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# Datasheet for the decision of 10 October 2019

T 0131/15 - 3.4.03 Case Number:

Application Number: 02258600.2

Publication Number: 1321904

IPC: G07D7/12

Language of the proceedings: ΕN

#### Title of invention:

Apparatus for sensing optical characteristics of a banknote

# Patent Proprietor:

Crane Payment Innovations, Inc.

#### Opponent:

Giesecke+Devrient Currency Technology GmbH

# Headword:

# Relevant legal provisions:

EPC 1973 Art. 52(1), 54, 56, 69(1), 84, 100(a), 100(b), 100(c), 111(1), 123(2), 123(3) EPC Art. 101(3)(a) EPC Prot. Interpretation Article 69 RPBA Art. 12(4), 13(1)

# Keyword:

Amendments - added subject-matter (no) - broadening of claim (no)

Novelty - (yes)

Inventive step - (yes)

# Decisions cited:

G 0002/88

#### Catchword:

See Reasons, point 5.11:

Where an expression in a granted claim, taken literally and in isolation, would have the effect of excluding all of the disclosed embodiments from the scope of protection, but where a definition of the expression may be derived from the patent itself which would locate (at least some of) the disclosed embodiments within the ambit of the claim, and provided this definition is not manifestly unreasonable, having regard to the normal meaning of the words used in the expression, then in judging compliance with the requirements of Article 123(3) EPC, the scope of protection should normally be considered to include at least that which would fall within the terms of the claim understood according to this definition.



# Beschwerdekammern Boards of Appeal Chambres de recours

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Case Number: T 0131/15 - 3.4.03

DECISION
of Technical Board of Appeal 3.4.03
of 10 October 2019

Appellant: Crane Payment Innovations, Inc.

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Malvern, PA 19355 (US)

Representative: Peterreins Schley

Patent- und Rechtsanwälte Hermann-Sack-Strasse 3 80331 München (DE)

Respondent: Giesecke+Devrient Currency Technology GmbH

(Opponent) Prinzregentenstraße 159

81677 München (DE)

Representative: Giesecke+Devrient Currency Technology GmbH

Patente und Lizenzen Prinzregentenstraße 159 81677 München (DE)

Decision under appeal: Decision of the Opposition Division of the

European Patent Office posted on 23 December 2014 revoking European patent No. 1321904

pursuant to Article 101(3)(b) EPC.

# Composition of the Board:

C. Heath

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# Summary of Facts and Submissions

I. This is an appeal by the patent proprietor against the decision of the Opposition Division to revoke the European patent EP 1 321 904 on the grounds that the claimed subject-matter did not comply with the requirements of Article 123(2) EPC (main request and auxiliary requests I, III and V), and did not comply with the requirements of Article 123(3) EPC (auxiliary requests II and IV).

The opposition had been filed against the patent in its entirety. Grounds for the opposition were Articles 100(a) EPC (lack of novelty and inventive step), Article 100(b) EPC (insufficient disclosure) and Article 100(c) EPC (unallowable extension of subjectmatter).

II. At the end of the oral proceedings held before the Board the requests of the parties were as follows.

> The proprietor requested that the decision under appeal be set aside and that the patent be maintained in the following version:

- Claims 1 16 of Auxiliary Request 7 filed on 10 September 2019;
- Description pages 2 and 5 as filed during oral proceedings, and pages 3 and 4 of the patent specification;
- Figures 1 8 of the patent specification.

All other requests were withdrawn, and the Board was urged not to remit the case to the Opposition Division for further prosecution.

