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D E C I S I O N
of 15 March 2000

Case Number: T 0474/94 - 3.4.1

Application Number: 84108486.6

Publication Number: 0132782

IPC: G07B 17/02

Language of the proceedings: EN

Title of invention:
System for printing encrypted messages with bar-code
representation

Patentee:
PITNEY BOWES INC.

Opponent:
NEOPOST LTD
Francotyp-Postalia Aktiengesellschaft & Co.

Headword:
-

Relevant legal provisions:
EPC Art. 123, 56

Keyword:
"Inventive step - (yes) after amendment"

Decisions cited:
-

Catchword:
-

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Beschwerdekammern	Boards of Appeal	Chambres de recours

Case Number: T 0474/94 - 3.4.1

D E C I S I O N
of the Technical Board of Appeal 3.4.1
of 15 March 2000

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Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted 6 April 1994 revoking European patent No. 0 132 782 pursuant to Article 102(1) EPC.**

Composition of the Board:

Chairman: G. Davies

Members: G. Assi

U. G. O. Himmler

Summary of Facts and Submissions

I.   The appellant (patent proprietor) lodged an appeal,
       received on 6 June 1994, against the decision of the
       Opposition Division, dispatched on 6 April 1994,
       revoking European Patent No. 0 132 782 (application
       number 84108486.6). The fee for the appeal was paid on
       6 June 1994. The statement setting out the grounds of
       appeal was received on 3 August 1994.

       Opposition had been filed by respondent I (opponent I)
       and respondent II (opponent II) against the patent as a
       whole, on the basis of Article 100(a) EPC, in
       particular on the grounds that the subject-matter of
       the patent was not patentable within the terms of
       Articles 52(1), 54 and 56 EPC.

       The Opposition Division held that the grounds of the
       opposition prejudiced the maintenance of the patent,
       having regard *inter alia* to the following documents:

       (C3) GB-A-2 097 330,

       (D3) US-A-3 990 558, and

       (D4) DE-B-2 924 325.

II.   During appeal proceedings, the Board considered the
       following further documents:

       (D5) CH-A-554 574, and

       (D6) DE-A-2 802 430.

III.   Oral proceedings were held on 15 March 2000.

IV.   The appellant requested that the decision under appeal
        be set aside and that the patent be maintained on the
        basis of the following documents:

        Claims: claims 1 to 9 as filed at the oral
                             proceedings on 15 March 2000,

        Description: columns 1 to 25 as filed at the oral
                             proceedings on 15 March 2000,

        Figures: 1, 2, 3A, 3B, 3C, 3D, 4A, 4B, 4C, 4D and
                             5 of the granted patent.

V.   The respondents I and II requested that the appeal be
        dismissed.

VI.   The wording of claim 1 reads as follows:

        "A postage metering device (32,200,400,600,800) for
        metering encrypted postage indicia for application to
        mailpieces as proof of postage payment comprising:
        (a) an entry means (48) for the entry of alphanumeric
        character data corresponding to mailpiece parameters;
        (b) means (86,90) coupled to said entry means (48) for
        the storage of said data;
        (c) an encryption circuit (88,92) connected to receive
        said data and a mailpiece count and operable to provide
        a seed word which varies from mailpiece to mailpiece in
        dependence on the mailpiece count and to develop a code
        word of a plurality of code characters from said seed
        word and said mailpiece parameters;
        (d) means (36,406) coupled to said storage means
        (86,90) and to said encryption circuit (88,92) for
        imprinting a bar-code representation of said data of
        said storage means and said code word (210) of said

encryption circuit; and

(e) selection means (82,94,201,208) synchronized with
said imprinting means and coupled to said storage means
(86,90) and said encryption circuit (88,92) for
alternately feeding said data of said storage means
(86,90) and said code word of said encryption circuit
(88,92) to said imprinting means (36,406) to control
the imprinting means to print bar-code indicia having
interleaved portions corresponding to said alphanumeric
characters and said code characters respectively, the
code word providing verification of the validity of the
indicia."

The wording of claim 5 reads as follows:

"A postage metering system (20) for the printing
(32,300,400,600,800) of encrypted postage indicia in a
bar-code format on a mailpiece (22) as proof of postage
payment comprising:

(a) a keyboard (48) for the entry of alphanumeric
character data corresponding to mailpiece parameters;

(b) means (86,90) coupled to said keyboard (48) for
storing the said data;

(c) encryption means (88,92,202) connected to receive
the said data and a mailpiece count and operable to
provide a seed word that varies from mailpiece to
mailpiece in dependence of the mailpiece count and to
produce a code word of a plurality of code characters
(210) derived from the seed word and said mailpiece
parameters;

(d) a bar-code printer (406) for printing a bar-code
indicia on said medium; and

(e) selection means (82,94,201,202,208) coupled to
said storage means (86,90) and said encryption means
for alternately driving said printer (406) with data

from said keyboard (48) and with elements of said code
word of said encryption means (88,92,202) to control
said printer (406) to print bar-code indicia having
interleaved portions corresponding to said alphanumeric
characters and said code characters respectively, the
code word providing verification of the validity of the
indicia."

