Intellectual Property Office

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07 May 2026

PATENTS ACT 1977

APPLICANT	Sumitomo Electric Industries Ltd
ISSUE	Whether Patent Application GB2400673.6 complies with Sections 1(1)(b) and 14(5)(b) of the Patents Act 1977
HEARING OFFICER	Sally Vinall

DECISION

Introduction

1 This decision relates to whether patent application GB 2400673.6 ("the application") entitled "Optical Fiber Cable" and in the name of "Sumitomo Electric Industries, Ltd." (the Applicant) complies with the requirement of The Patents Act 1977 (as amended) ("The Act").

2 The application was filed via the Patent Cooperation Treaty ("PCT") on 19 July 2022 and claims a priority date of 21 July 2021 from an earlier Japanese filing, JP 2021-120787. The application was published as WO 2023/002971 A1 in the international phase. It was subsequently published in the national phase as GB 2623455 A on 17 April 2024.

3 The first examination report was issued on 20 December 2024 with three further examination reports issued. In the latest of these examination reports, dated 14 October 2025, the Examiner considers that the application does not meet the requirements of Section 14(5)(b) of the Act as the invention is not considered to be clearly disclosed in claim 1. The Examiner also objects under Section 1(1)(b) of the Act that the invention as construed from the claims lacks an inventive step in light of the prior art cited during the examination process. An impasse was considered to have been reached on these objections and the examination report of 14 October 2025 included an offer of a hearing on these matters, which the applicant accepted.

4 The Examiner issued a pre-hearing report on the 15 January 2026 setting out the issues to be heard, and I thank the applicant for their skeleton arguments, which were received in response dated 18 February 2026. The skeleton arguments included three auxiliary claim sets setting out potential amendments for consideration.

5 I must therefore decide on whether claim 1 serves to clearly disclose the invention for which a monopoly is sought, as required by Section 14 of the Act, and, if so,

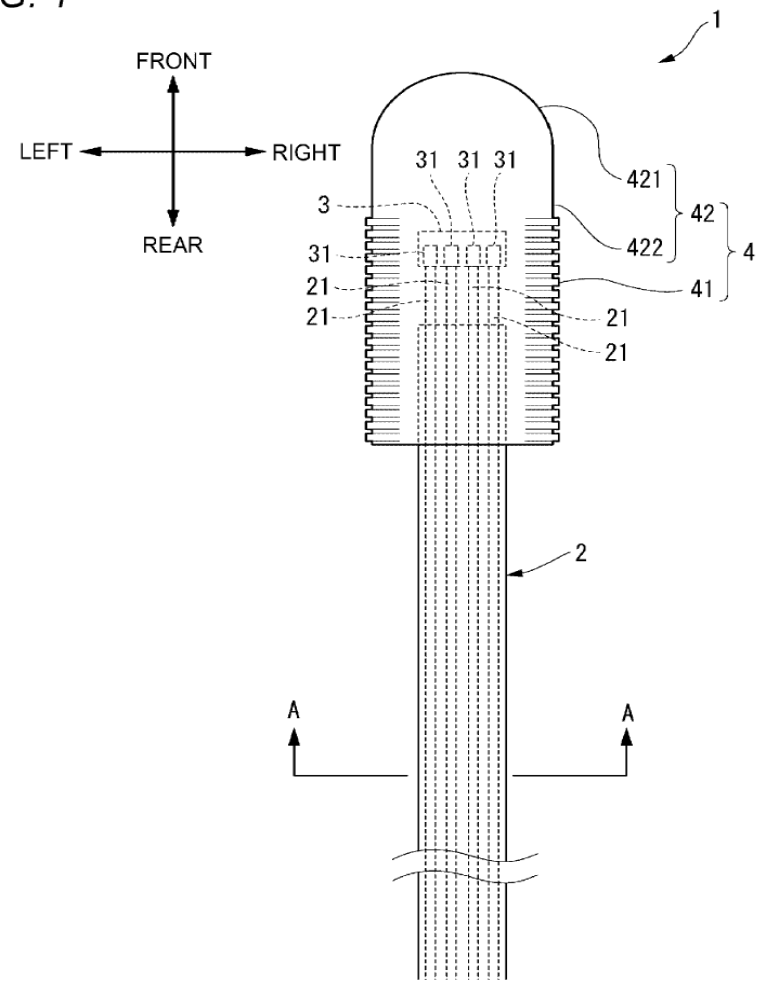
whether that invention contains an inventive step over the state of the art, as required by Section 1(1)(b) of the Act.

