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D E C I S I O N
of 29 March 2004

Case Number: T 1020/01 - 3.2.6

Application Number: 95105016.0

Publication Number: 0677605

IPC: D04B 15/78

Language of the proceedings: EN

Title of invention:

Selection device for an elastic selector for needles in a circular knitting machine

Patentee:

MATEC S.p.A

Opponent:

Mayer & Cie. GmbH & Co.

Headword:

Relevant legal provisions:

EPC Art. 56, 83

Keyword:

"Sufficiency of disclosure (yes) "

"Inventive step (yes) "

Decisions cited:

T 0056/87

Catchword:

-



Case Number: T 1020/01 - 3.2.6

D E C I S I O N
of the Technical Board of Appeal 3.2.6
of 29 March 2004

Appellant:
(Opponent)

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Representative:

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Respondent:
(Proprietor of the patent)

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Representative:

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Decision under appeal:

**Decision of the Opposition Division of the
European Patent Office posted 26 July 2001
rejecting the opposition filed against European
patent No. 0677605 pursuant to Article 102(2)
EPC.**

Composition of the Board:

Chairman: P. Alting van Geusau
Members: H. Meinders
M.-B. Tardo-Dino

Summary of Facts and Submissions

I. The appeal is from the decision of the Opposition Division of 2 July 2001, posted to the parties on 26 July 2001, rejecting the opposition against European Patent 0 757 550.

In its decision the Opposition Division considered that the subject-matter of claim 1 as granted fulfilled the requirements novelty and inventive step (Articles 54 and 56 EPC). In particular the prior art disclosed in the following documents has been taken into account:

D1: DE-C-2 938 835

D2: DE-C-3 712 673

D3: DE-A-2 002 991

D6: DE-A-2 842 054.

Of the documents filed in opposition and on appeal the following are relevant for the present decision:

D5: DE-A-2 316 606 and

D10: WO-A-9 403 668.

II. Against this decision the opponent filed an appeal on 12 September 2001, paying the appeal fee on that same day.

The appellant filed its statement of grounds of appeal on 27 November 2001.

III. Oral proceedings were held on 29 March 2004.

The appellant requested setting aside of the decision under appeal and revocation of the patent.

The respondent (patentee) requested maintenance of the patent in amended form on the basis of:

- claims 1 to 4 and
- description, columns 1 to 3, both as filed during the oral proceedings,
- figure as granted.

IV. The wording of independent claim 1 according to the respondent's request is as follows:

"Selection device for selecting needles in a circular knitting machine having, for each selectable needle (3), an elastic needle selector (2) slidably mounted in longitudinal millings (4) of a machine cylinder (5) and comprising an elastic portion (6) that is adapted to move a lower portion of the selector (2) into a position for engagement on the part of a lifting cam (9), and in a downward region thereof, a tab (12) adapted to be attracted and retained by a fixed permanent magnet (13) at which one or more electromagnets (15) are further mounted, the activation of said electromagnets being adapted to selectively release the selectors (2) which are otherwise retained by the permanent magnet (13) during the rotation of said cylinder (5) characterised in that, said selector elastic portion is constituted by a contoured elastic

back-folded portion (6) which is located at an upward region of said selector (2), is slidingly guided in said longitudinal milling (4), and is adapted to return said selector lower portion towards the outside of said cylinder (5) for engaging with a lower heel (7) provided at said selector lower portion said lifting cam (9), and in that said permanent magnet (13) is annular and is arranged with said one or more electromagnets (15) towards the inside of said cylinder (5), and further characterized in that the permanent magnet is constituted by a magnetic ring (13), said electromagnets (15) being mounted on said magnetic ring and being activatable for selective release of the selectors (2) upon passage thereof in front of said electromagnets (15).".

V. The arguments of the appellant can be summarised as follows:

The invention was not sufficiently disclosed to be carried out by the skilled person as required by Article 83 EPC. The drawing showed an elastic portion which was formed in one piece with the needle selector as if the selector were punched out of plate material, whereas the claim and the description referred to the elastic portion as having been back-folded, i.e. the elastic part of the needle selector had been bent back towards the needle. No further information on the manner in which such a needle could be produced was available.

Closest prior art was D2, from which the subject-matter of claim 1 differed only in that the permanent magnet was annular, as it was not necessarily so that the

needle selector was constructed as one single part, it could also comprise two parts, due to the use of the wording "comprising an elastic portion" in claim 1. Annular permanent magnets were well known from D10, which expressly mentioned the use of this solution for circular knitting machines and also related to the problem addressed in the patent in suit, being the required increase in knitting speeds. Electromagnets mounted on the permanent magnet were already known from D5.

In any case, if the knitting machine was to be equipped with a larger number of needles the separate magnets as disclosed in D2 practically had to come together to form a ring-shaped magnet.