The wording of claim 8 reads as follows:

"A device for verifying an encrypted code word printed
serially on a mailpiece with data including a mailpiece
count in a bar-code format wherein the encrypted code
word is derived from and interleaved with the said data
characterized by:
(a) means (422) for reading bar-code indicia on said
mailpiece (22);
(b) means (426,88,92,201) for extracting said data and
responsive to said data read by said reading means
(422) for regenerating the encrypted code word by
providing a seed word which varies from mailpiece to
mailpiece in dependence on the mailpiece count and
operating on the said data and the said seed word to
generate said code word including a plurality of code
characters; and
(c) means (428,54) for comparing the regenerated code
word with a reading of the code word by said reading
means to verify the indicia."

Claims 2 to 4, 6, 7 and 9 are dependent.

VII.   The appellant's arguments may be summarized as follows.

       The independent claims defined devices for metering,
       printing and verifying encrypted postage indicia for

application to mailpieces.

At the priority date of the present patent, encryption techniques as a proof of payment were not used in the field of postage meters. At that time, special printers were used and security was achieved in that the printed information could not be easily reproduced, as for banknotes. There was, however, a desire to use normal printers while, at the same time, ensuring security. Encryption was the solution proposed by the patent in suit, whereby the features concerning the bar-code representation and interleaving of data should be regarded as details of the encryption system. None of the cited prior art documents disclosed the use of encryption in a franking machine. In particular, D3 was not relevant because it did not relate to a postage meter. Moreover, encryption as shown in D3 proved the authenticity of a payment document. In the case in suit, the issue was to prove whether payment of a postage fee had been made rather than proving whether the mailpiece was authentic. A more relevant document would be C3 concerning a franking machine, but the bar-code disclosed in this document could not be regarded as encryption within the meaning of the claims. Document D4 was relevant for the feature of data interleaving, but not of data with an encrypted version of the same data. In summary, the invention as defined in claim 1 was neither disclosed by nor suggested by the available prior art cited by the respondents. Even a particular combination of the cited documents would not lead to the subject-matter of claim 1. The same conclusion applied with regard to claims 5 and 8.

VIII. The arguments of respondents I and II may be summarized as follows.

Respondent I pointed out that the claimed subject-matter was no more than an obvious aggregation of features solving different problems. In particular, the idea of encrypting data was known *per se*, for example, from D3, which could be regarded as the closest state of the art. The use of bar-codes was also known in the field of the invention, as shown in C3. Moreover, this feature was not related to that of encryption. As to interleaving data with encrypted information, this feature was disclosed in document D4.

Respondent II agreed that document D3 was the closest state of the art owing to the fact that the invention related to the problem of encryption rather than to postage meters as such. This document did not disclose the features concerning the use of bar-codes and interleaving of data. But these measures were well-known at the priority date of the patent in suit, as shown by C3 relating to a franking machine for applying a bar-code to a mailpiece to be delivered, and by D4, D5 and D6 disclosing representation of coded and uncoded data in alternate form. A link between documents D3, D4, D5 and D6 consisted in that D6, page 19, referred to the priority document of D3, and in that D5 and D6 were acknowledged in D4, column 2.

Reasons for the Decision

1.   The appeal is admissible.

2.   *Amendments*

2.1   The amended claim 1 is based on granted claim 1 with the limitation that it now concerns a postage metering

device allowing proof of postage payment. This
limitation can be inferred from page 1, lines 1 to 5,
page 2, line 1, to page 3, line 6, and Figure 1 of the
original application. Moreover, according to
feature (a), the entered data have alphanumeric
character, which fact is disclosed, for instance, in
the embodiments of Figures 3A, 3B, 4A, and 4B. The
encryption circuit (see feature (c)) has been further
defined as regards its function of providing a seed
word varying from mailpiece to mailpiece and developing
a code word from the seed word and mailpiece
parameters. These features are disclosed in the
original application (see page 8, lines 2 to 16, and
the description of Figure 5). As regards the selection
means defined in feature (e), the feature has been
added, that the bar-code indicia have interleaved
portions corresponding to the alphanumeric characters
and the code characters, which feature is based on
page 39, line 5, to page 40, line 14.

2.2   Claims 5 and 8 include analogous amendments.

2.3   The dependent claims find their support in the granted
        dependent claims.

2.4   The added features do not extend the protection
        conferred.

2.5   Therefore, the amended claims meet the requirements of
        Article 123(2) and (3) EPC.

3.   *Article 84 EPC*

        The amended claims meet the requirements of Article 84
        EPC.

4.   *Novelty*

None of the cited documents discloses a postage
metering device including all the features of claim 1,
a postage metering system including all the features of
claim 5, or a verifying device with all the features of
claim 8. Therefore, the subject-matter of independent
claims 1, 5 and 8 is novel. Moreover, the novelty of
the claimed subject-matter is not in dispute among the
parties.

