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Datasheet for the decision of 24 March 2021

Case Number: T 1655/20 - 3.2.01

Application Number: 11000036.1

Publication Number: 2343474

IPC: F21S8/00, F21S8/08

Language of the proceedings: EN

Title of invention:
Lighting system and assembling method of the same

Applicant:
Khatod Optoelectronic SRL

Headword:

Relevant legal provisions:
EPC Art. 84, 52(1), 56, 111(1)
RPBA 2020 Art. 12(2), 12(4), 11

Keyword:
Novelty - main request (no) - auxiliary request (yes)
Claims - clarity - auxiliary request (yes)
Amendment to case - amendment within meaning of Art. 12(4) RPBA 2020 - complexity of amendment (no) - exercise of discretion - amendment admitted (yes)
Remittal - special reasons for remittal

Decisions cited:

Catchword:

Europäisches Patentamt
European Patent Office
Office européen des brevets

Beschwerdekammern

Boards of Appeal

Chambres de recours

Boards of Appeal of the
European Patent Office
Richard-Reitzner-Allee 8
85540 Haar
GERMANY
Tel. +49 (0)89 2399-0
Fax +49 (0)89 2399-4465

Case Number: T 1655/20 - 3.2.01

D E C I S I O N
of Technical Board of Appeal 3.2.01
of 24 March 2021

Appellant: (Applicant)	Khatod Optoelectronic SRL Via Alessandrina 25 20095 Cusano Milanino (MI) (IT)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 16 March 2020 refusing European patent application No. 11000036.1 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman	G. Pricolo
Members:	V. Vinci
	S. Fernández de Córdoba

Summary of Facts and Submissions

I. The appeal was filed by the appellant (applicant) against the decision of the examining division to refuse the patent application in suit.

II. In the decision under appeal the examining division found that the subject-matter of the independent claims of the main request as well as of the first and second auxiliary requests on file lacked novelty pursuant to Articles 52(1) and 54 EPC in view of the following prior art:

D7: US20009/310356

III. The appellant requested that the contested decision be set aside and that an European patent be granted on the basis of the main request underlying the decision under appeal or, as an auxiliary measure, according to one of the first, second or third auxiliary requests filed with the statement of grounds of appeal.

IV. With the communication according to Rule 100(2) EPC dated 12 January 2021 the Board preliminarily confirmed the assessment of the examining division that the subject-matter of independent claims 1 and 11 according to the main request lacked novelty over document D7, but expressed the opinion that the subject-matter of claims 1 and 11 of the first auxiliary request filed with the statement of the grounds of appeal appeared to be novel in view of the cited prior art. Furthermore, the Board informed the appellant that, should this preliminary opinion be maintained, it considered appropriate to remit the case to the department of the first instance for further prosecution on the basis of

the first auxiliary request.

With the reply dated 12 March 2021 the appellant maintained all the requests filed with the statement of the grounds of appeal and requested the Board to decide on all substantial issues at stake before remitting the case to the department of the first instance.

The appellant did not request oral proceedings.

V. Independent claim 1 according to the main request reads as follows:

"Optic group for a road lighting system of the type comprising a plurality of solid state light sources, said optic group comprising a plurality of optics (30) each of which is positionable in proximity of at least a correspondent solid state light source of said plurality of solid state light sources wherein said plurality of optics (30) comprises at least an asymmetric optic (30) which is asymmetric respect to a longitudinal axis (41) of at least a correspondent solid state light source, characterized by comprising a planar housing matrix (50) of said plurality of optics (30) in order to facilitate the assembling of the same lighting system (10), and at least an asymmetric optic (30) is coupled to a correspondent housing (50) and it is at the same time rotated respect to a third axis, which is parallel to said longitudinal axis (41) of a correspondent solid state light source, of a first predetermined angle (52) which is measured respect to an axis (21) which is orthogonal to said third axis, at least another asymmetric optic (30) is coupled to a correspondent housing (50) and at the same time it is rotated respect to a third axis, which is parallel to a longitudinal axis (41) of a correspondent solid state

light source, of a second predetermined angle (53) measured respect to an axis (21) which is orthogonal to said third axis."

