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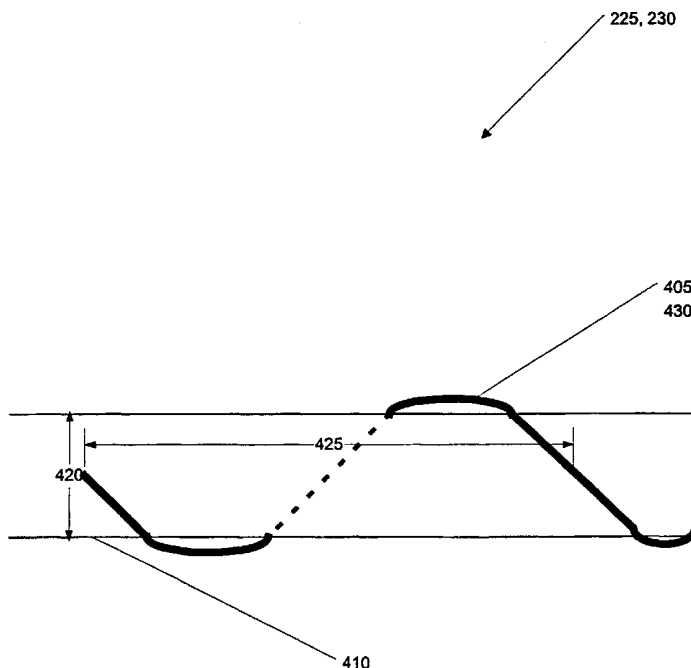
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(54) Title: EXPLOSIVE SHEAR WAVE ENERGY SOURCE



(57) Abstract: An energy source for shear wave within the surface of the earth. The energy source has a convoluted shape (405). In a preferred embodiment, the pitch of the spacing (425) of the flexible explosive material (405) and the flexible transfer material (430) around the tube (410) ranges from about 20 to 45 degrees relative to the horizontal direction in order to optionally excite a range of frequencies.



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A. CLASSIFICATION OF SUBJECT MATTER IPC(7) : C06C 5/04; F42B 3/00; E03B 3/11; G01V 1/06 US CL : 102/275.8, 312, 313; 166/50, 57; 181/116, 119 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. : 102/275.8, 312, 313; 166/50, 57; 181/116, 119 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)		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 100,884 A (GOMEZ) 15 MARCH 1870, SEE THE FIGURE.	8, 13, 16, 35
X	US 3,244,099 A (LANG ET AL) 05 APRIL 1966, SEE FIG. 2.	1, 3, 5-9, 11, 13-18, 20-31, 33-44, 46-55
Y	US 3,244,099 A (LANG ET AL) 05 APRIL 1966, SEE FIG. 2.	2, 4, 8, 10, 12, 13, 16, 19, 32, 35, 45
A	US 3,289,583 A (SILVERMAN) 06 DECEMBER 1966.	1-55
A	US 3,698,316 A (EVANS) 17 OCTOBER 1972, SEE THE O.G. FIGURE.	11, 13, 18, 20, 31, 35, 44
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.		
* *A* *E* *L* *O* *P*	Special categories of cited documents: document defining the general state of the art which is not considered to be of particular relevance earlier document published on or after the international filing date 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 referring to an oral disclosure, use, exhibition or other means document published prior to the international filing date but later than the priority date claimed	*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 *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 *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 *&* document member of the same patent family
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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 3,729,060 A (MURRAY) 24 APRIL 1973, SEE THE O.G. FIGURE.	2, 4, 10, 12, 19, 32, 35, 45
A	US 4,284,006 A (DAVIS) 18 AUGUST 1981.	10, 17, 30, 43
A	US 4,615,752 A (MILLER) 07 OCTOBER 1986, SEE THE ABSTRACT.	1-55
A	US 4,667,599 A (BRAND) 26 MAY 1987	1-55
A	US 5,125,473 A (SAKAMOTO ET AL) 30 JUNE 1992	1-55
A	US 3,832,949 A (DELGENDRE ET AL) 03 SEPTEMBER 1974.	41-50, 53-55