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D E C I S I O N
of 15 March 1996

Case Number: T 0970/93 - 3.2.1
Application Number: 86102364.6
Publication Number: 0193155
IPC: B21B 37/00, B21B 35/04, B21B 1/28
Language of the proceedings: EN

Title of invention:

Continuous multi-stand mill plant for rolling steel plates

Patentee:

NIPPON STEEL CORPORATION

Opponent:

Siemens AG
SMS Schloemann-Siemag AG

Headword:

-

Relevant legal provisions:

EPC Art. 54, 111(1), 104

Keyword:

"Prior use - late filed - substantiation"
"Novelty - main request - (no)"
"Costs apportionment - oral proceedings - (yes)"
"Decision re-appeals - remittal (yes)"

Decisions cited:

T 0156/84, T 0194/86, T 0381/87, T 0177/83, T 0273/84,
T 0326/87, T 0611/90

Catchword:

I. Allegations based solely on suspicion cannot reasonably be expected to form a valid ground for throwing doubt on the credibility of evidence (reasons point 2.8).
II. When applying the principle of the balance of probabilities in respect of the substantiation of an alleged prior use, it can be reasonably assumed that an essential feature of an industrial plant, which is visited by the public, has been made available to that public (reasons 2.9).



Case Number: T 0970/93 - 3.2.1

D E C I S I O N
of the Technical Board of Appeal 3.2.1
of 15 March 1996

Appellant I: Siemens AG
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Representative: -

Appellant II: SMS Schloemann-Siemag AG
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Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 20 September 1993
rejecting the opposition filed against European
patent No. 0 193 155 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. The mention of the grant of European patent No. 0 193 155 in respect of European patent application No. 86 102 364.6, filed on 24 February 1986 and claiming a priority of 25 February 1985 (JP 34533/85), was published on 11 October 1989.

The independent claims of the patent read as follows:

"1. A continuous multi-stand mill plant for producing steel plates wherein the ratio of maximum rolling speed to minimum rolling speed is at least 3.0 but not more than 10.0 at the continuous rated output of one or of a plurality of electric motor(s) (11) for driving at least one of said rolling mill stands, and having means (13, 14) for controlling the speed of said motor(s) in accordance with said ratio."

"2. A continuous multi-stand mill plant for producing steel plates wherein a speed-varying transmission (3) is provided between a rolling mill stand and its electric drive motor (1) so as to achieve a ratio of maximum rolling speed to minimum rolling speed of at least 3.0 but not more than 10.0 at the continuous rated output of one or a plurality of electric motor(s) for driving at least one of said rolling mill stands."

- II. Notices of opposition were filed by the appellants I and II (opponents O1 and O2) on 30 May 1990 and 4 July 1990, respectively, on the grounds of Article 100(a) EPC, in particular lack of inventive step of the subject-matter of the patent. The opposition was supported by four prior art documents.

After the expiry of the 9-month opposition period (Article 99(1) EPC) the appellants relied upon 5 further documents.

Reference was also made to:

D10: Magazine "Iron and Steel Manual", vol. 3, No. 2 (Nov. 1980), p. 1349, published by The Iron and Steel Institute of Japan, Maruzen,

which had been cited in the specification of the contested patent.

III. By a decision which was given at the end of oral proceedings held on 2 July 1993 and issued in writing on 20 September 1993, the Opposition Division rejected the oppositions.

The Opposition Division took the view that the features distinguishing the subject-matter of independent claims 1 and 2 over the prior art disclosed in D10 permitted a wider range of different plate thicknesses to be rolled under efficient operating conditions involving continuous rated output. Since the cited prior art gave neither any documentary basis for thinking, nor any suggestion, that enlarging the speed range beyond the specified value in the claims of 1:3 would lead to improved overall operating efficiency, these claims were considered to contain inventive subject-matter.

IV. The appellants I and II filed appeals against this decision on 9 November 1993 and 16 November 1993, respectively, and paid the appeal fee on the same respective days.

