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**Datasheet for the decision
of 20 December 2021**

Case Number: T 0030/19 - 3.5.02

Application Number: 13174914.5

Publication Number: 2648293

IPC: H01T4/12

Language of the proceedings: EN

Title of invention:

Gas discharge tube

Patent Proprietor:

Bourns, Inc.

Opponent:

TDK Electronics AG

Relevant legal provisions:

EPC Art. 100(c), 76(1)

Keyword:

Extension beyond the content of the earlier application as
filed - all requests (yes)



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Case Number: T 0030/19 - 3.5.02

D E C I S I O N
of Technical Board of Appeal 3.5.02
of 20 December 2021

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Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted on
23 October 2018 concerning maintenance of the
European Patent No. 2648293 in amended form.**

Composition of the Board:

Chairman R. Lord
Members: C.D. Vassoille
J. Hoppe

Summary of Facts and Submissions

- I. The patent proprietor and the opponent have filed appeals against the interlocutory decision of the opposition division concerning European patent No. 2 648 293. The patent is based on a divisional application, which is based on the earlier European patent application No. 08104064.4.

- II. In the decision under appeal, the opposition division *inter alia* came to the conclusion that the ground for opposition under Article 100(c) EPC in combination with Article 76(1) EPC was present in the notice of opposition but did not prejudice the maintenance of the patent as granted, whereas the ground for opposition under Article 100(a) EPC in combination with Article 56 EPC prejudiced the maintenance of the patent as granted. The subject-matter of claim 1 of auxiliary request II was considered to fulfil the requirements of the EPC.

- III. The parties were summoned to oral proceedings. In a communication under Article 15(1) RPBA 2020 annexed to the summons, the board set out their preliminary observations on the appeal, concluding *inter alia* that the maintenance of the patent as granted seemed to be prejudiced by the ground for opposition under Article 100(b) EPC and that auxiliary request II did not seem to meet the requirements of Article 76(1) EPC.

- IV. Oral proceedings were held on 20 December 2021 by videoconference.

The appellant-patent proprietor (referred to in the following as patent proprietor or proprietor) requested

that the decision under appeal be set aside and that the patent be maintained as granted (main request), or if this was not possible, that the patent be maintained in amended form according to auxiliary request I filed by fax on 14 June 2016, or according to one of auxiliary requests Ia or Ib, both filed with letter of 2 June 2021. The proprietor further requested that the opponent's appeal be dismissed, i.e. that the patent be maintained in amended form on the basis of auxiliary request II, filed on 14 June 2016.

The appellant-opponent (referred to in the following as opponent) requested that the decision under appeal be set aside and that the patent be revoked.

- V. Claim 1 of the patent as granted (patent proprietor's main request) reads as follows:

"Gas discharge tube comprising at least two electrodes (15, 16) and at least one hollow insulating ring (11) fastened to at least one of the electrodes (15, 16), **characterized in that** the hollow insulating ring (11) comprises a cylindrical part (12), from which a first radially extending flange (13) extends inwardly and/or a second radially extending flange (14) extends outwardly whereby the hollow insulating ring (11) has an extended length for a creeping current on at least one of the surfaces of at least one of said first and second radially extending flanges (13, 14) facing inward and outward respectively compared to the height of said insulating ring (11) thereby providing a long distance to any possible creeping current, whereby the hollow insulating ring (11) has a ratio between the total height h of the insulating ring (11) and the total length L for a creeping current on at

least one of the surfaces of the at least one of said first and second radially extending flanges (13, 14) facing inward and outward respectively of $< 1:1.3$, whereby the ratio h to L is preferably $1:1.5$, preferably $1:2$, more preferably $1:2.5$, still more preferably $1:3$."

VI. Considering the board's decision on the main request, a literal reproduction of the patent proprietor's auxiliary requests I, Ia, Ib and II was not necessary here. Rather, it suffices to state that none of these requests contains in claim 1 the following feature included in claim 1 of the earlier application as filed:

"...whereby the ratio between h to w , wherein w is the width of the insulator as defined as the distance between the outer edges of the flanges 13 and 14, is at least $1:2$."

VII. The relevant arguments of the patent proprietor can be summarised as follows:

The ground for opposition under Article 100(c) EPC in combination with Article 76(1) EPC was not raised in the statement of grounds for opposition. Raising an objection under Article 123(2) EPC did not mean that also the ground for opposition under Article 76(1) EPC was raised. Section 5 of the statement of grounds for opposition was confused and thus it was not possible to deduce from this passage that it was the ground for opposition under Article 100(c) in combination with Article 76(1) EPC that was raised. The ground for opposition was consequently late-filed and the patent proprietor did not consent to the introduction of this

new ground for opposition. It should therefore be rejected as inadmissible.

