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D E C I S I O N
of 17 May 2001

Case Number: T 0140/97 - 3.5.2

Application Number: 90302289.5

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Title of invention:
Electronic postage meters

Patentee:
PITNEY BOWES INC.

Opponent:
(01) Société SECAP
(02) Francotyp-Postalia Aktiengesellschaft & Co.

Headword:
-

Relevant legal provisions:
EPC Art. 56

Keyword:
"Inventive step (denied)"

Decisions cited:
-

Catchword:
-



Case Number: T 0140/97 - 3.5.2

D E C I S I O N
of the Technical Board of Appeal 3.5.2
of 17 May 2001

Appellant: Société SECAP
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Decision under appeal: Interlocutory decision of the Opposition Division
of the European Patent Office posted 27 December
1996 concerning maintenance of the European
Patent No. 0 386 968 in amended form.

Composition of the Board:

Chairman: W. J. L. Wheeler
Members: M. Ruggiu
P. Mühlens

Summary of Facts and Submissions

I. The opponent 01 SECAP appealed the interlocutory decision of the opposition division concerning maintenance of the European patent Nr. 0 386 968 in amended form.

II. During the appeal the appellant referred to the following prior art documents:

FR-B-2 335 002 (referred to as P1 hereafter);

US-A-3 978 457 (referred to as D2 hereafter); and

US-A-4 706 215 (referred to as D3 hereafter).

The respondent proprietor also referred to prior art document

GB-A-1 507 639

(which claims the priority of P1 and will be referred to as P1' hereafter).

III. Oral proceedings were held before the board on 17 May 2001.

IV. The appellant requested that the decision under appeal be set aside and that the patent be revoked in its entirety.

V. The respondent requested that the patent be maintained in amended form on the basis of:

Claims 1 to 9 of the main request filed with letter of

17 April 2001; or

Claims 1 to 8 of the first auxiliary request filed with letter of 17 April 2001, with the method claims 7 and 8 combined; or

on the basis of the method claims only of the main or the first auxiliary request.

VI. The opponent O2 was not active in the appeal and did not formulate any request.

VII. The independent apparatus claim 1 according to the main request reads as follows:

"An electronic postage meter incorporating a non-volatile memory and a microcomputer (50) for controlling the printing and accounting of the values printed in a franking operation; the non-volatile memory (54) having a first electronic register (200) for storing postage fund information representing meter funds available for postage printing, and a second electronic register (204) accessed at each franking operation and for storing operating funds for accounting at a franking operation; characterized in that the said microcomputer comprises means for increasing the fund amount stored in said second register (204) by withdrawal of a predetermined increment of funds from said first register (200), said funds being drawn from the first register (200) and credited to the second register (204) whenever the funds in the latter are reduced to below a predetermined amount."

The independent method claim 8 according to the main

request reads as follows:

"A method for accounting for expenditure of postage meter funds during franking operations, which comprises:

(a) storing postage meter funds to be expended by said postage meter in a first electronic register (200) in a non-volatile memory means (54);

(b) storing postage meter operating funds for accounting at each franking operation of the postage meter in a second electronic register (204) in said non-volatile memory means;

characterized by:

(c) periodically accessing said first register (200) to withdraw predetermined increments of postage meter funds when the funds in the second register are reduced to below a predetermined amount;

(d) adding those increments to the funds stored in said second register (204); and

(e) accounting for the expenditure of funds during franking operations using the information stored in said second register (204)."

In addition to the features of claim 1, main request, the independent apparatus claim 1 of the first auxiliary request specifies that the non-volatile memory means providing said first register (200) is powered for accessing only for the withdrawal of funds operation.

In addition to the features of claim 8, main request, the independent method claim according to the first auxiliary request specifies steps of powering up the non-volatile memory means (106) for accessing the first register (200) and powering down the said non-volatile

memory means (106) after the accessing has been completed.

VIII. The arguments of the appellant can be summarised as follows:

P1 disclosed an electronic postage meter in which the sum of the postage expended by the meter was stored in the combination of a first electro-mechanical register and a second electronic register, with the most significant digits of the sum held in the electro-mechanical register and the less significant digits in the electronic register. The appellant considered that the differences between the prior art disclosed in P1 and the claimed invention were minor and resulted from the routine evolution of technology in the period (14 years) between P1 and the opposed patent.

