

Veröffentlichung im Amtsblatt	Ja/Nein
Publication in the Official Journal	Yes/No
Publication au Journal Officiel	Oui/Non



Aktenzeichen / Case Number / N° du recours : T 170/82  
Anmeldenummer / Filing No / N° de la demande : 80 200 455.6  
Publikations-Nr. / Publication No / N° de la publication : 0 019 968

Bezeichnung der Erfindung:  
Title of invention: A system for detecting cracks in the heat-insulating  
Titre de l'invention : lining of a container for liquefied gas

### ENTSCHEIDUNG / DECISION

vom / of / du 14 September 1983

Anmelder / Applicant / Demandeur : Shell Internationale Research  
Maatschappij B.V.

Stichwort / Headword / Référence :

EPO / EPC / CBE Articles 52(1), 56  
"Inventive Step"  
"Mere difference in degree"

Leitsatz / Headnote / Sommaire

Europäisches  
Patentamt

Beschwerdekammern

European Patent  
Office

Boards of Appeal

Office européen  
des brevets

Chambres de recours



Case Number: T 170 / 82

**DECISION**  
of the Technical Board of Appeal 3. 2. 1  
of 14 September 1983

**Appellant:** SHELL INTERNATIONALE RESEARCH  
MAATSCHAPPIJ B.V.  
Carel van Bylandtlaan 30  
NL - 2596 HR DEN HAAG (NL)

**Representative:** Puister, A.T. Mr.  
P.O. Box 302  
NL - 2501 CH The Hague  
The Netherlands

**Decision under appeal:** Decision of Examining Division 189 of the European Patent  
Office dated 19 July 1982 refusing European patent  
application No 80 200 455.6 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. 80 200 455.6 filed on 14 May 1980 and published under publication No. 0 019 968 was refused by a decision of Examining Division 189 of the European Patent Office dated 19 July 1982. The decision was based on Claims 1 to 8 received on 19 April 1982.

The reason given for the refusal was that in view of the prior art disclosed by FR-A-2 256 365 and FR-A-2 235 332 the subject-matter of Claim 1 did not involve an inventive step within the meaning of Article 56 EPC and the claim was thus not allowable under Article 52(1) EPC.

II On 9 August 1982 the appellant lodged an appeal against the decision. The appeal fee was duly paid and the statement of grounds was received in due time.

The appellant argued that a person skilled in the art could not deduce the subject-matter of the invention from anything disclosed in the state of the art.

III As a result of objections raised by the Board of Appeal during the procedure before the Board, the appellant submitted new Claims 1 to 7, requested that the impugned decision be set aside and a European Patent be granted on the basis of the presently effective new claims. The effective Claim 1 reads as follows:

A system for detecting cracks in the heat-insulating lining of a container (1) for liquefied gas having a rigid outer shell (2) internally provided with a heat-insulating lining (3), wherein the crack detecting

system comprises a channelled layer (4), which channelled layer (4) is incorporated in the lining (3) and extends along a wall which has to be watched for the presence of a crack (12) in the heat-insulating lining (3) of the wall, wherein the channelled layer (4) is provided with a fluid inlet (8) and with a fluid outlet (9) for purging fluid, wherein means (13, 14, 15) are present for the supply of purging fluid to the fluid inlet (8) and for the discharge of purging fluid from the fluid outlet (9) to a fluid-analyzer (10), and wherein the channelled layer comprises studs (5), characterized in that the studs (5) are so arranged along the whole area of the wall to be watched that:

- a. the resistance to fluid flow is relatively high along the shortest path between the gas inlet (8) and the gas outlet (9) and in a direction substantially parallel to the said shortest path up to a predetermined distance from the said shortest path;
- b. the resistance to fluid flow is relatively low in a direction substantially cross-wise to said shortest path up to said predetermined distance and in a direction substantially parallel to said shortest path more remote from the said shortest path than the said predetermined distance.

The appellant also requested oral proceedings should the findings of the Board be unfavourable.

- IV Oral proceedings were appointed for 14 September 1983. To make preparations for these proceedings, the rapporteur issued a communication indicating the still existing objections against the allowability of Claim 1. The

appellant announced by letter of 28 July 1983 (received 1 August 1983) that the oral proceedings would not be attended by its representative and requested the Board to take a decision on the basis of the present state of the proceedings. Thus the appeal was considered in the absence of the appellant at the oral proceedings on 14 September 1983.

