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**Datasheet for the decision
of 21 December 2017**

Case Number: T 0687/14 - 3.2.05

Application Number: 04293111.3

Publication Number: 1674286

IPC: B42D15/00

Language of the proceedings: EN

Title of invention:

Security element having a digitised mark and security support
or document comprising same

Patent Proprietor:

Oberthur Fiduciaire SAS
Hueck Folien Gesellschaft m.b.H.

Opponents:

Leonhard Kurz Stiftung & Co. KG
De La Rue International Limited
Giesecke & Devrient GmbH

Relevant legal provisions:

EPC 1973 Art. 54
RPBA Art. 13(1), 13(3)

Keyword:

Novelty - main request (no) - auxiliary requests 1 and 2 (no)
Late-filed auxiliary requests 3 to 6 - amendments after
arrangement of oral proceedings - procedural economy (not
admitted)

Late-filed auxiliary request 15 - previously withdrawn and re-
submitted during oral proceedings (not admitted)



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Case Number: T 0687/14 - 3.2.05

D E C I S I O N
of Technical Board of Appeal 3.2.05
of 21 December 2017

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Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted on
5 February 2014 that the European Patent No.
1674286 as amended meets the requirements of the
EPC.**

Composition of the Board:

Chairman M. Poock
Members: S. Bridge
G. Weiss

Summary of Facts and Submissions

- I. The patent proprietors and the three opponents appealed the interlocutory decision of the opposition division that European patent No. 1 674 286 as amended according to auxiliary request II meets the requirements of the EPC.
- II. The three oppositions filed against the patent as a whole were based on Article 100(a) EPC 1973 (lack of novelty, Article 54 EPC 1973, and lack of inventive step, Article 56 EPC 1973 - all opponents) and Articles 100(b) and (c) EPC 1973 (only opponent 1).
- III. Oral proceedings were held before the board of appeal on 21 December 2017.
- IV. Appellant I (patent proprietors) requested that the decision under appeal be set aside and that the patent be maintained as granted (main request) or that the patent be maintained on the basis of auxiliary request 1 filed with the statement of the grounds of appeal or on the basis of one of auxiliary requests 2 to 6 filed with the letter dated 20 November 2017.
- V. Appellants II to IV (opponents 1 to 3) requested that the decision under appeal be set aside and that the patent be revoked.
- VI. Claim 1 of the patent in suit as granted (main request) read as follows:

"Security element comprising a carrier substrate comprising a transparent or translucent area carrying at least one digitised mark made of at least one set of dots appearing as a three dimensional mark when viewed

in transmitted light, characterised in that the said digitised mark is made of deposits and/or voids of material selected among metal, metal compound, alloy, metallic varnish or ink, and metallicity appearing varnish or lacquer, applied onto the carrier substrate by printing and/or by metallisation and/or partial demetallisation techniques and/or, the said digitised mark is printed."

VII. Claim 1 according to auxiliary request 1 differs from claim 1 in that the following feature is added at the end of the claim:

"said security element being in an elongated form and being a thread or a stripe, or being a patch."

VIII. Claim 1 according to auxiliary request 2 reads as follows (the differences with respect to claim 1 according to auxiliary request 1 have been highlighted by the board):

"Security support comprising a security element comprising a carrier substrate comprising a transparent or translucent area carrying at least one digitised mark made of at least one set of dots appearing as a three dimensional mark when viewed in transmitted light, characterised in that the said digitised mark is made of deposits and/or voids of material selected among metal, metal compound, alloy, ~~metallic varnish or ink, and metallicity appearing varnish or lacquer~~ applied onto the carrier substrate ~~by printing and/or~~ by metallisation techniques and/or partial demetallisation techniques, ~~and/or~~ wherein the ~~said digitised mark is printed,~~ said security element being is in an elongated form and, being a thread, and is at least partially embedded in the said support, or

wherein the security element is a stripe, or being a patch applied to the said support."

- IX. Claim 1 according to auxiliary request 3 differs from claim 1 of auxiliary request 2 in that the following additional feature is introduced at the end of the claim:

"wherein the said digitised mark is made of set of dots of various shapes and/or various sizes, wherein the dots are arranged in such a way that the digitised mark looks like a multi-tone mark".

