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(11) **EP 0 793 304 A3**

(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:  
**15.12.1999 Bulletin 1999/50**

(51) Int. Cl.<sup>6</sup>: **H01R 13/629**

(43) Date of publication A2:  
**03.09.1997 Bulletin 1997/36**

(21) Application number: **97103138.0**

(22) Date of filing: **26.02.1997**

(84) Designated Contracting States:  
**DE FR GB IT SE**

(30) Priority: **27.02.1996 JP 4007896**  
**30.04.1996 JP 10946796**  
**20.11.1996 JP 30962596**

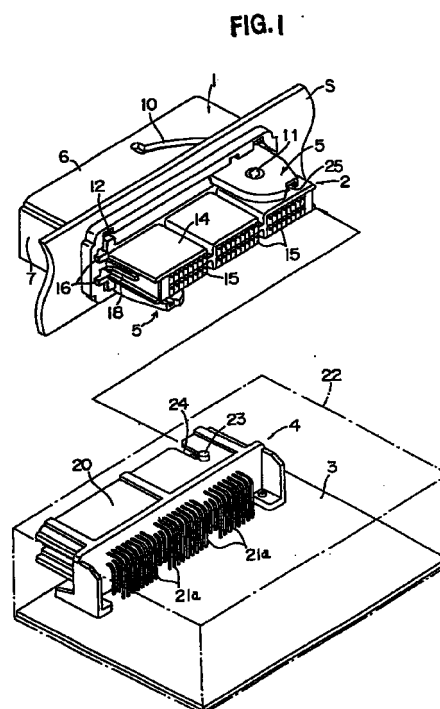
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(54) **Connector connection structure**

(57) A connector connection structure includes a first connector supported on a holder and a second connector connectable to the first connector. The holder has support portions in the form of U-shaped grooves, for supporting the first connector such that the first connector is slidable in a direction of connection of the first and second connectors relative to each other. Swingable levers are swingably supported between the holder and the first connector, and there are provided drive portions that swingingly displace the swingable levers in response to the sliding movement of the first connector. Operating portions are also provided to increase driving forces of the swingable levers, and transmit the driving forces to the second connector, thereby driving the two connectors in a direction to connect the two connectors together.



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# EUROPEAN SEARCH REPORT

Application Number  
EP 97 10 3138

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	EP 0 501 502 A (YAZAKI CORP) 2 September 1992 (1992-09-02) * abstract; claims; figures *	1,2,16	H01R13/629
X	US 5 201 665 A (MCCARDELL JR WILLARD B ET AL) 13 April 1993 (1993-04-13) * abstract; claims; figures *	1,2,16	
A	US 4 875 873 A (ISHIZUKA SHIGEO ET AL) 24 October 1989 (1989-10-24) * abstract; claims; figures *	1,2	
A	EP 0 674 362 A (CINCH CONNECTEURS SA) 27 September 1995 (1995-09-27) * abstract; claims; figures *	3-15	
A	US 5 178 553 A (HATAGISHI YUJI ET AL) 12 January 1993 (1993-01-12) * abstract; claims; figures *	3-15	
A	US 4 586 771 A (KRAEMER RUDOLF E ET AL) 6 May 1986 (1986-05-06)		
A	GB 952 652 A (BELLING & LEE LIMITED)		TECHNICAL FIELDS SEARCHED (Int.Cl.6)  H01R
The present search report has been drawn up for all claims			
Place of search <b>THE HAGUE</b>		Date of completion of the search <b>26 October 1999</b>	Examiner <b>Durand, F</b>
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1503 03/82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

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26-10-1999

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0501502 A	02-09-1992	DE 69212511 D	05-09-1996
		DE 69212511 T	05-12-1996
		US 5205752 A	27-04-1993
US 5201665 A	13-04-1993	NONE	
US 4875873 A	24-10-1989	JP 1151181 A	13-06-1989
		JP 1687671 C	11-08-1992
		JP 3053756 B	16-08-1991
EP 0674362 A	27-09-1995	FR 2717627 A	22-09-1995
		CN 1111836 A,B	15-11-1995
		DE 69500824 D	13-11-1997
		DE 69500824 T	05-02-1998
		JP 8031508 A	02-02-1996
		US 5873745 A	23-02-1999
US 5178553 A	12-01-1993	JP 2571316 B	16-01-1997
		JP 4286881 A	12-10-1992
US 4586771 A	06-05-1986	DE 3604548 A	04-09-1986
		DE 3645179 A	04-09-1986
		DE 8603867 U	30-03-1989
		JP 2080277 C	09-08-1996
		JP 7089504 B	27-09-1995
		JP 61203581 A	09-09-1986
		JP 6052929 A	25-02-1994
		JP 8034112 B	29-03-1996
GB 952652 A		NONE	