

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

# PCT

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**  
(PCT Rule 43*bis*.1)

To:          see form PCT/ISA/220
---

Date of mailing (day/month/year) see form PCT/ISA/210 (second sheet)
---

Applicant's or agent's file reference see form PCT/ISA/220	<b>FOR FURTHER ACTION</b> See paragraph 2 below
---	--

International application No. PCT/GB2018/052155	International filing date (day/month/year) 30.07.2018	Priority date (day/month/year) 01.08.2017
--	--	--

International Patent Classification (IPC) or both national classification and IPC INV. H02G1/08 H02G3/08 H02G9/06 H02G11/02
--

Applicant BAE SYSTEMS PLC
------------------------------

1. This opinion contains indications relating to the following items:


- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA:   European Patent Office P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Fax: +31 70 340 - 3016	Date of completion of this opinion  see form PCT/ISA/210	Authorized Officer  Buccafurri, Emanuela  Telephone No. +31 70 340-0
--	--	--



---

**Box No. I Basis of the opinion**

---

1. With regard to the **language**, this opinion has been established on the basis of:
  - the international application in the language in which it was filed.
  - a translation of the international application into , which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1 (b)).
2.  This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43bis.1(a))
3.  With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing:
  - a.  forming part of the international application as filed:
    - in the form of an Annex C/ST.25 text file.
    - on paper or in the form of an image file.
  - b.  furnished together with the international application under PCT Rule 13ter.1(a) for the purposes of international search only in the form of an Annex C/ST.25 text file.
  - c.  furnished subsequent to the international filing date for the purposes of international search only:
    - in the form of an Annex C/ST.25 text file (Rule 13ter.1(a)).
    - on paper or in the form of an image file (Rule 13ter.1(b) and Administrative Instructions, Section 713).
4.  In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that forming part of the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:

---

**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

---

1. Statement

Novelty (N)	Yes: Claims	<u>1-15</u>
	No: Claims	
Inventive step (IS)	Yes: Claims	<u>13</u>
	No: Claims	<u>1-12, 14, 15</u>
Industrial applicability (IA)	Yes: Claims	<u>1-15</u>
	No: Claims	

2. Citations and explanations

see separate sheet

---

**Box No. VII Certain defects in the international application**

---

The following defects in the form or contents of the international application have been noted:

see separate sheet

---

**Box No. VIII Certain observations on the international application**

---

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

1 **Re Item VIII**

**Certain observations on the international application**

- 1.1 The application does not meet the requirements of Article 6 PCT, because claim 1 is not clear. The statement "an apparatus with the cable" is vague and unclear and leaves the reader in doubt if also the cable is part of the apparatus.
- 1.2 Although claims 1 and 14 have been drafted as separate independent claims, they appear to relate effectively to the same subject-matter and to differ from each other only with regard to the definition of the subject-matter for which protection is sought and/or in respect of the terminology used for the features of that subject-matter. The aforementioned claims therefore lack conciseness and as such do not meet the requirements of Article 6 PCT.
- 1.3 Claim 14 being broader than claim 1 (if the apparatus in claim 1 possibly comprises also the cable), claim 14 is the independent claim and claim 1 is thus dependent on claim 14.

2 **Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

- 2.1 Reference is made to the following documents:

D1 Hannay Reels: "Hannay Reels Hose & Cable Stops - Dultmeier Sales",  
, 19 October 2008 (2008-10-19), XP055447850,  
Retrieved from the Internet:  
URL:<https://web.archive.org/web/20081019083115/https://www.dultmeier.com/products/0.698.1048.2265/1779>  
[retrieved on 2018-02-05]

- D2 Inc. Provided By Federal Information & News Dispatch: "47 -- PIPE, TUBING, HOSE & FITTINGS -- 4" DIAMETER PVC CONDUIT FLARED AT ONE END",  
Commerce Business Daily, 16 March 1999 (1999-03-16),  
XP055514509,  
Washington
- D3 WO 2005/081375 A1 (APPULIA LTD [GB]; TAPPER PAUL [SE])  
1 September 2005 (2005-09-01)
- D4 EP 0 715 385 A1 (WHITAKER CORP [US]) 5 June 1996  
(1996-06-05)
- D5 US 9 425 604 B1 (LAWRENCE JAMES BROOKS [US]) 23  
August 2016 (2016-08-23)