Independent claim 1 according to the first auxiliary request reads as follows:

"Optic group for a road lighting system of the type comprising a plurality of solid state light sources, said optic group comprising a plurality of optics (30) each of which is positionable in proximity of at least a correspondent solid state light source of said plurality of solid state light sources wherein said plurality of optics (30) comprises at least an asymmetric optic (30) which is asymmetric respect to a longitudinal axis (41) of at least a correspondent solid state light source, characterized by comprising a planar housing matrix (50) of said plurality of optics (30) in order to facilitate the assembling of the same lighting system (10), and at least an asymmetric optic (30) is coupled to a correspondent housing (50) and it is at the same time rotated respect to a third axis, which is parallel to said longitudinal axis (41) of a correspondent solid state light source, of a first predetermined angle (52) which is measured respect to an axis (21) which is orthogonal to said third axis, at least another asymmetric optic (30) is coupled to a correspondent housing (50) and at the same time it is rotated respect to a third axis, which is parallel to a longitudinal axis (41) of a correspondent solid state light source, of a second predetermined angle (53) measured respect to an axis (21) which is orthogonal to said third axis and said plurality of optics (30) is made integral with said housing planar matrix (50) and said plurality of optics (30) is realized in just one piece with said housing planar matrix (50)."

Independent claim 11 of the first auxiliary request reads as follows:

Assembling method of an optic group for a street lighting system of the type comprising a plurality of solid state light sources, said optic group comprising a plurality of asymmetric optics (30) and besides comprising a planar housing matrix (50) of said plurality of asymmetric optics (30), said assembling method ***characterized by*** *comprising the sequent phases:*

a) rotate at least a first asymmetric optic (30) of said plurality of asymmetric optics (30) respect to a third axis, which is parallel to a longitudinal axis (41) of at least a correspondent solid state light source and besides which pass through a central point (51) of at least a correspondent housing (50) of said planar housing matrix (50), of a first predetermined angle (52) which is measured respect to an axis (21) orthogonal to said third axis, in such a way to lead said at least a first asymmetric optic (30) in a first configuration which is rotated respect to said third axis and centered over said correspondent housing (50);

b) couple said at least a first asymmetric optic (30) to a correspondent housing (50) of said planar housing matrix (50), maintaining the same in said first rotated configuration and comprising the sequent phases:

c) rotate at least a second asymmetric optic (30) of said plurality of asymmetric optics (30) respect to a third axis, which is parallel to a longitudinal axis (41) of at least a correspondent solid state light source and besides which pass through a central point (51) of at least a correspondent housing (50) of said

planar housing matrix (50), of a second predetermined angle (53) which is measured respect to an axis (21) orthogonal to said third axis, in such a way to lead said at least a second asymmetric optic (30) in a second configuration which is rotated respect to said third axis and centered over said correspondent housing (50);

d) couple said at least a second asymmetric optic (30) to a correspondent housing (50) of said planar housing matrix (50), maintaining the same in said second rotated configuration, and comprising a phase of t) make integral said plurality of optics (30) with said housing planar matrix and make said plurality of optics (30) in just one piece with said housing planar matrix (50).

Reasons for the Decision

MAIN REQUEST

Novelty: Articles 52(1) and 54 EPC

1. The appellant contested the conclusion of the examining division that the subject-matter of claims 1 and 11 lacked novelty over document D7. It was essentially argued that document D7 does not mention the use of the optic group disclosed therein in a road lighting system and that it would not even be suitable for such a use. Moreover, the appellant put forward that some of the technical features specified in claims 1 and 11 were not directly and unambiguously derivable from document D7. Finally, the appellant alleged that the examining division, in reaching its conclusions, did not apply

the correct standard for assessing the factual technical content of document D7 and thus novelty, but rather the standard used for assessing inventive step.

