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Datasheet for the decision of 19 June 2009

Case Number: T 1338/07 - 3.2.06

Application Number: 01108306.0

Publication Number: 1143051

IPC: D01H 4/02

Language of the proceedings: EN

Title of invention:
Hollow guide shaft member in a vortex Spinning apparatus and method of its application

Patentee:
MURATA KIKAI KABUSHIKI KAISHA

Opponent:
MASCHINENFRABRIK RIETER AG

Headword:
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Relevant legal provisions:
-

Relevant legal provisions (EPC 1973):
EPC Art. 52(1), 54(1), 56, 84

Keyword:
"Clarity (Main Request) - no"
"Novelty (Auxiliary request) - yes"
"Inventive step (Auxiliary request) - yes"

Decisions cited:
-

Catchword:
-

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Case Number: T 1338/07 **-** 3.2.06

D E C I S I O N
of the Technical Board of Appeal 3.2.06
of 19 June 2009

Appellant: (Opponent)
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Representative:
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Respondent: (Patent Proprietor)
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Decision under appeal:
Interlocutory decision of the Opposition Division of the European Patent Office posted 5 July 2007 concerning maintenance of European patent No. 1143051 in amended form.

Composition of the Board:

Chairman: P. Alting Van Geusau
Members: G. Kadner
W. Sekretaruk

Summary of Facts and Submissions

I. The mention of grant of European patent No. 1 143 051 in respect of European patent application No. 01108306.0, filed on 2 April 2001 and claiming three Japanese priorities from 4 and 10 April 2000 and from 13 November 2000, was published on 7 July 2004 with 16 claims. Independent claims 1, 4, 8 and 9 read as follows:

"1. A spinning apparatus comprising a nozzle member(N) for generating a whirling current and a non-rotary hollow guide shaft member (7) having a yarn passing hole (7b) so as to execute spinning while causing the whirling current generated by the nozzle member (N) to act on reversed fibers at a tip portion (7a) of the hollow guide shaft member (7), the apparatus being characterized in that
the yarn passing hole (7b) at the tip portion (7a) of the hollow guide shaft member (7) is formed to have a non-circular cross section.

4. A spinning apparatus comprising a nozzle member(N) for generating a whirling current and a non-rotary hollow guide shaft member (7) having a yarn passing hole (7b) so as to execute spinning while whirling reversed fibers at a tip portion (7a) of the hollow guide shaft member by means of the whirling current generated by the nozzle member (N), the apparatus being characterized in that
a restraining section for partly varying a whirling speed of the reversed fibers in a circumferential direction is provided on an outer peripheral surface (7a") of the tip portion (7a) of the hollow guide shaft

member (7) which surface is contacted with by the reversed fibers.

8. A spinning apparatus comprising a nozzle member(N) for generating a whirling current and a non-rotary hollow guide shaft member (7) having a yarn passing hole (7b) so as to execute spinning while whirling reversed fibers at a tip portion (7a) of the hollow guide shaft member (7) by means of the whirling current generated by the nozzle member (N) the apparatus being characterized in that
an area (7a1) at the tip portion /a) of the hollow guide shaft member (7) which an outer peripheral surface shape of said area contacts with the reversed fibers is formed such that a cross section thereof which is perpendicular to an axial of the hollow guide shaft member is not circular.

9. A spinning method for executing spinning while whirling reversed fibers at a tip portion (7a) of a non-rotary hollow guide shaft member (7) by means of a whirling current acting on the tip portion (7a) of the hollow guide shaft member, the method being characterized in that
a whirling speed of the reversed fibers at the tip portion (7a) of the hollow guide shaft member is varied in a circumferential direction."

Independent claims 11, 12 and 16 relate to a hollow guide shaft member.

II. Notice of opposition was filed against the granted patent, according to which revocation of the patent on the grounds of Article 100(a) EPC was requested.

By decision posted on 5 July 2007, the Opposition Division maintained the patent in amended form according to the Patentee's main request, claims 1 to 10 as granted and claims 11 to 16 which had been amended during the opposition proceedings by the insertion of "non-rotary" before the term "guide shaft member", holding that the subject-matter of the independent claims met the requirements of novelty and inventive step when compared with the relevant state of the art.

