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(71) Applicant: **HALLIBURTON ENERGY SERVICES, INC.**
Houston, TX 77072-5206 (US)

(72) Inventors:
- **Gilbert, Gregory N.**
  Sugar Land, TX Texas 77479 (US)
- **Sitka, Mark A.**
  Richmond, TX Texas 77469 (US)
- **MCGregor, Malcolm Douglas**
  The Woodlands, TX Texas 77381 (US)
- **Gray, Glenn C.**
  Austin, TX Texas 78731 (US)
- **Hardin, JR., John R.**
  Spring, TX Texas 77379 (US)
- **Maranuk, Christopher Anthony**
  Houston, TX Texas 77079 (US)
- **Stone, James E.**
  Porter, TX Texas 77365 (US)
- **Sherrill, Kristopher V.**
  Humble, TX Texas 77346 (US)

(74) Representative: **Jennings, Michael John**
A.A. Thornton & Co.
10 Old Bailey
London EC4M 7NG (GB)

(54) Downhole probe assembly

(57) This application relates to a downhole formation testing tool having an extendable sample apparatus and methods of use. In one embodiment, the extendable apparatus includes a piston that extends toward a borehole wall (49), the piston having an inner sampling member that is also extendable. The sampling member may be further extended to engage the borehole wall and penetrate the formation. The sampling member may also include a screen and an inner scraper (278) that frictionally engages the screen and reciprocates to remove debris from the screen. The piston may comprise a seal pad having an internal cavity for receiving a volume of fluid. In another embodiment, the extendable apparatus comprises multiple, concentric pistons for extending the sampling member further toward the borehole wall than is possible with a single piston. In one embodiment, the formation testing tool includes a hydraulic circuit and controller for operating the extendable sample apparatus; the tool may also include hydraulic accumulators and a regenerative hydraulic circuit.

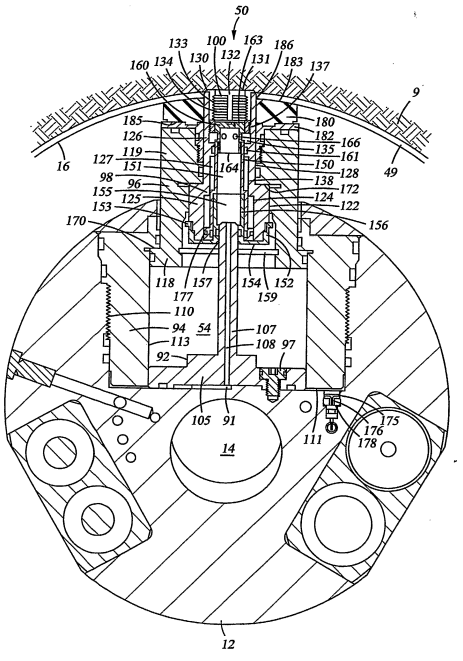


Fig. 6B

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EUROPEAN SEARCH REPORT

Application Number
EP 14 16 1783

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	WO 03/097999 A1 (HALLIBURTON ENERGY SERV INC [US]) 27 November 2003 (2003-11-27) * page 13, line 25 - page 15, line 10 * * page 20, lines 12-23 * * page 22, lines 5-11 * * figures 2D,3,4-9 * -----	1,5,6,9	INV. E21B49/10

TECHNICAL FIELDS SEARCHED (IPC)

E21B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	23 September 2016	Schouten, Adri

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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A : technological background
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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 14 16 1783

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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