Internal distribution code:

(A) [-] Publication in OJ
(B) [-] To Chairmen and Members
(C) [-] To Chairmen
(D) [X] No distribution

Datasheet for the decision of 13 March 2025

Case Number: T 1208/22 - 3.3.10

Application Number: 18172464.2

Publication Number: 3421053

IPC: A61L2/10, A61L2/24, H05B41/36

Language of the proceedings: EN

Title of invention:
SYSTEMS AND METHODS FOR OPERATING A LIGHT SYSTEM

Applicant:
The Boeing Company

Headword:

Relevant legal provisions:
EPC Art. 83

Keyword:
Sufficiency of disclosure - (yes)

Decisions cited:
G 0001/03

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

Case Number: T 1208/22 - 3.3.10

D E C I S I O N
of Technical Board of Appeal 3.3.10
of 13 March 2025

Appellant: (Applicant)	The Boeing Company 929 Long Bridge Drive Arlington, VA 22202 (US)
Representative:	Plasseraud IP 104 Rue de Richelieu CS92104 75080 Paris Cedex 02 (FR)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 26 November 2021 refusing European patent application No. 18172464.2 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman	P. Gryczka
Members:	M. Kollmannsberger
	F. Blumer

Summary of Facts and Submissions

I. The applicant appealed the decision of the Examining Division to refuse its patent application for lack of sufficient disclosure, Article 83 EPC.

II. The patent application discloses a method of operating a UV light source for disinfection of an environment. In particular, the application is about a method which allows for adjustment of the electrical power of a UV light source in order to make up for a decline in UV intensity over time, thus maintaining a target antimicrobial efficacy.

III. The claim set corresponding to the appellant's main request underlying the decision under appeal contains two independent claims. Claim 1 is directed to a method of operating an UV light source. Claim 11 is directed to a light control system. Claim 1 reads as follows:

"*A method of operating an ultraviolet, UV, light source (112), the method comprising:*

providing a supply power to the UV light source (112);

activating, using the supply power, the UV light source (112) to emit UV light (116) during a series of activation cycles, with each activation cycle in the series including activating the UV light source;

during at least one activation cycle in the series, sensing the UV light (116) emitted by the UV light source (112) to measure an optical parameter of the UV

light (116), wherein the optical parameter is related to an antimicrobial efficacy of the UV light (116) during this at least one activation cycle;

adjusting, based on the measured optical parameter, an electrical parameter of the supply power to maintain a target antimicrobial efficacy of the UV light (116) over the series of activation cycles,

wherein the antimicrobial efficacy of the UV light at a particular wavelength is a UV dose."

IV. The Examining Division considered this method to be insufficiently disclosed and refused the application under Articles 83 and 97(2) EPC. The Examining Division held in particular that claim 1 covered situations in which a skilled person would not know how to "*maintain a target antimicrobial efficacy of the UV light (116) over the series of activation cycles*" by adjusting the power supply, as required by the claim. This objection applied to all pending claim sets based on which the grant of a patent had been requested.

V. In appeal proceedings the appellant contested the reasoning of the Examining Division. The appellant argued essentially that a skilled person would know how to perform the sensing and adjusting steps in order to maintain a target antimicrobial efficacy over the series of activation cycles. Maintenance of antibacterial activity moreover did not mean that the activity would be kept at a constant level, since an adjustment by definition was carried out only if sensing detected the lamp performance to be insufficient. Maintenance of the activity meant that

the activity was kept inside a certain interval. A skilled person, based on the disclosure of the application and its general knowledge, was well in a position to carry out the method as defined in the claim.

VI. Oral proceedings were held on 13 March 2025.

VII. The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the main request underlying the decision under appeal or any one of auxiliary requests 1 to 8 filed with a letter dated 7 January 2025.

VIII. The decision was announced at the end of the oral proceedings.

Reasons for the Decision

1. The appeal is admissible.

2. Sufficiency of disclosure (Article 83 EPC)

2.1 Claim 1 is directed to a method of operating an UV lamp. The UV lamp is repeatedly activated and turned off in a series of activation cycles. Such lamps may disinfect an environment, e. g. a lavatory inside a vehicle or an aircraft. This is described in the paragraph bridging pages 8 and 9 or on page 14 lines 3-14 of the originally filed description. The goal of the claimed method is to assure the maintenance of the

antimicrobial effect caused by the UV light at a certain target level.

2.2 The claimed method defines various steps, as follows:

(i) provision of a supply power to the UV lamp

(ii) activating the UV lamp during a series of activation cycles

(iii) sensing the UV light and measuring an optical parameter related to its antimicrobial efficacy during at least one activation cycle,

(iv) adjusting the supply power to maintain a target antimicrobial efficacy

2.3 Carrying out the individual method steps defined in the claim as such does not present the skilled person with any difficulties. The objections of the Examining Division relate to the claimed feature that the adjustment of the supply power of the UV light should be carried out in such a way as to "*maintain a target antimicrobial efficacy (...) over the series of activation cycles*".

