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D E C I S I O N
of 15 July 1999

Case Number: T 0032/98 - 3.5.1

Application Number: 89313675.4

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IPC: G05B 19/04

Language of the proceedings: EN

Title of invention:
Asynchronous rejection in an inserter

Patentee:
Pitney Bowes Inc.

Opponent:
Neopost Ltd.

Headword:
Rejection in an inserter/PITNEY BOWES INC.

Relevant legal provisions:
EPC Art. 56

Keyword:
"Inventive step - yes"

Decisions cited:
-

Catchword:
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Case Number: T 0032/98 - 3.5.1

D E C I S I O N
of the Technical Board of Appeal 3.5.1
of 15 July 1999

Appellant: (Opponent)
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Decision under appeal: **Decision of the Opposition Division of the European Patent Office posted 22 October 1997 rejecting the opposition filed against European patent No. 0 376 740 pursuant to Article 102(2) EPC.**

Composition of the Board:

Chairman: P. K. J. van den Berg

Members: R. Randes
V. Di Cerbo

Summary of Facts and Submissions

I. This is an appeal by the opponent against the rejection of the opposition. Independent claim 1 of the granted patent reads as follows:

"A material processing system for collating and feeding documents as collations for insertion into an envelope, said system comprising first and second feeding modules (12) and an insertion module (18), each of said feeding modules (12) including document position sensing means (29,30) and a controller (130),

characterised by: each of said feeding module controllers being responsive to a first signal for creating a collation of documents and generating a second signal indicative of said collation, said second signal indicating an error condition in said collation when said sensing means indicate non-compliance with said first signal,

means for passing said second signal from each feeding module controller (130) to said insertion module (18), and

a rejection station (19) positioned in said insertion module (18), said insertion module (18) including a base controller (160), said base controller being connected to said feeding module controllers (130) and being responsive to a collation error condition in said second signal for activating said reject station (19) and ejecting said collation from said reject station (19)".

Independent method claim 6 reads:

"A method of collating and feeding documents in a material processing system, the system having first and second feeding modules (12) and insertion module (18) and a rejection station (19) each of said feeding modules including document position sensing means (29,30) and a controller (130), characterised by the steps:

each of said feeding module controllers (130) responding to a first signal and thereupon creating a collation of documents and generating a second signal indicative of said collation, said second signal indicating an error condition in said collation when said sensing means indicate non-compliance with said first signal,

passing said second signal from each feeding means controller (130) to said insertion module (18), and

activating said rejection station (19) to eject a deflective collation from said rejection station (19) in response to a collation error condition in said second signal to which a base controller in said insertion module (18) is responsive, said second signal being fed to said base controller (160) from a feeding module controller (130)".

II. The opposition division held that the grounds for opposition mentioned in Articles 100(a) and 56 EPC did not prejudice the maintenance of the patent as granted, having regard to the following documents:

O1: US-A-4 734 865

O2: US-A-3 901 797

O3: US-A-4 072 304

III. The appellants (opponents) lodged an appeal against the decision, paid the prescribed fee and filed a statement of grounds of appeal in time. The **appellants requested** that **the decision under appeal be set aside and that the patent be revoked**. In a letter of reply the respondents requested that the appeal be dismissed and that the patent be maintained as granted. Both parties made an auxiliary request for oral proceedings.

IV. On 15 June 1999, after an invitation to oral proceedings, the respondents filed new sets of claims making up first to third auxiliary requests. The **respondents requested** that **the appeal be dismissed or that the patent be maintained on the basis of the first, second or third auxiliary request**. Oral proceedings took place on 15 July 1999.

V. In the oral proceedings the appellants, in a first line of argument, expressed the opinion that the subject-matter of claim 1 of the main request was not new. **The appellants' argumentation on novelty** can be summarised as follows:

Independent claim 1 (and also the corresponding independent method claim 6) of the main request (patent as granted) was very generally formulated. In particular the term "controller" did not express that

such controllers could **independently** (of each other and of the main processor) control the feeding modules as was proposed in the description. In fact, the description made clear that the controllers were microprocessors. Claim 1 could, moreover, be interpreted in three different ways; firstly, that said second signals generated by the feeding module controllers were directly transferred to the base controller, secondly, that they were transferred to the base controller over the local controllers (without any information added in the local controllers) and thirdly, that the signals generated in a feeding module were transferred to the base controller from local controller to local controller by adding information to the signal at each controller as could be understood from the description of the patent. Moreover, it was not at all clear from the description that the rejection station 19 was positioned in the insertion module 18 as had been claimed in the independent claims; it was apparently positioned downstream of the insertion module.

