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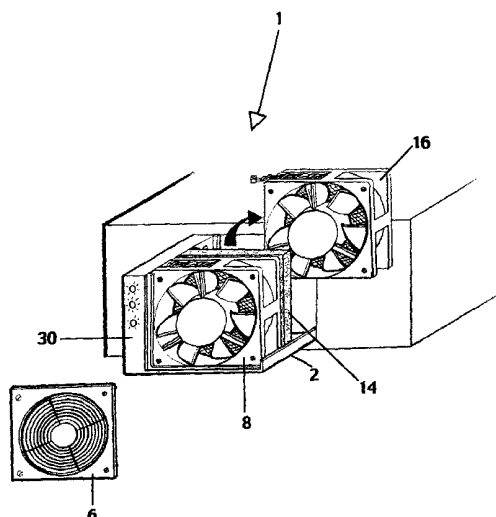
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(54) Title: COMPACT DUAL REDUNDANT COOLING FANS



(57) Abstract: A compact dual redundant cooling fan assembly has an outboard cooling fan, a turbulent to laminar flow modification element, and an inboard cooling fan mounted in a series configuration. A connecting sleeve directs the combined output into a cabinet containing components to be cooled. A sliding drawer within the connecting sleeve detachably holds said outboard cooling fan, said flow modification element, and said inboard cooling fan, allowing for the hot swappable replacement of defective components. A controller is in communication with a power source, said outboard fan, said inboard fan, and at least one sensor monitoring the status of each of said outboard cooling fan and said inboard cooling fan. Said controller is configured to maintain said combined output above a minimum control level at all times, regardless of the failure of said outboard fan or said inboard fan.



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*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

## INTERNATIONAL SEARCH REPORT

national Application No  
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A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 H05K7/20

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 7 H05K

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)

EPO-Internal

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6 101 459 A (VINSON WADE D ET AL) 8 August 2000 (2000-08-08) column 6, line 16 - line 50; figure 2	1-54
A	US 5 572 403 A (MILLS R STEVEN) 5 November 1996 (1996-11-05) column 8, line 24 - line 67; figure 4	1-54
A	EP 0 588 414 A (IBM) 23 March 1994 (1994-03-23) column 3, line 39 - column 4, line 5; figure 1	1-54
A	DE 25 03 623 A (SIEMENS AG) 5 August 1976 (1976-08-05) page 3, paragraph 4; figure 1	1-54

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

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## INTERNATIONAL SEARCH REPORT

Information on patent family members

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