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**D E C I S I O N**  
**of 4 September 2003**

**Case Number:** T 0196/01 - 3.5.2

**Application Number:** 94201324.4

**Publication Number:** 0615212

**IPC:** G07B 17/02

**Language of the proceedings:** EN

**Title of invention:**

Method of processing mailpieces at high speed

**Patentee:**

PITNEY BOWES INC.

**Opponent:**

NEOPOST LTD

**Headword:**

-

**Relevant legal provisions:**

EPC Art. 54, 56, 76(1), 100(a),(b),(c)

**Keyword:**

"Added subject-matter (no)"

"Novelty (yes)"

"Inventive step (yes)"

**Decisions cited:**

-

**Catchword:**

-



Case Number: T 0196/01 - 3.5.2

**D E C I S I O N**  
**of the Technical Board of Appeal 3.5.2**  
**of 4 September 2003**

**Appellant:** NEOPOST LTD  
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**Decision under appeal:** Decision of the Opposition Division of the  
European Patent Office posted 24 November 2000  
rejecting the opposition filed against European  
patent No. 0615212 pursuant to Article 102(2)  
EPC.

**Composition of the Board:**

**Chairman:** W. J. L. Wheeler  
**Members:** F. Edlinger  
B. J. Schachenmann

## Summary of Facts and Submissions

- I. The appeal is against the decision of the opposition division rejecting the opposition against European patent No. 615 212, which had been filed as a divisional application of the earlier European application No. 89 312 277 (published under EP-A2-0 376 481).
- II. The contested decision held that none of the grounds for opposition which had been raised by the opponent under Article 100(a), (b) and (c) EPC prejudiced maintenance of the patent as granted. Substantially, the contested decision expressed the view that the prior art did not disclose or suggest an adjustment of the speed of advance or operating speed in accordance with the size or thickness of a mail piece during mail processing, as specified in claims 1 and 4 of the opposed patent. Reference was made to the following prior art documents:
- ND1: US-A-3 877 531,
- ND2: GB-A-2 066 202, and
- ND3: EP-A-0 227 998.
- III. During the appeal, the respondent proprietor filed amended sets of claims which were further amended according to the proprietor's single request during oral proceedings before the Board on 4 September 2003.

IV. Independent claims 1 and 3 are now worded as follows:

**Claim 1:**

"A method of processing mixed mail pieces of varying thickness and size at high speed, comprising the steps of:

- (a) providing upstream and downstream processing stations (15, 17, 19, 21, 23);
- (b) presenting a mail piece to an upstream processing station for processing;
- (c) while the mail piece is at the upstream processing station, activating processing means at the downstream processing station;
- (d) after completion of processing of the mail piece at the upstream station, advancing the mail piece to the downstream station while the processing means therein remain activated to thereby reduce the processing time at the downstream station; and characterized by
- (e) adjusting the speed of transport to the downstream station in accordance with the size or thickness of the mail piece."

**Claim 3:**

"A method for processing mixed mail pieces of varying thickness and size at high speed, in a mailing machine which includes a mail piece flow path, comprising the steps of:

- (a) providing in the mail piece flow path processing stations (17, 19, 21, 25, 27, 35) for singulating, sealing, weighing and printing;
- (b) subjecting the mail pieces to a singulation at a singulating station (17);
- (c) while the mail piece is still at the singulating station, activating the sealing station (19, 21);
- (d) after completion of processing of the mail piece at the singulating station, advancing the mail piece to the station for sealing while the processing means therein remain activated to thereby reduce the processing time at the sealing station;
- (e) while the mail piece is at the sealing station for sealing, activating processing means at the weighing station (23, 25);
- (f) after completion of processing of the mail piece at the sealing station, advancing the mail piece to the weighing station while the processing means therein remain activated to thereby reduce the processing time at the weighing station;

- (g) while the mail piece is undergoing weighing, activating processing means (27, 35) for performing the printing function;
- (h) after completion of weighing of the mail piece, subjecting the mail piece to printing while the processing means therein remain activated to thereby reduce the printing time;
- (i) while the mail piece is undergoing printing, activating means (33) for removing the printed mail piece from the printing station;
- (j) after completion of printing, subjecting the printed mail piece to the removing means; and
- (k) adjusting the transport velocity of the operating station at which the mail piece is located in accordance with the size or thickness of the mail piece."

Claim 2 is dependent on claim 1.

V. The appellant opponent requested that the decision under appeal be set aside and that the European patent No. 0 615 212 be revoked.

