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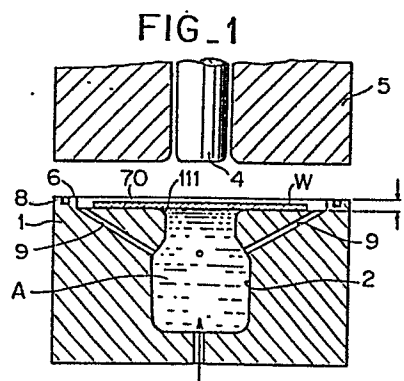
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54 Metal sheet forming process with hydraulic counterpressure.

57 A punch (4) is pressed on a blankpiece into a die (1). The die (1) is filled with liquid therein, whereby hydraulic counterpressure is generated by said pressing. The pressed blankpiece (w) is forcibly followed in shape around the punch by hydraulic counterpressure, while part of the hydraulic counterpressure is automatically supplied to an outer circumference of the blankpiece via bypath passage. In case, the blankpiece is a plate, said supplied hydraulic pressure serves as compression force from the outer circumference of the flange to the radius direction. In case, the blankpiece is a product formed by a first drawing, said pressure serves as pressing force toward axial direction of a side wall of the product. When the supplied hydraulic pressure flows out from a space between the punch and a blank holder, the liquid serves as lubrication on an upper and lower surfaces of the blankpiece.





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. ³)
Y	DE-A-2 853 271 (TOMASEK) * Whole document *	1-3,5	B 21 D 22/20
Y	--- BE-A- 852 015 (COETS) * Pages 3-6; figure *	1-3,5	
A		6	
A	--- FR-A-1 561 102 (WESTERN ELECTRIC COMPANY) * Pages 1-6,9,10; figures 1-14 *	3-5,7, 9	
A	--- DE-C- 915 327 (KRANENBERG) * Page 2, lines 64-126; page 3, lines 1-15; figures 1-3 *	1,2,4- 6	
A	--- US-A-2 821 156 (LYON) * Whole document *	4,5	TECHNICAL FIELDS SEARCHED (Int. Cl. ³) B 21 D
A	--- DE-A-1 578 348 (RHEINMETALL) * Pages 4,5,7,8; figures 1-5 *	7,8,10	
A	--- GB-A-1 481 202 (FRANEK) * Page 2, column 2; page 3, col- umn 1; figures 1-3,6 *	3	
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The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 25-09-1984	Examiner OFFMANN P.A.
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	



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. 3)
A	FR-A-1 470 296 (WESTERN ELECTRIC COMPANY) * Page 3, column 1; figure 2 * -----	1,2	
			TECHNICAL FIELDS SEARCHED (Int. Cl. 3)
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