- X. Claim 1 according to auxiliary request 4 differs from claim 1 of auxiliary request 3 by including the following additional feature:

"wherein the said digitised mark of the security element corresponds to a mark of the security support".

- XI. Claim 1 according to auxiliary request 5 differs from claim 1 of auxiliary request 3 by including the following additional feature:

"wherein the said digitised mark of the security element corresponds to a mark of the support, the said corresponding mark of the support being a watermark in the support, wherein the security support is a paper and the said corresponding mark of the support is a multi-tone effect watermark."

- XII. Claim 1 according to auxiliary request 6 differs from claim 1 of auxiliary request 5 in that the text "or a patch" has been deleted.

XIII. Claim 1 according to auxiliary request 15 filed with the grounds of appeal reads as follows:

"1. Security support comprising a security element comprising a carrier substrate comprising a transparent or translucent area carrying at least one digitised mark made of at least one set of dots appearing as a three dimensional mark when viewed in transmitted light, characterised in that the said digitised mark is made of deposits and/or voids of material selected among metal, metal compound, alloy, metallic varnish or ink, and metallically appearing varnish or lacquer applied onto the carrier substrate by printing and/or by metallisation techniques and/or partial demetallisation techniques, and/or the said digitised mark is printed, wherein the said digitised mark of the security element corresponds to a mark of the support, the said corresponding mark of the support being a watermark in the support, wherein the security support is a paper and the said corresponding mark of the support is a multi-tone effect watermark, and wherein the security element is in an elongated form, being a thread, wherein the said digitised mark is made of set of dots of various shapes and/or various sizes, wherein the dots are arranged in such a way that the digitised mark looks like a multi-tone mark."

XIV. The following documents are mentioned or referred to in the present decision:

D2: GB 2 338 680 A;
D3: EP-B-1 023 499;
D7: US-A-2001/0018113;
E5: WO-A-2004/009372;
E14: WO 02/20274 A1;
P7: DE-A1-38 31 688.

XV. The arguments of appellant I (patent proprietors) in the written and oral proceedings can be summarised as follows:

A portrait rendered as a silhouette, as shown in document D2 (black and white silhouette 13, figure 2 - which could also be rendered in terms of two different levels of grey) does not include a three dimensional effect even though the corresponding person is three dimensional. Regions with different half-tone screens may be juxtaposed without yielding a three dimensional effect as is the case, for example, in figures 1 to 3 of document P7. Although a half-tone portrait (such as figure 1 of document D7) may include a three dimensional effect, a black only portrait 3 appearing on a half-tone background 4 as shown in figure 12 of document E14 does not involve a three dimensional effect, because there is no use of shadows and lighting. Similarly, schematic portraits such as a so-called "smiley", i.e. "☺", do not involve a three dimensional effect. Thus, although document D3 discloses the possibility of including a half-tone image, such as a portrait, this is not necessarily a disclosure of a three dimensional image according to the invention. In document D3 the use of a half-tone image makes it easier to conceal the thread in the support compared to a black and white image thread: thus, in document D3 there is no reason to necessarily seek to render shadows in the half-tone image. In consequence, document D3 does not unambiguously disclose that the mark appears "*as a three dimensional mark when viewed in transmitted light*". The subject-matter of claim 1 is new with respect to document D3.

Auxiliary requests 2 to 6 are filed in response to the comments of the board (in the preliminary opinion annexed to the summons to oral proceedings) concerning the lack of convergence of the requests. These requests do not involve any new features, i.e. which were not already mentioned in the first instance proceedings and should be admitted into the proceedings.

Since auxiliary requests 3 to 6 were not admitted, it is requested to re-introduce auxiliary request 15 as filed with the grounds of appeal.

Auxiliary request 2 is based on auxiliary request 5 filed with the grounds of appeal but has been limited to a mark "*made of deposits and/or voids of material selected among metal, metal compound, alloy by metal-lisation techniques and/or partial demetallisation techniques*" as the references to "*printing*" have been deleted. Claim 1 according to auxiliary request 2 is thereby distinguished from document E5. Furthermore, the above novelty arguments carry over to claim 1 according to auxiliary request 2.

