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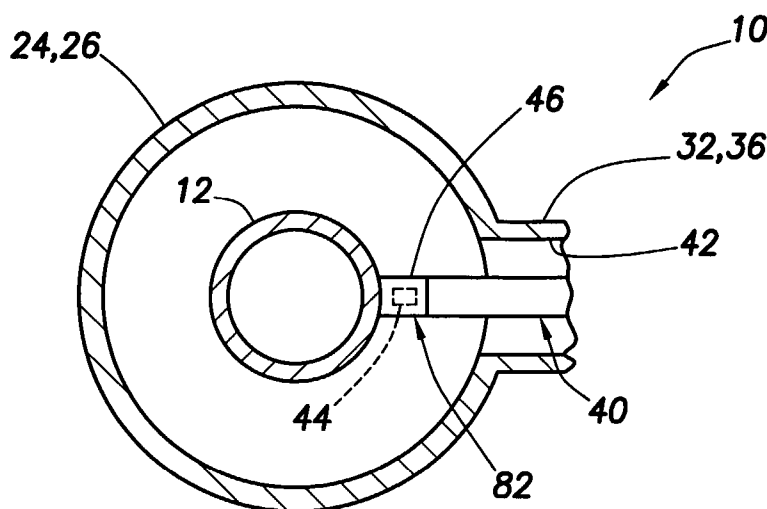
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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: ACOUSTIC TELEMETRY INSTALLATION IN SUBTERRANEAN WELLS



(57) Abstract: Acoustic telemetry installation in subterranean wells. In a described embodiment, a method of contacting an assembly with a generally tubular string in a subterranean well includes the steps of: suspending the tubular string in the well, the tubular string extending into a surface structure; and then displacing the assembly through the structure into contact with an exterior of the tubular string. The assembly can selectively contact any one of several tubular strings or other objects within a wellhead or casing. The assembly can be permanently or temporarily used on the well.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/25031

A. CLASSIFICATION OF SUBJECT MATTER

IPC: H04H 9/00(2007.01)

USPC: 367/81,82,83,84,85

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)

U.S. : 367/81,82,83,84,85

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)
EAST

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4992997 (Bseisu) 12 Feb. 1991 (12.02.1991)	1-11,17,19-21,23-25
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Y		13-15,18,22,72-78,81-82,84-86,88,90-95,97-107
Y	US 4616705 (Stememeir, et al) 14 Oct. 1986 (14.10.1986)	13,18,73
Y	US 50279036 (Gipson) 2 July 1991 (02.08.1991)	14-15,81,92-93,97
Y	US 20040105342 A1 (Gardner, et al) 3 June 2004 (03.07.2004)	22,75,85-86,88,101



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:		"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
"A"	document defining the general state of the art which is not considered to be of particular relevance	"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
"E"	earlier application or patent published on or after the international filing date	"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
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"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		

Date of the actual completion of the international search

02 November 2006 (02.11.2006)

Date of mailing of the international search report

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/25031

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:
Please See Continuation Sheet

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 additional fees, this Authority did not invite payment of any additional fees.
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.: 1-11,13-15,17-25,72-78,81-82,84-86,88,90-95,97-107, species A, a, i

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

International application No.
PCT/US05/25031

BOX III. OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

Group I, claim(s) 1-21 and 72-107, drawn to a method of contacting an assembly with a tubular string.

Group II, claim(s) 26-71 and 108-121, drawn to an installation system for use in a subterranean well.

This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In order for more than one species to be examined, the appropriate additional examination fees must be paid. The species are as follows:

Upon election of Group I or Group II, the applicant is required to elect from among the following disclosed species:

- A: The embodiment wherein the structure is a wellhead.
- B: The embodiment wherein the structure is a casing.

Upon election of A or B, the applicant is required to elect from among the following disclosed species:

- a. The embodiment wherein the sensor is an accelerometer.
- b. The embodiment wherein the sensor is a pressure sensor.
- c. The embodiment wherein the sensor is an acoustic telemetry sensor.

Upon election of a, b, or c, the applicant is required to elect from among the following disclosed species:

- i. The embodiment wherein the biasing device is a spring.
- ii. The embodiment wherein the biasing device is a pressurized chamber.
- iii. The embodiment wherein the biasing device is threads.

The inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

The groups do not fall within the permitted categories of invention under PCT Rule 13.1 and 13.2 as more than one method and more than apparatus are claimed. Group I and Group II are related as methods and apparatus. The Groups do not share a special technical feature which makes a contribution over the prior art (See US Patent 4992997).

INTERNATIONAL SEARCH REPORT

International application No.

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The species listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, the species lack the same or corresponding special technical features for the following reasons: The reasons are the same as those cited above.