Appellant I filed its statement of grounds of appeal together with the notice of appeal. In a letter dated 13 January 1994, appellant I cited the following additional documents:

D11: Article - "Direktumrichterantrieb für große Leistungen und hohe dynamische Anforderungen", by T. Salzmann and H. Wokusch, Siemens Energietechnik 2 (1980) Heft 10, pp. 409-413;

D12: Brochure - "Ideas for Steel, Ideen und Innovationen führen zu marktbestimmenden Konzepten...", Siemens, allegedly published in 1989,

of which in particular D12 was relied upon as evidence of a number of alleged prior uses. For two of these alleged prior uses (referred to in this decision as the "Wuhan" and "Salzgitter" tandem mills) drawings, numbered (3) E53290-A-KB001A and (4) E283-KB206, were filed with a letter of appellant I dated 23 September 1994. With letter dated 14 February 1996 a copy of a declaration signed by a witness, Mr Jürgen Sauerland, a technician working in department ANL A123 of appellant I's company, was filed in which the witness declared that the "Wuhan" and "Salzgitter" tandem mills complied with the data given in the drawings filed with the letter dated 23 September 1994 and that the data were not confidential.

Appellant II filed its statement of grounds of appeal on 15 January 1994 and referred to the additional prior art disclosed in:

D13: Article - "The Hot Strip Mill", Generation II,
T. J. Ess, Copyright 1970 by Association of Iron
and Steel Engineers, Pittsburgh, Pennsylvania, USA,
pp. 30-32.

- V. In preparation for oral proceedings auxiliarily
requested by appellant I and the respondent, the Board
informed the parties with a communication dated
18 August 1995 of its provisional opinion.

In the Board's opinion, the late-filed alleged prior
uses would appear to destroy the novelty of the subject-
matter of claim 1 of the patent in suit and therefore
this late-submitted material would probably have to be
admitted into the appeal proceedings. Since the late-
citing involved additional costs for the respondent, the
circumstances of the late-filing should be discussed at
the oral proceedings in order to enable the Board to
decide on the respondent's request for apportionment of
costs.

If the new evidence were to be admitted, the Board
envisaged remittal of the case to the first instance.

The Board did not consider the additional documents D11
and D13 of relevance and envisaged disregarding them
(Article 114(2) EPC).

- VI. Oral proceedings were held on 15 March 1996 in the
presence of all parties.

At the beginning of the oral proceedings, the Board
informed the parties that documents D11 and D13 would
not be admitted to the appeal proceedings for the
reasons already given in the Board's communication.

During the oral proceedings, the respondent filed new sets of claims in accordance with auxiliary requests numbered 1 to 7 as a precautionary measure, in case its main request, namely dismissal of the appeal and maintenance of the patent in its granted form, could not be accepted. Moreover, the original of Mr Sauerland's "Eidestattliche Versicherung" was handed over.

The respondent also requested that appellant I bear the costs incurred by the respondent in connection with the oral proceedings.

Appellant I withdrew an earlier request, filed with telefax dated 8 March 1996, concerning an apportionment of costs in its favour in respect of the costs of the oral proceedings.

VII. Both appellants requested setting the decision under appeal aside and that the European patent No. 0 193 155 be revoked.

In support of its request, appellant I essentially relied upon the following submissions:

In document D12 the mill plants No. 9 (the "Wuhan" mill plant in China) and No. 15 (the "Salzgitter" mill plant in Germany) implied all the features of claim 1 of the patent in suit. Although D12 was itself not pre-published, the mill plants referred to in this document dated from well before the priority date of the present patent and therefore should be considered to represent prior uses. The further evidence in the form of the drawing sheets No. (3)E53290-A-KB001A ("Wuhan" mill) and No. (4)E283-KB206 ("Salzgitter" mill), together with the declaration from a witness, Mr Sauerland, showed that these mills had indeed been constructed in accordance with the data given in D12.

In order to be able to start up such a mill, electric motors for driving the mill rolls were always controllable from zero speed to the required rolling speed. However, during such start-up proceedings, no full motor power was required. The main indication of the mill performance was given by the range over which continuous-rated motor output was available, which was a much smaller range. Such smaller speed-range values were indicated in D12 and the further evidence therefore could only be interpreted by the skilled person as relating to the continuous rated output range. These values fell within the range claimed in the patent in suit, so that this range lacked novelty.

