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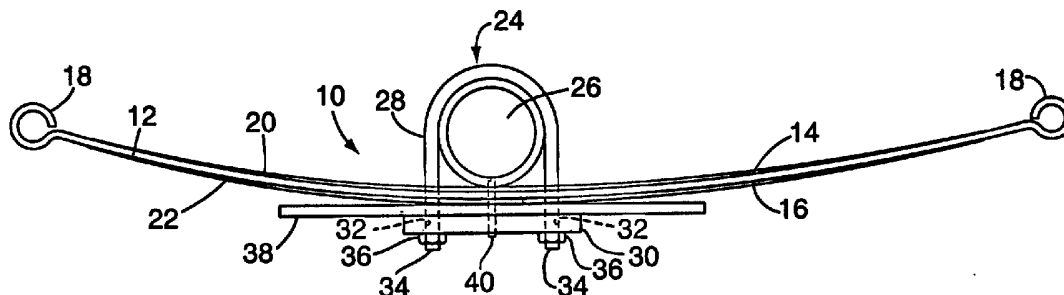
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(54) Title: HYBRID LEAF SPRING WITH REINFORCED BOND LINES

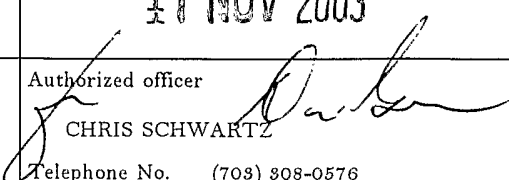


(57) Abstract: A hybrid leaf spring includes an elongated primary leaf (12) having a compression surface (16), an opposite tension surface (14), and a first modulus of elasticity. At least one composite material layer (20,22) is provided having a second modulus of elasticity different from the first modulus of elasticity. An adhesive layer (42) is interposed between and bonds the at least one composite material layer (20,22) to and in substantially parallel relationship with a respective one of the tension (14) and compression (16) surfaces of the elongated primary leaf (12). A reinforcing layer (44) of natural, synthetic or metallic sheet material extends within the adhesive layer (42), preferably in spaced relation to opposing surfaces of the primary leaf (12) and the composite material layer (20,22) to strengthen the bond formed the adhesive layer (42).

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## INTERNATIONAL SEARCH REPORT

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<b>A. CLASSIFICATION OF SUBJECT MATTER</b>		
IPC(7) :B32B 3/00 US CL :267/148 According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b>		
Minimum documentation searched (classification system followed by classification symbols) U.S. : 267/148, 30, 36.1,37.1,37.2,47,49,50; 156/245; 264/136,258,263		
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) EAST		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4,707,317 A (EPEL et al.) 17 November 1987, see the entire document.	1-44
Y	US 4,747,898 A (WOLTRON) 31 May 1988, see the entire document.	1-44
Y	US 5,087,503 A (MEATTO) 11 February 1992, see the entire document.	1-44
Y	US 6,189,904 B1 (GENTRY et al.) 20 February 2001, see the entire document.	1-44
Y, <sup>P</sup>	US 6,461,455 B1 (MEATTO et al.) 8 October 2002, see the entire document.	1-44
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.		
* "A"	Special categories of cited documents: document defining the general state of the art which is not considered to be of particular relevance	"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
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