

Title (en)  
Method and apparatus suitable for hole cleaning during drilling operations

Title (de)  
Vorrichtung und Verfahren geeignet für Bohrlochreinigung während des Bohrens

Title (fr)  
Système et procédé adapté à être utilisé pour le nettoyage du puits pendant le forage

Publication  
**EP 1696101 A1 20060830 (EN)**

Application  
**EP 05290454 A 20050228**

Priority  
EP 05290454 A 20050228

Abstract (en)  
Apparatus for drilling operations in underground boreholes, comprises: a drilling assembly that can be located in a borehole and is moved along the borehole during the drilling operation; a flexible fluid supply line connected to and in fluid communication with the drilling assembly and extending from the drilling assembly to the surface when the drilling assembly is in the borehole; and an electric cable for providing electric power to the drilling assembly and extending from the drilling assembly to the surface when the drilling assembly is in the borehole; the fluid line and the electric cable are separate, and the electric cable being outside the fluid line. A method for conducting drilling operations using an apparatus as defined above, comprises operating the drilling assembly and directing fluid between the surface and the drilling assembly via the flexible fluid line.

IPC 8 full level  
**E21B 17/20** (2006.01); **E21B 4/04** (2006.01)

CPC (source: EP US)  
**E21B 4/04** (2013.01 - EP US); **E21B 17/206** (2013.01 - EP US)

Citation (search report)

- [X] US 2004050589 A1 20040318 - HEAD PHILIP [GB]
- [X] US 6629570 B1 20031007 - HEAD PHILIP [GB]
- [X] US 2003034177 A1 20030220 - CHITWOOD JAMES E [US], et al
- [X] US 3007534 A 19611107 - SALNIKOV IVAN S, et al
- [X] US 2105091 A 19380111 - MACKAY CHARLES W
- [X] US 4258802 A 19810331 - TULLOS HOMAN C, et al
- [AD] US 2004104052 A1 20040603 - LIVINGSTONE JAMES I [CA]
- [A] US 2567451 A 19510911 - SMITH WILLIAM H

Cited by  
US8613310B2; US10858903B2; WO2016133401A1

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 MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)  
**EP 1696101 A1 20060830; EP 1696101 B1 20080312**; AT E389095 T1 20080315; DE 602005005292 D1 20080424;  
US 2008264630 A1 20081030; WO 2006089617 A1 20060831

DOCDB simple family (application)  
**EP 05290454 A 20050228**; AT 05290454 T 20050228; DE 602005005292 T 20050228; EP 2006000775 W 20060127; US 81700906 A 20060127