

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
12 February 2009 (12.02.2009)

PCT

(10) International Publication Number
WO 2009/020439 A1

(51) International Patent Classification:
B60N 2/48 (2006.01)

(21) International Application Number:
PCT/TR2007/000085

(22) International Filing Date: 31 August 2007 (31.08.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2007/05457 6 August 2007 (06.08.2007) TR

(71) Applicant (for all designated States except US): **TEMSA SANAYI VE TICARET A.S.** [TR/TR]; Mersin Yolu 10. Km.01323 Seyhan-Adana (TR).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **TANIR, Feridun** [TR/TR]; Mersin Yolu 10. Km.01323 Seyhan-Adana (TR).

(74) Agent: **SUMERALP, Fulya**; Simaj Patent Limited Sirketi, Tunus Cad. No:46 Kat:2 Kavaklidere, 06680 Ankara (TR).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, 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, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, 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, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, 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))
- of inventorship (Rule 4.17(iv))

Published:

- with international search report

(54) Title: HEAD SUPPORT UNIT WITH A MECHANISM FOR PASSENGER SEATS

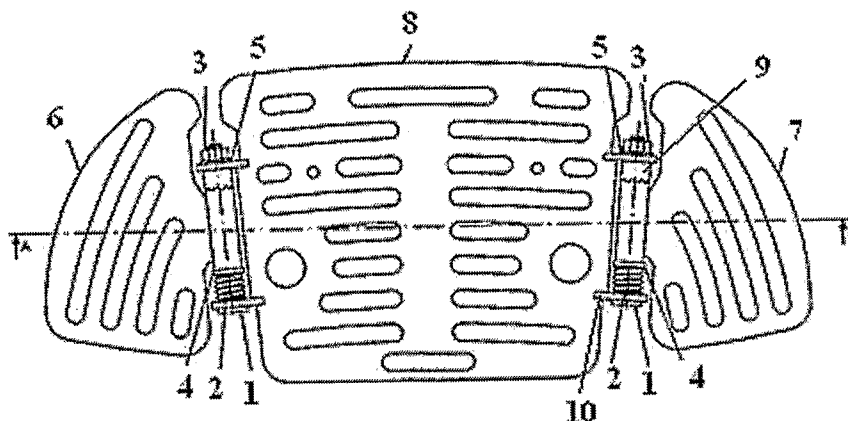


Figure-1

(57) Abstract: This invention relates to a head support unit with a mechanism which is developed for the head support part of the passenger seats; comprising the assembly of the side support piece-1 (6) and the side support piece-2 (7) to the central piece (8) with a centerline shaft (1), a spring (2), a union nut (3), a shim (4) and a spring washer (5). By side support's being pulled by the user with hand, it is provided to be opened by changing it to a wide angled U shape from its parallel form to the seat back by means of rotating the mentioned side supports (6, 7) on the axles of the centerline shaft bearing (10) which is placed on the central piece (8) and the adjuster (9); closed by rendering it to its previous form; and placed at gradual stages.

DESCRIPTION**HEAD SUPPORT UNIT WITH A MECHANISM FOR PASSENGER SEATS****5 Field of invention**

This invention relates to a head support unit with a mechanism which is developed for the head support parts of the passenger seats of the vehicles used especially in the
10 intercity passenger transportation.

Within the scope of this invention, a head support unit with a mechanism at the head leaning area of the passenger is developed which is cascade adjustable to prevent any backache
15 or waist ache arising from leaning of the head of the passenger to the right or left sides and to provide a more comfortable travel without disturbing the other passengers; and which allows the passenger adjust the best position for his comfort.

20 Background of the invention

At the present state of art, the head support unit of the passenger seat is at the backrest of the seat as in the form
25 of the backrest and in standard shape. Various seat headgears are known in relation to the present state of art, an example of which is identified in the patent number GB 2 417 896 A. The mentioned patent comprises two support units which hold the head of the user at left and right sides and a head
30 fixing band on the right support unit. Although the subject of this patent seems to be similar to the subject of this invention, in terms of comprising support units on two sides, it has many disadvantages because of both of the support units' being immobile and including a band which totally

fixes the head of the user as coming out from the right support unit, passing through the forehead of the passenger and getting tied to the left support unit. Since the head and shoulder movements of the passenger are limited during the sleep because the head of the passenger is totally fixed as it is explained and the neck is not supported, many health problems are faced.

Another example that can be given within the scope of this invention is described in the patent number WO/2005/000629. The mentioned patent comprises a head support unit which is neck and head supportive, height adjustable. The down part of the head support unit which is made up of two parts supports the neck of the user while the upper part supports the head. As it is seen the head support unit which is identified by the mentioned patent supports the head of the passenger only from back and the neck.