6 The period for putting this application in order under Section 20 of the Act expired on 21 January 2026 but has been extended to 21 March 2026 following an as-of-right extension request from the Applicant. A subsequent request under the Comptroller's discretion to further extend the Section 20 period to 21 May 2026 has been allowed.

The application

7 With reference to Figure 1 provided below, the application relates to an optical fibre cable **1** for air-blown installation, a process where compressed air is used to assist in propelling the optical fibre cable through the installation duct. The optical fibre cable includes a plurality of optical fibres or optical fibre ribbons **21** which are accommodated within a cable sheath. The cable sheath includes at least one tensile strength member embedded therein. A connection member **3** is connected to the end portions of the plurality of optical fibres or optical fibre ribbons.

FIG. 1



8 The advantages of the optical fibre cable forming the basis of the application are suggested to be two-fold: The tensile strength member embedded in the cable sheath provides "*excellent air-blown installation characteristics*", by imparting a degree of rigidity that helps prevent the cable from kinking during the air-blown

installation process. Additionally, the inclusion of the connection member on the end portions of the plurality of optical fibres or optical fibre ribbons means that "*connector mounting **after** laying is unnecessary*" (emphasis added).

The Claims

9 The claim set which forms the basis of the pre-hearing report was filed on 18 July 2025 and consists of 4 claims, with a single independent claim as set out below:

> [Claim 1] A method for laying an optical fiber cable for air-blown installation, wherein the method comprises laying an optical fiber cable comprising:
>
> a plurality of optical fiber ribbons;
>
> a cable sheath accommodating the plurality of optical fiber ribbons;
>
> at least one tensile strength member embedded in the cable sheath; and
>
> a connection member connected to end portions of the plurality of optical fiber ribbons, wherein
>
> the plurality of optical fiber ribbons are an intermittent coupling type optical fiber ribbon in which an outer diameter of an optical fiber constituting the optical fiber ribbon is 220 μm or less, and
>
> the connection member is a multi-fiber connector including a ferrule connected to end portions of the plurality of optical fiber ribbons.

10 Claim 1 has been significantly amended since filing, with the claim originally pertaining to the optical fiber cable itself rather than a method for laying an optical fiber cable of the type claimed.

The Law

11 The Examiner raises an objection to the clarity of claim 1. The relevant provision of the act is section 14(5), as shown below:

12 Section 14(5)

> The claim or claims shall -
> (a) define the matter for which the applicant seeks protection;
> (b) be clear and concise;
> (c) be supported by the description; and
> (d) relate to one invention or to a group of inventions which are so linked as to form a single inventive concept.

13 More specifically the Examiner's objections relate to 14(5)(b), i.e. whether claim 1 clearly defines the matter for which protection is sought.

14 The Examiner also objected to claim 1 as lacking an inventive step under section 1(1)(b) of the Act, which reads:

15 A patent may be granted only for an invention in respect of which the following conditions are satisfied, that is to say

> (a) the invention is new;
>
> (b) it involves an inventive step;
>
> (c) it is capable of industrial application;
>
> (d) the grant of a patent for it is not excluded by subsections (2) and (3) or section 4A below; and references in this Act to a patentable invention shall be construed accordingly

Analysis – Clarity

16 The clarity issue lies in the first part of claim 1 and whether the skilled person would consider the claim to a method 'suitable for' laying an optical fibre cable as clear. The form of the claim in this regard is unusual in that it claims a method for laying an optical fibre cable but then defines this method by the features of the cable being laid rather than any explicit method steps.

17 The Examiner is of the opinion that this is unclear and the claim should be construed as relating to the cable *per se,* further noting that the alleged advantage of not having to attach the multi-fibre connector *after* laying is not clear from the specification as a whole. On the other hand, the Applicant argues that the benefit of fitting the cable before laying it is clear from the description and thus the method, whilst using standard air-blown installation, is clear because it involves laying the cable with the connector already attached, which was not previously known.

18 When assessing clarity, claims should be read giving the words the meaning and scope which they should normally have in the relevant art and interpreted in light of the description and any drawings. Patent specifications should be given a purposive construction rather than a purely literal one as discussed in *Catnic*[1] .

