

12

EUROPEAN PATENT APPLICATION

21 Application number: **86306300.4**

51 Int. Cl.³: **B 41 F 23/04**

22 Date of filing: **14.08.86**

30 Priority: **14.08.85 GB 8520367**

43 Date of publication of application:
11.03.87 Bulletin 87/11

86 Date of deferred publication of search report: **03.08.88**

84 Designated Contracting States:
AT BE CH DE FR GB IT LI LU NL SE

71 Applicant: **Palmer, Arthur Roland**
Hillside Intwood Road
Cringleford Norwich Norfolk(GB)

71 Applicant: **Wright, William Kenneth**
Hillside Intwood Road
Cringleford Norwich Norfolk(GB)

72 Inventor: **Palmer, Arthur Roland**
Hillside Intwood Road
Cringleford Norwich Norfolk(GB)

72 Inventor: **Wright, William Kenneth**
Hillside Intwood Road
Cringleford Norwich Norfolk(GB)

74 Representative: **Jones, William**
Willow Lane House Willow Lane
Norwich NR2 1EU(GB)

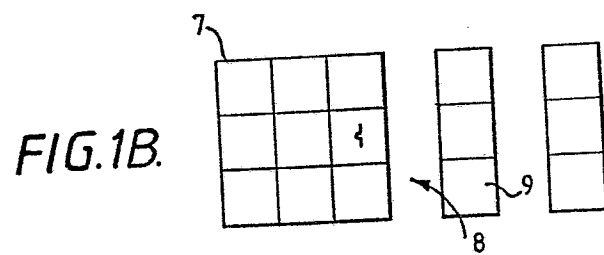
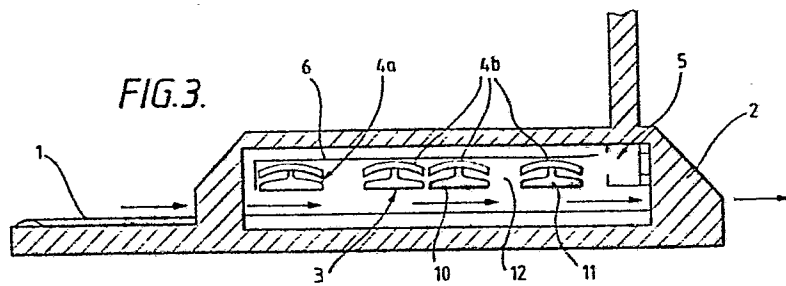
54 **Improvements in ink drying apparatus.**

57 The invention relates to improvements in ink drying apparatus of the type in which a conveyor belt (1) on which a printed substrate may be placed passes beneath an infra red radiation emitting surface (3) to convey the substrate from one end of the radiation emitting surface (3) to the opposite end of the radiation emitting surface (3) in which the radiation emitting surface (3) comprises a plurality of discrete radiation units.

In a first aspect of the invention which is applicable with particular advantage to drying plasticised inks, the radiation emitting surface (3) is arranged such that, said one end of the radiation emitting surface (3) there is situated a bank (7) of radiation units (4) arranged contiguously, the number of radiation units in the bank (7) being sufficient to heat the printed ink but to a temperature above its triggering temperature, and adjacent the bank (7) in a direction from said one end to

the other a gap (8) of a length sufficient to allow the rate of temperature rise to be slowed down, and adjacent said gap (8) further radiation units (9) to maintain the temperature of the ink and substrate.

A second aspect of the invention is applicable equally to water-based inks and white spirit emulsion-based inks and with this apparatus the radiation emitting surface includes at said one end a first radiation zone (4A) comprising at least one radiation unit arranged to emit infra red radiation predominantly with a wavelength of less than 3.5 μm and in the peak absorption range of the substrate, and a second radiation zone (4B) spaced from the first radiation zone (4A) in a direction from said one end to the other end, the second radiation zone (4B) including at least two discrete radiation units (10 and 11) separated by a gap (12) each unit within said second zone (4B) being arranged to emit infra red radiation predominantly of a wavelength greater than 3.5 μm and within the peak absorption range of the ink.





European Patent
Office

EUROPEAN SEARCH REPORT

0213855

Application Number

EP 86 30 6300

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)
X	DE-A-3 107 487 (SVECIA SILKSCREEN) * Page 7, line 1 - page 9, line 5; figures *	1,2	B 41 F 23/04
A		7	
Y		3	
X	US-A-2 113 770 (STEEL ENGRAVERS) * Page 2, right-hand column, line 35 - page 3, left-hand column, line 9; figures *	1	
X	US-A-1 656 824 (MARANS) * Page 1, line 18 - page 2, line 49; figures *	1	
D,Y	GB-A-2 141 072 (A.R. PALMER) * Abstract; figure 1 *	3	
			TECHNICAL FIELDS SEARCHED (Int. Cl.4)
			B 41 F F 26 B
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 14-04-1988	Examiner LONCKE J.W.
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			