



(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
05.03.2003 Bulletin 2003/10

(51) Int Cl.7: **H01R 13/627**

(43) Date of publication A2:
20.03.2002 Bulletin 2002/12

(21) Application number: **01121060.6**

(22) Date of filing: **03.09.2001**

(84) Designated Contracting States:
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE TR**
Designated Extension States:
AL LT LV MK RO SI

(30) Priority: **15.09.2000 EP 00120082**

(71) Applicant: **Tyco Electronics UK Limited
Stanmore, Middlesex HA7 4RS (GB)**

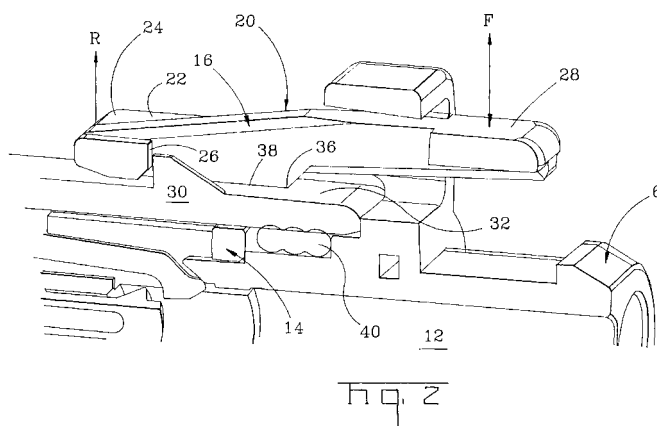
(72) Inventors:
• **Challis, Richard John
Lowestoft, Suffolk NR33 9HG (GB)**
• **Terry, Derek Richard
Putney, London SW15 1DG (GB)**
• **Whelan, Michael Joseph Gerard
Biggleswade, Bedfordshire SG18 9PS (GB)**

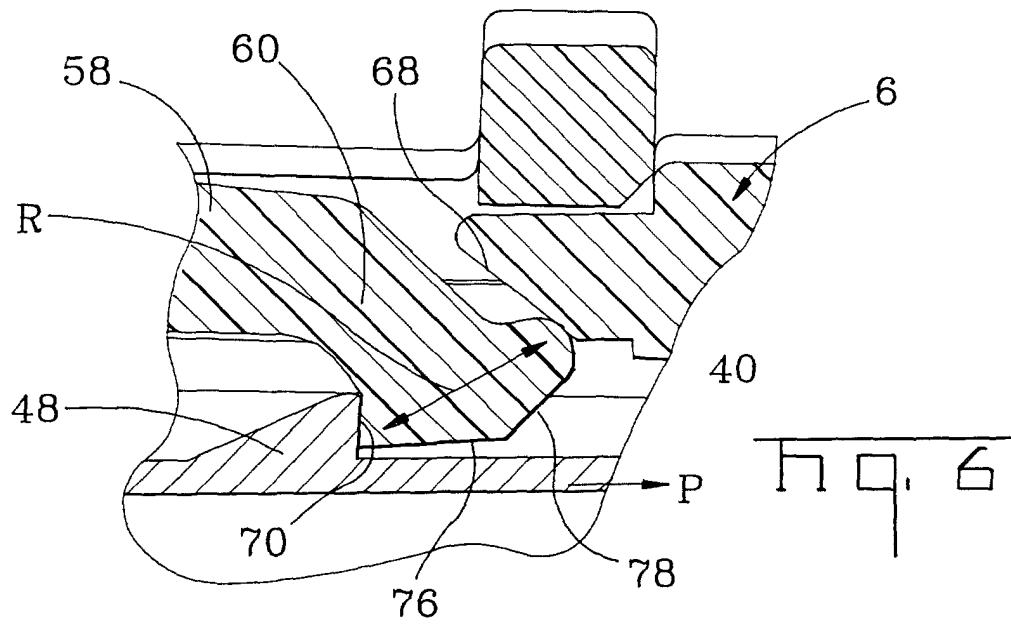
(74) Representative: **Heinz-Schäfer, Marion
Tyco Electronics Logistics AG
Ampèrestrasse 3
9323 Steinach (CH)**

(54) **Connector housing having secondary locking**

(57) A connector (4) having a connector housing (6) with a contact passageway (12) for receiving a contact (40), an opening (64) extending into the contact passageway (12), and a secondary locking member (14) with a retention arm (58) that has a retention head (60) thereupon, where in a first position of the secondary locking member (14) the contact (40) is insertable into the contact passageway (12) and a second position the retention head (60) extends through the opening (64) into the contact passageway (12) to prevent the contact (40) from being withdrawn, the opening (64) is defined by a shoulder (66) and an overhanging supporting member (68), the retention head (64) including a retention shoulder (70) facing the shoulder (66) and an abutting

surface (72) facing the overhanging supporting member (68), where upon telescopic movement of the secondary locking member (14) from the first position to the second position the overhanging supporting member (68) and the abutting surface (72) co-operate to guide the retention head (60) into the passageway (12) and engage one another if a pullout force were to be exerted upon the contact (40) in a supporting manner. Additionally, the connector (4) includes a latch (16) that has a main latch arm (20) with an abutment portion (38) that upon depression of an actuation portion (28) of the main latch arm (20) establishes a fulcrum (36) upon a mating connector (18) in order to lift the latch (16) from the catch (30).







European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 01 12 1060

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)
X	US 4 801 275 A (IKEDA TOMOHIRO ET AL) 31 January 1989 (1989-01-31) * column 4, line 14 - line 46; figures 2B,3A-3C *	1-4	H01R13/627
X	US 4 272 145 A (LADUKE JACK E) 9 June 1981 (1981-06-09) * column 3, line 20 - line 36; claim 1; figures 1,2,5 *	1,4	
A	EP 0 862 244 A (SUMITOMO WIRING SYSTEMS) 2 September 1998 (1998-09-02) * abstract; figure 2 *	1	
A	EP 0 757 411 A (SUMITOMO WIRING SYSTEMS) 5 February 1997 (1997-02-05) * abstract; figures 3,4,7 *	1	
A	US 5 380 217 A (YAGI SAKAI ET AL) 10 January 1995 (1995-01-10) * abstract; figures 3-5 *	1	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.7) H01R
Place of search		Date of completion of the search	Examiner
THE HAGUE		9 October 2002	Jiménez, J
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)



European Patent
Office

Application Number

EP 01 12 1060

CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- ☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

1-4



European Patent
Office

**LACK OF UNITY OF INVENTION
SHEET B**

Application Number
EP 01 12 1060

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims: 1-4

Connector assembly having a latch arm with actuation portion and shoulder, mating into another connector having a catch.

2. Claims: 5-11

Connector having a secondary locking member with a retention arm preventing contacts from being withdrawn from passageway.

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

EP 01 12 1060

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.

09-10-2002

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 4801275	A	31-01-1989	NONE	
US 4272145	A	09-06-1981	CA 1143452 A1 EP 0028120 A1	22-03-1983 06-05-1981
EP 0862244	A	02-09-1998	JP 3301530 B2 JP 10241788 A CN 1192067 A DE 69806827 D1 EP 0862244 A1 US 6059598 A	15-07-2002 11-09-1998 02-09-1998 05-09-2002 02-09-1998 09-05-2000
EP 0757411	A	05-02-1997	JP 9050860 A JP 9050862 A JP 9050863 A EP 0757411 A2 US 5830002 A CN 1146646 A	18-02-1997 18-02-1997 18-02-1997 05-02-1997 03-11-1998 02-04-1997
US 5380217	A	10-01-1995	JP 2904380 B2 JP 6089756 A	14-06-1999 29-03-1994