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**Datasheet for the decision
of 7 July 2010**

Case Number: T 0476/08 - 3.4.02
Application Number: 98901263.8
Publication Number: 0956499
IPC: G01N 21/89
Language of the proceedings: EN

Title of invention:

A detector of foreign fibres and foreign materials based on an absorption measurement of light and corresponding detection method

Patentee:

Belgian Monitoring Systems bvba (BMS)

Opponent:

Uster Technologies AG

Headword:

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Relevant legal provisions:

EPC Art. 56

Relevant legal provisions (EPC 1973):

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Keyword:

-

Decisions cited:

-

Catchword:

-



Case Number: T 0476/08 - 3.4.02

D E C I S I O N
of the Technical Board of Appeal 3.4.02
of 7 July 2010

Appellant: Belgian Monitoring Systems bvba (BMS)
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Decision under appeal: Interlocutory decision of the Opposition
Division of the European Patent Office posted
8 January 2008 concerning maintenance of
European patent No. 0956499 in amended form.

Composition of the Board:

Chairman: A. Klein
Members: A. Maaswinkel
D. S. Rogers

Summary of Facts and Submissions

I. The present appeal lies from the interlocutory decision of the opposition division dated 8 January 2008 on the maintenance in amended form of European patent 0 956 499.

II. During the opposition proceedings *inter alia* the following documents had been considered:

(E3) US-A-4 739 176

(E5) EP-A-0 553 445.

III. In its decision the opposition division had expressed the view that the subject-matter of claim 1 of the granted patent did not involve an inventive step over the disclosure in document E3, because the only difference was that according to this claim a comparison between the "first" and "second" electrical signals was carried out for the signal evaluation, whereas in E3 a variation of a first signal with a second part of the same signal was used. As to the independent claims according to a first auxiliary request of the patent proprietor the opposition division found that these claims satisfied the provisions of Articles 84 and 123 EPC and that these claims also defined patentable subject-matter. Hence the patent could be maintained on the basis of this request.

IV. The patent proprietor appealed this decision, paid the appeal fee and filed the grounds of appeal. The appellant requested that the decision under appeal be set aside and that the patent be maintained in

- unamended form. Furthermore the appellant filed two sets of claims according to a first and a second auxiliary request and a further auxiliary request for oral proceedings.
- V. In a letter of 22 September 2008 the opponent (respondent) requested that the appeal be dismissed and submitted arguments against the claims of the main and first auxiliary requests and referred with respect to the claims of the second auxiliary request to its arguments presented at the oral proceedings before the opposition division. It also filed an auxiliary request for oral proceedings.
- VI. The appellant filed further arguments in its letter dated 23 March 2009.
- VII. The board summoned the parties to oral proceedings on 7 July 2010.
- VIII. In a letter dated 7 June 2010, the appellant filed further sets of claims as its third to sixth auxiliary requests.
- IX. During the oral proceedings, the appellant requested that the decision under appeal be set aside and that the patent be maintained upon the basis of the main request, or upon the basis of auxiliary request 1, both filed on 19 May 2008, or upon the basis of auxiliary requests 2 or 3, filed at the oral proceedings. The respondent requested that the appeal be dismissed.

X. The wording of claim 1 of the proprietor's main request including the numbering of features adopted by the parties during the proceedings reads as follows:

" Method for the detection of foreign materials in a textile material (5) located in a measurement volume (4), the measurement volume being bound by a wall (6) surrounding the textile material except for one or more openings, comprising the steps of

- a) illuminating the textile material (5) within the measurement volume (4) with measurement light having one or more wavelengths using at least one light source, the one or more wavelengths of light being selected so that foreign material and textile material have different specific absorptions of the measurement light;
- b1) detecting at least a representative sample of measurement light present within the measurement volume (4) taken over the entire measurement volume using one or more photodetectors,
- b2) at least one light source and the one or more photodetectors being arranged outside and around the measurement volume (4),
- b3) the measurement volume being illuminated uniformly by the at least one light source or a diffuser being placed between the measurement volume and the one or more photodetectors or optically diffusing material is used for the wall (6),
- b4) the one or more photodetectors generating a first electrical signal (24) in accordance with the measurement light detected during the detection step when the textile material to be detected is present in the measurement volume (4);

c1) deriving from the first electrical signal (24) an absorption value of the absorption by the textile material (5) of the measurement light,
c2) by comparing the first electrical signal (24) with a second electrical signal determined in accordance with measurement light detected in the measurement volume (4) when no textile material or non-contaminated textile material was present in the measurement volume (4); and
d) determining from this absorption value whether foreign material is present in the textile material (5) ".

