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D E C I S I O N
of 22 March 1995

Case Number: T 0899/92 - 3.2.5

Application Number: 83106828.3

Publication Number: 0099110

IPC: G07B 17/02

Language of the proceedings: EN

Title of invention:
Electronic postage meter having a one time actuable operating program to enable setting of critical registers to predetermined values

Patentee:
PITNEY BOWES INC.

Opponent:
ALCATEL CIT
Société Secap

Headword:
-

Relevant legal provisions:
EPC Art. 52, 54, 56, 123(2) and (3)

Keyword:
"Novelty (yes)"
"Inventive step of main and auxiliary request (no)"

Decisions cited:
-

Catchword:
-

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Case Number: T 0899/92 - 3.2.5

D E C I S I O N
of the Technical Board of Appeal 3.2.5
of 22 March 1995

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Decision under appeal: **Decision of the Opposition Division of the European Patent Office given orally on the 3 July 1992 and posted with grounds on the 4 August 1992 rejecting the opposition filed against European patent No. 0 099 110 pursuant to Article 102(2) EPC.**

Composition of the Board:

Chairman: C. V. Payraudeau
Members: C. G. F. Biggio
W.-D. Weiß

Summary of Facts and Submissions

I. By a decision dated 4 August 1992, the Opposition Division rejected the oppositions raised against the grant of European patent No. 99 110.

This decision was based on the patent as granted.

The Opposition division held that the subject-matter of Claim 1, as granted, involved an inventive step over the combined teaching from:

D1: US-A-3 978 457, acknowledged in the patent in suit and corresponding to FR-A-2 360 136 (D1'), and
D2: US-A-4 105 156.

II. The Appellants (Opponents) lodged an appeal against this decision on 22 September 1992 (Opponent II) and on 5 October 1992 (Opponent I) respectively; the appeal fees were paid at the same respective dates.

Grounds of appeal were filed on 3 December 1992 and on 7 December 1992 respectively.

III. Oral Proceedings were held on 22 March 1995.

IV. The Appellants requested that the decision under appeal be set aside and the patent be revoked.

The Respondent requested

- as main request, that the appeal be dismissed, and
- as auxiliary request, that the patent be maintained on the basis of an amended Claim 1 filed at the oral proceedings.

V. Claim 1 according to the main request, i.e. Claim 1 of the patent as granted, reads as follows:

"A postage meter comprising:
printing means (34) for printing postage;
a computing means (30) coupled to said printing means (34) for accounting for postage printed by said printing means:
non-volatile memory means (36) coupled to said computing means (30) and including register locations (46, 48, 50) for storing critical meter data; and
a program store (32) coupled to said computing means and containing a one-time actuable program operable to cause said computing means (30) to write data predetermined in the program into said register locations (46, 48, 50) such that said critical data is set to predetermined values, and said program being operable to cause said computing means (30) to prevent re-entry into said program if said non-volatile register locations have been previously set by the program to said predetermined values".

Claim 1 according to the auxiliary request reads as follows:

"A postage meter comprising:
printing means (34) for printing postage;
a computing means (30) coupled to said printing means (34) for accounting for postage printed by said printing means;
non-volatile memory means (36) coupled to said computing means (30) and including register locations (46, 48, 50) for storing critical meter data; and
a program store (32) coupled to said computing means and containing a one-time actuable program and an operating routine repeatably operable before and after the one-time program to cause said computing means (30) to

account for postage printed by said printing means by updating said register locations, said one-time actuable program being operable to cause said computing means (30) to write data predetermined in the program into said register locations (46, 48, 50) such that said critical data is set to predetermined values, and said program being operable to cause said computing means (30) to prevent re-entry into said program if said non-volatile register locations have been previously set by the program to said predetermined values".

VI. During the written and at the oral proceedings, both Appellants essentially submitted that the postage meter according to Claim 1 of both the main and the auxiliary requests merely differs from that known from document D1 in that it comprises: a one-time actuable program operable to cause the computing means to write data predetermined in the program into the register locations such that said critical data is set to predetermined values, and said program being operable to cause said computing means to prevent re-entry into said program if said nonvolatile register locations have been previously set by the program to said predetermined values.

Such a one-time actuable program for initialising nonvolatile register locations, by writing therein critical data, was however known from document D2.

Although document D2 related to a credit card, the person skilled in art of postage meters would have certainly considered applying its teaching in this neighbouring field; the necessary modifications for the adaptation of this teaching to the field of franking machines being obvious for him.

Contrary to the opinion expressed by the Opposition Division in the decision under appeal, it was, thus, submitted that a person skilled in the art would have had no refrain to combine the teaching from document D1 with that from document D2, thereby arriving at the claimed invention.

The Appellants further submitted that in Claim 1, according to both the main and the auxiliary requests, the one-time actuable program was defined by a combination of essentially functional and "nearly software terms", so that none of the differences existing between the hardware structure of the credit card disclosed by document D2 and that disclosed in the patent in suit, but not expressly mentioned in Claim 1, could be taken into account for the appreciation of the inventive step involved by the claimed subject-matter.

