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**Datasheet for the decision
of 20 December 2022**

Case Number: T 1889/19 - 3.4.03

Application Number: 09161037.8

Publication Number: 2128702

IPC: G03F7/20

Language of the proceedings: EN

Title of invention:

Curing of photo-curable printing plates with flat tops or round tops

Patent Proprietor:

Esko-Graphics Imaging GmbH

Opponents:

XSYS Germany GmbH
XSYS Prepress NV

Relevant legal provisions:

EPC Art. 52(1), 54(1), 54(2), 105
RPBA Art. 12(4)
RPBA 2020 Art. 13(1)

Keyword:

Novelty - claims as granted (no)

Late-filed second auxiliary request - admitted (yes)

Intervention of the assumed infringer - in appeal proceedings

Remittal to the department of first instance - (yes)

Decisions cited:

G 0001/94, T 0458/96



Beschwerdekammern

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Case Number: T 1889/19 - 3.4.03

D E C I S I O N
of Technical Board of Appeal 3.4.03
of 20 December 2022

Appellant: XSYS Germany GmbH
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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 16 April 2019
rejecting the opposition filed against European
patent No. 2128702 pursuant to Article 101(2)
EPC.**

Composition of the Board:

Chairman T. Häusser
Members: M. Ley
 G. Decker

Summary of Facts and Submissions

I. The appeal lies from the decision of the opposition division to reject the opposition against European patent No. 2 128 702 pursuant to Article 101(2) EPC.

II. In the contested decision the following documents were *inter alia* cited:

E3 US 6 683 421 B1

E4 FLEXO-TIEF-DRUCK 1-2004, pages 54 and 55

E10 UV Coatings, R. Schwalm, Elsevier Science, 2006

The opposition division held that the subject-matter of claim 1 as granted was novel and involved an inventive step.

III. The appellant-opponent (hereinafter: *the opponent*) requests that the impugned decision be set aside and the patent be revoked.

In its statement setting out the grounds of appeal the opponent referred to documents E3 and E4 and argued *inter alia* that both E3 and E4 disclosed the subject-matter of claim 1 as granted and cited the following additional documents:

E11 EP 1 156 368 A2

E12 US 2003/0129533 A1

E13 WO 96/16356 A1

IV. A notice of intervention was filed during the appeal proceedings.

The intervener based its opposition on the grounds for opposition according to Articles 100(a), (b) and (c) EPC citing additional documents E14 to E22f and requests that the decision under appeal be set aside and the patent be revoked.

- V. The respondent-patent proprietor (hereinafter: *the proprietor*) requests as a main request that the decision be set aside and the case be remitted to the opposition division for further prosecution.

Alternatively, it requests as a first auxiliary request that the appeal be dismissed, i.e. that the patent be maintained as granted.

As a second auxiliary request, it requests that the decision under appeal be set aside and the patent be maintained in amended form on the basis of the claims according to the eleventh auxiliary request filed with the letter dated 23 November 2021.

As third to seventh auxiliary requests, it requests that the decision under appeal be set aside and the patent be maintained in amended form on the basis of the claims according to one of the first to fifth auxiliary requests filed with the letter dated 7 January 2020.

- VI. Claim 1 as granted (i.e. according to the proprietor's first auxiliary request) has the following wording (feature labelling according to point 12.1 of the impugned decision):

(i) An apparatus for curing a digital printing plate (503, 703) made of or having photo-curable material

e.g., ultraviolet-curable material thereon, the apparatus comprising:

(ii) - a light exposure unit including a light source (505, 605) to produce light energy at a wavelength or wavelengths suitable for curing the photo-curable material,

(iii) the light exposure unit capable of generating at least a first illumination intensity and a second illumination intensity, the second intensity being higher than the first intensity, the first intensity being able to cure the photo-curable material and the second intensity being able to cure the photo-curable material; and

(iv) - a control system (507; 705) coupled to and configured to control the light exposure unit, such that curing produces

(v) - printing features that have flat tops or round tops on a part of the plate according to the illumination intensity output by the light exposure unit, flat tops at the second intensity and round tops at the first intensity.

Claim 1 according to the proprietor's second auxiliary request has the following wording (amendments with respect to granted claim 1 underlined by the board):

An apparatus for curing a digital printing plate (503, 703) made of or having photo-curable material e.g., ultraviolet-curable material thereon, the apparatus comprising:

- a light exposure unit including a light source (505, 605) to produce light energy at a wavelength or wavelengths suitable for curing the photo-curable material, the light exposure unit capable of generating at least a first illumination intensity and a second illumination intensity, the second intensity being

higher than the first intensity, the first intensity being able to cure the photo-curable material and the second intensity being able to cure the photo-curable material,

wherein the light source (505; 605) includes a plurality of LEDs or LED arrays;

- a flatbed (701), wherein the digital printing plate (503, 703) is arrangeable on the flatbed, wherein the light exposure unit is configured to extend to cover one dimension of the digital printing plate (503, 703);

- a drive mechanism (509) to produce relative motion between the light exposure unit (605) and the plate (503) during curing of the plate; and

- a control system (507; 705) coupled to and configured to control the light exposure unit, such that curing produces

- printing features that have flat tops or round tops on a part of the plate according to the illumination intensity output by the light exposure unit, flat tops at the second intensity and round tops at the first intensity,

wherein the control system (507, 705) is configured to adjust the illumination intensity output of the light exposure unit to at least the first intensity or the second intensity such that round tops or flat tops are produced on the digital printing plate (503, 703) based on an operator choice.

VII. The parties' submissions can be summarised as follows:

(a) The proprietor argues that:

- documents E11 to E13 should not be admitted into the appeal proceedings,
- feature (v) in claim 1 as granted is essential and has to be taken into account when comparing the

claimed subject-matter and the prior art documents,
- the subject-matter of claim 1 as granted is novel over documents E3 and E4,
- the second auxiliary request is to be admitted into the appeal proceedings as a reaction to the notice of intervention.

(b) The opponent and the intervener argue that:

- documents E11 to E13 should be considered in the appeal proceedings,
- claim 1 as granted should be interpreted broadly when comparing the claimed subject-matter and the prior art documents,
- the subject-matter of claim 1 as granted lacks novelty over documents E3 and E4,
- the second auxiliary request should not be admitted into the appeal proceedings.

Reasons for the Decision

1. The invention

The opposed patent concerns a method and an apparatus for curing digital printing plates made of or having photo-curable material, e.g. a material curable by light in the ultraviolet range or some other range of wavelengths, see paragraph [0002] of the opposed patent.

According to the description of the patent in suit, a *digital plate* is a plate that is exposed to imaging data by ablating a mask material that is on the plate, e.g. by exposure to laser radiation in an imaging device, see paragraph [0004] of the opposed patent.

A *conventional analog plate* is a plate that is exposed to imaging data by exposing photographic film according to the imaging data, and then using the film to form a mask during exposure to curing radiation, see paragraph [0005] of the opposed patent.

