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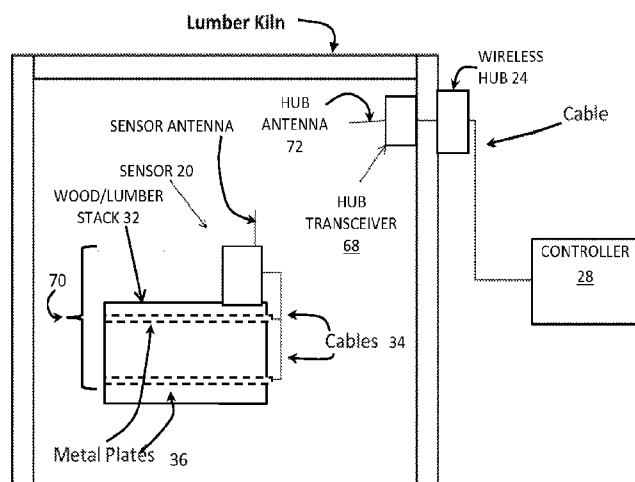
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(54) Title: WIRELESS IN-KILN MOISTURE SENSOR AND SYSTEM FOR USE THEREOF

Fig. 2

(57) **Abstract:** A wood monitoring system and method is disclosed for monitoring lumber characteristics (e.g., lumber moisture) in environments of extremely high and prolonged temperature and moisture, e.g., a kiln. The monitoring system and method includes: (a) Sensors (provided within lumber stacks), wherein such sensors are battery powered and wirelessly communicate measurements indicative of moisture content of the wood adjacent to and/or between metal plates provided in an electrical circuit with the sensors and the wood between the plates; (b) Computer implemented methods and systems for wireless communication that conserve sensor battery power such that the sensors can operate for, e.g., six months within extremely adverse temperature and moisture environmental variations; and (c) Computer implemented methods and systems for estimating moisture content with a wood/lumber stack, and for predicting such moisture content (e.g., as a substantially steady state within the wood) after drying completion.

INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - F26B 3/18 (2013.01)

USPC - 34/520

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)

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CPC - F26B 3/00, 3/18, 5/00; G01N 27/048 (2013.01)

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

PatBase, Google Patents, Google Scholar

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2004/0187341 A1 (STUDD et al) 30 September 2004 (30.09.2004) entire document	1-19
Y	US 2011/0093217 A1 (KATES) 21 April 2011 (21.04.2011) entire document	1-19
A	US 2008/0072448 A1 (HUBIG et al) 27 March 2008 (27.03.2008) entire document	1-19
A	US 2012/0139565 A1 (AMBUTER) 07 June 2012 (07.06.2012) entire document	1-19
A	WO 2006/053392 A1 (WEIR) 26 May 2006 (26.05.2006) entire document	1-19
A	CN 101183486 A (GUANGHUI) 21 May 2008 (21.05.2008) see machine translation	1-19
A	US 2008/0148593 A1 (TIITTA et al) 26 June 2008 (26.06.2008) entire document	1-19

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