19 When making my consideration I must view the claim through the eyes of the skilled person in the art. During examination (paragraph 23 of the pre-hearing report) the skilled person in the art, and the common general knowledge they would possess, was defined as

> *"…a designer and manufacturer of optical fibre cables. They would be aware of the common materials and design structures of optical fibre cables as well as common features these cables consist of. They would also be aware of where optical fibre cables are commonly used and methods of installing said cables."*

20 No objection to this definition was submitted by the Applicant and so I will also adopt this definition here.

21 It is clear from the description that one of the problems with laying optical fibre cable is the difficulty and time taken to install the connector in the field, discussed for

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[1] *Catnic Components Ltd and another v Hill and Smith Ltd* [1982] RPC 183

example at paragraph [0006]. Lines 28-31 of page 2 of the original description explicitly state that connector mounting after laying is unnecessary. I am therefore content that, from the description, it is clear that the connection member is attached to the optical fibre cable prior to laying. Whilst the description does not go into more detail than to state the connector does not need to be attached after laying, I consider that the skilled addressee is clearly directed to lay the cable with the connector already attached.

22 The question then, is whether the skilled addressee would understand that claim 1 limits the invention to a method of laying the cable whereby the connection member is first attached to the cable and, after that step, the cable is laid. Whilst putting the claim in such terms would undoubtedly be clearer, I must decide whether the claim as it stands is clearly limited to a method whereby the connector does not need to be attached to the cable in the field. I will restrict my analysis of the clarity of claim to only the sections relevant to this consideration.

23 The relevant parts of claim 1 read:

> A method for laying an optical fiber cable for air-blown installation, wherein the method comprises laying an optical fiber cable comprising:
>
> …
>
> A connection member connected to end portions of the plurality of optical fiber ribbons, wherein
>
> …
>
> the connection member is a multi-fiber connector including a ferrule connected to end portions of the plurality of optical fiber ribbons.

24 I construe claim 1 as directed towards a method ‘suitable for’ laying an optical fibre cable, the cable being ‘suitable for’ air-blown installation. The method is then further defined in terms of laying an optical fibre cable “comprising” the features as set out in the remainder of claim 1.

25 “Comprising” is generally interpreted to mean “including”, i.e. other integers or features may be present. The conventional interpretation of “comprising” to mean “including” was approved of by Kitchin J. in *DLP Ltd’s Patent*[2] .

26 It is clear from the wording of the claim that the cable, during the process of laying, must have all of the features recited. This includes a connection member ‘connected’ to the end portions of the cable. It would appear unnatural to read that language as meaning that the cable has the connection member affixed only after, or at the end of the laying process given the past tense of the word ‘connected’. It would appear the most obvious reading of the wording provided would be to consider all features of the cable already present at the start of the method. If the skilled addressee were in any doubt as to this on reading the claim, the description would soon confirm any ambiguity as it clearly states there is no need to attach the connector in the field.

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[2] *DLP Ltd’s Patent* [2007] EWHC 2669 (Pat), [2008] RPC 11

27 I have some sympathy for the Examiner's position, in that the importance of this feature is not readily apparent from the claim and a method claim without obvious method steps is unusual. However, in this case the cable is a standard cable and the method is a well-known method, neither of which the skilled person would expect the patentee to be trying to claim, as noted in *Virgin Atlantic*[3]*.* The difference is in the order in which actions are done, namely installing the cable with the connector already attached, rather than having to attach the connector in the field. I therefore consider that claim 1 as it stands is sufficiently clear for the skilled addressee to understand the scope of invention claimed.

28 Therefore, I find that claim 1 is clear and so meets the requirements of section 14(5)(b) of the Act.

29 Accordingly, I have no need to consider the auxiliary claim sets filed along with the skeleton arguments.

30 For avoidance of doubt, a formal consideration of other aspects of Section 14(5) of the Act, such as whether the scope of claim 1 is properly supported by the description, is outside the scope of this decision.

Analysis – Inventive step

31 The Examiner objects to inventive step based on their construal of claim 1 such that it relates to the optical fibre cable *per se* and not the method of laying the cable. However, as established above, claim 1 is considered to clearly define a method suitable for laying an optical fibre cable. Accordingly, the analysis of inventive step now needs to be performed on the method as considered to be clearly claimed.

32 The pre-hearing report of 15 January 2026 cites three documents when objecting to the obviousness of claim 1:

JP 2020204752 A	(SUMITOMO ELECTRIC INDUSTRIES-D)
WO 2020/256019 A1	(SUMITOMO ELECTRIC INDUSTRIES-C)
EP 3796060 A1	(FUJIKURA LTD-B)

33 The same argument is raised based on each one. The Examiner considers each of these documents to disclose all of the required features of the optical fibre cable of claim 1 except for the feature of a connection member in the form of "*a multi-fiber connector including a ferule connected to end portions of the plurality of optical fiber ribbons*".

34 The Examiner makes the point that although they construe the claim as relating to an apparatus, i.e. the optical fibre cable itself, they also do not consider any of the citations to disclose a method suitable for laying the optical fibre cables that each document discloses.