The wording of claim 1 of the first auxiliary request is as claim 1 of the main request with the additional feature at the end of feature a):

" (*...have different specific absorptions of the measurement light*), the spectrum of the measurement light being chosen so that the textile material (5) does not absorb this light to a significant extent;".

The wording of claim 1 of the second auxiliary request is as claim 1 of the first auxiliary request with the further feature at the end of feature b1):

" (*...using one or more photodetectors,*) the one or more photodetectors not being adapted for separately detecting signals representative of reflection and transmission,"

The main, first and second auxiliary requests include further independent claims which are not relevant for the purpose of this Decision.

The wording of claim 1 of the third auxiliary request reads as follows:

" Method for the detection of foreign materials in a textile material (5) located in a measurement volume (4), the measurement volume being bound by a wall (6) surrounding the textile material except for one or more openings, comprising the steps of;

illuminating the textile material (5) within the measurement volume (4) with measurement light having one or more wavelengths using at least one light source, the one or more wavelengths of light being selected so that foreign material and textile material have different specific absorptions of the measurement light;

detecting at least a representative sample of measurement light present within the measurement volume (4) taken over the entire measurement volume using one or more photodetectors, at least one light source and the one or more photodetectors being arranged outside and around the measurement volume (4), the one photodetector completely surrounding the measurement volume or the plurality of photodetectors surrounding the measurement volume as completely as possible, the measurement volume being illuminated uniformly by the at least one light source or a diffuser being placed between the measurement volume and the one or more photodetectors or optically diffusing material is used for the wall (6),

the one or more photodetectors generating a first electrical signal (24) in accordance with the measurement light detected during the detection step when the textile material to be detected is present in the measurement volume (4);

deriving from the first electrical signal (24) an absorption value of the absorption by the textile material (5) of the measurement light, by comparing the first electrical signal (24) with a second electrical signal determined in accordance with measurement light detected in the measurement volume (4) when no textile material or non-contaminated textile material was present in the measurement volume (4); and

determining from this absorption value whether foreign material is present in the textile material (5)".

The wording of independent claim 13 of the third auxiliary request reads as follows:

" Detector (1) for detecting foreign materials in a textile material (5) which is situated in a measurement volume (4), the detector comprising:

at least one light source (2) for illuminating the textile material (5) in the measurement volume (4) with measurement light having one or more wavelengths,

one or more photodetectors (3) which convert measurement light in the measurement volume (4) into a first electrical signal (24), when the textile material to be detected is present in the measurement volume (4) and

a signal processing unit (21), characterized by: the measurement volume being bound by a wall (6) surrounding the textile material except for one or more openings;

the one or more wavelengths of light being selected so that foreign material and textile material have different specific absorptions of the measurement light;

at least one light source and the one or more photodetectors (3) being disposed outside and around the measurement volume (4) in such a manner, as well as the shape of the measurement volume being such that the one or more photodetectors detect at least a representative sample of the measurement light present in the measurement volume (4) as taken over the entire measurement volume (4), the one photodetector completely surrounding the measurement volume or the plurality of photodetectors surrounding the measurement volume as completely as possible, the measurement volume being illuminated uniformly by the at least one light source or a diffuser being placed between the measurement volume and the one or more photodetectors; or optically diffusing material is used for the wall (6); and the signal processing unit being adapted to determine whether there are foreign materials present in the textile material (5) based on an absorption value derived by comparison of the first electrical signal (24) with a second electrical signal determined in accordance with measurement light detected in the measurement volume (4) when no textile material or non-contaminated textile material was present in the measurement volume (4) " .

Claims 2 to 12 and 14 to 24 of this request are dependent claims. Claims 25 to 31 relate to the use of the detector defined in the previous claims in the detection of foreign materials.

