

**Internal distribution code:**

- (A) [ ] Publication in OJ  
(B) [ ] To Chairmen and Members  
(C) [X] To Chairmen

**D E C I S I O N**  
**of 23 June 1999**

**Case Number:** T 0507/94 - 3.4.1

**Application Number:** 86103285.2

**Publication Number:** 0194662

**IPC:** G07B 17/02

**Language of the proceedings:** EN

**Title of invention:**

Electronic postage meter having a status monitor

**Patentee:**

PITNEY BOWES INC.

**Opponent:**

- (01) NEOPOST LTD  
(02) Francotyp-Postalia Aktiengesellschaft & Co.

**Headword:**

-

**Relevant legal provisions:**

EPC Art. 56

**Keyword:**

"Reformatio in peius (no)"  
"Inventive step (no)"

**Decisions cited:**

-

**Catchword:**





Europäisches  
Patentamt

European  
Patent Office

Office européen  
des brevets

Beschwerdekammern

Boards of Appeal

Chambres de recours

Case Number: T 0507/94 - 3.4.1

**D E C I S I O N**  
**of the Technical Board of Appeal 3.4.1**  
**of 23 June 1999**

**Appellant:** NEOPOST LTD  
(Opponent 01) South Street  
Romford, Essex RM1 2AR (GB)

**Representative:** Weinmiller, Jürgen  
Lennéstrasse 9  
D-82336 Feldafing (DE)

**Appellant:** Francotyp-Postalia Aktiengesellschaft & Co.  
(Opponent 02) Emmentaler Strasse 132-150  
D-13409 Berlin (DE)

**Representative:** Schaumburg, Thoenes & Thurn  
Postfach 86 07 48  
D-81634 München (DE)

**Respondent:** PITNEY BOWES INC.  
(Proprietor of the patent) One Elmcroft  
Stamford  
Connecticut 06926-0790 (US)

**Representative:** Hoffmann, Klaus, Dr. rer. nat.  
Hoffmann, Eitle  
Patent- und Rechtsanwälte  
Postfach 81 04 20  
D-81904 München (DE)

**Decision under appeal:** Interlocutory decision of the Opposition Division  
of the European Patent Office posted 19 May 1994

concerning maintenance of European patent  
No. 0 194 662 in amended form.

**Composition of the Board:**

**Chairman:** G. Davies  
**Members:** M. G. L. Rognoni  
U. G. O. Himmler

## Summary of Facts and Submissions

I. The appellant 01 (opponent 01) lodged an appeal, received on 21 June 1994, against the decision of the Opposition Division, dispatched on 19 May 1994, maintaining the European patent No. 0 194 662 (application No. 86 103 285.2) in amended form. The fee for the appeal was paid on 22 June 1994 and the statement setting out the grounds of appeal was received on 20 September 1994.

Against the same decision of the Opposition Division the appellant 02 (opponent 02) lodged an appeal, received on 16 June 1994. The appeal fee was paid on 16 June 1994 and the statement of grounds of appeal was received on 29 September 1994.

II. Claim 1 as maintained by the Opposition Division differed from claim 1 as granted essentially in that it comprised the following disclaimer:

"wherein the term "elements" does not include keyboards".

III. The appellants based their appeals on Articles 123(2), 54 and 56 EPC and referred, inter alia, to the following documents:

ND1: US-A-4 302 281

ND2: "A Task-Scheduling Executive Program for Microcomputer Systems", Computer Design, June 1977, pages 194, 198, 199, 202

FD4: G. M. Bull et al. "Time-Sharing Systems",  
McGraw-Hill Book Company, 1971, pages 74-77

FD8: US-A-4 498 187.

- IV. In a communication accompanying the summons to oral proceedings, the Board expressed, inter alia, the preliminary opinion that the above disclaimer did not appear to be allowable under Article 123(2) EPC.
- V. Oral proceedings were held on 23 June 1999.
- VI. The appellants 01 and 02 requested that the decision under appeal be set aside and the patent be revoked.