35 The Examiner further argues that, although not disclosed in the formally cited documents, the common general knowledge of the skilled person would include the

[3] *Virgin Atlantic Airways Ltd v Premium Aircraft Interiors UK Ltd* [2010] RPC 8

fact that multi-fibre connectors, including a ferule, are commonly used as connection members on state-of-the-art optical fibres. A number of patent documents are listed in the pre-hearing report (paragraph 24) in support of this argument. Review of these documents confirms that they do show that multi-fibre connectors including a ferule are a well-known means to connect optical fibres together. The Examiner therefore concludes that the skilled person would consider it obvious to include such connectors on the optical fibers disclosed in the cited documents and so, based on the construal that claim 1 relates to an optical fibre, and not a method suitable for laying an optical fibre, judges the optical fibre of claim 1 to lack an inventive step.

36 As discussed above I have determined that claim 1 is clear in defining a method suitable for laying an optical fibre cable and the scope of claim 1 should not be restricted solely to the optical fibre cable *per se*. I will now review the inventive step analysis but applying it to the features of claim 1 as a method suitable for laying an optical fibre cable. I will follow the steps of the *Windsurfing/Pozzoli*[4] test, listed here for reference:

> (1)(a) Identify the notional "person skilled in the art"
>
> (1)(b) Identify the relevant common general knowledge of that person;
>
> (2) Identify the inventive concept of the claim in question or if that cannot readily be done, construe it;
>
> (3) Identify what, if any, differences exist between the matter cited as forming part of the "state of the art" and the inventive concept of the claim or the claim as construed;
>
> (4) Viewed without any knowledge of the alleged invention as claimed, do those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention?

(1)(a) Identify the notional "person skilled in the art" and (1)(b) Identify the relevant common general knowledge of that person;

37 As previously noted, the definition of the skilled person as set out in paragraph 23 of the pre-hearing report of 15 January 2026 is appropriate.

(2) Identify the inventive concept of the claim in question or if that cannot readily be done, construe it;

38 Claim 1 is construed as relating to a method of laying an optical fibre cable by air-blown installation where *at the time of laying* the cable comprises a plurality of optical fibre ribbons accommodated in a cable sheath. At least one tensile strength member is embedded in the cable sheath and a connection member is connected to end portions of the plurality of optical fibre ribbons. The optical fibre ribbons are of an intermittent coupling type in which an outer diameter of an optical fibre constituting the optical fibre ribbon is 220 *μ*m or less. The connection member is further

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[4] *Windsurfing International v Tabur Marine* and *Molnlycke v Procter & Gamble Ltd* [1994] RPC 49 as modified in *Pozzoli SPA v BDMO SA* [2007] EWCA Civ 588

specified to be a multi-fibre connector including a ferrule connected to end portions of the plurality of optical fibre ribbons.

(3) Identify what, if any, differences exist between the matter cited as forming part of the "state of the art" and the inventive concept of the claim or the claim as construed;

39 Each of the citations is considered to disclose all the required features of the optical fibre cable of claim 1 except for the feature of a connection member in the form of "*a multi-fiber connector including a ferrule connected to end portions of the plurality of optical fiber ribbons*".

40 The citations also disclose that the optical fibre cables are suitable for air-blown installation but are silent on any details of the installation process.

41 Accordingly, the difference between the inventive concept of claim 1 and the state of the art is a method of laying an optical fibre cable by air blown installation where *at the time of laying* the optical fibre cable comprises a multi-fibre connector including a ferrule connected to end portions of the plurality of optical fibre ribbons.

(*4) Viewed without any knowledge of the alleged invention as claimed, do those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention?*

42 Considering the agreed common general knowledge of the skilled person, they would be aware that state-of-the-art optical fibre cables may comprise a multi-fibre connector including a ferrule connected to end portions of the plurality of optical fibre ribbons. However, the application asserts that the practice in the state of the art is to mount such connectors to the cables *after* the cables have been installed. None of the cited prior art or the proposed common general knowledge of the skilled person appears to contradict this assertion.

43 Therefore, the method of claim 1, relating to the laying of an optical fibre cable by air-blown installation, in which the optical fibre cable has a multi-fibre connector including a ferrule connected to end portions of the plurality of optical fibre ribbons *before installation* is found to be inventive over the prior art.

Conclusion

44 Having decided that claim 1 is clear and inventive over the cited prior art, I remit the application back to the Examiner for further processing.

Appeal

45 Any appeal must be lodged within 28 days after the date of this decision.

SALLY VINALL

Patent Examination Group Head