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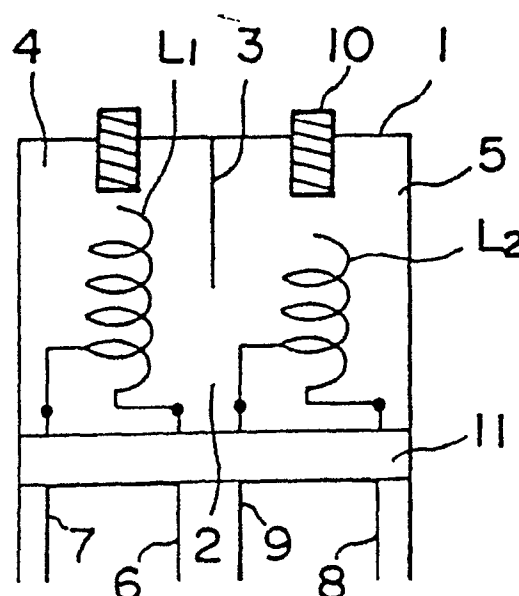
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**Helical filter.**

A helical filter is constructed by coupling a plurality of helical oscillators (4, 5; 54, 55). The oscillators (4, 5; 54, 55) have the same resonant frequency or the same harmonic frequency and have different harmonic frequencies or resonant frequencies, respectively. The oscillators (4, 5) have the same resonant frequency by adjusting the distributed capacities ( $C_1$ ,  $C_2$ ) thereof, respectively, and have different harmonic frequencies by varying the lengths of coils ( $L_1$ ,  $L_2$ ). Furthermore the oscillators (54, 55) have different resonant frequencies by varying the distributed capacities ( $C_3$ ,  $C_4$ ), respectively, and have the same harmonic frequency by using coils ( $L_5$ ,  $L_6$ ) having same length.



**FIG. 1**



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## EUROPEAN SEARCH REPORT

Application Number

EP 89 31 1804

DOCUMENTS CONSIDERED TO BE RELEVANT					
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)		
A	US-A-4 422 058 (VIZMULLER) * the whole document * - - -	1-5	H 01 P 1/205 H 01 P 7/00		
A	DE-A-2 137 431 (LICENTIA PATENT- VERWALTUNGS-GMBH) * page 2, lines 1 - 7 * * page 3, line 22 - page 5, line 5; figures 1, 2 * - - -	1-5			
A	US-A-3 936 776 (SUNDQUIST) * column 2, line 59 - column 3, line 53 * * column 5, lines 1 - 35; figures 1A, 1B, 3 * - - -	1-5			
A	US-A-3 538 463 (PAKAN) * column 2, line 8 - column 3, line 56; figure 2 * - - -	1-5			
A	GB-A-2 129 226 (THE MARCONI COMPANY) * the whole document * - - -	1,2,4			
A	IEEE TRANSACTIONS ON COMPONENT PARTS. vol. 9, no. 3, September 1961, NEW YORK US pages 99 - 110; A.I.ZVEREV et al.: "Realization of a filter with helical compo- nents " * page 100, right-hand column, lines 8 - 28 * * page 104, right-hand column, lines 5 - 14; figure 8 * - - - - -				
The present search report has been drawn up for all claims					
Place of search The Hague		Date of completion of search 15 January 91	Examiner DEN OTTER A.M.		
<table border="0"><tr><td><b>CATEGORY OF CITED DOCUMENTS</b> X: particularly relevant if taken alone Y: particularly relevant if combined with another document of the same category A: technological background O: non-written disclosure P: intermediate document T: theory or principle underlying the invention</td><td>E: earlier patent document, but published on, or after the filing date D: document cited in the application L: document cited for other reasons ----- &amp;: member of the same patent family, corresponding document</td></tr></table>				<b>CATEGORY OF CITED DOCUMENTS</b> X: particularly relevant if taken alone Y: particularly relevant if combined with another document of the same category A: technological background O: non-written disclosure P: intermediate document T: theory or principle underlying the invention	E: earlier patent document, but published on, or after the filing date D: document cited in the application L: document cited for other reasons ----- &: member of the same patent family, corresponding document
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