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THE EUROPEAN PATENT
OFFICE

CHAMBRES DE RECOURS
DE L'OFFICE EUROPEEN
DES BREVETS

D E C I S I O N
of 1 February 1995

Case Number: T 0009/93 - 3.2.5

Application Number: 87110087.1

Publication Number: 0254944

IPC: B65H 59/38

Language of the proceedings: EN

Title of invention:
Drive method for winders

Patentee:
TEIJIN SEIKI CO. Ltd.

Opponent:
Maschinenfabrik Rieter AG

Headword:
-

Relevant legal provisions:
EPC Art. 54

Keyword:
"Novelty (denied)"

Decisions cited:
-

Catchword:
-

Case Number: T 0009/93 - 3.2.5

D E C I S I O N
of the Technical Board of Appeal 3.2.5
of 1 February 1995

Appellant: (Opponant)	Maschinenfabrik Rieter AG Klosterstrasse 20 8406 Wintherthur (CH)
Representative:	–
Respondent: (Proprietor of the patent)	TEIJIN SEIKI CO. Ltd. Higobashi Center Building 9-1, Edobori 1-chome Nishi-ku Osaka 550 (JP)
Representative:	TER MEER - MÜLLER - STEINMEISTER & PARTNER Mauerkircherstrasse 45 D-81679 München (DE)

Decision under appeal: Decision of the Opposition Division of the European Patent Office dated 11 December 1992 rejecting the opposition filed against European patent No. 0 254 944 pursuant to Article 102(2) EPC.

Composition of the Board:

Chairman: G. O. J. Gall
Members: A. Burkhart
              W. D. Weiß

Summary of Facts and Submissions

I. The Appellant (Opponent) lodged an appeal against the
    decision of the Opposition Division on the rejection of
    the opposition against the patent No. 0 254 944.

    Opposition was filed against the patent as a whole and
    based on Article 100(a) and (b) EPC.

    The Opposition Division held that the grounds for
    opposition mentioned in Article 100(a) and (b) EPC did
    not prejudice the maintenance of the patent unamended,
    having regard to the document

    D1: EP-A-94 483.

II. Oral proceedings were held on 1 February 1995.

     (i)   The Appellant requested that the decision under
           appeal be set aside and the patent be revoked.

     (ii) The Respondent requested that the appeal be
           dismissed and that the patent be maintained
           unamended (main request) or be maintained on the
           basis of the auxiliary request presented on
           9 September 1993.

     (iii) The wording of the single claim of the contested
           patent reads as follows:

           "A driving method of a winder used for the
           winding of a yarn wherein the yarn is wound on a
           bobbin (4) comprising the steps of: bringing a
           contact roller (6) into contact with said bobbin
           (4), rotating said bobbin (4) connected to a
           bobbin holder (2) with a first motor (10) being

speed controllable, and rotating said contact
roller (6) with a second motor (13),
characterized in that said rotations of said
first and second motors (10, 13) are controlled
such that the number of rotations of said contact
roller (6) is given by the following equation:

$$N = n1-(K.m(nO-n1)/T1),$$

wherein N indicates the number of rotations
(r.p.m.) of said contact roller (6) which is
operated in pressing contact with said bobbin
(4), nO indicates the synchronous number of
rotations (r.p.m.) according to the power
frequency of said second motor (13), n1 indicates
the number of rotations (r.p.m.) of said second
motor (13) with which only said contact roller
(6) is driven, T1 indicates a load torque (kg cm)
of said second motor (13) with which only said
contact roller (6) is driven, m indicates the
number of packages (5) which are wound in contact
with said contact roller (6), and K indicated a
factor which is between O and 1.5."

According to the auxiliary request a number of
corrections of clerical errors in the patent
specification are proposed.

(iv)   The Appellant argued essentially as follows:

The passage "K indicates a factor which is
between 0 and 1.5" in claim of the contested
patent has to be interpreted in the light of the
description and the drawings in the sense that it
includes both the lower limit of 0 and the upper
limit of 1.5. In particular, the formula in
line 20 of page 5 indicates that the limits of 0

and 1.5 should be included. Also the examples
given in the patent with respect to Figures 8 and
9 clearly show that the value of K=0 achieves the
optimum result of the invention of the contested
patent.

