



Europäisches Patentamt  
European Patent Office  
Office européen des brevets



(11) **EP 0 895 223 A3**

(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:  
17.11.1999 Bulletin 1999/46

(51) Int. Cl.<sup>6</sup>: **G10K 11/172**, F16L 55/02

(43) Date of publication A2:  
03.02.1999 Bulletin 1999/05

(21) Application number: **98202574.4**

(22) Date of filing: **30.07.1998**

(84) Designated Contracting States:  
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU  
MC NL PT SE**  
Designated Extension States:  
**AL LT LV MK RO SI**

- **Wikstrom, Robert F.**  
Derby, Kansas 67037 (US)
- **Stratton, Terry W.**  
Rose Hill, Kansas 67133 (US)
- **Popp, Thomas D.**  
Wichita, Kansas 67206 (US)
- **Kitt, Brian R.**  
Wichita, Kansas 67212 (US)

(30) Priority: **30.07.1997 US 54196 P**  
**13.04.1998 US 59797**

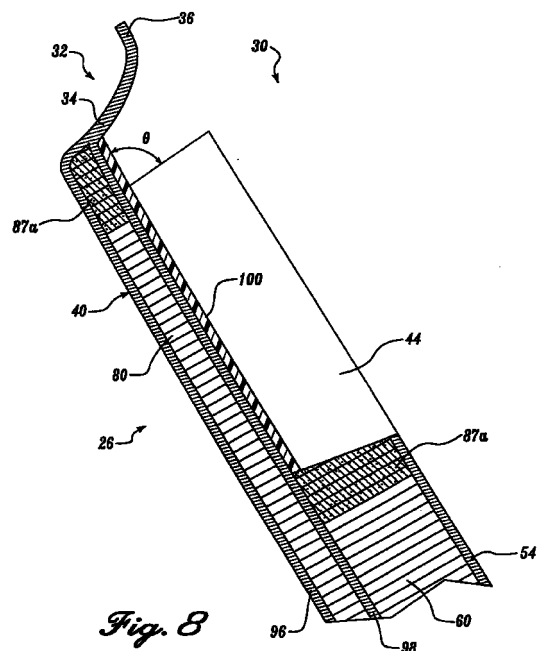
(71) Applicant: **THE BOEING COMPANY**  
**Seattle, Washington 98124-2207 (US)**

(74) Representative:  
**Land, Addick Adrianus Gosling  
Arnold & Siedsma,  
Advocaten en Octrooigemachtigden,  
Sweelinckplein 1  
2517 GK Den Haag (NL)**

(72) Inventors:  
• **Welch, John M.**  
Wichita, Kansas 67207 (US)

(54) **Engine nacelle acoustic panel with integral wedge fairings and an integral forward ring**

(57) An acoustic panel (26) for the nacelle (20) of a high bypass jet engine. The acoustic panel (26) has a perforated composite inner sheet (54), an outer composite sheet (96, 98), and a honeycomb-core material (74) sandwiched therebetween. The acoustic panel (26) includes an integral forward ring (36) and integral wedge fairings (44).



*Fig. 8*

**EP 0 895 223 A3**



European Patent  
Office

EUROPEAN SEARCH REPORT

Application Number  
EP 98 20 2574

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.6)
X	US 4 826 106 A (ANDERSON ROBERT E) 2 May 1989 (1989-05-02) * column 7, line 64 - column 8, line 22 * * figures 2-5 *	1,2,7, 10-13	G10K11/172 F16L55/02 B29C67/14
A	EP 0 540 193 A (GEN ELECTRIC) 5 May 1993 (1993-05-05) * figures 1,2 * * column 4, line 47 - line 58 *	1	
A	GB 2 273 131 A (GRUMMAN AEROSPACE CORP) 8 June 1994 (1994-06-08) * the whole document *		
A	US 5 315 820 A (ARNOLD MICHAEL J) 31 May 1994 (1994-05-31) * column 5, line 1 - line 12 * * column 6, line 45 - line 52 * * figures 1,4 *		
A	US 4 336 090 A (HILTON R JOHN) 22 June 1982 (1982-06-22) * the whole document *		
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			G10K F02C F02K B29D B29C
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
THE HAGUE		24 September 1999	Castagné, 0
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	

EPO FORM 1503 03 82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 98 20 2574

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

24-09-1999

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 4826106 A	02-05-1989	NONE	
EP 0540193 A	05-05-1993	US 5251435 A JP 1967921 C JP 5202768 A JP 6089677 B	12-10-1993 18-09-1995 10-08-1993 09-11-1994
GB 2273131 A	08-06-1994	DE 4340951 A FR 2698910 A JP 6280614 A US 5581054 A US 5768778 A	09-06-1994 10-06-1994 04-10-1994 03-12-1996 23-06-1998
US 5315820 A	31-05-1994	AU 644894 B AU 8214691 A CA 2064755 A,C DE 69113761 D DE 69113761 T EP 0489894 A WO 9200183 A GB 2247712 A,B JP 5501623 T	23-12-1993 23-01-1992 29-12-1991 16-11-1995 30-05-1996 17-06-1992 09-01-1992 11-03-1992 25-03-1993
US 4336090 A	22-06-1982	US 4346134 A	24-08-1982