VI. The respondent patentee requested that the patent be maintained in amended form with:

- claims 1 to 3 filed in the oral proceedings,

- description pages 2, 3, and 8 filed in the oral proceedings and pages 4 to 7 and 9 to 14 of the description of the patent specification, and
- the drawings of the patent specification.

VII. The appellant opponent essentially argued as follows:

(a) *Article 100(b) and (c) EPC*

The speed at the downstream location had to be adjusted individually and independently of the transport speed of letters following behind (cf feature (e) of claim 1 and feature (k) of claim 3). It was clear that the (downstream) integrated module (23), where weighing and printing took place, needed more processing time than the handling of mail in the upstream stations which essentially served to merely transport the mail pieces to the integrated station. When mixed mail pieces were processed at different velocities in the machine in a seriatim manner, a smaller and thinner mail piece (transported at higher speed) would tend to overtake a thicker mail piece which was being processed downstream, and mixed mail pieces would inevitably collide and block the machine.

Neither the earlier (parent) application nor the opposed patent disclosed how the problem of processing mixed mail pieces of a wide variety of thickness or weight at high, but differing speeds could be solved without collision (cf patent specification, page 2, lines 28 to 30). Figures 7 to 9 referred to the processing of standard No. 10 envelopes. Figures 10 and 11 addressed the processing of heavier or longer

envelopes. It could be deduced from this disclosure that a batch of heavier envelopes would be transported at lower speed (82.5 ips) than a batch of standard envelopes (110 ips). However, the application did not disclose how differently sized mail pieces were concurrently processed in the machine and a potential collision avoided if their transport speeds were adjusted in accordance with their individual size or thickness. The description of the earlier application rather disclosed the contrary of an individual adjustment of each mail piece saying that "the thickest, largest envelope controls the machine's throughput. In other words, when the machine is slowed to handle the bigger mail piece, the one or two mail pieces behind would also be subject to the same slowdown until the bigger mail piece exits" (published parent application, page 13, lines 43 to 45). This statement could be an indication that all the mail pieces which were present in the machine at a given instance had the same thickness. If mixed mail was transported at a speed in accordance with the thickness of the thickest mail piece, thinner upstream mail pieces would not be transported with a velocity which was in accordance with the size or thickness of these mail pieces.

Therefore, the subject-matter of the opposed patent extended beyond the content of the earlier application as filed by adding the undisclosed features (e) and (k) in present claims 1 and 3, respectively, when the divisional application was filed. (These objections were raised with respect to the claims of the patent as granted. No further comments were made in the oral



proceedings after the proprietor had filed amended claims.)

Moreover, the opposed patent did not disclose the claimed invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art concerning the high speed processing of mixed mail and the unavoidable collisions resulting from individual speed adjustments.

(b) *Article 100(a) EPC*

Since feature (e) of claim 1 and feature (k) of claim 3, in view of the lack of disclosure, amounted to nothing more than adjusting the speed of transport to the desired speed of transport for the thickest or largest mail piece, claims 1 and 3 lacked novelty in view of the prior art disclosed in ND1 or ND3.

It was inconceivable that the high speed drive means for advancing mail pieces in the mail handling system disclosed in ND1 (cf column 1, lines 66 and 67) were not adjustable by an operator. The proprietor who was also the assignee of ND1 was in a better position to disprove, if it were wrong, the presumption of an adjustable speed of the drive means of the machines disclosed in ND1. In this context, it was clear that batches of thin mail pieces were transported at higher speed than batches of thick mail. Since claims 1 and 3 did not exclude the possibility that the speed of transport was set in advance by an operator, ND1 anticipated the methods of claims 1 and 3.

ND3 (page 18, last paragraph) set out what was generally known, namely that the speed of transport of mail pieces was set as high as possible, but was limited by mechanical constraints. This expressed the general principle that the thickest mail pieces determined the upper limit of the transport speed. ND3 further disclosed that the spacing between mail pieces had to be adjusted to optimize throughput. But the speed of transport would nevertheless be adjusted in accordance with the size or thickness of the mail piece. The other features of claims 1 and 3 of the opposed patent only specified self-evident method steps because, with high speed processing of mail, the downstream processing station, if it was not already running, had to be activated while a mail piece was still at the upstream processing station. The subject-matter of claims 1 and 3 thus lacked novelty in view of ND3.