The respondent requested that the decision under appeal be set aside and the patent be maintained in amended form on the basis of:

**Claims 1 to 3 and page 2** of the description filed in the oral proceedings;

**pages 3 to 6** as maintained by the Opposition Division;

**Figures 1-6D** as maintained by the Opposition Division.

- V. Claim 1 now reads as follows:

"1. An electronic postage meter comprising:  
a microcomputer;  
means (SP) for printing postage in accordance with instructions communicated from said microcomputer;  
means (TM) for accounting for postage printed by

said printing means (SP);  
means (NVM) for non-volatile storage of the  
accounting information;  
a keyboard (I) for providing operator-selectable  
data to said microcomputer;  
a plurality of switches, sensors and electronic  
gates, the setting of which defines  
a machine status;  
a task switching routine for controlling the  
microcomputer to service sequentially  
a plurality of tasks, each of which is assigned a  
multi-byte task control block (TBC) in which is stored  
a pattern of bits corresponding to a specific machine  
status;  
means (T) for providing to said microcomputer a  
timed interrupt signal for  
interrupting the current operation of the  
microcomputer; and  
said microcomputer being operative upon such  
interrupt to monitor the status of  
said switches, sensors and electronic gates, to  
compare said status with the pattern of bits stored in  
each task control block, to update the task control  
blocks, and based upon the resulting updated control  
blocks, to schedule a queue of tasks to be performed by  
the electronic postage meter."

VI. The arguments of the appellant 01 can be summarised as follows:

Claim 1 as maintained by the Opposition Division specified that keyboards were excluded from the "elements" monitored by the microcomputer. Claim 1 according to the respondent's request, however, related

to a postage meter comprising a keyboard and a plurality of switches, sensors and electronic gates. As data entered via a keyboard always modified the status of some switches and/or electronic gates, the claim necessarily implied that monitoring the keyboard was also part of the alleged invention. Such claim was not admissible under the doctrine of *reformatio in peius* because it would give the non-appealing respondent broader protection than the claim as maintained by the Opposition Division.

Furthermore, the subject-matter of claim 1 resulted from an obvious application of generally-known principles of multi-task processing (cf. ND2) to the electronic postage meter shown in ND1. Hence, the subject-matter of claim 1 lacked an inventive step within the meaning of Article 56 EPC.

VII. The arguments of the appellant 02 can be summarised as follows:

The microprocessor in the control unit of the electronic postage meter according to FD8 monitored at regular intervals the machine status, as defined by a keyboard and a keyswitch, and performed certain tasks, such as the display of some characters. Hence, FD8 showed that it was known to provide an electronic postage meter with means for providing an interrupt signal and, upon such interrupt, to run a routine to monitor the machine status and reschedule certain tasks to be performed. The remaining features of the claim concerning multi-task processing, such as the provision of a multi-byte control block, did not make the claimed subject-matter inventive over the prior art since they

were either known in the art (cf. FD4) or immediately obvious to a skilled person wishing to apply multi-task scheduling to a known postage meter. Hence, claim 1 did not meet the requirements of Article 56 EPC.

VIII. The respondent's arguments can be summarised as follows:

The independent claim at issue did not fall under the doctrine of *reformatio in peius* because it did not imply that the keyboard was monitored at the same time as the plurality of switches, sensors and electronic gates. In fact, it simply specified in different words what the disclaimer in claim 1 as maintained by the Opposition Division was meant to express, namely that a machine status depended on the setting of some switches, sensors and electronic gates.

The electronic postage meter known from FD8 or ND1 was a multi-processor system, in which several processors performed predetermined tasks and the machine status was monitored by idle or housekeeping routines which waited for certain events to occur so that predetermined tasks could be performed. The gist of the claimed invention, however, consisted essentially in providing a task switching routine for controlling a plurality of tasks, and a timed interrupt signal for monitoring the machine status and rescheduling the task queue. Though multi-task systems were per se known, there was no indication in the prior art that multi-task processing might be useful to improve the reliability of a postage meter. Moreover, the particular kind of multi-task processing according to the present invention involved some special features

which were not shown in the prior art documents. Such features consisted, for instance, in assigning a multi-byte control block to each task, updating the task control blocks in accordance with the monitored machine status, and rescheduling the queue of tasks as a function of the updated task signal blocks at regular intervals timed by an interrupt signal. In summary, a skilled person starting from a postage meter according to ND1 or FD8 and wishing to arrive at the claimed postage meter would have to realise that it was advantageous to replace a multi-processor system with a multi-task system where only one processor performed several tasks according to a schedule depending on the machine status. Furthermore, such skilled person would have to modify multi-task processing, as known from the prior art, to adapt it to the particular requirements of an electronic postage meter. Since these steps were not suggested by any of the prior art documents, the subject-matter of claim 1 satisfied the requirements of Article 56 EPC.

