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D E C I S I O N
of 1 August 2001

Case Number: T 0480/99 - 3.2.6

Application Number: 93201580.3

Publication Number: 0573121

IPC: D01G 19/26

Language of the proceedings: EN

Title of invention:

Method and device for controlling a combing machine

Patentee:

FRATELLI MARZOLI & C. S.p.A.

Opponent:

Maschinenfabrik Rieter AG (former opponent)

Headword:

-

Relevant legal provisions:

EPC Art. 52(1), 56, 123(2)

Keyword:

"Amendments derivable from the application as filed - yes"

"Inventive step - no"

Decisions cited:

-

Catchword:

-



Case Number: T 0480/99 - 3.2.6

D E C I S I O N
of the Technical Board of Appeal 3.2.6
of 1 August 2001

Appellant: FRATELLI MARZOLI & C. S.p.A
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Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 5 March 1999
revoking European patent No. 0 573 121 pursuant
to Article 102(1) EPC.

Composition of the Board:

Chairman: P. Alting van Geusau
Members: G. C. Kadner
M. J. Vogel

Summary of Facts and Submissions

- I. European patent No. 0 573 121 published on 17 January 1996 in respect of application No. 93 201 580.3 was revoked by the Opposition Division by decision dated 5 March 1999.

The Opposition Division considered the subject-matter of the independent claims 1 and 7 not to meet the requirements of novelty or inventive step, respectively, and furthermore considered the additional measures of the dependent claims 2 to 6 and 8 to 15 to be obvious to a skilled person in view of the prior art disclosed in:

D3: JP-A-63-42923 (English translation: D3E)

- II. By a letter dated 17 March 1999 and received 20 March 1999 at the EPO the Opponent withdrew its opposition.
- III. On 28 April 1999 the Appellant (Patentee) lodged an appeal against this decision simultaneously paying the appeal fee.

The statement of grounds of appeal was filed on 24 June 1999.

The Appellant requested that

the decision under appeal be set aside and that the patent be maintained in amended form on the basis of claims 1 to 7 filed together with the statement of grounds of appeal.

Amended claim 1 reads as follows:

"A device for controlling and halting a combing machine (1) in a position in which the gripper unit (4) is completely open in respect the fibre cloth (3), in which the combing members involved in the combing are operated by a motor (27) via transmission and crank mechanism, and a gripper unit (4) arranged to temporarily grip a fibre cloth (3) co-operates with a circular comb (5) arranged to comb the fibre cloth (3) during the gripping of the fibre cloth (3) by gripper unit (4), in which position sensor means (35) are associated with the gripper unit (10, 11), said sensor means (35) being operationally connected to a halting device (36), which - on the basis of the sensing by said sensor means (35) - is caused to halt the machine substantially when the gripper unit (4) is completely open with respect the fibre cloth, characterised in that said sensor means (35) consist of sensor elements (35a, 35b) arranged respectively on the machine fixed structure and on the rocker arm (16) driving the gripper unit (4), said elements (35a, 35b) emitting signals at each rocking movement of said arm (16) and being connected to a control unit (37) for processing said signals and for operating said halting device (36) on the basis of said signals."

IV. In support of its requests the Appellant essentially relied upon the following submissions:

The main objective of D3 was the provision of a method for stopping a comber at a suitable position for carrying out a lap exchange. However, in D3 the lap was not being temporarily released from the action of the gripper unit when the machine was stopped. In fact, one

of its gripper elements was depicted in the position of opening, but another one of them, the auxiliary nipper, was just closed in its substitution to clamp said fibre cloth. In other words, according to D3 reference the machine was halted when the gripping unit was **not** completely open, leading to a loss of quality due to the action of the gripping element that remained in permanent contact with the lap for the time of the stopping.

According to D3 the sensing means was arranged on the rotating shaft carrying the circular comb whereas in contrast to this arrangement the sensing means of the patent specification was positioned at the oscillating rocking arm. With regard to D3 an angular co-ordinate determined with reference to the shaft of the circular comb could not always be related to the angular position of the rocker arm and to the maximum opening of the gripper.

- V. In a communication pursuant to Article 12 of the Rules of Procedure of the Boards of Appeal dated 18 January 2001 the Board expressed doubts as to whether the feature of amended claim 1 concerning the gripper unit being "completely" open could be derived from the originally filed documents when based on the originally disclosed expression "maximum opening".

Furthermore the subject-matter of a correspondingly clarified claim 1 would seem to lack inventive step with respect to the arrangement disclosed in D3. The only difference appeared to be a different location of the position sensor, which in view of the fact that D3 already mentioned that the sensed body might be mounted on any part which moved synchronously with the driving

shaft would appear to be just another suitable position, the selection of which was without inventive merit.

VI. With letter dated 9 April 2001 the Appellant informed the Board that it would not file any observations on the communication.

