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Bezeichnung der Erfindung:
Title of invention:
Titre de l'invention : Traversing motion for use with apparatus for winding continuous elongate elements.

Klassifikation / Classification / Classement : B 65 H 54/28

ENTSCHEIDUNG / DECISION

vom / of / du 16 July 1985

Anmelder / Applicant / Demandeur : Nitto Boseki Co., Ltd.

Patentinhaber / Proprietor of the patent / Titulaire du brevet : -

Einsprechender / Opponent / Opposant : -

Stichwort / Headword / Référence :

EPÜ / EPC / CBE Art. 123(2)

"Amendment refused" - "No resolution of inconsistency but giving subject matter a different interpretation"

Leitsatz / Headnote / Sommaire

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Case Number: T 262 / 84

DECISION

of the Technical Board of Appeal 3.2.1

of 16 July 1985

Appellant: NITTO BOSEKI CO., LTD.
1 Aza Higashi,
Gonome Fukushima-shi (JP)

Representative: Lehn, Werner, Dipl.-Ing.
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Decision under appeal: Decision of Examining Division 084 of the European Patent Office dated 13 April 1984 refusing European patent application No 81 110 686.3 pursuant to Article 97(1) EPC

Composition of the Board:

Chairman: G. Andersson
Member: M. Huttner
Member: P. Ford

SUMMARY OF FACTS AND SUBMISSIONS

I. European patent application No. 81 110 686.3 filed on 22 December 1981 and published on 30 June 1982 under No. 0 054 961, claiming priority from a prior application in Japan of 24 December 1980, was refused by a decision of the Examining Division 084 dated 13 April 1984. The decision was based on Claims 1 and 2 received on 22 June 1983.

The reason given for the refusal was that in view of the prior art disclosed by US-A- 3 407 262 or US-A- 3 900 166 Claim 1 lacked an inventive step within the meaning of Article 56 EPC.

II. On 8 June 1984 the appellants lodged an appeal against the decision. The appeal fee was duly paid and the statement of grounds was submitted on 8 August 1984. The appellants argued that a person skilled in the art could not deduce the subject matter from anything disclosed in the art because in the embodiments of both citations an indication to an increased lead angle of the groove at the end of the scroll cam is missing and the elongate cam follower would find it difficult to follow the groove faithfully due to loss of contact while rapidly reversing and thus cause detrimental chattering. Thus the achievement of smooth and rapid reversal with the concomittant elimination of this drawback would constitute a surprising result brought about by the features claimed in Claim 1. They further requested the reimbursement of the appeal fee pursuant to Rule 67 EPC.

III. By a communication dated 10 May 1985 isued in preparation for the oral proceedings requested by the appellants, they were advised that the subject matter of Claim 1 would possibly not be capable of affording uninterrupted contact

of the cam follower with the groove in view of still missing essential features for overcoming the stated drawbacks and objection under Rule 29 (3) EPC was raised accordingly.

IV. Finally, on 11 July 1985, the appellants submitted as a main and alternative request two revised descriptions, together with a new set of Claims 1 to 3 each. The descriptions have been revised so as to acknowledge the most relevant prior art in the introductory portion with consequential amendments to bring it into conformity with the amended claims.

Further, the object has been expanded by reference to a smooth following of the endless groove by the elongate cam follower moving at high speed even in the reversing zones. Additionally, in the examplifying descriptions the following passages have been changed:

page 9, line 5,
page 12, line 31,
page 13, line 13,

all to the effect that the cam follower is released from either its guiding function or guidance by the cam groove or from control by the side walls of the groove in lieu of simply becoming released, or released by the cam groove or by the side walls thereof.

The appellants requested the grant of a European patent based on the documents of the main request.