Similarly, another example to be given is described by a utility model number TR 2006/02153. The mentioned utility model is developed to be used in the seats of the public service vehicles, comprising a headgear moving mechanism which provides the headgear that is on the backrest of the seat, to be height adjusted by moving up and down linearly. Since the identified seat headgear only provides height adjustment by moving up and down, it doesn't have the features of supporting user's head from down and sides.

Detailed description of the invention

In the system, which is the subject of this invention, the head support unit with a mechanism, to which the passenger might give a wide angled U shape by pulling it with hand, is

placed on the backrest of the passenger seat, at the head leaning area while the passenger is in sitting position, with a design which is suitable to the seat form. The user might use it by making it suitable to lean his head, and he might then turn it to its original position. These movements are provided by spring, shift fork and joint operating principle.

In the scope of the invention, the montage of the mentioned head support unit comprises joining the side support-1 (6) and side support-2 (7) to the central piece (8); with centerline shaft (1), spring (2), union nut (3), shim (4) and spring washer (5). While the centerline shaft (1) undergoes the centerline bearing which is on the central piece (8), it passes through the inside of the adjusters (9) in order which are placed first on the spring (2) then on the shim (4), then on the side supports (6, 7). The montage is completed with the spring washer (5) and the union nut (3).

The space which is left during the montage for the spring (2) due to the design is provided as to keep the spring under pressure after the montage. The position of the pressured spring (2) is determined by the side supports' (6, 7) interlacing the pitched adjuster (9) which is on the upper part of the central piece (8) towards the direction of spring pulling. As the mechanism is rendered to operate like this, the side supports (6, 7) might be rotated by hand together or separately on the axles of centerline bearing and bushing which are on the central piece (8). The pitches on the dent which are on the adjusters (9) determine the placement.

The springs (2) are pressed slightly during the movement of the side supports (6, 7) and allow the dented pitches rotate to the point that the user demands.

The mechanism which is the subject of the invention is upholstered with sponge template that is conformable with the seat backrest and covered with the seat texture and adapted to the seat backrest with a joint system.

5

Brief description of the references

- 1 : Centerline Shaft
- 2 : Spring
- 10 3 : Union Nut
- 4 : Shim
- 5 : Spring Washer
- 6 : Side Support -1
- 7 : Side Support -2
- 15 8 : Central Piece
- 9 : Adjuster
- 10 : Centerline Shaft Bearing

Brief description of the drawings

20

- Figure 1: Appearance of the head support unit from front.
- Figure 2: Perspective appearance of the head support unit.
- Figure 3: Appearance of the head support unit from above.
- Figure 4: Appearance of the central piece from front.
- 25 Figure 5: Appearance of the central piece from above.
- Figure 6: Appearance of the centerline shaft bearing from front.
- Figure 7: Appearance of the centerline shaft bearing from a side.
- 30 Figure 8: Appearance of the side support from front.
- Figure 9: Appearance of the side support from above.
- Figure 10: Appearance of the centerline shaft from a side.
- Figure 11: Appearance of the centerline shaft from above.

CLAIMS

1. A head support unit with a mechanism formed by the assembly of side support piece-1 (6) and side support
5 piece-2 (7) to the central piece (8) with a centerline shaft (1), a spring (2), a union nut (3), a shim (4) and a spring washer (5) and it is characterized in that; it comprises side supports (6, 7) mounted on both sides as right and left of the central piece (8) that the
10 passenger leans his head; it is opened by changing it to a wide angled U shape from its parallel form to the seat back by means of rotating the mentioned side supports (6, 7) on the axles of the centreline shaft bearing (10) which is placed on the central piece (8) and the adjuster
15 (9); and it is closed by rendering it to its previous form; and it is able to be placed at gradual stages.
2. The side supports (6, 7) according to claim 1 and they are characterized in that; they might be moved separately
20 or together since they are joined to the central piece (8) by spring (2), shift fork and joint operating principle.
3. The side supports (6, 7) according to claim 1 and they
25 are characterized in that; they allow the user to place it at any stage by means of the middle stages which are determined by the pitches of the dents those are on the adjusters (9).
- 30 4. The head support unit according to claim 1; wherein it is integrated to the backrest with a joint system by upholstering with sponge template that is conformable with the seat backrest and covered with the seat texture.

