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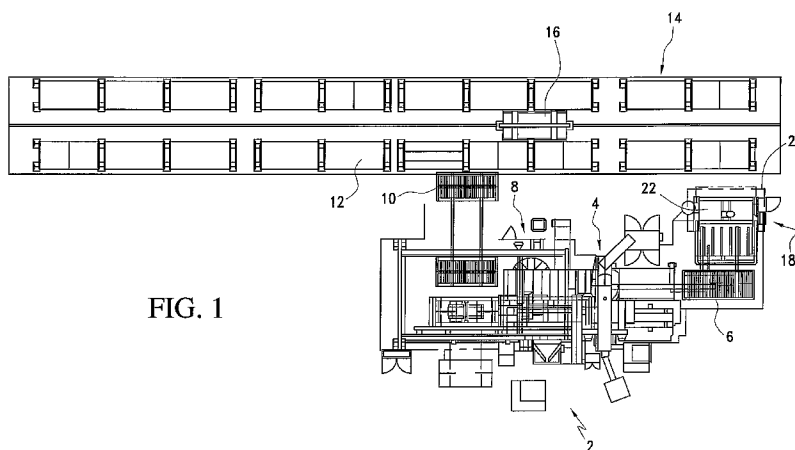


FIG. 1

(57) Abstract: In a flexible manufacturing system (FMS), a shelving module of a work cell is fitted with a dedicated lift conveying mechanism so that work materials of desired sizes may be retrieved individually from different shelves or cassettes of the shelving module for conveyance to the machine(s) of the work cell. By having its own dedicated lift conveying mechanism that operates independently from the transport system that transports raw materials to the different work cells of the FMS, the operation of each work cell becomes unaffected by the transport system. As such, for each of the work cells, materials may be fed piecemeal to a machine of the cell for fabrication, if so desired. In the meantime, the various shelves of the shelving module, and other shelving modules, may continue to be re-stocked by the transport system. Any material remnants that prior to the instant invention would have been wasted may be returned to the appropriate shelves of the shelving module for future use by the lift conveying mechanism.



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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - G06F 17/00 (2008.04)

USPC - 700/90

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)

USPC: 700/90

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

USPC: 700/106,165,169,182;

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

Delphion; Google Scholar

Search Terms Used: intermediary, manufacturing, conveyor, lift, cassette, restock, storage, worksheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4,703,558 A (Makinen) 03 November 1987 (03.11.1987), col. 2, ln 36 - col. 4, ln 65.	1-20
Y	US 6,543,605 B2 (Faltel) 08 April 2003 (08.04.2003), col. 2, ln 48 - col. 6, ln 67.	1-8 and 12-20
Y	US 4,814,576 A (Morita et al.) 21 March 1989 (21.03.1989), col. 2, ln 60 - col. 4, ln 50.	5, 7, 10, 14, 16 and 19
Y	US 6,397,122 B1 (Lindstrom et al.) 28 May 2002 (28.05.2002), col. 2, ln 43-52.	9-20

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