2.4 In the Examining Division's view the supply power adjustment being carried out during or after one of the activation cycles was insufficient to "*maintain a target antimicrobial efficacy (...) over the series of activation cycles*". In view of the multitude of activation cycles, and in view of events possibly taking place between the activation cycles the application lacked sufficient disclosure on how such an adjustment may maintain a target dose over the whole series of activation cycles, see point 2.2.16 of the decision. Debris could e. g. accumulate between the first and the second activation cycle which could not be accounted for if no regular sensing was carried out.

The claim required sensing only once, it did not require a control loop where sensing and adjusting would be carried out in each activation cycle. The Examining Division concluded thus that the claim covered situations in which a skilled person would not know how to maintain a target antimicrobial efficacy based on the information obtained from sensing the properties of the UV light, since it was unknown how to adjust the supply power for future cycles.

2.5 In the Board's view, however, such a finding does not lead to the claimed method to be insufficiently disclosed.

2.5.1 The Board agrees with the Examining Division insofar as there are indeed ways of carrying out the claimed method which lead to the antimicrobial efficacy not being maintained. As mentioned in the description (page 6 line 15 to page 7 line 5) there are various reasons for which the lamp's UV intensity may decline, e. g. deposit of light absorbing particles in the interior of the lamp or of debris on the external surface. Thus, if sensing does not take place often enough such a decline may remain unnoticed and the antimicrobial efficacy may become insufficient.

2.5.2 However, the mere fact that the claim covers embodiments which do not lead to the result defined therein, i. e. the maintenance of a target antimicrobial efficacy, is on its own not sufficient to conclude that the claimed method is insufficiently disclosed. It is established jurisprudence of the Boards of Appeal that occasional failures are of no harm to the sufficient disclosure of an invention as long as a skilled person knows how to transform failure into success, see Case Law II.C.6.6, II.C.5.2 or

G 01/03, point 2.5 of the reasoning. Thus, what needs to be assessed is whether a skilled person would, in general, be in a position to carry out the claimed method and, in case of failure, would know how the desired result may nevertheless be achieved.

2.5.3 It was undisputed that the description contains instructions on how to perform the claimed method, see e. g. the flowcharts in figures 5 or 13 and the corresponding explanations in the description. When implementing this method a skilled person would have to choose a frequency of sensing/adjustment events to start with. If it turned out that the target antimicrobial activity cannot be maintained in this way, a skilled person would know what to do, i. e. to increase the frequency of the sensing/adjustment cycles. This is also defined in original claims 8 and 9. It is self-evident that this frequency depends on the circumstances of the case and cannot be generally defined in the claim. In some cases it may be sufficient to sense/adjust only rarely, in others a tighter schedule may be necessary. A skilled person is not confronted with any situation requiring more than common sense in order to know what to do.

2.5.4 The Board also considers that, as submitted by the appellant, to "*maintain a target antimicrobial efficacy of the UV light (116) over the series of activation cycles*", as defined in the claim, must be interpreted in a technical meaningful sense. This feature cannot be interpreted as meaning that the antimicrobial efficacy remains constant on an even level. A technically meaningful cycle of sensing and adjusting for maintaining a certain output requires a defined interval of acceptable output values. An adjustment is then only made if the output is outside such a

predefined interval. A certain fluctuation is inherent to any control loop. There is no fundamental insufficiency of disclosure linked to the fact that the antimicrobial efficacy cannot be maintained on exactly the same level throughout the series of activation cycles.

2.6 In summary, the method defined in claim 1 of the appellant's main request is sufficiently disclosed. The appellant's auxiliary requests need not be considered.

3. Remittal (Article 111 EPC)

The Examining Division refused the patent application under Article 97(2) EPC because claim 1 did not comply with the requirements of Article 83 EPC. No other grounds have been given for the refusal of the application.

From the file history it is not clear whether the examination of independent claims 1 (method) and 11 (apparatus) with respect to other patentability requirements, in particular novelty (Article 54 EPC) and inventive step (Article 56 EPC), has been concluded. The Board notes that a variety of such objections had been raised during the examination procedure.

The Board considers this to be a special reason for remittal for further prosecution, as defined in Article 11 RPBA. Thus, the case is to be remitted to the Examining Division for further prosecution.

Order

For these reasons it is decided that:

The decision under appeal is set aside.

The case is remitted to the Examining Division for further prosecution.

The Registrar: The Chairman:

I. Aperribay P. Gryczka

Decision electronically authenticated