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(54) **Ink jet printheads.**

(57) A thermal inkjet printhead (10) is disclosed having improved reliability and thermal efficiency. The printhead includes heater resistors (14) and thin protective regions (46) positioned above the heating resistors (14) for protecting the heating resistors (14) from corrosion and cavitation damage from the ink. The heating resistors (14) are positioned substantially within the geometric confines of the portion of the protective regions (46) exposed to the ink. Positioned between the resistors (14) and the underlying printhead structure are field oxide regions (60) that thermally insulate the heating resistors (14) from the underlying printhead structure. Positioned between the resistors (14) and the underlying printhead structure is a passivation layer consisting of a middle layer (62) of phosphorus glass, an underglaze (64) between the middle layer (62) and the underlying printhead structure, and glass mesas (66) between the middle layer (62) and the resistors (14). The underglaze (64) helps prevent phosphorus from the middle layer (62) from contaminating the underlying printhead structure. Similarly, the glass mesas (66) prevent phosphorus from the middle layer (62) from contaminating the resistors (14).

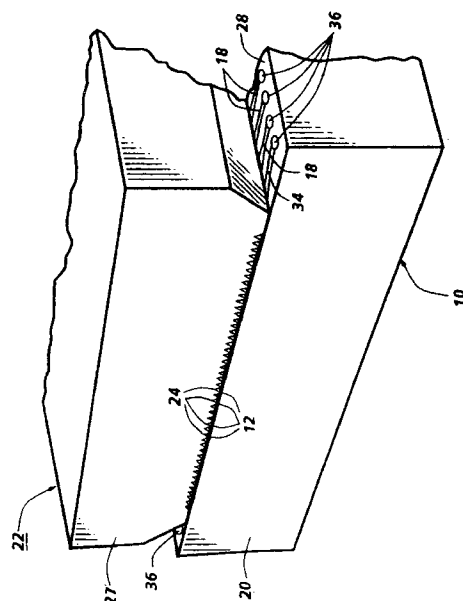


Fig. 1

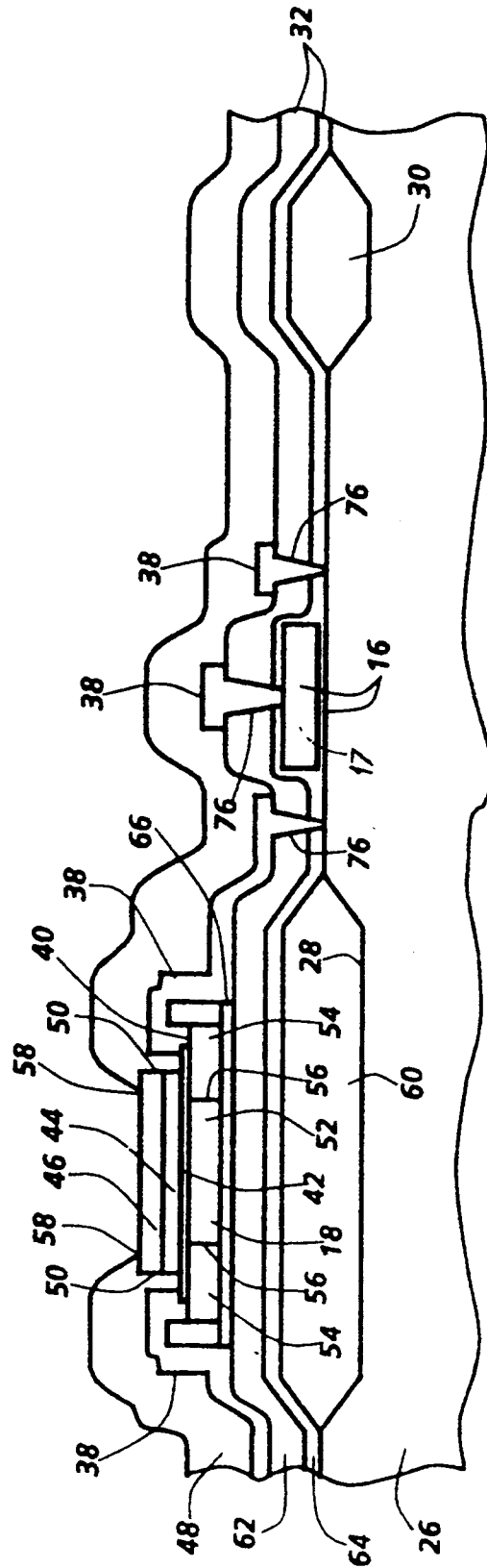


Fig. 4



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EUROPEAN SEARCH REPORT

Application Number

DOCUMENTS CONSIDERED TO BE RELEVANT			EP 91305984.6
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
P, X	EP - A - 0 396 315 (XEROX CORPORATION) * Claims *	1	B 41 J 2/05 B 41 J 2/16 B 41 J 2/005
X	US - A - 4 935 752 (HAWKINS) * Fig. 6; claims 5, 6 *	1	
D, A	US - A - 4 532 530 (HAWKINS) * Totality *	1, 2, 4, 5, 7, 8	
A	US - A - 4 719 477 (HESS) -----		
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			B 41 J G 01 D
The present search report has been drawn up for all claims			
Place of search VIENNA	Date of completion of the search 09-09-1992	Examiner WITTMANN	
CATEGORY OF CITED DOCUMENTS		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	
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			

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