XVI. The arguments of appellants II to IV in the written and oral proceedings can be summarised as follows:

The feature "*at least one set of dots appearing as a three dimensional mark when viewed in transmitted light*" should be interpreted broadly in the sense that there is no real three dimensional effect. The latter requires each eye of the observer to receive a separate image which the observer's brain recombines to obtain a truly three dimensional impression. According to the invention of the patent in suit, the three dimensional appearance relies solely on the observer recognising that a three dimensional object - such a portrait, i.e.

a human face - is being represented. Since no actual structural variation in three dimensions is required, conventional artistic techniques of perspective and/or shadows and lighting for rendering an actual human face as part of a portrait using half-tone techniques already fall under the scope of this feature. Document D7 (figures 1 and 2) and document E14 (figure 12) illustrate representations of an actual human face and thus provide the three dimensional appearance as required in claim 1. Document D3 discloses using a set of rasterised dots to form a half-tone rendering of a portrait (paragraph [0009]). This corresponds exactly to the only concrete embodiment of the invention (patent in suit, figure 2) in which a human observer recognises a three dimensional portrait of a lady. Such a - possibly half-tone - image representing a portrait implies the use of rendering techniques such as perspective and/or shadows and thus necessarily has a three dimensional appearance as defined in claim 1. Furthermore, a three dimensional rendering of a person in a portrait is an artistic design choice and does not constitute a technical feature as such. Paragraph [0009] of document D3 refers to watermarks which are generally known for their three dimensional appearance. The feature "*at least one set of dots appearing as a three dimensional mark when viewed in transmitted light*" is thus already disclosed in document D3. In consequence, the subject-matter of claim 1 according to auxiliary request 1 lacks novelty.

The same argument and the same conclusion necessarily apply to claim 1 according to the main request, since this claim has even fewer features than claim 1 according to auxiliary request 1.

The lack of convergence of the claims of auxiliary requests 1 to 15 filed with the grounds of appeal was already raised before the board issued its preliminary opinion. Appellant I has not merely selected converging requests from amongst those already filed, but instead submitted a set of five new re-combinations of features as auxiliary requests 2 to 6. The subject-matter of these request does not appear to be *prima facie* allowable. Such new requests should not be admitted at this late stage of the proceedings. The same applies to the very late request concerning the re-introduction of the previously withdrawn auxiliary request 15, for which the opponents - no longer having any reasons to do so after the withdrawal - were not prepared.

Document D3 discloses the additional features of claim 1 according to auxiliary request 2 in paragraph [0021], claims 1 to 3, 13 and 16. The subject-matter of claim 1 according to auxiliary request 2 lacks novelty with respect to document D3.

Reasons for the Decision

1. *Understanding the claimed subject-matter*
 - 1.1 *"appearing as a three dimensional mark"*
 - 1.1.1 This expression occurs amongst others in claim 1 according to all requests in the feature *"at least one digitised mark made of at least one set of dots appearing as a three dimensional mark when viewed in transmitted light"*.
 - 1.1.2 Essentially the same wording occurs in paragraphs [0001] and [0008] of the patent in suit. Such marks are

to be distinguished from marks which "*appear flat and two dimensional because of simple design*" (paragraph [0002]).

- 1.1.3 According to paragraph [0008], "*the dots are arranged in such a way that the mark looks like a multi-tone mark*". The patent is silent on what exactly is meant by the mark "*looks like*" a multi-tone mark.

However, the board considers that the skilled person knows that when, for example, the "*mark can be made of a set of dots of various shapes and/or various sizes, with eventually a specific frequency modulation*" (paragraph [0009]), a multi-tone image can be approximated by dithering techniques.

- 1.1.4 Paragraph [0020] explains in parenthesis that the digitised marks are a "*three dimensional appearing design*".

- 1.1.5 Paragraph [0025] discloses that "*different layers with different optical densities are produced, making the final image, symbols, letters, lines looking as three dimensional when observed in transmitted light*".