- V For the original claims, description and drawings reference should be made to publication No. 0 019 968.

Reasons for the Decision

1. The appeal complies with Articles 106 to 108 and Rule 64 EPC and is, therefore, admissible.
2. The features of the first part of Claim 1 are, in combination, part of the prior art as represented by FR-A-2 235 332 (Rule 29(1)(a) EPC).

According to the characterising portion, the subject-matter of claim 1 differs from FR-A-2 235 332 by the feature that over the whole area of the wall to be watched for the presence of cracks studs are so arranged that between the gas inlet out the outlet the resistance to the fluid flow is relatively high along the shortest path up to a predetermined distance therefrom and relatively low in a direction substantially cross-wise thereof and beyond said distance also in a direction substantially parallel to the shortest path. As FR-A-2 235 332 does not disclose studs arranged over the whole wall area to be watched but an arrangement which is sub-divided in a plurality of minor compartments surrounded by partition members, the subject-matter of claim 1 proves to be novel (Article 54 EPC).

3. In the system for detecting cracks in the heat insulating lining of a container known from FR-A-2 235 332 there is a channelled layer comprising studs the function of which as explicitly stated is to support the top insulating layer as well as to bear the load of the low temperature liquid so that the layer of the gas permeable sheet material arranged between the studs is prevented from being compressed, thereby permitting the fluid flow resistance of the layer of the sheet material to be held substantially constant. Despite this fact, however, in the appellant's opinion the FR-A-2 235 332 does suggest a stud distribution for providing a non-uniform flow of the purging fluid along the area to be watched and therefore is not sufficiently reliable in detecting the presence of cracks in the lining of the container. The appellant considers this as disadvantageous.
4. Therefore, the problem of unreliable detection encountered with the prior art device referred to above is said to be solved by the system as defined by the characterising portion of claim 1. The solution of the problem underlying the application is based on the idea of utilising uniform flow distribution of purging fluid along the whole area to be watched. This idea is reputed to be realised by arranging the studs as stated in sections (a) and (b) of the characterising clause of Claim 1.
5. The question now arises whether the publications cited would give the skilled person any indication for making the system according to FR-A-2 235 332 reliable by arranging the studs in such a manner as to achieve different flow resistance required along all the channels of

the whole area to be watched. However, this must be so, since the non-undulatory flow along the path extending from the inlet to the outlet along the rows carrying the reference numerals 9 as illustrated in Figure 2 of FR-A-2 235 332 must encounter a lower flow resistance than that encountered by the direct undulatory flow following the arrows depicted in Figure 2 of the citation, even though this is not explicitly stated. The appellant argues that FR-A-2 235 332 would not solve the problem of the invention as the studs cannot be arranged over the whole area to be watched due to the subdivision of this area in a plurality of minor compartments, within each of which the fluid is circulated through a stud arrangement and thus the citation points away from the invention. Thus, in order better to distinguish over FR-A-2 235 332 the amended Claim 1 now additionally features the studs as being arranged along the whole area of the wall, thereby implying that there are no subdivisions by a plurality of minor compartments each surrounded by partition members. However, this amounts to merely enlarging the dimensions of the small compartment according to FR-A-2 235 332, which already discloses a stud arrangement as set forth in section (a) and (b) of Claim 1, to such an extent as to cover a larger area which is equal to the total area of the heat insulating lining of one entire container wall. The only result is the inevitable one stemming from the difference of dimensions. Thus, the result attained with the system of the effective Claim 1 amounts to no more than a mere difference in degree of flow resistance produced by both the undulatory and the non-undulatory paths respectively. However, the achievement of a difference in degree of flow resistance is to be considered as obvious and the additional feature of Claim 1 cannot possibly add anything inventive to the subject-matter of Claim 1.

6. For the foregoing reasons, the subject-matter of Claim 1 lacks an inventive step as required by Article 56 EPC. Claim 1, therefore, cannot be allowed, having regard to Article 52(1) EPC. The dependent Claims 2-7 having as subject-matter special embodiments of the invention according to Claim 1, are not allowable either since their acceptance is contingent on the allowability of Claim 1, which has been denied.

ORDER

For these reasons, it is decided that:

The appeal against the decision of the Examining Division of the EPO dated 19 July 1982 is dismissed.

The Registrar:

*J. Ke*

The Chairman:

*[Handwritten signature]*