

Candidate's examination paper
(Examination paper B/1992 Electricity/Mechanics)

Letter to EPO Munich

Dear Sirs,

Re: Patent Application No.

In response to the Official Communication of (date), we file herewith in triplicate a new set of claims which are intended to address the Examiner's objections. This new set should replace the set at present on file.

It is recognised that consequential amendments to the body of the specification, including acknowledgement of Document II, will be necessary in due course. However, we request that this amendment be deferred until the Examiner indicates his broad agreement of the amended claims.

In the claims, claim 1 has been limited by inclusion of the features of claims 2 and 4, plus a feature derived from the description on page 5 at lines 17 and 20, i.e. that the arm may be pivoted about the point of engagement of the arm and the support member.

Whilst there is no explicit basis for this wording in the specification, it is submitted that the wording is implicit to the skilled man: the skilled man would recognise that, for example, a 'hook and notch' arrangement is not essential for pivotal movement and he would know that the hook and notch could be reversed (so that the hook is on the support member and the notch is on the arm). Accordingly, it is submitted that the new wording does not extend the totality of the original disclosure, and so does not fall foul of Art. 123(2).

The new claim 1 takes as its starting point the disclosure of Document I, which is still considered to be the most relevant prior art because it is the document that the present invention seeks to improve upon. However, the features of original claims 2 and 4 have been placed in the precharacterising portion, as those features are disclosed in D1. Thus, claim 1 is now characterised by a combination of features, namely:

- (i) the previous characterising feature, of 'horizontal or perpendicular insertion'; and
- (ii) the pivotable nature of the engagement between the arm and the support member.

In our submission, claim 1 as amended is clearly novel over Document I and Document II. Document I does not disclose characterising feature (i)*; Document II does not disclose characterising feature (ii), as it has no 'support member' as required by the claim. (* note positive non-pivotable connection of hook 61 and notch 12).

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Further, we submit that claim 1, as amended, defines an inventive step. Although both characterising features are known, the combination thereof to arrive at the present invention is not obvious for the skilled man to take. We say this because of synergistic relationship between the two features which means that the combination provides an unexpected benefit. In other words, the whole is greater than the sum of its parts. In particular, the 'pivotable' connection enables mounting of an arm (which may be large and heavy) to be performed in two easy stages. First, engage hook 24 with a notch 16, and then, using the pivotal movement allowed by the engagement, insert the connector plug 22 in a substantially horizontal direction into the corresponding opening 18 (see p. 5 lines 19 to 24 of description). The first action takes the weight of the arm, thus making the second action easier. Indeed, the pivoting action may provide some guidance if arranged to confine the arm in a given vertical plane, thereby aiding the second action further.

If one looks at the documents DI and DII in isolation, there is nothing whatever in either document to suggest an advantageous arrangement as defined in the new claim 1. This is despite the disadvantages suffered by each document. DI requires precise alignment, simultaneously, at two points of contact. This is extremely difficult if the arm is heavy (and why else have two supports?). DII appears to be quite unsuitable for heavy arms, as it makes no provision for further support and, indeed, the connection in DII appears to be mechanically weak. So, the skilled man would not find inspiration in either document to help him in his quest for the solution solved by the present invention.

In the sub-claims, the effective cancellation of claims 2 and 4 has necessitated amendment. Opportunity has been taken to add new claim 4 to specify that the hook 24 has a neck 25 which widens towards its lower end (adjacent the notch), as this is what permits pivotal movement in the disclosed embodiment - one of several possible ways of achieving this movement.

Original claim 3 (now claim 2) is patentable in combination with claim 1 as amended and, we submit, defines novel and inventive subject-matter in its own right. Contrary to the Examiner's assertion, the inversion of protrusion and recess is not obvious, because having the protrusion on the support structure (as claimed) allows the locking arrangement of Figure 4 to function effectively. However, we have clarified the inventive character of claim 2 by specifying that the recess is situated on 'an upper part' of the or each arm. As stated at page 9, line 9 of the description, this helps to stop the arms 60 from twisting outwardly from the support member 52. In contrast, the arrangement of document II - in which the recesses are underneath the arm - will do nothing to resist this twisting tendency.

Regarding original claims 6 to 9 - now renumbered from 5 upwards - these again derive patentable subject matter by virtue of combination with claim 1. However, we submit that each defines patentable subject matter in its own right.

Notwithstanding this, we have made some amendments more clearly define the inventive concept of each claim. In particular, claim 1 has been amended by (i) combining it with claim 6 and (ii) adding a further feature taken from the description i.e. that the plates 31 ('elements', using the claim language) are in floating relationship relative to the spacer - see the first line on page 8 of the description. As made clear in that paragraph, this feature ensures smooth making and breaking of the contact, and also solves a tolerance problem. These advantages are indicative of inventive step over Document II, and the feature is novel because Document II does not disclose a floating relationship: indeed, Document II discloses 'rings' which appear to be immovable relative to the spacer under the compressive effect of the threaded tube (7).

Concerning original claim 8 (now 6) we submit that the Examiner is guilty of 'ex post facto' analysis and that, in any event, "omission of one side of the groove" would not provide the benefit of the arrangement defined in claim 8 because the conductive elements are not free to float relative to the insert, as required by the antecedent claim 5.

Dealing finally with paragraph 7 of the official letter, original claim 9 (now 7) derives patentable subject matter from the antecedent claims from which it depends.

