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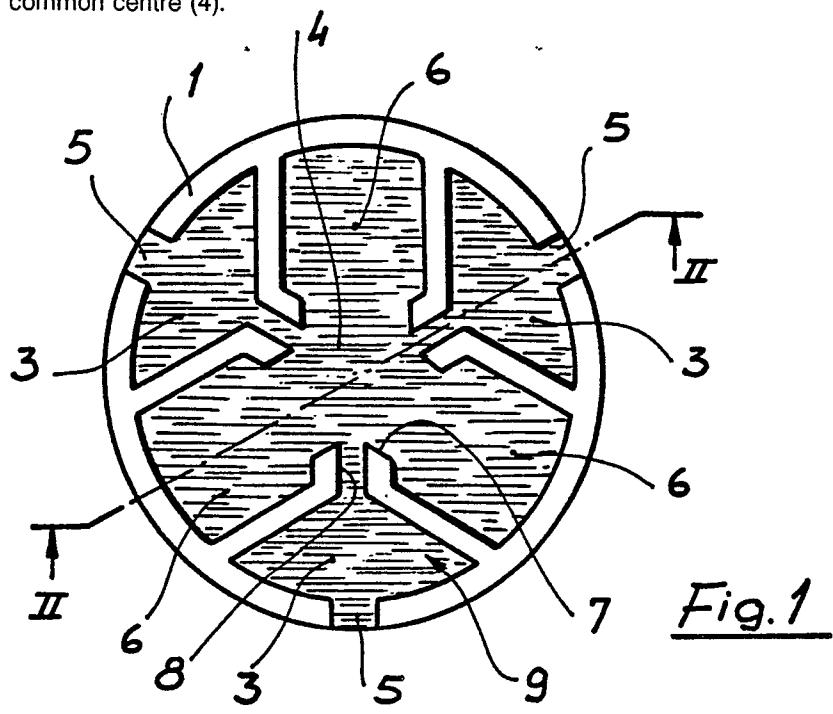
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⑷ Thin-film circulator with three matched gates.

⑷ The circulator has top metallization made with geometry such as to describe three transmission lines (3) 120° apart converging at a common centre (4) from respective input and output gates (5). Between said transmission lines (3) are placed the same number of matching line sections (6) also converging at said common centre (4).





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DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
X	DE-A-2 401 188 (INSTITUT FÜR NACHRICHTENTECHNIK) * Page 1, lines 1-7; page 3, line 1 - page 4, line 7; figure *	1	H 01 P 1/387
Y	---	5	
A	---	2	
Y	FR-A-2 445 038 (NIPPON ELECTRIC CO., LTD) * Page 4, lines 7-29; figure 4 *	5	
X	PATENT ABSTRACTS OF JAPAN, vol. 4, no. 67 (E-11)[549], 20th May 1980, page 117 E 11; & JP-A-55 37 040 (TSUKASA NAGAO) 14-03-1980 * Abstract *	1,3	
A	IEEE TRANS. ON MICROWAVE THEORY & TECHN., vol. MTT-28, no. 6, June 1980, pages 616-621, IEEE, New York, US; J. HELSZAJN et al.: "Characteristics of circulators using planar triangular and disk resonators symmetrically loaded with magnetic ridges" * Page 616, left-hand column, lines 1-21; figures 1(a),(b) *	3,4	TECHNICAL FIELDS SEARCHED (Int. Cl.4)
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The present search report has been drawn up for all claims			
Place of search	Date of completion of the search	Examiner	
THE HAGUE	20-04-1989	DEN OTTER A.M.	
CATEGORY OF CITED DOCUMENTS		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	
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			