1.1 The arguments brought forward by the appellant are not convincing for the following reasons:

The Board notes that in a claim for an apparatus, the formulation *"apparatus for"* is to be constructed as meaning an apparatus which is suitable for the stated use, and thus may imply for the person skilled in the art certain features without which the apparatus could not be used for the intended purpose. Having said that and according to established case law of the Boards of Appeal, when assessing novelty of an apparatus claim, any prior art apparatus which in addition to the technical features expressly defined in the claim under examination also possesses all the inherent technical features implied by the use for which it is intended is prejudicial to novelty, and this irrespectively of whether or not the prior art document explicitly mentions such a use. Contrary to the appellant assumption, the determination of the inherent technical features of a prior art apparatus which can be directly and unambiguously derived by the person skilled in the art on the basis of common general knowledge and which would make the apparatus suitable for a certain use does not pertain to an assessment of obviousness under Articles 52(1) and 56 EPC, but rather of novelty. The Board is thus convinced that the examining division has applied the correct standard when assessing novelty.

1.2 The appellant argued that the possibility of mounting the optic group of D7 on a pole as envisaged by the examining division and eventually of rotating it about the vertical axis thereof would not result in a change

of the inclination of the luminous flux provided by the asymmetric lenses disclosed in figure 8 of D7 with respect to the ground. In the appellant's view the luminous flux would still not point to the ground and the road will thus not be illuminated. The appellant concluded that at least for this reason the optic group disclosed in D7 would not be suitable for a road lighting system.

1.3 The Board does not agree for the following reasons:

As correctly argued by the examining division, the person skilled in the art would directly and unambiguously recognize that an optic group of the kind disclosed in D7 (see for example figure 11) is normally conceived for being lodged and secured into a housing which is in turn suitable for being fixed in the required orientation either directly to the pole of a road lighting system or, more preferably, at the end of a transversal bracket secured at its other end to the pole. This well known arrangement is in fact commonly used for mounting the optic group of a road lighting system on the respective support/pole and would not require any major structural modification of the optic group of D7 which is thus suitable for the use indicated in claim 1. In this respect is pointed out that, contrary to the appellant's view, it is not only possible to angularly orientate the housing in which the optic group is lodged about the vertical axis of the pole, but also to mount it on the pole with such an inclination with respect to the ground to direct at least part of the emitted luminous flux to the road underneath. Furthermore, as correctly stated by the examining division in the contested decision, it is clear from paragraph [0038] that figure 8 of D7, cited by the appellant, shows only one of several possible

light distributions which can be achieved by orientating the lenses, thereby not excluding different distributions suitable for road lighting applications. In any case, even with the distribution shown in figure 8, it would be certainly possible to direct the light downwards, i.e towards the road, namely by mounting the housing on the pole with an appropriate inclination in a vertical plane.

1.4 The appellant further argued that as the heat sink of the optic group in figure 11 of D7 is not provided with connecting means, it would be unsuitable for being lodged in and fixed to an housing for being mounted on a pole of a road lighting system. This argument is not convincing because the figures are schematic representations which do not necessarily show all the technical details. In the present case the Board considers implicit that such an optic group, which irrespectively of the final intended application must be necessarily lodged in a housing, must be provided with some kind of securing means in order to secure it to the housing.

1.5 The appellant further argued that the intensity of luminous flux outputted by the asymmetrical lenses of the optic group of D7 would be insufficient for illuminating the area below, thereby making this known optic group unsuitable for use in a road lighting system. Also this argument cannot be followed:

The Board preliminarily observes that the wording of claim 1 that the optic group is "*for a road lighting system*" does not impose any clear and unambiguous limitation in terms of the required intensity of the outputted luminous flux, of the positioning of the optic group with respect to the road and of the

location and extension of the road portion to be illuminated. The Board thus shares the view of the examining division that a system suitable for illuminating even a restricted/limited portion of the road comprising for example several optic groups with low intensity lamps as the one disclosed in D7 which is arranged close to the ground in order to illuminating the just the boundary of the road would represent a *"road lighting system"* falling within the scope of claim 1 of the main request.

