

Title (en)  
Internal combustion engine with a piston cooling device

Title (de)  
Verbrennungsmotor mit einer Kolbenkühlvorrichtung

Title (fr)  
Moteur à combustion interne avec un dispositif de refroidissement de piston

Publication  
**EP 1676989 A1 20060705 (DE)**

Application  
**EP 05100002 A 20050103**

Priority  
EP 05100002 A 20050103

Abstract (en)  
The engine has a piston cooling device with a spraying device (2), which is supplied with a coolant and lubricant by a supplying unit (3). A crankshaft bearing shell exhibits a passage opening (16) in the area of the unit (3), so that coolant and lubricant is carried for spraying and to a crankshaft by the unit (3). The device is designed as oil spray nozzle (27) and as spray bore, which are integrated into a crankshaft bearing cover.

IPC 8 full level  
**F01M 1/08** (2006.01); **F01P 3/08** (2006.01)

CPC (source: EP US)  
**F01M 1/08** (2013.01 - EP US); **F01P 3/08** (2013.01 - EP US); **F01M 2001/086** (2013.01 - EP US)

Citation (applicant)  
• US 6532912 B2 20030318 - MOELLER HERIBERT [DE], et al  
• US 4010718 A 19770308 - STEWART WILLIAM FINDLAY  
• US 5533472 A 19960709 - SANDS RICHARD H [US], et al

Citation (search report)  
• [AD] US 5533472 A 19960709 - SANDS RICHARD H [US], et al  
• [A] EP 0982479 A1 20000301 - CUMMINS ENGINE CO LTD [GB], et al  
• [A] FR 2745329 A1 19970829 - RENAULT [FR]  
• [X] PATENT ABSTRACTS OF JAPAN vol. 2003, no. 07 3 July 2003 (2003-07-03)

Cited by  
DE102007058796A1; EP1826388A1; US7448355B2; US7458359B2; US7322318B2

Designated contracting state (EPC)  
DE FR GB

DOCDB simple family (publication)  
**EP 1676989 A1 20060705; EP 1676989 B1 20111123; US 2006169224 A1 20060803; US 7201118 B2 20070410**

DOCDB simple family (application)  
**EP 05100002 A 20050103; US 32444906 A 20060103**