Irrespective of the way imaging data is transferred to the plate, the plate needs light, e.g. UV light, for curing. After curing, the non-cured portions of the polymer are removed so that the cured printing plate has printing features. Normally printing features on digital printing plates have rounded surfaces, i.e. a round top as a result of the presence of oxygen in the photo-curable material, see paragraphs [0006], [0007], [0039] to [0043], [0102] to [0108] of the opposed patent.

The opposed patent uses the observation that digital printing plates with printing features having flat tops can be obtained by using a higher illumination intensity when curing the printing plate so that round tops or flat tops can be produced on a digital plate as an operator choice. Claim 1 as granted is directed to a corresponding apparatus.

2. Admission of documents E11 to E13

2.1 The opponent argued that documents E11 to E13 were filed as a reaction to points 12.5 and 13.5 of the impugned decision. In these sections the opposition division stated that:

- an apparatus suitable for curing digital printing plates in atmospheric conditions would not realistically be equipped with a pump and an inert gas feed

- a digital printing plate would not realistically be provided with a foil "to simulate a situation as for an analogue printing plate"
- the opponent did not provide evidence that a photo-curable material existed which enabled the formation of flat tops at 13 mW/cm².

E11 to E13 were filed to show which types of digital printing plates (with oxygen barrier layers) were known. Reference was made to point 4.1 of the minutes of the oral proceedings before the opposition division.

In point 2.1 of the summons to attend oral proceedings before the opposition division, it was discussed whether there was free access of oxygen to the printing plate mounted on a transparent support plate and illuminated from below in the apparatus according to document E1. However, digital printing plates with or without oxygen barrier layers were not mentioned.

2.2 In its reply to the statement setting out the grounds of appeal the proprietor argued that late-filed documents E11 to E13 did not describe any features of an apparatus for curing multi-layered printing plates and did not contain any description relating to a specific curing intensity or relating to controlling an illumination intensity output. E11 and E12 concerned neither analog printing plates nor digital printing plates as defined in paragraphs [0004], [0005], [0042] and [0043] of the patent or in the first paragraph of section 12.5 of the impugned decision, see E11, paragraph [0031]. Rather, E11 and E12 related to *flexographic printing plates* having at least one oxygen-blocking layer with a predetermined oxygen permeability. E13 was concerned with a process for

making a flexographic printing plate from a multi-layer flexographic element having a barrier layer and an infrared ablatable layer capable of being selectively removed by a laser beam.

Therefore, E11 to E13 were not more relevant than any other document cited in the notice of opposition.

Moreover, the issues of points 12.5 and 13.5 of the decision were already addressed in point 2.1 of the summons to attend oral proceedings before the opposition division and on page 7, last paragraph, of the proprietor's reply to the notice of opposition and during oral proceedings. The opponent could and should have filed E11 to E13 at the latest as a reply to the opposition division's summons. They could not be considered a reaction to the decision.

As late-filed documents E11 to E13 lacked any *prima facie* relevance and for reasons of procedural efficiency they should be disregarded by the board.

Should the board regard documents E11 to E13 as relevant and have objections regarding patentability of the subject-matter of the claims as granted relying on one of documents E11 to E13, the proprietor requested that the board remit the present case to the opposition division in line with Article 111(1) EPC, so that the respective documents can be examined at two levels of jurisdiction and the proprietor is not deprived of the possibility of subsequent review.

2.3 According to Article 12(4) RPBA 2007, which is to be applied pursuant to Article 25(2) RPBA 2020, the board has the power to hold inadmissible facts, evidence or

requests which could have been presented in the first instance proceedings.

The board is of the view that the submission of documents E11 to E13 is to be considered a reply to the opposition division's arguments in sections 12.5 and 13.5 of the contested decision, namely that it was "not apparent" that a digital printing plate would be provided "with a foil, to simulate a situation as for an analogue printing plate", and that the opponent "did not provide ... any evidence that a photo-curable material existed at the filing date to enable the formation of flat tops at 13 mW/cm²". In particular, section 12.5 of the impugned decision concerns the kind of printing plates to be cured, the access of oxygen thereto and the possibility to form round or flat tops. The passages thus relate to the meaning of feature (i), i.e. to the question whether digital printing plates with oxygen barriers (i.e. with a foil "to simulate a situation as for an analogue printing plate") were digital printing plates in the sense of claim 1, and whether it was possible to obtain flat tops for such digital printing plates under the conditions of document E4 (see section 13.5 of the impugned decision).

The board shares the opponent's view that point 2.1 of the summons to attend oral proceedings deals with the access of oxygen to a printing plate positioned on the support plate of the apparatus of E1, but not with the access of oxygen to the photo-curable material in case of a digital printing plate having an oxygen barrier layer. Page 7 of the proprietor's reply to the notice of opposition discusses the access of oxygen to digital printing plates compared to analog printing plates.

The board is therefore of the opinion that the issue of digital printing plates having oxygen barrier layers ("foil") or not and the access of oxygen thereto was discussed for the first time during the oral proceedings before the opposition division, see points 3.6 of the minutes regarding the interpretation of claim 1 and points 4.2 to 4.4 regarding E4.

Documents E11 to E13 were filed with the statements setting out the grounds of appeal, i.e. at the earliest possible moment. The board sees no reasons not to take these documents in the appeal proceedings into account.

The board is also of the opinion that E11 to E13 belong to the factual and legal scope already discussed during the first-instance opposition proceedings, as these documents are related to the question of how the wording of the claims should be understood in order to be compared to the disclosure in the prior art documents on file (e.g. documents E3 and E4). Taking into account documents E11 to E13 thus does not justify a remittal of the case to the opposition division.

Documents E11 to E13 are therefore taken into account in the appeal proceedings (Article 12(4) RPBA 2007).

3. Claim construction

3.1 Arguments of the opponent and intervener

3.1.1 Formulation of functional features

In the statement setting out the grounds of appeal and following the opposition division's opinion, the opponent made the distinction between structural and functional features of claim 1, see pages 2 and 3.

It argued that functional feature (i), i.e. the use of the claimed apparatus to cure a digital printing plate made of or having a photo-curable material thereon, could otherwise be defined more precisely and was thus not allowable in view of the criteria defined in the Case Law of the Boards of Appeal of the EPO, 9th edition, 2019, section II.A.3.4.

3.1.2 Apparatus for curing a digital printing plate - feature (i)

Claim 1 was directed to an apparatus which did not include a printing plate. Claim 1 was not directed to a method for curing printing plates and thereby producing printing features or to the use of an apparatus for curing printing plates or to a system of an apparatus and a digital printing plate.

The claimed apparatus was merely *suitable* for curing digital printing plates as defined in paragraph [0005] of the opposed patent.

