BESCHWERDEKAMMERN DES EUROPÄISCHEN PATENTAMTS

BOARDS OF APPEAL OF THE EUROPEAN PATENT OFFICE

CHAMBRES DE RECOURS DE L'OFFICE EUROPEEN DES BREVETS

Internal distribution code:
(A) [ ] Publication in OJ
(B) [ ] To Chairmen and Members
(C) [ ] To Chairmen
(D) [X] No distribution

Datasheet for the decision of 21 February 2013

Case Number: T 1474/08 - 3.4.01

Application Number: 02707152.1

Publication Number: 1333290

IPC: G01P 3/487, G01P 1/04, G01D 5/12, B62J 39/00

Language of the proceedings: EN

Title of invention:
Rotation Detector

Applicant:
NIPPON SEIKI Co., LTD.

Headword:
-

Relevant legal provisions:
EPC Art. 123(2)

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

Keyword:
"Novelty (yes)"
"Inventive step (yes)"

Decisions cited:
-

Catchword:
-

Europäisches Patentamt | European Patent Office | Office européen des brevets

Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 1474/08 - 3.4.01

D E C I S I O N
of the Technical Board of Appeal 3.4.01
of 21 February 2013

Appellant: (Applicant)
NIPPON SEIKI CO., LTD.
2-34, Higashi-Zaoh 2-chome
Nagaoka-shi
Niigata 940-8580 (JP)

Representative:
Jackson, Richard Eric; Holtly C.L.
Carpmaels & Ransford
One Southampton Row
London WC1B 5HA (GB)

Decision under appeal:
Decision of the Examining Division of the European Patent Office posted 26 February 2008 refusing European patent application No. 02707152.1 pursuant to Article 97(2) EPC.

Composition of the Board:

Chairman: G. Assi
Members: P. Fontenay
A. Pignatelli

Summary of Facts and Submissions

I. The appeal lies from the decision of the examining division to refuse the European patent application No. 02 707 152.1. The decision was remitted to the post on 26 February 2008.

The decision relied on the finding that the subject-matter of independent claim 1 of both requests then on file was not inventive in view of document EP-A-793 101 (D1) when considering the additional teaching of document DE-U-93 15 586 (D4).

II. The appellant (applicant) filed an appeal against the above decision by notice of appeal received on 6 May 2008. The prescribed appeal fee was paid on the same day. The written statement setting out the grounds of appeal was received on 7 July 2008. It was requested that the decision under appeal be set aside and that the application be allowed to proceed to grant on the basis of the main request underlying the decision under appeal.

In the statement of grounds, the appellant presented arguments which, in its opinion, established that the claimed invention was inventive when considering documents D1 and D4. The appellant, more particularly, contested the view of the examining division that D4 dealt with the same technical problem as the invention and underlined, in this respect, that the problem defined by the examining division was excessively broad. Moreover, the configuration disclosed in D4 differed fundamentally from the one disclosed in D1 thus rendering the adaptation of the rotation detecting

device of document D1 in view of document D4 quite improbable.

III. On 14 November 2012, summons to attend oral proceedings were issued.

In a communication pursuant to Article 15(1) Rules of Procedure of the Boards of Appeal (RPBA) dated 4 December 2012, the Board expressed its provisional opinion with regard to the main request then on file. In this respect, the Board indicated that it was inclined to share the analysis developed by the examining division in its decision and its conclusion that the claimed subject-matter was not inventive in the sense of Article 56 EPC 1973.

IV. With letter of reply dated 18 January 2013, the appellant confirmed that the first auxiliary request underlying the decision under appeal remained standing and filed additional second and third auxiliary requests.

V. Oral proceedings before the Board took place on 21 February 2013 in presence of the appellant's representative.

During the oral proceedings, the appellant requested, as a single request, that the decision under appeal be set aside and that a patent be granted in the following version:

description pages 1-20,
claims 1-9,
drawing sheets 1/5 - 5/5,

all filed during the oral proceedings.