- 1.1.6 According to the embodiment of figure 1, the digitised image of the lady was printed. The mark being "*characterised by a succession of dots of different colours arranged in such a way that the mark appears as a three dimensional image*". "*The dots are not visible but the image of the lady is visible as shadow image when the paper is observed in transmitted light and held at about 20 cm from eyes. When the paper is observed in close view of a few centimetres these dots are visible by naked eye. When the image is observed with a*

magnifying glass for instance, these dots are visible and appear as in Figure 2:"



This description is that of a conventional, rastered, half-tone image.

- 1.1.7 As was also argued on behalf of appellant IV, the invention does not provide a real three dimensional effect in which each eye of the observer receives a separate image which the observer's brain then re-combines to obtain a truly three dimensional impression.

Instead, the three dimensional appearance according to the invention relies on the observer recognising that a three dimensional object - such a human face, e.g. a portrait of a lady (figure 2 of the patent in suit) - is being represented. Since no actual structural variation in three dimensions is required, the conventional artist's techniques of perspective and/or shadows and/or lighting for rendering an actual human face as part of a portrait already produce the effect of "*appearing as a three dimensional mark*" of claim 1.

- 1.1.8 The board concludes that, according to the description of the patent in suit, the "*three dimensional*" appearance is due to two things:
- (a) different optical densities providing a multi-tone "*look*" (which is understood to mean an, at least approximate, multi-tone rendering) and
 - (b) that the design must be such that an observer can recognise that something three dimensional is being represented, i.e. as a "*three dimensional appearing design*", such as the half-tone portrait of a lady (patent in suit, figure 2).

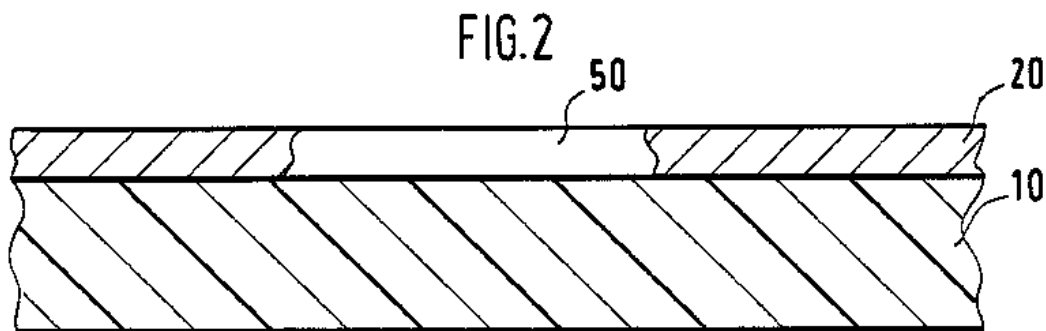
The board thus agrees with appellant I that the mere provision of a multi-tone "*look*", although necessary according to the description of the patent in suit, is not on its own sufficient to achieve the "*three dimensional*" appearance required in claim 1 (all requests).

Auxiliary request 1

2. *Novelty*

- 2.1 Document D3 concerns security films for embedding in, or applying on, papers of value consisting of a translucent carrier film and a metal cover layer applied thereto, having coating-free areas, which are clearly visible in particular in transmitted light (paragraph [0001], preamble of claims 1 and 16). The Process disclosed in document D3 aims to generate negative images in metal-coated foils which are characterized by a high contour sharpness (paragraph [0006]). This sharpness of the contours makes it possible to produce rastered half-tone images. Thus, half-tone images, such as portraits in the cover layer, can be formed on coated security films. Embedding these foils between two layers of a security paper creates a watermark-like

effect, since the portraits are not or only slightly visible in incident light, but highly recognisable and rich in contrast in transmitted light (paragraph [0009]).