In reply to section 12.5 of the impugned decision, the opponent argued that E11 disclosed digital printing plates with oxygen-blocking layers, which were cured using a UV lamp and had either a "flat" or a "round" top depending on the oxygen permeability of the oxygen-blocking layer, see paragraphs [0010] and [0084]. Figure 2(e) and paragraphs [0084] and [0121] of E12 disclosed digital printing plates having flat tops after curing with a conventional UV lamp and in contact with oxygen. E13 disclosed digital printing plates with an oxygen-blocking layer, see page 7, lines 14 to 34. The curing was performed by a conventional UV lamp, see page 16, lines 29 to 25. E11 to E13 showed that digital printing plates cured by UV light with round and flat

tops were known in the prior art, see e.g. paragraph [0084] of E11. E12 was another example of a digital printing plate having differently shaped tops as a result of additional layers. The plates known from E11 to E12 and having additional layers were digital printing plates within the meaning of feature (i).

The intervener further pointed out that claim 1 specified that the apparatus was for curing a digital printing plate, whereas paragraph [0023] and [0110] to [0112] of the opposed patent suggested that the plate might also be an analog plate. It was not explained which structural features of the apparatus were needed in order to have an apparatus which was specifically suited for curing digital plates.

3.1.3 Intensities to cure printing plates - features (iii) and (v)

The effects of oxygen described in paragraphs [0106] and [0107] of the opposed patent and the role of the curing light intensity as such were already known from E10, section 7.1.1.1, also for printing plates in view of section 8.2.

It was clear that the result according to feature (v) depended on the type, composition, reactivity (concentration of the photo-initiator and monomers) of the plate to be used as well as on the tonal value of the printed features. The presence of a barrier or release layer between the mask and the photopolymer also played a role. A large variation in printing plates existed.

Functional feature "the first intensity being able to cure the photo-curable material and the second

intensity being able to cure the photo-curable material" and functional feature (v) depended on the photo-curable material (e.g. its composition and properties) and could not characterise the claimed apparatus. They should be interpreted broadly.

3.1.4 Control system - features (iv) and (v)

Apart from the fact that the control system should be configured to control the light exposure unit, these features did not limit the claim as the printing plate was not specified. Indeed, in view of the large variation of existing plates, the same control system might generate round tops on a first type of plate and flat tops on a second type of plate. Put differently, a first intensity might generate round tops on a first type of plate and flat tops on a second type of plate. Similarly, a second intensity might generate round tops on a first type of plate and flat tops on a second type of plate. Functional feature (v) thus defined an effect which strongly depended on an element that was not defined and not part of the claim. As claim 1 did not specify the type of digital printing plate, the first and second intensities could be almost arbitrary. Without providing the type of digital printing plate, feature (v) did not limit claim 1 and was to be interpreted broadly.

Furthermore, the opposed patent did not provide a clear definition of the terms "round" and "flat", which were merely shown in Figures 1 to 4, so that these terms could not distinguish the claimed apparatus from the prior art. Claim 10 defined that the second intensity could be increased to obtain a "desired shape between round top and flat top". Paragraphs [0102] to [0107] of the opposed patent made it clear that, depending on the

intensity used, there was a large transitional range between round and flat shapes of the printing features. No clear definition of round and flat tops was given in paragraphs [0042] and [0043] of the opposed patent.

Moreover, the opponent also pointed out that the term "or" in feature (v) ("flat tops or round tops") suggested that it was sufficient that the control system was configured to control the light exposure unit such that curing produced either one of round and flat tops, but not both.

The intervener argued in addition that, with the current wording of claim 1, it seemed that the control system could be a "simple prior art control system" which set a fixed value for the illumination intensity and that paragraphs [0007] or [0107] of the opposed patent did not provide a definition of "round top" or "flat top". The opposed patent did not define where the first and second intensities were measured and by which means, how long the irradiation had to take place ("curing time", "dosage") to obtain the result according to feature (v) and which shape the applied beam should have.

3.1.5 In other words, according to the opponent and the intervener, claim 1 merely related to an apparatus suitable for curing a digital printing plate with a control system configured to control a light exposure capable of generating two different intensities.

3.2 Arguments of the proprietor

3.2.1 For the proprietor, the interpretation taken by the opponent/intervener disregarded features of claim 1 as granted and their causal connection for achieving the

teaching of the opposed patent, i.e. to control the top shape of printing features of a digital printing plate, see paragraph [0008] of the opposed patent.

3.2.2 Formulation of functional features

The proprietor argued that the functional features of claim 1 were clear and were limiting features of claim 1 as granted. It referred to the Case Law of the Boards of Appeal of the EPO, 9th edition 2019, section II.A.3.4, and argued that the functional features of claim 1 fulfilled the requirements provided therein and that the further criterion, i.e. that the state of the art did "not stand in the way of using such functional and therefore general and broad terminology" was not a "necessary requirement".

3.2.3 Apparatus for curing digital printing plates - feature (i)

A digital printing plate had "to be interpreted as relating to a plate allowing a sufficient amount of oxygen to diffuse unhindered into the digital printing plate while curing the photo-curable material, in particular through revealed areas of a mask layer characterizing a digital printing plate, so as to allow forming of round tops", see proprietor's letter dated 14 November 2022, paragraph bridging pages 3 and 4. The skilled person understood the term "digital printing plate" specified in claim 1 in the light of the description of the opposed patent as relating to a digital printing plate allowing a sufficient amount of oxygen to enter into the printing plate through revealed areas of a mask so that it was possible at all to produce printing features having round tops. Digital printing plates with an oxygen blocking layer were not

comprised by claim 1 as granted.

As discussed in paragraphs [0005], [0007] and [0042] of the opposed patent, an analog plate was characterised in that a film with image data, e.g. a photographic film, was applied to the printing plate, wherein said film acted as a mask during the curing of the printing plate. The decisive factor was that this film prevented oxygen from ambient air from penetrating into the photocurable material of the printing plate. Paragraph [0004] of the opposed patent explained that a digital printing plate had an ablatable mask material on the plate which was exposed to imaging data so as to ablate areas of the mask material according to said imaging data. Paragraph [0045] of the opposed patent explained that flat tops with a digital plate could be obtained by placing a film over the ablated material during curing to simulate a conventional analog process, said film acting as an oxygen barrier and allowing the production of flat tops.

The essential difference for the invention between an analog and a digital printing plate was stated clearly in paragraph [0043] of the opposed patent, namely that oxygen could "also readily enter the plate through these ablated areas". Said entering of a sufficient amount of oxygen into the printing plate was a prerequisite for the invention in order to influence the top shape of the dots, see paragraphs [0043] and [0106] of the opposed patent. Paragraphs [0049] and [0107] of the opposed patent disclosed that increasing the illumination intensity overcame the inhibiting effect of the oxygen so that a higher illumination intensity resulted in printing features having a flat top. During the oral proceedings, the proprietor described this as a dynamic process involving on the

one hand the polymerisation inhibiting effect of oxygen and on the other hand the polymerisation enhancing effect of the UV irradiation.

Entering of a sufficient amount of oxygen from the ambient air into the printing plate was a mandatory condition for producing print features having a round top. In other words, in the absence of a sufficient amount of oxygen entering from the ambient air, the generation of printing features with a round top was not possible.

