

Title (en)
Valve assembly.

Title (de)
Ventilzusammenbau.

Title (fr)
Assemblage de soupape.

Publication
EP 0574093 A1 19931215 (EN)

Application
EP 93202270 A 19910618

Priority
US 55031390 A 19900712

Abstract (en)
A valve assembly (10) for regulating air flow to an internal combustion engine comprises a valve body (12) having a valve bore (14) forming an induction passage, and a shaft (16) extending across the valve bore. A valve member (18) is secured to the shaft for rotation between a non-actuating position and a maximum actuating position. A ball bearing arrangement (36,38) rotatably secures one end of the shaft in a shaft socket (30) which opens into the valve bore.

IPC 1-7
F02D 9/10; **F16K 1/22**

IPC 8 full level
F02D 9/10 (2006.01); **F02M 9/08** (2006.01); **F02M 9/12** (2006.01); **F16K 1/22** (2006.01)

CPC (source: EP)
F02D 9/1015 (2013.01); **F02D 9/106** (2013.01); **F02D 9/1065** (2013.01)

Citation (search report)
• [A] US 4938452 A 19900703 - IMAMURA KANEO [JP], et al
• [AD] US 4860706 A 19890829 - SUZUKI TAKIO [JP], et al
• [A] GB 2067719 A 19810730 - NISSAN MOTOR
• [A] DE 837785 C 19520502 - BAYERISCHE MOTOREN WERKE AG
• [Y] PATENT ABSTRACTS OF JAPAN vol. 11, no. 348 (M-642)14 November 1987 & JP-A-62 129 538 (TOYOTA MOTOR CORP.) 11 June 1987
• [Y] PATENT ABSTRACTS OF JAPAN vol. 13, no. 299 (M-847)11 July 1989 & JP-A-01 087 838 (HITACHI LTD) 31 March 1989

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