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**Datasheet for the decision
of 24 April 2019**

Case Number: T 0636/14 - 3.5.02

Application Number: 01126580.8

Publication Number: 1207591

IPC: H01R13/627, H01R13/639

Language of the proceedings: EN

Title of invention:

Plug connector with secondary locking device

Patent Proprietor:

Delphi Connection Systems Holding France

Opponent:

Amphenol-Tuchel Electronics GmbH

Relevant legal provisions:

EPC Art. 54(3), 123(2)

Keyword:

Novelty - main request and auxiliary requests 1, 2 (no)
Amendments - auxiliary requests 3 to 6 - intermediate
generalisation



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Case Number: T 0636/14 - 3.5.02

D E C I S I O N
of Technical Board of Appeal 3.5.02
of 24 April 2019

Appellant: Delphi Connection Systems Holding France
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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 10 January 2014
revoking European patent No. 1207591 pursuant to
Article 101(3) (b) EPC.**

Composition of the Board:

Chairman R. Lord
Members: G. Flynn
W. Ungler

Summary of Facts and Submissions

- I. The patent proprietor appealed against the decision of the opposition division revoking the European patent number EP 1 207 591 B1 (hereinafter: "the patent"). The opponent is respondent to the appeal.
- II. In the contested decision, the opposition division considered the proprietor's main request for maintenance of the patent (i.e. rejection of the opposition) and auxiliary requests for maintenance of the patent in amended form on the basis of auxiliary requests 1 to 4 that were filed with a letter dated 10 October 2013.
- III. The opposition division revoked the patent on the grounds that:
- claim 1 of main request did not meet the requirements of Articles 52(1) and 54(3) EPC in view of **document E2: EP 1 130 692 A2**;
 - claim 1 of the first auxiliary request did not meet the requirements of Article 123(2) EPC;
 - claim 1 of the second auxiliary request did not meet the requirements of Articles 84, 52(1) and 54(3) EPC in view of document E2;
 - claim 1 of the third auxiliary request did not meet the requirements of Articles 52(1) and 54(3) EPC in view of document E2; and
 - claim 1 of the fourth auxiliary request did not meet the requirements of Articles 84, 52(1) and 54(3) EPC in view of document E2.
- IV. With the statement of grounds of appeal the appellant (patent proprietor) filed sets of claims according to amended auxiliary requests 1 to 4.

- V. The Board summonsed the parties to oral proceedings, setting out their initial observations on the appeal in an annex.
- VI. With a response dated 21 March 2019 the appellant filed sets of claims according to auxiliary requests 5 and 6.
- VII. Oral proceedings were held on 24 April 2019.

The parties' final requests were as follows:

The appellant (patent proprietor) requested that the decision under appeal be set aside and the patent be maintained as granted (main request), or that the decision under appeal be set aside and the patent be maintained in amended form on the basis of the claims of one of the auxiliary requests 1 to 4 filed with the statement of grounds of appeal or on the basis of the claims of auxiliary request 5 or 6 filed with letter dated 21 March 2019.

The respondent (opponent) requested that the appeal be dismissed.

The tenor of the present decision was pronounced at the end of the oral proceedings.

- VIII. Claim 1 of the patent as granted (**main request**) reads as follows:

"1. A plug connector (1) with a secondary locking device (8) which has at least one leg (10), where the at least one leg fixes a locking arm (5) of the plug connector (1) in the final locked position in a socket (16), where the secondary locking device (8) has two spring arms (12) each with a step (13)

which is supported on a locking projection (15) formed on the housing (2) of the plug connector (1) and which holds the secondary locking device (8) in a pre-locked position and where the secondary locking device (8) can be locked into the final locked position,

characterised in that each of the two spring arms further comprises a projection (14) and in that during the process of insertion of the plug connector (1) into the socket (16), the spring arm (12) is deflected by the projection (14) in such a way that the step (13) of the spring arm (12) is lifted from the locking projection (15) and the secondary locking device (8) is released."

Claim 1 of **auxiliary request 1** differs from claim 1 as granted in that the first characterising feature has been amended to read (amendment underlined):

"each of the two spring arms further comprises a projection (14) located on its insertion end,".

Claim 1 of **auxiliary request 2** differs from claim 1 of auxiliary request 1 in that the first characterising feature has been amended to read (amendment underlined):

"each of the two spring arms further comprises a wedge-shaped projection (14) located on its insertion end, ".

Claim 1 of **auxiliary request 3** differs from claim 1 as granted in that the the following features have been added at the end (amendment underlined):

", and in that in addition to the projections (14) of the spring arms (12) the secondary locking device (8) has locking shoulders (20, 21), by means of which the secondary locking device (8) can be

locked into the pre-locked position in the housing (2) of the plug connector".

Claim 1 of **auxiliary request 4** as filed with the grounds of appeal differs from claim 1 as granted in that it includes all of the features added according to auxiliary requests 2 and 3.

