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D E C I S I O N
of 20 July 1995

Case Number: T 0407/92 - 3.2.5

Application Number: 83303757.5

Publication Number: 0102699

IPC: B43M 3/04

Language of the proceedings: EN

Title of invention:
Universal multi-station document inserter

Patentee:
PITNEY BOWES, INC.

Opponent:
Ascom Autelca AG
ALCATEL SATHAM
Francotyp-Postalia GmbH

Headword:
-

Relevant legal provisions:
EPC Art. 56, 104(1)

Keyword:
"Inventive step (yes, after amendment)" _

Decisions cited:
-

Catchword:
-





Case Number: T 0407/92 - 3.2.5

D E C I S I O N
of the Technical Board of Appeal 3.2.5
of 20 July 1995

Appellant:
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Decision under appeal: Decision of the Opposition Division of the
European Patent Office dated 5 March 1992
rejecting the opposition filed against European
patent No. 0 102 699 pursuant to Article 102(2)
EPC.

Composition of the Board:

Chairman: C. V. Payraudeau
Members: A. Burkhart
W. D. Weiß

Summary of Facts and Submissions

- I. The Appellant (Opponent I) lodged an appeal against the decision of the Opposition Division rejecting the opposition against the patent No. 0 102 699.

Three oppositions were filed against the patent as a whole and based on Article 100(a) EPC.

The Opposition Division held that the grounds for opposition mentioned in Article 100(a) EPC did not prejudice the maintenance of the patent unamended, having regard to the following documents:

- D1: US-A-3 606 728
- D2: US-A-3 935 429
- D3: DE-A-3 010 637
- D4: BE-A-569 903
- D5: DE-A-2 838 375
- D6: "Einführung in die Mikroprozessortechnik", Texas Instruments Learning Center, 1977, page 262 and 263.

- II. On 8 June 1994 oral proceedings were held before the Board of Appeal.

(i) The Appellant and the Opponent II as a party of right, on this occasion, requested that the decision under appeal be set aside and the patent be revoked.

(ii) The Respondent (Proprietor of the patent) requested that the appeal be dismissed and that the patent be maintained as granted (main request). On an auxiliary basis he requested that

the patent be maintained in amended form on the basis of three sets of claims, named first, second and third auxiliary request.

(iii) Claim 1 of the patent as granted reads as follows:

"1. A universal multi-station document inserter, comprising:

a plurality of modular feeder stations serially arranged along a transport deck (30) to sequentially feed documents onto said transport deck to form a collated stack of documents;

address means associated within each of said feeder stations to specify a unique address for each of said feeder stations;

individual distributed processor units (120) associated with each of said feeder stations and being operable to store a feeder program for providing instructions to the associated feeder station for feeding documents;

individual scanner means associated with each of said feeder stations for detecting the presence of a predetermined code on a coded document to be transported as a first document along said transport deck past said feeder stations; and

a central processor operable to store a supervisory program for providing address and command signals to the distributed processors of the feeder stations, said central processor being interconnected with said scanner means and said distributed processor units for sequentially activating individual distributed processor units in response to sequential signals from individual scanner means which signals indicate the presence

of the coded document at an individual feeder station and include the predetermined code in accordance to which feeding of documents by said individual feeder station is initiated."

- (iv) The Appellant and the Opponent II as a party as of right essentially argued as follows:

The subject-matter of Claim 1 of the contested patent did not involve an inventive step, since the features of this claim which were new with respect to the prior art known from document D1, i.e. the use of a central processor unit and the association of address means, individual distributed processor units and individual scanner means with each of the feeder stations, were obvious to the person skilled in the art using his normal technical knowledge and being aware of the teachings of documents D3 and D6.

- (v) The Respondent essentially argued as follows:

The inserter machine according to document D1 was a hard-wired machine of relatively primitive construction, which could not easily be modified and adapted to different user requirements. In contrast thereto, the construction of the inserter machine according to the patent in suit was such that it could easily be modified and re-adjusted to different user requirements, due to the new features that the feeder stations were modular, that address means, individual scanner means and individual distributed processor units were associated with each feeder station and that a central processor unit was provided for

supervising and controlling the feeder stations and the individual distributed processor units in a hierarchic manner.