The original description on page 4, lines 5 and 6 of the earlier application did not exclusively relate to an insulating ring having an extended width compared to its height. It was further clear from the introductory wording of this passage, namely "In particular...", that the provision of an extended width of the insulator ring was merely an optional feature.

Furthermore, the description on page 4, lines 13 to 15 of the earlier application stated: "In a preferred embodiment the Insulator has a ratio between the total height h of the insulator and the total length L for a creeping current on at least one of the surfaces inside and/or outside $< 1:1.3$ ".

These two passages thus provided a direct and unambiguous basis for a gas discharge tube having an $h:L$ ratio of $< 1:1.3$ without necessarily having an $h:w$ ratio of at least $1:2$, since no specific $h:w$ ratio was mentioned in the context of the preferred embodiment.

It was also clear from the original description on page 4, lines 1 and 2 that the objective was achieved without the need for an extended width of the insulating ring compared to its height. In this passage, reference was generally made to a new insulating ring design, without specifying the width of the insulating ring.

The original description on page 7, lines 3 to 5 of the of the earlier application further stated that "The ratio h to L is a ratio between the total height h of the insulator and the total length L for a creeping

current on at least one of the surfaces inside and/or outside $< 1:1.3$ ". It was clear that this passage described an independent embodiment of the invention, because the next paragraph, referring to an extended length, started with the wording "Another way of defining the invention ...".

The earlier application thus gave two definitions of the invention. This did however not mean that these two definitions required exactly the same features. If this were the case, a single definition would have been sufficient to describe the invention.

Finally, figures 6 and 7 in connection with the corresponding description on page 8 of the original description of the earlier application provided the basis for an embodiment of the invention not having an extended width and in particular a ratio of h to w of at least 1:2. The description of these figures explicitly referred to an extended length ("The same definition appears here as above,...") but not to an extended width.

VIII. The relevant arguments of the opponent can be summarised as follows:

As regards the admissibility of the ground for opposition under Article 100(c) EPC in combination with Article 76(1) EPC, the statement of grounds of opposition indeed referred to Article 123(2) EPC. However, this was an obvious error and it was evident that it was in fact the ground for opposition under Article 100(c) EPC in combination with Article 76(1) EPC that was substantiated in the statement of grounds for opposition. The corresponding ground for opposition was thus admissibly raised in the grounds for

opposition and the patent proprietor's consent therefore was not required.

The ground for opposition under Article 100(c) EPC in combination with Article 76(1) EPC prejudiced the maintenance of the patent as granted, because the feature defining a ratio of h to w of at least 1:2 was inadmissibly omitted in the patent as granted as well as in each of the auxiliary requests.

The earlier application as filed did not disclose an embodiment of the invention where the specific ratio h to w of at least 1:2 was described as not being mandatory.

In particular, the description on page 4, lines 4 to 6 stated: "Detailed disclosure of the invention..." and "In particular the invention relates to ...". It was clear that the expression "In particular" in this specific case was not to be understood as introducing an optional feature but rather the mandatory features of the invention. It was therefore clear from the above cited passage that an extended width of the insulating ring was a mandatory feature of the invention.

The preferred embodiment disclosed in the original description on page 4, lines 13 to 14 of the earlier application included the further features as disclosed in the preceding paragraph. It therefore did not provide a basis for an embodiment without an extended width in the sense of the original claim 1 of the earlier application.

From the statement in the first two lines on page 4 of the original description of the earlier application, it was not possible to derive any technical teaching that

would enable the skilled person to understand what the invention was. From this passage it was only clear that the invention was about the shape of the insulating ring, without specifying any further feature of the invention.

Furthermore, the expression "Another way of defining the invention... " on page 7 of the earlier application merely defined the invention by way of the ratio h to w to be at least 1:2. It was not meant to introduce an optional embodiment of the invention.

Finally, the mere fact that the description of figures 6 and 7 on page 8 of the earlier application as filed did not mention an extended width of the insulating ring and in particular not the specific ratio h to w of at least 1:2, was not sufficient to show that the respective embodiment did not include this definition of the insulating ring.

