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(54) Title: WIND TURBINE BLADE

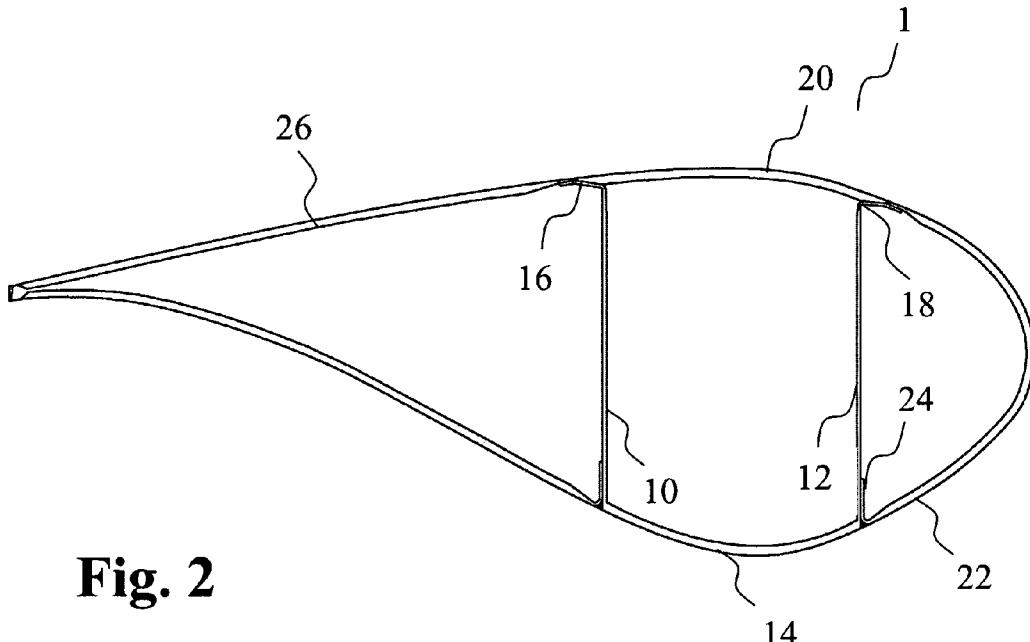


Fig. 2

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(57) Abstract: The invention relates to a blade for a wind turbine, particularly to a blade that may be produced by an advanced manufacturing process for producing a blade with high quality structural components. Particularly, the structural components, which are preferably manufactured from fibre reinforced plastic material, will have a high level of stretched fibres as well as a far better controlled resin distribution and content and also a low void content.



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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

F03D

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 practical, search terms used)

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C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 061 567 A (MESSERSCHMITT BOELKOW BLOHM [DE]) 6 October 1982 (1982-10-06) abstract; figures 1,2c,2d,6,6a	1-26
X	WO 01/46582 A (AERODYN ENG GMBH [DE]; SIEGFRIEDSEN SOENKE [DE]) 28 June 2001 (2001-06-28) abstract; figures 3,4	1-26
X	WO 00/14405 A (LM GLASFIBER AS [DK]; OLSEN KAJ [DK]; GRABAU PETER [DK]; MOELLER LARSE) 16 March 2000 (2000-03-16) abstract; figure 2	1-26
X	US 5 375 324 A (WALLACE VERNON R [US] ET AL) 27 December 1994 (1994-12-27) abstract; figures 3-6	1-26 -/-

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Information on patent family members

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Patent document cited in search report		Publication date		Patent family member(s)	Publication date
EP 0061567	A	06-10-1982		AU 551912 B2 AU 8199882 A CA 1197468 A1 DE 3113079 A1 DK 147182 A ES 8503080 A1 GR 82251 A1 JP 1647532 C JP 3012232 B JP 57210171 A US 4643646 A US 4732542 A	15-05-1986 07-10-1982 03-12-1985 28-10-1982 02-10-1982 01-05-1985 13-12-1984 13-03-1992 19-02-1991 23-12-1982 17-02-1987 22-03-1988
WO 0146582	A	28-06-2001		AU 3151201 A DE 19962454 A1	03-07-2001 05-07-2001
WO 0014405	A	16-03-2000		AT 244363 T AU 5504399 A CN 1317072 A DE 69909306 D1 DE 69909306 T2 DK 112798 A EP 1112448 A1 ES 2203171 T3 PT 1112448 T US 6457943 B1	15-07-2003 27-03-2000 10-10-2001 07-08-2003 22-04-2004 10-03-2000 04-07-2001 01-04-2004 28-11-2003 01-10-2002
US 5375324	A	27-12-1994		EP 0708887 A1 WO 9502763 A1 US 5499904 A	01-05-1996 26-01-1995 19-03-1996
EP 1785621	A	16-05-2007		AU 2006236033 A1 CA 2566371 A1 DE 102005054594 A1 US 2007110584 A1	31-05-2007 14-05-2007 16-05-2007 17-05-2007
EP 1754589	A	21-02-2007		CN 1915649 A US 2007040294 A1	21-02-2007 22-02-2007
EP 1878915	A	16-01-2008		CN 101151458 A ES 2265760 A1 WO 2006103307 A2	26-03-2008 16-02-2007 05-10-2006
EP 1880833	A	23-01-2008	WO	2008010198 A1	24-01-2008