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(54) Title: ADAPTIVE MATERIAL DEPOSITION FOR ADDITIVE MANUFACTURING

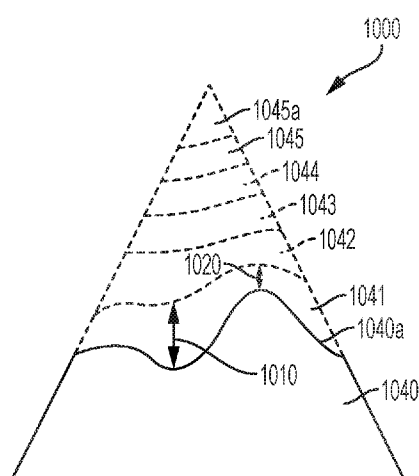


FIG. 10

(57) Abstract: A closed-loop adaptive material deposition apparatus and method uses a scanning system to monitor an additively manufactured object as it is being fabricated and adapting the geometric shape and material composition of the subsequent layers based on the scan data. The scanning system repeatedly captures geometric and/or material information of a partially manufactured object with optional auxiliary objects inserted during the manufacturing process. Based on this information, the actual surface geometry and/or actual material composition is computed. Surface geometry may be offset and used as a slicing surface for the next portion of the digital model. The shape of the slicing surface may then be recomputed each time the system scans the partially fabricated object.



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A. CLASSIFICATION OF SUBJECT MATTER

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ADD.

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)

B29C G05B

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)

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 2002/104973 A1 (KEREKES THOMAS A [US]) 8 August 2002 (2002-08-08) paragraph [0056]; claim 1 -----	1-15
A	WO 2016/019434 A1 (LAING O ROURKE AUSTRALIA PTY LTD [AU]) 11 February 2016 (2016-02-11) figures 5-4 -----	1-15



Further documents are listed in the continuation of Box C.



See patent family annex.

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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		CN 106794624 A 31-05-2017	
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