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D E C I S I O N
of 29 June 1999

Case Number: T 0341/95 - 3.2.5

Application Number: 87118913.0

Publication Number: 0310707

IPC: B42D 15/10

Language of the proceedings: EN

Title of invention:
Document with magnetically detectable anti-forgery means, and strip with magnetically detectable identification code and identification code

Patentee:
Mantegazza Antonio Arti Grafiche S.r.l.

Opponent:
GAO Gesellschaft für Automation und Organisation mbH

Headword:
-

Relevant legal provisions:
EPC Art. 56, 123(2), (3)

Keyword:
"Admissible amendments (yes)"
"Inventive step (yes, after amendment)"

Decisions cited:
-

Catchword:

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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 0341/95 - 3.2.5

D E C I S I O N
of the Technical Board of Appeal 3.2.5
of 29 June 1999

Appellant: (Proprietor of the patent)
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Decision under appeal: **Decision of the Opposition Division of the European Patent Office posted 16 March 1995 revoking European patent No. 0 310 707 pursuant to Article 102(1) EPC.**

Composition of the Board:

Chairman: A. Burkhart
Members: C. G. F. Biggio
M. K. S. Aúz Castro

Summary of Facts and Submissions

I. The appellant (patentee) lodged an appeal against the decision of the opposition division dated 16 March 1995, revoking the European patent No. 310 707.

The opposition division held that the grounds for opposition mentioned in Article 100(a) EPC prejudiced the maintenance of the patent as granted, having essentially regard to the following prior art documents:

D2: GB-A-1 585 533,

D4: DE-A-2 931 043, and

D6: US-A-3 599 153.

II. Oral proceedings were held on 29 June 1999.

The appellant (patentee) requested that the decision under appeal be set aside and that the patent be maintained on the basis of Claims 1 to 8, an adapted description and Figures 1 to 7; all documents filed during the oral proceedings.

The respondent (opponent) requested that the appeal be dismissed.

III. The independent Claims 1 and 6 read as follows:

Claim 1
"Document with magnetically detectable anti-forgery means, comprising a plate-like element (2) embedding at

least one strip (3) supporting mutually spaced regions (10, 20, 23) obtained with a deposition of magnetic material, said regions (10, 20, 23) of magnetic material being readable with a magnetic reading head applicable externally to said plate-like element (2), the document being **characterized** in that said regions (10, 20, 23) of magnetic material have a diversifiable magnitude of magnetic intensity due to variations in the amount of said material deposited at said regions (10, 20, 23),

(a) wherein the amounts of magnetic material deposited at said regions (10, 20, 23) are multiples of the lowest amount,

(b) which regions of magnetic material with diversifiable magnitude of magnetic intensity are provided on both faces of a supporting layer (4), and

(c) have thickness of the magnetic layer diversifiable in the direction substantially perpendicular to the plane of arrangement of the supporting layer (4)".

Claim 6

"Strip with magnetically detectable identification code, comprising a supporting layer (4) on at least one face (4a, 4b) whereof are provided regions (10, 20, 23) of mutually spaced magnetic material, said regions (10, 20, 23) of magnetic material being readable with a magnetic reading head applicable proximate to said strip (3), the strip being **characterized** in that said regions (10, 20, 23) of magnetic material have a diversifiable magnitude of magnetic intensity due to variations in the amount of said material provided at said regions (10, 20, 23),

(a) wherein the amounts of magnetic material provided at said regions (10, 20, 23) are multiples of the lowest amount,

(b) said regions (10, 20, 23) with diversifiable magnitude of magnetic intensity are provided on both faces of a supporting layer (4) and

(c) have a thickness of the magnetic layer diversifiable in the direction substantially perpendicular to the plane of arrangement of the supporting layer (4)".

(Subdivision, into (a), (b) and (c), of the features of the characterising clause of Claims 1 and 6 added by the Board.)

IV. The appellant argued essentially as follows:

The subject-matter of independent Claims 1 and 6 differed from that of independent Claims 1 and 8, as granted, in that the three features (a), (b) and (c) (see Item III) had been added to the subject-matter of the granted claims. These three features were supported by the disclosure of the originally filed patent application and restricted the scope of Claims 1 and 6, so that said claims neither violated the requirements of Article 123(2) nor those of Article 123(3) EPC.

Feature (b) was already claimed by original Claim 5. Feature (c) was claimed by original Claim 11.

Feature (a) was implicitly disclosed by the originally filed patent application. In fact, a person skilled in the art, when reading the patent application as originally filed, would have found therein the following somewhat unclear expressions: "...the

thicknesses of the layer may be multiples of one another..." (column 4, lines 30 to 34 of the A2-publication), and "... it is possible to use mutually multiple layer thicknesses..." (column 4, lines 44 to 51 of the A2-publication). Trying to find out the correct meaning to be given to said expressions, he would have made reference to both Figures 4 and 5 and, accordingly, he would have construed said expressions as meaning that the thicknesses of the layers, thus the amounts of magnetic material in each region, had to be all multiples of a given lowest amount.