VI. Claim 1 of the appellant's request reads:

"*A rotation detecting device (A) for detecting rotation of a body (5, 15, 25) with a wheel (10), comprising:*

the body (5, 15, 25) mounted on an insertion portion (1a) of a housing (1), through which an axle shaft (S) is inserted, wherein rotation of the body (5, 15, 25) is detected by magnetism detecting means (3), and the body (5, 15, 25) being detected comprises:

a detecting portion (5a, 15a, 25a), rotation of which is detected by the magnetism detecting means (3), and

a rotation transmitting portion (5c, 15c, 25c) for transmitting rotation of the wheel (10) to the detecting portion (5a, 15a, 25a), the rotation transmitting portion (5c, 15c, 25c) having a plurality of pieces (5b, 15b, 25b) fittable into a mount portion (10b) provided on a hub (10a) of the wheel (10), characterised in that the rotation transmitting portion (5c, 15c, 25c) is made of an elastic member such that the plurality of pieces (5b, 15b, 25b) deform if the rotation transmitting portion is mounted in an inappropriate state in which the plurality of pieces (5b, 15b, 25b) are not fitted into the mount portion (10b), and the pieces restore to their original state if the rotation transmitting portion is disengaged from the mount portion (10b)."

Claims 2 to 9 depend on claim 1.

Reasons for the Decision

1. *Applicable law*

This decision is issued after the entry into force of the EPC 2000 on 13 December 2007 whereas the present application was filed before this date. Reference is thus made to the relevant transitional provisions for the amended and new provisions of the EPC, from which it may be derived which Articles and Rules of the EPC 1973 are still applicable to the present application and which Articles and Rules of the EPC 2000 are to apply. When Articles or Rules of the former version of the EPC are cited, their citations are followed by the indication "1973" (cf. EPC, Citation practice).

2. *Admissibility of the appeal*

The notice of appeal and the corresponding statement of grounds comply with the requirements of Articles 106 to 108 EPC and Rule 99 EPC. The appeal is, thus, admissible.

3. Added subject-matter (Article 123(2) EPC)

Claim 1 has been amended with regard to original claim 1 by specifying the properties of the plurality of pieces of the rotation transmitting portion. Concretely, current claim 1 now recites that these pieces deform if the rotation transmitting portion is mounted in an inappropriate state in which the plurality of pieces are not fitted into the mount portion, and restore to their original state if the rotation transmitting portion is disengaged from the

mount portion. A basis for these amendments may be found in paragraphs [0010] and [0035] of the published application.

Dependent claims 2 to 9 correspond to original claims 2 to 9, the wording of claim 8 having been amended for reasons of clarity.

With regard to the description, the Board has no objections.

The requirements of Article 123(2) EPC are therefore met.

4. *Novelty (Article 54 EPC 1973)*

Document D1 is a family member of document JP-A-9-229714 referred to in paragraph [0003] of the application as published. It was filed by the same applicant as for the present application.

Document D1 discloses (cf. Figures 2 and 3) a rotation detecting device (A) for detecting rotation of a body (6) with a wheel (10). The body (6) is mounted on an insertion portion (1a) of a housing (1) through which the axle shaft (S) of a wheel is to be inserted. Rotation of the body is detected by magnetism detecting means (3) (cf. column 3, line 52 - column 4, line 2; column 4, lines 42-51). Moreover, the body being detected comprises a detecting portion (6a), rotation of which is detected by the magnetism detecting means (3), and a rotation transmitting portion (6b) for transmitting rotation of the wheel (10) to the detecting portion (6a). Furthermore, the rotation

transmitting portion (6b) has a plurality of pieces (6b) fittable into a mount portion (10b) provided on a hub (10a) of the wheel (10).

The features recited in the preamble of claim 1 are therefore known in combination from document D1.

As a matter of fact, the body being detected in D1 "*is comprising, for example, a plastic magnet or the like, in which a cylindrical portion 6a for inserting the inserting portion 1a of the housing 1 is formed and a plurality of rotation support pieces 6b extended outwardly from the periphery of the cylindrical portion 6a for rotating the cylindrical portion 6a in synchronism with the front wheel, are formed on the side of a contact face of the cylindrical portion 6a for getting in contact with a hub of the front wheel...*" (cf. column 5, lines 18-26). Document D1 does not elaborate any further on the properties of the support pieces.

The subject-matter of claim 1 thus differs from the device disclosed in D1 by the characterising features, in particular, by the fact that the rotation transmitting portion is made of an elastic member.

None of the other prior art documents on file discloses the features of claim 1 in combination.

For these reasons, the Board concurs with the examining division and appellant in their finding that the claimed device is new in the sense of Article 54 EPC 1973.

5. *Inventive step (Article 56 EPC 1973)*

5.1 Since document D1 not only reproduces all the features of the preamble of claim 1 but also discloses rotation detectors of a similar construction as those corresponding to the embodiments of the present invention it qualifies as closest prior art.

The claimed elastic nature of the rotation transmitting portion allows the plurality of pieces to deform if the rotation transmitting portion is mounted in an inappropriate state in which the plurality of pieces are not fitted into the mount portion and to restore to their original state if the rotation transmitting portion is disengaged from the mount portion.

