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(54) Title: AN INTEGRATED MACHINING MODULE FOR PROCESSING WORKPIECES AND A METHOD OF ASSEMBLING THE SAME

(57) Abstract: A system for machining workpieces (12) and separating the chips from the workpieces (12) includes a plurality of workstations (14) detachably interconnected by a housing (16) and arranged along a processing path (A). A coolant and filtration device (56) extends through the workstations (14) and is adaptable for separating the chips from the workpieces (12). A mist collection device (54) is cooperable with the workstations (14) and the coolant and filtration device (56) for removing mist generated by the workstations (14) while machining the workpieces (12). The workstations (14) are interconnected with the mist collection device (54) and the coolant and filtration device (56) to form a single machining module (10) of various dimensions and configurations to be adaptable for various manufacturing environments.



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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/19562

A. CLASSIFICATION OF SUBJECT MATTER

IPC: **B01D 50/00**(2006.01),**59/50**(2006.01),**21/24**(2006.01),**24/38**(2006.01),**25/30**(2006.01);**B01L 1/04**(2006.01);**B05B 15/12**(2006.01);**B05C 15/00**(2006.01);**C02F 1/00**(2006.01);**E03B 11/00**(2006.01)

USPC: 55/385.2,385.1;454/187,52,57;210/104,171,262,300,521,540

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)

U.S. : 55/385.2, 385.1; 454/187, 52, 57; 210/104, 171, 262, 300, 521, 540

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)
Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,454,937 A (LEWANDOWSKI) 03 October 1995, see col. 1, lines 6-10, 31-40; col. 3, lines 46-54; col. 2, lines 38-41; col. 4, lines 46-51; col. 5, lines 8-13.	1-61
Y	US 6,364,762 B1 (KAVEH et al.) 02 April 2002, see fig. 1A; col. 1, line 13-col. 2, line 5; col. 5, lines 33-44.	1-61

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

* 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
"E" earlier application or patent published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	"&" document member of the same patent family

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INTERNATIONAL SEARCH REPORT

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Continuation of B. FIELDS SEARCHED Item 3:

US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB: machine, workpiece, workstation, cool, coolant, mist, convey, conveyor, integrat, integrated, module