



(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number:

0 231 790
A3

(12)

EUROPEAN PATENT APPLICATION

(21) Application number: 87100520.3

(51) Int. Cl.4: B41J 3/04, H01L 49/02

(22) Date of filing: 16.01.87

(30) Priority: 30.01.86 US 824335

(43) Date of publication of application:
12.08.87 Bulletin 87/33

(84) Designated Contracting States:
DE FR GB IT

(88) Date of deferred publication of the search report:
14.06.89 Bulletin 89/24

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(54) **Process for fabricating laminated structures of improved structural integrity.**

(57) This patent application discloses a process for fabricating printhead structures for use in thermal ink jet printers. In this process, a thin film resistor substrate (10) is bonded to a flat orifice plate (12) by means of an adhesive polymer (14) to which heat and pressure are applied for a predetermined time. This pressure is applied to the outer surfaces of the orifice plate (12) and substrate (10) respectively and hydrostatically transmitted to the adhesive polymer (14) in such a manner as to apply pressure uniformly across the surface of the polymer (14). This application of uniform pressure is accomplished in spite of contours and other surface irregularities that may exist on either the materials being bonded or the heat staker members which apply heat and pressure to these members.

EP 0 231 790 A3

In a preferred embodiment of the invention, the above hydrostatic transmission of pressure is accomplished by means of a "waterbed" sandwich structure (16) in which a liquifiable material (22) is enclosed between layers (18,20) of flexible foil material.

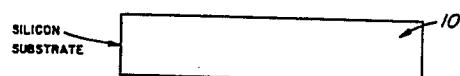


Fig. 1A

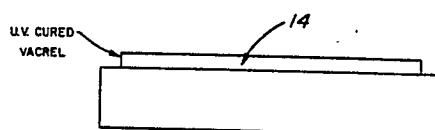


Fig. 1B

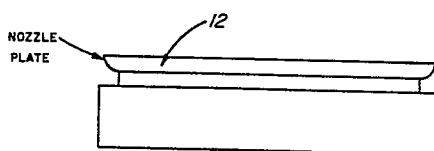


Fig. 1C

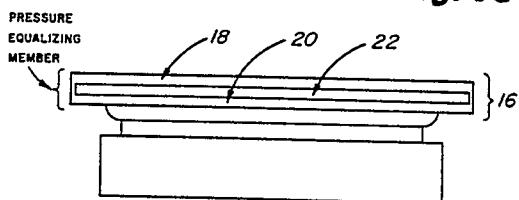


Fig. 1D

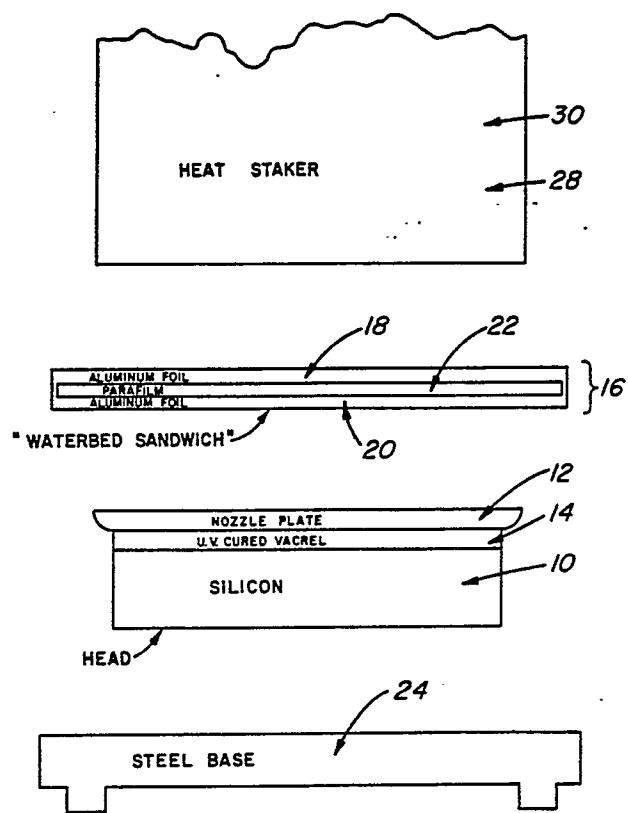


Fig. 1E



EP 87 10 0520

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.4) |
|----------|--|-------------------|---|
| | | | TECHNICAL FIELDS SEARCHED (Int. Cl.4) |
| A | DD-B- 98 641 (J. HEINECKE et al.) * claim 4, figure 4 * --- | 1,3 | B 41 J 3/04 B 32 B 31/20 H 01 L 49/02 |
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| A | DE-A-2 627 442 (BECKER & VAN HUELLEN NIEDERRHEINISCHE MASCHINENFABRIK) * figure 2 * --- | 3 | |
| A | DE-A-3 222 874 (CANON K.K.) * abstract * --- | 1 | |
| A | DE-A-3 150 109 (CANON K.K.) * abstract; figure 8 * ----- | 1 | |

The present search report has been drawn up for all claims

| Place of search | Date of completion of the search | Examiner |
|---|----------------------------------|----------|
| BERLIN | 10-03-1989 | ZOPF K |
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