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**D E C I S I O N**  
**of 12 October 2004**

**Case Number:** T 1227/01 - 3.2.3

**Application Number:** 94900844.5

**Publication Number:** 0670950

**IPC:** E21B 10/64, E21B 10/40,  
E21B 7/20

**Language of the proceedings:** EN

**Title of invention:**  
Drilling apparatus

**Patentee:**  
JARVELA, Jorma. et al

**Opponent:**  
Sandvik AB

**Headword:**  
-

**Relevant legal provisions:**  
EPC Art. 123(2)

**Keyword:**  
"Additional subject-matter (yes)"

**Decisions cited:**  
T 0331/87, G 0004/93

**Catchword:**  
-



Case Number: T 1227/01 - 3.2.3

**D E C I S I O N**  
of the Technical Board of Appeal 3.2.3  
of 12 October 2004

**Appellant:** Sandvik AB  
(Opponent) S-811 81 Sandviken (SE)

**Representative:** Lieke, Winfried, Dr.  
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**Respondent:** JARVELA, Jorma  
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**Representative:** DIEHL GLAESER HILTL & PARTNER  
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**Decision under appeal:** Interlocutory decision of the Opposition  
Division of the European Patent Office posted  
21 September 2001 concerning maintenance of  
European patent No. 0670950 in amended form.

**Composition of the Board:**

**Chairman:** C. T. Wilson  
**Members:** J. B. F. Kollar  
M. K. S. Aúz Castro

## Summary of Facts and Submissions

I. The appeal of the patent proprietors contests the interlocutory decision of the opposition division dated 3 July 2001, issued in writing on 21 September 2001, to maintain the European patent 0 670 950 in amended form on the basis of an auxiliary request. The amended independent claim 1 found in the contested decision to meet the requirements of the EPC, in particular of Articles 52 to 57 and 123(2), reads as follows:

"1. Drilling apparatus including a drilling device (1) that is intended to be fed into a hole to be drilled and which is preferably extendable in the longitudinal direction (s), wherein

the drilling device comprises a casing part (2) essentially inside of which there is at least during a drilling situation a drilling unit (3), in the drilling head (I) of which there are at least a first drilling means (4) for drilling a center hole (R) and a second drilling means (5) for reaming the center hole (R) for the casing part (2) as well as flushing means (6) for removal of the drilling waste,

whereby at least during the drilling situation the rotational movement (w4) around the longitudinal axis (s) and the impact movement (t4) in the longitudinal direction of the first drilling means (4) is transmitted by a counterpart assembly to the second drilling means (5) that is drivingly connected to the first drilling means (4)

essentially at the drilling head (I) of the drilling unit (3),

wherein the second drilling means (5) is arranged to rotate in connection with the head (I') of the casing part (2) centrically around the longitudinal axis (s) by a coupling assembly (L),

whereby the first drilling means (4) is arranged detachable from the second drilling means (5) for removing the first drilling means (4) from the prepared hole, while at least the second drilling means (5) is left in the bottom of the hole,

wherein at least a first organs (6a) of the flushing means (6) for leading the flushing medium to the drilling point is arranged through the drilling surface of the first drilling means (4) by one or preferably several eccentric flow channels,

and a second organs (6b) of the flushing means (6) for scavenging of the drilling waste are arranged to lead the waste essentially through the drilling surface of the first drilling means (4) and/or the second drilling means (5) inside the casing part (2), and

whereby the effective diameter (RD) of the first drilling means (4) is at least 60%, preferably more than 75% of the inner diameter (2d) of the casing part (2) and

the counterpart assembly comprises a first assembly (V1) and a second assembly (V2), with the first assembly (V1) facilitating rotation of a second frame part (5a) of the drilling head (I) during the drilling situation by influence of the rotational movement (w4) of a first frame part (4a) of the drilling head (I) and separation of the first frame part (4a) from the second frame part (5a) in the longitudinal direction (s) after the drilling situation, with the first frame part (4a) being linked to the first drilling means (4) and the second frame part (5a) being linked to the second drilling means (5),

characterized in that

the first assembly (V1) comprises a projection-recess assembly (13a, 13b) providing a connection by the bajonet-principle, with the projection-recess assembly (13a, 13b) comprising at least one longitudinal recess assembly (13b),

wherein said at least one longitudinal recess assembly (13b) at least partly also functions as said second organs (6b) of said flushing means (6), and

in said second assembly (V2) a first recess-projection assembly (7a, 7b) physically distinct from the projection-recess assembly (13a, 13b) of the first assembly (V1) enables directing impact movement (t4) transmitted by the first frame part (4a) to the second frame part (5a)."

- II. The notice of appeal was filed by the patent proprietors (hereinafter denoted appellants) on 3 December 2001. The appeal fee was likewise paid on 3 December 2001 and a statement of the grounds of appeal was submitted on 31 January 2002.
- III. With the statement of grounds the appellants submitted an amended main claim which differed from claim 1 as maintained in the decision under appeal by omitting the feature "the effective diameter of the first drilling means is at least 60%, preferably more than 75% of the inner diameter of the casing part."
- IV. In a communication accompanying the invitation to oral proceedings, the Board of Appeal expressed the opinion that the subject-matter of new claim 1 appeared to have been extended as compared to the original application.
- V. Oral proceedings were held on 12 October 2004 in the absence of the Respondent (Opponent).