Document D1 discloses a driving method comprising
the features according to the preamble of the
claim of the contested patent and including
implicitly the formula given in the claim of the
contested patent. According to page 14, lines 25
to 32, of document D1 the motor of the contact
roller is said to be controllable such that
either no torque or a certain torque is
transferred from the contact roller to the
bobbin. Therefore, the subject-matter of the
claim of the contested patent lacks novelty with
respect to the method according to document D1.

If the Board interprets the claim of the
contested patent in the sense that the lower and
upper limits of the K-value of 0 and 1.5 are
excluded, the claim would lack an enabling
disclosure (Art. 100(b) EPC), since the limits of
the range "between 0 and 1.5" would not be
defined. Moreover, even with such an
interpretation, the claimed method would be
anticipated by document D1. Furthermore, the
claimed method does not constitute a "selection
invention" with respect to the method disclosed
in document D1, since there are no particular
unforeseeable advantages indicated in the
contested patent for a range of the K-value
"between 0 and 1.5".

(v)   The Respondent argued essentially as follows:

The claim of the contested patent has to be
interpreted in the sense that the values for K of
0 and 1.5 are excluded. This cannot only be
derived from the word "between" but also from the
description, wherein, in particular on page 5,
line 50 and page 6, lines 38 to 40, it is
indicated that a torque of plus direction acts
from the contact roller to the bobbin, which
means that a K-value of 0 is not included. The
formula given in line 20 of page 5, which
includes the values of 0 and 1.5, has to be seen
only in context with the discussion of Figure 2
and not in context with the claim.

The method of the claim is new with respect to
the method disclosed in document D1, since a
specific range of the K-value between 0 and 1.5
is not disclosed in that document and since that
document does not give any hint to the
significance of the number "m" of the packages
involved.

The method of the claim involves also an
inventive step with respect to the teaching of
document D1, since that document does not give
any enabling disclosure to the person skilled in
the art for the specific optimum range of the K-
value as claimed in the contested patent. The
claimed range must be regarded as constituting an
inventive selection with respect to the
disclosure of document D1, which selection
produces a specific advantage with respect to
yarn quality and package profile, as explained on
page 6, lines 38 to 40 of the contested patent.

Reasons for the Decision

1.   *Interpretation of the claim*

According to the sole claim of the patent "K indicates a
factor which is between 0 and 1.5". The ordinary meaning
of "between" does not exclude the lower and the upper
limit (0 and 1.5 respectively). The man skilled in the
art would therefore consider the range of values as
including both the lowest and the highest value
mentioned in the claim. If, as contended in the present
case by the Respondent, the word "between" in a claim of
a patent is intended to exclude the lowest and the
highest value, a clear and unambiguous support for such
an interpretation in the description of the patent would
be required.

In respect to this issue the person skilled in the art
extracts from the description of the contested patent
the following teaching:

-       in connection with Figures 1 and 2 which describe
        a "preferred embodiment" of the invention (see
        headline on page 4, line 11), it is stated on
        page 5, lines 16 to 20 that the torque t(which
        corresponds to the value K of the claim!)
        "allowable with respect to the rupture of the
        aforementioned yarn quality and the rupture of
        the bobbin paper sleeve is given by the following
        equation (2):

        $0 \le t \le 1.5$ m".

        This formula clearly includes the values of 0 and
        1.5.

-       Figures 8 and 9 and the corresponding parts of
        the description on page 2, line 46 to page 3,
        line 25, explain the basic effects and advantages
        of the invention. Figure 8 clearly shows that
        good results with respect to yarn quality are
        obtained within the whole range of K-values
        between and including 0 and 1.5 and that the best
        results are obtained at a K-value of 0. Figure 9
        also clearly shows that with respect to paper
        tube damage the best results are obtained, when
        the K-values are 0.

-       the advantages (I), (II) and (III) specified on
        page 6 are achieved with an optimum effect at a
        K-value of 0.

-       the advantage (IV) also specified on page 6 which
        was referred to by the Respondent, indicates that
        a torque of plus direction should act in the
        direction from the contact roller to the bobbin
        in order to avoid yarn elongation. However, this
        indication, which admittedly could be understood
        as excluding a K-value of 0, is made with respect
        to an alleged specific further advantage of the
        invention and cannot invalidate the general
        teaching of the description of the contested
        patent that a K-value of 0 is included in the
        claimed method.

