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**D E C I S I O N**  
**of 13 May 2004**

**Case Number:** T 0890/01 - 3.5.2

**Application Number:** 93309213.2

**Publication Number:** 0598623

**IPC:** G07B 17/02

**Language of the proceedings:** EN

**Title of invention:**

Machine including apparatus for accounting for malfunction conditions

**Patentee:**

PITNEY BOWES INC.

**Opponent:**

NEOPOST LTD

**Headword:**

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**Relevant legal provisions:**

EPC Art. 56

**Keyword:**

"Inventive step (yes)"

**Decisions cited:**

-

**Catchword:**

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Case Number: T 0890/01 - 3.5.2

**D E C I S I O N**  
of the Technical Board of Appeal 3.5.2  
of 13 May 2004

**Appellant:** PITNEY BOWES INC.  
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**Decision under appeal:** Decision of the Opposition Division of the  
European Patent Office posted 2 May 2001  
revoking European patent No. 0598623 pursuant  
to Article 102(1) EPC.

**Composition of the Board:**

**Chairman:** W. J. L. Wheeler  
**Members:** R. G. O'Connell  
E. Lachacinski

## Summary of Facts and Submissions

I. This is an appeal against the decision of the opposition division revoking European patent 598 623 for lack of an inventive step, having regard to prior art known from:

D1: US-A-5 121 327 and

D2: FR-A-2 590 704.

II. The following prior art documents were also cited in the notice of opposition:

D3: EP-A-0 080 376

D4: EP-A-0 072 000

D5: EP-A-0 436 824.

In addition, the following document was filed by the opponent during the first instance opposition procedure:

D6: Instruction manual for Konica 2028 photocopier, pages 12 to 13.

III. Claim 1 of the patent as granted reads as follows:

"A machine including means (64) for printing indicia on a sheet (22), and means (40) for feeding the sheet in a path of travel to the printing means (64), wherein the feeding and printing means each include a plurality of components, the machine further including apparatus for

accounting for malfunction conditions of the machine,  
the apparatus comprising:

(a) means for controlling the machine, the controlling means including a random access memory (RAM) (123) and a non-volatile memory (NVM) (274) respectively connected to the microprocessor, the microprocessor (122) being programmed for causing a plurality of desired movements of the respective components of the sheet feeding and printing means and thus of a sheet in the path of travel;

(b) a plurality of sensors (97A,99B,170,220,230,232) respectively connected to the microprocessor for sensing actual movements corresponding to the desired movements of the respective components of the sheet feeding and printing means (40;64) and of a sheet (22) in the path of travel and for providing signals to the microprocessor;

(c) the microprocessor (122) being programmed for determining whether the differences between corresponding desired and actual movements are acceptable, and also being programmed for concurrently storing error code data in both the RAM and NVM, wherein said error code data (275) corresponds to an actual determined unacceptable movement difference."

Claims 2 to 13 are dependent on claim 1.

IV. Oral proceedings in the appeal procedure were held on 13 May 2004.

V. The appellant proprietor argued essentially as follows:

The opponent and the opposition division underestimated the invention and overestimated the disclosure of the agreed closest prior art (document D1), which disclosed a machine for printing indicia on a sheet (mail piece). Movements of the components of the printer were controlled by a microprocessor connected to a RAM and to a non-volatile memory (NVM). A plurality of sensors for sensing actual movements of printer components were connected to the microprocessor which determined whether any differences between the desired and the actual movements were acceptable in a preliminary initialisation mode. However, D1 did not disclose any sheet feeding means at all and certainly did not disclose that the microprocessor controlled and monitored the movements of components of sheet feeding means and stored error codes in the RAM and NVM. The combination of these features of the invention made diagnosis of the complete machine (feeder and printer) possible at any time. The machine disclosed in D1 did not need a feeder so there was no incentive to add a feeder to it. Admittedly, the general concept of storing error codes in NVM for diagnostic purposes was known in various fields of microprocessor control. In D2, movements of bank notes, but not of components of the feeding machine itself, were monitored. Even if D1 and D2 were read together, their combination did not disclose monitoring movements of components of a sheet feeder, let alone the idea of storing error codes relating thereto.

VI. The respondent opponent argued essentially as follows:

D1 disclosed a postage meter in which the settings of the print wheels of the printer were monitored. It was implicit that the postage meter of D1 had a feeder as feeders were commonly provided in such machines. The disputed patent did not distinguish between the way in which the movements of the components of the feeder and those of the printer were monitored, or the way in which the corresponding error codes were handled and stored. D2 to D6 showed that it was generally known to store error data in NVM. It was obvious for security reasons, that all errors, irrespective of whether they occurred in the printer or feeder, must be detected and stored.

VII. The appellant proprietor requested that the decision under appeal be set aside and that the patent be maintained unamended (main request) or alternatively on the basis of the auxiliary request which had been filed with the letter of 5 April 2004.

VIII. The respondent opponent requested that the appeal be dismissed.

### **Reasons for the Decision**

1. The appeal is admissible.
2. Regarding the patent proprietor's main request, the only point in issue is whether the subject-matter of claim 1 as granted involves an inventive step within the meaning of Article 56 EPC.

