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D E C I S I O N
of 5 September 1995

Case Number: T 0347/94 - 3.2.1

Application Number: 87300456.8

Publication Number: 0231092

IPC: B21D 7/022, B21D 7/12, B21F 1/00

Language of the proceedings: EN

Title of invention:
Bending machine

Patentee:
Benton, Ronald Edward

Opponent:
Latour & Fils,
OMCG S.p.A

Headword:
-

Relevant legal provisions:
EPC Art. 54.3, 56, 114(2)

Keyword:
"Late submitted material - admitted (no)"
"Novelty (yes)"
"Inventive step (yes)"

Decisions cited:
T 0056/87, T 0233/90

Catchword:
-



Case Number: T 0347/94 - 3.2.1

DECISION
of the Technical Board of Appeal 3.2.1
of 5 September 1995

Appellant: OMCG S.p.A.
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Representative: -

Respondent: Benton, Ronald Edward
(Proprietor of the patent) "Mount Royal"
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Headley
Hampshire GU35 8LL (GB)

Representative: Crouch, David John
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London WC2N 6EF (GB)

Other party: Latour & Fils
(Opponent 01) 08450 Haraucourt (FR)

Representative: -

Decision under appeal: Decision of the Opposition Division of the
European Patent Office dated 16 February 1994
rejecting the opposition filed against European
patent No. 0 231 092 pursuant to Article 102(2)
EPC.

Composition of the Board:

Chairman: F. A. Gumbel
Members: P. Alting van Geusau
G. Davies

Summary of Facts and Submissions

- I. European patent No. 0 231 092 was granted with effect from 21 August 1991 on the basis of European patent application No. 87 300 456.8 filed on 20 January 1987, claiming two priorities, dated 29 January 1986 (GB 8602147) and 3 November 1986 (GB 8626229).
- II. With notices of opposition, filed by the other party (opponent 01) and the appellant (opponent 02) on 16 December 1991 and 19 May 1992, respectively, revocation of the patent was requested on the ground of non-compliance with the provisions of Article 100(a) EPC.

In respect of an alleged lack of novelty and lack of inventive step of the subject-matter of the patent, the oppositions were based inter-alia on the documents:

D1: EP-A-0 108 695
D2: EP-A-0 209 876
D7: US-A-3 373 587

- III. By decision posted on 16 February 1994 the Opposition Division rejected the oppositions.

The Opposition Division held that the subject-matter of the patent was novel, also when taking into account D2, an earlier-filed European patent application to which the conditions of Article 54(3) EPC applied. Furthermore, the subject-matter of the patent also involved an inventive step having regard to the fact that the claimed bending machine was capable of producing articles in which the material was bent into a three-dimensional shape returning on itself and that the cited prior art gave no lead towards solving this

problem with a machine having the combination of features in accordance with Claim 1 of the contested patent.

IV. An appeal was lodged against this decision by opponent 02 on 12 April 1994, with payment of the appeal fee on the same day. The statement of grounds of appeal was filed on 21 June 1994.

In the statement of grounds of appeal the appellant referred to the following additional prior art documents:

D11: "RORORO Techniklexikon", Volume: "Bautechnik", 1972, pages 206 and 207,

D12: "Meyers enzyklopädisches Lexikon", Volume 4, 9th edition 1973, page 145,

D13: GB-A-759 036 (cited in the present patent),

D14: EP-A-0 079 587.

V. With a letter dated 23 June 1994 the appellant further introduced the document

D15: Leaflet of the company Eaton Leonard, "Bending your ear", customer newsletter No. 42, November 1984,

which in its opinion disclosed the combination of the first part of the characterising features of Claim 1, relating to the support arm of the bending head.

VI. In a communication attached to the summons to oral proceedings, auxiliarily requested by both the appellant and the respondent (proprietor), the Board expressed the provisional opinion that the appellant's objection of lack of novelty of the subject-matter of the granted Claim 1 based on the disclosures of D2, could not be followed.

It would further appear that D1, rather than D13, disclosed the closest prior art. When assessing inventive step in relation to the subject-matter claimed, therefore, in addition to the line of argument based on D7, D13 and D14 as was submitted by the appellant, it would also be necessary to discuss at the oral proceedings whether an inventive activity was necessary to further develop the bending apparatus known from D1 by incorporating the bending means known from D7 or D11 and whether such combination would in an obvious manner lead to the subject-matter of Claim 1.

The Board also drew attention to the fact that D11, D12, D14 and D15 were filed after the 9-month period stipulated in Article 99 EPC and that in this respect the question should be discussed whether these documents should be allowed into the appeal proceedings at such a late stage of the proceedings (Article 114(2) EPC).

