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54 Nozzleless droplet projection system.

57 A nozzleless droplet projection system is disclosed. A thin film of fluid (26) with a constant thickness travels at a constant velocity across a tubular transducer head (16a, 16b). A smooth perimetrical surface (18) is formed between the input (22) and the output (24) sides of the transducer head (16a, 16b). An array of electro-acoustic transducers (15) submerged beneath the transducer head support surface (17) generate tone bursts (20, Figs 3 and 4) of acoustic energy which are focused by a corresponding array of acoustic lenses (19) inscribed along the length of the transducer head (16a, 16b). The constant thickness and constant velocity fluid film (26) is generated by forcing pre-regulated, pressurized fluid through a narrow slit (30) and across the smooth perimetrical surface (18) of the transducer head (16a, 16b). The fluid film (26) is maintained at the acoustic focus of the lenses (19) in order to control the resultant droplet (12) size. A pattern of droplets (12) is ejected by pulsing the appropriate electro-acoustic transducers (15) as the projection medium (14) is moved across the droplet formation apparatus at a constant velocity.

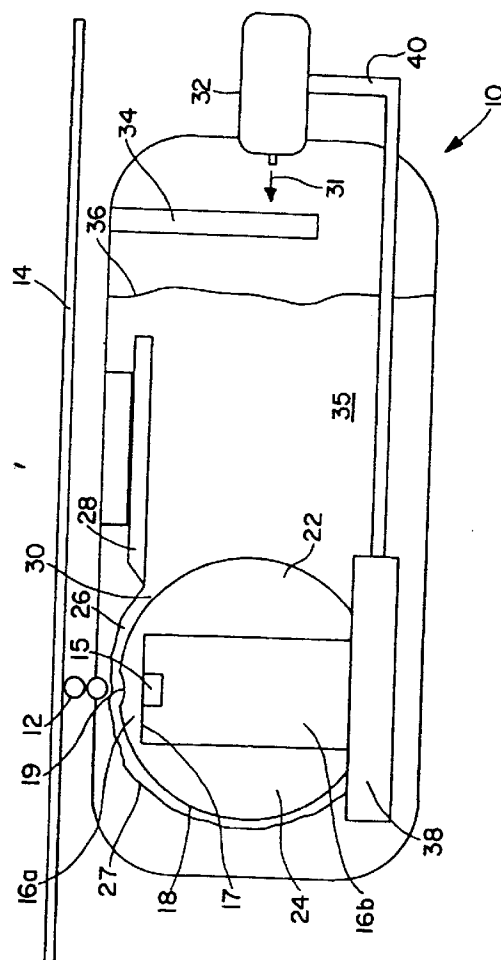


FIG. 2



European Patent
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EUROPEAN SEARCH REPORT

Application Number

EP 91 31 1918

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	US-A-4 308 547 (K.T. LOVELADY et al.) * figure 3 * ---	1,2,7,8	B 41 J 2/04 B 41 J 2/065
A	DE-A-1 922 945 (PRECISA AG) * figure 1 * ---	1,2,7,8	
A	US-A-4 227 452 (M. TAMAI) * abstract; figure 1 * ---	1,2,7,8	
A	EP-A-0 294 172 (XEROX CORP) * abstract; figure 2 * -----	1,2,7,8	
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			B 41 J
The present search report has been drawn up for all claims			
Place of search BERLIN		Date of completion of the search 13-11-1992	Examiner ZOPF K
<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 & : member of the same patent family, corresponding document</p>			

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