III. Notice of appeal was filed against this decision by the Opponent on 8 August 2007, and the appeal fee was paid on the same day. The grounds of appeal were filed on 6 November 2007. The Appellant relied on the prior art according to:

D1: JP-U-4-118 471
D1a: English translation of D1
D5: CH-A-678 635
D6: DE-A-44 31 761
D7: JP-A-126 923
D8: JP-U-4-29 671
D14: Melliand Textilberichte 1-2/1996, pages 22-24

and filed new documents:

D16: US-A-5 146 740
D16a: DE-A-41 05 108

IV. In a communication accompanying the summons to oral proceedings the Board expressed its preliminary view that admittance of the newly filed documents would have to be decided. It was questionable whether the

amendments made to claims 11 to 16 upheld by the Opposition Division were admissible. The Opposition Division's decision in respect of novelty and inventive step of claims 1 to 10 appeared correct.

V. With its letter dated 19 May 2009 the Appellant announced that it would not be present at the oral proceedings and repeated its request for revocation of the patent.

VI. Oral proceedings were held on 19 June 2009 in which the Appellant was not represented.

The Appellant had requested in writing that the decision under appeal be set aside and that the European patent No. 1 143 051 be revoked.

The Respondent requested that the appeal be dismissed or that the patent be maintained on the basis of claims 1 to 10 as granted.

VII. In support of its request the Appellant essentially relied upon the following submissions:

When considering the content of the relevant prior art documents, the knowledge and understanding of the skilled person should be taken into account. Document D16 was cited in the patent as prior art and the skilled person was well aware of the fact that the contribution of the rotation of the hollow guide shaft member was negligible as regards the lift-off of the free fiber ends. The lift-off of the free fiber ends around this spindle was triggered by a rotary air stream Therefore it was irrelevant whether the spindle rotated or not.

Taking account of this the subject-matter of claim 1 lacked novelty when compared with the disclosure of D1.

In respect of inventive step the closest prior art was D16a which, according to paragraph [0002] of the patent, already disclosed the features of the pre-characterizing portion of claim 1. The problem to be solved was regarded as being to generate a spun yarn the surface of which feels soft without reducing the strength of the yarn. The solution to the problem was made obvious by document D1a since there (paragraph [0024]) it was stated that independent of the pressure in the hollow guide shaft member the strength and the number of twists could be increased by using an elongated hole instead of a circular hole. Further on it was indicated (paragraph [0026]) that the product obtained was comparable to a ring yarn. Based on this knowledge the skilled person was motivated to combine the teachings of D16a with those of D1a thus arriving at the subject matter of claim 1 without the involvement of an inventive step. A variation of the whirling speed of the reversed fibers by the features claimed was not subject of claim 1 and was therefore not relevant.

The features of claim 4 were disclosed in D5 because the skilled person would already recognize that a partial variation of the whirling speed in the example of Figure 2 of D5 would result. The subject-matter of claim 4 was also not inventive when compared with the combination of the teachings of D16 with those of D8. Starting from the prior art according to D16, the skilled person would learn from D8 that the apparatus shown in Figure 2 of D8 could obviously also be operated with a non-rotating guide shaft member.

The novelty of claim 8 was destroyed by D7 since that document disclosed a spinning apparatus which according to the knowledge of the skilled person could be operated with a non-rotating guide shaft member. No inventiveness arose by the combination of D16 and D7 because a variation of the whirling speed caused by the air tangentially blown towards the nozzle would be caused by the form of the tip portion shown in D7 independent of whether the guide shaft member was rotating or not.

The whirling speed of the reversed fibers at the tip portion of the hollow guide shaft members shown in D5 and D7 was varied in a similar manner by the grooves 25 (D5) or by the elements 15, 31, 41, 51, 61 (D7) as claimed in the spinning method according to claim 9. Thus this claim was neither novel nor inventive in view of the documents D5 or D7 and D16.

The dependent claims did not contain anything which could be regarded as novel or inventive when compared with the prior art on file.