Claims 1 reads as follows:

A traversing motion for use with apparatus for winding continuous elongate elements, said traversing motion comprising: a scroll cam means having a rotatable cylindrical body (5) and an endless cam groove (6) consisting of at least one right-handed and one left-handed helical groove provided on a surface of said cylindrical body (5), the grooves merging with each other at both ends thereof; and a second cam groove (25) formed in superposed relationship with said endless cam groove (6) at least in each of the end portions around turning points thereof; and for guiding said elements, guide means (11) provided with a cam follower (10) to fit into said helical grooves of said scroll cam means for reciprocal movement of the guide means (11) in parallel with the rotation axis of said cylindrical body (5) of said scroll cam means, said cam follower being pivotably attached to said guide means and elongate in the direction of displacement along said helical grooves, said guide means having a further cam follower (9) to fit into said second cam groove (25), said further cam follower being cylindrical and coaxial with said elongate cam follower (10), characterized in that said elongate cam follower (10) has opposite side surfaces
defined by two similar partial cylindrical surfaces merging with each other at the ends thereof at an acute angle, in that said second cam groove (25) has a greater lead angle than said endless cam groove (6) over a predetermined distance adjacent each end of said cam means, and in that said endless cam groove (6) is such that, considering a developed view thereof, the inner wall (18) of the cam groove (6) extends substantially linearly to each turning point whilst the outer wall (19) of the cam groove extends parallel with said inner wall to a first point slightly before a point (16) where the lead angle changes, tapers outwardly from said first point to a second point slightly before the associated turning point (17) so as to gradually increase the distance from said inner wall to a first point

slightly before a point (16) when the lead angle changes, tapers outwardly from said first point to a second point slightly before the associated turning point (17) so as to gradually increase the distance from said inner wall (18), and merges at the second point into an arc (20) around said turning point (17).

In the event that the Board should come to the conclusion that this request would have to be refused , they further requested the grant of the alternative Claims 1 to 3 together with the accordingly revised description, both received on 11 July 1985.

The alternative Claim 1 reads as follows:

A traversing motion for use with apparatus for winding continuous elongate elements, said traversing motion comprising: a scroll cam means having a rotatable cylindrical body (5) and an endless cam groove (6) consisting of at least one right-handed and one left-handed helical groove provided on a surface of said cylindrical body (5), the grooves merging with each other at both ends thereof; and second cam groove (25) formed in superposed relationship with said endless cam groove (6) at least in each of the end portions around turning points thereof; and for guiding said elements, guide means (11) provided with a cam follower (10) to fit into said helical grooves of said scroll cam means for reciprocal movement of the guide means (11) in parallel with the rotation axis of said cylindrical body (5) of said scroll cam means, said cam follower being pivotably attached to said guide means and elongate in the direction of displacement along said helical grooves, said guide means having a further cam follower (9) to fit into said second cam groove (25), said further cam follower being cylindrical and coaxial with said elongate cam follower (10), characterized in that said

elongate cam follower (10) has opposite side surfaces defined by two similar partial cylindrical surfaces merging with each other at the ends thereof at an acute angle, in that said second cam groove (25) has a greater lead angle than said endless cam groove (6) over a predetermined distance adjacent each end of said cam means, and in that said endless cam groove (6) is such that, considering a developed view thereof, the inner wall (18) of the cam groove (6) extends substantially linearly to each turning point whilst the outer wall (19) of the cam groove extends parallel with said inner wall to a first point slightly before a point (16) where the lead angle changes, tapers outwardly from said first point to a second point slightly before the associated turning point (17) so as to gradually increase the distance from said inner wall to a first point slightly before a point (16) when the lead angle changes, tapers outwardly from said first point to a second point slightly before the associated turning point (17) so as to gradually increase the distance from said inner wall (18), and merges at the second point into an arc (20) around said turning point (17) whereby, within said predetermined distance adjacent each end of said cam means, guidance and acceleration of said guide means (11) is effected by engagement of the further cam follower (9) with said second cam groove (25) whilst the elongate cam follower (10) is slidably engaged in the groove (6) and smoothly reverses direction.

