

Title (en)
CRANKCASE VENTILATION

Publication
EP 0351521 A3 19900530 (DE)

Application
EP 89109354 A 19890524

Priority
DE 3824791 A 19880721

Abstract (en)
[origin: JPH0267414A] PURPOSE: To prevent an icing of ventilating points in an intake passageway of a ventilation system in which a ventilating pipe extending from an internal combustion engine is connected to a throttle valve casing by branching the ventilating pipe into a passageway through a primary ventilating point and a passageway through a secondary ventilating point in the throttle valve casing. CONSTITUTION: An internal combustion engine 1 comprises crank case ventilating points 10. A ventilating pipe 11 is directed from the ventilating points 10 to a throttle valve casing 6, and fixed to a connecting pipe 12 there. An end portion of the connecting pipe 12 in the throttle valve casing 6 is closed by a disc 13. In this case, two passageways 14, 15 are formed in the disc 13. One of the passages 15 opens at a primary ventilating point 16, and the other passages 14 opens at a secondary ventilating point 17. The primary ventilating point 16 is arranged upstream of a throttle valve 7 and the secondary ventilating point 17 is arranged downstream of the throttle valve 7 respectively. The passages 14 and the secondary ventilating point 17 are formed to have a cross-sectional area smaller than that of the passages 15.

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F01M 13/00; **F02M 15/02**

IPC 8 full level
F01M 13/00 (2006.01); **F01M 13/02** (2006.01); **F02M 15/02** (2006.01); **F01M 5/00** (2006.01)

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F01M 13/025 (2013.01 - EP US); **F02M 15/022** (2013.01 - EP US); **F01M 5/002** (2013.01 - EP US)

Citation (search report)

- [Y] DE 952221 C 19561115 - GEN MOTORS CORP
- [Y] FR 1570558 A 19690613
- [A] US 3116727 A 19640107 - DIETRICH HOWARD H
- [Y] DE 3726332 C1 19880623 - BAYERISCHE MOTOREN WERKE AG
- [YP] US 4811697 A 19890314 - KURAHASHI TOSHIO [JP]
- [A] US 2516547 A 19500725 - CARLSON HAROLD A, et al
- [A] FR 1401955 A 19650611
- [AP] US 4805564 A 19890221 - HUDSON JR SHARON J [US]
- [AD] US 3364910 A 19680123 - HULSE CRANSTON W

Cited by
EP0628710A1; EP1659328A3; EP0704608A3; EP0638713A1; US8529692B2; DE102007062772A1; WO9703285A1; FR2851315A1; EP3750856A1; WO2020249763A1

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