

Title (en)

A shroud for an air-cooled internal combustion engine.

Title (de)

Luftführung für eine Brennkraftmaschine mit einer Zwangskühlung.

Title (fr)

Enveloppe pour un moteur à combustion interne à refroidissement forcé.

Publication

**EP 0604937 A1 19940706 (EN)**

Application

**EP 93120921 A 19931227**

Priority

JP 35873492 A 19921228

Abstract (en)

In an air-cooled internal combustion engine a cylinder (14) positioned above a crank case (9) and a cylinder head (15) positioned above the cylinder are formed with a large number of radiation fins (16) arranged at predetermined intervals. A cooling fan (19) is integrally mounted on the rightmost end of a crank shaft (10). A synthetic resin shroud (20) which covers both the air-cooled type internal combustion engine (3) and the cooling fan (19) comprises a cylinder-side shroud (21) which covers both the cooling fan (19) of the engine (3) and the cylinder (14), a head-side shroud (22) which covers the cylinder head (15), and a shroud outer plate (23) which covers the outside of the cylinder-side shroud (21). In the cylinder-side shroud (21) there is formed a cylindrical opening (25), and an inner louver (26) is formed in the cylindrical opening (25). The inner louver comprises wide fins (27) which are inclined from the rear to the front in the outside direction from the inside and arranged longitudinally at wide intervals. In the shroud outer plate (23) there is formed a cylindrical opening (28) which is sideways projecting outwards, and an outer louver (29) is formed in the cylindrical opening (28). The outer louver (29) comprises relatively narrow fins (30) which are inclined from above to below in the outside direction from the inside and arranged vertically at narrow intervals. <IMAGE>

IPC 1-7

**F01P 11/12**; **F02B 77/13**

IPC 8 full level

**F01P 5/06** (2006.01); **F01P 11/12** (2006.01); **F02B 61/02** (2006.01); **F02B 77/13** (2006.01); **F02F 1/30** (2006.01); **F02B 75/02** (2006.01)

CPC (source: EP KR)

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Citation (search report)

- [X] FR 2479324 A1 19811002 - DEERE & CO [US]
- [A] US 4546843 A 19851015 - KOINUMA YUTAKA [JP], et al
- [A] FR 2309717 A1 19761126 - KOMATSU MFG CO LTD [JP]
- [A] PATENT ABSTRACTS OF JAPAN vol. 11, no. 114 (M - 579) 10 April 1987 (1987-04-10)

Cited by

EP1712463A1; EP1403484A1; CN100462529C; ES2188317A1; EP2960090A1; CN106232971A; EP3135889A4; US10240509B2

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