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- III. The opponent (respondent) requested that the appeal be dismissed, or, in the case that the decision was overturned, that the case be remitted to the Opposition Division for a decision on the grounds raised in the notice of opposition but not covered by the contested decision.
- IV. The following documents are referred to in this decision:

E1: WO 96/36021 A1 E2: US 4 587 434

V. Claim 1 of the sole request ("auxiliary request 7") reads as follows:

"Apparatus for sensing optical characteristics of a banknote, the apparatus comprising at least a first optical transmitter (4) located on one side of a path along which a banknote (2) can be moved in a scanning direction (S) in the plane (P1) of the banknote for illuminating the banknote (2) by transmitting light in a direction which is inclined with respect to the normal (N) to the plane (P1) of the banknote (2), and

at least a first optical receiver (6; 7) for receiving light diffusely reflected from the banknote, the first optical receiver (6; 7) being adjacent the first optical transmitter (4),

characterised by:

the first transmitter (4) being arranged so that the light therefrom travels parallel to a sensing plane (P2) which contains a direction (T) that is substantially perpendicular to both the scanning direction (S) and the normal (N) to the plane (P1) of the banknote, and which sensing plane (P2) is located

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at an angle to the normal (N) to the plane (P1) of the banknote;

the first receiver (6; 7) being arranged to receive light from the first transmitter (4) which has been reflected by the banknote and which is also travelling in said sensing plane (P2) in substantially the same path, but in the opposite direction from the light emitted by the transmitter (4), the small path difference being as a result of the fact that the physical sizes of the transmitter and receivers cause a small angle to be subtended between the light paths at the banknote."

- VI. The proprietor's arguments, in so far as they are relevant to the present decision, i.e. in so far as they relate to what is now the sole request ("auxiliary request 7"), were essentially as follows:
  - (i) In relation to Article 123(2) EPC, the principal basis for claim 1 was claim 7 as originally filed. The literal basis for "adjacent" was page 10, lines 1-4, but this feature could also clearly be seen in all depicted embodiments. The feature "the small path difference ...", was based on page 7, lines 6-11.
  - (ii) The claims met the requirements of Article 84 EPC. In particular, the meaning of "adjacent" was clear, both in general and in the context of the patent.
  - (iii) In assessing whether the requirements of Article 123(3) EPC were met, the scope of protection of the claims of the granted patent had to be determined by applying the provisions of Article 69(1) EPC and its protocol, a procedure which had not been followed in the contested decision. The opponent's assertion of non-compliance with the requirements of Article 123(3)

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EPC was based on an interpretation of the scope of granted claim 1 which was so narrow that none of the disclosed embodiments would be protected by the claim. Such an interpretation is generally not permissible, especially in a case such as the present one where an interpretation of the expression "in the opposite direction" was evident from the description and drawings which was both reasonable and which would result in the disclosed embodiments falling within the ambit of the claim.

- (iv) The subject-matter of claim 1 was new in relation to E1 as several claimed features were not disclosed therein, including the feature that the transmitter and receiver were in a "sensing plane (P2) which contains a direction (T) that is substantially perpendicular to both the scanning direction (S) and the normal (N) to the plane (P1) of the banknote, and which sensing plane (P2) is located at an angle to the normal (N) to the plane (P1) of the banknote".
- (v) The subject-matter of claim 1 was also inventive. Starting from either E1 or E2, claim 1 differed at least in the feature mentioned above under point (iv), which was not disclosed in any of the available prior art. Several technical problems were solved, including providing only diffusely (not specularly) reflected light to the receiver.
- VII. The opponent's arguments, in so far as they are relevant to the present decision, were essentially as follows:
  - (i) The requirements of Article 123(2) EPC were not met, as the purported basis for "adjacent" (page 10,

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lines 1-4) related to a specific arrangement involving reference bodies.

