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**D E C I S I O N**  
of 23 April 1998

**Case Number:** T 0717/95 - 3.2.4

**Application Number:** 89305408.0

**Publication Number:** 0347060

**IPC:** B26D 7/26

**Language of the proceedings:** EN

**Title of invention:**

System for automatically positioning multiple tool-holding  
carriages

**Patentee:**

Tidland Corporation

**Opponent:**

Jagenberg AG  
Windmüller & Hölscher

**Headword:**

Carriage positioning/TIDLAND

**Relevant legal provisions:**

EPC Art. 56, 104

**Keyword:**

"Inventive step (yes)"  
"Apportionment of costs - misinterpretation of a prior art  
document (no)"

**Decisions cited:**

-

**Catchword:**

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Boards of Appeal

Chambres de recours

Case Number: T 0717/95 - 3.2.4

**D E C I S I O N**  
of the Technical Board of Appeal 3.2.4  
of 23 April 1998

**Appellant:**  
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**Decision under appeal:** Decision of the Opposition Division of the  
European Patent Office posted 22 June 1995  
revoking European patent No. 0 347 060 pursuant  
to Article 102(1) EPC.

**Composition of the Board:**

**Chairman:** C. A. J. Andries  
**Members:** P. Petti  
M. Lewenton

## Summary of Facts and Submissions

- I. The European patent No. 347 060, against which two oppositions had been filed, was revoked by a decision of the opposition division dispatched on 22 June 1995.
- II. In the decision under appeal the subject-matter of the independent Claim 1 of the patent as granted was considered as lacking inventive step in view of the document DE-C-3 426 302 (D1).

This independent Claim 1 reads as follows:

"1. A method of moving a plurality of tool holding carriages (20) to respective predetermined positions along an elongate member (10) comprising the following steps:

- (a) calculating the respective distances which said carriages (20) must move in order to reach their respective predetermined position;
- (b) moving said carriages (20) toward their respective predetermined positions simultaneously in the desired direction by engaging with a common drive member (36);  
characterized by
- (c) identifying the respective carriage that requires to move the least distance to attain its predetermined position;
- (d) commanding the common drive member (36) to move this least distance;
- (e) disengaging the respective carriage from the common drive member (36);

(f) repeating the procedure starting with step (a) until all said carriages are in their respective predetermined positions."

III. The appellant (patent proprietor) lodged an appeal against the decision of the opposition division on 22 August 1995 and paid the appeal fee on 18 August 1995. The statement setting out the grounds of appeal was filed on 30 October 1995.

IV. Oral proceedings were held on 23 April 1998.

V. The appellant argued that the subject-matter of Claim 1 according to the main request is new and inventive with respect to the prior art known from document D1.

VI. Both respondents (opponents I and II) contested the arguments of the appellant by arguing that the subject-matter of claim 1 of the main request does not involve an inventive step having regard to the content of documents D1 and DE-B-1 611 777 (D2).

VII. As a main request, the appellant requested that the impugned decision be set aside and that the patent be maintained as granted.

Auxiliarily, the appellant requested that the patent be maintained in amended scope, on the basis of one of seven sets of claims, six of them filed with the statement setting out the appeal grounds (first and third to seventh auxiliary requests, corresponding to Schedules A to F) and one of them filed during the oral proceedings on 23 April 1998 (second auxiliary request).

The appellant also requested that an order be made that the respondent I "carries the entire costs of the appeal on account of the extra procedure that has become necessary due to their perpetration of the misunderstanding concerning the interpretation of document DE 34 26 302 [D1]".

VIII. The respondents requested that the appeal be dismissed.

### Reasons for the Decision

1. The appeal is admissible.
2. *The subject-matter of the independent Claim 1 of the patent as granted (main request)*
  - 2.1 Claim 1 needs to be interpreted in order to define the matter for which protection is sought, i.e. the subject-matter which has to be compared with the prior art in order to establish whether the grounds for opposition mentioned in Article 100(a) EPC prejudice the maintenance of the patent as granted.
    - 2.1.1 Claim 1 is directed to a method of moving a plurality of toolholding carriages to respective predetermined positions along an elongate member ("heading of the claim") and defines this method by the steps (a) to (f).

It is clear from Claim 1 (read as a whole) that there is a sequential order between the steps. In other words, the steps define a procedure which starts with step (a), and continues with steps (c), (d) (together with step (b)), and (e). Step (f) defines the repetition of this procedure.

