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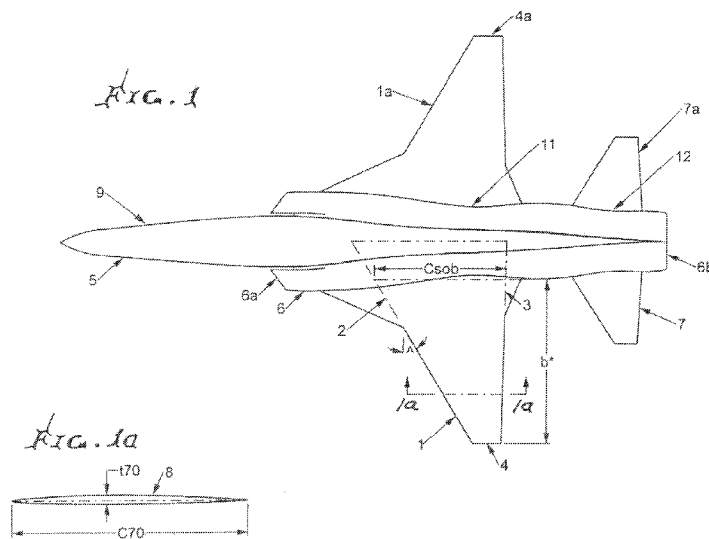
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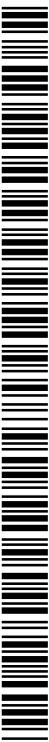
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(54) Title: LAMINAR FLOW WING OPTIMIZED FOR TRANSONIC AND SUPERSONIC CRUISE AIRCRAFT



(57) Abstract: Aircraft configured to operate at Mach numbers from above .80 and up to 1.2 with wing sweep angles defined by the wing outboard leading edge of less than 35 degrees, and incorporating calculated values of the ratio of outboard wing panel aspect ratio raised to an exponent of .78, divided by the ratio of maximum thickness divided by chord ( $t/c$ ), greater than about 45, and having one of the following: a) where maximum thickness divided by chord ( $t/c$ ) is at a location approximately 70% of the distance outboard from the attaching aircraft body to the wing tip, or b) where maximum thickness divided by chord ( $t/c$ ) is the average value of ( $t/c$ )'s located between approximately 50% of the distance outboard from the attaching aircraft body to the wing tip.



**INTERNATIONAL SEARCH REPORT**

International application No.  
PCT/US 12/20588

**A. CLASSIFICATION OF SUBJECT MATTER**  
 IPC(8) - B64C 3/10 (2012.01)  
 USPC - 244/130  
 According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**  
 Minimum documentation searched (classification system followed by classification symbols)  
 IPC(8): B64C 3/10 (2012.01)  
 USPC: 244/130

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
 IPC(8) - B64C 1/38, 3/36  
 USPC - 244/34R, 35R, 36, 4R, 198, 201, 204; search terms below

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
 US Pats, US Published Apps, JPO, EP Patents, PCT Full text, Derwent WPI, French Patents, INSPEC, NTIS, Dissertation Abstracts, Inside Conferences, Dialog Newsroom; Google Scholar; aircraft, wing panel, aspect ratio, mach, exponent, chord, thickness, average, etc.

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 7,000,870 B2 (Tracy et al.) 21 February 2006 (21.02.2006), col 1, ln 62-64; col 3, ln 12-13.	1
A	US 7,093,792 B2 (Fujino et al.) 22 August 2006 (22.08.2006), col 17, ln 50, col 9, ln 1-2.	1
A	US 6,102,328 A (Kumata et al.) 15 August 2000 (15.08.2000), entire document.	1-20
A	US 6,834,830 B2 (Fujino) 28 December 2004 (28.12.2004), entire document.	1-20

Further documents are listed in the continuation of Box C.

\* Special categories of cited documents:

"A" 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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"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search 06 September 2012 (06.09.2012)	Date of mailing of the international search report <b>28 SEP 2012</b>
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