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(54) Title: NON-INVASIVE THICKNESS MEASUREMENT USING FIXED FREQUENCY

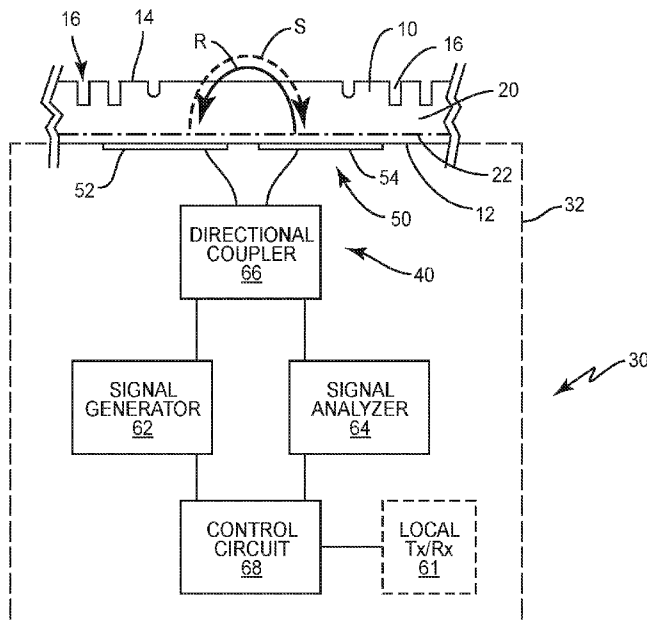


FIG. 1

(57) Abstract: A method of measuring thickness of a material generally includes applying an oscillating signal to a first electrode at a fixed frequency, passing the signal through the material to a second electrode, and measuring the magnitude of the signal reflected back to the first electrode. The thickness of the material is determined based on the measured magnitude of the reflected signal by: 1) comparing the determined magnitude to a predetermined baseline to establish a difference; and 2) identifying the thickness based on the difference. Related apparatuses are also disclosed. The material may be a vehicle tire.



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According to International Patent Classification (IPC) or to both national classification and IPC		
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Minimum documentation searched (classification system followed by classification symbols) See Search History Document		
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C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 7,775,094 B2 (AWAD) 17 August 2010 (17.08.2010), Fig 1-6, abstract, col 1, ln 12-20, col 3, ln 45-col 4, ln 27	1-20
A	US 4,799,177 A (SARR) 17 January 1989 (17.01.1989), abstract	1-20
A	US 5,216,372 A (ZOUGHFI et al.) 01 June 1993 (01.06.1993), abstract	1-20
A	US 8,531,329 B2 (MAHLER et al.) 10 September 2013 (10.09.2013), Fig 1, 2, abstract, col 3, ln 60-col 5, ln 9	1-20
A	US 8,794,058 B2 (BIGOT et al.) 05 August 2014 (04.08.2014), Fig 1-4, abstract, col 6, ln 40-52, col 10, ln 66-col 11, ln 27	1-20
A	US 2017/0153108 A1 (HITACHI-GE NUCLEAR ENERGY, LTD.) 01 June 2017 (01.06.2017), Fig 1, 7, abstract, para [0038], [0063], [0064]	1-20
P, A	US 9,797,703 B2 (DUKE UNIVERSITY) 24 October 2017 (24.10.2017), Fig 1, 5, 6, abstract, col 4, ln 4-55, col 6, ln 12-36	1-20
P, A	US 2017/0307349 A1 (DUKE UNIVERSITY) 26 October 2017 (26.10.2017), Fig 1, 6, 7, abstract, para [0019], [0031]	1-20
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