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(71) Applicant (for all designated States except US): KORNIT DIGITAL LTD. [IL/IL]; 5 David Navon Street, P.o. Box 8406, 56910 Moshav Magshimim (IL).

(72) Inventors; and

- (75) Inventors/Applicants (for US only): FELDMAN, Alon [IL/IL]; Meshek 23, 76885 Moshav Galia (IL). BEN-ZUR, Ofer [IL/IL]; 1 Harduf Street, 43220 RaAnana (IL). PEARL, Yossi [IL/IL]; 8 Tashach Street, 62093 Tel-aviv (IL). KAPLAN, Asaf [IL/IL]; P.o. Box 62, 40697 Moshav Ein-sarid (IL).
- (74) Agents: G.E. EHRLICH (1995) LTD. et al.; 11 Menachem Begin Street, 52 521 Ramat Gan (IL).

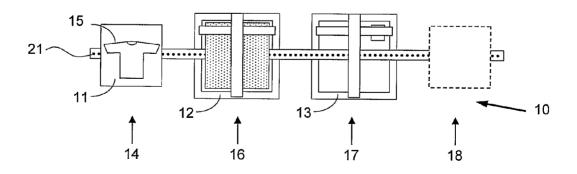
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(54) Title: COMBINED STENCIL AND DIGITAL PRINTING SYSTEM



(57) Abstract: A carousel and station-based printing system for textiles comprises one or more stations with a digital printing apparatus and optionally other stations with a stencil printing apparatus. The system allows for high speed printing of images having details of high resolution, rich colors, or variability, optionally also comprising a wetting apparatus operative to wet at least a part of the printed object prior to the digital printing.

INTERNATIONAL SEARCH REPORT

International application No PCT/IL2006/000526

A. CLASSI INV.	FICATION OF SUBJECT MATTER B41L13/00 B41L13/02 B41L13/	94 B41L13/06						
	o International Patent Classification (IPC) or to both national classification	ation and IPC						
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Documental	tion searched other than minimum documentation to the extent that s	uch documents are included in the fields s	earched					
	ata base consulted during the international search (name of data base	se and, where practical, search terms used						
EPO-In	ternal							
C DOCUM	ENTS CONSIDERED TO BE RELEVANT							
Category*	Citation of document, with indication, where appropriate, of the rele	evant passages	Relevant to claim No.					
Х	EP 1 201 451 A (RISO KAGAKU CORP [JP]) 1,2, 2 May 2002 (2002-05-02) 15-1							
			49,50, 60-62,64					
	paragraph [0035] - paragraph [0037]							
X	US 2003/095823 A1 (MAEDA YUKIHIR 22 May 2003 (2003-05-22)	1,4,49, 50,						
	figure 1	60-62,64						
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Furth	ner documents are listed in the continuation of Box C.	X See patent family annex.						
•	ategories of cited documents :	"T" later document published after the inte or priority date and not in conflict with	ernational filing date					
consid	"A" document defining the general state of the art which is not considered to be of particular relevance considered to be of particular relevance cited to understand the principle or theory underlying the invention							
"E" earlier document but published on or after the international filing date "X" document of particular relevance; the claimed invention cannot be considered to "L" document which may throw doubts on priority claim(s) or involve an inventive step when the document is taken alone								
which i		"Y" document of particular relevance; the cannot be considered to involve an ir	claimed invention					
	"O" document referring to an oral disclosure, use, exhibition or document is combined with one or more other such documents, such combination being obvious to a person skilled							
	"P" document published prior to the international filing date but later than the priority date claimed "&" document member of the same patent family							
Date of the a	actual completion of the international search	Date of mailing of the international sea	arch report					
2	8 November 2006	2 0. 03. 20	07					
Name and m	nailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2	Authorized officer						
	European Patent Onice, P.B. 5518 Patentiaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,	Foy Thomas						
	Fax: (+31-70) 340-3016	Fox, Thomas						

International application No. PCT/IL2006/000526

INTERNATIONAL SEARCH REPORT

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)						
This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:						
Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:						
Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:						
3. Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).						
Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)						
This International Searching Authority found multiple inventions in this international application, as follows:						
see additional sheet						
As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.						
2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.						
3. As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:						
4. X No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.: See annex						
Remark on Protest The additional search fees were accompanied by the applicant's protest. No protest accompanied the payment of additional search fees.						

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-4,13,15-17,49-51,58,60-62,64

a system comprising a stencil printing system and a digital printing system according to claims 1-4, 13, 15-17 and a method according to claims 49-51, 58, 60-62, 64

2. claims: 5-12,14,18-20,52-57,59,65,67,68

a stencil printing system/apparatus combined with a digital printing system/apparatus and a wetting apparatus according to claims 5-12, 14, 18-20, 52-57, 59, 65, 67 and 68

3. claims: 26-28

a pre-wetting system according to claim 26-28

4. claims: 33-48

a digital printing system combined with a wetting system according to claims 33-48

5. claims: 21-25,29-32

a digital printing system according to claims 21-25 and 29-32

6. claim: 69

a digital-type print station combined with a stencil-type print station comprinsing a carousel for carrying a medium to be printed and a plurality of print stations arranged about a circumference according to claim 69

7. claims: 70,71

a digital-type print station comprinsing a carousel for carrying a textile media to be printed and a plurality of print stations arranged about a circumference according to claim 70-71

8. claims: 63,66

a digital printing system combined with a screen printing machine according to claims 63 and 66.

FURTHER INFORMATION CONTINUED FROM	PCT/ISA/	210
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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/IL2006/000526

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
EP 1201451	Α .	02-05-2002	CN JP JP US	1350929 A 3433177 B2 2002137516 A 2002078837 A1	29-05-2002 04-08-2003 14-05-2002 27-06-2002
US 2003095823	A1	22-05-2003	JP JP	3696824 B2 2003154710 A	21-09-2005 27-05-2003