According to this aspect, the digital printing plates disclosed in E11 to E13 did not fall under claim 1 as granted, because using an oxygen barrier layer blocked oxygen access so that producing printing features with round tops was not possible. E11 and E12 were not related to digital printing plates in the sense of claim 1.

The claimed apparatus was different from an apparatus for curing a printing plate in general.

3.2.4 Intensities to cure printing plates - features (iii) and (v)

Regarding the functional feature "the first intensity being able to cure the photo-curable material and the second intensity being able to cure the photo-curable material", the opposed patent contained experimental data relating to the two illumination intensities and a specification of a photo-curable material and thus provided a full and sufficient guidance for the skilled person. Restricting the claims to a specific material composition of the plates to be cured would be unreasonable.

Regarding functional feature (iii), E11 to E13 did not contain any hint or suggestion regarding a possible intensity used in a curing process. The effect of the intensity on the shape of the printing features was not known in the prior art; in particular document E10 did not concern printing plates but UV coatings. The proprietor stated that in E11 to E12, the oxygen permeability of the oxygen barrier layer controlled the amount of oxygen entering the photo-curable material so that round or flat tops were produced, see E11, paragraphs [0010], [0025], [0031]; E12, paragraphs [0082], [0084], [0085]; E13, page 7, lines 23 to 25 and lines 32 to 34. There was not disclosure that the UV intensity was changed in these pieces of prior art.

The proprietor disputed the statement that the same apparatus, able to produce first and second intensities to obtain the result according to (v) for a first photo-curable material, might produce round tops at both intensities for a second photo-curable material and might produce flat tops at both intensities for a third photo-curable material. For example, at the priority date of the opposed patent, no digital printing plates in the sense of claim 1 existed that would have formed printing features with flat tops at an intensity of 20 mW/cm², which was an intensity conventionally used.

3.2.5 Control system - features (iv) and (v)

Regarding functional feature (v), the proprietor argued that paragraphs [0005], [0042], [0004], [0043] as well as Figures 1 to 4 explained the terms "round tops" and "flat tops". A top having a "shape between a round top and a flat top" as defined in claim 10 might be a shape that contained structural features of both round tops

and flat tops, see paragraph [0107] and Figures 4A to 4C of the opposed patent. As claim 1 was directed to an apparatus for curing digital printing plates, the printing plates of claim 1 did not have an oxygen-blocking layer as used in analog processes.

The functional relationship between features (iv) and (v) was not to be disregarded, i.e. the resulting production of round tops or flat tops depending on the respective illumination intensity controlled by the control system. The controlled system was specifically adapted to produce the result according to feature (v), i.e. to selectively produce round or flat tops. It was not *per se* self-evident that any exposure system which allowed controlling of the illumination intensity was indeed able to output an illumination intensity sufficiently low for producing round tops and an illumination intensity sufficiently high for producing flat tops. The opposed patent disclosed examples of higher intensities, i.e. of 595 mW/cm² (light source having an output of 200 W and an aperture of 8 cm x 42 cm, see paragraph [0096]).

The first and second intensity to be used to produce round or flat tops, respectively, depended on the printing plate and on the tonal value. For example, increasing the tonal value could imply that a higher second intensity had to be provided in order to obtain flat tops. However, knowing the opposed patent, the skilled person would have no problems to configure the control system so that it functions according to features (iv) and (v).

All functional features of claim 1 as granted were to be taken into account and the claimed control unit controlled the illumination intensity to produce

differently shaped (flat/round) tops, see e.g. paragraph [0041], [0043], [0044], [0049], [0054], [0055], [0057] and [0068] of the patent. The skilled person also clearly understood how and where the claimed intensities were to be measured.

3.2.6 Decision T 458/96

The proprietor also argued that according to decision T 458/96 it was decided that features could not be disregarded for the purposes of assessing patentability by interpreting them merely as defining an intended use when the technical content of the claims and the description clearly established how an invention operated (Case Law of the Boards of Appeal of the EPO, 10th edition 2022, II.A.6.3.3). The invention discussed in said decision had the objective of holding the electrical connector securely to the printed circuit board by means of a specific design of the terminal pins cooperating with the holes of the printed circuit board. In said decision, the board concluded that, although the printed circuit board itself was not encompassed by independent claim 1, the interaction between the design of the terminal pins and the holes of the printed circuit board had to be taken into account as an essential feature of the invention for the assessment of novelty and inventive step (see T 458/96, point 3.3, third and fourth paragraph).

This rationale was equally applicable in the present case. Claim 1 as granted defined structurally and functionally that and how round and flat tops were produced. A specific intensity control system was required. It was also apparent from the entire description of the opposed patent that the specific intensity control to produce printing features with

round or flat tops (e.g. at the operator's choice) was the essential feature of the invention, see paragraphs [0008], [0029] and [0046] of the opposed patent. Thus, claim 1 could not be interpreted as merely relating to an indiscriminate, open-ended intensity output.

3.2.7 Hence, features (i) to (v) of claim 1 as granted had to be considered in their entirety, in particular the functional relationship between features (iv), (v) and (i), for properly interpreting the terms of claim 1 and for the corresponding assessment of novelty and inventive step of that claim.

3.3 The board is of the view that the wording of claim 1 should be interpreted as follows:

3.3.1 Claim 1 as granted is directed to an apparatus having the following structural features:

- implicit means for supporting a printing plate made of or having photo-curable material,
- a light exposure unit including a light source to produce light energy at a wavelength or wavelengths suitable for curing the photo-curable material, the light exposure unit being capable of generating at least a first illumination intensity and a second illumination intensity, the second intensity being higher than the first intensity,
- a control system coupled to and configured to control the light exposure unit such that it instructs the light exposure unit to produce light energy at the first intensity or at the second intensity.

It seems undisputed that the apparatus of claim 1 has the above structural features, that some means for supporting a "digital" printing plate must be present and that the light energy produced by the light source

must be directed towards the printing plate in order to perform its curing. According to the description of the opposed patent suitable wavelengths lie in the UV spectrum, see e.g. paragraphs [0006], [0031], [0032], [0094].

3.3.2 Apparatus for curing a digital printing plate -
feature (i)

According to feature (i), the claimed apparatus is for curing, i.e. must be suitable for curing a digital printing plate.

According to paragraph [0004] of the opposed patent and as pointed out by all parties, a digital printing plate is a printing plate that is exposed to imaging data by ablating a mask material that is on the plate, e.g. by exposure to laser radiation in an imaging device, see paragraph [0004] of the opposed patent and Figure 1(c) and paragraph [0075] of E12. During curing, the plate material (i.e. the photo-curable material) underneath is cured e.g. by UV light entering the plate through the revealed areas, see paragraph [0043] of the opposed patent.