- 2.2 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of **claim 14 does not involve an inventive step** in the sense of Article 33(3) PCT.
- 2.3 D1 is regarded as being the prior art closest to the subject-matter of claim 14, and discloses:  
  
An apparatus (**Fig.2**), wherein the apparatus comprises a stopper (**Hose and cable stops**),  
  
wherein the stopper is formed in one or more parts from a plastic (**Two-piece molded plastic spheres**);  
  
the stopper comprises an internal hole which accommodates the cable (**Fig.2**) and the stopper  
  
has an outer surface of which at least a part conforms to the geometry of one end of the conduit.
- 2.4 The subject-matter of claim 14 therefore differs from this known apparatus in D1 in that:  
  
The apparatus comprises a conduit and the geometry of the one end of the conduit is flared and accommodates the shape of the stopper; and the conduit accommodates the cable.

2.5 The problem to be solved by the present invention may therefore be regarded as, how to achieve a good fit between the conduit and the stopper.

2.6 The feature "a flared conduit" is well known to the skilled person (See for example D2) and is merely one of several straightforward possibilities from which the skilled person would select, in accordance with circumstances, without the exercise of inventive skill, in order to solve the problem posed. This is also confirmed in the description of the application at pag. 8 lines 12-16 :

*The conduit is shown having circular cross section and an elongated overall form. However, it will be appreciated that different shapes and cross sections are equally usable as long as the conduit is of a substantially corresponding shape. Examples of different shapes include cubes, squares and any other appropriate geometrical shape.*

And pag. 9 lines 19-25:

*Referring now to figure 7, the conduit 703 is shown with a flared end 702. The stopper 700 is shown in position within the flared opening of the conduit 700. As previously indicated the conduit may be any shape or size and used in any environment. The opening at the end of the conduit may be any shape or size and the stopper is ideally adapted to cooperate with the geometry of the opening so that the required articulation of the "joint" between the cable and the conduit is achieved.*

3 The same reasoning applies to the corresponding method independent claim 15, therefore **claim 15 is not inventive** in the sense of Article 33(3) PCT.

4 **Dependent claims 2-12**, do not appear to contain any additional features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step.

Claim 2: D1 fig.1

Claims 3,4: D3 Tongues 114

Claim 5: D4 Claim 5, The strain relief member of any preceding claim characterized in that the housing is overmoulded over the cable (2) and crimped clip (8,108).

Claims 6,7: D1 discloses a two-piece molded plastic spheres.

Claims 8,9: D4 Col.2 lines 46-49 The housing 10 could also be provided in a single moulding of two parts that are hinged together and can be closed around the cable and metal clip and then latched together to grip strongly.

Claim 10: D5 118 Body fastener assembly

Claim 11: Starting from D5 element 118, using a zip tie to hold the two parts together is obvious for the person skilled in the art.

Claim 12: Since the conditions of the PCT Guidelines Chapter 12.10 are not fulfilled, especially since there is no particular technical effect for the claimed range, and these areas are not narrow, it is considered that D1 contains this feature by the fact that is made with plastic.

5 **Re Item VII**

**Certain defects in the international application**

- 5.1 Independent claim 14 is not in the **two-part form** in accordance with Rule 6.3(b) PCT, which in the present case would be appropriate, with those features known in combination from the prior art D1 being placed in the preamble (Rule 6.3(b)(i) PCT) and the remaining features being included in the characterising part (Rule 6.3(b)(ii) PCT).
- 5.2 The features of claim 14 are not provided with **reference signs** placed in parentheses (Rule 6.2(b) PCT).
- 5.3 Contrary to the requirements of Rule 5.1(a)(ii) PCT, the **relevant background** art disclosed in D1-D5 is not mentioned in the description, nor are these documents identified therein.