2.1.2 It has to be noted that step (b) has to be considered together with step (d) in so far as step (d), which is defined in the characterising portion of the claim, relates to step b) which is defined in the pre-characterising portion. Thus, it must be understood from Claim 1 that when the common drive member is commanded to move the least distance (according to step (d)) all carriages which are not in the right place engage the common drive member and move simultaneously in the desired direction (according to step (b)).

2.1.3 According to step (b) the carriages have to be moved toward their respective predetermined positions simultaneously **in the desired direction**. This formulation defines unambiguously two alternatives. In other words, step (b) means that all the carriages are to be moved **either** simultaneously in the same direction **or**, if needed, simultaneously in different directions.

Dependent Claim 2 which explicitly specifies that the carriages are to be moved simultaneously in different directions represents a further limitation of Claim 1 because it clearly defines the second alternative.

2.1.4 According to step (a) the respective distances which the carriages must move in order to reach their respective predetermined positions (i.e. the desired positions) are calculated. This step implies that not only the desired position of each carriage but also the actual position (i.e. the starting position) of each carriage is known.

2.1.5 As the appellant pointed out in the statement setting out the grounds of appeal (see page 17, point 4.9.2), the distances which the carriages must move have to be considered as "actual or 'absolute' distances calculated along or with respect to the elongate member rather than distances calculated with respect to, for

example, other carriages". In other words, Claim 1 is directed to a method of moving carriages from their actual (previous) positions to predetermined (desired) **positions** along an elongate member (i.e. positions determined with respect to the elongate member) rather than a method of positioning carriages with predetermined **spacings** between them.

- 2.1.6 According to step (c), the carriage that requires to move the least distance to attain its predetermined (desired) position is identified. This implies a comparison between the different distances calculated according to step (a).
- 2.1.7 According to step (d) the common drive means is commanded to move the least distance. This implies that all carriages, which are not in the right place and therefore have to be moved, engage the common drive means, the drive means is actuated to move **and is stopped** when the carriage identified according to step (c) has reached its desired position.
- 2.2 The interpretation according to the above items 2.1.1, 2.1.2, 2.1.4, 2.1.6 and 2.1.7, which is consistent with the description and the drawings of the patent, was brought forward by the board in the annex to the summons to attend oral proceedings dated 29 December 1997. During the oral proceedings on 23 April 1998 the appellant substantially agreed with this interpretation and based its arguments on it.
- During the oral proceedings on 23 April 1998 the appellant also based its arguments on the interpretation according to the above item 2.1.5.
- 2.3 The interpretation according to the above item 2.1.3 was discussed during the oral proceedings.

The appellant asserted that step (b), being specified in the pre-characterising portion of Claim 1, refers to a prior art method in which the drive member is not suitable for moving all the carriages bidirectionally simultaneously when repositioning them.

This argument cannot be accepted in so far as it would imply an interpretation of step (b) which is not consistent with the description of the patent which systematically refers to an unidirectional driven drive member which, nevertheless, is capable of moving the carriages bidirectionally simultaneously (see e.g. column 4, lines 21 to 27; column 7, lines 36 to 40).

- 2.4 The considerations above also apply *mutatis mutandis* for Claim 5, which is an independent claim directed to a physical entity ("system") comprising carriages, an elongate member and an apparatus for moving the carriages.

3. *Novelty*

The subject-matter of Claim 1 is novel (Article 54 EPC) with respect to the cited prior art.

During the oral proceedings the respondents withdrew the objections of lack of novelty previously raised during the written proceedings.

4. *The closest prior art*

All the parties consider document D1 as the closest prior art.



This document discloses a system comprising a plurality of tool-holding carriages B1, B2 movably mounted along an elongate member ("Führung" P) and an apparatus for moving said carriages along said elongate member to respective predetermined positions; the apparatus comprising:

- sensor means G, N, JA, J1, J2 for sensing the actual position ("IST-Position") of the first carriage B1 and the actual spacing ("IST-Abstand") between the first carriage and the second carriage B2, comparing means for comparing a value corresponding to the actual position ("IST-Position") with the value corresponding to the desired position ("SOLL-Position") of the first carriage and for comparing a value corresponding to the actual spacing ("IST-Abstand") with the value corresponding to the desired spacing ("SOLL-Abstand") between first and second carriages, calculating means for calculating the respective distances which said carriages must move in order to reach their respective desired positions;
- common drive means T for moving the carriages simultaneously along the elongate member P;
- engagement means O1, U1, O2, U2 for selectively engaging said carriages to said common drive means;
- control means S, M to command the movement of said common drive means T; and
- means S for disengaging the carriages from said common drive means.