There was no suggestion in the state of the art for the provision of the combination of these new features in a document inserter machine.

Document D3 disclosed a hard-wired, inflexible destination control system in which items were moved on a conveyor. Although individual scanner means were provided at respective feeder stations, no individual processor units were provided and the single processor controlled the individual stations directly.

Document D6 did not disclose a hierarchic distributed control system and was not concerned with document inserter machines.

- (vi) At the end of the oral proceedings the Board decided that the main request (maintenance of the patent as granted) was rejected and that the proceedings should be continued in writing on the basis of the three auxiliary requests of the Respondent presented during the oral proceedings.

III. After these oral proceedings the Respondent made various attempts in writing to present formally allowable sets of claims and requested additional oral proceedings in the event that the Board would not consider one of these sets of claims allowable.

The Board, reluctant to accept one of those set of claims as being formally allowable, considered it appropriate to summon the parties for further oral

proceedings, in order to reach a final decision in this case after having discussed the matter orally with the parties.

IV. These further oral proceedings were held on 20 July 1995.

(i) The Appellant and the Opponent II as a party of right finally requested that the decision under appeal be set aside and the patent be revoked. They also requested that at least a part of their costs for these additional oral proceedings be charged to the Respondent.

(ii) The Respondent finally requested that the appeal be dismissed and that the patent be maintained in amended form on the basis of the final main request filed with letter dated 20 June 1995, with the provision that in line 16 of Claim 1 the words "the downstream" be replaced by the word "said", or on the basis of the final first auxiliary request filed at these further oral proceedings.

He further requested that the request for apportionment of costs be rejected.

(iii) Claim 1 according to the final main request of the Respondent reads as follows:

"1. A universal multi-station document inserter, comprising:

a plurality of modular feeder stations (48-76) serially arranged along a transport deck (30) as a first feeder station followed by a plurality of downstream feeder stations to sequentially

feed documents onto said transport deck to form a collated stack of documents;

address means (112) associated with each of said feeder stations to specify a unique address for each of said feeder stations;

individual distributed processor units (120) associated with each of said feeder stations and being operable to store a feeder program for providing instructions to the associated feeder station for feeding documents;

individual scanner means (29) associated with each of said feeder stations for detecting the presence of a predetermined code on a coded document to be transported as a first document along said transport deck past said feeder stations; and

a central processor (100) operable to store a supervisory program for providing address and command signals to the distributed processors of the feeder stations, said central processor being interconnected with said scanner means and said distributed processor units for sequentially activating individual distributed processor units in response to signals from individual scanner means at the first feeder station which signals indicate the presence of the coded document at the first feeder station and include the predetermined code in accordance to which feeding of documents by individual downstream feeder station is initiated."

Claim 1 according to the final first auxiliary request reads as follows:

"1. A universal multi-station document inserter, comprising:

a plurality of modular feeder stations (48-76) serially arranged along a transport deck (30) as a first feeder station followed by a plurality of downstream feeder stations to sequentially feed documents onto said transport deck to form a collated stack of documents;

address means (112) associated with each of said feeder stations to specify a unique address for each of said feeder stations;

individual distributed processor units (120) associated with each of said feeder stations and being operable to store a feeder program for providing instructions to the associated feeder station for feeding documents;

individual scanner means (29) associated with each of said feeder stations for detecting the presence of a predetermined code on a coded document to be transported as a first document along said transport deck past said feeder stations; and

a central processor (100) operable to store a supervisory program for providing address and command signals to the distributed processors of the feeder stations,

said central processor including a first PROM having executable routines stored therein to operate the devices of the inserter and to perform all desired control functions and configuration and a second PROM having a data table stored therein which specifies a particular inserter configuration and the inserter functions to be performed by the executable routines;

said first PROM being programmed with a maximum set of defined inserter configurations and functions and said second PROM being configured to interact with said first PROM to select a subset of the maximum set of defined inserted configurations and functions to operate the document inserter in said particular configuration in accordance with desired customer requirements;

said central processor also including a RAM for storing the data present in said PROM, there being provided switch means for enabling the operator to reconfigure said RAM and display means for displaying the original inserter configuration present in said configuration PROM; and

said central processor being interconnected with said scanner means and said distributed processor units for sequentially activating individual distributed processor units in response to signals from the individual scanner means at the first feeder station which signals indicate the presence of the coded document at the first feeder station and include the predetermined code in accordance to which feeding of documents by individual downstream feeder stations is initiated."

