

Title (en)
Process for producing rocker arms

Title (de)
Verfahren zum Herstellen von Kippebeln

Title (fr)
Procédé pour la fabrication de leviers oscillants

Publication
EP 0718410 A1 19960626 (EN)

Application
EP 94309203 A 19941209

Priority

- EP 94309203 A 19941209
- JP 24959593 A 19931005

Abstract (en)
In producing a rocker arm (25, 26), the following steps are used: fabricating a rocker arm blank (79) which includes: a rocker arm body (77) having an aperture (36a) therein adapted to be converted to a hole (36) for the insertion of a shaft (24), and which blank (79) is made of a nitrided steel comprising specified amounts of C, Mn, Cr, Al, Si, P, S, Cu, Ni, one of Pb and Bi, and optionally Mo, and, as the balance, substantially Fe; and a slipper surface forming piece (41); subjecting the rocker arm blank (79) to a refining treatment to adjust its hardness; subjecting the apertures (36a) to reaming to form the shaft insertion holes (36); and subjecting the rocker arm blank (79) with the shaft insertion holes (36) formed therein to a nitriding treatment. Thus, it is possible to mass-produce rocker arms (25, 26) for an internal combustion engine, each of which has excellent mechanical properties. <IMAGE>

IPC 1-7
C21D 1/78; C21D 9/00

IPC 8 full level
C21D 1/78 (2006.01); **C21D 9/00** (2006.01); **C22C 38/00** (2006.01); **C23C 8/26** (2006.01); **F01L 1/18** (2006.01); **F01L 1/26** (2006.01);
C21D 1/18 (2006.01)

CPC (source: EP)
C21D 1/78 (2013.01); **C21D 9/0068** (2013.01); **F01L 1/181** (2013.01); **F01L 1/267** (2013.01); **C21D 1/18** (2013.01); **F01L 2303/00** (2020.05)

Citation (search report)

- [A] US 1649398 A 19271115 - ADOLF FRY
- [A] CH 149752 A 19310930 - AUBERT & DUVAL FRERES [FR]
- [A] DE 2333183 A1 19740425 - DAIDO STEEL CO LTD
- [A] DE 1199006 B 19650819 - DEGUSSA
- [A] DE 4205647 A1 19930826 - SCHAEFFLER WAEELLAGER KG [DE]
- [A] PATENT ABSTRACTS OF JAPAN vol. 12, no. 444 (C - 545) 22 November 1988 (1988-11-22)
- [A] K. DAEVES: "WERKSTOFF - HANDBUCH STAHL UND EISEN", VDEH, VERLAG STAHLLEISEN , 4TH EDITION, DÜSSELDORF, DE

Cited by
EP1340824A3; US7037383B2

Designated contracting state (EPC)
DE FR GB

DOCDB simple family (publication)
EP 0718410 A1 19960626; EP 0718410 B1 20010328; JP 3411637 B2 20030603; JP H07102322 A 19950418

DOCDB simple family (application)
EP 94309203 A 19941209; JP 24959593 A 19931005