



(12) **EUROPEAN PATENT APPLICATION**

(21) Application number : **93303001.7**

(51) Int. Cl.⁵ : **B41J 2/17, B41J 2/165**

(22) Date of filing : **19.04.93**

(30) Priority : **04.05.92 US 878959**

(43) Date of publication of application :
10.11.93 Bulletin 93/45

(84) Designated Contracting States :
DE FR GB IT

(88) Date of deferred publication of search report :
17.08.94 Bulletin 94/33

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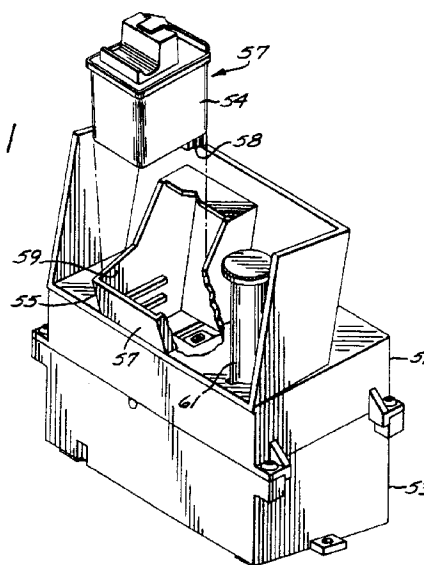
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(54) **Primer apparatus for thermal ink-jet cartridge.**

(57) Ink jet printhead primer apparatus includes an elongated bellows assembly (50) compressible along its length and having upper and lower end caps (101, 103). The upper cap includes an opening at which negative pressure is produced when the upper and lower end caps are relatively displaced away from each other. A capper (119) having an opening is supported by the upper end cap of the bellows assembly for selectively engagement with the nozzle array (58) of the cartridge (570) being primed to form a seal therewith so that the negative pressure produced in the opening of the upper end cap is communicated to the nozzles of the nozzle array. Displacement of the lower end cap is controlled by cam surfaces (95) formed on the inner opposing surfaces of parallel plate-like gear sectors (65) of a rotatable cam assembly (60) having gear teeth (75) that drive a flywheel (83). The gear sectors of the cam assembly further include cam edges (74a, 74b) for moving a sliding cam member (70) that moves the upper end cap between a retracted position and an extended position, wherein movement of the upper end cap from the retracted position to the extended position is away from the lower end cap. Pursuant to rotation of the cam assembly in one direction and then in the opposite direction, negative pressure is produced at the capper opening as it is engaged with the nozzle plate of the cartridge to be primed, ink suctioning negative pressure is then produced, and the capper is disengaged from the nozzle plate of the cartridge while negative pressure continues to be maintained at the opening of the capper. In this manner, negative pressure is provided at the capper opening at all times that the capper is engaged against the nozzle plate.

FIG. 1





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EUROPEAN SEARCH REPORT

Application Number
EP 93 30 3001

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-4 600 931 (K. TERASAWA) * column 5, line 7 - column 6, line 56 * * figures 5-10 * ---	1-7	B41J2/17 B41J2/165
A	US-A-4 999 643 (K. TERASAWA) * the whole document * ---	1-7	
A	EP-A-0 002 591 (GOULD INC.) * the whole document * ---	1	
P,A	PATENT ABSTRACTS OF JAPAN vol. 16, no. 456 (M-1314) 22 September 1992 & JP-A-04 161 343 (I. TAKURO) 4 June 1992 * abstract * -----	1-7	
			TECHNICAL FIELDS SEARCHED (Int.Cl.5)
			B41J
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 23 June 1994	Examiner Van den Meerschaut, G
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			

EPO FORM 1503 03.92 (P04C01)