Claim 1 of **auxiliary request 5** and claim 1 of **auxiliary request 6** differ from claim 1 of auxiliary requests 3 and 4, respectively, in that the feature added at the end has been amended as indicated below with strike-out and underlining:

" , and in that in addition to the projections (14) of the spring arms (12) the secondary locking device (8) has locking shoulders (20, 21), ~~by means of which~~ wherein the secondary locking device (8) can be locked into the pre-locked position in the housing (2) of the plug connector by the locking shoulders".

IX. The parties' submissions are summarised in the relevant sections of the reasons for the decision.

Reasons for the Decision

1. Main Request

Articles 100(a), 52(1) and 54(3) EPC

- 1.1 Document E2 belongs to the state of the art in accordance with Article 54(3) EPC. That is not disputed.
- 1.2 The subject-matter of claim 1 as granted concerns a "plug connector (1) with a secondary locking device (8)" that has two spring arms (12). The appellant argues that the subject-matter of claim 1 as granted is distinguished from the connector of document E2 by the feature that
- "during the process of insertion of the plug connector (1) into the socket (16), the spring arm (12) is deflected by the projection (14) in such a way that the step (13) of the spring arm (12) is lifted from the locking projection (15) and the secondary locking device (8) is released".
- 1.3 This alleged distinguishing feature concerns the manner in which the spring arms are deflected during the process of insertion of the claimed plug connector into a socket, and the effect of that deflection. Although the socket is mentioned in claim 1, it does not form part of the claimed subject-matter. Hence, the question was raised, whether the claimed "plug connector (1) with a secondary locking device (8)" was in any way limited by a feature that merely stated what was to happen during the process of inserting the claimed plug

connector into a socket that did not form part of the claim and whose features were not specified in any way.

- 1.4 The appellant argued that this feature did limit the scope of protection and would be understood by the skilled person as a functional feature, wherein the function (i.e. the deflection) was achieved by the projection 14, which was a part of the secondary locking device that was part of the claimed subject-matter.
- 1.5 The respondent argued that features relating to the process of inserting the claimed plug into an undefined socket were not limiting. Any plug that comprised spring arms with projections as claimed could be made to interact with a socket in the manner claimed during a process of insertion through an appropriate choice or design of socket.
- 1.6 The Board does not find the appellant's arguments convincing. Whilst the alleged distinguishing feature can be understood as being a functional feature, the claimed function relies on the projection 14 interacting with some other component (e.g. the socket) that is not defined in the claim and does not have known characteristics. In the absence of the socket, it would not be possible to determine, just from a plug and secondary locking device, whether the claimed function would be realised. Hence, the Board is convinced by the respondent's argument that the features in question should not be construed as limiting the claimed subject-matter.
- 1.7 In the absence of any limiting distinguishing features the Board concludes that the subject-matter of claim 1 of the main request lacks novelty over document E2.

Thus, the Board comes to the same conclusion as the opposition division, but for different reasons.

2. **Main Request**
Articles 100(c) and 123(2) EPC

The Board exercised their discretion under Article 13(1) RPBA not to admit the respondent's objections under Article 100(c) EPC against claim 1 of the main request into the proceedings. In view of the Board's findings on Article 100(a) EPC (see above), the reasons for exercising their discretion in this way are not material to the decision reached.

3. **Auxiliary Request 1**
Articles 100(a), 52(1) and 54(3) EPC

3.1 According to claim 1 of auxiliary request 1 "each of the two spring arms further comprises a projection (14) located on its insertion end". The question at issue was how the phrase "located on its insertion end" was to be interpreted.

3.2 Referring to paragraphs [0009] and [0019] of the patent (EP 1 207 591 B1), the appellant argued that the phrase "located on its insertion end" was to be interpreted in a narrow sense, meaning that the projection was located actually on the end of the spring arm that was in the direction of insertion. The arrangement was to be understood analogously to the arrangement in human anatomy, in which a hand was on the distal end of the arm. The phrase "located on its insertion end" was to be interpreted as encompassing the arrangement of figure 2 of the patent, in which the

projection 14 was on the end of the spring arm 12. It did not, however, encompass an arrangement in which the projection was located somewhere in the middle of, or merely near the end of, the spring arm as was the case in document E2.

- 3.3 The respondent referred to figure 2 of the patent and to the corresponding description in paragraph [0013], which stated that "the projection is wedge-shaped and is located on the insertion side of the spring arm" (emphasis added). The respondent submitted that the projection as shown in figure 2 was rather on the side of the spring arm 12 than on its actual end, and argued that if the phrase "located on its insertion end" was to cover the arrangement disclosed it had to be interpreted in the broad sense that the projection was located somewhere generally on the part of the spring arm that was towards the direction of travel.
- 3.4 The Board considers the respondent's submissions persuasive. Figure 2 of the patent shows the spring arm 12 with its projection labelled 14. The line from the reference 14 points to a curved projecting side edge of the spring arm, which seems to correspond to what is referred to as "wedge-shaped projection" in the description. Hence, the Board agrees with the respondent that in the disclosed embodiment the projection is not on the actual end of the spring arm, which is depicted below the projection 14 in figure 2. The Board thus concurs with the respondent that if the phrase "located on its insertion end" is to cover the arrangement disclosed it has to be interpreted in the broad sense that the projection is located somewhere generally on the end of the spring arm that was towards the direction of travel, as opposed to on the end of

the spring arm that is away from the direction of travel.

