

Title (en)  
Hydraulically driven machine improvement

Title (de)  
Verbesserung für eine hydraulisch angetriebene Maschine

Title (fr)  
Améliorations d'une machine hydraulique

Publication  
**EP 2009283 A3 20090429 (EN)**

Application  
**EP 08163603 A 20070119**

Previously filed application  
07100835 20070119 EP

Priority  
• EP 08163603 A 20070119  
• EP 07100835 A 20070119

Abstract (en)  
[origin: EP1947331A1] A hydraulically driven diaphragm pumping machine comprises a plunger (6) that is slidably mounted in a middle part of the inside of the machine's hydraulic cylinder (5) between first and second bellow-like diaphragms (4,10). Ends of the plunger (6) are connected to the first and second bellows-like diaphragm (10) to define respective first and second outer annular spaces (a) that are independent of one another, and the pressure of fluid in the first annular space (a) is independent of the pressure of fluid in the second annular space (a). The machine may also comprise a hydromechanical switch for commutating a valve (102) to automatically control the supply of hydraulic fluid to the hydraulic cylinder at given moments of the machine's cycle, comprising: a linkage (108,109) for converting linear motion of a piston (106) into rotary motion; a cam (103) rotatably driven by the linkage (108,109); and a spring (115) that is compressed to store energy by rotation of the cam (103) during a stroke of the piston (106), and arranged to release its stored energy to commute said valve (102) when the piston (106) is at given positions along the hydraulic cylinder (107). This commutation device also relates to any hydraulic cyclical working machine having a linear moving operating part and requiring to be automatically controlled via openings commutation in order to achieve desired working cycle parameters e.g. pressure values, cycle phases duration, etc.

IPC 8 full level  
**F01L 23/00** (2006.01); **F04B 9/105** (2006.01); **F04B 43/113** (2006.01)

CPC (source: EP)  
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Citation (search report)  
• [DA] WO 2005119063 A1 20051215 - AILAND CORP S A [UY], et al  
• [A] US 3182597 A 19650511 - MAX MALIZARD, et al  
• [A] US 862867 A 19070806 - EGGLESTON LEWIS WATSON [US]  
• [A] GB 1574278 A 19800903 - BERELSON R  
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Designated contracting state (EPC)  
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

Designated extension state (EPC)  
AL BA HR MK RS

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**EP 1947331 A1 20080723**; EP 2009283 A2 20081231; EP 2009283 A3 20090429; EP 2009283 B1 20160323

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**EP 07100835 A 20070119**; EP 08163603 A 20070119