

12 **EUROPEAN PATENT APPLICATION**

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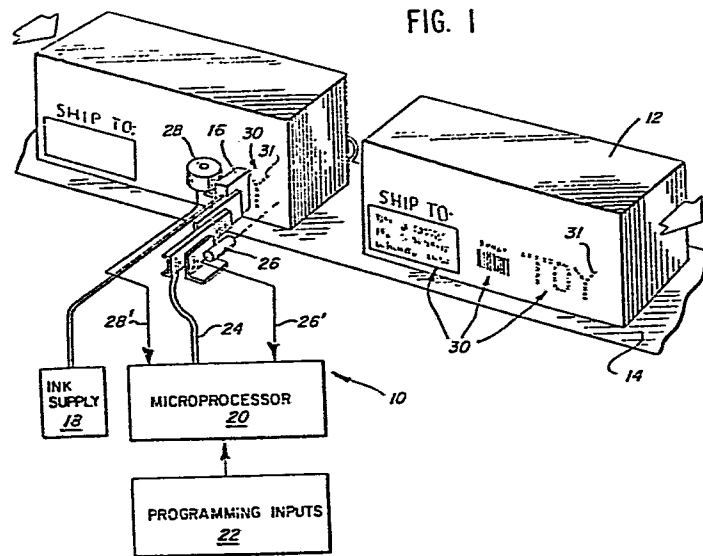
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54 **Variable size ink printing method and apparatus.**

57 Method and apparatus for non-contact application of information patterns of variable size and format on a plurality of discrete moving objects 12 carried linearly on a conveyor 14. The objects move, horizontally spaced apart, past at least one print head 16 having plural ink sources arranged vertically relative to the moving objects. An information pattern is provided to control means 20. The leading edge of an object is detected along with the velocity of said object. Representative signals are directed to the control means 20 having inputs for receiving said signals, the control means energizing selected piezoelectric crystal pumping devices in predetermined relation to the velocity signal according to the pattern to provide small ink drop streams. The ink sources are synchronously interrupted with the movement of the object and each succeeding object is marked in the line.

FIG. 1





European Patent  
Office

# EUROPEAN SEARCH REPORT

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Application number

EP 83 30 1261

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	EP-A-0 036 296 (PRINTOS B.V.) * Page 3, line 3 - page 7, bottom; page 11, last line - page 12, line 22; figures 1-6 *	1,8	B 41 J 3/04 B 65 B 61/26
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Y	EP-A-0 038 630 (MEAD CORP.) * Page 2, line 20 - page 3, line 24; page 6, line 30 - page 7, line 31; page 12, line 12 - page 15, line 4; figures 1-2,11 *	1,8	
A	US-A-4 083 053 (Y. OUCHI) * Column 2, lines 3-22; figures 1-7 *	8	
			TECHNICAL FIELDS SEARCHED (Int. Cl. 3)
A	US-A-4 009 332 (D.A. VAN HOOK) * Column 2, lines 16-49; column 3, line 10 - column 4, line 32; figures 1-10 *	5,7,10	B 41 J B 65 B
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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 16-11-1984	Examiner VAN DEN MEERSCHAUT G
<p>CATEGORY OF CITED DOCUMENTS</p> <p>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</p> <p>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 &amp; : member of the same patent family, corresponding document</p>			



DOCUMENTS CONSIDERED TO BE RELEVANT			Page 2												
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. <sup>3</sup> )												
A	US-A-4 168 533 (L.J. SCHWARTZ)  -----														
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The present search report has been drawn up for all claims															
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<table><tr><td><b>CATEGORY OF CITED DOCUMENTS</b></td><td><b>T : theory or principle underlying the invention</b></td></tr><tr><td><b>X : particularly relevant if taken alone</b></td><td><b>E : earlier patent document, but published on, or after the filing date</b></td></tr><tr><td><b>Y : particularly relevant if combined with another document of the same category</b></td><td><b>D : document cited in the application</b></td></tr><tr><td><b>A : technological background</b></td><td><b>L : document cited for other reasons</b></td></tr><tr><td><b>O : non-written disclosure</b></td><td><b>&amp; : member of the same patent family, corresponding document</b></td></tr><tr><td><b>P : intermediate document</b></td><td></td></tr></table>				<b>CATEGORY OF CITED DOCUMENTS</b>	<b>T : theory or principle underlying the invention</b>	<b>X : particularly relevant if taken alone</b>	<b>E : earlier patent document, but published on, or after the filing date</b>	<b>Y : particularly relevant if combined with another document of the same category</b>	<b>D : document cited in the application</b>	<b>A : technological background</b>	<b>L : document cited for other reasons</b>	<b>O : non-written disclosure</b>	<b>&amp; : member of the same patent family, corresponding document</b>	<b>P : intermediate document</b>	
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