It was common ground that the precharacterising part of claim 1 was prior art disclosed by O1. In particular the feature "the feeding modules each including position sensing means and a feeding controller" could be derived from O1 (e.g. column 9, lines 40 to 44 - necessary "electronic circuits associated with various processing stations").

O1 also disclosed (Figure 1) that an insertion module (44) controller was connected to insert station (42 and 52 to 57) controllers (corresponding to the feeding module controllers according to the present patent)

over a base controller (100). Each insert station controller received a first signal for creating a collation of documents (from the processor 100, Figure 1) and generated a second signal indicative of said collation. This second signal (indicating an error condition when non-compliance with said first signal) could be derived from step 456 in Figure 7 of O1, in connection with which the description states that "the operator is either apprised of an error or the stuffed envelope will eventually be diverted".

The insertion station 44 of O1 could well be considered to include a rejection station (diversion processing stations such as stackers 76 and 78 in Figure 1 of O1) and even the base controller (100 in Figure 1). This is because the description of the present patent stated that the rejection station (stackers 76 and 78) in O1 was located downstream of the envelope stuffer (18).

Finally, the base controller (100) according to O1 apparently received a second signal from each feeding controller and activated rejection at the diversion stations (76,78) if any second signal showed a collation error condition.

Claim 1 therefore lacked novelty. Since independent claim 6 corresponded to claim 1 (in fact it did not disclose true functional features and had only formally been adapted to claim 1), it also lacked novelty.

The **respondents' argumentation on novelty** can be summarised as follows:

Appellants' argumentation could not be accepted. It was

true that the transfer of the second signal from the feeding module controllers according to claim 1 of the main request (claim 1 of the patent) could be interpreted in the way suggested by the appellants (three different possibilities). However, such a broad formulation of the claim was allowable, since the patent proposed a quite new concept for the material processing system. The objective problem could be seen as providing a system that could operate at high speeds and avoid machine stops while providing complete control of the collation contents. The old system according to document O1 responded to a collation error by stopping the insertion machine (at "a miss or double" of a document of a collation, see O1, the paragraph bridging columns 16 and 17).

The system of O1 diverted documents not because of collation errors, but because of special operator related reasons (e.g. the envelope had an overseas address (column 12, lines 29 to 33) or was overweight (column 25, lines 3 to 21).

It was clear for a skilled person that the term "controller" in claim 1 inherently meant that the controller was able to control a module entirely. This was different from O1 where the control was centralised and performed by the processor (100). Moreover, claim 1 was in accordance with the description of the patent (cf. Figure 1) and claimed that the rejection station was positioned in the insertion module. According to O1 the diversion stations (stackers 76, 78) were positioned far downstream from the insertion station (44).

The subject-matter of claim 1 as well as the corresponding method claim 6 was therefore novel.

VI. After a first deliberation the Chairman announced that the Board had come to the conclusion that the subject-matter of claim 1 (and of claim 6) was novel. This was, in the Board's view because at least the last characterising feature of the claim 1 (and of claim 6) was novel.

The Chairman invited the parties to complete their pleadings.

VII. The **appellants further considered** that their argumentation on novelty was also in principle applicable to **inventive step**. In particular, it was evident that the skilled person starting from O1 immediately got the idea to eject also erroneous document collations, since O1 disclosed that in predetermined situations (column 25, line 3) the operator could provide for ejection of envelopes, e.g. in case the envelope was too heavy. There was no technical difference in diverting an overweight envelope and in diverting one that had been stuffed with an erroneous collation. It would, moreover, have been obvious for a skilled person to perform the ejection step in the insertion station, but downstream of the insertion step, because the diversion in O1 was performed after the insertion of the collations into the envelopes.

It was, also, necessary to take into account the very broad wording of the independent claims when assessing inventive step (cf. appellants' argumentation under IV

above). It was relevant to the interpretation of the claim that according to the description of the present patent the controllers of the feeding modules containing microprocessors were also not quite independent, since they had to be started up by the central processor.

