



(51) International Patent Classification:  
**G01H 3/00** (2006.01)

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(21) International Application Number:  
PCT/US2011/036052

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(22) International Filing Date:  
11 May 2011 (11.05.2011)

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
12/777,815 11 May 2010 (11.05.2010) US

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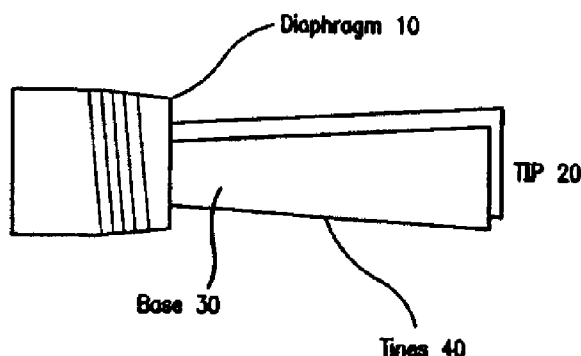
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(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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(54) Title: A TUNING FORK OSCILLATOR ACTIVATED OR DEACTIVATED BY A PREDETERMINED CONDITION

Illustration Showing the Tip, Base and Diaphragm Regions of the Tuning Fork



**FIG. 1**

(57) Abstract: The present invention is a tuning fork oscillator for detection and measurement of corrosive or foreign materials. The elements include a means for mechanical excitation, and a mechanical oscillator, wherein said mechanical oscillator has a resonant frequency,  $f$ , and a quality factor,  $Q$ . A fuse fixed to the oscillator to change oscillator amplitude to or from essentially zero to resonance amplitude. In a preferred embodiment, the tuning fork has one region compatible with the service fluid and the other region is incompatible with the service fluid or other contaminant. The sensor alarms when a measured amount of the incompatible material has been removed or deposited.

**Published:**

- with international search report (Art. 21(3))
- 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))
- with information concerning one or more priority claims considered void (Rule 26bis.2(d))