3. Although claim 1 of the opposed patent is directed to "a machine including means for printing indicia on a sheet, and means for feeding the sheet in a path of travel to the printing means", the opponent has taken document D1 as the closest prior art. Despite the fact that D1 does not mention sheet feeding means, the opponent argues that such a feature is implicitly disclosed for the skilled person. The opposition division did not go quite that far: in the impugned decision, it is reasoned that the machine disclosed in D1 is designed to be fed automatically with sheets for printing. In point 4 of the decision under appeal, the opposition division supports this view by citing a passage at lines 46 to 48 of column 2, which refers to a predetermined velocity versus time profile. According to the opposition division, this is "in order to match the circumferential velocity of the drum with the feed velocity of an incoming sheet".
4. The board is not persuaded that the above cited mention of motor velocity profiles implies that the machine disclosed in D1 is designed for use with sheet feeding means, let alone that it implies that sheet feeding means are actually present. The dc motor referred to in the cited passage in D1 is said at lines 30 to 33 of column 2 to be "used to control a plurality of mechanical loads, for example, print wheels". This tallies with lines 18 to 20 of column 5 of D1, where it is stated: "the common drive signal means includes means for generating a motion profile for movement of the d.c. motors". As explained at lines 37 to 39 of column 5, this relates to driving postage meter print wheels. The print wheels are value digit devices set in

parallel by the postage meter for printing postage on a mail piece (lines 40 to 47 of column 5). The board is more persuaded by the proprietor's interpretation of D1 as relating to a stand-alone postage meter or franking machine. It is undisputed that such machines, or at least larger versions of them, are frequently collocated with upstream mail-feeding devices, but it is important to note that there is no reference, explicit or implicit, to any such feeding arrangement in D1.

5. The movement errors detected in D1 (Figures 17 to 19) are movement errors in the printing wheels controlled and set by the dc motors M1 to M5 shown in Figure 8. They reflect errors detected in the course of an initialisation routine for exercising and resetting the print wheels. As noted at point 3.4 of the decision under appeal these error signals INIT ERROR, CONTROL ERROR, MOVE ERROR are only described as being generated rather than stored (D1, column 26, line 53, column 27, line 5, column 30, line 12). In particular they are not described as being stored in the non-volatile memory NVM 68 provided in D1 "for storing accounting and other information" (column 6, lines 34 and 35). There is no disclosure in D1 of apparatus for accounting for malfunction conditions of the machine in the sense of keeping a permanent account of malfunction conditions.
6. In order to get from D1 to the subject-matter of claim 1 of the patent in suit, the objective technical problem to be solved would be to add a sheet feeder upstream of the postage meter and to improve the maintainability of the composite machine.



7. This problem, which itself may involve a certain amount of hindsight, is solved in accordance with the teaching of the opposed patent - summarised here in broad terms - by adding a sheet feeder (known per se), arranging for sensors to sense the actual movements of components of the sheet feeding and printing means and of a sheet travelling through the machine, and arranging for error codes corresponding to any detected unacceptable errors in the movements of the components of the feeding and/or printing means, or of the sheets, to be stored in both RAM and NVM.
  
8. As indicated above (automatic) sheet feeders or mail piece feeders are undisputedly routinely used to provide input to large scale versions of postage meters to handle large volumes of mail so that the provision of means for feeding sheets to the printer is obvious for the skilled person.
  
9. Regarding the improvement in maintainability of the composite machine, it is noted that there is no suggestion in D1 itself in the direction of the claimed solution. The board does not regard the reference in D1 to the NVM storing "accounting and other information" as a credible pointer to detect and store movement errors, even those of the printer alone, in the NVM.
  
10. Assuming, for the sake of argument, the skilled person would consider new trends in improving machine maintainability, starting with the field of sheet-fed printers, the only document from this field which has been cited, D6, teaches the display of fault indicating codes, eg location of a paper jam, but does not teach the storage of such codes in NVM. In the judgement of

the board this falls short of a suggestion in the direction of the invention of the opposed patent. The next step would be to look in related fields for a suggestion, eg in the field of printers or sheet feeders per se. However, no such document has been cited.

11. Document D2 relates to a banknote counter, which, in the judgement of the board, belongs to a field remote from that of feeding sheets to printers. Banknote counting has special problems of high speed counting of identical sheets with potentially high costs associated with malfunctions. It has a particular requirement for early warning of potential malfunctions arising from machine usage and ageing which is not true of printers, or sheet feeders, or their combination.
12. Even if, for the sake of argument, it is assumed that the skilled person would find and consider D2, he would have to do more than simply adopt its teaching to arrive at the solution of claim 1 of the opposed patent. Firstly, the machine disclosed in D2 only monitors errors in the movements of the banknotes (overlapping notes or skewed notes). The opponent has not pointed to any disclosure in D2 relating to monitoring errors in the movements of any component of the machine per se. Secondly, it would require a change of maintenance strategy from accumulating statistics which track wear so as to give early warning of potential failure to a different strategy of logging individual movement errors to assist in-depth analysis of specific faults.
13. Thus, in the judgement of the board, D2 would not render it obvious for the person skilled in the art,

starting from D1, to solve the problem identified in paragraph 6 above in the manner specified in claim 1 of the opposed patent.

14. Summarising, the opponent has not shown that the grounds of opposition mentioned in Article 100 EPC prejudice the maintenance of the patent unamended.

## **Order**

### **For these reasons it is decided that:**

1. The decision under appeal is set aside.
2. The patent is maintained unamended.

The Registrar:

The Chairman:

D. Sauter

W. J. L. Wheeler