- (ii) Claim 1 was unclear (Article 84 EPC) as it was not defined in which sense (transverse or longitudinal) the receiver and transmitter were adjacent, and the relative terms "small path difference" and "small angle" also introduced a lack of clarity. The sensing plane being "located" at an angle to the normal was unclear, as "located" referred to a position and not an angle.
- (iii) The requirements of Article 123(3) EPC were not met. Claim 1 of the granted patent specified that the first receiver was arranged to receive light from the first transmitter which had been reflected by the banknote and which was also travelling in said sensing plane "but in the opposite direction" from the light emitted by the transmitter. This covered the precise opposite direction and possibly paths very close thereto, for example due to manufacturing tolerances. Claim 1 of the sole request went beyond this and included reflective paths which deviated more significantly from the transmitted path. Claim 1 thereby incorporated embodiments not covered by the granted claims, contrary to the requirements of Article 123(3) EPC.
- (iv) The subject-matter of claim 1 lacked novelty over E1. In particular, the feature that the "sensing plane (P2) is located at an angle to the normal (N) to the plane (P1) of the banknote" could be derived from the passage on page 5, lines 10-16, from the use of the word "Bevorzugt" (preferably), and from the fact that the normal orientation appeared only in a dependent claim (claim 4). From this it was clear that it was not

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essential that the illumination and receiving devices were aligned along the normal direction to the banknote, and since the only realistic tilted arrangement would correspond to that of claim 1, E1 must be seen as anticipating the claimed feature.

(v) The subject-matter of claim 1 lacked inventive step over E1 or E2. Even if only normal orientations were considered to be disclosed, the technical problem would be to provide a more compact, in particular a flatter, arrangement, and it would be obvious for the skilled person to solve this problem by tilting the transmitter/receiver arrangement, especially as E1 disclosed that a normal arrangement is only preferable, but not essential.

# Reasons for the Decision

- 1. The appeal is admissible.
- 2. Admission of the sole request into the proceedings
- 2.1 The present sole request was filed as "auxiliary request 7" with letter dated 10 September 2019, hence one month prior to the oral proceedings before the Board. The Board therefore has the discretion to refuse to admit this request into the proceedings under either Article 12(4) or 13(1) RPBA.
- 2.2 Following a question from the chairman, the opponent raised no objection to this request being admitted.

  Moreover, the only feature of claim 1 which has not appeared in previous requests is taken from page 7,

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lines 6-11, a passage which has been under discussion throughout the proceedings. The proprietor's description of this request as "a bona fide attempt to address the issues relating to Articles 123(2)/(3)" appears reasonable. The request is therefore admitted into the proceedings.

- 3. Article 123(2) EPC 1973
- 3.1 Claim 1 is based on claims 7, 9 and 10 as originally filed and the following passages of the description: page 10, line 4; page 5, lines 9-15; page 7, lines 6-11.
- 3.2 A literal basis for "adjacent" is found on page 10, line 4, and claim 1 further defines the sense in which the receiver and transmitter are adjacent by including features based on page 7, lines 6-11. Moreover, it is evident from claim 1 that the receiver and transmitter are adjacent in a transverse (rather than a longitudinal) sense as they clearly both lie in the sensing plane (P2).

Dependent claims 2-4 are based on original claims 1, 3 and 4, and dependent claims 5-16 are based on original claims 11-22.

- 3.3 The Board is therefore satisfied that the requirements of Article 123(2) EPC 1973 are met.
- 4. Article 84 EPC 1973
- 4.1 As noted above, it is evident from claim 1 in what sense the receiver and transmitter are "adjacent", and no lack of clarity arises from this term.

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The relative term "small" in the claimed expressions

"small path difference" and "small angle" is to be

understood as relating to a displacement of the

transmitter and receiver, taking into account their

physical sizes, which is sufficient to prevent one

obscuring the other, a problem which would occur in the

case of exact coaxial alignment. The Board does not

find this unclear.

While it might have been better to describe the sensing plane as being "inclined" (rather than "located") at an angle to the normal, the skilled person would understand perfectly well what is intended.

- 4.3 The Board is therefore satisfied that the requirements of Article 84 EPC 1973 are met.
- 5. Article 123(3) EPC 1973
- 5.1 Article 123(3) EPC 1973 states the following:

"The claims of the European patent may not be amended during opposition proceedings in such a way as to extend the protection conferred."