Because the motor speed range for continuous rated power was an important parameter for the performance of a rolling mill, a skilled person visiting, for example, the "Wuhan" rolling mill would normally ask questions about the range and there was no reason to believe that a person making such an enquiry would not be given the right answer. In any case, the skilled person would be able to derive the possible rolling-speed range from the rolling examples shown to him.

D12 and the further evidence had not been filed earlier because of the quantity of material available in the appellant's company. It was only after the witness, Mr Sauerland, who normally worked abroad, had been contacted that the relevant material was found and sent immediately to the Board.

Appellant II also relied upon the alleged prior uses in respect of D12. In particular, in China new technical achievements of the size of the "Wuhan" mill were normally used to show the new technical developments to engineers from all over the country without any conditions of confidentiality being imposed. Rolling

mill engineers were well acquainted with the parameters of a rolling mill which to a large extent determine its performance and of these the rolling speed ratio was a very important one. Certainly such skilled visitors would have asked questions about this matter and received the right answers or could have worked out the rolling-speed ratio themselves by looking at the rolling information displayed on the monitors usually installed along the mill street.

VIII. The respondent contested the appellants' views. Its submissions may be summarised as follows:

The evidence provided by appellant I in relation to the alleged prior uses was not at all sufficient to substantiate a prior use and should therefore be disregarded.

Firstly, only copies of documents allegedly published by the appellants themselves and not the originals, had been provided. The declaration signed by Mr Sauerland was not a declaration in accordance with Article 117(1) EPC and therefore should not be accepted either. It could not be excluded that all the evidence was false.

Furthermore, the appellants had not been able to provide any evidence that the features of the "Wuhan" rolling mill had become publicly known. Contrary to the opinion expressed by the appellants, the rolling speed ratio could not be derived from the rolling mill when in use; nor would those in charge of the mill disclose such an important feature to people from outside the company, so as not to weaken their competitive position.

Furthermore, a drive motor speed ratio was not equivalent to a rolling-speed ratio because of slip taking place between the rolls and the material. Therefore even if the alleged prior uses were sufficiently substantiated they did not disclose all the features of claim 1 of the patent in suit.

The submissions of appellant I were also confusing and therefore lacked credibility, in that initially it had been contended that electric motors and control for the claimed range were not available before the beginning of the 1980's but that a trend to higher rolling-speed ratios existed. Now in the appeal proceedings, appellant I had come up with material according to which it had allegedly itself already put into practice the invention of the patent in suit long before that date.

Since the prior use originated with the appellant itself it should have been possible to file this material during the opposition proceedings and, had appellant I done so, the oral proceedings in the appeal proceedings could have been avoided. If the present case had to be sent back to the first instance as a consequence of the late filing of the alleged prior use, the respondents should have their costs for the oral proceedings reimbursed by appellant I.

Reasons for the Decision

1. The appeals are admissible.
2. *The alleged prior public use*
 - 2.1 Appellant I first relied on the alleged prior public use long after the 9-month period stipulated in Article 99 EPC had expired. Since it was thus not submitted in due time the question arises whether this material should be disregarded in accordance with Article 114(2) EPC.

In accordance with the case law of the boards of appeal, when deciding whether late-filed material should nevertheless be admitted, the circumstances of the late filing and the relevance of the material to the decision to be taken must be considered (see in particular T 156/84, OJ EPO 1988, 372).

- 2.2 In accordance with further case law of the boards of appeal, an allegation of prior public use can only be taken into account if the date, place and surrounding circumstances, in particular whether or not there was any agreement on confidentiality, of the alleged prior use are sufficiently substantiated (see T 194/86, not published in the OJ EPO).

In line with the decision T 381/87 (OJ EPO 1990, 213), the Board takes the view that in relation to an issue of fact the EPO must decide what happened, having regard to the available evidence, on the balance of probabilities.

These principles are the basis for the following examination of the substantiation of the alleged prior public uses.