Independent Claim 7 according to the final first auxiliary request reads as follows:

"7. A method for operating a universal multi-station document inserter according to any one of claims 1-6 including the step of:

sequentially actuating feeder stations and feeding documents from feeder station to feeder station beginning with the first feeder station

during a Sequence Start Mode to ensure a complete collation for the initial collation of documents to be fed from the feeder stations."

- (iv) The Appellant and the Opponent II as a party of right essentially argued as follows:

The features which had been added in Claim 1 of the final main request with respect to Claim 1 of the patent as granted were already present in the inserter machine according to document D1. Since the subject-matter of Claim 1 of the patent as granted did not involve an inventive step the present Claim 1 was also not inventive.

The additional features of Claim 1 according to the final first auxiliary request, i.e. the inclusion of PROMs and a RAM in the central processor unit, could not be considered as involving an inventive step, since the use of PROMs or RAMs in processor units was normal practice in the microprocessor technique, as could be seen from the document "Tendenzen der Minicomputer-Entwicklung", ELEKTRONIK, 1973, Heft 10, pages 345 to 352, which document had been cited during the opposition proceedings.

Since the second oral proceedings became necessary due to the abusing conduct of the Respondent, it was justified to charge at least a part of the costs of the Appellant and the Opponent II for these oral proceedings to the Respondent.

(v) The Respondent essentially argued as follows:

The amended Claim 1 according to the final main request was restricted to the operation mode which was the only one disclosed in the patent and the originally filed application documents, namely the case wherein only the scanner means of the first feeder station scan the coded document to be transported as a first document along the feeder stations downstream of the first feeder station. The subject-matter of this claim was not rendered obvious by the prior art under consideration for the same reasons as set out with respect to the subject-matter of Claim 1 of the patent as granted.

The provision of two PROMs, each being specifically programmed, in the central processor and their interaction with a RAM, as indicated in Claim 1 according to the final first auxiliary request, allowed ready adaptations to different user requirements. Such a specific arrangement was not suggested by any of the prior art documents cited by the Opponents.

The request for apportionment of costs should be rejected, since in the present case the request for additional oral proceedings was not an abuse but a legally admissible means to defend the Respondent's rights and interests.

Reasons for the Decision

1. *The patent as granted*

1.1 Novelty

None of the documents cited by the Opponents discloses a document inserter machine comprising all the features of Claim 1 of the patent in suit. Novelty of the subject-matter of Claim 1 of the patent in suit has, in fact, not been in dispute in these proceedings.

Therefore, the subject-matter of Claim 1 of the patent in suit is novel.

1.2 Inventive step

Document D1 (cf. Figures 1 and 2 and the corresponding parts of the description) discloses a multi-station document inserter comprising a plurality of feeder stations serially arranged along a transport deck to sequentially feed documents onto said transport deck to form a collated stack of documents, individual distributed control circuits associated with said feeder stations, scanner means associated with the first feeder station for detecting the presence of a predetermined code on an coded document to be transported as a first document along said transport deck past said feeder stations, and a central control unit (memory circuit 82, shift registers 84 and programmers 75A and 75B) operable to send command signals to the control circuits of the feeder stations, said central control unit being interconnected with said scanner means and said control circuits for sequentially activating the same in response to signals from the scanner means which signals

indicate the presence of the coded document at an individual feeder station and include the predetermined code in accordance to which feeding of documents by said individual feeder station is initiated.

This known document inserter is of hard-wired construction designed for a specific application, which construction cannot easily be adapted to other applications.

Therefore, the problem underlying the invention consists in providing a multi-station document inserter of wider utility, that is to say, of virtually universal application (see column 2, lines 13 to 15 of the patent specification).

This problem is solved by the invention claimed in Claim 1 in that the multi-station document inserter known from document D1 is modified in the sense that

- the feeder stations are modular feeder stations,
- address means are associated with each of the feeder stations to specify a unique address for each of the feeder stations,
- individual distributed processor units are associated with each of the feeder stations, the processor units being operable to store a feeder program for providing instructions to the associated feeder station for feeding documents,
- scanner means are associated also to the feeder stations following the first feeder station, and

- the central control unit is replaced by a central processor operable to store a supervisory program for providing address and command signals to the distributed processors of the feeder stations.

