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[Continued on next page]

(54) Title: NO-GO TAG SYSTEMS AND METHODS FOR PROGRESSIVE CAVITY PUMPS

(57) Abstract: A stator for a progressive cavity pump comprises a stator housing having a central axis, a first end, and a second end opposite the first end. In addition, the stator comprises a stator liner disposed within the stator housing. The stator liner has a first end and a second end opposite the first end. The first end of the stator liner is axially spaced from the first end of the stator housing. Further, the stator comprises a tag insert positioned in the stator housing between the first end of the stator housing and the first end of the stator liner. The tag insert has a through passage defining a radially inner surface that includes a tag shoulder.

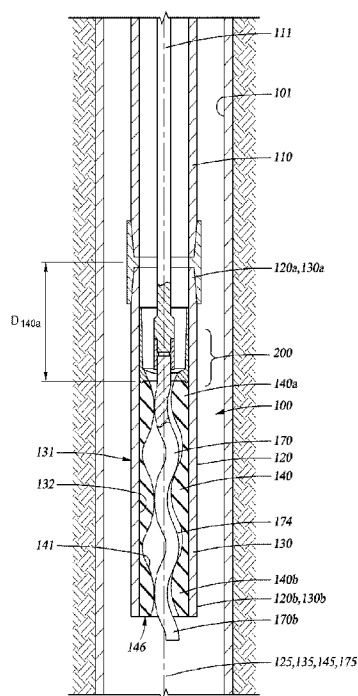


Fig. 4



LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK,
SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

— *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 March 2011

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2010/036810**A. CLASSIFICATION OF SUBJECT MATTER*****E21B 43/00(2006.01)i, E21B 43/12(2006.01)i***

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 43/00; E21B 17/10; E21B 23/00; E21B 23/01

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

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

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

eKOMPASS(KIPO internal) & Keywords: tag insert, tag shoulder, progressive cavity pump

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2003-0111221 A1 (DAVID ARTHUR HILL et al.) 19 June 2003	1-4,6,9-19
A	See the abstract; figures 1,2; and paragraphs [0025],[0027],[0028],[0031],[0038]	5,7,8,20
X	US 2005-0263289 A1 (EDWARD C. KANADY et al.) 01 December 2005	1-3,6,9-18
A	See the abstract; figure 1; and paragraphs [0014],[0015],[0018]	4,5,7,8,19,20
A	US 6338388 B1 (STEVEN T. WINKLER) 15 January 2002	1-20
	See the abstract; figure 2; and column 3	
A	US 5209294 A (JAMES L. WEBBER) 11 May 1993	1-20
	See the abstract; and figure 1	



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

14 JANUARY 2011 (14.01.2011)

Date of mailing of the international search report

17 JANUARY 2011 (17.01.2011)

Name and mailing address of the ISA/KR

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2010/036810**Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)**

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

- I. Claims 1-10 are directed to a progressive cavity pumping system.
- II. Claims 11-16 are directed to a method for pumping fluid from a wellbore to a surface.
- III. Claims 17-20 are directed to a stator for a progressive cavity pump.

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☒ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2010/036810

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2003-0111221 A1	19.06.2003	CA 2365052 A1 CA 2365052 C US 6729391 B2	14.06.2003 30.06.2009 04.05.2004
US 2005-0263289 A1	01.12.2005	CA 2567989 A1 CA 2567989 C US 7201222 B2 WO 2005-119006 A1	15.12.2005 29.12.2009 10.04.2007 15.12.2005
US 6338388 B1	15.01.2002	CA 2273753 A1 CA 2317032 A1	04.12.2000 04.12.2000
US 5209294 A	11.05.1993	None	