In this known apparatus the position sensing means is of the type in which pulses from pulse generator G are counted starting from a reference point JA, so that, firstly, the distance between the first carriage and this reference point is determined and only can then the spacing between the second and the first carriages be determined.

According to document D1 this apparatus operates as follows:

- the actual position ("IST-Position") of the first carriage is sensed and is compared with its desired position ("SOLL-Position") in order to determine whether there is a difference therebetween ("SOLL-IST-Wertabweichung"),
- if there is a difference between the desired and the actual position of the first carriage, this carriage is moved towards the desired position by engaging with the common drive means T and is disengaged from the common drive means when the desired position is attained.

The apparatus is also suitable for moving more carriages simultaneously. In particular, when the actual position of the first carriage differs from the desired position but the actual distance between first and second carriages does not differ from the desired distance, the second carriage is moved simultaneously with the first one.

5. *Problem and solution*

5.1 The claimed subject-matter differs from the closest prior art essentially in that

- (c) the carriage that requires to move the least distance to attain its position is identified,
- (d) the common drive member is commanded to move this least distance,
- (f) the procedure consisting of the sequence of steps (a), (b) and (d), (c) and (e) (see the above section 2.1.1) is repeated until all the carriages are in their respective desired positions.

5.2 Feature (c) - together with the simultaneous bidirectional movement of the carriages (see the above section 2.1.3) - results in reducing the time required for repositioning the carriages in so far as wasted motion may be avoided.

Feature (d), which implies the stopping of the common drive member, each time when one of the carriages reaches the respective desired position (see the above section 2.1.7), due to the fact that the disengagement according to feature (e) is made after feature (d), results in the improvement of the precision of the positioning, in so far as the influence of inertia effects is reduced.

Moreover, the fact that the procedure is repeated according to feature (f), permits the correction of positioning errors.

5.3 Therefore, the problem to be solved is to improve a method of positioning toolholding carriages, which are capable of moving bidirectionally simultaneously by means of a common drive member when repositioning them, with respect to the repositioning time and to the accuracy of the positioning.

6. *Inventive step*

6.1 It has to be considered that none of the documents referred to by the parties suggests the identification of the carriage requiring to move the least distance, let alone repeating this method-step each time a carriage is brought into its desired position.

Document D1 discloses a "spacing dependent system" in which the position of the first carriage with respect to a reference point has to be determined first, before the distance (i.e. the spacing) between the second and the first carriages is determined. The repositioning of the carriages has to be done in a predetermined sequence corresponding to the physical order of the carriages, i.e. firstly the first carriage, then the second one (and so on). Indeed, a correct position of the second carriage implies not only a correct distance to the first carriage but also a correct position of the first carriage.

Document D2 discloses a system in which the carriages 5/10, when they have to be repositioned, either are brought firstly into a start position at the end of the guide members 4/11 (see column 2, line 49 to column 3, line 17) and then are moved to the desired positions or are moved directly from the previous to the desired positions (see column 3, line 18 to column 4, line 2). Document D2 does not disclose any means for identifying the carriage requiring to move the least distance.

6.2 It was argued that the skilled person - when confronted with the problem of reducing the time required for repositioning the carriages of the system according to document D1 - would immediately realize that the time can only be reduced if the first carriage repositioned is the carriage requiring to move the least distance and, thus, the skilled person would compulsorily come to the idea of identifying that carriage as according to step (c) and apply this idea so that the common drive member is commanded to move this least distance.

However, even if the skilled person were to come to the idea of identifying the carriage requiring to move the least distance, he would not immediately realize that this idea could be applied in the method known from document D1 because of the incompatibility of this idea with the philosophy of the known method which is based on a repositioning sequence corresponding to the physical order of the carriages. It must also be considered that the drive member of the system according to D1 cannot stop when the first carriage has reached its desired position because this drive member also works as a sensing means for sensing the distance between the first and the second carriage.

Therefore, the board cannot accept this argument.

