

Title (en)
Valve stem seal

Title (de)
Ventilschaftdichtung

Title (fr)
Joint de tige de soupape

Publication
EP 2236776 A1 20101006 (EN)

Application
EP 10002787 A 20100317

Priority
JP 2009063971 A 20090317

Abstract (en)
To provide a valve stem seal 1 of the structure which is excellent in mechanical strength in response to the high output of an internal combustion engine without causing difficulty of manufacture. A valve stem seal includes a mounting ring 11 arranged so as to surround the outer periphery of a valve guide 3 protruding from a cylinder head 2, a seal lip 12 integrally provided at one end of the mounting ring 11 and slidably brought into close contact with the outer peripheral surface of a valve stem 4 which is inserted through the valve guide 3 and biased in the axial direction by a valve spring 5, a spring receiving ring 14 arranged at the outer periphery of the mounting ring 11 and pushed against the cylinder head 2 by the valve spring 5. The spring receiving ring 14 has a rigidity higher than the mounting ring 11, and has an internal diameter portion locked to a locking groove 11c formed at the outer peripheral surface of the mounting ring 11, and, a groove shoulder of the locking groove 11c on the side of the seal lip 12 is formed with a deformable projecting portion 11e having a diameter larger than the internal diameter of the mounting ring 11 and permitting the internal diameter portion of the spring receiving ring 14 to axially pass therethrough.

IPC 8 full level
F01L 3/08 (2006.01); **F01L 1/46** (2006.01); **F16J 15/3212** (2016.01); **F16J 15/3268** (2016.01)

CPC (source: EP)
F01L 1/462 (2013.01); **F01L 3/08** (2013.01)

Citation (applicant)
• US 5174256 A 19921229 - BINFORD JOHN D [US]
• EP 0380770 A1 19900808 - GOETZE AG [DE]
• US 2005040603 A1 20050224 - LEIMER MARK A [US]
• JP 2004176881 A 20040624 - NOK CORP
• JP 2003343734 A 20031203 - NOK CORP

Citation (search report)
• [A] US 5174256 A 19921229 - BINFORD JOHN D [US]
• [A] EP 0380770 A1 19900808 - GOETZE AG [DE]
• [A] US 2005040603 A1 20050224 - LEIMER MARK A [US]
• [AD] JP 2005249200 A 20050915 - FREUDENBERG NOK GP
• [A] JP 2004176881 A 20040624 - NOK CORP
• [A] JP 2003343734 A 20031203 - NOK CORP

Cited by
CN113710879A; EP3236117A1; CN107304691A; US10167748B2; ITTO20130894A1; EP2868875A1; CN104612851A; US9347343B2

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR

Designated extension state (EPC)
AL BA ME RS

DOCDB simple family (publication)
EP 2236776 A1 20101006; EP 2236776 B1 20111026; AT E530739 T1 20111115; JP 2010216567 A 20100930

DOCDB simple family (application)
EP 10002787 A 20100317; AT 10002787 T 20100317; JP 2009063971 A 20090317