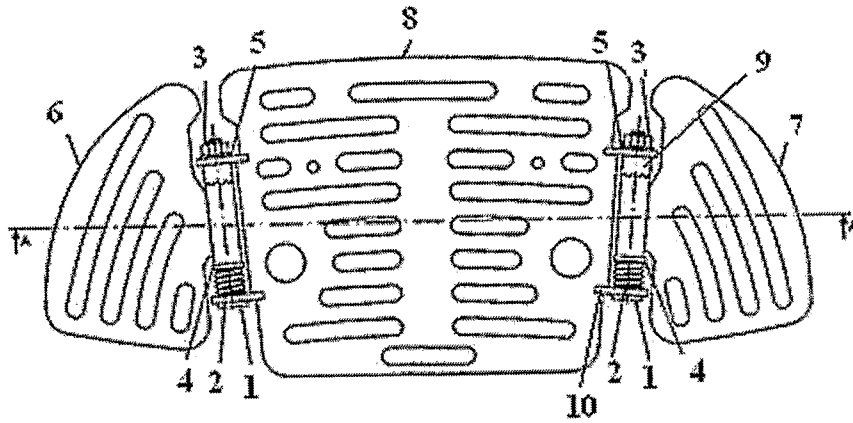


Figure-1

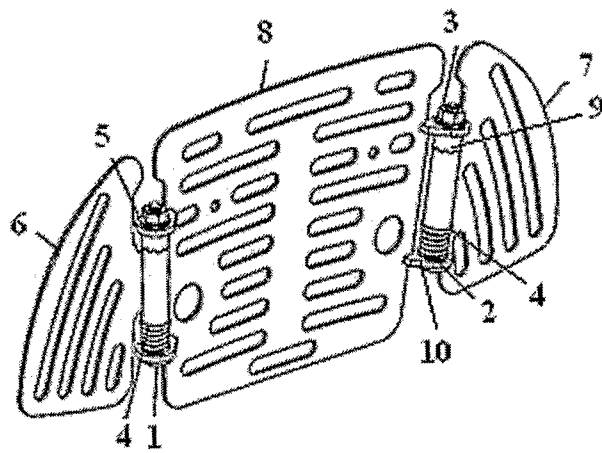


Figure-2

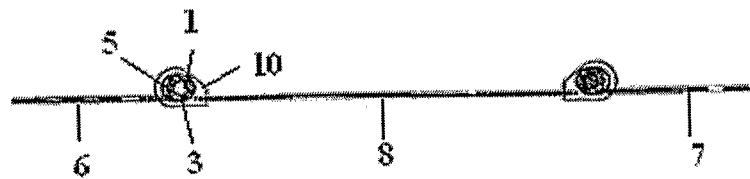


Figure-3

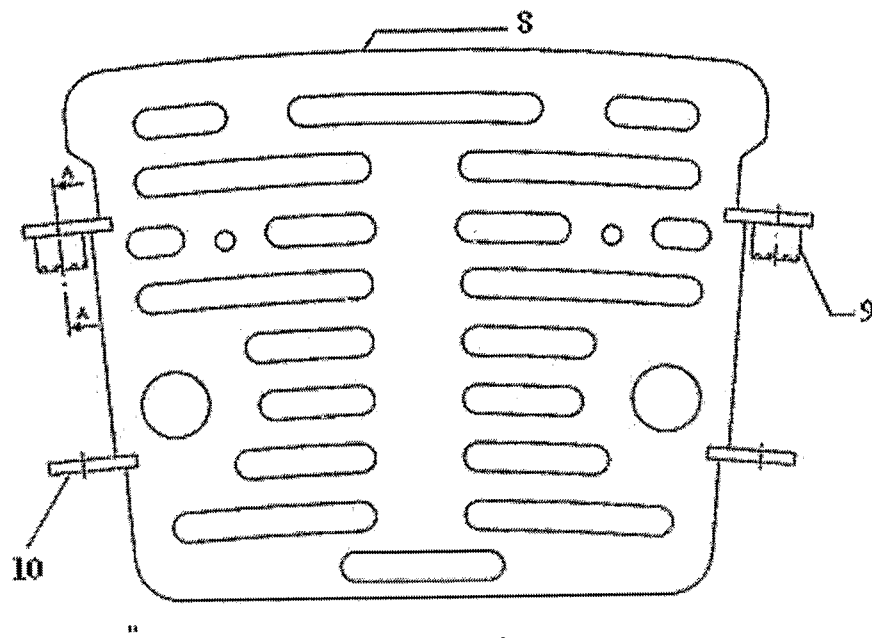


Figure-4

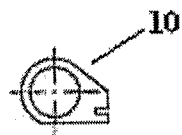


Figure-5

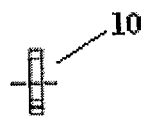


Figure-6

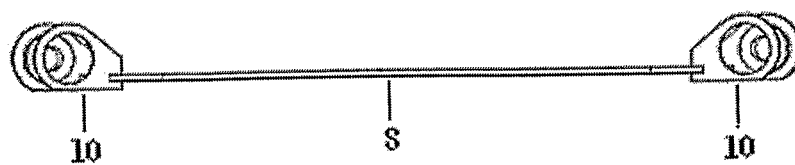


Figure-7

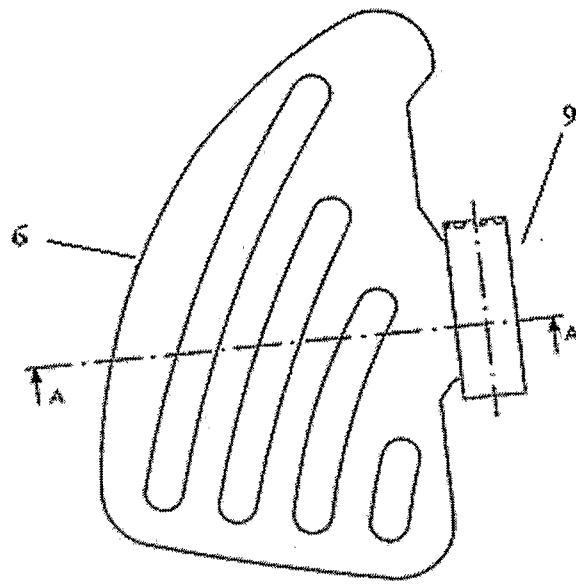


Figure-8

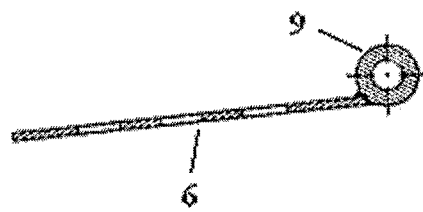


Figure-9

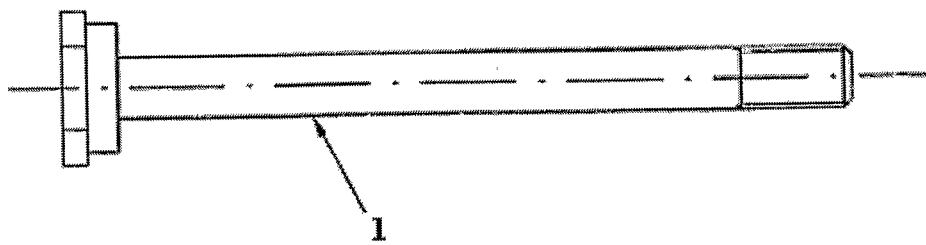


Figure-10

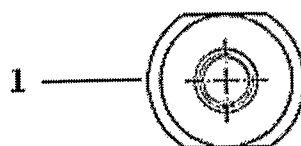


Figure-11

INTERNATIONAL SEARCH REPORT

International application No
PCT/TR2007/000085

A. CLASSIFICATION OF SUBJECT MATTER

INV. B60N2/48

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	JP 60 148727 A (NISSAN MOTOR) 6 August 1985 (1985-08-06) figure 3	1-4
X	EP 1 033 280 A (APRICA KASSAI KK [JP]) 6 September 2000 (2000-09-06) paragraph [0141] - paragraph [0148]; figures 3,14-16	1-4
X	WO 2007/035386 A (WONDERLAND NURSERYGOODS CO LTD; HARTENSTINE CURTIS M [US]; GILLET SHA) 29 March 2007 (2007-03-29) paragraph [0065] - paragraph [0066]; figures 4,16,16a	1-4
X	US 2007/108827 A1 (CLOUGH ROBERT [US]) 17 May 2007 (2007-05-17) paragraph [0045]; figure 2	1-4
-/--		

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

☒ See patent family annex.

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Date of the actual completion of the international search

18 March 2008

Date of mailing of the international search report

31/03/2008

Name and mailing address of the ISA/

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

Authorized officer

Schneider, Josef

INTERNATIONAL SEARCH REPORT

International application No
PCT/TR2007/000085

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 10 2006 033784 A1 (WUERSTL CURT VERMOEGENSVERWALT [DE]) 15 February 2007 (2007-02-15) figures 1-6 -----	1-4

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/TR2007/000085

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DE 102006033784	A1	15-02-2007	NONE	