

Title (en)  
A pump

Title (de)  
Eine Pumpe

Title (fr)  
Une pompe

Publication  
**EP 1536135 A2 20050601 (EN)**

Application  
**EP 04028061 A 20041125**

Priority  
US 52534903 P 20031126

Abstract (en)  
A closed loop rod pump is disclosed which can include a tube assembly and a reciprocating cylinder assembly disposed therein. The cylinder assembly can include a piston portion and a plunger. The piston portion can sealingly engage the tube assembly. In some embodiments, the cylinder assembly can include a second plunger to provide the pump with a dual-acting feature. The rod pump can be used in a water jetter cleaning system of a vehicle for cleaning catch basins and/or sewers.

IPC 1-7  
**F04B 9/105**; **F04B 9/113**; **F04B 9/117**

IPC 8 full level  
**F04B 9/105** (2006.01); **F04B 9/113** (2006.01); **F04B 9/117** (2006.01); **F04B 53/10** (2006.01)

CPC (source: EP US)  
**F04B 9/105** (2013.01 - EP US); **F04B 9/113** (2013.01 - EP US); **F04B 9/1172** (2013.01 - EP US); **F04B 53/109** (2013.01 - EP US)

Citation (applicant)  
• US 3658589 A 19720425 - SHADDOCK ROLAND E  
• US 3700360 A 19721024 - SHADDOCK ROLAND E

Cited by  
CN102465883A; EP3250824A4; US10941762B2

Designated contracting state (EPC)  
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LU MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)  
**EP 1536135 A2 20050601**; **EP 1536135 A3 20070418**; US 2005142012 A1 20050630

DOCDB simple family (application)  
**EP 04028061 A 20041125**; US 99766704 A 20041124