Although P1 described a meter in which the expended postage was totalised as required in France, it was obvious, in particular in view of the passage at page 1, lines 4 to 7 of P1 which showed that totalising and deduction systems were equivalent, to modify the meter of P1 to adapt it to a deduction system as used in the US, Great-Britain or Germany.

The postage meter of P1, when adapted to subtract printed postage from a stored sum, would withdraw funds from the first electro-mechanical register whenever the funds in the second electronic register were insufficient to cover the amount of the printed postage, i.e. whenever the funds in the second register dropped below a zero value.

The opposed patent did not disclose any example of the

value of the predetermined amount specified in the independent claims and the claims themselves did not exclude that the predetermined amount be zero or even negative. In this respect, the appellant drew attention to the fact that the first register of the patent (NVM 1) held postage meter funds in ascending and descending registers. As could be shown from D2 (which according to column 5, lines 36 to 41 of the patent disclosed how to account for a meter trip, i.e. a franking operation), it was common to check the funds held in these registers to authorise a meter trip. Thus, in the view of the appellant, the opposed patent did not exclude that the predetermined amount be zero or even negative, because the funds contained in the first register could be taken into account to authorise a meter trip.

The passages in the granted patent, in particular column 5, lines 42 to 48, indicating that the first register (NVM 1) was powered down except during a withdrawal of funds operation did not exclude that the first register could be read before authorising a meter trip. In this respect, the appellant referred to the passages at column 2, lines 37 to 42; column 5, lines 49 to 55 and column 6, lines 12 to 21, of the patent, which, in its opinion, showed that the power down removed the writing voltage from the first register to protect the funds stored therein, but did not exclude reading in the first register. The use of a 64 Kb EEPROM device as first register (see column 4, line 22 of the patent) also pointed in that direction because, as was well known, EEPROM devices used different voltages for writing and reading. Checking the funds stored in the first register prior to a franking operation was also consistent with Figure 5 of

the patent, which showed that accounting was performed in step 340 after the franking operation itself in step 330.

The skilled person was aware from P1 that the electro-mechanical register provided a better retention of the data stored therein than the electronic register. It would be obvious to the skilled person to retain this advantage in a fully electronic postage meter. Thus it would be obvious to the skilled person to use two different electronic registers to store the funds of the postage meter.

It was well known, in particular from D2 and D3, and thus obvious to a skilled person to provide a microprocessor in a franking machine for controlling the printing and accounting of values printed in a franking operation.

As regards the first auxiliary request the appellant submitted that the patent indicated in column 5, lines 42 to 48 that power-down was provided to prevent writing in the first register. This measure was well known in the art, in particular from D3 column 4, lines 11 to 24, 33 to 36 and 45 to 54, in which a non-volatile memory was powered-down to prevent any spurious writing therein.

IX. The respondent essentially argued as follows:

The amendments made to claim 1 did not infringe Article 123(3) EPC. In the patent as granted, claim 3 was in contradiction with claim 1. Any reader attempting to resolve this would turn to the description and discover that claim 1 as granted

contained an error: the phrase "accessed at each franking operation" should qualify the second register and not the first register.

The passages in column 2, lines 37 to 42 and column 5, lines 42 to 48 of the patent made clear that the first register was de-energised during a franking operation. In particular column 5, lines 46 to 48 indicated that only operating funds were available for accounting for postage printed during a trip cycle of the meter, so that the funds stored in the first register (NVM 1) were not available for accounting for a franking operation. In particular, an EEPROM with a single 5V power supply for reading and writing would not be readable when powered down. Thus it was clear that the value stored in the second electronic register, which held the operating funds, could never drop below zero because otherwise accounting for the printed postage would not be possible and no postal authority would approve this. Since, as shown in Figure 5 of the patent, accounting was performed after the franking operation, it was clear that the predetermined amount specified in the independent claims had to be positive and at least equal to the maximum postage that could be printed. This constituted a difference to what could be obtained by adapting the postage meter of P1 or P1' to a deduction system.

