

(11) Publication number: 0 475 654 A3

## (12)

## **EUROPEAN PATENT APPLICATION**

(21) Application number: 91308033.9

(22) Date of filing: 02.09.91

(51) Int. CI.<sup>5</sup>: **B22D 17/14,** B22C 9/06

(30) Priority: 14.09.90 JP 245788/90

(43) Date of publication of application: 18.03.92 Bulletin 92/12

84 Designated Contracting States : FR GB IT

(88) Date of deferred publication of search report: 09.12.92 Bulletin 92/50

(1) Applicant: RYOBI LTD. No. 762, Mesaki-cho Fuchu-shi, Hiroshima-ken (JP) (72) Inventor: Yamauchi, Noriyoshi, c/o Ryobi Ltd.
No. 672, Mesaki-cho

Fuchu-shi, Hiroshima-ken (JP)

Inventor : Ishida, Hitoshi, c/o Ŕyobi Ltd.

No. 672, Mesaki-cho

Fuchu-shi, Hiroshima-ken (JP)

Inventor: Kwai, Kazuaki, c/o Ryobi Ltd.

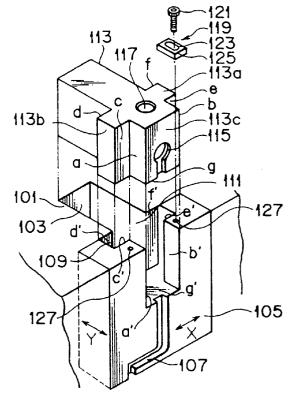
No. 672, Mesaki-cho

Fuchu-shi, Hiroshima-ken (JP)

(4) Representative: Jackson, Peter Arthur Gill Jennings & Every, 53-64 Chancery Lane London WC2A 1HN (GB)

- (54) Metal mold structure having gas venting unit and jig for removing the gas venting unit in injection molding apparatus.
- A metal mold structure having a separate gas venting unit (113) detachable from a metal mold (101). The gas venting unit disposes therein a gas vent valve. The metal mold (101) is formed with an upper opening (103) in which an insertion segment (105) is insertable. Upon the insertion, a unit insertion recessed portion (111) is provided. The unit insertion recessed portion (111) has a recessed shape substantially identical with an external contour of the gas venting unit. A jig device (129) is also provided for removing the gas venting unit (113) from the recessed portion (111). The jig device includes a jig body (131) mounted on the metal mold (101), a bolt like moving means (137) movably extending through the jig body and selectively engageable with the gas venting unit (113) positioned in the unit insertion recessed portion, and a driving means (135) for moving the moving means in an axial direction thereof.

FIG. 1



EP 0 475 654 A3



## **EUROPEAN SEARCH REPORT**

Application Number

EP 91 30 8033

Category	Citation of document with in of relevant part	dication, where appropriate,	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)	
A	1988	JAPAN -768)(3295) 24 Novembe TOYOTA MOTOR CORP ) 2		B22D17/14 B22C9/06	
A	1990	JAPAN 930)(4001) 2 February TOSHIBA MACH CO LTD )	1,6		
				TECHNICAL FIELDS SEARCHED (Int. Cl.5)  B22D B22C B29C	
	The present search report has be	<u>-</u>			
Place of search THE HAGUE		Date of completion of the search 15 OCTOBER 1992	-		
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		E : earlier paient after the filin ther D : document cit L : document cit	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		