2.3 In D12, a brochure itself not forming part of the prior art because it was published at a date later than the priority date of the present patent, reference is made to a number of rolling mills constructed throughout the world. The principal performance data of all these mills as well as their order dates are listed. From the data concerning the electric drive motors of the rolling stands, the information can be derived that for some of the listed steel mills, drive ratios of more than 1 to 3 are specified (No. 2, 9, 13 and 15), which, assuming a rolling speed ratio of the same value, thereby fall within the range claimed in claim 1 of the patent in suit.

2.4 The respondent disputed that the data provided in D12 could be interpreted by the skilled person to mean that the ratio of maximum rolling speed to minimum rolling speed was in any of the examples more than 1:3 at the continuous rated output of one or more of the electric motors as specified in claim 1 of the patent in suit. There was neither a clear relation given between the motor speed and rolling speed nor a reference to the continuous rated motor output.

Considering that, as was also submitted by both appellants, the rolls of a rolling mill are normally in geared direct connection to the electric drive motor, as is also shown in the drawings (3) E53290-A-KB001A and (4) E283-KB206 filed by appellant I, the motor speed ratio will be essentially equal to the mill roll speed ratio. Although it is true that some slip may occur between the material to be rolled and the mill rolls, in view of the pressures concerned in cold rolling of steel this slip is so small that it can be ignored in calculating the rolling speed ratio.

Furthermore, in view of the fact that data concerning electric motors (when no extra limiting information, for example concerning temperature or running time limitations is given,) always relate to continuous rated output power and in all the examples shown in D12 the electric motor power of each stand is specified in combination with only two speed values, following the usual interpretation of such data by the skilled person, the continuous output power should at least be available at these two speed values.

No submissions were made by the respondent as to why in the present case another, different, interpretation of the data would be arrived at by the skilled person.

It is also to be noted that the speed ratios of the majority of the steel rolling mills mentioned in D12 lie within the range of about 1:2 to 1:3, which in accordance with the prior art discussed in the patent in suit (see page 2, lines 19 to 22) are the rolling speed ratios found in steel rolling multi-stand mill plants.

2.5 For the above reasons, the Board concludes that the "Wuhan" mill and the "Salzgitter" mill referred to in D12 concern continuous multi-stand mill plants for producing steel plates, wherein the ratio of maximum rolling speed to minimum rolling speed of the entirety of mill stand drives is 3.2 and 3.5 for at least one mill stand, respectively. These mills thus comply with the continuous multi-mill stand specified in claim 1 of the patent in suit.

2.6 In the declaration signed by Mr Jürgen Sauerland provided by appellant I in further substantiation of the prior uses relating to the "Wuhan" and "Salzgitter" mills, it was confirmed that the data in accordance with the drawings numbered (3) E523290-A-KB001A and (4) E283-

KB206 complied with the mill plants actually built and that at neither the "Wuhan" nor "Salzgitter" mill plants was there any confidentiality in respect of the roll drive motor speed ratios.

In evaluating this evidence, it is to be noted that the roll mill data in respect of the drives of the "Wuhan" mill as shown in D12 comply in detail with the data shown in the drawing sheet No. (3)II E53290-A-KB001A. In accordance with the drawing sheet, the mill became operational in April 1978, which is, when considered in comparison with the date the mill plant was ordered, a date at which the mill could be expected to be operational. In view of this evidence the Board considers that there cannot be any reasonable doubt that the "Wuhan" mill was indeed constructed with the drive motor speed ratio mentioned in D12.

- 2.7 In respect of the "Salzgitter" mill, the data derivable from D12 and the drawing sheet No. (4) E283-KB206 are not fully compatible. Appellant I explained that the 5-stand mill listed in D12 concerned a modification of the existing 4-stand mill by addition of an extra stand, which was ordered in 1984. The data sheet No. (4) E283-KB206 showed the 4-stand mill before the modification, the mill having been operational since 1977.

However, on the data sheet No. (4) E283-KB206 it is also indicated that another modification in respect of the control of the electric motors was carried out in 1976/1977 and reference is made to another sheet not provided by appellant I. From the available documents it is thus not fully clear what motor drive ratio was available at exactly what date before the priority date of the present patent.

2.8 The respondent disputed the validity of all the evidence brought forward but mainly based its objections on the assumption that the evidence could have been falsified. In its opinion the declaration by Mr Sauerland was not in conformity with the provisions of Article 117 EPC and therefore without value.