The subject-matter of claims 1 and 3 would at least lack an inventive step in view of these generally known principles. Since ND1 already had means for adjusting the speed of transport, it was obvious to adjust the speed in accordance with a parameter which determined the maximum possible speed of transport, such as the size or thickness of the mail piece, in order to increase the throughput of mixed mail. This was merely a normal development in automatic mail handling where the increase of the transport speed corresponded to a constant desire of the person skilled in the art.

The same was true with respect to the prior art disclosed in ND3. In order to achieve the highest possible speed of transport, it would be obvious to

adjust it in accordance with the size or thickness of the mail piece, in addition to the adjustment of the spacing.

The person skilled in the art starting from ND1 or ND3 had everything he needed to optimize the speed of transport with mixed mail. In addition, ND2 disclosed means for adjusting the speed of transport in a machine for packaging sweets. Therefore, the subject-matter of claims 1 and 3 did not involve an inventive step in view of this prior art.

VIII. The respondent proprietor essentially argued as follows:

(a) *Article 100(b) and (c) EPC*

Claim 1 had a preamble which corresponded to claim 25 of the parent application and was restricted by feature (e), which had a clear basis in claim 19 and pages 10 to 13 of the parent application. The parent application unambiguously disclosed a mode of operation in which the speed of advance of a mail piece to a downstream station was adjusted in accordance with the size or thickness of the mail piece. In particular, the processing stations had separate drive means and were appropriately timed. The thickness of a mail piece (being an indication of its weight) was measured and the speed of motors for driving the mail piece was controlled in accordance with velocity profiles preferably mapped to each thickness or each range of thickness measurements. The speed out of a first station was adjusted for input speed into the next station. This process was the same for the next envelope. Variable velocity transport, eg slower

transport of thicker mail pieces, was thus achieved based upon a thickness measurement.

The disclosure of the methods of claims 1 and 3 in the description of both the parent application and the opposed patent tried to simplify the presentation of a complex machine by following the processing of one envelope of standard size first (Figures 7 to 9). Then, it described how a velocity profile changed for heavier or longer envelopes (Figures 10 and 11). It was clear to a person skilled in the art that the method of processing mail pieces set out in the claims would apply to each and every mail piece individually and would dynamically adjust the speed of advance to a downstream station. The claims were not concerned with a global adjustment of the machine for all mail pieces. The passage at page 13, lines 43 to 45, of the parent application provided a clear reference to the processing of mixed mail and thus confirmed the individual adjustment. When the machine was slowed to handle the bigger mail piece, this slowdown temporarily affected the one or two mail pieces behind (which might be held for longer in their waiting positions). Once the slower, bigger mail piece exited from the machine the mail pieces following behind could be accelerated according to their own velocity profiles as determined by their respective thicknesses. The overall throughput of the machine could thus be increased when a batch was comprised of a large number of envelopes of varying thickness or size. This was the whole purpose of the invention as set out in the introductory part of the description. Therefore, the disclosure of the methods of claims 1 to 3 was sufficiently clear and complete

for it to be carried out by a person skilled in the art.

(b) *Article 100(a) EPC*

ND1 disclosed a machine designed for operation at a given transport speed. No means of adjustment would have been necessary in this machine. The theoretical manual adjustment by an operator did not in fact take place. ND1 (column 11, lines 26 to 34) taught against the present invention because it provided the same treatment of letters regardless of their weight.

Likewise, the speed of advance of the sweets in ND2 (page 2, lines 124 to 128) was constant and not adjusted in accordance with the size or thickness. ND2 (page 2, lines 64 to 70) only disclosed a preliminary adjustment by an operator to set up the machine for an article of particular length in order to adjust the distance between adjacent articles to the wrapping unit length.

According to ND3, the mail pieces were also despatched at a constant velocity fixed in advance. Only the spacing was variable and dependent on the preceding article, not on the size or thickness of the article that was being processed (ND3, page 5, lines 18 to 22). The last paragraph of page 18 of ND3 taught the person skilled in the art that the transport velocity should be as high as possible and therefore an increase would not be possible and should not be attempted. Also features (c) and (d) of claim 1 were not disclosed in ND3.

Therefore, none of the documents suggested varying the transport speed of individual mail pieces in accordance with the measured size or thickness of the mail piece which was advanced to, or located at, the downstream operating station.