V. During the oral proceedings held on 16 July 1985, to which the appellants were duly summoned, the Board drew attention to the fact that by amendments effected in both of the two submitted descriptions, new subject matter extending beyond the content of the application as filed has been added, and thus Article 123 (2) EPC would be contravened. In reply, the appellants asserted that these amendments

merely constituted clarifications of obscurities in the particular passages referred to in order to make them consistent with the disclosure of the application as a whole.

REASONS FOR THE DECISION

1. The appeal complies with Articles 106 to 108 and Rule 64 EPC and is, therefore, admissible.

2. The main issue to be considered in the present case is whether the two effective descriptions have been amended in the passages referred to in paragraph IV merely by way of correction (Rule 88 EPC) in such a way that it is obvious that nothing else has originally been intended or, conversely, subject matter has been added which extends beyond the content of the application as filed so that the amendments would contravene the requirements of Article 123 (2) EPC.

3. The relevant question seems to be whether the original application contains sufficient information so as to allow the skilled person to derive the subject matter of the amended application directly and unambigously from the original disclosure.

3a. The reader of the original application can see from the original pages 3 and 4 of the application that the problem of the application is to ensure the more faithful following of a cam groove by the follower in the vicinity of the turning points where the lead angle is increased. The solution of this problem is based on the idea of taking over the guiding function of the strand guide means at least temporarily by a non-elongate cam follower which is

forced to follow a superposed second cam groove provided with the increased lead angle in the region leading to and departing from the turning points, without the elongate cam follower impeding such guiding function in any way.

Consequently, the elongate cam follower must become temporarily inoperative while the cylindrical cam follower becomes operative, as it easily responds to the change of the lead angle (cf. page 13, lines 12 to 16) of the second groove.

3b. In order to realise this idea, the application as filed teaches releasing or disengaging the elongate cam follower from the respective helical cam groove by widening the latter sufficiently so that contact therewith is lost and free passage of the follower is allowed. It is clear to the skilled reader that in this manner the elongate cam follower no longer exerts any influence on the strand guide means during the short span of time when it passes the widened zone, while the non-elongate (cylindrical) cam follower is moving in engagement with the superposed second cam groove within the acceleration zone defined by the two successive lead angle changing points (cf. page 6, lines 15 to 19, page 9, lines 3 to 5, page 11, line 5, page 12, lines 31 to 35).

In this way, the cylindrical cam follower can smoothly follow the predescribed motion in the acceleration zone at each end of the scroll cam (cf. page 13, lines 16-18), a motion which is forced upon the cam follower by the second groove, not by the first one.

3c. As already pointed out, the appellants have expanded the object of the invention in a sense so as to permit the elongate cam follower to follow the endless groove not only faithfully but also smoothly at high speed even at the reversing zones and in conjunction with the increased lead angle in these zones. The Board cannot find anything in the original disclosure in support of such alteration.

Further, the effective description in particular on page 9, lines 4 and 5, has been altered from reading "the disengagement of the ship-shaped cam follower from the groove" to reading "a release of the boat-shaped cam follower from its guiding function". In the Board's opinion, this wording has been brought into line with the altered problem, i.e. with the required smooth following of the endless groove, in that the elongate cam follower should now not become disengaged from the helical groove although its movement is no longer controlled by the latter. Hence, the skilled reader now must gather that the movement of the cam follower not only is exclusively controlled by the motion of the non-elongate cam follower guided in the second cam groove but also that sliding engagement of the elongate cam follower ought to be retained. The further amendments effected on page 12, line 31, support the Board's interpretation that the elongate cam follower should now no longer be released by the side walls proper of the (helical) or first cam groove, but rather merely from control thereby. Moreover, the additional amendments introduced on page 13, line 13, to the effect that the release of the elongate cam follower from its cam groove should instead be a release "from guidance by" the cam groove, underlines the Board's interpretation.