5.   *Inventive step*

5.1   Claim 1

5.1.1 Claim 1 refers to a postage metering device. For this
reason, the Board considers that document C3, and not
D3 as proposed by the respondents, should be regarded
as the most relevant state of the art. Indeed, C3
discloses a franking machine, i.e. a device of the same
kind as the claimed one, whereas D3 relates to a method
and apparatus for preparing and assessing machine-
readable payment documents such as bank or postal
cheques, i.e. to a field different from that of the
present invention.

5.1.2 The claimed postage metering device comprises *inter
alia* entry means for the entry of alphanumeric
character data corresponding to mailpiece parameters,
means coupled to said entry means for the storage of
said data, and means for imprinting the data in a bar-
code representation.

A postage metering device comprising these features is
disclosed in document C3. The franking machine shown in

Figure 1, indeed, comprises a numeric keyboard 14, a memory 18 and a printer 20 for imprinting the data in a bar-code representation (see page 2, lines 58 to 73).

The subject-matter of claim 1 differs from the metering device known from C3 in the provision of an encryption circuit generating a seed word and a code word as defined in feature (c), and in the provision of selection means interleaving the entered alphanumeric characters and the code characters in the bar-code representation as defined in feature (e).

These features solve the problem of metering postage indicia while avoiding the possibility of fraudulent adulteration of the postage (see the patent as granted, column 1, lines 41 to 47, and column 2, lines 5 to 10). Since it is normal to take steps to avoid a person adulterating the postage, stating this problem is regarded neither as new nor as contributing to inventive step.

5.1.3   The franking system according to C3 (see Figure 1) comprises a remote accounting unit 12, which is connected via data lines 26 and 32 to the franking machine 10. As to the operation (see page 3, lines 38 to 124), the user enters the relevant data concerning the mailpiece to be delivered via the keyboard. The microprocessor 16 then calculates the franking value by taking into account the address code of the franking machine. This franking value is fed to the accounting unit together with the address code. The accounting unit debits a relevant account with the franking value and sends a signal back to the franking machine in order to enable the printer to print a bar-code including, in a given order, all the information

necessary for the delivery.

The franking machine of C3 is not based on any form of encryption having the function of avoiding fraudulent adulteration of the postage. Therefore, the document does not teach or suggest encryption as claimed.

5.1.4   The respondents rely on document D3, which they consider as the most relevant state of the art. In making this choice, the respondents start from the solution of the stated problem, which consists in the encryption of the postage information, rather than from the postage metering device, which is the object of claim 1.

In the Board's view, this approach is not sound. According to D3, in order to ensure authenticity of a payment document like a bank or postal cheque, the serial number and the amount of the payment document are enciphered with a secret code, the result of the enciphering being a crypto number which is applied to the document together with the amount and the serial number (see column 1, lines 31 to 40, and Figure 1). To check the authenticity of the document, the crypto number, amount and serial number are read mechanically, and the amount and the serial number are enciphered with a secret code identical to that used for preparing the document. The new crypto number is then compared with that read from the document, and if the latter is the same as the former the payment document is assessed as valid (see column 1, lines 40 to 49, and Figure 2). As the appellant correctly points out, the system known from D3 is, therefore, intended for proving authenticity of a payment document, and not for avoiding fraudulent adulteration of postage. This

constitutes an essential difference between the known
system and the claimed device. Nevertheless, should D3
be used as the starting point for assessing inventive
step, the features concerning the bar-code
representation and interleaving of data, which relate
to the claimed way to perform encryption, are not
disclosed in the document. The Board admits that a bar-
code representation of postage data is known from C3
(see Figure 3). Moreover, the combination of encrypted
data with plain text to improve security can be
inferred from D4, column 2, lines 12 to 39 (referring
to D5) and 40 to 51 (concerning D6), although these
documents D4, D5 and D6 relate to the different
technical field of identity cards. It should thus be
clear that the respondents' approach reflects an *ex
post facto* assessment based on a mosaic combination of
documents from different technical fields, which
combination does not even lead to the claimed device,
because the starting point, i.e. D3, does not concern a
postage metering device. The link between the
documents, referred to by respondent II, does not
justify their combination. In the Board's judgement,
there is no evidence rendering obvious the essential
idea of the invention, which consists in the
application of encryption techniques to the field of
postage metering devices for security reasons. This
idea might appear evident nowadays, but it was not, in
the Board's judgement, at the priority date of the
patent in suit.

5.1.5   The other documents cited during the proceedings do not
come closer to the claimed device. Therefore, the
subject-matter of claim 1 involves an inventive step.

5.2   Claims 5 and 8

The postage metering system according to claim 5 and the device for verifying an encrypted code word on a mailpiece according to claim 8 include features equivalent to those of claim 1, and, hence, also involve an inventive step.

6.   *Procedure*

Taking into consideration the amendments made, the claims according to the appellant's request meet the requirements of the EPC. However, before a patent is granted, the amended description as filed by the appellant during the oral proceedings on 15 March 2000, which is rather complicated owing to the presence of various embodiments, needs further examination in order to establish whether it has been correctly brought into conformity with the new claims.

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 with the following claims and the description and drawings to be adapted:

claims 1 to 9 as filed at the oral proceedings on 15 March 2000.

The Registrar: The Chairman:

1142.D

R. Schumacher   G. Davies

1142.D