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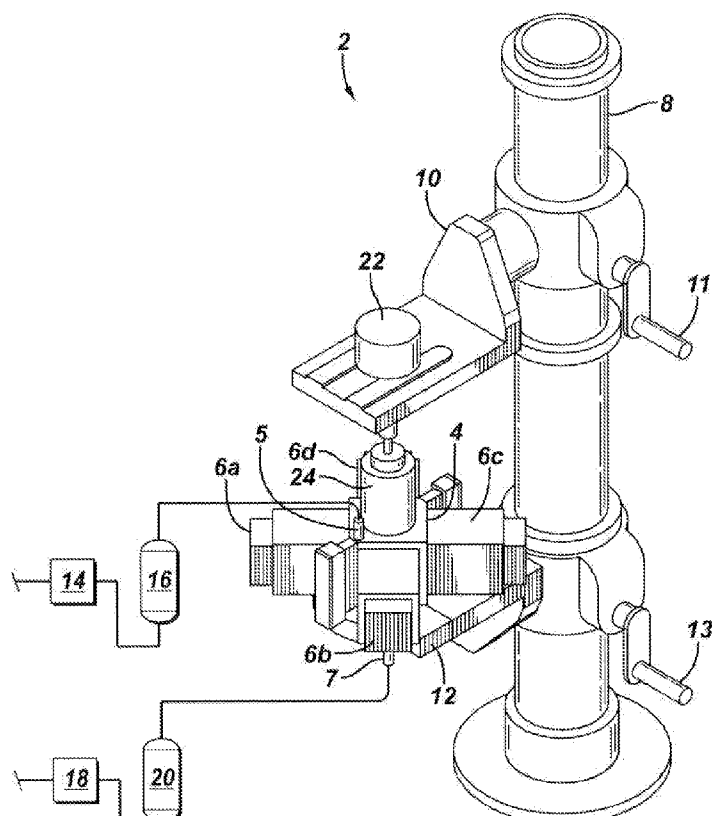
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[Continued on next page]

(54) Title: APPARATUS AND METHODS FOR SOLIDS DEPOSITION AND ANALYSIS

FIG. 1



(57) Abstract: Apparatus and methods described for solids deposition study. One apparatus embodiment of the invention comprises an internal and an external cylinder positioned between first and second end portions, at least one of the cylinders being rotatable and thus forming a Couette-Taylor cell, the internal cylinder having an exterior surface, the external cylinder having an internal surface, an annular sample flow-through chamber or cell formed between the surfaces, optionally the chamber having an adaptable flow-through chamber geometry, the device having a sample inlet and outlet; and a non-intrusive probe for detecting solids deposition on at least one of the surfaces during sample flow through the apparatus. Apparatus described may be used to studying solids deposition from heavy hydrocarbon oils, hydrates, and other high viscosity compositions.



PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM,
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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A. CLASSIFICATION OF SUBJECT MATTER

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USPC - 73/61.62, 374/7

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

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IPC(8) - G01N 33/00 (2008.04)

Google Scholar, WIPO, PubMed

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

PubWest (USPT, PGPB, EPAB, JPAB), Google Scholar, WIPO, PubMed

Search terms - Apparatus, probe, cylinder, chamber, cell, solids, deposition, Pelletier

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 7,150,183 B2 (KHARRAT et al.) 19 December 2006 (19.12.2006); col 3, ln 47-54; col 2, ln 55 - col 3, ln 7; col 7, ln 38-61; col 1, ln 55 - col 2, ln 2; col 2, ln 49-52; col 14, ln 21-27; col 12, ln 53-60; col 8, ln 32-46; col 9, ln 10-15; col 7, ln 3-8	22-28
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Y		1-21
Y	US 6,886,393 B1 (ROMANET et al.) 03 May 2005 (03.05.2005); col 3, ln 3-10; col 3, ln 17-19; col 4, ln 12-14; col 12, ln 12-17	1-21
Y	ZOUGARI et al. "Novel Organic Solids Deposition and Control Device for Live-Oils: Design and Applications"; Energy Fuels, Vol 20, No 4, pages 1656 -1663, 2006. Esp. page 1660	10

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