VII. With its response dated 4 August 1995, the respondent filed, in addition to a main request based on the granted Claim 1, also an auxiliary request based on a precautionary proposal for a new Claim 1.

VIII. Oral proceedings took place on 5 September 1995 in the presence of the respondent. The appellant and other party, although duly summoned, did not appear. The proceedings were continued without them (Rule 71(2) EPC).

At the oral proceedings the respondent reformulated its requests, asking that the appeal be dismissed and the patent be maintained as granted (main request) or be maintained on the basis of the precautionary proposal for Claim 1, filed on 4 August 1995.

Claim 1 as granted reads as follows:

"1. A bending machine for bending wire, tubing or other elongate material (24), comprising a support structure (10), a bending head (20) which is mounted on the support structure (10) and which is capable of bending such material in a given plane which is fixed relative to the bending head (20), and feed means (14) mounted on the support structure (10) and arranged to feed such material (24) along the feed axis of the machine to the bending head (20), the bending head (20) being rotatable about the said feed axis of the machine, wherein the bending head (20) is provided with at least one reaction projection (60 or 62) extending in a direction which is transverse to the feed axis, and a movable bending projection (64) also extending in such a direction, the movable bending projection (64) being cantilevered from the bending head (20), characterised in that the machine further comprises a support arm (18) which extends from a rotatable bearing part (16) on the support structure (10) in a direction along the said feed axis to the bending head (20), in that the support arm (18) is rotatable, by rotation of the bearing part (16), with the bending head (20), about the said feed axis thereby to enable the machine to bend the material (24) into more than one plane, in that the bending head (20) and the support arm (18) are wholly to one side of the said feed axis and in that the said at least one reaction projection (60 or 62) extends in a direction which is outwards from the bending head (20)."

IX. In support of its request for revocation of the patent, the appellant relied upon the following written submissions:

Novelty

Considering the claimed priority dates of the present patent, D2 was to be considered to disclose the most relevant prior art in respect of the contracting states DE, FR and SE. The Opposition Division's opinion that D2 disclosed only closed bending means, whereas the bending means in accordance with Claim 1 of the patent in suit were cantilevered bending pins and thus partly open bending means, could not be followed.

In accordance with decision T 56/87 (OJ EPO 1990, 188), the technical teaching of a document should be considered in the light of the entire document and since D2 did not state a limitation to closed bending means, also partly open bending means were embraced by its disclosure. Therefore, the skilled person would consider that the embodiment shown in Figure 1 was only one example of the bending means disclosed in D2 and, in view of the conclusions arrived at in decision T 233/90 of 8 July 1992, (not published in the OJ EPO), interpretation of the entire disclosure of D2 on the basis of the prior art would also embrace a partly open embodiment of bending means. Such embodiment was also derivable from Figure 2. Therefore, in respect of the above contracting states, the bending machine in accordance with Claim 1 of the patent in suit lacked novelty.

Inventive step

Starting from D13 as the closest prior art for the other contracting states, the remaining differences between this known bending machine and the bending machine defined in Claim 1 of the patent in suit were characterising features of this claim. However, these characterising features did not provide any inventive functional interaction but rather related to an aggregate of features, which were themselves well known.

For example, D7 disclosed the first two characterising features of Claim 1 of the patent in suit and D14 the remaining two characterising features. From the objective problem to be solved, the skilled person would immediately arrive at the subject-matter of Claim 1 by combining the teachings of D13, D7 and D14; thus there was no inventive subject-matter in that Claim.

- X. The respondent contested the appellant's view and relied essentially on the following submissions:

Novelty

The decision of the Board of Appeal in T 56/87 could not be interpreted as implying that the disclosure of a bending device in D2 incorporated a disclosure of any specific embodiment of such bending means. In D2, a closed bending nib was shown in Figure 1. Figure 2 did not contain sufficient detail to give the skilled person any suggestion that the bending nib was different from the one shown in Figure 1. Therefore, the bending machine in accordance with Claim 1 of the patent in suit was at least different from the bending device described in D2 in that the reaction projection and movable bending projection were cantilevered from the bending head. It could thus be concluded that the subject-matter of Claim 1 was novel. In view of the fact that D2 was a document falling within the conditions of Article 54(3) EPC, it did not have to be considered for the assessment of inventive step of the subject-matter of Claim 1.

Inventive step

The technical features set out in Claim 1 of the patent as it stood had always been held to afford a synergistic effect. In particular, it was possible with them to bend elongate material into three-dimensional shapes forming closed loops without parts of the machine itself

obstructing the creation of such bent forms. It was not therefore sufficient to demonstrate that the individual features of Claim 1 were themselves known.