VIII. The arguments of the Respondent can be summarized as follows:

It was not proven that the Appellant's argument - the rotational speed of the hollow guide shaft member was negligible when compared with the whirling speed of the air current - was correct. To the contrary, when comparing the spindle rotation speed of 60.800 p/min with a yarn rotation speed of 200.000 p/min the rotation of the guide shaft would have a significant influence on the movement of the fibers. Thus in the knowledge of the

skilled person the fact whether a rotary spindle or a non-rotary spindle was used had drastic effects on the features of the spun yarn.

Of course the skilled person in the art was aware of the fact that either a rotary spindle or a non-rotary spindle might be used in a vortex spinning system, however these two case were not interchangeable without having an effect on the spun yarn.

Reasons for the Decision

1. The appeal is admissible.

2. *Main Request (Clarity)*

2.1 Claims 11 to 16 had been amended during the opposition proceedings by the insertion of "non-rotary" before the term "guide shaft member".

2.2 In its communication dated 23 March 2009 the Board already gave the opinion that the amendments to claims 11 to 16 seemed to introduce unclarity and therefore contravened Article 84 EPC. These claims relate to hollow guide shaft members themselves and nothing within the claims allows an identification as to whether the shaft members is rotating or not. The rotating movement has no relation to another fixed part like in the spinning apparatus of claim 1. Therefore the insertion of "non-rotary" renders these claims unclear with the consequence that the amendments are inadmissible.

Therefore the main request is not allowable.

3. *Auxiliary request*

3.1 *Claim 1 (Novelty)*

The Board considers the Opposition Division's judgment in respect of novelty correct when comparing the disclosure of D1 to the subject-matter of claim 1. That document discloses clearly and unambiguously a rotary guide shaft member (paragraph [0007]). The Board does not see any reason for the skilled reader to interpret that clear statement in a different manner and to assume that this expression would also include a non-rotary guide shaft member.

3.2 *Claim 1 (Inventive step)*

3.2.1 The Appellant argued that the subject-matter of claim 1 was made obvious by the combination of D16a and D1. The features of the preamble of claim 1 were known from D16a (as was acknowledged in paragraph [0002] of the patent). The object underlying the patent in suit was to provide a spun yarn the surface of which felt soft without reducing the yarn strength. The yarn spun by the spinning apparatus according to D1 had similar properties as a ring-shaped yarn and therefore already met that object. Therefore the skilled person would provide the non-rotating guide shaft member of D16a with an inlet opening 6a known from D1.

3.2.2 It is true that the guide shaft member disclosed in D16a can be operated in a rotating or non-rotating manner. But the non-rotary inlet opening of D1 is provided at a

rotating guide shaft member. If the skilled person would try to combine the teachings of D16a with those of D1, he would not start from the non-rotating alternative of D16a but would try to combine the rotating one since D1 also deals with a rotating guide shaft member. The reason for such an approach is that the skilled person is well aware of the fact that a spindle rotating with high speed leads to a "pull-in" effect and therefore no reason can be seen why the skilled person should deviate from the teachings of D1 abandoning this effect and use the spindle form of D1 in a non-rotating method. Thus the subject-matter of claim 1 is not arrived at without the involvement of an inventive step.

3.2.3 The Appellant argued further that the inventive step in respect of claim 1 would have to be seen in the light of the teachings of D6, where it is disclosed that the production of some yarns would not require a rotating spindle. However, the abstract of that document indicates clearly that the air current there rotates undisturbed without variation of the circumferential speed and consequently the desired effect according to the patent in suit cannot be suggested by that prior art document.

3.3 *Claim 4 (Novelty)*

The Appellant argues that D5 (Figure 9) would disclose all the features of claim 4 because the spindle 19 there was retained while the nozzle body 15 was rotating. The skilled person having general knowledge would recognize that a restraining section formed by grooves as shown in Figure 2 used in the embodiment of Figure 9 would partly vary the whirling speed of the reversed fibers. However,

the Board concludes that Figures 2 and 9 relate to two different embodiments which cannot be combined. The tip portion of the spindle 19 shown in Figure 9 has no groves, and the skilled person would not provide groves there because the air blown out of the groves 37 formed inside the nozzle body 15 causes the whirling current acting on the reversed fibers. Additional groves in the tip portion would have no other effect than perturbing the air current blown out of the groves 37. Therefore D5 does not disclose the feature of a restraining section for partly varying a whirling speed of the reversed fibers in a circumferential direction provided on an outer peripheral surface of the tip portion of the hollow guide shaft member.

