

Title (en)
FUEL INJECTION PUMP FOR INTERNAL COMBUSTION ENGINES.

Title (de)
KRAFTSTOFFEINSPRITZPUMPE FÜR BRENNKRAFTMASCHINEN.

Title (fr)
POMPE D'INJECTION DE CARBURANT POUR MOTEURS A COMBUSTION INTERNE.

Publication
EP 0461213 B1 19931103 (DE)

Application
EP 90916706 A 19901124

Priority
DE 3943299 A 19891229

Abstract (en)
[origin: WO9110063A1] A fuel injection pump for internal combustion engines has a pump housing (10), an axially and rotatably guided distributor piston (11), a rotating drive shaft (12) fitted in the pump housing (10), a drive system (13) with a dog coupling (32) connecting the drive shaft (12) to the distributor piston (11) and an eccentric (23) rolling on a roller ring (25) with cams (26) and a lubricating oil feed line (47) opening into a lubricating oil groove (48) and a lubricating oil return line (49) leading back from the gear casing (20) partly filled with lubricating oil. To ensure a sufficient supply of lubricating oil to the heavily loaded drive surfaces of the dog coupling (32), lubricating oil flows through the drive shaft (12) from the lubricating oil groove (48) to the dog coupling (32) through apertures (64, 65, 68, 69) in at least those dog surfaces of the dog coupling (32) transmitting rotary force and into the gear casing. (20).

IPC 1-7
F02M 59/10; **F02M 59/44**

IPC 8 full level
F02M 39/02 (2006.01); **F02M 41/12** (2006.01); **F02M 59/10** (2006.01); **F02M 59/44** (2006.01); **F02M 63/00** (2006.01)

CPC (source: EP US)
F02M 39/02 (2013.01 - EP US); **F02M 41/121** (2013.01 - EP US); **F02M 41/125** (2013.01 - EP US); **F02M 59/44** (2013.01 - EP US);
F02M 63/0001 (2013.01 - EP US)

Designated contracting state (EPC)
DE FR GB IT

DOCDB simple family (publication)
DE 3943299 A1 19910704; DE 59003366 D1 19931209; EP 0461213 A1 19911218; EP 0461213 B1 19931103; JP 3051164 B2 20000612;
JP H04504748 A 19920820; US 5146895 A 19920915; WO 9110063 A1 19910711

DOCDB simple family (application)
DE 3943299 A 19891229; DE 59003366 T 19901124; DE 9000904 W 19901124; EP 90916706 A 19901124; JP 51531090 A 19901124;
US 69102291 A 19910628