3d. Confronted with these changes and their implications, the appellants asserted during the oral proceedings, however, that the various amendments effected were introduced merely to clarify the description as filed by elimination of an alleged contradiction arising from the second paragraph, page 8 bridging to page 9, second sentence, which, if properly construed by particularly relying on the statement made in lines 30 to 34 on page 8, unequivocally points to each cam follower remaining in engagement with its respective groove, while other parts of the description in the passages in dispute prior to amendment erroneously say the opposite. The Board, however, cannot follow this reasoning, for this paragraph up to line 34 merely gives a general explanation that both cam followers are engaged in the respective cam groove at a time, without, however, precisely stating when such engagement ought to commence or cease. Because of this inaccuracy further clarifying information is added in the sentence immediately following.

Contrary to the appellants' allegations the description as amended teaches something different from what was previously intended, namely firstly that the invention now envisages permitting the elongate cam follower to follow the endless groove faithfully and smoothly at high speed even in the reversing zones and secondly that this is attained by the elongate cam follower merely being released from the guiding function or control of its cam groove but still maintaining contact with said groove. This by no means amounts to the resolution of an alleged inconsistency but rather serves to disguise the real original content of the application.

Moreover, since in three successive places in the description the disengagement or release and the free passage of the elongate cam follower and in particular the proper timing of these events is duly and consistently reiterated so that the first and more general mention of their engagement with the respective grooves must be construed accordingly, then no contradiction can reasonably arise simply because the first reference to the matter is not specific as to the time of the engagement. Therefore, the Board cannot find any discrepancy between the wording of these relevant passages in relation to the passages immediately preceding them.

3e. Hence, there is no doubt as to the problem to be solved by the original application involving a cam follower faithfully following a cam groove in the vicinity of the turning points and the solution to be attained by disengaging the elongate cam follower from its groove and establishing secure guiding engagement of the cylindrical cam follower in a superposed groove at that location.

From this it must be deduced that there is likewise no doubt as to what the traverse motion of the device according to the application in suit as filed ought to achieve nor is there any doubt how such aim is to be attained.

3f. Hence no sufficient information can reasonably be perceived in the original application which would allow the skilled person to derive the problem and the solution now introduced by the appellants in a direct and unambigous way.

3g. In dealing with the most pertinent prior art, in their grounds for appeal and in the oral proceedings, the appellants have emphasised that due to the release of the elongate cam follower from the contact with the groove walls,i.e. the loss of contact,a detrimental degree of chatter would occur at the reversing zones of the prior art embodiments when extremely high speeds of reciprocation are attained and they argued that in contradistinction thereto the elongate cam follower of the invention would overcome this drawback by avoiding such loss of contact. In order to be able to rely on this apparently decisive feature hitherto missing in the application in the assessment of non-obviousness, the appellants clearly introduced it by the amendments in dispute and made reference to the release from its guiding or control function which tacitly embraces maintenance of contact with the groove walls.

3h. In conclusion, the Board finds that the appellants have amended the description at the passages indicated above in such a way that the skilled person could be led to construe the newly introduced wording as teaching the guiding function or control is imposed by the elongate cam follower remaining in contact with the side walls of the groove whereas previously this contact was to be interrupted.

Therefore, the applications according to both the main and alternative requests have been amended in the identical inadmissible manner so as to introduce subject matter not originally present. This is clearly in contravention of the requirements of Article 123 (2) EPC and hence cannot be allowed. Thus for this sole reason the application has to be refused in toto.

4. In view of the conclusion arrived at in the preceding paragraph, the Board is not called upon to assess the presence of an inventive step or to deal with any other matter of substance raised in the proceedings.

5. The requested reimbursement of the appeal fee, for which the appellants have shown no cause, may only be ordered in a case in which the appeal is deemed to be allowable. This requirement is not met in the present case.

ORDER

For these reasons it is decided that

1. The appeal against the decision of the Examining Division of 13 April 1984 is dismissed.

2. The reimbursement of the appeal fee is refused.

The Registrar | The Chairman

B A Norman | G Andersson