As argued by the opponent, E11 and E13 disclose digital printing plates in the sense of claim 1 (E11, [0010], [0011], layer (B) made of photo-curable material, masking layer (D), [0054], [0063]; E13, page 2, lines 30 to 33, page 3, lines 6 to 11) with an oxygen barrier layer (E11, [0011], layer (C), [0025] to [0031]; E13, page 3, lines 1 to 5, page 7, lines 14 to 34). As pointed out by the opponent, curing of these digital printing plates with round or flat tops is possible, the final shape of the printing features depending on the oxygen permeability of the respective

oxygen barrier layers, see e.g. E11, [0084].
Feature (i), thus, does not exclude that the digital printing plate has other overlying layers, e.g. an oxygen blocking layer, contrary to the proprietor's statements.

The board agrees with the proprietor that in E11 to E13, the shape of the printed features (round or flat) is not controlled by changing the illumination intensity. This was not alleged by the opponent or the intervener.

It is undisputed that in E11 the amount of oxygen entering the photocurable material is controlled by the oxygen permeability of the oxygen barrier layer (C), see e.g. paragraphs [0029] to [0030], [0084]. In other words, the composition and properties of the oxygen barrier layer defines the shape (round or flat) of the printed features. Hence, the printing plates according to E11 and E13 allow in fact "a sufficient amount of oxygen to diffuse unhindered into the digital printing plate while curing the photo-curable material, in particular through revealed areas of a mask layer characterizing a digital printing plate, so as to allow forming of round tops" in accordance with the proprietor's statement in the paragraph bridging pages 3 and 4 of its letter dated 14 November 2022.

The board therefore agrees with the opponent and the intervener that printing plates having oxygen barrier layers according to e.g. E11 and E13 are digital printing plates according to the definition given in paragraph [0004] of the opposed patent.

The wording of feature (i) requires that the claimed apparatus is suitable for curing a *digital* printing

plate. This does not exclude that the claimed apparatus is *also* suitable for curing an *analog* printing plate, which is a plate that is exposed to imaging data by exposing photographic film according to the imaging data, said exposed photographic film forming a mask during exposure to curing radiation, see paragraph [0005] of the opposed patent and Figure 2(c) and paragraph [0082] of E12. As pointed out by the intervener, paragraphs [0023] and [0110] to [0112] of the opposed patent suggest that the claimed apparatus could also be used for curing analog printing plates.

The board accepts that the exposed photographic film in an analog printing plate does not allow (a sufficient amount of) oxygen entering the photo-curable material to obtain round tops, as pointed out by the proprietor.

3.3.3 Intensities to cure printing plates - features (iii) and (v)

Regarding the functional feature "the first intensity being able to cure the photo-curable material and the second intensity being able to cure the photo-curable material" (part of feature (iii)), it appears common ground that claim 1 is directed to an apparatus and that the digital printing plate (to be cured) is not a part of the claimed apparatus. As pointed out by the opponent and the intervener, claim 1 is an apparatus claim and does not concern a method of curing a digital printing plate or the use of an apparatus or a system with an apparatus and a printing plate.

Thus, the light source of the light exposure unit must be arranged to produce light energy (e.g. in the UV range) with at least two different intensities, and

both intensities must be sufficiently high to cure a photo-curable material.

The board agrees with the opponent and the intervener that the effect of oxygen described in paragraphs [0106] and [0107] of the opposed patent is generally already known from E10, see section 7.1.1.1., and that the result of the curing according to feature (v) depends on numerous parameters (type, composition, reactivity) of the photo-curable material of the printing plate itself and of the tonal value. A higher tonal value implies that the size of the printing features is larger. In case of a digital printing plate (as defined in paragraph [0004] of the opposed patent), a higher tonal value is thus obtained by increasing the size of the areas ablated by a laser, which, in principle, facilitates the access of oxygen. The proprietor did not dispute that the configuration of the photo-curable material and the tonal value strongly influence the result (i.e. round or flat tops) to be achieved. Moreover, the presence and type of any additional layer (e.g. oxygen barrier layers) influences the access of oxygen to the photo-curable material and therefore the shape of the tops of printing features.

However, as the composition of the photo-curable material and the tonal value is left entirely open in claim 1 and as it does not exclude any additional oxygen barrier layers on top of the photo-curable material, it seems that the wording of claim 1 is not restricted to any particular photo-curable material and, thus, to any particular minimum or maximum value of the first and second intensities. For example, the values of 20 mW/cm^2 to 40 mW/cm^2 mentioned in paragraphs [0055] and [0107] of the opposed patent are

possible values for Cyrel DPI™ but are not necessarily suitable for other photo-curable materials. An apparatus using an intensity of 20 mW/cm² for curing a digital printing plate with an oxygen barrier inhibiting any oxygen entering the photo-curable material would produce flat tops. A same apparatus using a digital printing plate without any oxygen barrier and for a tonal value of e.g. 30% might produce round tops, even at an intensity of 40 mW/cm². Hence, the same apparatus, able to produce first and second intensities to obtain the result according to feature (v) for a first photo-curable material, might produce round tops at both intensities for a second photo-curable material and might produce flat tops at both intensities for a third photo-curable material, as pointed out by the opponent and the intervener.

3.3.4 Control system - feature (iv) and (v)

According to features (iv) and (v), the control system controls whether the first or second intensity is used for curing the photo-curable material of a digital printing plate in such a way that the first/lower intensity produces printing features having a "round top" and the second/higher intensity produces printing features having a "flat top".

Contrary to the intervener's statements, the board is of the view that the skilled person would know where and how to measure the claimed intensities. Moreover, contrary to the opponent's statement about the term "or" in feature (v), the board is of the opinion that claim 1 does not define two alternative types of apparatuses, i.e. one for obtaining printing features with round tops by using a first intensity and another one for obtaining printing features using a second

intensity. Rather, the control system according to claim 1 controls the light exposure unit such that a first or a second illumination intensity is generated. The control system is thus not merely "a simple prior art control system which sets a fixed value for the illumination intensity", as argued by the opponent and the intervener.

The board notes that the opposed patent does not give a precise definition of what is meant by "round" and "top", except for paragraph [0043] mentioning "round shaped structures which stay at slightly below the original surface level". The board also observes that paragraph [0043] of the opposed patent states that Figure 3 shows a simple cross-section of a simple example printing pattern with round tops that results from UV exposure through a laser ablated film by UV light from a UV source, whereas a skilled person would possibly regard the tops of some of the printings features of Figure 3 as "flat".

As pointed out by the proprietor, the formation of a round top is related to the presence of oxygen during the UV curing, see paragraphs [0039] to [0043] and [0102] to [0108] of the opposed patent. Oxygen acts as an inhibitor to the polymerization during curing, see paragraph [0039]. Oxygen atoms in surface regions of the layer of photo-curable material result in a "kind of melting of the halftone dots", see paragraph [0041] of the opposed patent. In other words, if no (or relatively little) oxygen molecules are present during curing, the photo-curable material is cured up to the original surface level of the uncured layer of photo-curable material. As a result, after the removal of the uncured portions of the photo-curable material, a "flat" top is obtained. In the presence of more oxygen

molecules, the photo-curable material is not cured up to said original surface level. As a result, after the removal of any uncured portions of the photo-curable material, a "round" top is produced. A sufficient amount of oxygen entering the photo-curable material is thus mandatory for providing round tops.