In the Board's opinion such an allegation based solely on suspicion cannot reasonably be expected to form a valid ground for throwing doubt on the credibility of the evidence brought forward by appellant I.

There is no express provision for the acceptance by the EPO of unsworn declarations in the catalogue given under Article 117(1) EPC. However, the EPO accepts unsworn solemn declarations, in the same way as it accepts other unsworn statements, following the principle of free evaluation of evidence (see T 177/83, not published in the OJ EPO, and "Singer: The European Patent Convention", Revised English Edition by R. Lunzer (1995, point 117.12)).

Since there is, from an objective point of view, no indication in the evidence provided in relation to the "Wuhan" mill that the data relied upon by the appellants are not in conformity with the facts, in the absence of any suggestion to the contrary, the signed declaration by Mr Sauerland is accepted by the Board as valid evidence.

The appellants' initial acceptance of the novelty of the claimed range does not throw doubt on the credibility of the documentary evidence later produced by the appellant I. In the Board's opinion it cannot reasonably be expected that the staff in the patent department of the appellant I company be fully acquainted with the details of all the various activities within such a

large company and it is understandable, in the absence of knowledge to the contrary, that they accept the prior art acknowledged in the patent in suit. Here it has also to be taken into account that the motor speed ratio of the alleged prior uses was only slightly higher than what was considered to be known in the patent in suit.

- 2.9 At the oral proceedings, a discussion developed on the subject whether the skilled person would be able to recognise the feature concerned i.e. the rolling speed ratio of the "Wuhan" mill, because such ratio could not be derived from a single rolling event. Furthermore, the respondent took the view that both the builders of the plant and the mill plant owners would impose confidentiality in order not to reveal the actual capacity of the mill, thus putting competitiveness at risk.

However, following the principle of the balance of probabilities referred to in point 2.2 above, it is in the Board's view very unlikely that in the period between the start of operations at the "Wuhan" mill in April 1978 and the priority date of the present patent, namely 25 February 1985 - i.e. a period of almost 7 years - the mill drive motor speed ratio of the "Wuhan" mill would not have become publicly available taking account of the following evidence and circumstances.

As was convincingly explained by appellant II, it is common practice in China, as well as in other industrially developing countries, to promote and demonstrate newly-installed industrial plants as a means of instruction to young engineers. Considering that one of the main performance parameters of a mill is its "speed cone" (see also the book - "Cold Rolling of Steel", by W. Roberts, Dekker Inc, . New York and Basel,

1978; pp. 41-43 cited by appellant I with letter dated 24 August 1992 (D9), in particular page 43, second paragraph), such a skilled person would enquire about this parameter or work out the speed ratio of the stands himself by comparing the minimum and maximum speed of the mill rolls. In view of the instructional aspects it is not at all likely that secrecy would bar this information path for competitive reasons as supposed by the respondent.

The declaration of Mr Sauerland according to which the data in D12 and the drawing sheet No. (3) E523290-A-KB001A of the "Wuhan" mill were not subject to any secrecy agreement is also fully in line with what may be expected when a rolling mill plant is sold to a company.

In the absence of any evidence as to confidentiality also the principle applies that the company that purchased the "Wuhan" mill can be considered a member of the public who through the purchase of the mill and subsequent use thereof took possession of all the relevant information with respect to the rolling speed ratio.

In view of these conclusions it is not necessary to consider whether, as was also submitted by the respondents, during the tendering process for the rolling mill there was a certain confidentiality about the construction details of the rolling mill.

- 2.10 In view of the above, the Board is satisfied that the evidence provided in respect of the alleged prior use is adequate to demonstrate beyond reasonable doubt that the main constructional data of the "Wuhan" mill as shown in D12 and in the drawing sheet No. (3) E53290-A-KB001A,

including the speed ratio of the electric drive motors of the "Wuhan" mill, were publicly known before the priority date of the present patent.

Because of its relevance for the decision to be taken, this alleged prior use has therefore to be admitted into the proceedings (see T 156/84 *supra*).