Furthermore the postage meter of P1 or P1', adapted to a deduction system, would withdraw funds from the first register when the amount remaining in the second register would be less than the amount of the postage expended in a franking operation. Since this amount of postage was variable, the value of the remaining amount at which the adapted postage meter would withdraw funds

from the first register would not be predetermined.

Finally the respondent submitted that the only reason for using two different registers in P1 or P1' was to provide more security for the bulk of the funds. As appeared in particular from the passage at the end of the description of P1' (page 4, lines 110 to 122), the skilled person was well aware that it was desirable to have a fully electronic postage meter. A skilled person trying to achieve this goal would not have used two separate, different electronic registers to store the postal funds in the meter. Rather he would have stored all funds in a single register as in D2 and D3, and ensured security of these funds by the means suggested in the prior art.

Reasons for the Decision

1. The appeal is admissible.
2. The claims of the patent have been amended. The question as to whether these amendments meet the requirements of Article 123(2) and (3) EPC can however be left undecided, because the patent has to be revoked for other reasons, which are set out below.
3. P1 can be considered as disclosing the prior art closest to the invention.

In particular Figure 5 of P1 shows a non-volatile memory for accounting of the values printed in a franking operation in accordance with the totalising system. This non-volatile memory comprises a first register storing the most significant digits of the

number representing the sum of the printed postage, i.e. the value of the accumulated expense, and a second register storing the less significant digits of that number, the two registers operating in combination as an ascending counter which adds the value of the postage printed in a franking operation to the value stored therein. The first register is an electro-mechanical device while the second register is a battery-backed electronic memory. P1 (see page 1, lines 12 to 35; page 2, lines 10 to 22 and page 7, lines 7 to 28) also indicates that the first electro-mechanical register has a better retention than the second electronic register, so that, in case of a catastrophic failure, at least the value stored in the first register, which represents the most significant figure of the accumulated expense, has a good chance of being conserved.

4. Thus the subject-matter of claim 1, main request differs from the prior art disclosed in P1 in that:
 - (a) the first register is implemented in electronic form;
 - (b) the meter incorporates a microcomputer for controlling the printing and accounting of the values printed in a franking operation and controlling the transfer of values between the first and second registers; and
 - (c) the value stored in the first register represents meter funds available for postage printing, the value stored in the second register represents operating funds for accounting at a franking operation and the microcomputer is provided for

increasing a fund amount stored in the second register by withdrawal of a predetermined increment of funds from the first register, said funds being drawn from the first register and credited to the second register whenever the funds in the latter are reduced to below a predetermined amount.

Features (a) and (b) solve the problem of implementing the control of the postage meter in a completely electronic form, which, as acknowledged in P1 (see page 1, lines 29 to 35), is a desirable aim for the skilled person once sufficiently reliable components are available.

Features (c) make the postage meter suitable for accounting of the values printed in accordance with the well-known deduction system. This problem is clearly obvious to the skilled person in particular in view of the passage at page 1, lines 4 to 7 of P1, which shows that the totalising and deduction accounting systems are both commonly used.

5. As regards feature (a) the board observes that in any art it is part of the skilled person's routine activity to update existing equipment as and when new, better components become available. In the present case, it would have been obvious to replace the electro-mechanical register of P1 by an electronic one when sufficiently reliable electronic registers became available. Indeed D2 and D3 disclose postage meters storing their funds in fully electronic registers. The passage at column 4, lines 110 to 122 of P1' also suggests using fully electronic registers in postage meters. The board considers therefore that it would be

obvious to a skilled person to replace the first electro-mechanical register of Figure 5 of P1 by an electronic device. In order to retain the advantages provided by the arrangement shown in Figure 5 of P1, which are explicitly set out in P1, the board considers it would be obvious to a skilled person to replace the first electro-mechanical register by an electronic device of a type providing higher retention of data than the second electronic register. Thus the skilled person would be led to use two different electronic devices for implementing the two registers, so that feature (a) above is obvious to the skilled person.