This solution of the problem underlying the invention is obvious to the person skilled in the art, for the following reasons:

During the time between the publication date of the document D1 in the year 1969 and the priority date of the patent in suit in the year 1982 any persons skilled in the art involved in controlling and supervising of automatic machines in all technical fields became familiar with the use of computers and microprocessors bringing about very flexible and versatile control systems. Therefore, the person skilled in the art considering the hard-wired control arrangement of the inserter machine according document D1 to be inflexible and not readily adaptable to different individual user requirements, would have replaced the same by a programmable processor unit in order to render it more flexible and adjustable.

As can be seen from document D6, a text book dealing with applications of the microprocessor technique, (cf. pages 262 and 263), the person skilled in the art is aware of both the so-called central microprocessor control system and the so-called de-centralised microprocessor control system, which he will use at his discretion depending on the requirements of the specific application. Document D6 (cf. page 262, last paragraph and Figure 14.14) teaches that the so-called de-centralised microprocessor system comprising a plurality of distributed microprocessors, each of which being supervised by a central microprocessor, offers the advantage of higher flexibility in comparison with the

so-called centralised system. Therefore, it is obvious to the person skilled in the art trying to solve the problem underlying the invention, that he will modify the inserter machine according to document D1 and replace the hard-wired central control unit by a so-called de-centralised microprocessor system wherein individual distributed processor units are associated with each of the feeder stations and the central processor unit supervises the distributed processors of the feeder stations. It is obvious for the person skilled in the art that in such a distributed system each of the feeder stations must have appropriate address means which are addressable by the supervising central processor unit.

The use of modular construction elements in machines or installations for the purpose of greater flexibility and versatility belongs to the general knowledge of the person skilled in the art. Therefore, the person skilled in the art would of course choose modular feeder stations in the inserter machine according to document D1, if he wanted to render this machine more flexible and versatile.

The equipment of each feeder station with its own scanner means is a further measure in line with the principle of using modular feeder stations, which measure is at the discretion of the person skilled in the art according to circumstances. The provision of scanner means associated with each of the feeder stations in the inserter machine according to document D1 is therefore obvious to the person skilled in the art, in particular also in the light of document D3, which document already discloses a multi-station inserter system wherein scanner means are associated with each of the feeder stations.

For the foregoing reasons, the subject-matter of Claim 1 of the patent in suit does not involve an inventive step in the meaning of Article 56 EPC.

1.3 Therefore, Claim 1 of the patent as granted cannot be maintained, and consequently, the patent as granted cannot be maintained.

2. *Final main request presented at the second oral proceedings*

2.1 Claim 1 according to this main request only differs from Claim 1 of the patent as granted in that it is restricted to a particular operation mode of the central processor, wherein the signals obtained by scanning the code of the control document at the scanner means of the first feeder station are processed by the central processor to control feeding of documents by the feeder stations downstream of the first feeder station.

2.2 Since, however, in the multi-station document inserter according to document D1 the very same operation mode is already used, wherein the signals obtained by scanning the code of the control document at the scanner means of the first feeder station are utilised by the central control unit to control feeding of documents downstream of the first feeder station (see point 1.2 above), the subject-matter of Claim 1 of the main request does not involve an inventive step for the same reasons as set out above with respect to Claim 1 of the patent as granted.

2.3 Since Claim 1 of this final main request is not allowable, this request cannot be granted.

3. *Final first auxiliary request presented at the second oral proceedings*

3.1 Amendments

Claim 1 according to the first auxiliary request differs from Claim 1 of the patent as granted in that

- (a) the operation mode of the central processor unit is such that the signals obtained by scanning the code of the control document at the scanner means of the first feeder station are utilised by the central processor to control feeding of documents by the feeder stations downstream of the first feeder station (see lines 12 to 18 of claim page 24),
- (b) first and second PROMs and a RAM are provided and specifically designed according to lines 20 to 25 of claim page 23 and lines 1 to 11 of claim page 24.