5.2 Claim 1 of the granted patent comprises the following feature (emphasis added by the Board):

"the first receiver (6;7) being arranged to receive light from the first transmitter (4) which has been reflected by the banknote and which is also travelling in said sensing plane (P2), but in the opposite direction from the light emitted by the transmitter (4)."

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5.3 Claim 1 of the present request defines the following (emphasis added by the Board):

"the first optical receiver (6; 7) being adjacent the first optical transmitter (4)"; and

"the first receiver (6; 7) being arranged to receive light from the first transmitter (4) which has been reflected by the banknote and which is also travelling in said sensing plane (P2) in substantially the same path, but in the opposite direction from the light emitted by the transmitter (4), the small path difference being as a result of the fact that the physical sizes of the transmitter and receivers cause a small angle to be subtended between the light paths at the banknote."

- Thus, in the present request, the two light paths are offset by a small angle, and if the "opposite direction" defined in claim 1 of the granted patent were interpreted in a precise geometrical sense (i.e. strictly antiparallel), there could be no doubt that claim 1 of the present request would introduce embodiments not falling within the claim. This would also be the case even if the scope of the granted claim were considered to extend to, but not further than, the sort of small deviations arising, for example, from manufacturing tolerances.
- 5.5 However, in determining whether the requirements of Article 123(3) EPC 1973 are met, it is not sufficient to look only at the claims in isolation. The approach to be followed was set out by the Enlarged Board as follows:

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"When considering whether a proposed amendment to the claims is such as to extend the protection conferred, a first step must be to determine the extent of protection which is conferred by the patent before the amendment: it is necessary to be quite clear as to what is the protection conferred by the patent without amendment, before one can decide whether a proposed amendment is such as to extend it.

"Determination of the extent of protection has to be carried out in accordance with Article 69(1) EPC and its Protocol ...

"The object of the Protocol is clearly to avoid too much emphasis on the literal wording of the claims when considered in isolation from the remainder of the text of the patent in which they appear; and also to avoid too much emphasis upon the general inventive concept disclosed in the text of the patent as compared to the relevant prior art, without sufficient regard also to the wording of the claims as a means of definition.

"This approach to interpretation of claims must be adopted by the EPO when determining the protection conferred for the purpose of Article 123(3) EPC." (See G 2/88, OJ EPO 1990, 93, point 4).

# 5.6 Article 69(1) EPC 1973 states the following:

"The extent of the protection conferred by a European patent or a European patent application shall be determined by the terms of the claims. Nevertheless, the description and drawings shall be used to interpret the claims."

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5.7 Article 1 of the Protocol on the Interpretation of Article 69 EPC 1973 reads as follows:

"Article 69 should not be interpreted in the sense that the extent of the protection conferred by a European patent is to be understood as that defined by the strict, literal meaning of the wording used in the claims, the description and drawings being employed only for the purpose of resolving an ambiguity found in the claims. Neither should it be interpreted in the sense that the claims serve only as a guideline and that the actual protection conferred may extend to what, from a consideration of the description and drawings by a person skilled in the art, the patentee has contemplated. On the contrary, it is to be interpreted as defining a position between these extremes which combines a fair protection for the patentee with a reasonable degree of certainty for third parties."

5.8 In the embodiment of Figs. 2 and 3, the relationship between the transmitter 4 and the receivers 6, 7 is described in paragraph [0021] of the patent as follows:

"The light from the transmitter 4 incident on the banknote and the light from the banknote to the receivers 6, 7 travel in opposite directions in substantially the same path, the small path difference being as a result of the fact that the physical sizes of the transmitter and receivers cause a small angle to be subtended between the light paths at the banknote."

Thus, according to the teaching of this embodiment, the emitted and detected light travelling "in opposite directions" means that they follow substantially the same path, but the emitted and return paths deviate by

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a small angle to take account of the physical sizes of the transmitter and receiver, which cannot both be placed along the same line without obstructing each other.