Considering D1 as the closest prior art, the constructional differences of the bending machine in accordance with Claim 1 of the patent in suit were that the bending head was provided with at least one reaction projection extending in an outward direction from the bending head, which was also transverse to the feed axis. These features avoided obstruction of the bending area by the feed quill so that closed loops could be formed. In the bending machine of D1, the material was fed through a quill of substantial size because it was used as the stationary bending part and cutter anvil and by its size restricted the variety of shapes and forms into which the elongate material could be bent. However, in view of both the important functions of the quill part and the lack of any suggestion in the cited documents that obstruction could be avoided by making use of a reaction projection mounted on the bending head, the skilled person would not be led to convert the bending machine known from D1 so as to incorporate the features relating to a reaction projection mounted on the bending head itself.

It was admitted that cantilevered reaction projections were known in themselves from D11 and that D7 showed a reaction member mounted on a bending head. However, in addition to the lack of any suggestion for a solution to the underlying problem to be solved by the patent in the manner as claimed, the bending devices disclosed in D11 and D7 were very different from the bending machine disclosed in D1. For this reason also, the skilled person would refrain from adapting the bending machine known from D1 by using features known from the devices disclosed in D11 or D7.

Reasons for the Decision

1. The appeal is admissible.

2. *Procedural considerations*

2.1 With its statement of grounds of appeal and further letter, dated 23 June 1994, the appellant introduced documents D11, D12, D14 and D15.

Since these documents were cited after the 9-month period of Article 99 EPC, in accordance with the case law of the Boards of Appeal having regard to Article 114(2) EPC, introduction of such late-filed documents into the proceedings may be accepted only if the content of such new prior art is more relevant than the documents already on file or if it would otherwise be of decisive importance for the decision to be taken.

2.2 Applying these principles to the above documents, the particular relevance of the documents D12, D14 and D15 to the decision to be taken is not apparent. Since the duly summoned appellant did not attend the oral proceedings, no clarification of its point of view in respect of these documents could be obtained.

Under these circumstances, pursuant to Article 114(2) EPC, the Board has decided to disregard these documents.

3. *Novelty*

3.1 D2 is a European patent application filed earlier than the patent in suit but published at a later date than the filing date thereof. In accordance with Article 54(3) and (4) EPC, such a document shall be

considered as comprised in the state of the art for the purpose of assessment of novelty of the subject-matter of the patent in suit insofar as there is coincidence of designated contracting states. It shall, however, be excluded when assessing inventive step (see Article 56 EPC).

3.2 D2 undisputedly relates to a bending machine of generally similar form as the bending machine claimed in the patent in suit. The main point where the opinions of the appellant and respondent diverge is whether D2 discloses, in addition to a closed bending nib, also an embodiment with a movable bending projection cantilevered from the bending head.

3.3 Considering the disclosure of D2, in the general portion of the description the bending means (anvil guide device 1 and bending device with a bending nib 2) are referred to in general terms and it is only in Figure 1 and the respective portion of the description that further details of the bending means are described and shown. However, the bending means shown in Figure 1 and described on page 5, lines 24 and 25 comprises a closed bending nib 2, and thus no cantilevered movable bending projection extending from the bending head.

Figure 2 is schematic and, in the Board's opinion, no further details of the bending nib are derivable from this drawing.

3.4 The appellant relied on decision T 56/87, supra, to support its allegation that, since D2 does not state a limitation to closed bending means, also partly open bending means, which would anticipate a cantilevered bending projection, are embraced by its disclosure.

However, no such conclusion can be derived from T 56/87. This decision essentially states that the technical disclosure in a prior art document should be considered in its entirety, as a person skilled in the art would consider it (see OJ EPO 1990, page 193, third paragraph). As follows from point 3.3, the skilled person considering D2 in its entirety would not understand a cantilevered arrangement of the bending projection as being comprised by this prior art. This is also in accordance with the principle that a generic disclosure does not imply the disclosure of specific embodiments that the prior art document is silent about.

The appellant further referred to decision T 233/90, supra, in which the use of reference documents was permitted in order to determine what the skilled person would have understood by "preparing a product in the usual manner", disclosed in an Article 54(3) EPC document.

In the Board's opinion, this decision which deals with determining the scope of terms in need of interpretation is not relevant for the question whether a clear disclosure in D2, relating to bending means with an enclosure roller, also implicitly includes the disclosure of a movable bending projection being cantilevered from the bending head.