### **Reasons for the decision**

1. The appeal complies with the requirements of Article 106 to 108 and Rule 64 EPC and, therefore, is admissible.

#### *Admissibility of the amendments*

- 2.1 In claim 1 as maintained by the Opposition Division it is recited that the microcomputer monitors the "status of elements of the postage meter ... wherein the term

"elements" does not include keyboards".

In claim 1 of the respondent's request the following feature replaces the above wording:

"a plurality of switches, sensors and electronic gates, the setting of which defines a machine status".

- 2.2 According to the respondent 01, the deletion of the disclaimer broadens the scope of claim 1 because keyboards are no longer excluded from the "elements" which define the machine status and are monitored by the microprocessor.

In the Board's opinion, however, claim 1 as maintained by the Opposition Division can be interpreted as covering postage meters which do **not** comprise a keyboard since the disclaimer does not imply that the keyboard is necessarily a component of the postage meter, and the "means for providing operator-selectable data to the microcomputer" specified in the claim need not be a keyboard.

Since claim 1 according to the respondent's request specifies that the postage meter has a keyboard for providing operator-selectable data to the microcomputer, its subject-matter falls within the terms of claim 1 as maintained by the Opposition Division and, therefore, is admissible under the doctrine of *reformatio in peius*.

- 3.1 As to the admissibility of the claims according to the respondent's request under Articles 123(2) and (3) EPC, no objections were raised by the appellants and the Board is satisfied that the present claims comply

therewith.

*Novelty*

4. As none of the cited prior documents discloses a postage meter comprising all the features recited in claim 1 of the respondent's request, the subject-matter of this claim is new within the meaning of Article 54 EPC. This finding was not contested by the appellants.

*Inventive step*

- 5.1 As acknowledged by the parties, ND1 and FD8 relate essentially to the same kind of postage meter. The latter discloses more details of the control unit and, thus, will be referred to in the decision.
- 5.2 FD8 shows a postage meter comprising the following features recited in claim 1:
- a microcomputer (100) (cf. Fig. 6);
  - means for printing postage (56) in accordance with instructions communicated from said microcomputer (Fig. 3);
  - means for accounting (91) for postage printed by said printing means (Fig. 5);
  - means for non-volatile storage of the accounting information (93) (Fig. 5);
  - a keyboard 83 (Fig. 4) for providing operator-selectable data to said computer;

- a plurality of switches, sensors and electronic gates (cf. Fig. 6: "3-position switch"; Fig. 9: "opto-electronic sensors"), the setting of which defines a machine status.

Furthermore, it is specified in FD8 (col. 13, lines 23 to 27) that "an interrupt program in the control unit interrupts the main programme of the control unit at regular intervals in order to scan the keyboard and keyswitch, and to drive the display" (emphasis added by the Board). This implies that the postage meter according to FD8 comprises also the following feature of claim 1:

- means for providing to said microcomputer a timed interrupt signal for interrupting the current operation of the microcomputer.

Upon such interrupt signals, an interrupt processing routine (see Fig. 14C) is started, whereby the keyboard and the keyswitch are monitored and certain tasks performed. In particular, some characters are displayed or the display goes blank when more than one key is pressed (cf. FD8, col. 13, lines 26 to 32).

5.3 Hence, the subject-matter of claim 1 differs from the postage meter known from FD8 in that it comprises:

- (a) a task switching routine for controlling sequentially a plurality of tasks, each of which is assigned a multi-byte task control block in which is stored a pattern of bits corresponding to a specific machine status;

(b) upon interrupt, the status of the machine, as indicated by the status of the monitored switches, sensors and electronic gates, is compared with the patterns of bits stored in each task control block, to update the task control blocks and, based upon the resulting updated control blocks, to schedule a queue of tasks to be performed by the electronic postage meter.