5.2 The objective problem solved by the claimed invention with regard to document D1 may thus be defined as avoiding breakage of the rotation transmitting pieces in case the rotation detecting device is mounted in an inappropriate state (cf. paragraph [0007] of the application as published). This permits further attempts when mounting the rotation transmitting portion in case it was not mounted appropriately with the plurality of pieces engaging the corresponding recesses in the hub (cf. paragraph [0010], [0035]).

During the oral proceedings before the Board, the appellant reiterated its view that document D4 related to a fundamentally different construction intended for completely different purposes and would therefore not have been considered by the skilled person.

The Board rejects this first point of the appellant's argumentation. Although the Board acknowledges that the device of D4 indeed differs substantially from the claimed device and does not relate to a rotation detecting device for a body with a wheel, it is nevertheless of the opinion that the disclosure of D4 would have been considered by the skilled person when looking for a solution to the above problem. It is namely established jurisprudence of the boards of appeal that the skilled person would also consider documents in neighbouring fields i.e., under the present circumstances, in fields somehow concerned with rotation detecting detectors.

Document D4 pertains to such a device for application in vehicles or washing machines (cf. page 1, lines 6-13). The Board is, however, convinced by the validity of the appellant's argument according to which document D4 does not actually address the problem of the invention of parts breaking during assembly as a result of inappropriate mounting. As a matter of fact, document D4 focuses on the need for a secure fixing of a magnet on a drive shaft, that is, the need for a robust fitting of the magnet on the drive shaft able to withstand high mechanical and thermal constraints (cf. D4, page 2, lines 9-16). The problem of breaking elements is not even hinted at in document D4.

In consequence, the Board concludes that the content of document D4 does not give any hint at the claimed implementation of elastic fingers when mounting two cooperating pieces together in order to prevent breakage. A different approach would be tantamount to hindsight.

5.3 In this respect, the analysis relied upon by the examining division to deny the existence of an inventive step is not convincing.

The definition of the "*basic problem of the prior art*" made by the examining division with regard to document D1 in section 1.2 of the "*Reasons for the decision*" appears to reflect, in essence, the definition of the objective problem made above as to the risks of breaking the transmitting portion. However, for no apparent reasons, the examining division reformulated said technical problem as relating to "*providing a device which will tolerate such "inappropriate" mounting*". Relying then on the new formulated problem, the examining division went on by acknowledging, in following section 1.3, that document D1 dealt with the same problem and finally observed, with particular reference to page 6 of document D4, that the fingers of the pressure disk used to fix the magnet did not break if mounted in an inappropriate position.

It is not justified, in the Board's judgement, to reformulate the technical problem in the way it was done by the examining division. It is, namely, observed that the "*basic problem*" identified by the examining division is realistic and reflects the teaching of the patent application as it results from paragraph [0007] of the published application. The reformulated problem, on the contrary, does not refer to the actual drawback resulting from the fingers of the transmitting portion being irreversibly damaged. By doing so, the definition of the problem has been extended to situations where inappropriate mounting constitutes the sole issue at

stake independently of whether or not parts might be broken. Such an approach is, as such, illustrative of hindsight. In general, reformulation of a technical problem should be justified under certain circumstances. This may be the case, for example, when the problem acknowledged by the applicant appears too artificial or speculative or, when the problem, as a result of an unjustified generalisation of the claimed subject-matter, is no more solved in the whole scope of the claims. In any event, if not straightforward, the reformulation of a technical problem must be justified by the instance taking the refusing decision in order to permit its review.

In order to avoid any misunderstanding, the Board leaves open the question whether the elastic pressure fingers of D4 would solve the objective problem addressed by the present invention. The Board solely emphasizes that the logical link, which would have justified the implementation of the structure disclosed in D4 in the device of D1, is missing.

5.4 Documents DE-A 30 09 055 (D2) and US-A-3 949 841 (D3) disclose speed sensors with configurations making them even less likely to be implemented in the device of document D1. The other documents cited during the examination proceedings are not relevant.

5.5 In conclusion, the subject-matter of independent claim 1 does not derive in an obvious manner from the available prior art. It thus meets the requirements of Article 56 EPC 1973.

6. In the Board's view, the present application meets the requirements of the EPC.

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 department with the order to grant a patent in the following version:

description pages 1-20,
claims 1-9,
drawing sheets 1/5 - 5/5,

as received during the oral proceedings of 21 February 2013.

The Registrar The Chairman

R. Schumacher G Assi