

Title (en)

NITRIDED VALVE LIFTER AND METHOD FOR MANUFACTURE THEREOF

Title (de)

NITRIDIERTER VENTILSTÖSSEL UND ZUGEHÖRIGES HERSTELLUNGSVERFAHREN

Title (fr)

POUSSOIR DE SOUPAPE NITRURE ET SON PROCEDE DE FABRICATION

Publication

EP 1602743 A4 20070124 (EN)

Application

EP 04718747 A 20040309

Priority

- JP 2004003022 W 20040309
- JP 2003063450 A 20030310

Abstract (en)

[origin: EP1602743A1] A sliding surface (2) of a valve lifter (1) or a shim (3) is subjected to a gaseous nitriding to have a surface hardness of Hv 660 or higher and a thickness of a compound layer (6) of 1 to 5 μ m. The nitrided layer on the surface is a dense compound layer (6) with a porosity of 5 % or less. <IMAGE>

IPC 1-7

C23C 8/32; **C23C 8/26**; **F01L 1/14**; **C23C 8/02**

IPC 8 full level

C23C 8/02 (2006.01); **C23C 8/26** (2006.01); **C23C 8/34** (2006.01); **F01L 1/16** (2006.01)

CPC (source: EP KR US)

C23C 8/02 (2013.01 - EP KR US); **C23C 8/26** (2013.01 - EP KR US); **C23C 8/32** (2013.01 - KR); **C23C 8/34** (2013.01 - EP US); **F01L 1/14** (2013.01 - KR); **F01L 1/16** (2013.01 - EP US); **F01L 2303/00** (2020.05 - EP US)

Citation (search report)

- [A] US 2002162523 A1 20021107 - ISHIHARA MOTOKATA [JP]
- See references of WO 2004081252A1

Cited by

US8230986B2; EP1890353A1; US8220609B2; US11007572B2

Designated contracting state (EPC)

DE ES GB HU

DOCDB simple family (publication)

EP 1602743 A1 20051207; **EP 1602743 A4 20070124**; **EP 1602743 B1 20071226**; CN 1784505 A 20060607; CN 1784505 B 20101103; DE 602004010890 D1 20080207; DE 602004010890 T2 20081211; ES 2295833 T3 20080416; JP 4141473 B2 20080827; JP WO2004081252 A1 20060615; KR 20050118175 A 20051215; TW 200506181 A 20050216; US 2006144359 A1 20060706; US 2008066703 A1 20080320; WO 2004081252 A1 20040923

DOCDB simple family (application)

EP 04718747 A 20040309; CN 200480012673 A 20040309; DE 602004010890 T 20040309; ES 04718747 T 20040309; JP 2004003022 W 20040309; JP 2005503522 A 20040309; KR 20057016812 A 20050909; TW 93106196 A 20040309; US 54690205 A 20050825; US 89844607 A 20070912