3.4 *Claim 4 (Inventive step)*

3.4.1 In respect of inventive step the Appellant again relied on D16 as closest prior art. The objective problem to be solved was to achieve a variation of the whirling speed with the result of a higher hairiness of the spun yarn.

3.4.2 The solution to the problem allegedly was made obvious by document D8 which was a further development of the apparatus disclosed in D16. Figures 3 and 4 of that document showed solutions of forms suitable for the achievement of a variation of the whirling speed.

3.4.3 D8 is a one-page Japanese document of which no translation in one of the official languages of the EPO was provided by the Appellant. What can be derived from the drawings is a spindle mounted in bearings 4, 5, which therefore apparently is operated in a rotating manner, quite similar to what is shown in D16.

Furthermore the Appellant failed to provide any evidence that the nozzle top shape of figures 3 and 4 of D8 would indeed provide a restraining section for partly varying a whirling speed of the reversed fibers in a circumferential direction provided on an outer peripheral surface of the tip portion of a non-rotating hollow guide shaft member as defined in claim 4.

3.5 *Claim 8 (Novelty)*

The Appellant relied on document D7 which would disclose all the features of claim 8. According to the knowledge of the skilled person the yarn could be spun with the use of such an apparatus having a non-rotating guide shaft member.

Regarding Figure 1 of that document, at the tip of the spindle there are arrows marking the rotating movement of the guide shaft member. Since a non-rotating guide shaft member is not clearly and unambiguously disclosed, claim 8 meets the requirement of novelty.

3.6 *Claim 8 (Inventive step)*

The Appellant again started from D16 as the closest prior art and combined its teachings with those of D7. Although the apparatus disclosed in D16 can be operated with the guide shaft member in a non-rotating condition, the skilled person has no reason to draw D7 into consideration when looking for a suitable solution because D7 relates to a spinning apparatus working with a rotating spindle. Thus the combination of D16 with D7 would not lead to the subject-matter of claim 8 having a non-rotating guide shaft member (see also above 3.2.2).

3.7 *Claim 9 (Novelty)*

3.7.1. The Appellant argued that the spinning method according to claim 9 was not novel when compared with the disclosure of D5 because that apparatus effected the method claimed. The whirling speed of the reversed fibers f1b at the tip of the spindle would inevitably be varied by the groves 25 in circumferential direction. The same would apply to the apparatus known from D7 since the reversed fibers would be affected by the elements 15, 31, 41, 51, 61 in the circumferential direction.

3.7.2 The method of claim 9 relates to spinning while whirling reversed fibers at a tip portion of a non-rotary guide shaft member. D5 does not disclose explicitly and unambiguously that the whirling speed of the reversed fibers varies in a circumferential direction. As the Opposition Division already observed in the grounds for its decision, some fibres f1b are caught in the grooves 25 while other fibres f1a are not. Since the spindle is rotating (column 4, lines 37 to 57), the whirling speed of the reversed fibres in a circumferential direction is constant (see also above 3.3). In principle a similar effect is achieved as by the apparatus of D7 being operated with a rotating spindle (see also above 3.5). Therefore the feature is not present that a whirling speed of the reversed fibers at the tip portion (7a) of the hollow guide shaft member is varied in a circumferential direction.

3.8 *Claim 9 (Inventive step)*

The Appellant asserted further on that the method of claim 9 was not inventive in view of D5, D7 and D16, but did not substantiate in detail how the skilled person would arrive at the claimed solution. The Board concludes that in none of those documents a variation of the reversed fibers at the tip portion of the hollow guide shaft member in a circumferential direction is clearly and unambiguously disclosed and such subject-matter is not suggested either. Therefore this combination does not lead the skilled person to the method of claim 9.

3.9 Since the dependent claims 2 to 3, 5 to 7 and 10 also meet the requirements of the EPC the patent can be maintained in amended form.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the opposition division with the order to maintain the European patent with claims 1 to 10, description and drawings as granted

The Registrar: The Chairman:

M. Patin P. Alting van Geusau