

Title (en)  
Oil pan structure for an engine

Title (de)  
Ölwanne für eine Brennkraftmaschine

Title (fr)  
Carter d'huile pour moteur à combustion

Publication  
**EP 1482135 A3 20091230 (EN)**

Application  
**EP 04253170 A 20040528**

Priority  
JP 2003150310 A 20030528

Abstract (en)  
[origin: EP1482135A2] An engine 1 comprises a crankcase 2, a crankshaft 3 supported on the crankcase 2 for rotation about an axial center 4 extending approximately in the horizontal direction, and an oil pan 9 fixed to the lower end of the crankcase 2. The oil pan 9 comprises a bottom plate 25, and vertical walls 26-29 protruded upwardly from outer edges of the bottom plate 25 and fixed to the crankcase 2 at the protruded ends. The bottom plate 25 and the vertical walls 26-29 are formed integrally with one another by casting. The bottom plate 25, as viewed as a whole, is formed approximately in agreement in shape with part of a spherical surface 34 with a center 33 at a point above the oil pan 9. Such an arrangement can prevent vibration in portions of an oil pan during engine operation for the prevention of generation of noise from the oil pan and to achieve with simple structure and without increasing the weight of the oil pan.  
[origin: EP1482135A2] The structure has a crankshaft supported on a crankcase for rotation about an axial center extending in a horizontal direction, and an oil pan fixed to the crankcase lower end. The pan has vertical walls (26-28) protruding from outer edges of a bottom plate (25) and fixed to the crankcase, where the plate and walls are formed by casting. The plate is formed so that its spherical surface has a center at a point above the pan.

IPC 8 full level  
**F01M 11/00** (2006.01); **F02F 7/00** (2006.01)

CPC (source: EP GB)  
**F01M 11/0004** (2013.01 - EP GB); **F01M 2011/0008** (2013.01 - EP)

Citation (search report)  
• [X] EP 1217180 A1 20020626 - PETROLIAM NASIONAL BERHAD [MY]  
• [X] US 6029638 A 20000229 - FUNAI HIROSHI [JP], et al  
• [X] US 6283084 B1 20010904 - NAGAI NOBORU [JP], et al

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CN113464236A; DE102009055138A1; DE102009055138B4; US8887703B2; US8833328B2; US8919301B2; US9057340B2; US9074553B2; US9518532B2; US9664138B2; US9771862B2; US10330044B2; US10724469B2; US10934969B2

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**EP 1482135 A2 20041201**; **EP 1482135 A3 20091230**; CN 1590723 A 20050309; CN 1590723 B 20110914; GB 0412043 D0 20040630; GB 2402436 A 20041208; GB 2402436 B 20060215; JP 2004353506 A 20041216; MY 141655 A 20100531

DOCDB simple family (application)  
**EP 04253170 A 20040528**; CN 200410048807 A 20040528; GB 0412043 A 20040528; JP 2003150310 A 20030528; MY PI20042024 A 20040527