5.4 In other words, the control unit of the postage meter known from FD8 is controlled by a **main program** which is interrupted at **regular intervals** to run an interrupt processing routine and perform certain tasks according to the status of the keyboard and the keyswitch, or carries out other tasks "whenever a change in status occurs" (FD8 col. 13, lines 13, 14). In the postage meter of the invention, however, the microprocessor is controlled by a task switching routine which, at regular intervals, monitors the machine status and updates the task schedule as a function of the monitored status.

5.5 In the Board's opinion, the mere idea of applying multi-task processing to a known microprocessor controlled postage meter cannot involve an inventive step because a skilled person, who in the present case should be defined as person skilled in the art of designing microprocessor controlled systems, would realise that the tasks performed by the control circuit in FD8 could also be run on a multi-task basis according to well-known principles.

5.6 According to the respondent, the patent in suit is not just a straightforward application of multi-tasking to

a known postage meter, but involves features which are not even suggested in the prior art. In particular, in the respondent's submissions, the task switching routine of claim 1 differs from ordinary multi-task programs in that each task is assigned a **multi-byte task control block** which is indicative of the machine status required for the task to be run. Furthermore, the bit pattern of the control block is compared with the monitored status and updated at regular intervals, i.e. upon the occurrence of the interrupt signal.

- 5.7 ND2 (published in 1977) and FD4 (published in 1971) relate to the principles of multi-task processing.

Figure 2 of ND2 shows a typical "flowchart of decisions and processing performed by task scheduling executive program". A "time-slicing interrupt" stops the current operation of the microcomputer and schedules the queue of tasks to be performed.

FD4 is concerned with "time-sharing systems" and teaches, inter alia, that a "selector", corresponding to the task switching routine according to the contested claim, schedules the "jobs" (tasks) in a "runnable state" to be performed according to the priority assigned to each job. "Not runnable" jobs are defined in this document as jobs waiting for an input/output operation to terminate, i.e. for a certain event to occur. Figure 4.7 of FD4 shows a "runnable job queue word" comprising a "job pointer word" (JPW) made up of a "head" and a "tail", whereby the "head" points to a "job information block" containing, inter alia, "information pertinent to the supervisor" which is responsible for selecting the jobs to be run. The

"tail" is related to the priority of the respective job and, in fact, "to change priorities, only the tails of the JPWs need be changed". The "runnable job queue word", which contains information relating to a job's position in the runnable job queue, has essentially the same function as the task control block shown in Figure 3A of the contested patent, in so far as both are used to determine a queue of tasks to be performed.

5.8 It is implicit in the teachings of FD4 and ND2 that, in a multi-task system, where the task priority depends essentially on the machine status, information relating to a particular machine status which enables a certain task to be performed with a certain priority should be defined, stored as a bit pattern and compared with the actual machine status, so that "runnable" tasks are performed in the right order. When this teaching is applied to a postage meter, where the machine status is specified by a plurality of switches, sensors and electronic gates, it necessarily implies the definition of a bit pattern distinctive of each task (i.e. **a multi-byte control block**) to identify the specific settings of such switches, sensors and electronic gates which make the task "runnable", and to define the task's priority. A queue of tasks can then be determined by comparing **at regular intervals** the actual machine status with the stored status patterns and by updating each pattern in accordance with the monitored machine status, at least as far as the priority of the respective task is concerned.

5.9 In summary, the Board finds that it would be obvious to the person skilled in the art to apply the principles of multi-task processing known, for instance, from FD4

to the electronic postage meter according to FD8, and that, in so doing, the skilled person would necessarily arrive at a postage meter falling within the terms of claim 1.

Since the subject-matter of this claim does not involve an inventive step within the meaning of Article 56 EPC, the contested patent cannot be maintained on the basis of the respondent's only request.

## **Order**

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

1. The decision under appeal is set aside.
2. The patent is revoked.

The Registrar:

M. Beer

The Chairman:

G. Davies