According to paragraphs [0106] to [0108] of the opposed patent, the effect of an increased light intensity can lead "to more activation of the starter radicals", while the "number of chains finished by oxygen remains the same as with lower intensity". In the board's understanding, a higher intensity therefore lowers the oxygen's effect of producing "round" tops. The production of "round" tops due to the presence of oxygen molecules when UV curing a photo-curable material was already known at the priority date of the opposed patent, see e.g. E11, paragraphs [0005], [0006], [0025] to [0031], E12, paragraphs [0038], [0039], [0077], [0085], [0088] or E13, page 7, lines 13 to 34. The effect of a higher irradiation intensity as such is also already known in the prior art, see E10, chapter 7, section "7.1 Oxygen Inhibition", section "7.1.1.1 High irradiance and high energy density".

However, as pointed out before, since claim 1 relates to an apparatus for curing a digital printing plate and since said printing plate is not part of the claimed apparatus and could be a digital printing plate of any type, features (iv) and (v) imply no further limitation regarding the first and second intensities beyond the limitation of feature (iii) that both must be able to cure photo-curable material. In other words, features (iv) and (v) of claim 1 merely imply that the control system of the claimed apparatus is configured to

control the light exposure unit so that light of a lower and a higher light intensity is produced.

3.3.5 Decision T 458/96

The board is of the view that section II.A.6.3.3 of the Case Law of the Boards of Appeal of the EPO, 10th edition 2022, concerns the interpretation of relative, ambiguous or unclear terms by using the description and the drawings. This differs from the contentious issue of claim 1 as granted in the present case, where an apparatus is defined by reference to an entity (i.e. the digital printing plate) that is not part of the claimed apparatus. The question in the present case is not how a relative, ambiguous or unclear term is to be interpreted, but rather to what extent an unspecified digital printing plate that is not part of claim 1 defines the apparatus.

In T 458/96, the claimed electrical connector with terminal pins and the non-claimed printed circuit board with holes are both products which are arranged to be mechanically connected. In the present case the relation between the claimed and non-claimed entities is more complex because the claimed apparatus has to be suitable to modify (i.e. to cure) the non-claimed digital printing plate in a specific manner.

Regarding the printed circuit board, i.e. the non-claimed entity in T 458/96, it has been described by the appellant-proprietor as having "standard dimensions and tolerances", see T 458/96, point VI of the facts and submissions. Said statement has apparently not been questioned by the respondents. It was not disputed what a printed circuit board was and how its holes were arranged. In T 458/96 this has allowed to define an

electric connector by reference to a printed circuit board that is not part of the claim.

By contrast, in the present case it has been argued and accepted by the board that a very large variation of possible digital printing plates (e.g. made of different materials and exhibiting different tonal values) exists. Therefore the board is of the view that the rationale of T 458/96 is not applicable to the present case.

- 3.3.6 In view of the proprietor's arguments related to the presence of oxygen, feature (v) cannot be completely ignored.

The only additional limitation resulting from feature (v) is that the claimed apparatus has to be arranged such as to allow oxygen to enter the photo-curable material. For example, an apparatus for curing a digital printing plate (without any oxygen barrier layer) which includes a transparent support plate in immediate contact with the illuminated surface of the printing plate would generally not produce round tops because the support plate of the apparatus inhibits oxygen from entering the photo-curable material.

- 3.3.7 In view of the above considerations, the board is of the view that claim 1 is directed to an apparatus suitable for curing a digital printing plate made of or having photo-curable material, the apparatus comprising:
- a light exposure unit including a light source to produce light energy at a wavelength or wavelengths suitable for curing the photo-curable material, the light exposure unit capable of generating at least a first illumination intensity and a second

illumination intensity, the second intensity being higher than the first intensity, the first intensity being able to cure the photo-curable material and the second intensity being able to cure the photo-curable material; and

- a control system coupled to and configured to control the light exposure unit to produce said first intensity or said second intensity,
- wherein the apparatus is to be arranged such as to allow oxygen to enter the photo-curable material.

This claim construction is used for comparing the subject-matter of claim 1 to the prior art.

4. Claim 1 as granted - Novelty (Article 100(a) EPC in conjunction with Articles 52(1), 54(1) and (2) EPC)

4.1 Document E3

4.1.1 For the opponent, E3 disclosed an apparatus suitable for curing a digital printing plate (column 1, lines 7 and 8, lines 40 to 57).

Although E3 generally disclosed a light curing device, the apparatus of Figure 9 was suitable for curing any printing plate; the size of the printing plate was not limited by the wording of claim 1.

Figure 9 of E3 showed a curing apparatus with two planar arrays of LEDs 933, 935 emitting UV light and with an control system (Figure 1A, controller 18) coupled to a power source for varying power provided by the power source to the array to change the irradiation intensity (column 1, lines 54 to 57, column 6, line 66 to column 7 line 4). Figures 10A to 10C of E3 further disclosed that an array of LEDs could be divided into

two sections that illuminated different sized areas and wherein the illumination intensity of each section could be controlled independently (column 10, lines 6 to 45).

In Figure 9 the workpiece 990 to be cured was placed on a conveyor 992 moving between two array of LEDs 933 and 935, see column 9, line 56 to column 10 line 5. From Figure 9 the skilled person would understand that the workpiece to be cured was exposed to oxygen. There was no hint in E3 that a vacuum or any other gas was used.

- 4.1.2 For the proprietor, E3 related to a light curing device used in industrial manufacturing applications involving photoreactive materials (see E3, column 1, lines 41 to 43; column 4, lines 49 to 51; column 7, line 66 to column 8, line 5). E3 did not provide any disclosure that the device was suitable for curing digital printing plates. Only a workpiece in general was mentioned. The description and figures of E3 did not offer any suggestion or hint relating to a digital printing plate and contained no disclosure about controlling shape aspects or the geometry of any cured structures by use of different illumination intensities.

Even assuming that the light curing device was used for curing a digital printing plate, there was no direct and unambiguous disclosure in E3 which would allow to conclude that the LED array of the light curing device could be controlled for allowing to produce round tops or flat tops. In particular, E3 did not disclose any information regarding the illumination intensity of the used LED array which would allow such a conclusion. E3 therefore did not describe any control system (feature

(iv)) configured to control the illumination device of E3 such that feature (v) was obtained. E3 focused on a light source having, for example, a cooling system 22 (Figure 1A), a grid 93 of reflectors and/or a microlens array 97 (Figure 2C).

Moreover, there was no direct and unambiguous disclosure that the workpiece or the printing plate had access to oxygen. The curing could be performed in vacuum or with oxygen blocking barriers, for example. Reference was made to E10, section 7.1.1.1.

Therefore, E3 did not disclose features (i), (iv) and (v).