The aim of the invention was to provide a document with anti-forgery and/or anti-fraud means which allowed to have available a considerable number of items of information giving assurances as to the actual authenticity of the document, whereby a particular object of the invention was to provide a particular identification code which, besides the conventional combination of blank spaces and of magnetic regions, provided an extremely high number of pieces of information (column 2, lines 18 to 28 of the patent in suit); said identification code being well adapted to be easily read out by the magnetic reading head (column 5, lines 10 to 18 of the patent in suit).

This object was achieved by the combination of all the features mentioned in the characterising clause of independent Claims 1 and 6.

None of the prior art documents on file either disclosed or suggested, the combination of the features (a), (b) and (c) mentioned in the characterising clause of independent Claims 1 and 6.

Feature (b),in particular, was totally unknown in said prior art documents.

Therefore, the subject-matter of independent Claims 1 and 6 involved an inventive step.

V. The respondent argued essentially as follows:

Feature (a), mentioned in independent Claims 1 and 6, was not supported by the disclosure of the originally filed patent application, so that said independent claims contravened the requirements of Article 123(2) EPC.

In respect of feature (a), the disclosure of the originally filed patent application, as a whole, merely contained the following unclear expressions: "...the thicknesses of the layer may be multiples of one another..." (column 4, lines 30 to 34 of the A2-publication) and "...it is possible to use mutually multiple layer thicknesses..." (column 4, lines 44 to 51 of the A2-publication), which merely stated that the various thicknesses of the layer, i.e. the various amounts of magnetic material in each region, were related to each other by some factor of proportionality. The latter, however, was totally unspecified and could be construed as deriving from any conceivable law of proportionality whatsoever.

Thus, even having made reference to both Figures 4 and 5, the person skilled in the art would not have construed the above unclear expressions as meaning that the thicknesses of the layer, thus the amounts of magnetic material in each region, had to be all

multiples of a given lowest amount.

It could not be seen how the feature (b) of Claims 1 and 6 might effectively provide for a significant increase of the number of combinations detectable by the magnetic reading head, as aimed at by the invention and as stated by the patent in suit (column 5, lines 36 to 42). All the considerations mentioned in the patent in suit (column 5, line 36, to column 6, line 5) should be considered as unsubstantiated allegations and, therefore, should not be taken into any account for assessing inventive step.

Document D6 (column 2, lines 60 to 65 and Figure 2a), as well as documents D3 (page 12, lines 16 to 18; page 13, lines 7 to 10, and Figure 11) and D4 (page 9, first paragraph thereof), hinted at features (a) and (c) of Claims 1 and 6.

Following the teachings of documents D6, D3 and D4, it was obvious for the person skilled in the art to modify the strip known from document D1 (GB-A-1 127 043) in such a manner that the regions of magnetic material on the security strip had a diversifiable magnitude of magnetic intensity as prescribed by features (a), (b) and (c), in order to increase the number of pieces of information in the identification code and to improve the read out of said identification code.

Therefore, the subject-matter of claims 1 and 6 did not involve an inventive step.

Reasons for the Decision

1. *Amendments*

The subject-matter of independent Claims 1 and 6 differs from that of independent Claims 1 and 8 as granted, in that the three features (a), (b) and (c) (see Item III), mentioned in the characterising clause of Claims 1 and 6, have been added to the subject-matter of the granted claims.

Feature (b) is disclosed by original Claim 5, and feature (c) is disclosed by original Claim 11 and Figures 4 and 6.

Having regard to the originally filed patent application, the Board concludes that feature (a) has to be considered as being implicitly disclosed by said originally filed patent application. The reasons for this conclusion are the following.

A person skilled in the art, when reading the originally filed application, would have found that the following expressions: "...the thicknesses of the layer may be multiples of one another..." (column 4, lines 30 to 34 of the A2-publication), and "...it is possible to use mutually multiple layer thicknesses..." (column 4, lines 44 to 51 of the A2-publication), do not have an immediate, clear and unambiguous meaning.

He would have, accordingly, investigated to find out a reasonable and logical definition of the effective meaning of these expressions by making reference to the drawings, Figure 5 thereof in particular, since the originally filed application indicates (column 4, lines 43 to 51 of the A2-publication) that Figure 5

illustrated the use of "mutually multiple layer thicknesses".

