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File Number: T 209/91 - 3.2.3

Application No.: 85 114 783.5

Publication No.: 0 183 187

Title of invention: Method of increasing the productivity of reversing plate mills

Classification: B21B 1/34, B21B 1/00

D E C I S I O N  
of 23 May 1991

Applicant: Tippins Machinery Company, Inc.

Headword:

EPC Articles 52(1) and 52(2)(c)

Keyword: "Invention consisting of technical and non-technical features (allowed)"

Headnote



Case Number : T 209/91 - 3.2.3

**D E C I S I O N**  
of the Technical Board of Appeal 3.2.3  
of 23 May 1991

**Appellant :** Tippins Machinery Company, Inc.  
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**Representative :** Behrens, Dieter, Dr.-Ing. et al,  
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**Decision under appeal :** Decision of Examining Division 090 of the  
European Patent Office dated 3 October 1990,  
posted on 31 October 1990, refusing European  
patent application No. 85 114 783.5 pursuant to  
Article 97(1) EPC.

**Composition of the Board :**

**Chairman :** C.T. Wilson  
**Members :** F. Brösamle  
W. Moser

## Summary of Facts and Submissions

- I. European patent application No. 85 114 783.5, filed on 21 November 1985 and published on 4 June 1986 under publication No. 0 183 187, was refused in the oral proceedings of 3 October 1990; the written decision of the Examining Division is dated 31 October 1990.

The decision was based on a Claim 1 discussed in the oral proceedings which reads as follows:

- "1. A method of improving the productivity of a one-stand or two-stand reversing plate mill comprising:

after having installed coiler furnaces on the upstream and downstream sides of the mill;

- (a) providing a supply of extra large slabs as well as a supply of pattern slabs for the mill;

- (b) analyzing the plate requirements for the next horizon period and for each size plate making a decision:

- (i) to process extra large size slabs, or
- (ii) to process pattern slabs, or
- (iii) to process both extra large and pattern slabs to meet the plate requirements,

the decision being made such,

- (1) that if the entire plate output from an extra large slab will be consumed in meeting the requirements for the plate size adjusted

for the amount of plate of that size in inventory then an extra large slab is processed,

- (2) that if more than R of the plate output from an extra large slab but less than the entire slab will be consumed in meeting the requirements for plate of the size adjusted for plate of that size in inventory, then the extra large slab is processed and the excess plate is passed to inventory otherwise one or more pattern slabs are processed,  
wherein R is selected between 0,5 and 0,7;

- (c) processing the extra large slabs by passing them back and forth through the rolling mill taking up the slabs in the coiler furnaces at least a portion of the time;
- (d) processing the pattern slabs by passing back and forth through the mill while the coiler furnaces remain idle;
- (e) satisfying the plate requirements from the output of steps (c), (d) or both and sending the excess plate, if any, to inventory; and
- (f) repeating steps (a) through (e) such that in step (b) when considering the plate requirements for the next horizon period taking account of existing inventory."

II. The impugned decision is based on (D1) GB-A-2 030 491, whereby it was argued in that decision that the "technical"

features of Claim 1 are known from (D1) and that the remaining features of Claim 1 would, however, not achieve a technical effect but a commercial one, so that the application contained an invention in the sense of Article 52(1) and had to therefore be rejected in accordance with Article 52(2)(c) EPC.

III. A notice of appeal against this decision was filed on 28 December 1990, the appeal fee being paid on 31 December 1990. In the Statement of Grounds of Appeal filed on 22 February 1991, the Appellant (Applicant) argues that the position taken by the Examining Division in the impugned decision was not justified since the problem to be solved by the invention is narrowed to minimising costs (commercial aspect only) and since it was argued that the claimed control scheme was non-technical and, therefore, not susceptible to patentability. It is contended that Claim 1 deals with the problem of further optimising a steel milling process, which is of a technical nature and, therefore, not excluded by the requirements of Article 52(2)(c) EPC.

The Appellant requests "allowance of the Appeal"; this request obviously implies setting aside the impugned decision and allowing Claim 1. Concerning the dependent claims, the description and the drawings no clear requests are on file.

By way of an auxiliary petition oral proceedings are requested.

#### Reasons for the Decision

1. The appeal complies with Articles 106 to 108 EPC and Rules 1(1) and 64 EPC and is admissible.

2. Concerning the formal admissibility of Claim 1 the following is observed:

Claim 1 is a combination of features contained in the originally filed Claims 1 and 2, i.e. the value for the parameter "R" of former Claim 2 being 0.5 to 0.7 is incorporated in former Claim 1 and replaces the value 0.3 to 0.9.

Claim 1 is, therefore, not open to any objection under Article 123(2) EPC.