The Appellants pointed out that the difference which existed between the one-time actuable program disclosed in document D2 and that according to the patent in suit was merely due to the fact that - the critical data to be written in the registers of the credit card, during the initialising phase thereof, were, according to document D2, monetary values which could be different from a customer to another and therefore could not be integrated in the program incorporated in the credit card, whereas,

- in the postage meter according to the claimed invention, the critical data to be written into the registers of the machine were constant values defined by postal regulations and could, consequently, be advantageously incorporated into the program.

According to the Appellants, when looking at a given computer program, a person skilled in the art would consider said program as made up of two kinds of elements:

- the "orders" which define the algorithms to be carried out during the actuation of said program, and
- the "data" which define the numerical values to be operated upon with said algorithms.

However, if some given "data" happen to be constant numerical values, said person skilled in the art, on the basis of his general knowledge, would incorporate them into the program together with the "orders", thereby arriving at the situation defined in Claim 1 by the expression: "... to write data predetermined in the program into said register locations ...", without the need of an inventive activity.

VII. The Respondent, in answer, pointed out that, according to the invention and as more clearly expressed by Claim 1 according to the auxiliary request:

- an unlimited testing of the nonvolatile memory and of the postage meter was possible, during the manufacturing thereof, said testing being carried out using the operating routine which was repeatably operable before (and of course also after) the one-time actuable program to cause the computing means to account for postage printed by the printing means by updating said register locations of said nonvolatile memory,
- the one-time actuable program allowed, after the end of said unlimited testing, to cause said computing means to write critical data "predetermined in the program" into said register

locations such that said critical data were set to predetermined values, thereby "cancelling" the unwanted effects of said testing, and - said one-time actuable program was operable to cause said computing means to prevent re-entry into said program if said nonvolatile register locations had been previously set by the program to said predetermined values, thereby preventing possible forgery of said predetermined monetary values stored in said nonvolatile register locations.

Having regard to the one-time actuable program according to document D2, the Respondent submitted:

- that the predetermined monetary values to be stored in the nonvolatile register locations of the credit card were not "predetermined in the program", contrary to the teaching of Claim 1, and
- that, according to document D2, said predetermined monetary values were balances of bank accounts which are eminently variable from a client to another, so that a person skilled in the art would have never envisaged to incorporate them into the program.

Even if the person skilled in the art was aware of the possibility to incorporate constant numerical values into a program, he would have had neither reasons nor incentives to modify in this manner the program of the credit card according to document D2.

The Respondent further submitted that document D2 made no mention of any testing procedure; such a testing being, moreover, technically unsuitable in the context of a credit card, whose nonvolatile memory is disclosed to be a programmable read only memory (PROM). During a testing, in fact, some data, which manifestly were

unwanted data, would have to be written into said PROM, thereby providing for the loss of some memory capacity, because it would be impossible to erase said unwanted data, after testing and before handing over the tested credit card to a client.

The Respondent concluded accordingly that, although showing some similarities, document D2 did not address the same problem as the patent in suit and could not teach nor even suggest the solution proposed and claimed by the latter. Therefore the combination of documents D1 and D2 would had never been considered by the person skilled in the art.

Reasons for the Decision

1. *Main request*

1.1 Novelty

Document D1 discloses a postage meter comprising: printing means (PP) for printing postage; a computing means (CPU) coupled to said printing means (PP) for accounting for postage printed by said printing means: nonvolatile memory means (NVM) coupled to said computing means (CPU) and including register locations (DSC-815, ASC-816, COUNT-817) for storing critical meter data; and a program store (PM) coupled to said computing means and containing an operating routine repeatably operable to cause said computing means (CPU) to account for postage printed by said printing means by updating said register locations (see D1: Figures 1 and 6 and the corresponding description).

This is confirmed by the patent in suit (column 1, lines 5 to 43), where the prior art represented by the disclosure of document D1 is summarized and has been acknowledged by all parties.

Consequently, with respect to document D1, the novelty of the subject-matter of Claim 1 resides in that the program store (PM = 32) further contains a one-time actuable program operable to cause the computing means (CPU = 30) to write data predetermined in said one-time actuable program into the register locations (46 = 815, 48 = 816, 50 = 817) of the nonvolatile memory (NVM = 36) such that said critical data is set to predetermined values; said one-time actuable program being operable to cause said computing means (CPU = 30) to prevent re-entry into said program if said nonvolatile register locations have been previously set by the program to said pre-determined values.

Document D2 relates to a credit card and cannot, therefore, prejudice the novelty of Claim 1.

The subject-matter of Claim 1 is, thus, novel in view of this prior art.

1.2 Inventive step

1.2.1 Document D1 has been acknowledged in the description of the patent in suit as one of the documents which represent the closest state of the art (see column 1, lines 5 to 14).

According to the patent in suit (column 1, line 5, to column 2, line 2), there was a users' requirement that the electronic parts of the postage meter could be tested, not only in the still disassembled state during

the manufacturing process, but also before it is put to filed service, when it is secured in a tamper resistant housing with the final user.