3.5 In document E2 the location of the projecting portion 55 on the leg 51 (i.e. spring arm) falls within this broad interpretation of the phrase "located on its insertion end". Thus, the Board finds that the additional feature of auxiliary request 1 is not novel over the disclosure of document E2.

3.6 Hence, claim 1 of auxiliary request 1 also does not meet the requirements for novelty.

4. ***Auxiliary Request 2***
Articles 100(a), 52(1) and 54(3) EPC

4.1 According to claim 1 of auxiliary request 2 the projection 14 is "wedge-shaped".

4.2 The appellant argued that the term "wedge-shaped" implied a triangular shape and that in document E2 the projection 55 was not triangular as it has parallel straight transition sections between its tip and the leg 51. According to the appellant there was no such transition between the wedge-shaped projection and the spring arm 14 in the patent.

4.3 The respondent argued that wedge-shaped did not imply a triangular shape and that in the patent the projection as shown on figure was anyway not triangular but rather nose-shaped. Furthermore, claim 1 did not preclude the presence of transition sections as identified by the appellant. Hence, the feature that the projection was "wedge-shaped" did not establish any difference over document E2.

4.4 The Board considers the respondent's submissions persuasive. The Board is not convinced that "wedge-shaped" necessarily implies a triangular shape, but if it did, that would seem rather to exclude the shape of the projection as depicted in figure 2, which is clearly rounded and, in the respondent's words, nose-shaped. In the Board's view the term "wedge-shaped" merely implies the presence of a sloping or slanted surface, which the projection 55 of document E2 clearly possesses (cf. in particular figures 2 and 12). Thus, the Board finds that the additional feature of auxiliary request 2 is not novel over the disclosure of document E2.

4.5 Hence, claim 1 of auxiliary request 2 also does not meet the requirements for novelty.

5. ***Auxiliary Requests 3 to 6***
Article 123(2) EPC

5.1 In auxiliary requests 3 and 4 features have been added to the respective claim 1 to specify that:

"... the secondary locking device (8) has locking shoulders (20, 21), by means of which the secondary locking device (8) can be locked into the pre-locked position in the housing (2) of the plug connector".

In auxiliary requests 5 and 6 generally the same features have been added to claim 1, albeit with slightly different phraseology. In the light of the conclusion concerning these two requests, the question as to whether they should be admitted into the

proceedings can be left open for the purposes of this decision.

5.2 The appellant submitted that these additional features had a basis in column 3, line 55 to column 4, line 1 of the published version of the application as filed (see EP 1 207 591 A2, paragraph [0013]) and argued that taking these features in isolation from the description of the embodiment did not offend Article 123(2) EPC as the features were not functionally linked to any other features of the embodiment.

5.3 The respondent argued that the locking shoulders were only disclosed in the specific arrangement in combination with legs 10 and 11 and spring arms 12 as disclosed in figure 2 and the corresponding description (column 3, lines 47 to 50). Furthermore, it was important according to the respondent that the shoulders 20, 21 were arranged to hold the secondary locking device in the same pre-locked position as it was held in by virtue of the step 13 resting on the locking portion 15 of the plug connector (see paragraph [0014]).

5.4 The Board shares the respondent's view that the locking shoulders 20, 21 are only disclosed in combination with legs 10 and 11 and that extracting the locking shoulders from the disclosed embodiment and adding them to claim 1 without the legs 10 and 11 results in an inadmissible intermediate generalisation.

5.5 According to established case law, an intermediate generalisation is justified only in the absence of any clearly recognisable functional or structural relationship among the features of the specific combination or if the extracted feature is not

inextricably linked with those feature (see Case Law of the Boards of Appeal, II.E.1.7, second paragraph).

5.6 In the present case, the locking shoulders 20, 21 are clearly shown as being located on the legs 10, 11 and there is no suggestion that they can be located anywhere else. Hence, the Board considers there to be a structural relationship between the locking shoulders 20, 21 and the legs 10, 11 that inextricably links them. Hence, the intermediate generalisation caused by extracting the locking shoulders 20, 21 from the embodiment, in isolation, without the legs 10, 11 is inadmissible.

5.7 Hence, claim 1 according to each of the auxiliary requests 3 to 6 contravenes Article 123(2) EPC.

6. **Conclusion**

In the absence of an allowable request from the appellant, the Board acceded to the respondent's request to dismiss the appeal.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



U. Bultmann

R. Lord

Decision electronically authenticated