

Title (en)

A ceramic heater and a method of manufacture thereof.

Title (de)

Keramisches Heizelement und Herstellungsverfahren dafür.

Title (fr)

Élément chauffant céramique et son procédé de fabrication.

Publication

EP 0650020 A3 19960605 (EN)

Application

EP 94307544 A 19941014

Priority

- JP 28420393 A 19931020
- JP 28420493 A 19931020

Abstract (en)

[origin: EP0650020A2] This invention provides a ceramic heater of current self-control type, which has no gap in the boundary between the enclosure 1 and the filler 2, and which has reduced manufacturing cost, a stable strength and an improved heating performance. The invention also provides a method of manufacturing such a ceramic heater. In this ceramics heater, porous ceramic fillers 2, 3 are filled inside the end portions of the enclosure 1 made of a dense ceramics. The metal coil 10 consisting of the heater coil 6 and the current control coil 9 connected in series with each other is installed inside the enclosure 1, with the end surfaces 15 of the enclosure 1 hermetically closed by the sealing films 4. To prevent corrosion of the metal coil 10, the low heat conductivity ceramics 25 made from ceramic whiskers and/or ceramic powder is disposed in the central portion of the enclosure 1 and an N₂ gas is sealed therein. The heater coil 6 is arranged in contact with the inner wall surface 7 of that portion of the enclosure 1 where the filler 2 is located, and the current control coil 9 is spaced from the inner wall surface 8 of the enclosure 1 so as to be heat-insulated.

<IMAGE>

IPC 1-7

F23Q 7/00

IPC 8 full level

F23Q 7/00 (2006.01)

CPC (source: EP)

F23Q 7/001 (2013.01); **F23Q 2007/004** (2013.01)

Citation (search report)

- [A] WO 9118244 A1 19911128 - CATERPILLAR INC [US]
- [A] PATENT ABSTRACTS OF JAPAN vol. 13, no. 335 (M - 856) 27 July 1989 (1989-07-27)
- [A] PATENT ABSTRACTS OF JAPAN vol. 7, no. 165 (M - 230) 20 July 1958 (1958-07-20)

Cited by

EP3163171A1; US6130410A; EP0848209A3; US8422871B2; WO2006032558A1; DE102016105069A1

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