O2 disclosed that overweight letters could be ejected into a reject stacker as in the present invention. This document therefore also gave the idea of ejecting erroneous collations. Moreover, document O3 offered the possibilities either to divert erroneous collations or to stop the rotating machine in order to allow the operator to correct any feeding malfunctions. Thus this teaching made clear the general principle that either erroneously collated sets of sheets might be ejected in a run mode, or the machine might be stopped.

The **respondents in their argumentation on inventive step** pointed out that the important difference between the invention and the prior art was that instead of accepting a break down of the system as in O1, the invention enabled the working process to continue even if there was an error in any of the collation sets. Only at the end of the consecutive operation steps were the erroneous collations diverted. Thus the reliability of the system was improved.

Furthermore, the error indication signal (Figure 7D in O1) could not be considered to correspond to the second signal of present claim 1 as proposed by the appellants. The "error signal" indicated in Figure 7D only represented the calculated weight of the collations and did not identify any collation errors.

It was up to the operator to decide whether a diversion had to be done and in such a case at which point in the processing (cf. column 25, first paragraph, line 3). In O1, it appeared, that the envelopes were sorted into different weights to be franked properly; only envelopes having over-weight which the system could not treat automatically were diverted.

Reasons for the Decision

1. The appeal is admissible.

Main request

2. *Novelty*

Document O1 discloses a multi-station document insertion machine controlled by a data processor 100 (Figure 1) or processors 100' and 700 (Figure 1A) which are connected to each other. The insertion machine comprises insert stations 42 and 52 to 57 arranged along an insert track 30. These insert stations can be compared with the feeding stations 12 according to the present invention, since they deposit documents on the insert track. Insertion station 44, downstream of the stations 52 to 57 and serving to stuff a collation of documents into an envelope, corresponds to the insertion station (insertion module) according to the present invention. The insertion machine of O1 also contains diversion processing stations (stackers 76 and 78) for removing certain document packets downstream of the insertion station 44.

The first insert station 42 discharges sub-groups of documents onto an insert track 30. The insert stations 52 to 57 are each standard gripper-type insert stations having oscillating gripper arm structure. In such a station a gripper arm is mounted on an oscillating shaft extending above the insert track which oscillates the gripper arms towards and away from a hopper associated with the first insert station. These standard gripper insert stations each have a mistake detector to determine whether the gripper arm has engaged a proper number of documents (cf. column 7, lines 15 to 39). Signals indicative of mistakes resulting from a miss or double are noted by the processor 100 and cause it to stop the insertion machine (see the paragraph bridging columns 16 and 17).

The Board is of the opinion that the above mentioned standard gripper insert stations 52 to 57 having the mistake detectors can be compared with the feeding stations of the present patent having controllers generating second signals indicating an error condition in a collation.

However, in O1 the error signals ("miss" and "double") from the mistake detectors cause the insertion machine to be stopped (see the paragraph bridging columns 16 and 17 in O1). These signals are the only signals relating to collation errors in O1. The Board considers that the diversion of documents for specific reasons (e.g. too heavy, wrong type of address) downstream of the insertion station 44 in O1 cannot be compared with the diversion of documents because of an erroneous collation as in the last feature (last paragraph) of present claim 1. It is, therefore, clear from document

O1 that the disclosed insertion machine is different from, and functions in a different way than, the material processing system according to claim 1 of the patent. Also the penultimate characterising feature of claim 1, i.e. "means for passing said second signal from each feeding module controller (130) to said insertion module (18)" is not disclosed by O1. This is because the mistake signal, corresponding to the "second signal", from a standard gripper-type insert station is not transferred to the envelope insertion station 44, but causes the insertion machine to be stopped.

Therefore, the subject-matter of claim 1 is novel. Also the subject-matter of the corresponding independent method claim 6 is novel.

3. *Inventive step*

As made clear above, the Board is of the opinion that the subject-matter of claim 1 is distinguished from the arrangement disclosed in O1 by the two last features, identified in the two last paragraphs of the claim. The Board considers that the objective problem to be solved can be seen as "providing a document collating and envelope stuffing machine that can operate at high speeds while providing complete control of the collation contents" as suggested by the respondents. This problem can also be derived from the introductory part of the present patent description (column 2, lines 12 to 7). The last part of the problem given there, i.e. "giving the facility to eject collations which have collation error condition from the machine" is, however, not considered to be part of the objective

problem, because this part directly points in the direction of the solution or even partly reveals it which is not allowed according to the normal problem-solution approach of the case law of the Boards of Appeal.

