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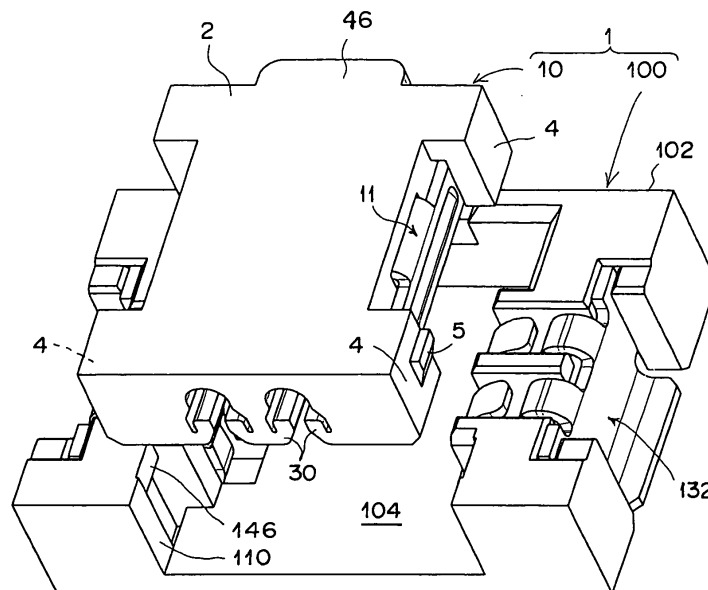
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(54) **Electrical connector assembly, plug connector and receptacle connector**

(57) A plug connector (10) and/or a receptacle connector (100) employed therein, is miniaturized to be low in height and narrow. The plug connector (10) has two first contacts (11), which are arranged in a line and face opposite directions from each other, exposed at its side surfaces. The receptacle connector (100) has a recess (104) for receiving the plug connector (10) and two sec-

ond contacts, which are exposed at positions corresponding to the first contacts (11), within the recess. When the plug connector (10) and the receptacle connector (100) engage each other, elastic contact pieces of the second contacts contact a side of the first contacts (11) to electrically connect thereto at the side of the plug connector.

FIG.4





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EUROPEAN SEARCH REPORT

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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.7)
A	US 3 710 305 A (CLARK M,US) 9 January 1973 (1973-01-09) * column 2, line 13 - column 3, line 45; figure 3 *	1-7	H01R4/24
A	----- US 5 788 539 A (FEDDER ET AL) 4 August 1998 (1998-08-04) * column 4, line 29 - column 4, line 49; figures 1,2 *	1-7	
A	----- US 4 959 019 A (SHIMOCHI ET AL) 25 September 1990 (1990-09-25) * column 5, line 34 - column 5, line 60; figure 11 *	1-7	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			H01R
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
Berlin		1 March 2005	Segeberg, T
<p>CATEGORY OF CITED DOCUMENTS</p> <p>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</p> <p>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</p>			

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

EP 03 25 4599

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

01-03-2005

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 3710305	A	09-01-1973	NONE	
US 5788539	A	04-08-1998	WO 9745896 A1	04-12-1997
US 4959019	A	25-09-1990	JP 2028231 C	19-03-1996
			JP 2111213 A	24-04-1990
			JP 7050969 B	31-05-1995
			DE 3917697 A1	07-12-1989
			US 4954090 A	04-09-1990
			DE 3928751 A1	22-03-1990