(19) World Intellectual Property Organization

International Bureau



(43) International Publication Date 6 February 2003 (06.02.2003)

PCT

(10) International Publication Number WO 03/010020 A3

(51) International Patent Classification⁷: B60J 3/00

(21) International Application Number: PCT/US02/23587

(22) International Filing Date: 25 July 2002 (25.07.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/307,813 25 July 2001 (25.07.2001) US

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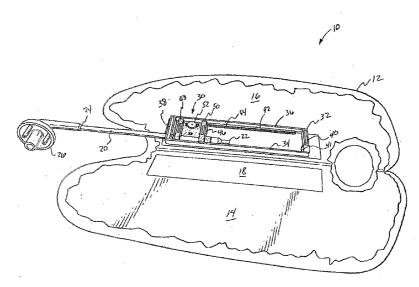
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- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- (88) Date of publication of the international search report: 16 October 2003

[Continued on next page]

(54) Title: SLIDING SUN VISOR



(57) Abstract: A sun visor assembly for an automotive vehicle includes a sun visor panel having generally planar opposing sides sandwiched together to define a pocket therebetween. A longitudinally extending support rod is positioned between the opposing sides of the panel for supporting the panel in the interior of the vehicle. An adjustment mechanism is coupled between the support rod and the sun visor panel for providing selective sliding movement of the sun visor panel along the support rod between a retracted position and an extended position. The adjustment mechanism includes a support frame secured to the visor panel having an upper rail forming a longitudinal rack, a guide carriage secured to the support rod and slidebly coupled to the support frame, and a gear rotatable supported by the carriage and meshed with the rack for guiding the sun visor panel along the support rod between the retracted and extended positions.



VO 03/010020 A3

WO 03/010020 A3

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INTERNATIONAL SEARCH REPORT

nal Application No PCT/US 02/23587

A. CLASSIFICATION OF SUBJECT MATTER IPC 7 B60J3/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

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Documentation searched other than minimum documentation to the extent that such documents are included. In the fleids searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

PAJ, EPO-Internal, WPI Data

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	PATENT ABSTRACTS OF JAPAN vol. 014, no. 440 (M-1028), 20 September 1990 (1990-09-20) -& JP 02 175340 A (NISSAN MOTOR CO LTD), 6 July 1990 (1990-07-06) abstract	1-4
Y	PATENT ABSTRACTS OF JAPAN vol. 006, no. 246 (M-176), 4 December 1982 (1982-12-04) & JP 57 144122 A (YOSHITERU TAKAHASHI), 6 September 1982 (1982-09-06) abstract	1-4
Α	EP 0 899 137 A (JOHNSON CONTR INTERIORS GMBH) 3 March 1999 (1999-03-03) figures 3-8	1

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Date of the actual completion of the international search	Date of mailing of the international search report
11 November 2002	20/11/2002
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onal Application No PCT/US 02/23587

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT							
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.					
Α	WO 94 08811 A (LOVE MARK WILLIAM ;LOVE GRAEME LEWIS (AU)) 28 April 1994 (1994-04-28)						
Α	US 5 443 300 A (MOHAMMED GAFFAR) 22 August 1995 (1995-08-22)						
A	US 6 099 066 A (CORN JACK E) 8 August 2000 (2000-08-08)						
-							

INTERNATIONAL SEARCH REPORT

PCT/US 02/23587

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
JP 02175340	Α	06-07-1990	NONE		
JP 57144122	Α	06-09-1982	NONE		
EP 0899137	Α	03-03-1999	DE EP	19737346 A1 0899137 A2	04-03-1999 03-03-1999
WO 9408811	Α	28-04-1994	AU WO	5172693 A 9408811 A1	. 09-05-1994 28-04-1994
US 5443300	Α	22-08-1995	US	5720508 A	24-02-1998
US 6099066	Α	08-08-2000	US US US	5833299 A 5350212 A 6170899 B1	10-11-1998 27-09-1994 09-01-2001