- 3.5 Summarising, taking into account the entire content of D2, no specific disclosure of a bending head having a cantilevered movable bending projection can be derived, neither explicitly nor implicitly, from this document. Therefore, the subject-matter of Claim 1 of the patent in suit is novel with respect to D2.

3.6 D1, rather than D13 (the starting point mentioned in the patent description), discloses the closest prior art.

The bending machine claimed in Claim 1 differs from the bending machine known from D1 in that the bending head is provided with at least one reaction projection extending in a direction which is transverse to the feed axis and outwards from the bending head.

Since none of the other cited documents discloses these features in combination with the other features of Claim 1, the subject-matter of Claim 1 can be considered novel.

In fact, novelty of the subject-matter of granted Claim 1 vis-à-vis the prior art in accordance with Article 54(2) EPC has not been contested.

4. *Inventive step*

4.1 The features relating to the bending head being provided with at least one reaction projection extending in a direction which is transverse to the feed axis and outwards from the bending head provide a remedy to working area obstruction when carrying out certain bending operations (see also column 1, lines 19 to 24 of the patent). The claimed reaction projection provides extra space so that the extent to which the reaction member known from D1, which is in fact the quill through which the material is fed, obstructs wire, which may be bent upon itself in the course of a bending operation, is reduced.

- 4.2 The problem to be solved by the present patent, therefore, is related to an improvement of the known bending machine so that also bending operations can be carried out, which require a greater variety of shapes and forms into which the elongate material may be formed.
- 4.3 The problem of work area obstruction in bending machines for elongate material is known to the skilled person (see for example D7, column 1, lines 52 to 60) but no suggestion to solve this problem by incorporating the above-mentioned features (cf. paragraph 3.6) in a bending machine in accordance with D1 can be derived from any of the cited documents.

It is true that D7 discloses both movable and stationary bending rolls on a bending head but these rolls obviously are not in the form of cantilevered projections, thereby giving less risk of spatial obstruction when carrying out certain complicated bending operations. Moreover, the bending machine disclosed in D7 is of a different type with respect to the support arm of the bending head as well as the actuation of this head, when compared to the bending machine disclosed in D1. Therefore, the respondent's opinion that the skilled person would not use features concerning the bending head of the machine disclosed in D7 for conversion of the machine disclosed in D1 can be followed.

D11 was late-filed but, in contrast to the documents D12, D14 and D15, is considered to be relevant to some extent because it discloses bending means having cantilevered bending and reaction projections. However this document essentially concerns a bending table, for example for bending steel bars used for reinforcing concrete, which considering the size of the table is

obviously not suitable for complicated three-dimensional bending operations and therefore cannot be considered either to give the skilled person a suggestion for solving the underlying problem of the present patent.

None of the other documents in the proceedings, including D13 which was originally used as the most relevant prior art document and to which the preamble of Claim 1 as granted relates, discloses a bending head with a reaction projection extending outwards from the bending head in a cantilevered manner thereby providing the possibility of more complicated bending shapes because the bent material is not obstructed by further supports of the stationary bending means.

- 4.4 Although not based on a submission made by the appellant, at the oral proceedings the question arose whether the skilled person would recognise the limitations of the bending machine known from D1 and would be led by his common knowledge to use a further projection on the bending head to solve the problems related to the fixed bending quill.

In this respect, the Board accepts the respondent's view, that the bending quill disclosed in D1 is essential for the functioning of the bending machine, not only for the bending operation itself but also for the cutting operation in which the quill is used as an anvil for the cutting means. For this reason also there is nothing in D1 that would give the skilled person any indication in the direction of the solution claimed in Claim 1 of the patent in suit.

4.5 The Board therefore concludes that the subject-matter of Claim 1 according to the appellant's main request cannot be derived in an obvious manner from the cited prior art and accordingly involves an inventive step (Article 56 EPC). Consequently, this claim, together with dependent Claims 2 to 8 are acceptable.

5. Since the patent can be maintained as granted there is no need to consider the respondent's auxiliary request.

Order

For these reasons it is decided that:

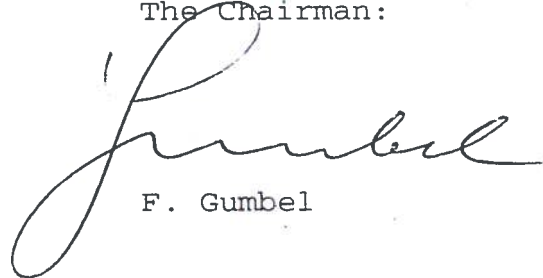
The appeal is dismissed.

The Registrar:



S. Fabiani

The Chairman:



F. Gumbel