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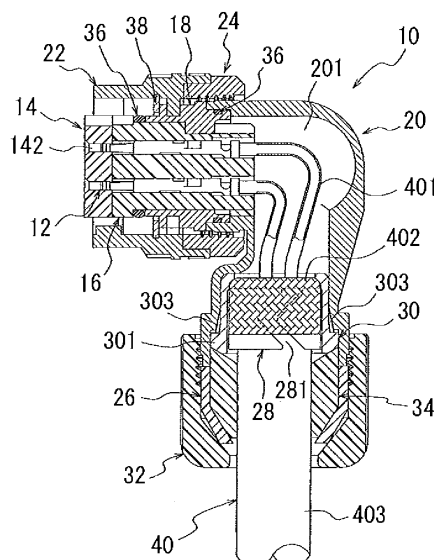
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(54) **Ground structure and electrical connector using the same**

(57) A ground structure is to be connected to a cable having a plurality of cable conductors, an outer braid for covering the cable conductors, and an outer covering for covering the outer braid. The ground structure includes a folded part of the outer braid which is folded back on the outer covering, an elastic member arranged between the folded outer braid and the outer covering and having

an elasticity to push the folded outer braid outwardly, and a ground member positioned on and contacting the folded outer braid and having at least one scraping and contacting protrusion for scraping away a surface treatment layer of a shell, thereby achieving the grounding between the cable and the shell in a simple manner without requiring troublesome operations, and providing an electrical connector using such a ground structure.

FIG. 1B





EUROPEAN SEARCH REPORT

Application Number
EP 09 17 7698

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 3 435 126 A (HAMILTON DOUGLAS L P) 25 March 1969 (1969-03-25) * column 1 - column 3; figures 1-3 *	1-3	INV. H01R13/658
X	JP 2000 100525 A (FURUKAWA ELECTRIC CO LTD) 7 April 2000 (2000-04-07) * the whole document *	1-3	
A,D	JP 2002 164127 A (DAIICHI DENSHI KOGYO) 7 June 2002 (2002-06-07) * the whole document *	1-3	
A	US 5 083 929 A (DALTON DAVID A [US]) 28 January 1992 (1992-01-28) * column 2, line 19 - line 68; figures 1-5 * column 3 *	1-3	
A	GB 693 929 A (BRITISH INSULATED CALLENDERS) 8 July 1953 (1953-07-08) * the whole document *	1-3	
A	US 4 854 891 A (KAMEI TAKEO [JP] ET AL) 8 August 1989 (1989-08-08) * column 2, line 31 - line 68; figures 3-6 *	1-3	TECHNICAL FIELDS SEARCHED (IPC) H01R
3 The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 20 April 2010	Examiner Durand, François
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)



Application Number

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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

- ☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due 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 those claims for which no payment was due.

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:
- 1-3
- ☐ The present supplementary 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 (Rule 164 (1) EPC).



LACK OF UNITY OF INVENTION
SHEET B

Application Number
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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: 1-3

Invention 1 relates to a ground structure to be connected to a cable having a plurality of cable conductors

2. claims: 4-7

Invention 2 relates to an electrical connector to be connected to a cable having a plurality of conductors

3. claims: 8, 9

Invention 3 relates to a ground structure to be connected to a cable for use with an electrical connector including a front insert and a rear insert

4. claims: 10, 11

Invention 4 relates to an electrical connector including a front insert and a rear insert formed from an insulating material

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

EP 09 17 7698

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
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20-04-2010

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
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JP 2000100525	A	07-04-2000	NONE	
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