6.3 It was also argued that the system disclosed in document D2 might have an operation mode corresponding to the method defined in Claim 1. The respondent I described this operation mode by referring to the schematic drawing filed during the oral proceedings on 29 March 1995 (see Annex to the minutes of these oral proceedings). This drawing refers to a system with four carriages each of which has to move from a start position (a0, b0, c0, d0) at the left-hand end of the guide member to the respective desired position (a1, b1, c1, d1). It must be understood from the drawing

that the four carriage move together from the start position until the first carriage (from the left-hand side) is in its desired position (a1), the remaining carriages move all together from this position until the second carriage is in its desired position (b1), this procedure being repeated until the fourth carriage is in its desired position. Thus, when the system disclosed in document D2 is operated according to this drawing, the carriage requiring to move the least distance is "identified".

The board cannot accept this argument because it relies upon an incorrect interpretation of the expression "identifying the carriage that requires to move the least distance". Document D2 does not disclose a method in which the different distances which the carriages must move are compared with each other in order to determine the least distance so that the first carriage to be repositioned is that having this least distance independently of the physical order of the carriages. Furthermore, the suggested operation mode is not disclosed as such in document D2 but is only disclosed as a part of a method (see column 2, line 49 to column 3, line 17), according to which all the carriage are firstly moved to a start position at the end of the guide member (see particularly column 3, lines 51 and 52).

- 6.4 The respondent II based its arguments also on the fact that the system according to document D1 is suitable for longitudinally slitting a longitudinally-moving web of paper into narrower webs whose widths correspond to the size of the paper sheets to be produced. Respondent II asserted that the carriage B1 at the left-hand of the guide member carries a cutter which normally cuts a very narrow border of the whole web which is normally wasted, while the cutting tool mounted on the subsequent carriage B2 defines the width

of the sheets of the desired size. Thus, the respondent argued that the carriage B1, which is also the first repositioned carriage, is always that having this least distance to move. Thus, steps (b) and (d) are even suggested by the document D1.

Having regard to the comments in the above section 6.3, particularly to the fact that in document D1 there is no comparison between the distances with respect to each other in order to identify the least distance, this argument is not relevant.

- 6.5 Having regard to the above comments, the board finds that the subject-matter of the independent Claim 1 is not obvious to a person skilled in the art.
- 6.6 The same also applies for the subject-matter of independent Claim 5, which specifies all the technical features which permit the method defined by Claim 1 to be carried out.
- 6.7 Therefore, the subject-matter of the independent Claims 1 and 5 of the patent as granted is considered as involving an inventive step as required by Article 56 EPC.
7. The patent can therefore be maintained as granted.
8. Therefore, there is no need to examine the auxiliary requests of the appellant.
9. *The request for a different apportionment of costs*

The appellant based this request upon the fact that document D1 essentially discloses the positioning of carriages with predetermined **spacings** between them, without determining the absolute positions of the

carriages with respect to the elongate guide member (see also the above section 2.1.5). The appellant asserted that the respondent I - when comparing the claimed subject-matter of the patent under appeal with the content of document D1 - misinterpreted this document in so far as it argued that the system known from this document is capable of moving the carriages to predetermined **positions** along an elongate member although the appellant, as assignee of this document, had to know that the positioning of the carriages is made on the basis of the **spacings** between them.

In order to support this argument the appellant filed document US-A-4 072 887, which is also in the name of the respondent I and which corresponds to document DE-A-2 433 302, which is referred to in the introduction of document D1 (see column 1, lines 60 to 66). This document also discloses a system in which the positioning of the carriages is made on the basis of the **spacings** between them.

According to the board, however, an error in the comparative analysis of a prior art document with respect to the claimed subject-matter does not justify a different apportionment of costs according to Article 104 EPC.

In the present case, the fact that the interpretation made by the respondent I is wrong does not represent an abuse.

Moreover, it has to be considered that the solution disclosed in document D1 relates not only to the problems arising from the prior art according to document DE-A-2 433 302, but also to another prior art arrangement (see column 1, lines 48 to 59; column 1, line 67 to column 2, line 3).




Therefore, the board sees no reason to order a different apportionment of costs.

**Order**

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

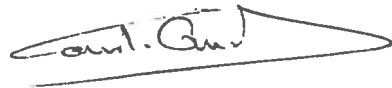
1. The decision under appeal is set aside.
2. The patent is maintained unamended.
3. The request for apportionment of costs is refused.

The Registrar:



N. Maslin

The Chairman:



C. Andries