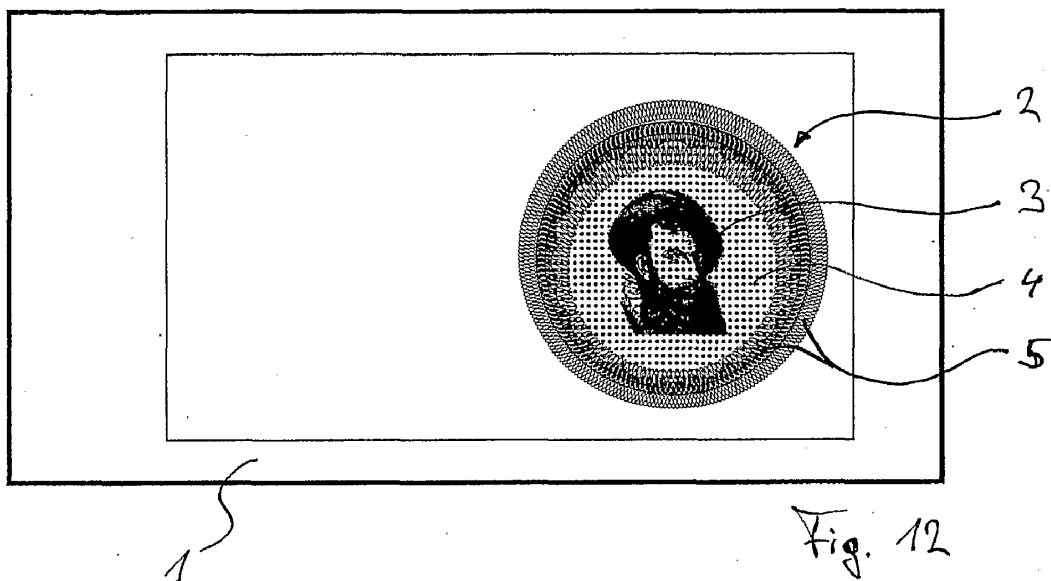
2.2 Thus document D3 discloses a security support (such as a "security paper") comprising a security element comprising a carrier substrate 10 comprising a transparent or translucent area carrying at least one digitised mark made of at least one set of dots appearing as a three dimensional mark when viewed in transmitted light, wherein the digitised mark is made of deposits and/or voids 50 of metal 20 applied onto the carrier substrate 10 by metallisation techniques and/or partial demetallisation techniques, wherein the security element is in an elongated form, being a thread, and is at least partially embedded in the said support, or wherein the security element is a stripe or a patch applied to the said support.

2.3 Appellant I (patent proprietors) argued that document D3 does not unambiguously necessarily disclose that the mark appears "as a three dimensional mark when viewed in transmitted light". Thus, as argued on behalf of appellant I, the expression "rastered half-tone images, such as portraits" of document D3 may encompass portraits such as silhouettes or abstract facial representations (e.g. a "smiley") which are flat.

However, the expression "rastered half-tone images, such as portraits" is not inherently limited to flat representations. The expression "portraits" encompasses portraits such as the ones illustrated in figures 1 and 2 of document D7 or figure 12 of document E14.



FIG. 2



These portraits are a representation of a human face and thus satisfy the requirement of "appearing as a three dimensional mark" in the sense of the patent in suit, because they are an attempt at a three dimensional appearing representation of a (necessarily three dimensional) human face. However, figure 2 of document D7 and the actual portrait 3 of figure 12 of document

E14 only use areas of black ink on a uniform background and are therefore only binary representations in the sense that they do not involve any attempt to simulate intermediate levels of grey, i.e. they do not make use of half-toning.