Reasons for the Decision

1. The appeals are admissible.
2. *Admissibility of the ground for opposition under Article 100(c) EPC in combination with 76(1) EPC*
 - 2.1 The ground for opposition under Article 100(c) EPC in combination with 76(1) EPC has been admissibly raised in the statement of grounds for opposition.
 - 2.2 The board fully agrees with the opposition division that the opponent's arguments presented in section 5 of the statement of grounds for opposition clearly relate to amendments made with respect to the "parent

application" and thus, to the ground for opposition under Article 100(c) EPC in combination with Article 76(1) EPC (see point 18.3 of the reasons for the decision under appeal).

2.3 In particular, the opponent referred to claim 1 of the earlier application in section 5 of the statement of grounds for opposition and further referred to parts of the description of this earlier application. The board therefore has no doubt that the opposition division was right to conclude that the citation of the wrong legal provision is irrelevant in this particular case, since it is evident from section 5 as a whole that Article 100(c) EPC in combination with Article 76(1) EPC was meant.

2.3.1 In conclusion, the ground for opposition under Article 100(c) EPC in combination with Article 76(1) EPC was admissibly raised in the statement of grounds for opposition and is thus not to be regarded as having been late-filed. Consequently, the opposition division could not have decided on the admittance of this objection at their own discretion.

3. *Main request - amendments (Article 100(c) EPC in combination with Article 76(1) EPC)*

3.1 Claim 1 of the main request extends beyond the content of this earlier application as filed.

3.2 Claim 1 of the earlier application as filed has the following wording:

"Gas discharge tube comprising at least two electrodes (15, 16) and at least one hollow insulator (11) fastened to at least one of the electrodes (15, 16),

characterized in that the insulator (11) has an extended length for a creeping current on at least one of the surfaces of the insulator facing inward and/or outward compared to its height thereby providing a long distance to any possible creeping current, whereby the insulator has a ratio between the total height h of the insulator and the total length L for a creeping current on at least one of the surfaces inside and/or outside of $< 1:1.3$, whereby the ratio h to L is preferably $1:1.5$, preferably $1:2$, more preferably $1:2.5$, still more preferably $1:3$, and further preferably $1:5$, and whereby the ratio between h to w , wherein w is the width of the insulator as defined as the distance between the outer edges of the flanges 13 and 14, is at least $1:2$." (emphasis added by the board)

- 3.3 The above underlined feature is not present in claim 1 of the contested patent according to the proprietor's main request.

The board considers the omission of the feature in question to introduce an inadmissible extension of the subject-matter of claim 1 over the earlier application as filed.

According to the established case law of the Boards of Appeal, deletion of a feature from a claim and thereby a broadening of its content is in particular possible, if the subject-matter of the claim 1, resulting from the deletion of the specific technical feature, was already disclosed in the original application (see Case Law of the Boards of Appeal, 9th edition 2019, II.E. 1.4.1). This also applies to cases under Article 76(1) EPC where the content of the earlier application as filed is relevant.

In the case at hand, it would therefore be necessary that the earlier application, in order to satisfy the requirement of Article 76(1) EPC, directly and unambiguously discloses an insulating ring having an extended length compared to its height but not necessarily an extended width compared to the height of the insulating ring, as defined in the original claim 1 of the earlier application.

The board has come to the conclusion that this is not the case, the reasons being as follows.

- 3.4 The original application documents of the earlier application on page 4, lines 4 to 16 disclose the following:

"Detailed disclosure of the present invention

In particular **the invention relates to a insulating ring having an extended width compared to its height thereby providing a long distance to any possible creeping current**. The gas discharge tube comprises at least two electrodes and at least one hollow insulator ring fastened to at least one of the electrodes, whereby the insulating ring has an extended length for a creeping current on at least one of the insulator surfaces facing inward and/or outward compared to its height thereby providing a long distance to any possible creeping current.

In a **preferred embodiment** the Insulator has a ratio between the total height h of the insulator and the total length L for a creeping current on at least one of the surfaces inside and/or outside $< 1:1.3$, preferably the ratio h to L is $1: 1.5$, preferably $1:2$,

more preferably 1:2.5, still more preferably 1:3, and further preferably 1:5." (emphasis added by the board).

In the above cited passage on page 4 of the description of the earlier application as filed, which is introduced by the heading: "Detailed disclosure of the present invention", the invention is explicitly described in terms of an extended width of the insulating ring compared to its height and subsequently also in terms of an extended length compared to the insulator's height.

Furthermore, the introductory expression "In particular the invention relates to...", in the present case cannot be considered to introduce an optional feature of the invention. Rather, in the context of the following sentence and the paragraph as a whole, it is clear that the purpose here is to present the essential features of the invention.

Moreover, given that the passage in question on page 4, lines 4 to 11 of the original description substantially corresponds to what is defined in the original claim 1 of the earlier application, the skilled reader has no reason to believe that the introductory expression of this paragraph, namely "In particular", is meant to make the following statements in anyway optional.

