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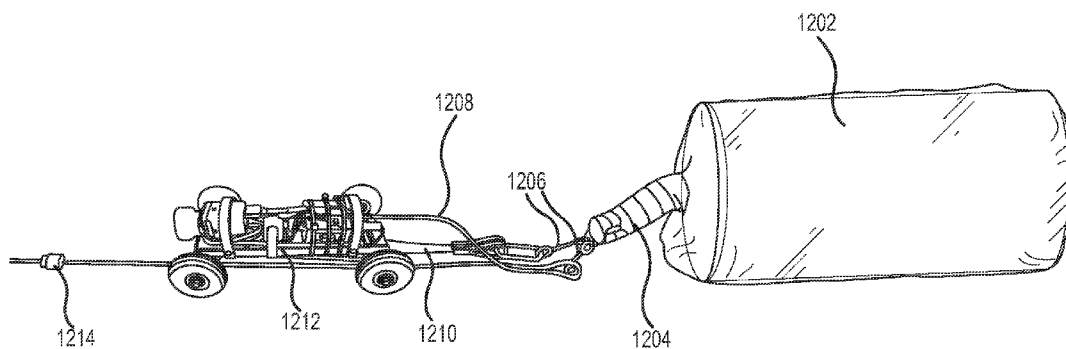
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(54) Title: SYSTEMS AND METHODS FOR INSTALLATION INSPECTION IN PIPELINE REHABILITATION



(57) Abstract: A method for pipeline rehabilitation grout coverage inspection according to embodiments of the present invention includes installing a tubular liner within a pipeline by filling a space between the tubular liner and the pipeline with grout, creating a heat transfer across the tubular liner, and observing an inside of the tubular liner with an infrared camera to detect an infrared signal differential between areas of the tubular liner in contact with the grout and areas of the tubular liner not in contact with the grout. Observing and inspecting the inside of the tubular liner may be accomplished simultaneously with rounding of the liner and smoothing of the grout by harnessing an infrared camera (1212) to a swab (1202) and advancing the swab with chilled compressed air to cool the liner, according to embodiments of the present invention.



WO 2008/024798 A3

INTERNATIONAL SEARCH REPORT

International application No.

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A. CLASSIFICATION OF SUBJECT MATTER
 IPC: **F16L 55/16** (2006.01)

 USPC: 138/98
 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. : 138/98, 97; 405/150.1, 184.2

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 BRS: search terms: grout, camera, infrared, sleeve, chilled, cooled, air, heater

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X ---	US 2005/0115338 A1 (MCGREW et al) 02 June 2005 (02.06.2005), see entire document.	1, 2, 7-10 -----
Y		3-6 and 11-17
Y	US 6,167,913 B1 (WOOD et al) 02 January 2001 (02.01.2001), see entire document.	3-6 and 11-17
Y	US 5,725,328 A (SCHMAGER) 10 March 1998 (10.03.1998), see entire document.	4-6 and 14-17
A	US 6,520,719 B1 (TWEEDIE et al) 18 February 2003 (18.02.2003), see entire document.	1-17

Further documents are listed in the continuation of Box C. See patent family annex.

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"A" document defining the general state of the art which is not considered to be of particular relevance	"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
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"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	"&" document member of the same patent family

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