

(19)



Europäisches Patentamt

European Patent Office

Office européen des brevets



(11)

EP 0 734 848 A3

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
23.10.1996 Bulletin 1996/43

(51) Int. Cl.⁶: **B30B 11/00**, C10M 171/06,
B22F 3/15

(43) Date of publication A2:
02.10.1996 Bulletin 1996/40

(21) Application number: **96600003.6**

(22) Date of filing: **29.02.1996**

(84) Designated Contracting States:
DE FR GB IT NL SE

(30) Priority: **02.03.1995 GR 95100089**

(71) Applicant: **INSTITUTO MICHANIKIS YLIKON KAI
GEODOMON A.E.
GR-152 36 Penteli, Athens (GR)**

(72) Inventors:

- **Michelis, Paul, Dr.
152 36 Penteli (GR)**
- **Naoumidis, Aristidis, Dr.,
118 52 Ano Petralona (GR)**
- **Stoubos, Athanasios, Dr.
113 62 Kipseli (GR)**

(54) **A method for safe transmission of steady or time-dependent pressure under high-low, steady or time-dependent temperature**

(57) The present invention deals with the application and transmission of steady or time varying pressure under high/low, steady or time dependent temperatures and eliminates the potential danger for explosive events which is unavoidable in conventional techniques (with fluid media). The method consists of using an assembly of ceramic microspheres (2) coated by a solid lubricant (for temperatures between -50°C and 1600°C and steady or monotonically increasing pressure) or a mixture of melted oxides (3) with extremely high boiling points (for temperatures between 300° and 2700°C and

steady or cyclically varied pressure). The invention is related to the fields or Mechanics of Materials, Fluid Mechanics, Technology of Ceramics, etc. The method is exemplified in the case of internal pressurization of tubular metallic specimens. The tests show uniform pressure transmission to the desired directions, very good efficiency (ratio of radial to axially imposed pressure), repeatability and elimination of the explosion danger and the associated costs.

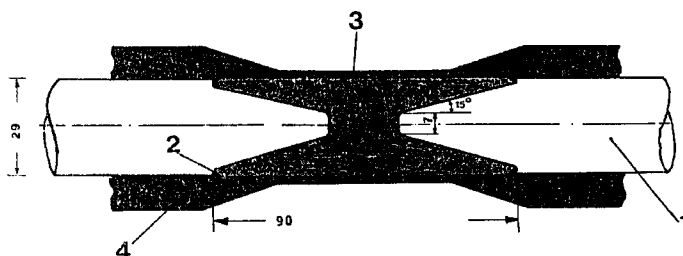


Figure 3

EP 0 734 848 A3



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 96 60 0003

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	US 4 446 100 A (ADLERBORN JAN ET AL) 1 May 1984 * column 4, line 50 - line 65; claims 1,6; example 1 *	1-3	B30B11/00 C10M171/06 B22F3/15
X	LU 56 598 A (E.I. DU PONT DE NEMOURS & CO) 31 October 1968 * claim 1; example 8 *	1,3-6	
A	FR 2 541 151 A (METAL ALLOYS INC) 24 August 1984 * page 8, line 15 - line 29; claim 1 *	1-6	
A	DE 20 27 016 A (WHEELING PITTSBURGH STEEL CORP) 18 February 1971 * page 6, line 8 - page 10, line 29 *	1-6	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			B22F B30B C10M
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 9 August 1996	Examiner Schruiers, H
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

EPO FORM 1503 03.92 (P04C01)