On the basis of the aforementioned disclosure of the
description, the Board concludes that the wording of the
claim as it stands and as interpreted in the light of
the description, means that the factor K should be
between 0 and 1.5, including both the values of 0 and
1.5.

2.   *Novelty*

2.1   Document D1 (cf. Claim 3, Figures 1 and 4 and
        corresponding parts of the description) discloses a
        driving method of a winder used for the winding of a
        yarn wherein the yarn is wound on a bobbin comprising
        the steps of bringing a contact roller into contact with
        said bobbin, rotating said bobbin connected to a bobbin
        holder with a first motor being speed controllable and
        rotating said contact roller with a second motor,
        wherein the number of rotations of said first and second
        motors are controlled such that the number of rotations
        of the contact roller is held at a certain value. This
        value linearly depends on the synchronous number of
        rotations n0 according to the power frequency of the
        second motor, on the number of rotations of the second
        motor with which only the contact roller is driven n1,
        on the load torque of the second motor with which only
        the contact roller is driven T1 and on the torque
        transferred between the contact roller and the bobbin
        (see page 12, last paragraph to page 14 in connection
        with Figure 6 of document D1).

        It is a matter of course that the torque which can be
        transferred between the contact roller and the bobbin is
        directly proportional to the width of contact or the
        number "m" of bobbins in contact with the contact roller
        and that therefore also in the method document D1 the
        number "m" of packages to be wound influences the number
        of rotations of the contact roller. Since, however, this
        number "m" is one in the example given in document D1,
        no explicit mention of the number "m" of packages is
        found in this document.

Therefore, the Board concurs with the opinion of the
Opposition Division and the Appellant that the formula
"$N = n1-(K.m(n0-n1)T1)$" given in the claim of the
contested patent is implicitly present in the method
according to document D1.

On page 14, lines 25 to 28, of document D1 it is
expressly stated that the control device can be adjusted
so that the motor of the contact roller exerts no net
force on the bobbin. Moreover, on page 5, lines 4 to 11
it is said that the slippage between the contact roller
and the bobbin can be eliminated so that the
circumferential speed of the contact roller corresponds
to the circumferential speed of the bobbin.

These passages clearly disclose an operation mode,
wherein no torque is transferred between the contact
roller and the bobbin, i.e. the value of K is 0 in the
meaning of the claim of the contested patent.

Therefore, document D1 discloses a method comprising all
the features of the claim of the contested patent,
including the feature that no torque (value $K = 0$) is
transferred between the contact roller and the bobbin.

The method of the claim of the contested patent is
therefore not novel with respect to the method disclosed
in document D1.

2.2   Even if the method of Claim 1 of the contested patent
        had to be interpreted in the sense as excluding a K-
        value of 0, it would be anticipated by the disclosure of
        document D1, since on page 14, lines 28 to 32 of this
        document also an operation mode is disclosed, wherein
        the contact roller transfers a positive transfer force
        to the bobbin.

Taking into account the teaching of document D1 on page 14, lines 8 to 32, that the torque transferred between the contact roller and the bobbin could be 0, positive and negative, and that, for physical reasons, a certain maximum torque cannot be exceeded, the person skilled in the art would choose the range of the transfer force (or torque) of this positive-torque operation mode adjacent to the value of 0 torque which falls within the range indicated in the claim for the value K.

3.   *Auxiliary request*

The amendments proposed according to the auxiliary request of the Respondent essentially concern only corrections of obvious clerical errors in the patent specification. These amendments are not necessary to overcome objections with respect to the grounds of opposition which would prejudice the patent as granted. Therefore, following established jurisprudence of the Boards of Appeal the Board does not allow the auxiliary request.

4.   Since none of the requests of the Respondent is allowable, the patent has to be revoked.
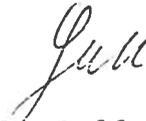
Order

For these reasons it is decided that:

1.   The decision under appeal is set aside.

2.   The patent is revoked.

The Registrar: The Chairman:

A. Townend   G. Gall