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54 **Improvements in the production of castings.**

57 A method for making casting moulds (18) which are formed by machining away the mould cavity from a block (2) of moulding material instead of ramming casting material around patterns. The gating system including runners and risers may also be machined out of the solid block. The mould cavity can be produced in an appropriate shape in a moulding box including a number of adjustable rods (R) to reduce the amount of material to be machined out of the block. A multi-axis machining centre (12, 13) is incorporated in a casting plant and programmed to produce the required moulding cavities, including re-entrant cavities (34, 35, 36, 37). The gating system is machined into the block in any convenient position, not necessarily on the mould parting line. A plant incorporating the method of making casting moulds includes the machining out of mould cavities the metal filling of the cavities, the positioning of blocks adjacent to each other on a conveyor system and automatic removal of the runners and risers while the moulding blocks are in position on the conveyor.

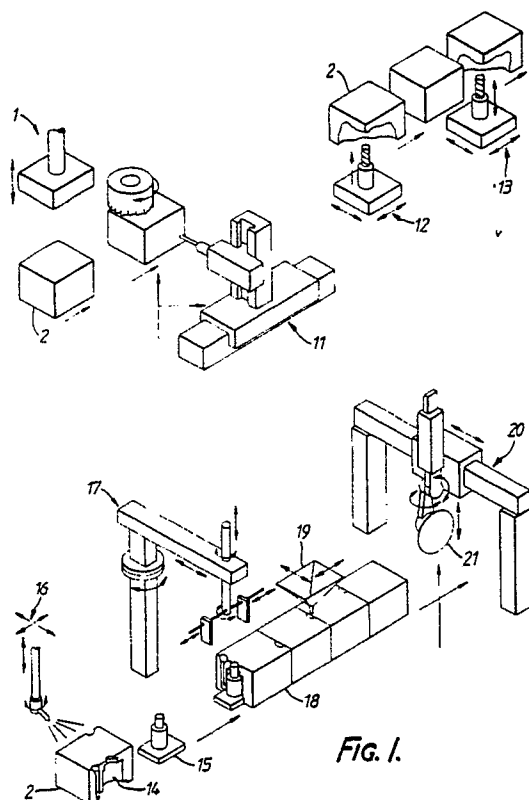


Fig. 1.

EP 0 317 315 A3



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 4)
X	US-A-4 104 347 (OHASHI et al.) * Figures 1-4; page 6, line 1 - page 10, line 6 *	1,2,3	B 22 D 47/02 B 22 C 9/00
Y	---	4	
A	---	10,11,13,14	
X	FR-A-1 138 883 (H. BERGER) * Résumé; figures 1-4 *	1,2,3,6	
Y	---	4,5,12	
X	FR-A-1 013 661 (ETAT FRANCAIS) * Whole document *	1,2,7	
Y	---	4,5	
Y	FR-A- 800 748 (L. RENAULT) * Figures 1,2; page 1, line 44 - page 2, line 24 *		
Y	---	12	
Y	US-A-3 447 589 (J.M. PLANTEN) * Abstract; column 2, line 37 - column 3, line 22 *		
A	---	7,8	
A	DE-C- 963 717 (M. SCHATZ) * Whole document * -----		
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 02-04-1990	Examiner MAILLIARD A.M.
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	