- 5.9 This feature is also present in the other disclosed embodiments. Fig. 7 depicts an embodiment which "is similar to Figure 2, except for the provision of additional sensors 9, 9' and focussing lenses 19, 19' for focussing directly-reflected light onto these sensors" (paragraph [0039]). Fig. 5 shows an embodiment of a complete apparatus comprising units 52, 54, 56 and 58, each comprising four optical devices 3, "each device comprising a transmitter 4 and a pair of receivers 6, 7 arranged as shown in Figures 2 and 3" (paragraph [0024]). The embodiment of Fig. 8 introduces a modification of the relative orientation of the units and the banknote, but the "features described with respect to Figure 5 also apply to the embodiment of Figure 8, and like reference numbers represent like parts, except as indicated below" (paragraph [0041]); there is no indication of any alteration to the optical devices 3. Hence, in all the disclosed embodiments the transmitter and receiver are arranged as illustrated in Fig. 3, with the emitted and return paths deviating by a small angle.
- 5.10 Adopting the narrow definition of "opposite direction", as advocated by the opponent, would therefore have the effect that none of the disclosed embodiments would fall within the scope of protection of the claim.
- 5.11 Where an expression in a granted claim, taken literally and in isolation, would have the effect of excluding all of the disclosed embodiments from the scope of protection, but where a definition of the expression

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may be derived from the patent itself which would locate (at least some of) the disclosed embodiments within the ambit of the claim, and provided this definition is not manifestly unreasonable, having regard to the normal meaning of the words used in the expression, then in judging compliance with the requirements of Article 123(3) EPC, the scope of protection should normally be considered to include at least that which would fall within the terms of the claim understood according to this definition.

- 5.12 In the present case, a definition of "in the opposite direction" can be derived from the description and drawings (see paragraph [0021]), according to which this expression means that the transmitted and received beams follow substantially the same path, with a small deviation to take account of the physical sizes of the transmitter and receiver. In the view of the Board, this definition falls within the spectrum of what could be reasonably be understood by "in the opposite direction". Hence, in judging compliance with the requirements of Article 123(3) EPC, the protection conferred by claim 1 as granted must be considered to include at least embodiments which would fall within the terms of the claim as understood according to this definition.
- 5.13 Since this definition has been incorporated into claim 1 of the present request, it follows that the scope of protection conferred by the claim has not been extended, and the requirements of Article 123(3) EPC 1973 are met.
- 6. The Question of Remittal

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- 6.1 The opponent requested that, in the case that the decision is overturned, the case be remitted to the Opposition Division for a decision on the grounds raised in the notice of opposition but not covered by the contested decision. The proprietor was against such a measure.
- 6.2 For the following reasons, the Board decided not to allow the opponent's request:
  - (a) Remittal to the Opposition Division would inevitably involve a further delay at the department of first instance, and quite possibly a further appeal. Given the age of the case (filing date: 13 December 2002) and the requirement of legal certainty, both for the parties and the public, a further delay would not be appropriate.
  - (b) Although the the Opposition Division did not find it necessary to deal with novelty and inventive step in the contested decision, in the annex to the summons to oral proceedings (dated 22 July 2014) it set out its views on these issues for both the main and auxiliary requests then on file, including on the feature (the sensing plane being tilted with respect to the normal to the banknote) which the Board considers to be decisive for the assessment of novelty and inventive step (for the reasons set out below under points 7 and 8).
  - (c) Nothing has occurred during the appeal procedure which has altered the fundamental question in relation to the assessment of novelty and inventive step, which remains whether the feature mentioned above under sub-point (b) is disclosed in, or obvious from, the available prior art.

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6.3 The Board therefore chose to use its discretion under Article 111(1) EPC 1973 to decide on novelty and inventive step also.

