before or after the former channel (21). Besides, in different journeys, different people may place their tablet PCs into a different channel (21) than other people.

The user can perform this operation by placing the tablet PC into one of the desired channels (21) according to his/her height, sitting position, and the position of the seat backrest (10). In this way, an ergonomic use is provided. Moreover, since the tablet PC is positioned at the desired angle by means of this gradual structure, the commonly encountered problem of screen glaring on tablet PCs would be eliminated. On the other hand, in order to provide ideal use of the tablet PC touch screen, it can be positioned in the optimum way for hand / finger ergonomics, and tablet PCs can be used ergonomically without the need for an additional holder apparatus.

CLAIMS

1. A table (1) positioned at the seat backrests (10) of vehicle seats, characterized in comprising;

    - at least two channels (21), which are positioned on the top surface of the table (1), and which enable changing the position of an object positioned in them.

2. The table (1) according to Claim 1, characterized in that;

    - said object is a multimedia device (40).

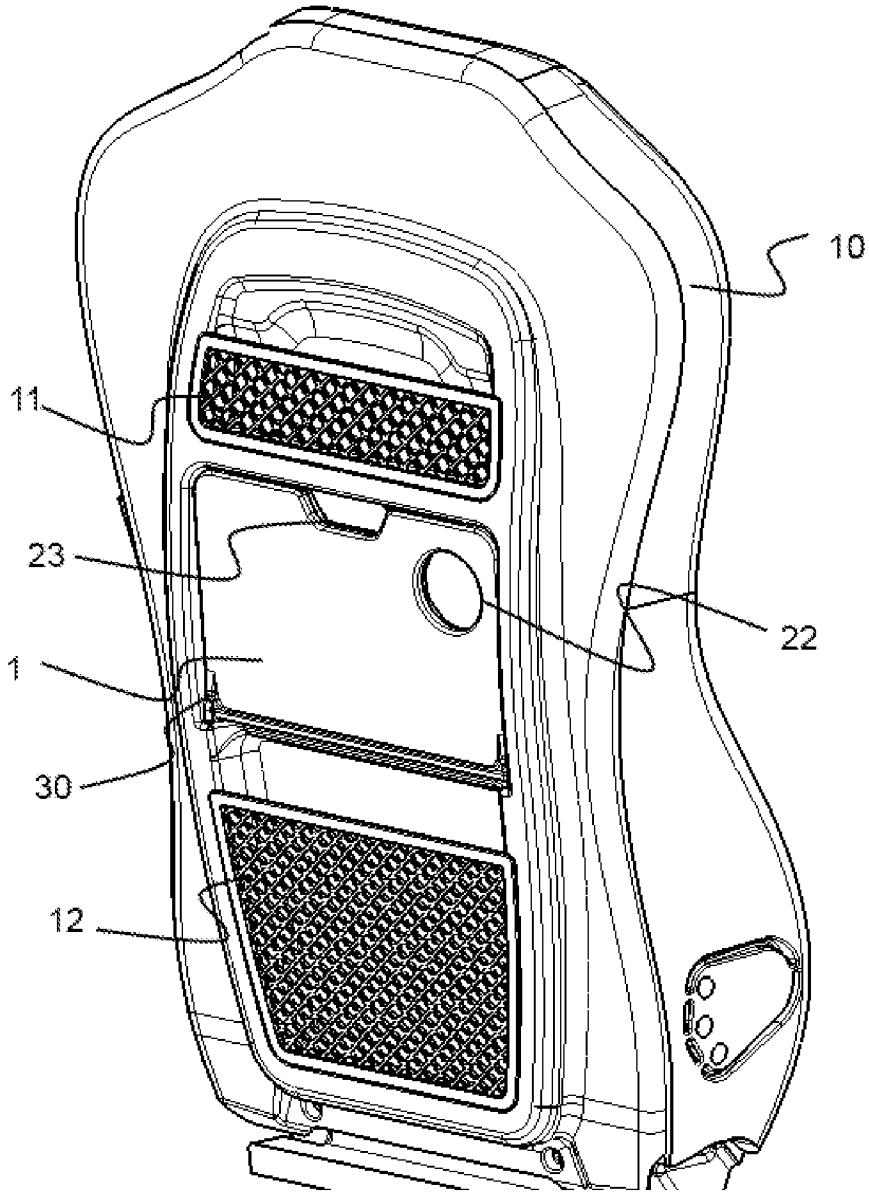

Figure 1

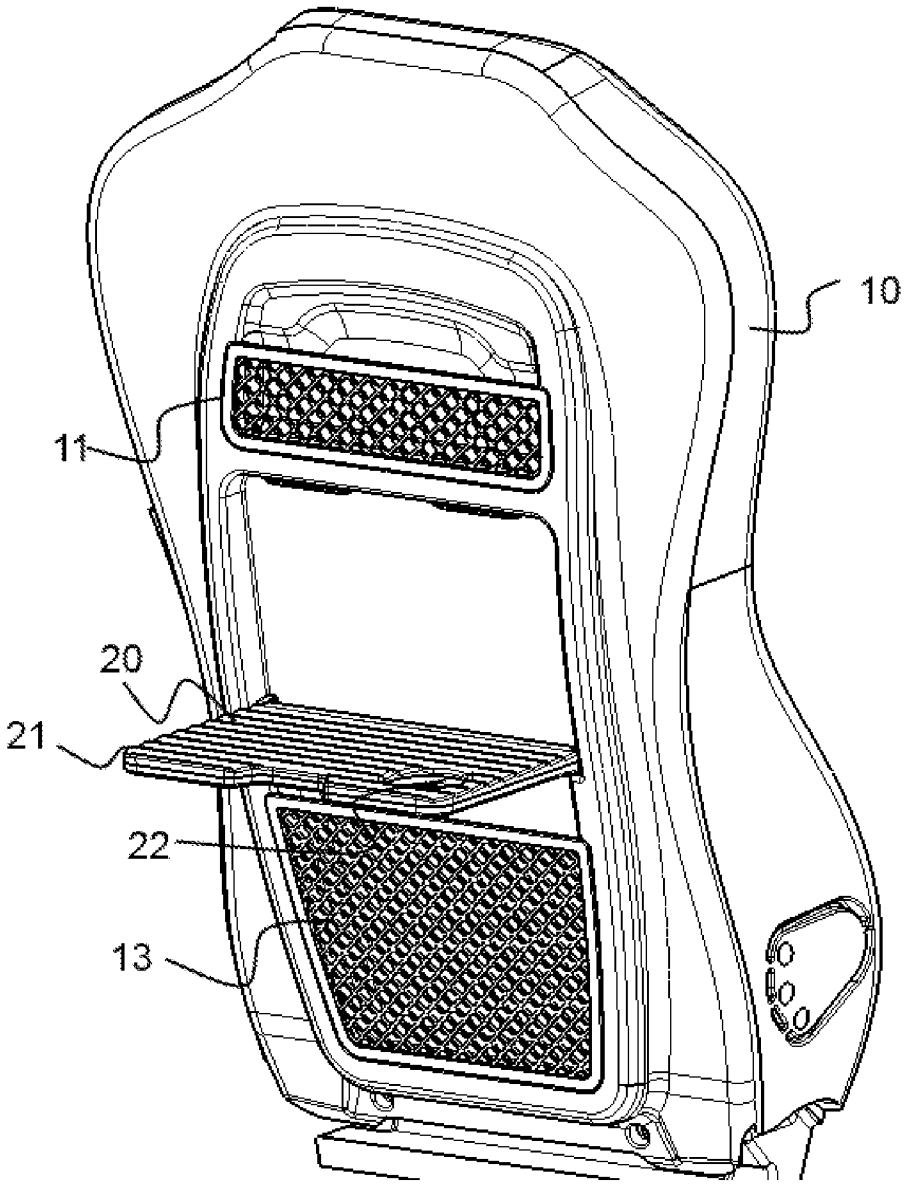

Figure 2

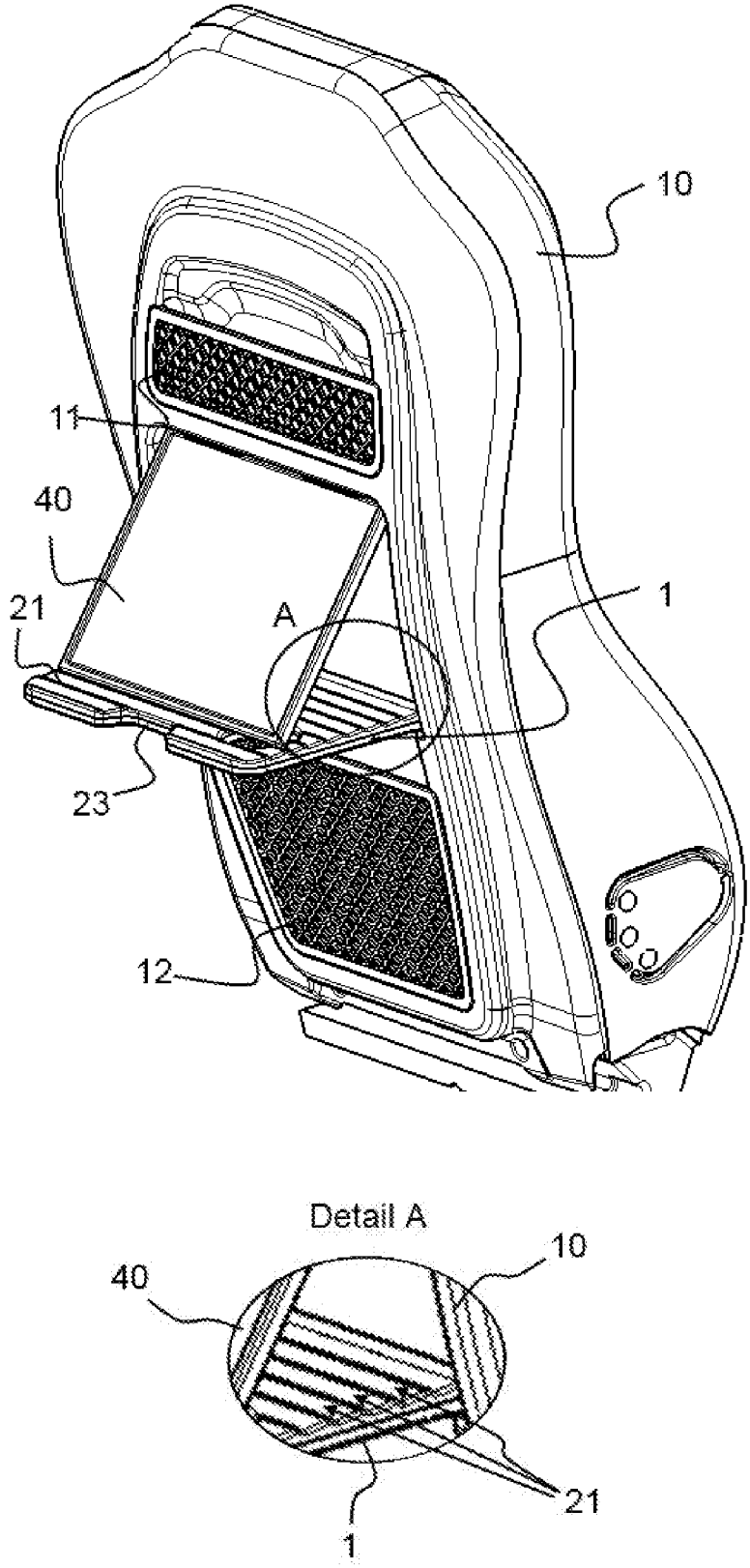

Figure 3a

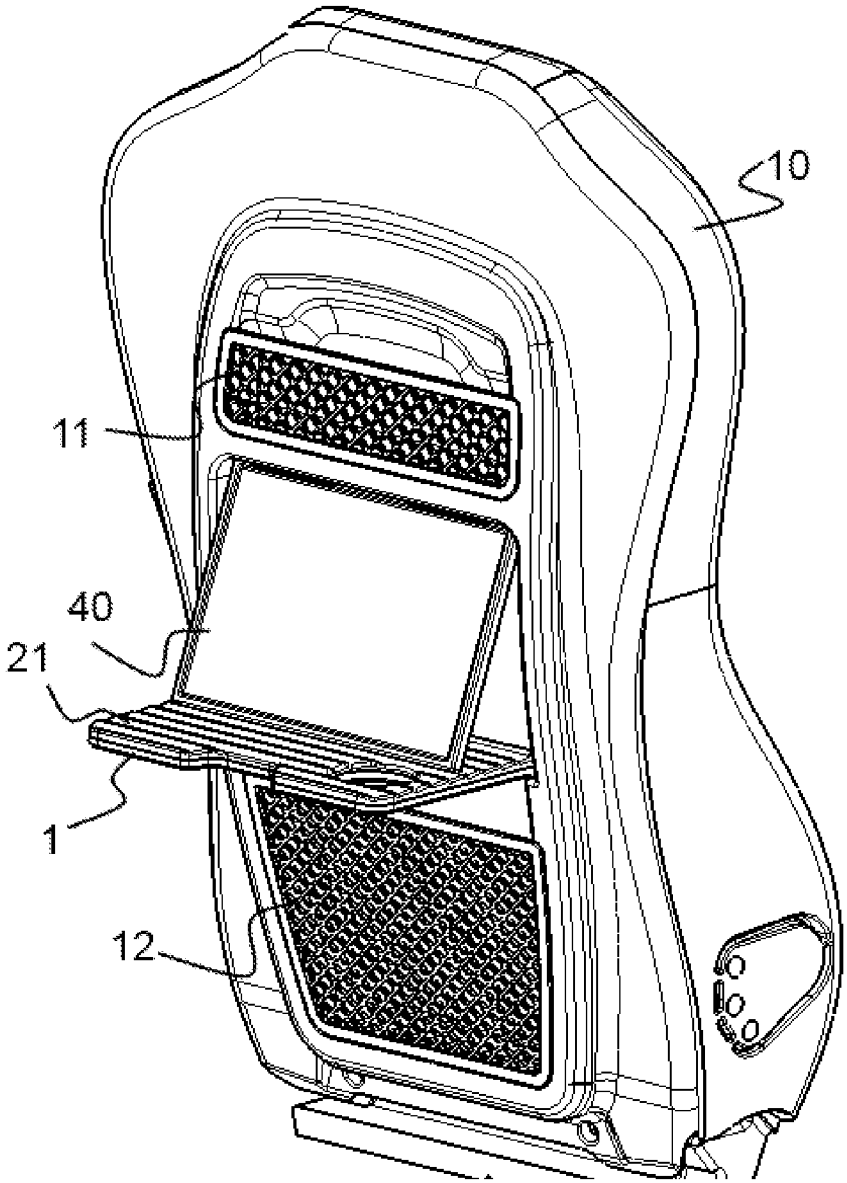

Figure 3b

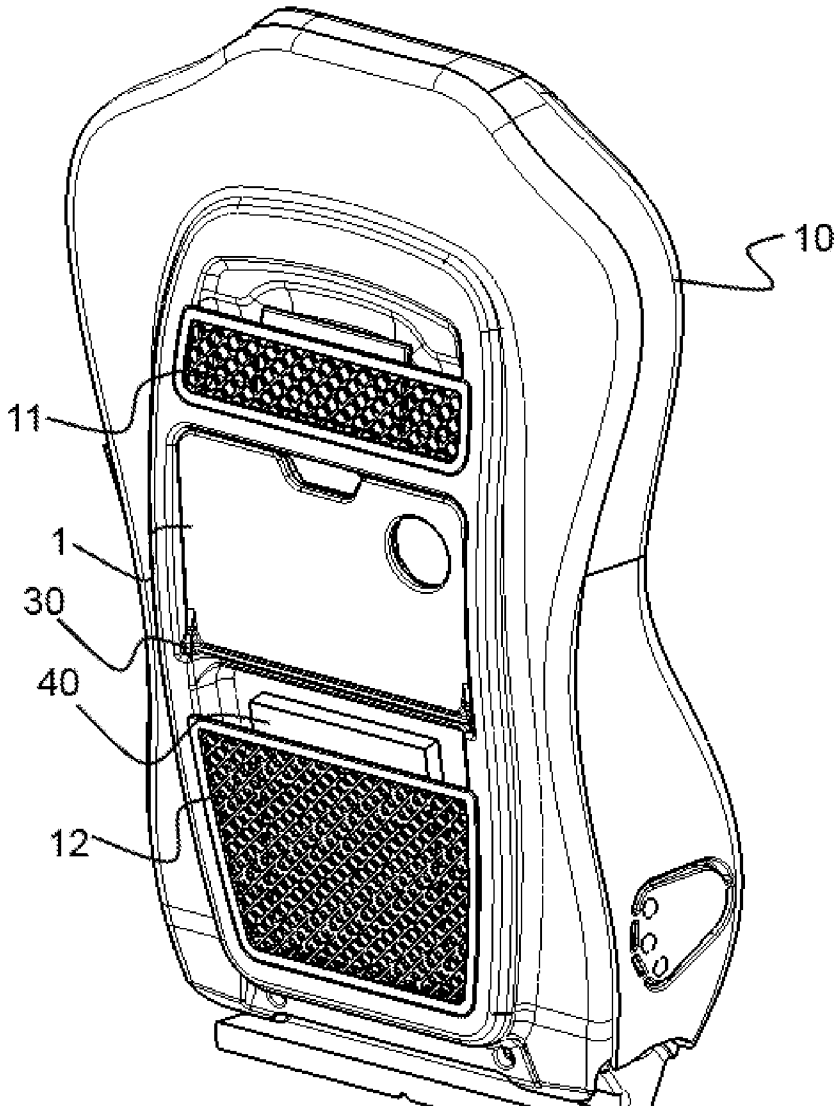

Figure 4

INTERNATIONAL SEARCH REPORT

International application No
PCT/TR2015/050273

A. CLASSIFICATION OF SUBJECT MATTER
INV. B60N3/00 B64D11/06 A47B23/04
ADD.

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 B64D A47B

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 practicable, search terms used)
EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 20 2012 007102 U1 (EAGLE FAN [TW]) 12 November 2012 (2012-11-12) paragraph [0019] - paragraph [0020] paragraph [0031]; figures 1,5	1,2
X	WO 2012/118096 A1 (NIFCO INC [JP]; HORI HIROFUMI [JP]) 7 September 2012 (2012-09-07) figures 1,4,7	1,2
X	DE 30 00 366 A1 (KIEL GMBH FRANZ [DE]) 9 July 1981 (1981-07-09) figure 4	1

☐ Further documents are listed in the continuation of Box C.

☒ 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 application or patent 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

"P" document published prior to the international filing date but later than the priority date claimed

"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 combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
12 May 2016	23/05/2016

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/TR2015/050273

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE 202012007102 U1	12-11-2012	NONE	
WO 2012118096 A1	07-09-2012	JP 5702190 B2	15-04-2015
		JP 2012183856 A	27-09-2012
		WO 2012118096 A1	07-09-2012
DE 3000366 A1	09-07-1981	NONE	