XI. The arguments of the appellant may be summarised as follows.

In its decision the opposition division considered that the subject-matter of claim 1 of the main request (*i.e. of the granted patent*) only differed from the disclosure in document E3 in the features c) and d), because E3 did not define a comparison of the first electrical signal with a second electrical signal. However, document E3 also does not disclose feature b1) which requires "detecting at least a representative sample ...taken over the entire measurement volume...". Unlike the invention, where the absorption value of a fibre is measured by enclosing the fibre in a measurement volume as shown in the embodiments in Figures 1 and 2 of the patent specification, the photodetector 62 in Figure 4 of E3 is designed for measuring the reflection of the fibre locally by highly directional light, therefore it does not detect within a measurement volume and the measurement signal is not a representative sample of the light within the measurement volume. This also follows from the passage in col. 3, lines 56 to 58 of document E3 according to which a problem with shadowing arises if the textile fibre does not run against the background of the channel: if a representative sample of all the light would be detected, this sample would by definition not be influenced by shadowing. Furthermore, with respect to feature b2), the embodiments in the patent show that both the light source (in Figure 1, light source 2 surrounds the measurement volume; in Figure 2, equally four light sources surround this volume) and the photodetectors (in Figure 1, the light-sensitive layer 3 surrounds the measurement volume; in Figure 2, four photodetectors surround the volume) are arranged outside and around the measurement volume. Therefore feature b2) must be construed in this way, *i.e.* that

both the light source(s) and the photodetector(s) are arranged outside and around the measurement volume. This is also clearly disclosed in col. 3, lines 38 to 43 of the patent specification "photodetection takes place around this measurement volume..." and, in case of doubt, the patent specification should be used for interpreting the claims. As shown in E3, Figures 2 to 4, the sensor comprises four lamps arranged in a way that at least the backside of the fibre is not illuminated. Also the single photodetector 62 in its retracted position is not arranged "around the measurement volume". Therefore feature b2) is also not disclosed by E3. Apart from this, because of the arrangement of the four light sources at one side of the fibre the measurement volume is not "uniformly illuminated" as defined in feature b3). Therefore features b1), b2), b3), c1), c2) and d) of claim 1 are not disclosed in document E3.

The apparatus disclosed in document E5 includes a number of features for improving the device of E3 (*see col. 1, lines 24- 32, referring to a patent family member of E3*). One of the measures concerns the way the light is conducted to the measurement volume (col. 1, line 50 to col. 2, line 10). This apparatus comprises an optically transparent body (1) containing a slit (2) through which the yarn passes. The outer surfaces of the body have a mirror-like or a diffusely reflecting coating layer. There is no proposal in E5 to modify the method of detecting the light in the measurement volume. The detector (4) used in E5 consists of a classical photodiode with its normal angular detection field, which is similar to that used in E3, thus, the detecting of a representative sample, as described in

feature b1) of claim 1 is not disclosed in E3, it is also not disclosed in E5. The three light sources (D1, D2 and D3) are all arranged below the slit (measurement volume) and the detector is at one side of the slit. Therefore E5 does not disclose an arrangement as in feature b2), wherein light sources and detectors are placed around the measurement volume. Because the general functioning of the apparatus of E5 is almost identical to the functioning of the apparatus according to E3 (*the detector detects changes in light quantity when the yarn is passing through the slit*), the features c1), c2) and d) are also not disclosed in E5. Therefore the subject-matter of claim 1 is novel.

Furthermore, because these features b1), b2), c1), c2) and d) do not belong to the general knowledge of the person skilled in the art this claim also involves an inventive step. In particular, both documents E3 and E5 rely for the detection of foreign materials in a fibre on local measurement of the reflection of the fibre material. In order to distinguish a variation of the reflection signal caused by foreign material from such a variation caused by diameter variation, E3 proposes to compensate for such diameter variations by selecting the material of a background insert 42, see col. 4, lines 23 to 30. A first problem of this solution arises because the reflectivity of this background insert may decrease, over time, due to its soiling by the fibre material and, secondly, for each new fibre a particular insert with the proper reflectivity matched to that of the fibre must be selected, which is detrimental to the instrument's throughput. In document E5 an adjustment of the third light source must be made so that the amount of light reflected from the fibre and arising

from the background is substantially independent from the fibre diameter. Therefore in none of the prior art documents is it suggested to use absorption measurements to get rid of the technical problem underlying variation of the signals relating to fibre diameter variations. Such absorption measurements are carried out by the method defined in claim 1, in particular the features b1), b2), b3), c1), c2) and d) which are neither disclosed nor suggested in document E3 nor E5. Therefore claim 1 of the main request defines patentable subject-matter. This equally applies to apparatus claim 13 which defines the corresponding subject-matter in terms of apparatus features.