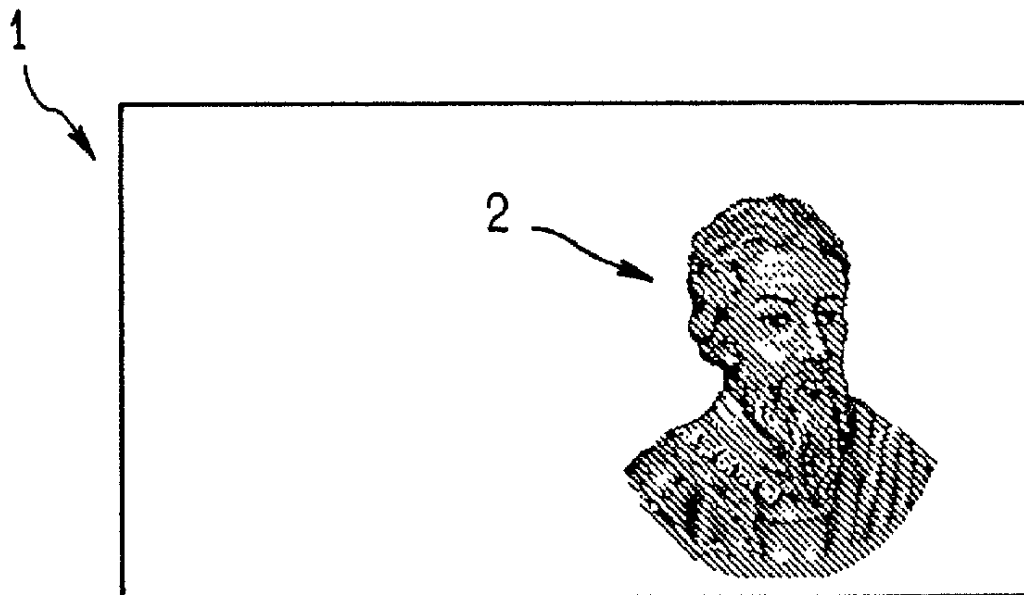


FIG. 1

On the other hand, as acknowledged by appellant I, figure 1 of document D7 uses half-toning to represent a human bust: the line thickness of the black lines forming the portrait is varied such that, when viewed from a sufficient distance, the varying line thickness will be perceived as different levels of grey in an approximation of the continuous tone of a corresponding black and white photograph. Thus, figure 1 of document D7 makes use of half-toning and, in consequence, is a type of portrait which is necessarily included in the expression "*rastered half-tone images, such as portraits*" of document D3.

The embodiment of figure 2 of the patent in suit is similarly a rastered half-tone portrait of a lady, in which "*a succession of dots of different colours [is] arranged in such a way that the mark appears as a three*

dimensional image" (patent in suit, column 12, lines 6 to 8).

The disclosure "*rastered half-tone images, such as portraits*" of document D3 thus necessarily includes portraits which fall under the understanding of the feature "*at least one digitised mark made of at least one set of dots appearing as a three dimensional mark when viewed in transmitted light*" (see above point 1.1.8) as defined in the patent in suit. The fact that, in addition, there may be portraits which fall under the disclosure of document D3 but which do not correspond to the claimed feature does not invalidate the existence of those that do: the wording of the claimed feature is even more generic than the disclosure in document D3 and is thus anticipated by it.

- 2.4 The subject-matter of claim 1 according to auxiliary request 1 is not new with respect to document D3 (Article 54(2) EPC 1973).

Main request

3. *Novelty*

The lack of novelty with respect to document D3 carries over to claim 1 of the main request in which the last feature of claim 1 according to auxiliary request 1 was deleted.

In consequence, the subject-matter of claim 1 according to the main request is not new with respect to document D3 (Article 54(2) EPC 1973).

Auxiliary request 2

4. *Admissibility*

4.1 According to Article 13(1) of the Rules of Procedure of the Boards of Appeal (RPBA, Supplementary publication 1 - OJ EPO 1/2017, 41-51), any amendment to a party's case after it has filed its grounds of appeal or reply may be admitted and considered at the board's discretion. The discretion shall be exercised in view of inter alia the complexity of the new subject-matter submitted, the current state of the proceedings and the need for procedural economy.

4.2 Claim 1 according to auxiliary request 2 essentially corresponds to claim 1 according to auxiliary request 5 filed with the grounds of appeal, wherein the explicit mentioned alternatives concerning lacquer, varnish, ink and printing have been deleted, thereby limiting the scope to a digitised mark made of deposits and/or voids of material selected among metal, metal compound, alloy, applied onto the carrier substrate by metallisation and/or partial demetallisation techniques.

This particular amendment by excision of alternatives does not raise issues which the board or the other parties cannot reasonably be expected to deal with (Article 13(3) RPBA) and can be seen as a response to the arguments of lack of novelty based on document E5 as advanced by the respondents. Although this amendment could have been filed with appellant I's response dated 8 December 2014, the board nevertheless decides to admit auxiliary request 2 into the proceedings (Article 13(1) RPBA).