Whenever a test procedure, in this final state, left improper values in the registers of the memory, the registers had to be physically accessed in order to reset the registers of the nonvolatile memory to the standardised initial values by a costly and time consuming process involving the break-up of the hardware security features.

Consequently, there is a need for a postage meter which includes the possibility of irreversibly switch it from a mode which allows the free testing of its hardware and software to a mode which, starting from reliably preset standardised values of the registers, only allows to operate the normal routine foreseen for the actual field service. The technical problem to be solved by the subject-matter of the patent in suit consists in providing initialising means which meet this requirement.

1.2.2 The solution of said problem is, according to the patent in suit, to initialise the register by means of a one-time actuable program as defined in Claim 1.

Document D2 already discloses a register initialising procedure which, according to the embodiment represented on Figure 2 (see column 6, lines 24 to 43), comprises a program that writes predetermined monetary values, i.e. critical data, in nonvolatile register locations. In order to prevent possible forgery of said predetermined monetary values stored in said nonvolatile register locations through the use of said program, after storage

of these values, the output gate of the memory is destroyed so that the card cannot be initialised a second time in the same manner.

The initialising program according to the document D2 is thus a one-time actuable program and the person skilled in the art would have immediately recognised that it is conceived for solving the general problem of the initialisation of register locations with critical data which must be protected against tampering by using again the same program. Contrary to the opinion of the Opposition Division, the Board considers, accordingly, that the person skilled in the art not only could but would have contemplated combining the teaching of document D1 with that of document D2.

The one-time actuable program according to the present Claim 1 differs from the one-time actuable program according to document D2 in that it is operable to cause the computing means to write data "predetermined in the program" into said register locations, whereas, in the device according to document D2, the critical data are extracted from outside registers or from other outside source of information.

The Board agrees with the Appellants that a person skilled in the art would have made a clear distinction between the two kinds of elements by which a computer program is made up, i.e. the "orders", defining the algorithms to be applied during the actuation of said program, and the "data", defining the numerical values to be operated upon by said algorithms.

The Board notes moreover that, according to the postal regulations referred to in the patent in suit (column 1, lines 59 to 63), some of the "critical data" are constant numerical values.

The Board considers, accordingly, that a person skilled in the art, on the basis of his general knowledge, would have considered as expedient and obvious to incorporate such constant values into the program together with the "orders", as it is well known in the computer art, thereby arriving, without the need of an inventive activity, at the feature: "data predetermined in the program", as defined in Claim 1.

The Respondent has further objected that the device according to document D2 also differed from the subject-matter of Claim 1 in that it provided for the material destruction of a gate, whereas, according to the invention, the program itself did prevent re-entry into the program by putting "on" a bit in a register.

The Board, however, considers that Claim 1, being drafted in functional terms, does also cover an embodiment wherein the re-entry into the program would be prevented by blowing up of a gate. Anyhow, both means are to be considered as technically equivalent and the substitution of one means by the other cannot, in any case, justify the presence of an inventive step.

For the above reasons, the subject-matter of Claim 1 according to the main request does not involve an inventive step and does not therefore satisfy the requirements of Article 56 EPC.

2. *Auxiliary request*

2.1 Extension of the content of the application and of the protection conferred (Article 123(2) and (3) EPC

Claim 1 according to the auxiliary request comprises all the features mentioned in Claim 1 of the patent as granted, with the added feature that the operating routine is operable repeatably "before and after the one-time program" has been executed.

The added feature is a limitation and is supported by the disclosure, as filed, of the patent in suit (see: page 2, lines 24 to 29 and page 15, lines 13 to 22).

The requirements of Article 123(2) and (3) EPC are thus satisfied.

2.2 Novelty

Since Claim 1 according to the auxiliary request contains all the features of Claim 1 according to the main request, and since the novelty of the subject-matter of Claim 1 of the main request has been recognised, the novelty of the subject-matter of Claim 1 according to the auxiliary request must be recognised too.

2.3 Inventive step

The subject-matter of Claim 1 according to the auxiliary request differs from that of the main request in that it is specified that the operating routine is operable repeatably "before and after the one-time program" has been executed.

The details of this routine are not specifically described in the patent in suit and may, therefore, be considered as identical or at least equivalent to the routine used in the postage meter according to document D1.

It cannot, therefore, in itself support the inventiveness of the subject-matter of Claim 1 according to the auxiliary request.

As already indicated under point 1.1 above, the operating routine of the postage meter according to document D1 must also be operable before (for test purpose) and after (for use purpose) the postage meter has been delivered to the customer. This is recognised in the patent in suit.

Therefore, the addition of this limitation which, in fact, is already implicitly contained in Claim 1 of the main request, since the one-time actuable program is only useful in combination with such a routine, does not contribute to an inventive step.

For the above reasons, the Respondent's auxiliary request cannot be granted either.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The patent is revoked.

The Registrar: The Chairman:

A. Townend C. Payraudeau