# 7. Novelty

- 7.1 It is not disputed that claim 1 is to be understood to mean that the receiver and the transmitter lie in the sensing plane, which is defined to contain the direction T and to be inclined at an angle to the normal to the plane of the banknote.
- 7.2 It is also not disputed that in the embodiments depicted in E1 (see especially Figs. 1-3), the illumination device 20 (and hence the light sources 21, 22) and the receiving device 30 (and hence the sensor 32) are both aligned with the normal to the plane of the Banknote (see Figs. 1 and 2).
- 7.3 In the description of El (page 5, lines 10-16) it is stated that the illumination and receiving devices are preferably disposed along a normal axis. The opponent argues that this discloses that other arrangements are possible, and that there is, in fact, only one other realistic possibility, namely an arrangement in which the illumination device 20 and the receiving device 30 remain mutually aligned as depicted in Fig. 2, but where both are tilted in the plane of the paper (xy plane) by the same angle. This would correspond to the claimed arrangement. In a case where only two arrangements are possible, the disclosure of one of them as preferred implicitly discloses the other (albeit as less preferred), hence the claimed arrangement is implicitly disclosed in E1.

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7.4 The Board does not agree. Whether, in a case where there is a binary choice between just two possibilities, the disclosure of one of them as preferred implicitly discloses the other, as a less preferred alternative, is a question that the Board does not need to answer, as it does not correspond to the facts of the present case.

As seen in Figs. 2 and 3, the windows 26, 27 are considerably broader than the sensor in the transport direction (T), and hence, within limits, it would be possible to tilt either the illumination device 20 or the receiving device 30 in the xy plane, while still allowing the sensor to receive light emitted by the sources and diffusely reflected by the banknote. Clearly, it would also be possible to tilt both the illumination device 20 and the receiving device 30, by the same angle or by different angles, and in the same sense or in opposite senses. The windows 26, 27 are also considerably broader than the sensor in the z direction, and it would therefore also be possible, within limits, to tilt either or both devices in the xz plane, or in both the xy plane and the xz plane.

Thus, E1 discloses a single embodiment in which both the illumination and receiving devices are disposed along an axis normal to the banknote, and an indication that this is preferred, hence implicitly not essential. As indicated above, numerous alternative arrangements can be imagined, but none of them is disclosed directly and unambiguously in E1. In particular, E1 does not disclose a receiver and a transmitter arranged as indicated above under point 7.1, as required by claim 1.

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- 7.6 The opponent also argues that a normal orientation for the illumination and receiving devices only appears in E1 in dependent claim 4. Even if this were considered to confirm that such an arrangement is not an essential aspect of the invention, it does not constitute the disclosure of any specific alternative, in particular that of claim 1 of the present request.
- 7.7 No other novelty attacks were raised against this request, and the Board also sees no plausible anticipations of claim 1 in the available prior art. The subject-matter of claim 1 is therefore new within the meaning of Articles 52(1) and 54 EPC 1973.
- 8. Inventive step
- 8.1 It was undisputed that either E1 or E2 could serve as the closest prior art, and that (taking into account the Board's stated position on novelty with respect to E1) claim 1 differed at least in the feature referred to above under point 7.1.
- 8.2 Although several advantages of the invention are mentioned in paragraph [0008] of the patent, it is clear that the aim of providing light paths to and from the banknote which are inclined to the normal is to avoid direct (specular) reflection, since diffusely reflected light "provides a much more representative measurement of the optical characteristics of the banknote than directly reflected light."

The problem may therefore be seen as suppressing specular reflection.

8.3 The solution is to arrange a receiver and a transmitter in a sensing plane which contains a direction that is

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substantially perpendicular to both the scanning direction and the normal to the plane of the banknote, which sensing plane is located at an angle to the normal to the plane of the banknote.

