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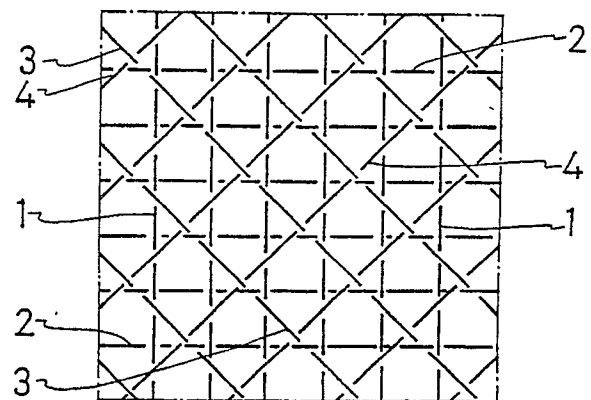
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54 **Tetraaxial woven fabrics and tetraaxial weaving machine thereof.**

57 The present invention provides a tetraaxial woven fabric in a novel texture exhibiting isotropic nature superior to that of the triaxial woven fabric and is composed of warp ends, weft ends, and intersecting upper and lower bias yarns running obliquely to the former two under such circumstances as increasing demand for triaxial woven fabrics having isotropic nature in strength and elongation requisite to improvement in strength and reduction of weight of FRP and supply of materials suited to the manufacture of aircrafts and autocars. Further, for the purpose of weaving and tetraaxial fabric as above, the present invention provides a bias yarn feeding device and bias yarn traversing device in a structure that has never been devised before, thereby enabling high speed weaving and production at low cost of a fabric exhibiting high isotropic characteristics in spite of reduced thickness thereof.

Fig. 1





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EUROPEAN SEARCH REPORT

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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. 4)
X	GB - A - 2 117 418 (KK HINAYA) * Totality * --	1-3	D 03 D 13/00 D 03 D 41/00
A	DE - C - 1 535 442 (DOWEAVE INC.) * Fig. 1-8 * --	1	
D, A	US - A - 3 999 578 (KUL CZYCKI) * Claims * --	4	
D, A	US - A - 4 015 637 (HALTON et al.) * Totality * --	4	
A	US - A - 4 066 104 (HALTON et al.) * Totality * --	4	
A	US - A - 4 031 922 (TROST) * Fig. 1-4 * ----	4	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int. Cl. 4) D 03 D 13/00 D 03 D 41/00 D 03 D 49/00
Place of search VIENNA		Date of completion of the search 18-12-1990	Examiner HUBER
CATEGORY OF CITED DOCUMENTS			
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	