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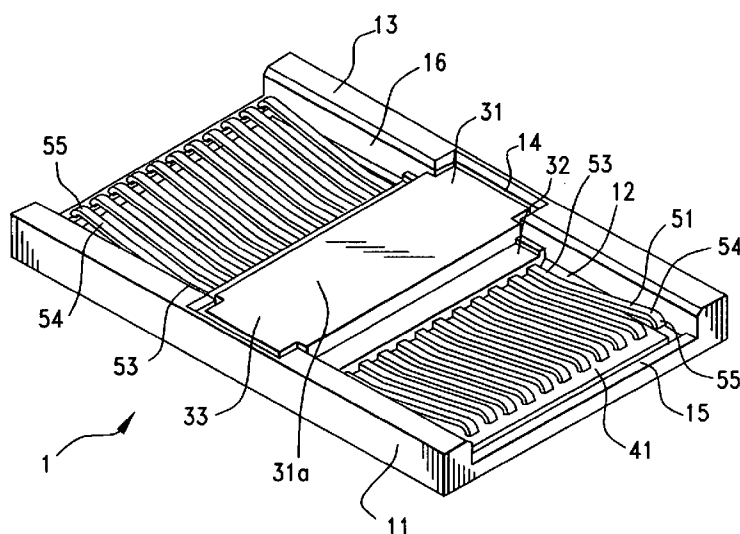
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(54) Title: RELAY CONNECTOR FOR FPC USING ADHESIVE



(57) Abstract: A relay connector for connecting together two free ends of flat flexible cable (FFC) is provided with an insulative housing that has a body portion with two open ends that receive free ends of the FFC. The housing includes a terminal assembly disposed in its mid-section and this terminal assembly includes a base with terminals embedded therein. The terminals extend lengthwise through the base and have their body portions held by the terminal assembly base so that free ends of the terminals are free to deflect under pressure. The terminals are formed so that their free ends extend at a slight upward angle. A sheet of a thermoplastic adhesive is interposed between the terminal assembly and the housing. Free ends of the FFC are pressed into alignment with the terminal ends under heat and pressure so that the adhesive becomes plastic and flows between the terminals into contact with the FFC. Once the adhesive cools and solidifies, the two free ends of the FFC are connected together.



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INTERNATIONAL SEARCH REPORT

International application No
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A. CLASSIFICATION OF SUBJECT MATTER

INV. H01R12/10

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)

H01R

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 3 307 139 A (PRISE WALTER J) 28 February 1967 (1967-02-28) column 2, line 39 - line 58; figures 1-4,6-8	1-5
A	WO 2004/040711 A (FRAMATOME CONNECTORS INT [FR]; PABST THOMAS BERNHARD [DE]) 13 May 2004 (2004-05-13) page 4, line 1 - line 35; figures 2-2b	1-5
A	DE 100 06 112 A1 (DRAEXLMAIER LISA GMBH [DE]) 16 August 2001 (2001-08-16) column 4, line 64 - column 6, line 25; figures 1,5	1-5
A	US 2003/203680 A1 (BOUTROS KAMAL S [CA] ET AL) 30 October 2003 (2003-10-30) paragraph [0024]; figures 1,3	1
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☒ 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

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	DE 100 50 797 A1 (DAIMLER CHRYSLER AG [DE]) 25 April 2002 (2002-04-25) abstract; figures 1,2 -----	1
A	EP 0 140 619 A (HITACHI CHEMICAL CO LTD [JP]) 8 May 1985 (1985-05-08) abstract; figures 1-3 -----	1

INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 3307139	A	28-02-1967	NONE	
WO 2004040711	A	13-05-2004	AU 2003276193 A1 CN 1708884 A DE 10250924 A1 EP 1559176 A1 JP 2006505105 T KR 20050061590 A US 2005266725 A1	25-05-2004 14-12-2005 19-05-2004 03-08-2005 09-02-2006 22-06-2005 01-12-2005
DE 10006112	A1	16-08-2001	NONE	
US 2003203680	A1	30-10-2003	NONE	
DE 10050797	A1	25-04-2002	NONE	
EP 0140619	A	08-05-1985	DE 3486101 D1 DE 3486101 T2	22-04-1993 01-07-1993