- In E1 a problem of illumination is recognised, whereby uneven illumination of the banknote would adversely affect the illumination levels detected by sensor (page 6, line 31 page 7, line 1). The proposed solution is to illuminate the banknote virtually uniformly by providing a reflector having a cylindrical mirror segment 23 and a plurality of mirrors 24, 25. Compared with the present invention, this is a different solution to a different problem.
- In E2 (see Fig. 3) the light received by photodetectors 68, 70 and 72 will presumably be a mixture of diffuse light directly reflected by the banknote 32 to the respective photodetector, together with some specular and diffusely reflected light reaching the photodetectors by reflection from the internal surfaces of vertical tunnels 50, 52 and 54. No problem with specular reflection is mentioned, nor is the claimed geometrical arrangement of transmitter and receiver disclosed.
- 8.6 Since the distinguishing feature of claim 1 is not disclosed in any of the available prior art, the Board does not see any obvious path by which the skilled person would arrive at the claimed subject-matter.
- 8.7 The opponent argued that the technical problem was to be seen as providing a more compact, flatter, arrangement to thereby save space. Since El discloses that a perpendicular arrangement is only preferable, the skilled person would solve this problem by tilting

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the arrangement depicted, for example, in Fig. 2 of E1, thereby achieving a flatter system.

8.8 The Board is not persuaded by this argument. According to established case law, the definition of the objective problem normally starts from the problem described in the application or patent, a reformulation of the problem only being necessary if, for example, examination shows that the problem posed is not solved by the claimed features, or if the prior art used to define the problem is found to be inappropriate (see Case Law of the Boards of Appeal of the European Patent Office, 9th edition, 2019, I.D.4.3.2).

In the present case the problem identified in paragraph [0008] as being solved by inclination of the light paths is to avoid direct (specular) reflection.

Although a more compact arrangement is mentioned in the last sentence of this paragraph, this is presented as being achieved by different features ("Because the receiver and transmitter are in proximity, and possibly mounted on the same circuit board, it is easier to make the apparatus more compact").

8.9 Even if, for the sake of argument, the problem of compactness were accepted, the distinguishing feature of claim 1 would not represent a solution. Starting from Fig. 2 of E1, incorporating the distinguishing feature set out above under point 8.3 would imply tilting the entire arrangement in the xy plane. This would not result in a more compact arrangement, in the sense of occupying a reduced volume; the apparatus would have exactly the same volume oriented differently.

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- The only "problem" relating to compactness which could 8.10 actually be said to be solved by tilting the apparatus would be to produce a "flatter" arrangement, as suggested by the opponent. The Board does not accept this as an acceptable objective problem. Firstly, such an aim is mentioned nowhere in the patent: the tilting of the receiver and transmitter is disclosed as solving the problem of avoiding direct specular reflection. Secondly, no compelling reason has been provided why a skilled person would wish to reduce a dimension of the apparatus in one particular direction (here, the y direction), without actually achieving a more compact arrangement (i.e. with no reduction of the overall volume). Consequently, producing a "flatter" arrangement can only be seen as representing a contrived problem, constructed with knowledge of the invention, in order to arrive at the claimed features.
- 8.11 The subject-matter of claim 1 is therefore judged to involve an inventive step within the meaning of Articles 52(1) and 56 EPC 1973.
- 9. Article 100(b) EPC 1973
- 9.1 The objection under Article 100(b) EPC raised in the notice of opposition was based on the feature of claim 1 as granted that light reflected to the receiver was travelling "in the opposite direction" to that produced by the transmitter. This implied, or at least included, precisely antiparallel paths, and a working arrangement in which the transmitter and receiver were both located on precisely the same path was not disclosed, and appeared to be impossible.

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- 9.2 The formulation of claim 1 of the present request does not include such embodiments, and hence this objection has become moot.
- 10. In the light of the foregoing, the patent may be maintained as amended according to auxiliary request 7 pursuant to Article 101(3)(a) EPC.

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# Order

# For these reasons it is decided that:

- 1. The decision under appeal is set aside.
- 2. The case is remitted to the department of first instance with the order to maintain the patent in the following version:
  - Claims 1 16 of Auxiliary Request 7 filed on 10 September 2019;
  - Description pages 2 and 5 as filed during oral proceedings, and pages 3 and 4 of the patent specification;
  - Figures 1 8 of the patent specification.

The Registrar:

The Chairman:



S. Sánchez Chiquero

G. Eliasson

Decision electronically authenticated