



Case Number: T 40 / 83

DECISION
of the Technical Board of Appeal 3.5.1
of 4. November 1985

Appellant: Eastman Kodak Company
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United States of America

Representative: P.A.C. Baron
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Decision under appeal: Decision of Examining Division 067 of the European Patent
Office dated 07-10-82 refusing European patent
application No 80.300.081.9 pursuant to Article 97(1)
EPC

Composition of the Board:

Chairman: G. Korsakoff

Member: W. Oettinger

Member: F. Benussi

Summary of Facts and Submissions

- I. European Patent Application No. 80 300 081.9, filed on 08.01.80 and claiming a priority of 08.01.79, was refused by a decision of the Examining Division 067 of the European Patent Office dated 07.10.82. That decision was based on Claims 1 to 8 for a method of playing back information previously recorded in the form of a deformation pattern in a thermal recording material and on Claims 9 to 15 for a thermal recording element for recording information, all of these claims having been filed on 08.04.82.
- II. The reason given for the refusal was that the subject-matter of the claims lacked an inventive step having regard to the state of the art represented by the following documents :
- (1) DE-A-2 727 189
 - (2) US-A-3 787 873
 - (3) US-A-3 475 760
- III. The Appellant lodged an appeal against this decision on 06.12.82 by telex and paid the appeal fee. The telex was confirmed on 11.12.82. A Statement of Grounds of Appeal was filed on 12.02.83 and accompanied by new Claims 1 to 8 for a thermal recording element and new Claims 9 and 10 for a method of playing back the information recorded on such an element.

The Appellant argued essentially that, starting from a type of recording and playback which is described in WO-A-79/00404, the subject-matter is not obvious with regard to the citations of the Examining Division, each of these citations being concerned with a different type of recording and playback.

The Appellant requested that the decision under appeal be set aside, that the application be remitted to the Examining Division and that a patent be granted on the basis of the amended application documents.

- IV. By a communication dated 20.03.85, the Rapporteur informed the Appellant that Claims 8, 9 and 10 on file seemed not to be admissible under Article 123(2) EPC.

Further, the arguments of the Appellant concerning Claim 1 did not satisfy the Board as to the presence of an inventive step vis-à-vis the cited documents (3) and (2). It appeared however possible to meet this objection by restricting Claim 1 in such a way as to relate its features of altering the spectral absorption characteristics to the particular problem to be solved by it in the playback method of the original Claim 1.

- V. On 13.07.85, the Appellant filed an amended description pages 1 to 3, 3a, 4 to 6 and 17 to replace corresponding pages on file and new Claims 1 to 8 directed to said method to replace all claims on file.

- VI. Following a telephone conversation with the Rapporteur, the Appellant filed an amended page 2 on 03.08.85.

- VII. Claim 1 reads as follows :

"A method of playing back information previously recorded by a high powered pulse-encoded beam from a laser of a selected wavelength on a thermal recording element comprising a support bearing a layer of a recording material comprised of a thermoplastic binder and a dye which, in a first state, is absorbent to radiation of the selected wavelength, in the

form of a thermal deformation pattern comprising a plurality of discrete light-modulating craters, said method being characterized in that,

- a) the spectral absorption characteristics of the thermal recording material are altered from said first state to a second state which is less absorbent to radiation at the wavelength of the recording laser, and
- b) said recorded deformation pattern is illuminated with radiation from said recording laser to develop a signal indicative of the recorded information without adversely affecting said recorded deformation pattern. "

Claims 2 to 8 are - directly or indirectly - dependent upon this claim and relate to particular embodiments of said method claimed.

VIII. According to the description (page 2 line 34 to page 3 line 17), the technical problem to be solved by the invention is to avoid the reduction of the signal-to-noise ratio inherent in the playback method where a reduced power laser is used, and at the same time to avoid using separate laser systems, e.g. of different wavelengths, for recording and playback.

Reasons for the Decision

1. The appeal complies with Articles 106 to 108 and Rule 64 EPC and is, therefore, admissible.
2. Claim 1 is, and its dependent claims are, based on Claim 2 as originally filed, or its dependent claims. The thermal recording material and the laser used have been further specified as disclosed in the description.

These claims are, therefore, admissible under Article 123(2) EPC.

3. A playback method for a recording element as defined in the prior art portion of Claim 1 is known from cited document (3).

The particular recording element used in this method is also the subject of EP-A-0 003 262 forming state of the art for designated states BE, FR, GB, NL according to Article 54(3) and (4) EPC (and of the equivalent WO-A-79/00 404 designating DE with a possible effect only according to Article 139(2) EPC) and not to be considered according to Article 56 sentence 2 EPC.

In said playback method according to citation (3) the information is played back by projecting the thermal recording element containing the thermal deformation pattern on a viewing screen.

4. In contrast, the invention uses a playback method which is known from citation (1) for playing back information recorded by a high-powered pulse-encoded beam from a laser of a selected wavelength on a thermal recording element. According to this citation, the recording element used comprises a support bearing a layer of a recording material which is absorbent to radiation of the selected wavelength. The information is recorded on this element by locally melting away the recording material or thermally altering its spectral absorption characteristics.

The kind of playback method known from citation (1) is also mentioned in the above EP (WO) publication.

According to this playback method, the recorded deformation pattern is illuminated with radiation from a laser to develop a signal indicative of the recorded information.

5. With prior art methods of this kind, playback of the information using the recording laser itself, which would have advantages as to system construction and performance (cf. above at VIII), is not possible.

According to citation (1) - and the EP (WO) publication - either a laser of considerably less power or one having a different wavelength (outside the absorption range of the recording medium) had to be used in order not to destroy or change the information recorded.

It is to be observed that both possibilities known from citation (1) rely on the general principle of using a different kind of laser for recording and playback (the recording element remaining unchanged) and there is no suggestion of departing from this principle.

6. From citation (2) a recording method similar to that of citation (3) but not to that of (1) is known. The recording element is different from that of (3) and from that of (1) as well. It comprises a transparent thermoplastic substrate covered by a highly light absorptive, deformation promoting layer whose spectral absorption characteristics may (as an alternative to removing said layer) be altered, between the recording and the playback processes, from the absorbent to a second state which is less absorbent to radiation at the wavelength of the recording laser.

This reduction of light absorption has the effect of, and is provided for, making the recording element almost transparent in order to allow a dark image to be seen against a bright background when the thermal deformation

pattern is projected on a viewing screen, and it is observed that there is no relationship between this problem and the problem to be solved by the invention as set forth above (cf. VIII).

7. Having these facts in mind the Board does not consider it obvious for the skilled person, when performing a playback method of the kind known from citation (1), and using it with a recording element as known from citation (3), to depart from the principle taught by citation (1) and to solve the problem arising with this method on the recording medium side by applying the feature known per se from citation (2) but conceived according to this citation for an essentially different playback method to solve an essentially different problem.
8. No other document cited in the search report is considered to be sufficiently relevant to require consideration.
9. As no objection arises in respect of the dependent claims and the description now on file, the European patent application appears ready for grant.

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 grant the European Patent applied for on the basis of the following documents :
 - a) Claims 1 to 8 as filed on 13.07.85;
 - b) description pages 1, 3, 3a, 4 to 6 and 17 as filed on 13.07.85,
page 2 as filed on 03.08.85,
and pages 7 to 16 as originally filed.

The Registrar

B A Norman

The Chairman

G Korsakoff