Claim 1 according to the first auxiliary request includes the additional feature that the spectrum of the measurement light is being chosen so that the textile material does not absorb this light to a significant extent. The support for this feature is based on page 4, lines 6 to 8 of the patent application as filed. Therefore this amendment should not be objectionable under Art. 123(2) EPC.

As regards novelty and inventive step, the above feature cannot be found in the cited prior art documents: in document E3 indications are given about the reflectivity of the background with respect to the reflectivity of the textile material to be measured (see col. 2, lines 15 to 19), but no indications are given about the absorption of the measurement light by the textile material. This indicates that the absorption of the measurement light is not of importance for the measurement method and device of E3. Also in document E5 different raw fibres, e.g. cotton

fibres are disclosed, however without specifying any preferred wavelength of the measurement light. Although such fibres may have very different absorption coefficients document E5 does not teach or suggest the added feature in the independent claims of the first auxiliary request.

Claim 1 according to the second auxiliary request includes the further feature over claim 1 of the first auxiliary request that the photodetectors are not adapted for separately detecting signals representative of reflection and transmission. These additional features had already been included in claim 1 of the 2nd auxiliary request filed with the letter of 30 October 2007, therefore the request should not come as a surprise to the opponent and hence be admissible. By this additional feature the subject-matter is further distinguished from the devices of documents E3 and E5, because in these devices the photodetector is adapted for separately detecting the reflection signal, see col. 4, lines 27 to 31. This also applies to the photodetector 4 in the device of E5.

The claims according to the third auxiliary request are identical with the set of claims which the opposition division in its decision considered allowable with the exception of the obvious error in prior claim 13 where the expression "the one or more photodetectors surrounding the measurement volume" had inadvertently been left in the claim while the corresponding expression was deleted in claim 1. Therefore the correction of this obvious error in the "Druckexemplar" is necessary.

XII. The arguments of the respondent may be summarised as follows.

Contrary to the arguments of the appellant, features b1) - b3) of claim 1 of the main request are known from document E3. With respect to feature b1) its terminology is vague and therefore does not allow an unambiguous difference over the prior art to be established: for instance, the expression "representative sample" is, without further definition, arbitrary. It could relate to various characteristics of the sampled object or light and the expression as such does not define what characteristics a sample needs to have in order to be "representative". Therefore this term must be construed broadly. In this respect document E3, col. 3, line 64, and col. 4, starting at line 23, discloses that the measurement volume is diffusely illuminated and the light is reflected at the walls such that the signal received at the detector is independent from the dimensions of the yarn and thus representative for this sample. Therefore feature b1) is disclosed in document E3. Furthermore also the expression in feature b2) "outside and around the measurement volume" must be construed broadly, since in the embodiments in Figures 1 and 2 of the patent in suit the measurement volume is not completely enclosed by light sources and a detector. In document E3, Figures 3 and 4, four light sources 50, 51, 52 and 53 and the photodetector 62 are arranged outside and around the measurement volume 38a, therefore this feature is also known from this document. In addition the appellant's interpretation that the condition in feature b2) should be fulfilled independently by both the light sources and the photodetectors is incorrect,

since this is not the way the requirement has been formulated in the claim and, moreover, the embodiments in the patent also give room for a broader interpretation. With respect to feature b3) it has already been shown from the cited passages that in the apparatus of document E3 the measurement volume is uniformly and diffusely illuminated (col. 3, line 63). Therefore the subject-matter of claim 1 of the main request only differs from the disclosure in document E3 by the use in features c) and d) of a "second electrical signal" for comparison with the first electrical signal, herein concurring with the opposition division in point 4 of the Reasons of the Decision that this difference is trivial since the method of E3 also makes a comparison of the measured signal with a prior value of the same signal. Therefore the subject-matter of this claim does not involve an inventive step. The same objection arises when considering document E5: in particular col. 3, lines 20 to 24 discloses that because of the reflecting surfaces the entire measurement volume is flooded with light and, in consequence, that the photodetector also detects any dark contamination on the rear side of the fibre. This shows that E5 follows the same measurement principle as the patent in suit.

The additional feature in claim 1 according to the first auxiliary request is obscure, since the expression "...to a significant extent" is a relative feature which does not enable a clear difference over the prior art to be established. For instance document E3 in col. 4, lines 31 to 36, refers to the detection of wool fibres, in which case a substantially white background is required, i.e. the same colour as the

fibre. According to col. 5, lines 22 and 23 the spectrum of the light source is selected to cover the wavelengths 500 to 600 nm. It is clear that these spectral wavelengths are not absorbed to a "significant extent" by a white fibre, therefore the added feature is known from E3. Furthermore document E5 teaches the same principle, see col. 1, line 6, referring to a cotton fibre; col. 1, lines 24 to 32, making reference to the family member of E3; and col. 2, line 11, giving a clear teaching that the spectrum of the applied measurement light should be chosen not to absorb the clean fibre but only the contaminated fibre.

