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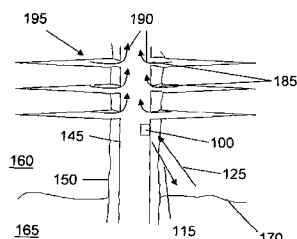


Fig. 2a

(57) Abstract: There is described downhole apparatus (100) and methods for identifying the position of an interface (170) within a subterranean formation. In some examples, the apparatus is for use at a fixed downhole location, such as a production zone (195), and is configured to determine the encroachment of an interface (e.g. water) into the production zone. In other examples, the apparatus is for use with a drill assembly (290) and is configured to determine the distance of a drill assembly from a subterranean interface during drilling. In some examples, the apparatus uses signals comprising a plurality of frequencies, which may be selected based on the particular subterranean interfaces being measured.

INTERNATIONAL SEARCH REPORT

International application No

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A. CLASSIFICATION OF SUBJECT MATTER

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ADD.

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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
E21B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

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

EP0-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2009/075777 A2 (BAKER HUGHES INC [US]; PATTERSON DOUGLAS J [US]; TANG XIAO MING [US]) 18 June 2009 (2009-06-18) paragraph [0012] claim 13 figure 1	1-28
X	GB 2 416 398 A (SCHLUMBERGER HOLDINGS [VG]) 25 January 2006 (2006-01-25) page 7, line 29 - page 8, line 18 figures 1-6	1-28
X	WO 2008/055266 A1 (BAKER HUGHES INC [US]; HAMPTON DAVID [US]; LOOS ROBERT [US]; ERIKSEN B) 8 May 2008 (2008-05-08) paragraphs [0016] - [0018] figures 1, 2	1,2, 23-27
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☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>US 5 175 429 A (HALL JR HUGH E [US] ET AL) 29 December 1992 (1992-12-29) claim 7 figures 1-3</p> <p>-----</p>	1,23

INTERNATIONAL SEARCH REPORT

Information on patent family members

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