- 3.5 As regards the first two sentences on page 4, the board agrees with the opponent that they do not specify any technical feature of the invention. As the opponent further pointed out, it only clarifies that the invention somehow relates to the shape of the insulating ring.

- 3.6 The proprietor further argued that the description on page 4, lines 13 to 16, formed a basis for an insulator ring without a specific ratio of h to w .

The board does not agree with the proprietor in this respect, because the passage in question merely constitutes a more precise definition of the invention as defined in the preceding paragraph on page 4, lines 5 to 11. In this preceding paragraph, however, the invention is explicitly described as not only relating to an extended length but in the first place to an extended width of the insulation ring compared to its height. The passage on page 4, lines 13 to 16, starting with "In a preferred embodiment", therefore cannot be read in an isolated manner but must be understood such as to include the features of the invention as defined in the preceding paragraph, describing the details of the claimed invention.

- 3.7 The original description of the earlier application on page 7, lines 9 to 12 further states the following:

"Another way of defining the invention is to use the width w of the ring defined as the distance between the outer edges of the flanges 13 and 14 and the height h . The ratio between h to w , is at least 1:2, preferably 1:3 to 5, preferably 1:3 to 10, more preferably at least 1:4 still more preferably at least 1:5."

The fact that the ratio h to w is introduced by the words: "Another way of defining the invention", also does not justify deletion of the ratio h to w from the original claim 1. The literal meaning of the passage cited above, when read in isolation, might give the impression that it concerns an optional embodiment of

the invention. However, in the context of the earlier application as a whole, it is clear to the skilled reader that an extended width of the insulating ring compared to its height, is an essential feature of the invention.

As the opponent has convincingly argued, this follows in particular from the fact that the feature in question is included in the original claim 1 and that an extended width of the insulated ring compared to its height is further described on page 4 in section "Detailed disclosure of the invention" as an essential feature of the claimed invention (see the board's remarks under point 3.4 above).

It is therefore evident that the passage on page 7, relating to a definition of the invention by means of the specific ratio of h to w of at least 1:2, in the context of figure 1, cannot be understood in an isolated manner such as to directly and unambiguously relate to an optional embodiment of the invention.

3.8 The proprietor's reference to figures 6 and 7 in connection with the description on page 8, lines 4 to 14 of the earlier application as filed, also does not convince the board.

The parties have both pointed out that the description of figures 6 and 7 does not contain any statement about an extended width of the insulating ring compared to its height and the board agrees with this finding. However, the mere fact that an extended width is not mentioned in the context of these figures does not provide a direct and unambiguous disclosure for an insulating ring not having an extended width as defined in claim 1 of the earlier application as filed.

Rather, the board considers figures 6 and 7 to refer to certain shapes of the insulating ring for providing a long distance for a creeping current, for which it is not necessary to specifically mention the extended width of the insulating ring compared to its height.

Furthermore, even if the wording "The same definition as above applies here, ..." should refer to the definition of an extended length, this does not necessarily mean that the other essential definition of an extended width of the insulating ring compared to its height does not apply to the embodiment of figures 6 and 7.

3.9 The board therefore has come to the overall conclusion that the skilled person does not obtain any information from the earlier application as filed which would lead him to believe that the provision of an extended width of the insulating ring compared to its height was an optional feature of the invention and as such was not necessary to solve the technical problem.

3.10 Combining this conclusion with the case law discussed in section 3.3 above then leads to the conclusion that claim 1 of the main request extends beyond the content of the earlier application as filed. Hence the ground for opposition under Article 100(c) EPC in combination with Article 76(1) EPC prejudices the maintenance of the patent as granted.

4. *Auxiliary requests I, Ia, Ib and II*

4.1 Since the contentious feature identified in section 3.2 above is also not present in claim 1 of any of the proprietor's auxiliary requests I, Ia, Ib and II, none

of these requests meets the requirements of Article 76(1) EPC for the same reasons as set out with respect to the main request (see point 3 above). Thus, the question of admittance of auxiliary requests Ia and Ib into the appeal proceedings needed not to be addressed.

5. *Result*

Given that the maintenance of the patent as granted is prejudiced by the ground for opposition under Article 100(c) EPC in combination with Article 76(1) EPC and since none of the auxiliary requests satisfies the requirements of Article 76(1) EPC, the board had to accede to the opponent's request.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The patent is revoked.

The Registrar:

The Chairman:



U. Bultmann

R. Lord

Decision electronically authenticated