During this investigation, the person skilled in the art would have noticed that Figure 5 graphically shows the various amplitudes of the various voltages induced in the reading head by the various layers, i.e. by the various amounts of magnetic material in said layers, as being all multiples of a lowest voltage amplitude, which let him presume that the various amounts of magnetic material in the various regions should, similarly, be all multiples of a given lowest amount. The skilled person would then have found adequate confirmation of this presumption in Figure 4, which graphically shows the thicknesses of the various layers as being all multiples of a given lowest thickness; the width of said layers being constant overall.

According to the above findings, the person skilled in the art would have construed the unclear expressions of the patent application as meaning that the thicknesses of the layer, thus the amounts of magnetic material in each region, have to be all multiples of a given lowest amount.

Since, moreover, the originally filed application does not provide any other disclosure of any other possible implementation of the layers thicknesses, the person skilled in the art would have concluded that the expressions in question must be construed as having no other possible meaning, different to that defined by feature (a) of the amended Claims 1 and 6.

According to the above considerations, the Board is

satisfied that the three features (a), (b) and (c), mentioned by the characterising clause of Claims 1 and 6 are supported by the disclosure of the originally filed patent application and provide for a restriction of the scope of Claims 1 and 8 as granted, so that the amended claims do not contravene the requirements of Article 123(2) and (3) EPC.

2. *Novelty*

The subject-matter of Claims 1 and 6 is novel, since none of the prior art documents under consideration discloses a security document or a security strip comprising feature (b), which states that the regions of magnetic material with diversifiable magnitude of magnetic intensity are provided on both faces of the supporting layer.

Novelty, in fact, is no longer in dispute.

3. *Inventive step*

3.1 Closest prior art

The closest prior art is represented by document D1 (GB-A-1 127 043) which discloses a security document and a security strip comprising the features mentioned in the preamble of Claims 1 and 6.

3.2 Problem underlying the invention

The strip according to document D1, which comprises a discontinuous coating of magnetic material, is not considered to be suitable to create an identification

code which could provide a high degree of security and of non-reproducibility.

Therefore, the problem underlying the invention consists in providing a document with anti-forgery and/or anti-fraud means which allows to have available a considerable number of items of information giving assurances as to the actual authenticity of the document, so as to create a particular identification code which, besides the conventional combination of blank spaces and of magnetic regions, provides an extremely high number of pieces of information; said identification code being easy to be read out by a reading magnetic head (see column 2, lines 18 to 28, and column 5, lines 10 to 18, of the patent specification).

3.3 Solution

This problem is solved by the features of the characterising clause of Claims 1 and 6, in particular by the features:

(a) the amounts of magnetic material deposited at said regions are multiples of the lowest amount,

(b) which regions of magnetic material with diversifiable magnitude of magnetic intensity are provided on both faces of a supporting layer, and

(c) have thickness of the magnetic layer diversifiable in the direction substantially perpendicular to the plane of arrangement of the supporting layer.

Due to features (a) and (c) the reading of the identification code by the magnetic reading head is facilitated by a sharp diversification of the various magnetic regions (see column 5, lines 10 to 18 of the patent specification).

Since the regions of magnetic material are provided on both faces of a supporting layer according to feature (b), a significant increase of the number of combinations which are detectable by the magnetic reading head is obtained. The magnetic reading head will, in fact, detect and react to the magnetic intensity of one and the same amount of magnetic material in two different ways, as a function of the fact that said amount is deposited on that face of the supporting layer which is directly faced to the reading head, or on the opposite side, since the distance between the reading head and said magnetic amount will be different, from one face to the other of the supporting layer; this difference in the distance being due to the addition of the thickness of the interposed supporting layer (see column 5, line 42, to column 6, line 2 of the patent specification).

In practice, the physical effect provided by feature (b) is that the reading head will detect and react to the magnetic intensity of one and the same amount of magnetic material, as it was in the presence of two different magnetic intensities, i.e. of two different amounts of magnetic material, and, accordingly, will provide two different output signals, i.e. two different items of information, for one and the same amount of magnetic material.

3.4 The above mentioned solution, i.e. the combination of features (a), (b) and (c) according to Claims 1 and 6, is not rendered obvious by the prior art documents referred to by the respondent.

Whilst the teaching of documents D6 (see column 2, lines 60 to 65, and Figure 2a), D3 (see page 12, lines 16 to 18; page 13, lines 7 to 10 and Figure 11) and D4 (see page 9, first paragraph thereof) could be considered as pointing to feature (c), no disclosure or suggestion of features (a) and (b) can be found either in these documents or in any other prior art document under consideration.

x3.5 Therefore, the subject-matter of Claims 1 and 6 involves an inventive step within the meaning of Article 56 EPC.

4. Consequently, the patent has to be maintained in amended form, as requested by the appellant.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the first instance with the order to maintain the patent in amended form on the basis of Claims 1 to 8, the adapted description and Figures 1 to 7; all documents filed during the oral proceedings of 29 June 1999.

The Registrar: The Chairman:

A. Townend A. Burkhart