All of the Examiner's objections having been addressed, we submit that the present invention (as now defined) is patentably distinguished from the prior art. Favourable reconsideration of the objections is, therefore, requested. However, if any minor problems remain, the undersigned will be pleased to correct them in response to a telephone call from the Examiner.

In the unlikely event that the Examiner wishes to refuse the application, we hereby request oral proceedings as a precaution to avoid refusal. Further, the limitations proposed in the amended claims must not be construed as abandonment of any subject matter thereby excluded: applicant expressly reserves the right to file one or more divisional applications.

Yours respectfully,

A. N. Attorney
Representative

New claims for present application

1. An electrical lighting fitting comprising a support structure (1;50) to be suspended such that an axis (11;51) of suspension thereof extends in a vertical direction and at least one arm (2;60) for carrying an electrical lamp (21), the or each arm being releasably mountable to the support structure, the support structure (1;50) including first electrical connector means (14;52) for co-operating with second electrical

connector means (22;62) provided on the or each arm, the support structure (1;50) and the or each arm, (2;60) comprising mutually cooperating mechanical support means (12;24;53;61), the mechanical support means comprising a support member (12) forming part of the support structure (1) and displaced axially with respect to the first electrical connector means (14), the support member (12) engaging the or each arm (2) at a point of engagement, characterised in that the first and second electrical connector means (14,22;52,62) are arranged for mutual insertion in a direction substantially perpendicular to the suspension axis (11;51) of the support structure (1;50) and in that the arm (2) is pivotable in a vertical plane about the point of engagement when engaged with the support member (12).

2. A lighting fitting as defined in claim 1, wherein the mechanical support means includes a protrusion (55) on the support structure (50) and a recess (61) on an upper part of the or each arm (60), the protrusion being resiliently urged into the recess to releasably lock the arm in place.
3. A lighting fitting as defined in claim 1 or claim 2, wherein the support member (12) comprises a wall (15) extending parallel to the suspension axis (11) and having at least one notch (16) formed therein, the or each arm (2) having a hook (24) for cooperation with a notch (16) of the support member (12).
4. A lighting fitting as defined in claim 3, wherein the hook (24) has a neck (25) which neck (25) widens towards its lower end.
5. A lighting fitting as defined in any of the preceding claims, wherein the first electrical connector means (14;52) comprise first and second electrically conductive elements (30,31) separated by an insulating spacer (32) and each extending perpendicularly to the suspension axis (11;51) and the second electrical connector means (22;62) on the or each arm comprising first and second contact pins (23;63) each cooperating with a respective one of the conductive elements (30,31), the elements (30,31) being in floating relationship to the spacer (32).
6. A lighting fitting as defined in claim 5, wherein each contact pin (23;63) of the or each arm is inserted between the insulating spacer (32) and one of the conductive elements (30,31).
7. A lighting fitting as defined in any preceding claim, wherein the first electrical connector means (14;52) are contained within a housing (38,39) having at least one opening (18) which defines an insertion position for an arm.

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Possible divisional protection¹

1. It is noted that the combination of the Fig. 4 embodiment with the 'twin-support' arrangement of Figs. 1 to 3 is explicitly contemplated in the present application (see final paragraph on page 9 of the description). Thus, limitation to the 'twin-support' arrangement (as has been done in response to the official communication) does not thereby exclude the Fig. 4 embodiment.
2. However, the Fig. 4 embodiment is clearly usable in a 'single-support' arrangement and, indeed, the description discloses such use. So, for the maximum protection of the Fig. 4 embodiment, the claims should not be limited to the 'twin-support' arrangement. This may be achieved by two divisional applications, each directed to an aspect of the Fig. 4 embodiment, namely:
 - (a) the 'floating contact' aspect - as recited in claim 5 of the new claims; and
 - (b) the protrusion 'on the upper part' of each arm - as recited in claim 2 of the new claims.

Arguments in support of these aspects are included in the letter to the EPO.

The 'floating contact' aspect should take Document II as the closest prior art, as nothing like it is contemplated in Document I. So should the 'upper part' aspect, as Document II otherwise discloses the features of the claim.

Suggested claims are as follows:

(a) 'floating contact' aspect:

1. An electrical lighting fitting comprising a support structure (1;50) to be suspended such that an axis (11;51) of suspension thereof extends in a vertical direction and at least one arm (2;60) for carrying an electrical lamp (21), the or each arm being releasably mountable to the support structure, the support structure (1;50) including first electrical connector means (14;52) for cooperating with second electrical connector means (22;62) provided on the or each arm (2;60), the first electrical connector means comprising first and second electrically conductive elements (30,31) separated by an insulating spacer, each extending perpendicularly to the suspension axis and the second electrical connector means on the or each arm comprising first and second contact

¹ N.B. divisionals to be filed prior to approval of text under R. 51(4)

pins each cooperating with a respective one of said
conductive elements, the first and second electrical
connector means being arranged for mutual insertion in
direction substantially perpendicular to the suspension
axis of the support structure, characterised in that the
elements (30,31) are in floating relationship to the
spacer (32).

2. As claim 6 of amended claims filed at EPO.
- (b) second aspect: combination of claim 1 as originally filed,
plus the new claim 2, the characterising feature being that
the recess is situated on an upper part of the or each arm.