1.6 In view of the above, the Board concurs with the conclusion of the examining division that the person skilled in the art would directly and unambiguously realize that the optic group disclosed in D7 possesses all the inherent technical features which renders it suitable for use as a road lighting system, and this regardless of the fact that this particular use is not explicitly disclosed.

1.7 Regarding the technical features explicitly defined in claim 1 that in the appellant's view are not disclosed in D7, the conclusions of the Board are as follows:

Matrix

1.8 The Board shares the view of the examining division that at least some the optics (10) located on every second row and every second column of the positioning sheet (50) are arranged according to a matrix (see figure 11 of D7) in the meaning that a person skilled in the art would give to this term, namely along rows and columns perpendicular with respect to each other. While as pointed out by the appellant it is true that according to figure 11 of D7 some of the optics provided are arranged between the aforesaid rows and

columns forming the matrix, this does not change the fact that remaining optics located on every second row and every second column are located on the positioning sheet (50) according to a matrix. In this respect, it is observed that the wording of claim 1 does not necessarily imply that all the optics must be arranged according to a matrix, or in other words, it does not exclude that some of the optics provided don't belong to a matrix. The Board thus concurs with the assessment of the examining division that the person skilled in the art would directly and unambiguously derive from figure 11 of D7 that the positioning sheet carrying the optics is planar and that at least some of the optics provided thereon are disposed according to *"a planar housing matrix"* in the meaning of claim 1 which is drafted in this respect broader than the particular embodiment presented in the description according to which all the optics are arranged according to a matrix.

1.9 The further argument of the appellant that the advantages achieved by the use of a planar housing matrix will be lost if optics not positioned according to a matrix are present, and that the description rules out such an interpretation of claim 1, does not change the fact that the wording of the claim 1 does not exclude this possibility. It follows that the arrangement of the optics according to figure 11 of D7 falls within the meaning of the expression *"a planar housing matrix of said plurality of optics"* of claim 1.

Different orientation of a first and a second optics with respect to a third axis

1.10 The appellant further argued that D7 does not directly and unambiguously disclose that a first and a second

optics are differently orientated with respect to a third axis parallel to the longitudinal axis of the respective solid state light source as required by claim 1.

1.11 However, as correctly assessed by the examining division, the asymmetric lenses (10) in figure 5A are coupled to the sheet (50) by means of a rim (17) and are rotated along an axis perpendicular to the sheet (50) until they reach a selected final angular orientation; see figure 11 and paragraphs [0039], [0041] and [0042] of the description of D7. As clearly shown in figure 11 the lenses have different orientations so that there is at least one first and one second angle of rotation along said perpendicular axis. The optical axis of the light source, when mounted on the surface (5) of the flat board (1) is parallel to the axis of the lens (10) as can be derived from figure 6A. It follows that the lens of the optic group of document D7 are also rotated of at least a first and second predetermined angle with respect to a third axis which is parallel to the axis of the light source as required by claim 1.

1.12 For the reasons given above, the Board concurs with the examining division that the person skilled in the art reading document D7 in the light of its own general knowledge, would directly and unambiguously derive that this known optic group, besides comprising all the technical feature explicitly defined in claim 1 (see point 1.8 to 1.11 above), also inherently possesses all the technical features implicitly required to render it suitable for use as a "*road lighting system*" in the broad meaning that the person skilled in the art would give to this technical term.

2. The subject-matter of independent claim 1 of the main request thus lacks novelty over D7 in the meaning of Article 52(1) and 54 EPC as correctly concluded by the examining division in the contested decision.

FIRST AUXILIARY REQUEST

Admissibility

3. The first auxiliary request has been filed for the first time with the statement of the grounds of appeal and therefore, in view of Article 12(2) RPBA 2020, represents an amendment of the party case which according to Article 12(4) RPBA 2020 can be admitted only at the discretion of the Board.

