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(54) Title: SYSTEM AND METHOD FOR DESIGN ANALYSIS FOR METAL CASTING DESIGN

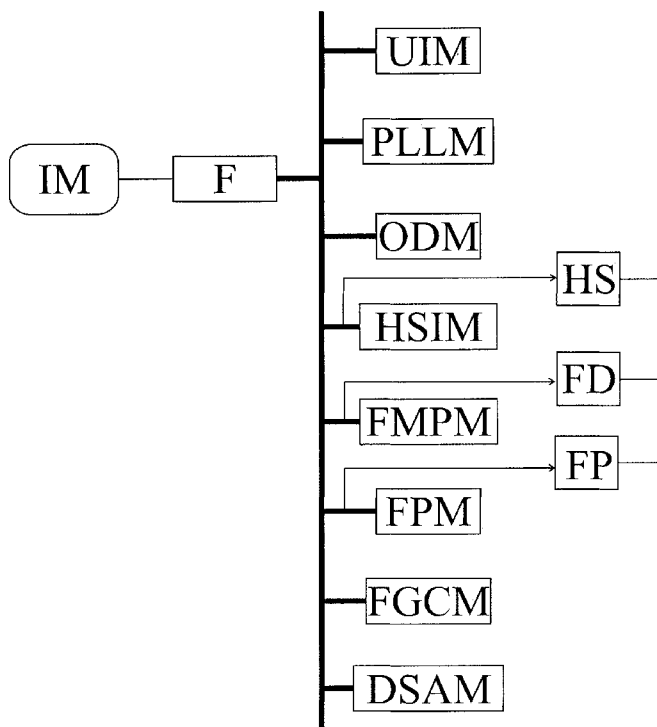


FIGURE 1

(57) Abstract: A system for design analysis for metal casting design of a part to be cast, said system comprises: input mechanism to receive an input file relating to said part; undercut identification mechanism adapted to identify undercut region(s) in the design of the input file; parting line location mechanism adapted to identify parting line location based on identified undercut region(s) and to identify parting line direction; orientation defining mechanism adapted to define orientation of part to be placed for casting; hot spots' identification mechanism adapted to identify hotspots that may be possible in the designed geometry of the input file; feeder modulus computation mechanism adapted to compute feeder dimensions for the part that is to be cast based on identified hotspots; feeder positioning mechanism adapted to determine feeder position in relation to pre-determined parameters; and directional solidification analysis mechanism adapted to problem areas related to directional solidification, shrinkage porosity during casting solidification.





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## INTERNATIONAL SEARCH REPORT

International application No.

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<b>A. CLASSIFICATION OF SUBJECT MATTER</b>		
G06F 17/50(2006.01)i		
According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b>		
Minimum documentation searched (classification system followed by classification symbols)		
G06F; B22D		
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)		
CNPAT,WPI,EPODOC,IEEE,CNKI,GOOGLE:metal,casting,undercut,design,parting,orientation,hotspot,feeder,position,solidification		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	RAVI, B. et al. "Feedability Analysis and Optimisation Driven by Casting Simulation" <i>Inidan Foundry Journal</i> , 30 April 2007 (2007-04-30), pages 2, 4-8	1-36
A	WO 2013164225 A1 (FRITZ WINTER EISENGIESSEREI GMBH & CO. KG) 07 November 2013 (2013-11-07) the whole document	1-36
A	US 2012211192 A1 (FOSECO INTERNATIONAL LIMITED) 23 August 2012 (2012-08-23) the whole document	1-36
A	CN 101594950 A (KSM CASTINGS GMBH) 02 December 2009 (2009-12-02) the whole document	1-36
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> 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
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"P"	document published prior to the international filing date but later than the priority date claimed	
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**INTERNATIONAL SEARCH REPORT**  
**Information on patent family members**

International application No.

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