

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
26 September 2002 (26.09.2002)

PCT

(10) International Publication Number
WO 02/074466 A3

(51) International Patent Classification⁷: B22C 5/18

(21) International Application Number: PCT/US02/07851

(22) International Filing Date: 14 March 2002 (14.03.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
09/810,855 16 March 2001 (16.03.2001) US

(71) Applicant: NEW IDEAS, LLC [US/US]; 1215 Hyland Avenue, Kaukauna, WI 54130 (US).

(72) Inventor: MCVANE, Duane; N5651 Maders Circle, Shawano, WI 54166 (US).

(74) Agent: WILHELM, Thomas; Wilhelm Law Service, 100 West Lawrence Street, Appleton, WI 54911 (US).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,

CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.

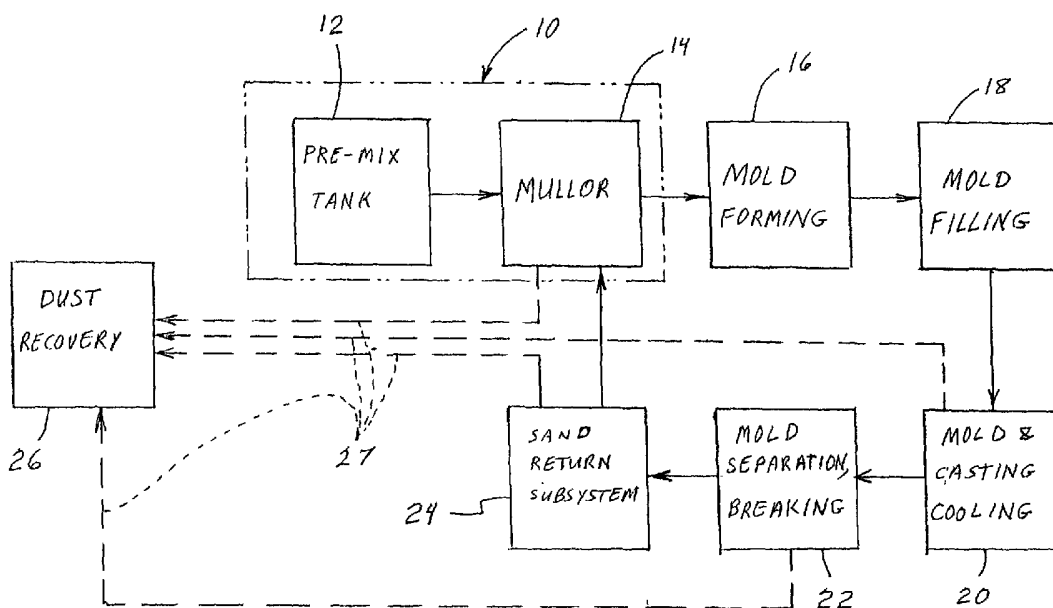
(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— with international search report

(88) Date of publication of the international search report:
30 October 2003

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: APPARATUS AND METHOD FOR PREPARING FOUNDRY SAND



(57) Abstract: Apparatus (10) and methods for preparing foundry sand mixes, using a pre-mix tank (12) to pre-mix water and particulate bond material to make water/bond slurry, then feeding the slurry to a mullor (14) or other foundry sand mixer. The slurry is received in the mullor/mixer (14), mixed with return sand, and then discharged for use in making foundry molds. Preferably, the particulate bond material is added to the pre-mix tank (12) as a falling stream of such particles, and a disperse spray of water is projected onto the particles with sufficient gentleness to not deleteriously distract the particles from their downward path.

WO 02/074466 A3

INTERNATIONAL SEARCH REPORT

Interr. Application No

PCT/US 02/07851

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 B22C5/18

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)
IPC 7 B22C B01F

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 practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 3 070 858 A (DEACON JAMES S) 1 January 1963 (1963-01-01) the whole document	1, 11, 17, 26, 33, 40, 46, 50, 56, 59
A	US 4 904 089 A (DUNTON HARVEY R ET AL) 27 February 1990 (1990-02-27) claims; figures	1, 11, 17, 26, 33, 40, 46, 50, 56, 59
A	US 4 764 019 A (KAMINSKI DONALD R ET AL) 16 August 1988 (1988-08-16) abstract	1, 11, 17, 26, 33, 40, 46, 50, 56, 59

Further documents are listed in the continuation of box C.

Patent family members are listed in 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 document 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 another 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

Date of the actual completion of the international search

17 June 2003

Date of mailing of the international search report

25/06/2003

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Hodiamont, S

INTERNATIONAL SEARCH REPORT

Intern Application No

PCT/US 02/07851

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4 560 281 A (HARRIS DAVID L ET AL) 24 December 1985 (1985-12-24) claims; figure 1 -----	1, 11, 17, 26, 33, 40, 46, 50, 56, 59

INTERNATIONAL SEARCH REPORT

Information on patent family members

Intern Application No
PCT/US 02/07851

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 3070858	A	01-01-1963	NONE
US 4904089	A	27-02-1990	US 4830505 A 16-05-1989 AU 632727 B2 07-01-1993 AU 1387792 A 21-05-1992 AU 625638 B2 16-07-1992 AU 3134189 A 16-11-1989 BE 1003101 A5 26-11-1991 CA 1302396 A1 02-06-1992 DE 3914594 A1 23-11-1989 FR 2631999 A1 01-12-1989 GB 2218917 A , B 29-11-1989 JP 1294007 A 28-11-1989 JP 1876521 C 07-10-1994 JP 5085332 B 07-12-1993
US 4764019	A	16-08-1988	CA 1291745 A1 05-11-1991
US 4560281	A	24-12-1985	NONE