Claim 1 according to the second auxiliary request is objectionable in that it apparently defines a feature in terms of a negative restriction, which leads to a lack of clarity, because it is unclear which additional measure is intended. In any case neither the photodetector 42 in the device of E3, nor photodetector 4 in the apparatus of E5, are "adapted for separately detecting signals representative of reflection and transmission", therefore this negative feature does not lead to a difference of the claimed subject-matter over these devices. For this reason this request is not allowable.

The respondent did not have any observations with respect to the claims of the third auxiliary request.

Reasons for the Decision

1. The appeal is admissible.

2. *Main request*

2.1 *Claim 1*

2.1.1 In its decision, the opposition division found that the subject-matter of claim 1 of the main request was novel over the prior art but that it did not involve an inventive step over the disclosures of documents E3 - E5.

2.1.2 Document E5 discloses a method for the detection of foreign materials in a textile material (*see Title: "apparatus for the detection of contaminants in an elongated textile product, such as a yarn or a thread"*) located in a measurement volume (*region around the slit 2*), the measurement volume being bound by a wall (*walls of slit 2*) surrounding the textile material except for one or more openings (*slit 2, defining the zone of measurement, also used as insertion aperture for the yarn*). The method comprises the steps of:

a) illuminating the textile material (3) within the measurement volume with measurement light having one or more wavelengths using at least one light source (D1 - D3, Fig. 2), the one or more wavelengths of light being selected so that foreign material and textile material have different specific absorptions of the measurement light (col. 2, lines 11 to 23; and col. 3, lines 20 - 24);

b1) detecting at least a representative sample of measurement light present within the measurement volume

taken over the entire measurement volume using one photodetector (4). In col. 3, lines 20 - 24 it is disclosed that "due to its mirrored surfaces 6, body 1 is completely flooded by light. Therefore, a dark fiber in a white yarn 3 leads to an error signal even if it is hidden from the sensor behind the yarn". Therefore the measurement signal is determined over the entire measurement volume;

b2) at least one light source, namely D1, D2 and D3, and the one photodetector being arranged outside and around the measurement volume (shown in Fig.2 and 3); in this respect, the board concurs with the respondent that this condition does not require that both the light source(s) must be arranged outside and around the measurement volume and equally the detector(s), feature b2) only requires that these items must be (together) "outside and around" the measurement volume;

b3) the measurement volume being illuminated uniformly by the at least one light source: this is disclosed in the passage cited supra;

b4) the photodetector generating a first electrical signal (output OUT in Fig. 5) in accordance with the measurement light detected during the detection step when the textile material to be detected is present in the measurement volume.

2.1.3 Feature c1) of claim 1 defines the step "deriving from the first electrical signal an absorption value of the absorption by the textile material of the measurement light". In this respect document E3 discloses in col. 3, line 57 - col. 4, line 4 "The signal generated in the presence of contaminations at the output of the DC-amplifier DV is evaluated in a way known in the art for

producing an error signal...". The opposition division explained in point 3.2 of the Reasons that this feature, in combination with feature c2), which requires a comparison of this signal with a second electrical signal when no textile material or non-contaminated textile material was present, is not disclosed in document E5. In consequence the subject-matter of claim 1 of the main request was novel by virtue of the features c1), c2) and d).

2.1.4 These differences between the subject-matter of claim 1 and the disclosure in document E5 are therefore related to the evaluation of the measurement signal. In agreement with the assessment of the opposition division in the context of document E3 (*point 4 of the Reasons*) the board identifies the underlying technical problem as finding an alternative way of detecting from the signal the presence of a foreign material in the textile fibre.

2.1.5 According to E5, col. 3, lines 9 to 30, the apparatus, in particular the third light diode D3, is adjusted such that a non-contaminated yarn of arbitrary thickness centred in front of sensor 4 produces the same sensor signal as a signal detected without a yarn in the measurement volume. Hence, the amount of light detected by the sensor is equal with a non-contaminated yarn and without textile material being present in the measurement volume. In terms of feature c2) this signal is therefore equivalent to the "second signal" and is referred to in the following as the "zero-signal".