3. Nearest prior art document in the findings of the Examining Division is (D1), which is the only document cited in the Search Report.

In the impugned decision it is set out under II.1 that (D1) already discloses a reversing plate mill as well as a process of rolling plates. Seen, however, as a whole, (D1) does not teach a method as in Claim 1, since no teaching is contained as to how a choice between pattern slabs and extra large slabs has to be carried out. In (D1) only extra large slabs are used, leading in combination with the coiler furnaces "16" and "18" to a higher production, increase in product yield and to a product with little camber and rolled under tension and accurate temperature control for precise physical properties of it, see page 1, lines 35 to 39, page 2, lines 17 to 24 and page 5, lines 42 to 57 of (D1).

4. In contrast thereto, Claim 1 is based on a rolling method in which two types of slabs are used depending on specific conditions such as demand and inventory, whereby these two types of slabs, i.e. pattern slabs or extra large slabs, are rolled in specific ways, namely the pattern slabs

exclusively in a back and forth way without the coiler furnaces "16, 18" and the extra large slabs using these coiler furnaces, i.e. under tension and accurate temperature control.

Starting from a prior art rolling method as exemplified in Figure 3 of the application it is obvious that the amount of finished product, rolled under tension and accurate temperature control, is drastically increased due to the use of the coiler furnaces. This way of rolling, that is from coil to coil, leads to a bonus effect in that not only the physical properties of the finished product are enhanced but also the camber is diminished leading to less scrap and a better material yield.

5. The Board is of the opinion that the method according to Claim 1 has a technical and not only commercial background, since in the production of rolled plates within a specific batch, the amount of plates with better physical properties (rolling under tension and controlled temperature conditions) and less scrap (less camber of the rolled strips due to tension-rolling) when side-trimming the strips, is of a technical nature and as such susceptible to being made the subject of (a) claim(s) within the meaning of the EPC.
  
6. Even if the problem of the invention as set out on page 2, line 30 to page 3, line 9 as originally filed puts much emphasis on the commercial aspects such as product yield, manufacturing costs, conservation of raw material, energy and other resources, the problem to be solved by the invention has to be assessed on an objective basis, i.e. the subject-matter of Claim 1 and that of, for instance, (D1) has to be compared, Rule 27(1)(c) and (d) EPC, and the objectively remaining technical problem has to be derived from this comparison.

In the light of the method laid down in Claim 1 and its technical advantages in respect to the method of (D1), it is not justified in the Board's opinion to exclude all technical aspects from "the objectively remaining technical problem to be solved by the invention".

This means that the problem to be solved by the method according to Claim 1 is the key for finding the right answer to the requirements of Article 52(2)(c) and (3) EPC.

A mixture of technical and non-technical features is not a priori excluded from being patented, see decision T 26/86, OJ EPO, 1988, 19 of the Board of Appeal 3.4.1, see remark 3.4, paragraphs 3 and 5 in particular. The Board is further of the opinion that in the present case, the non-technical features have to be considered, though at first sight having a purely commercial background - such as minimising production costs, saving of energy, reduction of inventory costs - as also contributing to the production of technical effects.

7. Summarising, the Board comes to the conclusion that Claim 1 has to be assessed as a whole. If it makes use of both technical and non-technical means the use of non-technical means such as analysing the plate requirements for the next horizon period (feature (b) of Claim 1) and availability of plates in inventory (feature (b)(iii)(1) of Claim 1) respectively increasing inventory by excess plates (feature (e) of Claim 1) does not detract from the technical character of the overall teaching. The EPC does not require that a patentable invention be exclusively or largely of a technical nature, in other words it does not prohibit the patenting of inventions consisting of a mix of technical and non-technical elements.



In the Board's finding Claim 1 is not open to an objection under Article 52(2)(c) and (3) EPC if Claim 1 is seen as a whole and if the technical effects achieved by this subject-matter over the prior art, for instance as set out in Figure 3 of the refused application - (D1) does not deal with this way of rolling, i.e. exclusively back and forth and is not so relevant in this respect - are duly considered.

8. In application of Article 111(1) EPC the Board remits the case for further prosecution of the proceedings to the first instance, i.e. examination of the subject-matter of Claim 1 in the light of Articles 54 and 56 EPC in particular. It will have to be clarified among other things whether dependent claims are upheld and what other documents (description/drawings) should be considered.
9. Due to the fact that the Board could decide in favour of the Appellant, oral proceedings are superfluous in the present case (auxiliary petition).

Order

For these reasons, it is decided that:

1. The impugned decision is set aside.
2. The case is remitted to the first instance for further prosecution.

The Registrar:



N. Maslin

The Chairman:



C. T. Wilson

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Bv. 30.8.97