## **Reasons for the Decision**

### 1. *Amendments*

- 1.1 The opposed patent was granted on a divisional application. The present claims 1 to 3 are derived from claims 1, 3 and 4, respectively, of the opposed patent, by specifying the mail pieces as "mixed" and "of varying thickness and size" in the respective first lines of present claims 1 and 3. Moreover, the term "speed of advance" has been replaced by "speed of transport" in feature (e) of claim 1. Claim 2 as granted has been deleted. The terms "sealing station" and "transport velocity" have been substituted for "singulating station" and "operating speed" in features (e) and (k) of claim 3, respectively. It will therefore have to be examined whether the subject-matter of the opposed patent extends beyond the content of the earlier application as filed (Article 76(1) EPC), whether it contains subject-matter which extends beyond the content of the divisional application as filed (Article 123(2) EPC) and whether the opposed patent has been amended in such a way as to extend the protection conferred (Article 123(3) EPC). In the following, the earlier application as filed will be referred to in the form chosen by the parties, ie as published in EP-A2-0 376 481.

1.2 On filing of the divisional application, features (e) and (k) had been included in claims 1 and 4, respectively. Apart from these amendments and some linguistic adaptations, claims 1 and 4 as filed corresponded to claims 25 and 28 of the earlier application as filed, respectively, and were granted with only minor amendments, such as the addition of reference signs to claims 1 to 4.

1.2.1 The earlier application as filed discloses that "the envelope's procession through the machine is not continuous, but intermittent" (page 11, line 1). Each of the four basic units has independently controllable transport means to make individual drive speeds through each respective transport possible (page 3, line 1; page 9, lines 46 and 47; page 10, lines 9 to 14 and lines 30 to 35). "Envelopes undergo variable velocity transport determined by its weight, which in turn is based upon the thickness measurement" (page 11, lines 7 and 8). The transport velocity of the integrated module (23), which comprises at least a weighing and a printing station (cf features (e) and (g) of claim 3 and Figure 1), is adjusted in accordance with the size or thickness of the mail piece which is located at this station (higher velocity 110 ips for a standard envelope; lower velocity 82 ips for a heavier or longer envelope; page 10, lines 36 to 43; page 11, lines 7 to 12; page 13, lines 1 to 13; claims 1, 9 and 19; Figures 7B, 10 and 11). The earlier application thus unambiguously discloses "adjusting the **transport velocity** of the operating station" as now specified in feature (k) of present claim 3 as a more specific form of adjustment of the "**operating speed** of the operating

station" (feature (k) of claim 4 as granted; emphasis added by the Board).

1.2.2 Similarly, the "speed of **advance**" in the meaning of "speed of **transport**" to a downstream station to which the mail piece is "advancing", in particular a station which performs indicia printing (cf features (d) and (e) of present claim 1 and present claim 2), is directly and unambiguously derivable from the above and further parts of the earlier application as filed (cf page 10, lines 45 to 50). Thus, "speed out of a first station may be adjusted for input speed into the next station" (eg page 10, lines 32 to 35). For instance, the speed out of the sealing station may be adjusted to the adjustable transport velocity in the integrated station (page 13, lines 33 to 37; Figure 12C).

1.2.3 In the judgment of the Board, none of these amendments introduces subject-matter which extends beyond the content of the earlier application as filed (Article 76(1) EPC).

1.3 The amendments made in the appeal proceedings resulting in present claims 1 to 3 are directly and unambiguously derivable from corresponding passages of the divisional application as filed. Since the description of the embodiments and the figures are substantially the same in the earlier application and in the opposed patent and since no objection was based on an inadmissible extension of the divisional application as filed, these passages need not be cited in detail. The substitution of "sealing station" in place of "singulating station" in feature (e) of claim 3 constitutes an obvious correction of an error under Rule 88 EPC, second



sentence, as can be easily seen from the sealing function specified in this feature and from the logical sequence of steps of the mail piece flow path set out in claim 3. The amendments of feature (e) of claim 1 and feature (k) of claim 3 restrict the corresponding features of claims 1 and 4 as granted to more specific terms (see points 1.2.1 and 1.2.2 above). Therefore, the protection conferred by the opposed patent has not been extended. The description has been adapted to the new claims and contains some further linguistic adaptations. These amendments were not contested. The Board does not see any infringement of either Article 123(2) or (3) EPC.

2. *Disclosure of the invention*

2.1 Claims 1 and 3 each specify a method step of adjusting the speed of transport (transport velocity) which is carried out in the course of "processing mixed mail pieces of varying thickness and size at high speed". They do not specify that the transport velocity is so adjusted at each downstream processing (operating) station and at any instance during the processing of mixed mail in the machine. One example of an operating or processing station where the transport velocity is adjusted is described in the context of the integrated station (or module 23). The speed of transport to, and in the station, is adjusted in accordance with the size or thickness of the mail piece which is entering the station or undergoing weighing and printing operations (see eg page 11, lines 3 to 38 and Figures 7B and 10 to 12 of the opposed patent).

