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## EUROPEAN PATENT APPLICATION

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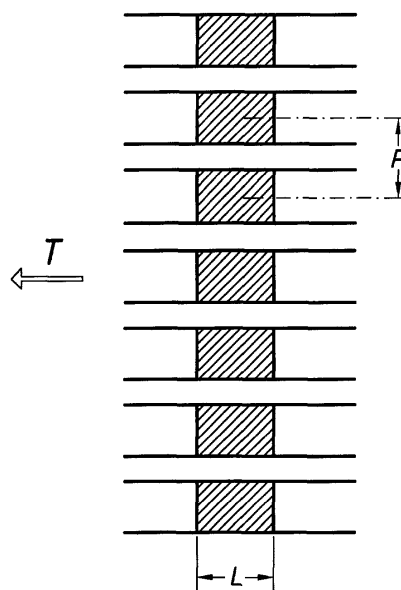
(30) Priority: **13.11.2002 EP 02102569**

(71) Applicant: **AGFA-GEVAERT**  
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(54) **Thermal head printer and process for printing substantially light-insensitive recording materials.**

(57) A thermal head printer for printing but not perforating a substantially light-insensitive thermographic material, the thermal printer comprising: a transport system having a transport direction,  $n$  thermal heads, where  $n$  is an integer, each of the thermal heads comprising an array of substantially rectangular energizable heating elements, the heating elements having a length  $L_n$  in the transport direction and a pitch  $P_n$  between adjacent heating elements, and a means for supplying electrical energy to each of the substantially rectangular energizable heating elements in at least one of the thermal heads, the transport system being capable of transporting the light-insensitive thermographic material in contact or proximity with at least one of the thermal heads, characterized in that at least one of the thermal heads comprises heating elements for which  $L_n/P_n$  is between 0.25 and 0.88; a first process for printing a substantially light-insensitive thermographic material with the above-described thermal head printer; a second process for printing a substantially light-insensitive thermographic material at different printing speeds with a thermal head comprising heating elements without significant variation in image tone, characterized in that the length of the heating elements in the transport direction of the substantially light-insensitive thermographic material decreases with decreasing printing speed; and a third process for printing a substantially light-insensitive thermographic material at different printing speeds with a different thermal head at each printing speed without significant variation in image tone, characterized in that

each of said different thermal heads comprises heating elements with a different length in the transport direction of the substantially light-insensitive thermographic material and the length of the heating elements in the transport direction of the substantially light-insensitive thermographic material decreases with decreasing printing speed.



**FIG. 1**

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# EUROPEAN SEARCH REPORT

Application Number  
EP 03 10 3788

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The present search report has been drawn up for all claims			
Place of search <b>THE HAGUE</b>		Date of completion of the search <b>1 June 2004</b>	Examiner <b>Didenot, B</b>
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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# EUROPEAN SEARCH REPORT

Application Number  
EP 03 10 3788

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Place of search <b>THE HAGUE</b>		Date of completion of the search <b>1 June 2004</b>	Examiner <b>Didenot, B</b>
<p><b>CATEGORY OF CITED DOCUMENTS</b></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>			

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### CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

### LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- ☒ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:



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**LACK OF UNITY OF INVENTION  
SHEET B**

Application Number  
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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims: 1-6

a thermal printer characterized in that at least one of the thermal heads comprises heating elements for which  $L_n/P_n$  is between 0.25 and 0.88.

2. Claim : 7

process for printing at different speeds with a different thermal head at each printing speed.

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
The members are as contained in the European Patent Office EDP file on  
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01-06-2004

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