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[Continued on next page]

(54) Title: DRILLING MOTOR VALVE AND METHOD OF USING SAME

FIG.2A

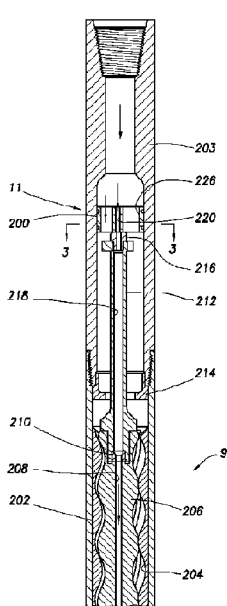
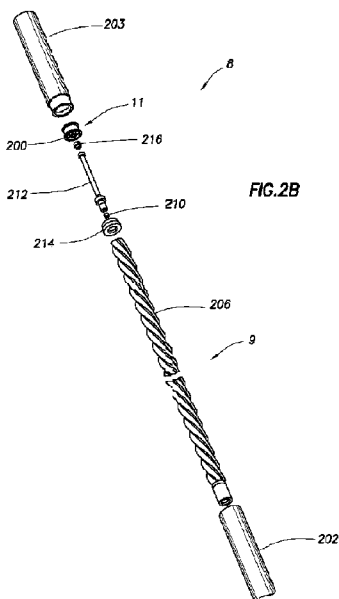


FIG.2B



(57) Abstract: A valve (11) for controlling the flow of a drilling fluid through a down-hole tool (10) positionable in a wellbore penetrating a subterranean formation. The down-hole tool has a housing with a drilling motor therein and a drill bit (1) at an end thereof. The drilling motor (9) has a housing with a rotor (206) rotationally movable in a rotor channel (204) as the drilling fluid passes through a rotor channel between the housing and the rotor. The rotor has a bypass channel therethrough for bypassing a portion of the drilling fluid therethrough. The valve includes a valve plate positionable upstream of the motor. The valve plate (200) has at least one flow passage (226) and at least one bypass passage (220) therethrough. The flow passage is in fluid communication with the rotor channel for passing the drilling fluid therethrough. The bypass passage is in selective fluid communication with the bypass channel when the rotor rotates about the housing and moves the bypass channel into alignment with at least a portion of the bypass passage for bypassing a portion of the drilling fluid therethrough whereby a hammering effect is generated on the bit.

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— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

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10 January 2013

INTERNATIONAL SEARCH REPORT

International application No
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A. CLASSIFICATION OF SUBJECT MATTER
INV. E21B4/02 E21B6/02 E21B21/10
ADD.
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)
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 practicable, search terms used)
EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|--|-----------------------|
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Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents :

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| Date of the actual completion of the international search 15 November 2012 | Date of mailing of the international search report 23/11/2012 |
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| Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016 | Authorized officer Hustedt, Bernhard |
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Box No. IV Text of the abstract (Continuation of item 5 of the first sheet)

A valve (11) for controlling the flow of a drilling fluid through a downhole tool (10) positionable in a wellbore penetrating a subterranean formation. The downhole tool has a housing with a drilling motor therein and a drill bit (1) at an end thereof. The drilling motor (9) has a housing with a rotor (206) rotationally movable in a rotor channel (204) as the drilling fluid passes through a rotor channel between the housing and the rotor. The rotor has a bypass channel therethrough for bypassing a portion of the drilling fluid therethrough. The valve includes a valve plate positionable upstream of the motor. The valve plate (200) has at least one flow passage (226) and at least one bypass passage (220) therethrough. The flow passage is in fluid communication with the rotor channel for passing the drilling fluid therethrough. The bypass passage is in selective fluid communication with the bypass channel when the rotor rotates about the housing and moves the bypass channel into alignment with at least a portion of the bypass passage for bypassing a portion of the drilling fluid therethrough whereby a hammering effect is generated on the bit.

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2011/059789

| C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT | | |
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INTERNATIONAL SEARCH REPORT

Information on patent family members

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