The Board in this case agrees with the respondents, that the prior art does not point in the direction of the invention. It is true that O1 proposes diverting certain envelopes (with stuffed collations), in particular envelopes having a weight above the weight intervals allotted to the different franking machines or being addressed to a specific address. This may be because those envelopes have to be treated separately from the other mailpieces and perhaps manually. However, rejecting an envelope which is overweight is not the same as rejecting an erroneous collation. As the respondents pointed out, an erroneous collation may be underweight, overweight or even the correct weight. Moreover, the determination at step 456 (Figure 7D in O1), suggested by the appellants to lead to a diversion signal, appears to rely on a theoretically calculated sum of weights of sheets expected to be fed to a collation from the different insert stations along the insert track 30 (cf. e.g. column 22, lines 49 to 57).

The "second signal" according to the invention of claim 1, however, is generated in a feeding module controller and indicates an error condition in the corresponding collation "when said sensing means indicate no-compliance with said first signal". Thus, in the invention every separate second signal indicating an error condition in a corresponding feeding module causes the final collation at the

insertion station to be ejected. In O1 on the other hand the sum of all weight signals is calculated before an error is assessed and a diversion is carried out.

As made clear above, the Board considers that when comparing the invention with the arrangement of O1, the signals produced by the mistake detectors in the insert stations 52 to 57 in O1 have to be equalled with the second signals according to claim 1. The effect of passing the second signals of the invention from the feeding module controllers to the insertion module (18) including a base controller (160), i.e. in principle to the last module, makes it possible to check the record for all collations at the end of the production line. In the case of a collation error that collation can be rejected automatically without stopping the insertion machine. Thus, a rejected collation may have many errors on arrival at the insertion module, whereupon it is rejected. However, according to O1 such errors (indicated by the mistake detectors in different insert stations 52 to 57) might stop the insertion machine many times.

The Board, therefore, considers that the document O1 does not lead the skilled person to the present invention.

During the proceedings before the opposition division and the Board the appellants also referred to the cited documents O2 and O3.

It appears that the teaching of document O2 does not disclose more than O1 in respect of the present invention. It discloses that mixed mail is continuously

and synchronously fed in sequence along a continuous feed path. Also in this case overweight mailpieces are rejected from the feed path prior to reaching the postage meter station. There is no teaching at all about how to treat erroneous collations.

The Board notes that O3 is, indeed, concerned with erroneous collations. However, the collator system disclosed in this document is quite different from the system according to claim 1. The collator (10) has a rotating drum (11), that synchronously meshes with a rotating sheet withdrawing roller set (14). Sheets of material are stored in the pockets (15) of the drum (11) and are withdrawn by means of the roller set (14). Each sheet (16) which is withdrawn from a pocket (15) is discharged to a stacking deck (18). Every revolution of the drum provides at least one complete collated stack of sheets. In order to be able to separate the consecutive collations in a stack of collations, they are positioned in off-set positions to each other (Figure 1) on the stacking deck (18). In the event of an improper feed condition, a third off-set position is provided for the improperly collated stack (cf. 60 in Figure 1).

The Board does not feel that this rotating drum system (published in 1978) can at all be compared to the invention. There are no feeding or insertion modules in the system in the sense of the invention, not to mention any controllers in the modules. Moreover, the way of treating the collations, i.e. stacking the collations in off-set relation to each other, appears to be totally different from the prior art, e.g. O1, which is considered as the starting point of the

invention. This document, therefore, cannot be seen to give the idea of the invention as suggested by the appellants. The Board, accordingly, is of the opinion that the subject matter of claim 1, as well as that of the corresponding independent method claim 6, is not obvious to a skilled person and therefore involves an inventive step.

5. The subject-matter of claim 1, as well as that of claim 6, therefore meets the requirements of Article 52(1) and 56 EPC.

The dependent claims 2 to 5 and 7 and 8 relate to modifications of the invention falling within the scope of the independent claims.

6. Since the main request of the respondents is allowed and the appeal has to be dismissed, there is no reason to deal with the auxiliary requests.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

M. Kiehl P. K. J. van den Berg