2.1.6 In case of the presence of a contamination in the fibre document E5 discloses in col. 3, line 57 to col. 4,

line 4, that the signal at the output of amplifier DV is processed "in a known manner". Hence it appears that the circuit of Figure 4 of E5 shows at its output socket OUT:

- i) a "zero-signal" as a result of the adjustment of light diode D3 corresponding to the presence of a non-contaminated fibre or no fibre being present in the measurement volume;
- ii) a signal differing from this zero-signal indicating the presence of a contamination in the fibre.

2.1.7 Clearly, although not explicitly disclosed in E5 (*only mentioning that the signal is processed in a known manner*) this measured signal is detected as a change or variation of the zero-signal, which is therefore equivalent to a comparison of both signals. Furthermore, according to document E5, the amount of light detected in case of a white fibre of arbitrary diameter being present or no fibre being present in the measurement volume is identical (col. 3, lines 25 to 30) and any light-absorbing contamination in the fibre reduces the light (energy) density which is detected in the photodetector as a change in signal level (col. 2, lines 11 to 15). Therefore, the signal in the presence of a contamination is reduced as a result of its absorption.

2.2 It is concluded that the signal evaluation carried out in the apparatus of E5 is equivalent to the steps defined in features c1), c2) and d) of claim 1. For this reason the board finds that claim 1 of the main request does not involve an inventive step. Therefore the main request is not allowable.

3. *First auxiliary request*

3.1 According to the appellant, claim 1 of this request includes the further features from dependent claim 5 of the granted patent that the spectrum of the measurement light is chosen so that the textile material does not absorb this light to a significant extent. Therefore this amendment is not objectionable under Art. 123(2) EPC.

3.2 With respect to this additional feature the appellant has argued that the prior art, in particular documents E3 and E5, does not disclose any features concerning the absorption of the measurement light by the textile material. According to the respondent, the feature is vague because of the relative expression "...to a significant extent". The respondent has furthermore referred to document E3 which, in connection with the detection of a wool fibre, discloses the requirement of a substantially white background, having the same colour as the fibre. The respondent also has referred to E5.

3.3 Document E5 discloses in col. 3, lines 22 and 26, that the fibre is white and that the photodetector produces the same signal with such a fibre in the measurement volume as with the empty volume. This shows that the non-contaminated textile material does not absorb the illumination light. Therefore this feature is implicitly known from document E5 and it does not contribute to an inventive step.

3.4 For this reason the first auxiliary request is not allowable.

4. *Second auxiliary request*

4.1 Claim 1 of this request includes the feature added to feature b1): "...the one or more photodetectors not being adapted for separately detecting signals representative of reflection and transmission". According to the appellant, in documents E3 and E5 the respective photodetectors are adapted for separately detecting the reflection signal. The respondent has raised formal objections against the amendment, inter alia that it was obscure, and furthermore has argued that the detectors in the apparatuses of documents E3 and E5 were not adapted for separately detecting reflection and transmission.

4.2 Having regard to the disclosure in document E5, col. 3, lines 20 to 24, it is observed that because of the mirrored surfaces a contamination at the rear side of the fibre is also detected by the detector. Therefore, in this arrangement, the detector measures the light intensity in the entire measurement volume and is not adapted for separately detecting signals representative of reflection and transmission.

4.3 Hence, irrespective of the question of whether the added feature is entirely clear, the feature does not include an additional distinction from the prior art arrangement in document E5. Hence claim 1 of the second auxiliary request does not involve an inventive step.

4.4 The second auxiliary request is therefore not allowable.

5. *The third auxiliary request*

5.1 Apart from a correction of an obvious error in claim 13, this request is identical to the request allowed by the opposition division. At the oral proceedings the respondent has not raised any objections against this request. Furthermore, since the patent proprietor is the only party who filed an appeal against the decision, the board cannot challenge maintenance of the patent as thus amended by virtue of the principle of prohibition of "reformatio in peius" (see G 0001/99 OJ EPO 2001, p. 381).

6. Accordingly, claims 1 - 31 of Auxiliary Request 3 meet the requirements of the Convention.

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 on the basis of the following claims:

Claims 1 - 31 of Auxiliary Request 3 filed during oral proceedings,

and with the description and drawings of the patent specification.

The Registrar:

The Chairman:

G. Nachtigall

A. G. Klein