5. *Novelty*

Document D3 also discloses the additional features of claim 1 according to auxiliary request 2 as follows:

Document D3 discloses that the security element is a thread, which is at least partially embedded in the support, the support comprising the security thread being a banknote (in paragraph [0021] and claims 13 and 16). The same paragraph also discloses the embodiments of a transfer foil or patch ("*Etikettenmaterial*") which may be applied to a security document which thereby forms the support comprising the security element.

The further alternative of a stripe is disclosed in claim 3 of document D3 ("*... endloses Bandes ...*").

As already noted in the context of the higher ranking requests, the metallisation techniques and/or partial demetallisation techniques are disclosed in document D3 (e.g. in claim 1 and claim 16).

In consequence, the subject-matter of claim 1 according to auxiliary request 2 lacks novelty with respect to document D3 (Article 54(2) EPC 1973).

Further auxiliary requests

6. *Admissibility of auxiliary requests 3 to 6*

The respective claim 1 of auxiliary requests 3 to 6 consists of yet other permutation of the set of features appearing throughout the 15 auxiliary requests which were filed with the grounds of appeal.

Contrary to appellant I's statement, the fact that the 15 auxiliary requests filed with the grounds of appeal do not converge was not introduced by the board in its annex to the summons to oral proceedings. Instead, appellant II (opponent 1) already objected that the 15 auxiliary requests filed by appellant I with the grounds of appeal do not converge (response of appellant II dated 28 October 2014, section 2.1 and following). Thus, the reference to this objection by the board in their preliminary opinion does not constitute a legitimate ground to file yet another set of requests thereafter. Instead appellant I (patent proprietors) already had the opportunity to discard any non-converging requests with their response dated 8 December 2014.

Appellant I's argument that these requests only concern new permutations of features which as such were already mentioned in the first instance proceedings ignores that any such new permutation of features (which in themselves may already have been used in other combinations in earlier requests) still needs to be analysed anew by the parties and the board with respect to the requirements of the EPC such as *inter alia* with respect to novelty and inventive step. It is thus not reasonable for the other parties to be expected to deal with such a further set of auxiliary requests whose feature combinations were never before presented and which could easily have been filed already with the grounds of appeal. Appellant I filed new auxiliary requests 3 to 6, none of which corresponds to any of the 15 auxiliary requests which were filed with the grounds of appeal. The new subject-matter submitted constitutes new combinations of features. Unravelling the relationships of these new requests to previous requests and the prior art is complex and would require

a substantial amount of time at this late stage of the appeal proceedings and is clearly contrary to the need for procedural economy.

For the above reasons the board decides not to admit auxiliary requests 3 to 6 (Article 13(1) RPBA).

7. *Admissibility of auxiliary request 15 filed with the grounds of appeal*

7.1 According to Article 13(3) RPBA, amendments to a party's case shall not be admitted after oral proceedings have been arranged if they raise issues which the board or the other party or parties cannot reasonably be expected to deal with without adjournment of the oral proceedings.

7.2 Auxiliary request 15 (filed with the grounds of appeal) was replaced and thereby withdrawn together with auxiliary requests 2 to 14 (as filed with the grounds of appeal) when the letter of 20 November 2017 instead requested maintaining the patent in suit on the basis of new auxiliary requests 2 to 6 filed therewith.

The respondents thus no longer had any reason to prepare themselves for oral proceedings before the board with respect to auxiliary request 15 as filed with the grounds of appeal. Unexpectedly re-introducing this request during oral proceedings before the board would thus put the respondents at an unfair disadvantage with which they cannot be expected to deal with anymore at such a late stage in the proceedings. Appellant I provided no justification for this late request.

In consequence, the board cannot re-admit auxiliary request 15 filed with the grounds of appeal into the proceedings (Article 13(3) RPBA).

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The patent is revoked.
3. The appeal of appellant I is dismissed.

The Registrar:

The Chairman:



N. Schneider

M. Poock

Decision electronically authenticated