Reasons for the Decision

1. The appeal is admissible.
2. *Amendments*

After reconsideration of the disclosure of the claimed subject-matter the Board concludes that the application as originally filed and also the patent specification contain sufficient support for the amendments to claim 1. In the patent description (column 2, lines 31 to 32) and in the application documents as originally filed (column 2, lines 41 to 42) it is mentioned that the machine is halted "when the grippers are completely open or at maximum advancement". From this text it is clearly derivable that the terms "completely open" and "maximum advancement" are alternatively used to define the same position of the grippers. Therefore no objections arise under the provisions of Article 123(2) or (3) EPC.

3. *Novelty and inventive step*
 - 3.1 The closest prior art is represented by D3/D3E which discloses a method for controlling and halting a combing machine in a position in which the gripper unit

(nipper knife 3, cushion plate 5) is completely open in respect of the lap 12, (D3, Figures 1 to 3; D3E, page 3, lines 4 to 10). The gripper unit 3,5 is arranged to temporarily grip a lap 12 and co-operates with a circular comb 11 arranged to comb the lap 12 during the gripping of the lap 12 by gripper unit 3,5. Although not shown in detail it is immediately apparent to the skilled person that the combing members involved in the combing must be operated by a motor and transmission means.

Position sensor means 13,14,15 are mounted respectively on the shaft of the circular comb and the machine structure said sensor means being operationally connected to a halting device, which - on the basis of the sensing by said sensor means - is caused to halt the machine when the gripper unit is completely open with respect to the fibre cloth, i.e. when it is in its foremost position according to index value 40 (D3E, page 3, line 13 to page 4, line 6, diagram Figure 8).

The sensor means are connected to a control unit for processing the signals emitted from the sensor means and for operating the halting device on the basis of said signals (D3E, page 4, line 13 to page 5, line 12).

- 3.2 Novelty of the subject-matter of claim 1 follows from the fact that neither D3 nor any of the other cited documents discloses a device for controlling and halting a combing machine in accordance with the precharacterising portion of claim 1, in which additionally sensor means consisting of sensor elements arranged respectively on a machine fixed structure and on the rocker arm driving the gripper unit, said elements emitting signals at each rocking movement of

said arm, are present.

- 3.3 The problem addressed in the patent in suit is to overcome the difficulties connected with the stoppage of a combing machine by improving the quality and the uniformity of the web following machine stoppage and reducing the discarding of material during machine re-starting. A further objective is to provide a method and device for controlling a combing machine which maintains combing continuity and reduces the time involved by personnel during machine re-starting (column 1, lines 29 to 37 of the patent specification).

However, these problems are already solved by the means disclosed in D3/D3E because the machine is always stopped in a position in which the gripping device is completely open and from which it can easily be re-started without any manual intervention. Therefore the remaining objective to be solved when compared to the solution given in D3/D3E is the provision of an alternative method and device for controlling and halting a combing machine.

- 3.4 In the described embodiment of D3/D3E the position sensor means consists of a sensed body 14 attached to the cylinder shaft 16 and a sensor 15 which is fixed to the machine structure. However, it is indicated that the sensed body may be attached to any part provided it rotates synchronously with the cylinder shaft at a ratio 1:1 (page 4, lines 4 to 6). A skilled person in mechanical construction would interpret this teaching in a manner not limited to motion of a part corresponding to the rotation of the shaft at a ratio of 1:1 but also would consider sinusoidal or other harmonic motion corresponding to rotation if an

alternating basis for a control reference would be achieved. In accordance with the common knowledge in the art, mounting the sensed body on a rocking part of the combing machine which moves sinusoidally at the same ratio with the shaft achieves the same result in a technically equivalent manner. If suitable for the desired purpose the skilled person would select this construction and thus would arrive at the device of claim 1 without involvement of an inventive step (Article 56 EPC).

- 3.5 The arguments put forward by the Appellant in support of inventive step cannot be considered convincing.

In particular, no unexpected mechanical effects follow from the selected position of the sensor. The skilled person is well aware of the difficulties arising from indirect determination of the position of a mechanical part for reasons of clearance or stability. Therefore no inventive step can be seen in placing the sensing element as near as possible to the element whose position must be determined.

Additionally, with regard to the stop position of D3, allegedly not sufficiently accurate but lying in a relative wide range around index position 40, the same document already proposes a solution for approaching this stop position more exactly by reducing the width of the sensed body (D3E, page 5, first paragraph). Again, the skilled person is given sufficient information through this prior art to have all possibilities at hand and arrived at the proposed solution in an obvious manner.

Moreover, since the skilled person would immediately

comprehend that the system of D3 provides a suitable solution for stopping the combing machine in a position from which it can easily be restarted, it would not be restrained from applying its teaching by the further functions of this machine, e.g. auxiliary nippers, which are obviously not necessary for achieving the desired stop in a particular position in view of the underlying problem to be solved.

4. Summarising, for the above reasons the Board arrives at the conclusion that the subject-matter of claim 1 does not comply with the requirements of patentability according to Article 52(1) EPC, and that revocation of the patent under Article 100(a) EPC by the Opposition Division is therefore justified.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

M. Patin

P. Alting van Geusau