



(19)

Europäisches Patentamt

European Patent Office

Office européen des brevets



(11)

EP 0 903 541 A3

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
18.04.2001 Bulletin 2001/16

(51) Int. Cl.⁷: F23Q 7/00

(43) Date of publication A2:
24.03.1999 Bulletin 1999/12

(21) Application number: 98117773.6

(22) Date of filing: 18.09.1998

(84) Designated Contracting States:
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE
Designated Extension States:
AL LT LV MK RO SI

(30) Priority: 19.09.1997 JP 27355397
19.09.1997 JP 27355197
19.09.1997 JP 27355297
19.09.1997 JP 27355497

(71) Applicant: Denso Corporation
Kariya-city, Aichi-pref., 448-0029 (JP)

(72) Inventor: Tetsuya, Watanabe
Kariya-shi, Aichi-pref. 448-0029 (JP)

(74) Representative:
Pellmann, Hans-Bernd, Dipl.-Ing. et al
Patentanwaltsbüro
Tiedtke-Bühling-Kinne & Partner
Bavariaring 4-6
80336 München (DE)

(54) Glow plug

(57) An improved sealing structure of a glow plug for diesel engines is provided. The glow plug includes a heater assembly which consists of a heater casing, a heating element, and a power supply rod. The heater casing has disposed therein the heating element connecting with the power supply rod and also has formed on a periphery thereof a press fit wall press-fitted into a hollow housing in tight engagement with an inner peripheral wall of the hollow housing. An uneven surface is formed on one of the press fit wall of the heater casing and the inner peripheral wall of the hollow housing. The uneven surface is patterned with lines such as fine grooves or ridges oriented at an angle relative to a longitudinal center line of the glow plug for forming barriers when the press fit wall is forced into the hollow housing which establish airtight seals between the heater casing and the hollow housing.

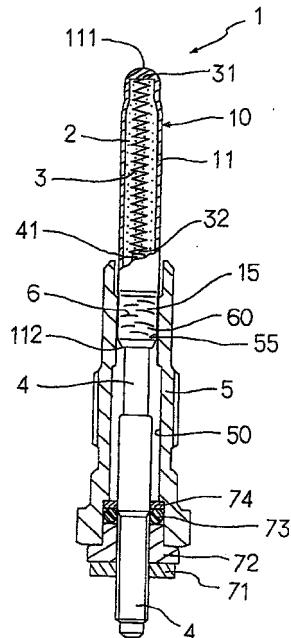


FIG. 2



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 98 11 773

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)
A	WO 83 01093 A (BAILEY JOHN M) 31 March 1983 (1983-03-31) * abstract *	1	F23Q7/00
A	PATENT ABSTRACTS OF JAPAN vol. 007, no. 071 (M-202), 24 March 1983 (1983-03-24) & JP 58 000022 A (NIPPON TOKUSHU TOGYO KK), 5 January 1983 (1983-01-05) * abstract *	1	

			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			F23Q
<p>The present search report has been drawn up for all claims</p>			
Place of search	Date of completion of the search		Examiner
THE HAGUE	22 February 2001		Vanheusden, J
CATEGORY OF CITED DOCUMENTS		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	
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			

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 98 11 7773

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

22-02-2001

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 8301093 A	31-03-1983	NONE	
JP 58000022 A	05-01-1983	JP 1273898 C JP 59052726 B	11-07-1985 21-12-1984