3. *Procedural considerations*

3.1 If evidence is relied upon for the first time during the appeal proceedings and it is admitted because it is relevant, in accordance with the case law of the boards of appeal, the case is normally to be remitted to the department of first instance so as to make it possible for the new evidence to be examined at two levels of jurisdiction and to avoid one of these being by-passed (see T 273/84, OJ EPO 1986, 346).

3.2 In the present case, the identity of the subject-matter of claim 1 in accordance with the main request and the public prior use is immediately apparent so that no other conclusion could be arrived at by the first instance. Under such circumstances remittal is clearly not appropriate and therefore the Board considers that it should make use of its discretion under Article 111(1) EPC and exercise its power to decide the appeal on the basis of the main request.

3.3 Therefore, it is concluded that the subject-matter of this claim lacks novelty. In consequence, claim 1 of the patent as granted cannot be upheld and therefore the respondents' main request must be rejected.

- 3.4 During the oral proceedings, the respondent filed seven auxiliary requests of which the claims of at least the first six requests appear to contain subject-matter which is novel when compared to the prior used "Wuhan" mill.

As regards these requests, further examination in respect of the grounds of opposition under Article 100(a) EPC is necessary and, following the case law referred to in point 3.1 above, the Board considers it appropriate to remit the case to the first instance for further prosecution on the basis of the auxiliary requests 1 to 7 filed during the oral proceedings.

4. *Request for apportionment of costs*

- 4.1 In a number of appeal Board decisions it has been decided that the late filing of a relevant document by one party, without giving any convincing explanation for the late introduction of the document, normally calls for an apportionment of costs (Article 104(1) EPC) in the other party's favour (see for example T 326/87, OJ EPO, 1992, 522, reasons point 2.3 and T 611/90, OJ EPO, 1993, 50, reasons point 5).

- 4.2 The reasons given by appellant I for the late filing were essentially that the company is very large and that the amount of paper produced by it over the years is so great that it is very difficult to get hold of specific material, in particular, when it dates from long ago. Furthermore the witness, Mr Sauerland, who normally worked abroad could not be contacted easily.

The Board notes however that the notice of opposition of appellant I dates from 22 June 1990 and that document D12 was introduced into the proceedings with a letter dated 13 January 1994, thus even after the statement of

grounds of appeal had been filed. Moreover, although with a letter dated 23 September 1994 two of the alleged prior uses based on D12 (the "Wuhan" and "Salzgitter" mills) were substantiated further, it was only after having heard both appellants at the oral proceedings that the Board was in a position to decide upon the sufficiency of the substantiation of the alleged prior use in respect of the "Wuhan" mill.

Since the alleged prior uses concerned evidence clearly more relevant than anything else put forward during the opposition and previous appeal proceedings, it could have been expected that appellant I would have given more attention to the substantiation of its case at an earlier stage so that oral proceedings could have been avoided.

In the Board's opinion, appellant I was at least negligent in this respect, so giving rise to increased costs for the respondent, in particular the costs of the oral proceedings. This justifies reimbursement to the respondents of the costs incurred as a result of the oral proceedings.

5. At the oral proceedings discussions mainly focused upon the alleged prior public use in relation to the "Wuhan" mill and since this prior use was considered sufficiently substantiated so that the granted claim 1 could not be upheld, further investigations in respect of the "Salzgitter" mill alleged prior use were considered redundant for the time being. This second alleged prior use could however become relevant when deciding upon the acceptability of the auxiliary requests.

Order

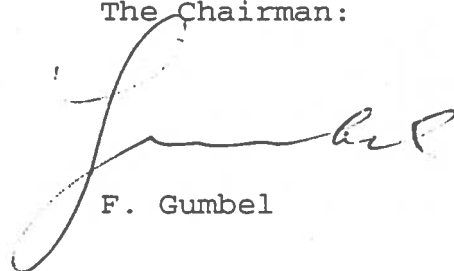
For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The respondent's main request is rejected.
3. The case is remitted to the first instance for further prosecution on the basis of the respondent's auxiliary requests 1 to 7 filed during the oral proceedings.
4. Appellant I is ordered to reimburse the respondent's costs incurred as a result of the oral proceedings.

The Registrar:


S. Fabiani

The Chairman:


F. Gumbel