- 4.1.3 In view of the board's claim construction (see section 3.3 above), the subject-matter of granted claim 1 is not novel over document E3 (Articles 52(1), 54(1) and (2) EPC).

E3 discloses a photocuring system or light curing device (column 1, lines 6 and 7; column 1, line 40 to column 2, line 3). Although not explicitly mentioned in E3, the board has no doubts that the apparatus disclosed in Figure 9 of E3 is suitable for curing the photocurable material of a digital or an analog printing plate (feature (i)), both types of plates differing by the masking layer used during the curing to produce printing feature.

The device according to E3 has a light emitting semiconductor array capable of emitting light energy having a light output wavelength suitable for initiating a photoreaction (column 1, lines 40 to 54), i.e. photocuring a workpiece. Said light emitting semiconductor array is an array of LEDs, see e.g.

column 3, lines 20 to 29, "array 32 of LED die 34". The apparatus of E3 thus comprises a light exposure unit including a light source to produce light energy at a wavelength or wavelengths suitable for curing the photo-curable material within the meaning of feature (ii).

The light exposure unit of E3 is capable of generating at least a first illumination intensity and a second illumination intensity, the second intensity being higher than the first intensity, the first intensity being able to cure the photo-curable material and the second intensity being able to cure the photo-curable material (column 3, lines 26 to 29, "control the radiance of the LEDs"; column 6, line 66 to column 7, line 32, "controls the power supplied to the array 32 to generate the required light energy output", "direct different quantities of power to each group"; column 8, lines 17 to 22, "adjusts the supply of power provided by the power source 20 as necessary to maintain the intensity within the curing parameters"; column 10, lines 6 to 45, "addressability provides the ability to selectively supply power to different groups of LED die 34 having different peak output wavelengths, thereby generating light energy more precisely matching the curing requirements of the workpiece to be cured"). In other words, E3 discloses feature (iii).

Regarding feature (iv), a controller 18 is programmed to receive data from the control data interface 24 (Figure 1A) corresponding to user requirements for light output power, exposure time, and on/off rates of the array 32 and variation of irradiance throughout an exposure cycle, see column 6, line 66 to column 7, line 8; column 7, lines 15 to 33; column 7, line 64 to column 8, line 23; column 10, lines 6 to 45 in

combination with figures 10A to 10C. A user inputs the curing parameters for the workpiece using the control data interface 24, which are stored by the controller 18. Such curing parameters may include the quantity of light energy required for the cure, or may simply include the desired power level and the duration of the cure period, see column 7, line 64 to column 8, line 5. E3 thus discloses a control system ("controller 18") coupled to and configured to control the light exposure unit ("array 32", "LED die 34") to produce a first lower intensity or a second higher intensity.

Regarding the presence of oxygen, the board shares the opponent's view. In the example of Figure 9 (column 9, line 56 to column 10, line 5), the workpiece 990 to be cured is positioned on a transparent table or conveyor 992 used to carry the workpiece between the planar arrays of LED die 933, 935. The arrays may also be positioned vertically on either side of the conveyor 992 such that no light energy is required to pass through the conveyor 992 in order to reach the workpiece. As there is no indication of a vacuum or gas atmosphere, the skilled person would understand that the workpiece is in contact with ambient air, i.e. oxygen. Hence, the apparatus of E3 is arranged such as to allow oxygen to enter the photo-curable material.

Consequently, the subject-matter of claim 1 as granted is not new over document E3.

4.2 Document E4

4.2.1 According to the opponent and the intervener, E4 disclosed that the curing apparatus AFP 912-HQ provided a plurality of UV intensities (40%, 60%, 80%, 100%) to cure a photo-curable material, see page 54, second and

third columns. The apparatus of E4 was suitable to cure the printing plates described in documents E11 to E13 with printing features having flat tops. When curing the digital printing plates known from E11, "flat" or "round" tops were obtained depending on the oxygen-blocking layers used. Round tops were produced when curing the printing plates of E11 without any oxygen-blocking layers.

E4 also disclosed that blowing was used to cool the printing plates (page 54, left column), which indicated that they were in contact with oxygen.

From the term "AFP" it could not be derived that the apparatus shown in E4 was only configured to cure analog printing plates, the "A" in "AFP" standing for "Asahi", and not for "analog".

- 4.2.2 For the proprietor, E4 was a commercial text intended to promote the Asahi apparatuses "AFP 912-EHQ" and "AFP 1216 E-HQ" for analog printing plates ("Belichter", the "A" in "AFP" standing for "analog") and "novel printing plates by Asahi" ("Neue AFP-, SH- und DSH-Platten"). The numbers "912" and "1216" stood for the supported printing plate format.

According to the proprietor's submission in its letter dated 14 November 2022, both exposure systems provided a main exposure ("Hauptbelichtung") and back exposure ("Rückseitenvorbelichtung") of a printing plate, which used UV light tubes whose output could be regulated. Further, E4 disclosed that the main exposure was generally performed with 100% power, and that for printing plates having a low exposure latitude, the power could be adjusted. Regarding the back exposure,

E4 disclosed that it was generally performed with 40% power.

E4 did not disclose that "digital printing plates" were processed by the presented light exposure unit or that the plates of E11 to E13 could be used with the device of E4.

E4 did not disclose the claimed control system, the adjustable power output being implemented on the basis of a) compensation for UV-tube ageing, b) provision of a single device for front and back side curing and c) better control of the pre-curing process. E4 did not disclose that illumination intensity of the main exposure could be controlled to produce printing features that had flat tops or round tops.

There was no direct and unambiguous disclosure that the analog printing plate had access to oxygen. Cooling by blowing does not exclude e.g. a glass plate blocking oxygen from reaching the printing plates.

E4 did not disclose features (i), (iv) and (v) of claim 1.

- 4.2.3 In view of the board's claim construction (see section 3.3 above), the subject-matter of granted claim 1 is not novel (Articles 52(1), 54(1) and (2) EPC) over E4.

Sections "Lösungen von Asahi", "Leistungsstarke Belichtung" and "Der Belichter" of E4 describe an apparatus ("Belichtungsautomat") for curing a digital printing plate ("Belichtung von Fotopolymerplatten") made of or having photo-curable/ultraviolet-curable material thereon (feature (i)). In view of section

"Lösungen von Asahi", the board is convinced that the apparatus disclosed in E4 is suitable for curing the photocurable material of a digital or an analog printing plate, see e.g. page 54, middle column, "Für alle Plattentypen liefert *Asahi Photoproducts* eine Tabelle mit Angaben in Millijoule zur Rückseitenvorbelichtung und Hauptbelichtung". Whether the letter "A" in *AFP 912 E-HQ* or *AFP 1216 E-HQ* stands for "analog" or for "Asahi" is irrelevant.