6. As regards feature (b) the board takes the view that, at the date of priority of the patent, providing a microcomputer for controlling and accounting the values stored in a postage meter constituted an obvious design possibility for the practical implementation of the postage meter of a franking machine. In this respect, the board observes that column 5, lines 36 to 41 of the patent specification indicates that accounting is done in a conventional manner as shown in D2. This document (see Figure 1a and column 6, line 32 to column 7, line 37) discloses a postage meter provided with a microcomputer for controlling the printing and accounting as well as transferring information representing values between electronic memories of the postage meter. Document D3 also describes a postage meter controlled by a microcomputer.

Thus it is obvious to a skilled person to control the two registers of the postage meter shown in Figure 5 of P1 by means of a microcomputer, which results in feature (b) identified above.

7. Adaptation of the meter illustrated in Figure 5 of P1, modified to be fully electronic, to perform accounting in accordance with the deduction system would entail the following two modifications, which the board and the parties consider obvious:

an initial, possibly prepaid, fund value would be stored in the counter formed by the first and second registers;

the two registers would be operated in combination as a descending counter which subtracts the value of the postage printed in a franking operation from the remaining value stored therein.

It is clear that if the value held in the second register prior to the franking operation were insufficient to allow full deduction of the printed postage value, i.e. when the value to be deducted was higher than the value in the second register, then funds would have to be transferred from the first register, which holds the most significant digits of the stored value, to the second register. No transfer of funds would be performed as long as the funds in the second register were sufficient to cover the value of the printed postage. Thus the board considers that the transfer of funds would not occur in response to a variable threshold but rather in response to the funds in the second register dropping below a zero value. Furthermore, where the transfer of funds from the first to the second register is controlled by a microcomputer, the need arises to initiate the transfer in response to a criterion suitable to be applied by the microcomputer. An obvious criterion meeting this requirement is to initiate the transfer in response to

the value held in the second register dropping below a predetermined amount, in particular zero. Therefore, adaptation of the postage meter to operate in accordance with the deduction accounting system would lead to drawing funds from the first register and credit them to the second register whenever the funds in the latter are below a predetermined amount equal to zero.

The wording of the claims and the description of the patent do not place any explicit restriction on the predetermined amount. Furthermore the description of the patent does not exclude that the predetermined amount be equal to zero and that, following a franking operation, a negative value be provisionally held in the second register before an increment of funds is transferred from the first register. In particular the board considers that the description of the patent, especially column 5, lines 42 to 48, which specifies that the first register is powered-down during a franking operations so that no writing can be performed therein, does not exclude reading in the first register to check whether sufficient funds are held therein for a franking operation.

Thus, the board considers that the predetermined amount specified in the independent claims of the patent is not necessarily greater than zero and, consequently, that feature (c) above would be obvious to a skilled person adapting the postage meter of P1 to operate in accordance with the deduction system.

8. For the above reasons, the subject-matter of claim 1, main request, as a whole, is considered to be obvious to a skilled person.

The subject-matter of method claim 8, main request is the immediate result of the operation of a postage meter according to claim 1, main request and thus is also considered obvious to a skilled person.

9. D3 discloses a franking machine in which funds are stored in an electronic non-volatile memory. As explained at column 3, lines 56 to 60 and column 4, lines 11 to 24, 33 to 36 and 45 to 54 of D3, a non-volatile memory is powered-down, in particular by clamping it to ground potential, to ensure that no writing can occur therein as a result of spurious signals from a microcomputer. Thus D3 teaches the skilled person to power-down a non-volatile memory of a postage meter when writing therein should not be allowed.

The board considers that, in view of this teaching by D3, the additional feature specified in claim 1, first auxiliary request, is obvious to a skilled person, because it is apparent to the skilled person that writing in the first register should only take place during a transfer of funds.

The subject-matter of the independent method claim of the first auxiliary request results from the operation of the postage meter defined in claim 1, first auxiliary request, and thus is also obvious to a skilled person.

10. Thus none of the independent claims contained in the requests submitted to the board specifies subject-matter which could be considered to involve an inventive step in the sense of Article 56 EPC.

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:

M. Hörnell

W. J. L. Wheeler