

Title (en)  
CERAMIC ENGINE VALVE.

Title (de)  
KERAMISCHES GASWECHSELVENTIL.

Title (fr)  
SOUPAPE EN CERAMIQUE POUR MOTEUR.

Publication  
**EP 0629263 B1 19951108 (DE)**

Application  
**EP 93903953 A 19930211**

Priority  
• DE 4207213 A 19920307  
• EP 9300331 W 19930211

Abstract (en)  
[origin: WO9318282A1] The invention concerns a ceramic valve for internal combustion engines whose spring retainer is frictionally linked to the valve stem, and whose cylindrical valve stem (2) is surrounded by a collet (3) having a conical outer profile (4). The spring retainer (5) provided with a conical bore (6) rests on the collet (3).

IPC 1-7  
**F01L 3/10**

IPC 8 full level  
**F01L 3/10** (2006.01); **F01L 3/20** (2006.01)

CPC (source: EP KR US)  
**F01L 3/10** (2013.01 - EP US); **F01N 3/20** (2013.01 - KR)

Designated contracting state (EPC)  
BE DE ES FR GB IT SE

DOCDB simple family (publication)  
**WO 9318282 A1 19930916**; DE 4207213 A1 19930909; DE 59300908 D1 19951214; EP 0629263 A1 19941221; EP 0629263 B1 19951108; ES 2080611 T3 19960201; JP 2552428 B2 19961113; JP H07500650 A 19950119; KR 0150482 B1 19981001; KR 950700480 A 19950116; US 5497740 A 19960312

DOCDB simple family (application)  
**EP 9300331 W 19930211**; DE 4207213 A 19920307; DE 59300908 T 19930211; EP 93903953 A 19930211; ES 93903953 T 19930211; JP 51527893 A 19930211; KR 19940073128 A 19940907; KR 19940703128 A 19940907; US 29078494 A 19940902