

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

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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

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