At the end of these oral proceedings the appellants requested to set aside the impugned decision and to maintain the patent on the basis of claims 1 to 7 of the main request submitted on 31 January 2002.

The respondent (opponent) had requested in writing that the appeal be dismissed.

- VI. The arguments of the appellants can be summarized as follows:

It is admitted that the application as originally filed discloses several pieces of prior art and points out

that in all of them the diameter of the center drill is only 50% of the diameter of the casing part.

It is argued that the wording of the feature deleted from claim 1 as maintained indicates to the skilled reader, that the measures following it in the description serve to optimize the size of the first drilling means. This wording thus explains to the skilled person that most favorable results are achieved by so selecting the center drill effective diameter. "Most favorable", however, is quite distinct from "essential," reference being made in this context to T 331/87, OJ 1991, 22. The numerical limit for the center drill effective diameter is thus not disclosed as being essential in the application, but is merely presented as the invention's most favorable result. That is, by applying the constructional features described in the application, the result is that one can, but must not, arrange the effective diameter of the first drilling means to be at least 60% preferably more than 75% of the inner diameter of the casing part, the invention lying in these constructional features.

Therefore, it is submitted that claim 1 from which the feature specifying the diameters ratio of the drilling means according to claim 1 maintained by the first instance has been deleted does not violate the requirement of Article 123(2) EPC.

## **Reasons for the Decision**

1. The appeal is admissible.

2. *Allowability of the amendments*

2.1 Claim 1 relates to a drilling apparatus of the kind disclosed in claim 1 as maintained by the first instance but does not specify that "the effective diameter of the first drilling means is at least 60%, preferably more than 75% of the inner diameter of the casing part" as disclosed in the originally filed specification.

Thus it is to be examined whether the excision of said feature conflicts with the requirements of Article 123(2) EPC, or not.

2.2 In accordance with the decision T 331/87, OJ EPO 1991, 22 (see point 3 of the reasons) referred to by the appellants, for the determination whether an amendment of a claim does or does not extend beyond the subject-matter of the application as filed, it is necessary to examine if the overall change in the content of the application originating from this amendment (whether by way of addition, alteration or excision) results in the skilled person being presented with information which is not directly and unambiguously derivable from that previously presented by the application, even when account is taken of matter which is implicit to a person skilled in the art in what has been expressly mentioned. In particular, according to the above-mentioned decision (see point 6 of the reasons),

(A) the replacement or removal of a feature from a claim may not violate Article 123(2) EPC provided the skilled person would directly and unambiguously recognise that



- (1) the feature was not explained as essential in the disclosure
- (2) it is not, as such, indispensable for the function of the invention in the light of the technical problem it serves to solve, and
- (3) the replacement or removal requires no real modification of other features to compensate the change;

(B) moreover, any replacement by another feature must be examined for support in the normal manner.

2.3 The discussion of prior art referring to documents D3 (GB-A-1 068 638) and D8 (GB-C-959 955) at pages 1 to 3 of the application as filed points out that the diameter of the center drill is only 50% of the diameter of the casing part. The problems caused by said dimensioning are identified at page 3, second paragraph of the description.

According to page 3, lines 29 ff of the description the aim of the present invention is seen in achievement of a decisive improvement in the problems known from the prior art.

To achieve this aim the drilling apparatus according to the invention is stated at page 3, lines 34 ff to be primarily characterised in that the effective diameter of the center drill is at least 60%, preferably more than 75% of the inner diameter of the casing part.

This diameters relationship is further disclosed at page 6, lines 2 to 6 in the description of Figure 1 as originally filed. It moreover forms the only characterising feature of claim 1 as originally filed.

The appellants' argument that this diameters relationship is not explained as being essential but merely as having optimized advantages over the alternative of the diameters ratio, namely 50%, being used in the apparatuses known in the prior art is not considered as relevant since said second possibility mentioned by the appellants is not presented in the application as filed as an alternative solution to the problems of the prior art but as the prior art itself.

Therefore, the Board comes to the conclusion that the feature of the diameters ratio was indeed explained as essential in the disclosure, such that its deletion results in a departure from the teaching of the original application and in disclosure of an invention which was neither foreseen nor originally disclosed.

- 2.4 In respect of the argument of the appellants that the skilled person reading the whole of the original application would understand the "60% relationship" to be merely the result of the invention and would therefore clearly realise that the invention itself must reside in the constructional features described in the application, the board would point out that such an argument could only possibly succeed if the constructional features claimed in the claim inevitably resulted in the "60% relationship". But this is clearly not the case, the constructional features merely

allowing the effective diameter of the first drilling means to be at least 60% of the inner diameter of the casing part if desired, as admitted by the appellants.

2.5 Claim 1 therefore fails to comply with the requirements of Article 123(2) EPC and is thus not allowable.

## **Order**

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

The appeal is dismissed.

The Registrar:

The Chairman:

A. Counillon

C. T. Wilson