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(54) **Title:** CASTING FURNACE METHOD AND APPARATUS

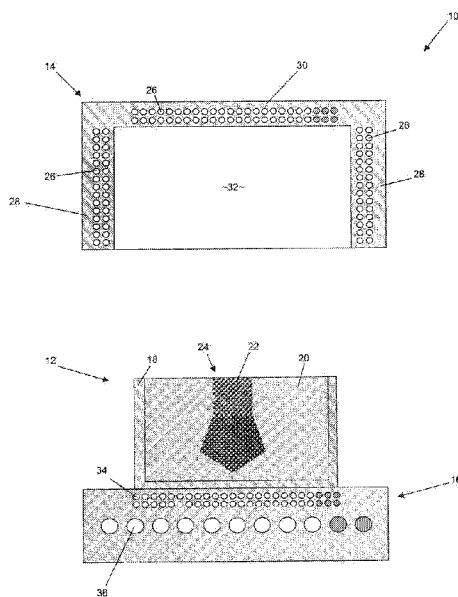


FIG. 1

(57) **Abstract:** A system for casting comprising a mold for forming molten metal; a support for supporting the mold and transferring heat to and from the mold; and a furnace operable to substantially surround the mold through a preheat cycle, a heat cycle, and a cooling cycle. The furnace preferably moves vertically down to surround the mold for the pre-heat, heat, and cooling cycles and moves up and away from the mold after the cooling cycle is complete. In an alternative embodiment, the furnace may be replaced with a cooling can just before initiation of the cooling cycle. The support is preferably stationary and provides directional cooling for the mold during the cooling cycle.





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<b>A. CLASSIFICATION OF SUBJECT MATTER</b>		
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According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b>		
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Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) eKOMPASS(KIPO internal) & Keywords: furnace, mold, cast, heat, thermal, cool, chill, directional		
<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	US 5197531 A (HUGO; FRANZ et al.) 30 March 1993 See column 2, line 64 - column 3, line 54 and figure 1.	1-20
A	US 2005-0103462 A1 (BALLIEL; MARTIN et al.) 19 May 2005 See paragraphs 17 - 29 and figure 1.	1-20
A	US 4409451 A (TAYLOR; KENNETH E.) 11 October 1983 See column 2, line 26 - column 3, line 11 and figures 1,2.	1-20
A	US 2002-0185247 A1 (SCHAADT; STEVEN T. et al.) 12 December 2002 See paragraph 11 and the FIGURE.	1-20
A	US 3981346 A (HAYES; DOUGLAS R. et al.) 21 September 1976 See column 2, line 15 - column 3, line 48 and figures 1-5.	1-20
<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 "E" earlier application or patent but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified) "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 "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 "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 "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 "&" document member of the same patent family		
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Information on patent family members

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