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**Datasheet for the decision  
of 18 December 2014**

**Case Number:** T 1336/12 - 3.2.08  
**Application Number:** 03780663.5  
**Publication Number:** 1573227  
**IPC:** F16H1/32, F16H3/76  
**Language of the proceedings:** EN  
**Title of invention:**  
VARIABLE-RATIO TRANSMISSION DEVICE

**Applicants**

Orbitech Engineering S.r.l.

**Headword:**

**Relevant legal provisions:**

EPC Art. 83

**Keyword:**

Sufficiency of disclosure - (no)

**Decisions cited:**

**Catchword:**



**Beschwerdekammern  
Boards of Appeal  
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Case Number: T 1336/12 - 3.2.08

**D E C I S I O N**  
**of Technical Board of Appeal 3.2.08**  
**of 18 December 2014**

**Appellants:** Orbitech Engineering S.r.l.  
(Applicants) Via Amedeo Avogadro 24  
10121 Torino (IT)

**Representative:** Garavelli, Paolo  
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10146 Torino (IT)

**Decision under appeal:** **Decision of the Examining Division of the  
European Patent Office posted on 10 February  
2012 refusing European patent application No.  
03780663.5 pursuant to Article 97(2) EPC.**

**Composition of the Board:**

**Chairwoman:** P. Acton  
**Members:** M. Alvazzi Delfrate  
C. Schmidt

## Summary of Facts and Submissions

- I. By its decision posted on 10 February 2012 the examining division refused European patent application No. 03 780 663.5, on the basis of Article 83 EPC.
- II. The appellants (applicants) lodged an appeal against this decision on 5 April 2012, paying the appeal fee on the same day. The statement of grounds for appeal was filed on 25 May 2012.
- III. Oral proceedings before the Board of Appeal, as requested by the appellants, were held on 18 December 2014. As announced by letter of 9 September 2014, the appellants did not attend those oral proceedings, which were continued without them (Rule 115(2) EPC).
- IV. In the written procedure the appellants requested that the decision under appeal be set aside and that the application be granted. As made clear in the Board's communication dated 29 April 2014, it is assumed that this request is based on the claims underlying the decision under appeal, i.e. those filed on 22 July 2010.
- V. Claim 1 underlying the decision under appeal reads as follows:

"Variable-ratio transmission device characterised in that it comprises:

- a support shaft (1);
- an hollow shaft (5) rotatably assembled onto said support shaft (1);
- a support (9) assembled onto said hollow shaft (5) in a rotating way with respect to said hollow shaft (5)

around a slanted axis with respect to an axis of said support shaft (1);

- a plurality of rollers or teeth (10) arranged in a circular series on said support (9);
- a wheel (12) assembled idle onto said support shaft (1), equipped with a front tothing (11) adapted to be engaged by said rollers or teeth (10) assembled on said support (9);
- a rotation of said hollow shaft (5) subjecting said support (9) to an orbital movement adapted to take said teeth or rollers (10) of said support (9) to engage said tothing (11) of said idle wheel (12),
- means adapted to establish a connection between said wheel (12) and a user to which motion is transmitted,

characterised in that the device further has:

- means adapted to axially slide said support (9) or said wheel (12) with respect to said support shaft (1);
- and
- on said toothed wheel (12), from an opposite part to said front tothing (11), a further front tothing (11') that engages the rollers of a second support (9') assembled with its axis slanted on an hollow shaft (5') that is also assembled onto said shaft (1), said second hollow shaft (5') being connected to a user such as an hub of a velocipede."

VI. The appellants' arguments submitted with the statement of grounds of appeal can be summarised as follows:

From the description and from Figure 1 it was clear that the variable transmission of the inventive device was due to the variation of the work orbit, which was the result of a translation of the inclined plane that slid on a double pivot.

This mechanism did not work as a gear. The transmission ratio resulted from the difference of the contact points between the cask-shaped cylinders and the spaces where the thrust takes place. Moreover, the variability was created by matching the difference between spaces where the thrust takes place, cask-shaped cylinders and the orbit variation.

Therefore, the invention was sufficiently disclosed.

In the letter of 9 September 2014 the appellants further submitted that, since they deemed that the only way to explain the innovative solution was showing a prototype working as disclosed in the application, but they were not sure whether the Board of Appeal will consider this allowable, they decided not to attend the oral proceedings.

## **Reasons for the Decision**

1. The appeal is admissible.
2. Article 83 EPC
  - 2.1 In the decision under appeal the examining division held the view that the person skilled in the art is not able to arrive at a variable-ratio transmission according to claim 1 because it is not clear how a variation of the ratio of the transmission in claim 1 is brought about. In particular, the examining division considered that it does not seem to be possible and the application does not disclose any further details how

the gear teeth have to be designed to provide the variable transmission.

- 2.2 It is true that variable-ratio transmission can be realised by the variation of the work orbit and that a the mechanism realising it does not have to work as a gear. However, the application in suit does not disclose how this variability is obtained in the invention. Figures 1 and 2 and the corresponding text of the description, although describing that the support 9 performs an angular and an orbital movement, fails to teach how these movements are to be realised in a way which results in a variable-ratio transmission, in particular by the axial sliding movement of the support or the wheel.

Moreover, despite stating in the grounds of appeal that the invention does not work as a gear, the appellants fail to explain how the cask-shaped cylinders i.e. the teeth/roller (10) of the device are supposed to be designed in order to achieve the desired variable-ratio transmission taking into consideration the difference between the spaces and the orbit variation.

Hence, the information provided by the application is not sufficient to understand how the variation of the transmission ratio is to be realised by the invention.

This is supported by the appellants' statement that the only way to explain the innovative solution would be to show a prototype working as disclosed in the application.

- 2.3 Therefore, the application in suit does not disclose the invention in a manner sufficiently clear and

complete for it to be carried out by a person skilled  
in the art.

**Order**

**For these reasons it is decided that:**

The appeal is dismissed.

The Registrar:

The Chairwoman:



V. Commare

P. Acton

Decision electronically authenticated