If the Board considered the needle selector according to claim 1 to be a one-piece selector with an integral elastic portion: D3, D6 as well as D10 suggested one-piece needle selectors, the last document explicitly also for circular knitting machines. Contrary to what the respondent stated the needle selector disclosed in D10 had to lie with its elastic portion against the bottom of the milling retaining it, otherwise it could not function. The term "contoured elastic portion" was not further explained in the patent in suit, thus did not have the very limited meaning the respondent attributed to it.

VI. The respondent considered that the skilled person, on the basis of the information in the patent, had no difficulty to understand that the needle selector had to be in one piece, which was also derivable from the term "contoured elastic back-folded portion". Further,

the term "back-folded" was only an indication to the shape of the elastic portion and not necessarily indicated an exclusive manner in which the selector was produced. Thus the requirements of Article 83 EPC were fulfilled.

As regards inventive step, it had to be distinguished between selection devices for rotating cylinder- and stationary cylinder circular knitting machines. If the teaching of D10 had to be considered at all to apply to circular knitting machines, then it would relate to a stationary cylinder knitting machine, which was different from the device claimed in claim 1, which required a rotating cylinder. Its teaching would therefore not be taken into account by the skilled person. In any case, the knitting machine disclosed in D10 did not have the electromagnets mounted on the permanent magnet ring as required by present claim 1.

Further, the needle selector shown in D10 was clearly not one with a contoured elastic back-folded portion, as the term "contoured" in claim 1 meant (according to the "Websters Dictionary") that it had a mating engagement, (i.e. a form fitting relationship) with the milling 4 and the outer ring 11 retaining the needle selectors.

The elastic portion of the needle selector shown in D2 could not be considered as being located "at an upward region of said selector" as claimed, nor did the teaching of D10 point in that direction. The needle selector of the patent in suit, by this feature, showed less fatigue and the necessary attraction force of the permanent magnet could be lower.

Reasons for the Decision

1. The appeal is admissible.
2. *Sufficiency of disclosure (Article 83 EPC)*

For sufficiency of disclosure the teaching of the patent as a whole should be considered, not only the wording of the claims as such.

- 2.1 In the Board's opinion the term "back-folded" not necessarily only indicates a portion 6 which during production of the needle selector has actually been folded backward towards the remainder of the selector but can also describe a configuration of the selector as shown in the figure of the patent in suit, where the form is what one would call "folded back upon itself". Such a selector shape can also be produced by punching the selector out of plate material.
- 2.2 In both possible embodiments, also by the use of the wording "comprising an elastic portion (6)" and "said selector elastic portion is constituted by a contoured back-folded portion (6)", it is evident that the selector is made in one piece with the elastic portion.

The term "portion" should be interpreted as meaning "section" ("Abschnitt"), not as "part" ("Teil"). The latter in fact could mean a separate entity connected to the needle selector, but that is not the case here, as the term "portion" has been used.

The Board considers that the skilled person is capable of producing both possible embodiments on the basis of the information in the patent in suit, relying as well on his standard technical knowledge.

3. *Amendments (Article 123 EPC)*

The amendments consist in the combination of granted claims 1 and 5, this combination finding its basis in claim 1 and page 3, line 26 to page 5, line 4 of the original application documents. The remaining amendments to the patent concern clarification of the position of the electromagnets ("mounted on said magnetic ring"), the cylinder 5 being the only available cylinder ("said cylinder"), the correction of some typographical errors and the acknowledgment of the prior art D2 for the purpose of Rule 27(1)(b) EPC.

These amendments do not give rise to objections under Article 123(2) EPC.

By the amendments the subject-matter of claim 1 as granted has been limited, thus also the requirements of Article 123(3) EPC have been met.

4. *Novelty (Article 54 EPC)*

Novelty of claim 1 as amended was not contested by the appellant. The Board ascertained whether any one of the available prior art documents disclosed all features of claim 1 and found that this was not the case.

5. *Inventive step (Article 56 EPC)*

5.1 The Board considers D2 to disclose the closest prior art for the discussion of inventive step of the subject-matter of claim 1. Not only does it concern a selection device for a circular knitting machine with a rotating cylinder as described in the preamble of claim 1, the needle selector 22 disclosed in D2 has an elastic spring part 35 which is also located at an upward region of said selector, is slidingly guided in the longitudinal milling and is adapted to return said lower portion of the needle selector towards the outside of the cylinder for engaging the lower heel 22.2 provided at the selector lower portion with the lifting cam 36, as mentioned in the characterizing part of claim 1. Further the electromagnet 51 is directed towards the inside of the cylinder and is activatable for selective release of the selector upon passage thereof in front of the electromagnet.

5.2 The interpretation of the term "contoured" as held by the respondent cannot be subscribed to by the Board. For this limiting interpretation there is no basis whatsoever in the patent in suit, which would have been necessary to infer from the term "contoured" the limited meaning "mating with its outer surfaces with the form of the milling and the retaining ring", as held by the respondent. Thus, this feature cannot distinguish the subject-matter of claim 1 over D2 nor D10.

