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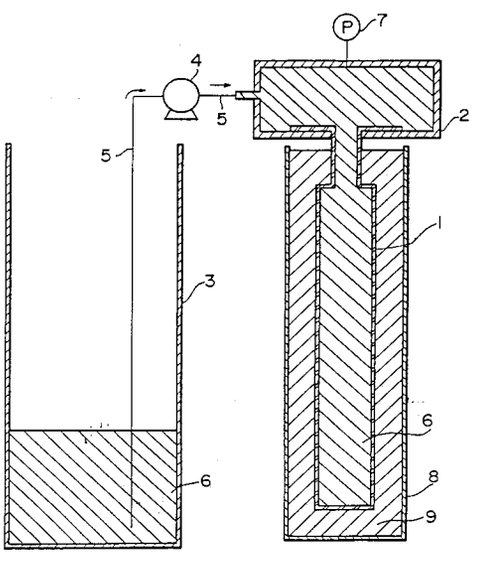
(54) Pattern for manufacturing mold.

(57) A pattern for manufacturing a mold consisting essentially of a flexible thin bag made of a material (1), which is impermeable with regard to the fluid contained therein and the material forming the mold (9), which is resistant to both of the fluid and the material forming the mold, and which has an elastic modulus in tension of 1 to 200 kg/mm^2, and the fluid contained therein (6), and a process for preparing a mold using the same, a process for preparing a collapsable pattern which comprises cooling to solidify an agglomerate of water-absorbable swellable organic polymer particles containing an aqueous solution into a prescribed form, and a process for preparing a water-soluble pattern which comprises filling a melted blend consisting essentialy of 5 to 95 wt. % of urea and 95 to 5 wt. % of a carbamate ester compatible with urea into a mold, and cooling to solidify it. According to the above means, the molds can be formed without broken at a pressure lower than 10 kg/cm^2, and the working environment problem caused by ammonia gas evolution is not present.

FIG. 1



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EUROPEAN SEARCH REPORT

Application Number

EP 91 10 8870

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.5)
X	PATENT ABSTRACTS OF JAPAN vol. 13, no. 360 (M-858)11 August 1989 & JP-A-01 118 337 (TSUCHIYA MFG CO. LTD.) 10 May 1989 * abstract *	1,2,4-6, 8	B22C7/00 B22C7/02
X	PATENT ABSTRACTS OF JAPAN vol. 8, no. 240 (M-336)6 November 1984 & JP-A-59 120 344 (FUJIKIN KK) 11 July 1984 * abstract *	1,2,4-6, 8	
X	Derwent Publications Ltd., London, GB; AN 77-87526Y/49 & JP-A-52 128 830 (TAKAOKA KOGYO KK) 28 October 1977 * abstract *	1,2,4-6, 8	
X	FR-A-2 427 150 (ACIERIE ET FONDERIE DE LA HAUTE SABRE ET AL.) 28 December 1979 *page 2, lines 26-37; page 3, lines 1-23; page 5, lines 18-25; page 8, lines 28-33; page 10, lines 12-24; figures*	1,2,4-6, 8	TECHNICAL FIELDS SEARCHED (Int. Cl.5) B22C B29C
A	R.C. WEAST 'CRC Handbook of Chemistry and Physics 62nd edition' 1981 , CRC PRESS, INC , BOCA RATON, FLO, USA * pages C747-C757 *	1,6	
A	EP-A-0 313 923 (BAYERISCHE MOTOREN WERKE AG) 3 May 1989 * claims *	9,11,15, 16	

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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	20 OCTOBER 1992	RIBA VILANOVA

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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A : technological background
O : non-written disclosure
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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

☐ All claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for all claims.

☐ Only part of the claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid,

namely claims:

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirement of unity of invention and relates to several inventions or groups of inventions,
namely:

see sheet B

☒ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid,

namely claims:

☐ None of the further search fees has been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims,

namely claims:

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.5)
A	CHEMICAL ABSTRACTS, vol. 109, no. 18, 1988, Columbus, Ohio, US; abstract no. 150694n, 'Manufacture of water-absorbing core-shell polymer particles' * abstract * & PATENT ABSTRACTS OF JAPAN vol. 12, no. 387 (C-536)14 October 1988 & JP-A-63 132 901 (LION CORP) 4 June 1988 * abstract *	9,11-13	
A	DE-A-2 316 393 (GEBRÜDER SULZER AG) 8 November 1973 * examples *	9	
A	CH-A-436 585 (N.V. PHILIPS' GLOEILAMPENFABRIKEN) 15 November 1967 * claims *	9	
A	FR-A-1 201 274 (SULZER FRÈRES) 29 December 1959 * claims *	17	TECHNICAL FIELDS SEARCHED (Int. Cl.5)
A	PATENT ABSTRACTS OF JAPAN vol. 7, no. 265 (M-258)(1410) 25 November 1983 & JP-A-58 145 332 (RIKEN KK) 30 August 1983 * abstract *	17	

The present search report has been drawn up for all claims

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L : document cited for other reasons

& : member of the same patent family, corresponding document

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirement of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims 1-8: Pattern for manufacturing mold and process for preparing said mold.

2. Claims 9-16: Process for preparing a collapsable pattern of polymer.

3. Claims 17,18: Process for preparing a water soluble pattern of urea and carbamate ester.