The features according to point (a) above are disclosed on page 3, lines 9 to 23 and page 9, lines 10 to page 10, line 18 of the originally filed description and the features according to point (b) above are contained in the originally filed Claims 4, 6, 7, 8 and 11.

By the addition of the above-mentioned features (a) and (b) the scope of protection of Claim 1 of the patent as granted has been restricted.

The amendments in Claims 7 and 8 (replacement of the word "last" by the word "first") are mere adaptations to the amended Claim 1 which can clearly be derived from the originally filed Figure 2 and the respective description.

The description of the granted patent has been amended in the sense that it is adapted to the amended claims and that references to non-prepublished documents and to the "Microfiche Appendix", which was only filed after the filing date of the application, are cancelled.

Therefore, the amendments to the claims and the description are not objectionable with respect to Article 123 EPC.

3.2 Novelty

None of the documents cited by the Opponents discloses an inserter machine comprising all the features of Claim 1. Novelty has, in fact, not been in dispute in these proceedings.

Therefore the subject-matter of Claim 1 according to the first auxiliary request is novel.

3.3 Inventive step

Claim 1 according to the final first auxiliary request differs from Claim 1 according to the final main request in that it contains the additional features

- that the central processor includes a first PROM having executable routines stored therein to operate the devices of the inserter and to perform all desired control functions and configuration and a second PROM having a data table stored therein which specifies a particular inserter configuration and the inserter functions to be performed by the executable routines,

- that the first PROM is programmed with a maximum set of defined inserter configurations and functions and that the second PROM is configured to interact with the first PROM to select a subset of the maximum set of defined inserter configurations and functions to operate the document inserter in said particular configuration in accordance with desired customer requirements, and
- that the central processor also includes a RAM for storing the data present in the second PROM, there being provided switch means for enabling the operator to reconfigure the RAM and display means for displaying the original inserter configuration present in said configuration PROM.

The provision and interaction of the two differently programmable PROMs, together with the use of a RAM as claimed by the above-mentioned additional features, enables simple and quick reconfiguration of the inserter machine according to different user requirements.

This specific advantageous arrangement of PROM and RAM means is not suggested to the person skilled in the art by any of the prior art documents under consideration in these proceedings.

Therefore, the subject-matter of Claim 1 according to the first auxiliary request involves an inventive step in the meaning of Article 56 EPC.

The same applies to the subject-matter of the dependent Claims 2 to 6 and the method of Claims 7 to 11, wherein specific operation modes of the inserter machine according to Claims 1 to 6 are defined.

3.4 Consequently, the first auxiliary request of the Respondent is allowable.

4. *Apportionment of costs*

The Appellant and the Opponent II as a party of right considered it an abuse that the Respondent, after the first oral proceedings, presented numerous additional set of claims and requested additional oral proceedings, although the Board, at the end of the first oral proceedings, had declared that the proceedings should be continued in writing on the basis of the three auxiliary requests presented by the Respondent during the first oral proceedings.

The Board, however, cannot see an abuse on behalf of the Respondent in the present case.

After refusal of the patent as granted by the Board at the end of the first oral proceedings, the Respondent has tried to obtain in written proceedings at least a maintenance of his patent in amended form by presenting various sets of restricted claims and has requested further oral proceedings only for the case that the Board was not willing to allow one of these sets of claims.

Due to the relative complex technical content of the patent in suit, the Board itself considered it necessary to have a further oral discussion with the parties, and thus, the Board summoned the parties for further oral proceedings in order to get a sound basis for a final decision to be taken thereafter.

Therefore, in the present case, the Board cannot see any abusing conduct on behalf of the Respondent who was

trying to defend his legitimate rights and interests by making non-excessive use of the procedural means provided by law.

The request of the Appellant and the Opponent II as a party as of right for apportionment of costs according to Article 104(1) EPC is therefore rejected.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the first instance with the order to grant a patent on the basis of the following documents:

Claims: 1 to 11 according to the first auxiliary request presented during the oral proceedings of 20 July 1995,

Description: columns 1 to 16, presented during the oral proceedings of 20 July 1995,

Figures: 1 to 12 of the patent as granted.

3. The request for apportionment of costs is rejected.

The Registrar:

The Chairman:

A. Townend

C. V. Payraudeau