Section "Leistungsstarke Belichtung" describes that UV lamps ("UV-Röhren") were used for curing printing plates, wherein the UV lamp power ("UV-Röhrenleistung") is adjustable ("Eine zusätzliche Innovation im Belichtungsbereich ist die Leistungsregulierung der UV-Röhren auf wahlweise 40%, 60%, 80% oder 100%. Die 100%ige UV-Röhrenleistung beträgt 140W"), see Figures 2 and 3. The board is of the view that the same arrangement of UV-lamps is used for both front and backside illumination of a printing plate ("Rückseitenvorbelichtung" and "Hauptbelichtung"). Hence, E4 discloses a light exposure unit including a light source ("UV-Röhren") to produce light energy at a wavelength or wavelengths suitable for curing the photo-curable material, the light exposure unit being capable of generating at least a first illumination intensity and a second illumination intensity (40%, 60%, 80%, 100% of the maximum power), the second intensity being higher than the first intensity, the first intensity being able to cure the photo-curable material and the second intensity being able to cure the photo-curable material. The apparatus of E4 implicitly includes a control system coupled to and configured to control the light exposure unit. Features (ii) to (iv) are therefore disclosed in E4.

Regarding the presence of oxygen, the board shares the opponent's view. On page 55, left column, E4 discloses that blowing is for cooling the printing plates during curing ("Ein Gebläse schaltet sich automatisch ein, um die Temperatur durch Zu- oder Abluft konstant zu halten. Da Fotopolymerplatten nicht nur bei Licht, sondern auch bei erhöhten Temperaturen polymerisieren, ist eine konstante, niedrigstmögliche [sic] Temperatur während der Klischeeproduktion unerlässlich"). A cooling of printing plates using air (i.e. oxygen) is therefore described, see also the second sentence of the first paragraph of the section "Der Belichter" ("..., ist die Kühlung des Plattenmaterials auf dem Belichtertisch, wie auch die Umgebungstemperatur im Gerät von entscheidender Bedeutung"). There is no indication in D4 of any element (e.g. a glass plate) blocking the access of oxygen. In other words, ambient air is in contact with the printing plates to be cured so that the apparatus of E4 is arranged such as to allow oxygen to enter the photo-curable material.

Consequently, the subject-matter of claim 1 as granted is not new over document E4.

5. Proprietor's main and first auxiliary requests
- 5.1 As a main request, the proprietor requests that the decision be set aside and the case be remitted to the opposition division for further prosecution, in particular, in view of the new grounds for opposition under Articles 100(b) and (c) EPC and the pieces of prior art newly submitted by the opponent and the intervener.

5.2 As claim 1 as granted lacks novelty over E3 and E4, the ground for opposition under Article 100(a) in conjunction with Articles 52(1), 54(1) and (2) EPC prejudices the maintenance of the European patent. Therefore, remitting the case to the opposition division to have the further grounds for opposition under Article 100(b) and (c) EPC examined would serve no purpose, which is why the proprietor's main request cannot be allowed. Since the ground for opposition under Article 100a EPC prejudices the maintenance of the European patent, the proprietor's first auxiliary request, i.e. the dismissal of the appeal and thus the maintenance of the patent as granted, cannot be granted, either.

6. Admission of the second auxiliary request

6.1 According to Article 13(1) RPBA 2020, which is applicable pursuant to Article 25(1) RPBA 2020, any amendment to a party's appeal case after it has filed its grounds of appeal or reply is subject to the party's justification for its amendment and may be admitted only at the discretion of the board.

6.2 The set of claims according to the second auxiliary request was filed as eleventh auxiliary request with the letter dated 23 November 2021.

To justify the filing of this amended set of claims, the proprietor argued that it was to be considered a direct reaction to the notice of intervention filed on 30 June 2021 and to the new grounds for opposition, documents and lines of attacks therein, which did not form part of the first instance proceedings. Since according to G 1/94 an intervention of the assumed infringer under Article 105 EPC may be based on any

ground for opposition under Article 100 EPC and the infringer was not prevented "from making use of all available means of attacking the patent", the proprietor should also be allowed to defend its patent by filing amended claims.

Moreover, the second auxiliary request was also a reaction to the board's claim construction provided during the oral proceedings and which was not contained in the board's preliminary opinion in its communication pursuant to Article 15(1) RPBA 2020.

Admitting the second auxiliary request should not unduly delay the proceedings, either.

- 6.3 The opponent and intervener argued that, even if the second auxiliary request was filed as a response to the notice of intervention, the new objections raised therein played no role during the oral proceedings before the board.

The board's claim construction was already included in the preliminary opinion provided in the board's communication pursuant to Article 15(1) RPBA 2020. The amendments made to the claims according to the second auxiliary request did not address the board's interpretation of claim 1 and did not overcome the board's objections raised against claim 1 as granted.

The second auxiliary request should not be admitted into the appeal proceedings.

- 6.4 The second auxiliary request was filed (as former eleventh auxiliary request with the letter of 23 November 2021) before the board's communication pursuant to Article 15(1) RPBA 2020. Therefore the

board's preliminary claim construction provided in said communication or during oral proceedings before the board may not constitute a justification for the filing of the second auxiliary request.

However, the board accepts that the second auxiliary request was filed (as former eleventh auxiliary request) as a direct response to the notice of intervention and as a reaction to the issues discussed therein.

The board therefore admits the second auxiliary request into the appeal proceedings according to Article 13(1) RPBA 2020.

7. Remittal to the opposition division for further prosecution
- 7.1 According to the headnote of G 1/94, intervention of the assumed infringer under Article 105 EPC may be based on any ground for opposition under Article 100 EPC. Point 13 of the reasons further states: "[...] the purpose of intervention is to allow the assumed infringer to defend himself against the Patentee's action. Therefore, to prevent him from making use of all available means of attacking the patent, which he is accused of infringing, including the raising of new grounds for opposition under Article 100 EPC not relied upon by the proper Opponent, would run contrary to this purpose of intervention. [...] if a fresh ground for opposition is raised by the intervener, the case should be remitted to the first instance for further prosecution, unless special reasons present themselves for doing otherwise, for example when the Patentee himself does not wish the case to be remitted".

7.2 In the present case, the notice of intervention included the fresh grounds for opposition under Article 100(b) and (c) EPC and new lines of attack under the ground for opposition under Article 100(a) EPC in conjunction with Articles 52(1), 54(1), (2) and (3), 56 EPC in view of newly filed documents E14 to E22f, see section IV. above. None of these issues had been subject of the first instance proceedings, let alone the impugned decision.

During oral proceedings before the board, the proprietor declared that it agreed to a remittal of the case to the opposition division for further prosecution.

The opponent and the intervener requested that the second auxiliary request be examined regarding novelty and/or inventive step over document E3 before the case was remitted to the opposition division.

The board takes the view that it would not be appropriate for the board to limit its examination of the second auxiliary request to the assessment of novelty and/or inventive step only with respect to the document E3 and leaving aside the other novelty and/or inventive step objections based on other documents.

Following G 1/94, the case is therefore to be remitted to the first instance for further prosecution.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the opposition division for further prosecution.

The Registrar:

The Chairman:



S. Sánchez Chiquero

T. Häusser

Decision electronically authenticated