- 2.2 As already set out above, the envelope's procession through the machine is described as intermittent. It comes to a stop at several occasions. When the velocity is adjusted at a downstream location, a mail piece of different size or thickness may still be waiting at an upstream position. A propitious location of sensors and a suitable timing of the passage through the machine and advance activation of downstream stations ensures minimum separation gaps and contributes to the increase of the throughput and the decrease in length of the machine (patent specification, page 9, lines 32 to 38; page 10, lines 35 to 40; page 11, lines 28 to 33 and lines 41 to 47; page 13, lines 15 to 17).
- 2.3 In accordance with the methods of present claims 1 to 3, the thickest mail piece of a mixed mail batch would thus only determine the transport speed (corresponding to an upper limit) when it is present at the particular downstream station. In other instances of processing the mixed mail pieces, the transport velocity at said station would be adjusted to that of a thinner or smaller mail piece. Since other embodiments in line with these timing and activating features in combination with the disclosed size dependent speed adjustment at a downstream location can be easily conceived by the person skilled in the art, the Board judges that the subject-matter of claims 1 to 3 is disclosed in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art (Article 100(b) EPC).

3. *Novelty and inventive step*

- 3.1 None of the documents discloses a method step as specified in feature (e) of claim 1 or feature (k) of claim 3. The appellant has not contended that a velocity adjustment in the course of mixed mail processing was known from any of the documents. The subject-matter of claims 1 to 3 thus shall be considered to be new.
- 3.2 Step (e) of claim 1 and step (k) of claim 3 contribute to increase the machine's throughput and to decrease the length of the machine (cf patent specification, page 2, lines 28 to 31; page 13, lines 15 to 17; page 13, line 58 to page 14, line 2; see also point 2.2 above).
- 3.3 ND1 to ND3 disclose machines for operation at a given transport speed once they are set up. ND1 (Abstract; claim 1 and column 11, lines 11 to 34) discloses processing of mixed mail which is continuously and synchronously fed in seriatim, but does not disclose means for adjusting the transport velocity. ND2 (page 2, lines 64 to 70 and lines 124 to 128; page 3, lines 39 to 59) discloses a preliminary adjustment by an operator to set up the machine for an article of particular length. The article feed rate and the preset speed of the belts thus determines the wrapping unit length. Also ND3 (page 4, lines 23 to 32; page 5, lines 18 to 27; page 17, line 32 to page 18, line 1) discloses the despatching of mail pieces at a constant velocity which is fixed in advance. To increase the throughput, the distance between adjacent mail pieces

is made dependent on the size or thickness of the preceding mail piece.

- 3.4 The Board accepts that a person skilled in the art would attempt to process mail pieces as fast as possible, but would be conscious of the limits imposed by the mechanical properties of the mail pieces or by certain minimum transport or processing times (cf page 2, lines 28 to 36 of the patent specification; ND3, page 18, lines 19 to 23). This may well suggest that a machine designed for handling thick (heavy) mail pieces be set up with a different transport speed from one designed for handling thinner (lighter) envelopes. However, there is nothing in the available prior art which suggests that the transport velocity might be adjusted in the course of processing mixed mail in accordance with the size or thickness of the mail piece which is advanced to or located at a processing station. Even if a machine, such as that disclosed in ND1, had had means for adjusting the speed in advance for a particular batch of mail, for which there is no evidence, this would not imply that a person skilled in the art would, or even could with only minor adaptations, use such means during the processing of mixed mail pieces as set out in present claims 1 to 3. Therefore, the subject-matter of claims 1 to 3 shall be considered as involving an inventive step (Article 56 EPC).

4. Consequently, the Board considers that the amended patent and the invention to which it relates meet the requirements of the Convention (Article 102(3) EPC).

**Order**

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

1. The decision under appeal is set aside.
2. The case is remitted to the department of first instance with the order to maintain the patent as amended with:
  - claims 1 to 3 filed in the oral proceedings,
  - description pages 2, 3, and 8 filed in the oral proceedings and pages 4 to 7 and 9 to 14 of the description of the patent specification, and
  - the drawings of the patent specification.

The Registrar:

The Chairman:

D. Sauter

W. J. L. Wheeler