5.3 Claim 1 refers to an upward region and a lower region of the needle selector, as well as to a lower portion of that selector. The elastic back-folded portion is located at "an upward region" of the selector.

In the opinion of the Board the term "upward region" of the selector is a very general term. To it cannot be attributed a more specific location on the selector than its "upper half", the lower region forming the lower half of the selector. If the uppermost portion of the selector had been meant as suggested by the respondent, the claim should have mentioned this. Thus the above wording as employed in claim 1 cannot help in distinguishing its subject-matter from D2 (nor D10 for that matter).

5.4 Needle selectors according to the state of the art constituted by D2 have a number of separate permanent magnets and electromagnets mounted on a stationary holder. Such an arrangement has the disadvantage to be rather complicated (thus difficult and costly to produce) and does not easily allow for an arrangement with an increased number of needles on the same diameter cylinder (i.e. with less wide needles and needle selectors, operating at high speeds).

The selection device according to the patent in suit envisages a solution to this problem (see column 1, lines 49 to 55) by providing the selector elastic part in the form of a contoured elastic back-folded portion of the selector itself and by providing the permanent magnet in the form of a ring, with the electromagnets mounted on the permanent magnet ring.

5.5 The Board establishes that none of the prior art documents available in the file gives an indication to carry out **all** the above mentioned modifications to the device of D2 in the manner as claimed.

The appellant has argued that D3, D6 and D10 provide the indication to construct the needle selector in one piece, with its elastic part forming an integral portion of the needle selector. The respondent has argued that these documents relate to flat bed knitting machines and therefore would not be considered by the skilled person.

The Board considers that these three documents all show needle selectors with the elastic part forming an integral portion of the needle selector, this elastic portion being a contoured back-folded portion. Of these three, D10 is, however, the most relevant as it unambiguously declares its technical solutions applicable to circular knitting machines working at high speeds, which is the field of application for the presently claimed selection device (D10: page 1, line 10; page 3, lines 8 and 21; page 4, lines 22 and 23; page 7, lines 28 and 29; claims 6 and 13).

The Board considers that D10 would provide sufficient indication to the skilled person to apply this teaching to the needle selector for a circular knitting machine with a rotating cylinder according to D2, as the Board is of the opinion that its elastic functioning is independent of the fact whether the knitting machine has a flat bed or a circular bed, and is provided with a rotating cylinder or a stationary cylinder. This modification does, however, not lead to the other

distinguishing features of the device of claim 1 when compared with the device disclosed in D2.

- 5.6 In this respect the appellant argued that D10 at least suggested the use of a ring-shaped permanent magnet. Admittedly, D10 did not provide a teaching to mount the electromagnet on the permanent magnet (the electromagnet being mounted on the moving selection device, the permanent magnet being stationary, as the knitting bed), but such a teaching could be found in D5, reference 24. Thus all features of the device of claim 1 would be covered by the combined teachings of D2, D5 and D10.

However, it is established case law of the Boards of Appeal that the technical disclosure in a prior art document should be considered in its entirety, as it would be done by a person skilled in the art. It is not justified arbitrarily to isolate parts of such documents from their context in order to derive from them technical information which would be distinct from or even in contradiction with the integral teaching of the document (see T 56/87, OJ EPO 1990, 188, Reasons point 3.1).

Thus, when applying the teaching of the permanent magnet extending along the entire needle bed as suggested in D10 also for circular knitting machines, which teaching would result in a ring-shaped permanent magnet (see page 7, lines 23 and 24 of D10) as claimed in claim 1, the skilled person would also apply D10's teaching related to the arrangement of the electromagnet. That would provide an electromagnet which is mounted separate from the permanent magnet and

thus to a device which is different from the one claimed in claim 1.

- 5.7 Furthermore, the disclosure of D5 relating to the electromagnet being mounted on the permanent magnet concerns specifically an electromagnet 24 arranged between two separate permanent magnets 25 and 26, which arrangement teaches, however, away from a single permanent magnet in the form of a ring. Therefore not only is there no logical link between the teachings of D2, D5 and D10 so as to combine them in the alleged manner, the combination - if carried out - would also not lead in an obvious manner to the claimed device.
- 5.8 Finally, the appellant's argument that when increasing the number of needles in the knitting machine disclosed in D2, the necessary permanent magnets would "come together" to form a ring, has not been supported by any documentary evidence to this effect, thus remains a mere allegation obviously based on hindsight.
- 5.9 Thus the Board concludes that the subject-matter of present claim 1 is not obvious within the meaning of Article 56 EPC and therefore involves inventive step.

The subject-matter of dependent claims 2-4 concerning preferred embodiments of the selection device as claimed in claim 1 (Rule 29(3) EPC), thus also fulfils the requirements as to novelty and inventive step.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the first instance with the order to maintain the patent on the basis of the following documents:
 - claims 1 to 4 and

 - description, columns 1 to 3, both as filed during the oral proceedings,

 - figure as granted.

The Registrar:

The Chairman:

M. Patin

P. Alting van Geusau