3.1 The Board observes that claim 1 of the first auxiliary request corresponds to claim 1 of the first auxiliary request underlying the decision under appeal with the sole amendment that the word *"particularly"* (see last 2 lines of the claim) has been deleted, thereby rendering the feature that the *"plurality of optics (30) is realized in just one piece with said housing planar matrix"* mandatory. The same amendment has been introduced in independent claim 11.

3.2 The Board considers that this amendment clearly results in a further limitation of the claim in a genuine attempt by the appellant to respond to the objection of lack of novelty raised by the examining division in the decision under appeal in respect to the first auxiliary request. Furthermore, this amendment does not lead to any complex subject-matter and does not appear to introduce further issues which would negatively impact

on the procedural economy. In view of the reasons above and in exercise of the discretion provided by Article 12(4) RPBA 2020 the Board considers appropriate to admit the first auxiliary request in the appeal procedure.

Article 123(2) EPC: Basis for the amendment

3.3 No objection under Article 123(2) EPC has been raised by the examining division in respect of the first auxiliary request underlying the decision under appeal, and the Board, in view of the nature of the amendment introduced (optional feature now rendered mandatory), does not see any undisclosed subject-matter introduced in the independent claims.

Clarity: Article 84 EPC

3.4 Regarding the clarity issue raised by the examining division in the communication preceding the refusal of the application and referred to by the appellant in the statement of the grounds of appeal, the Board considers that no contradiction results from the feature that the optics are *"rotated"* and at the same time *"realized in just one piece"* with the planar housing matrix. In fact, as convincingly put forward by the appellant, the term *"rotated"* in the context of the apparatus claim at stake does not indicate a possibility of movement (as it would be instead implied by the term "rotatable"), but rather a fixed angular orientation of the optics. This is not in contradiction with the feature that the optics are realized in one piece with planar housing matrix, i.e. secured thereto in a fixed angular orientation. The same applies to the subject-matter of claim 11 in view of the last step of making the plurality of optics *"in just one piece with said planar*

housing matrix".

3.5 The subject-matter of claims 1 and 11 thus meets the requirements of Article 84 EPC.

Novelty in view of D7

4. The Board concurs with the appellant that none of the available documents discloses an optic group having a plurality of optics *"realized in just one piece with a planar housing matrix"* in combination with the remaining features of claims 1 and 11. In fact securing the optics on the positioning sheet by means of an adhesive as disclosed in document D7 cannot be considered equivalent to an execution in one piece.

4.1 The subject-matter of claims 1 and 11 of the first auxiliary is thus novel in the meaning of Articles 52(1) and 54 EPC.

REMITTAL OF THE CASE

5. With its communication according to Rule 100(2) EPC the Board informed the appellant of its intention to set aside the decision and to remit the case to the examining division for further prosecution on the basis of the first auxiliary request. With the reply to this communication of the Board the appellant requested the Board to decide on all the issues at stake, in particular on the compliance with the requirements of Articles 52(1) and 56 EPC. However, according to Article 111 EPC, the Board has a discretion to either exercise any power within the competence of the department which was responsible for the decision appealed or to remit the case to that department for further prosecution. In the present case the examining

division has dismissed the main request and the first and second auxiliary requests only on the ground of lack of novelty hence without assessing inventive step. In addition, the first auxiliary request filed with the appeal has been modified with respect to the first auxiliary request underlying the decision under appeal. The Board considers these circumstances to represent "special reasons" in the meaning of Article 11 RPBA 2020 justifying, in the exercise of its discretion as provided by Article 111 EPC, the remittal of the case to the department of first instance for further prosecution, namely in order to assess inventive step of the first auxiliary request at stake. The request of the appellant to decide on all substantial issues thereby including an assessment of inventive step is not justified by the circumstances of the appeal and is thus not allowed.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the department of the first instance for further prosecution on the basis of the first auxiliary request submitted on 16 July 2020 with the statement of grounds of appeal.

The Registrar: The Chairman:

D. Magliano G. Pricolo

Decision electronically authenticated