

AO 120 (Rev. 08/10)

TO: Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
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In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been
 filed in the U.S. District Court Central District of California on the following

☐ Trademarks or ☒ Patents. (☐ the patent action involves 35 U.S.C. § 292.);

DOCKET NO. 8:22-cv-00979	DATE FILED 5/12/2022	U.S. DISTRICT COURT Central District of California
PLAINTIFF MGI DIGITAL TECHNOLOGY S.A.		DEFENDANT DUPLO U.S.A. CORPORATION
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 8,506,031	8/13/2013	MGI DIGITAL TECHNOLOGY S.A.
2 8,783,806	7/22/2014	MGI DIGITAL TECHNOLOGY S.A.
3 RE45,067	8/12/2014	MGI DIGITAL TECHNOLOGY S.A.
4 9,422,449	8/23/2016	MGI DIGITAL TECHNOLOGY S.A.
5		

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1		
2		
3		
4		
5		

In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE

Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director
 Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/948,670	07/22/2014	8783806	1013-070A	5374

22429 7590 07/02/2014
LOWE HAUPTMAN & HAM, LLP
2318 Mill Road
Suite 1400
ALEXANDRIA, VA 22314

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site <http://pair.uspto.gov> for additional applicants):

M.G.I. USA, Inc., Melbourne, FL, Assignee (with 37 CFR 1.172 Interest);
Edmond ABERGEL, Paris, FRANCE;

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.

Receipt date: 07/23/2013

13948670, GAU: 2853

Approved for use through 09/30/2007. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		
	Filing Date		2009-12-30
	First Named Inventor	Edmond ABERGEL	
	Art Unit		
	Examiner Name		
	Attorney Docket Number		1013-070

U.S.PATENTS						
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	7614725		2009-11-10	Schulmeister	
	2	7451698		2008-11-18	Schneider et al.	
	3	4743924		1988-05-10	Scardovi	
	4	5502467		1996-03-26	Hoisington et al.	
	5	7332037		⁸ 2009-02-19	Abergel et al.	US Equiv EP1749670
	6	7279506		2007-10-19	Sisler et al.	
	7	7543899		2009-06-09	Masaaki Konno	
	8	7226141		2007-06-05	Kazuo Asano	

Change(s) applied
to document,
/C.L./
4/11/2014

/An Do/

09/10/2013

PART B - FEE(S) TRANSMITTAL

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

22429 7590 03/12/2014
LOWE HAUPTMAN & HAM, LLP
2318 Mill Road
Suite 1400
ALEXANDRIA, VA 22314

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/948,670	07/23/2013	Edmond ABERGEL	1013-070A	5374

TITLE OF INVENTION: INK JET PRINTER AND METHOD FOR DEPOSITING A PROTECTIVE LAYER ON A SUBSTRATE

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$480	\$0	\$0	\$480	06/12/2014

EXAMINER	ART UNIT	CLASS-SUBCLASS
DO, AN H	2853	347-010000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
- (2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 LOWE HAUPTMAN
2 & HAM, LLP
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

M.G.I. USA, Inc.

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Melbourne, Florida

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☒ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☒ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☒ Payment by credit card. Form PTO-2038 is attached.
- ☒ The Director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number 071337 (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ Applicant certifying micro entity status. See 37 CFR 1.29
- ☐ Applicant asserting small entity status. See 37 CFR 1.27
- ☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature /Randy A. Noranbrock/

Date June 10, 2014

Typed or printed name Randy A. Noranbrock

Registration No. 42940

Electronic Patent Application Fee Transmittal				
Application Number:		13948670		
Filing Date:		23-Jul-2013		
Title of Invention:		INK JET PRINTER AND METHOD FOR DEPOSITING A PROTECTIVE LAYER ON A SUBSTRATE		
First Named Inventor/Applicant Name:		Edmond ABERGEL		
Filer:		Randy A. Noranbrock/Elizabeth Anastasio		
Attorney Docket Number:		1013-070A		
Filed as Small Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Utility Appl Issue Fee	2501	1	480	480
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Total in USD (\$)				480

Electronic Acknowledgement Receipt	
EFS ID:	19261316
Application Number:	13948670
International Application Number:	
Confirmation Number:	5374
Title of Invention:	INK JET PRINTER AND METHOD FOR DEPOSITING A PROTECTIVE LAYER ON A SUBSTRATE
First Named Inventor/Applicant Name:	Edmond ABERGEL
Customer Number:	22429
Filer:	Randy A. Noranbrock/Elizabeth Anastasio
Filer Authorized By:	Randy A. Noranbrock
Attorney Docket Number:	1013-070A
Receipt Date:	10-JUN-2014
Filing Date:	23-JUL-2013
Time Stamp:	15:01:05
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$480
RAM confirmation Number	1428
Deposit Account	
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
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1	Issue Fee Payment (PTO-85B)	Efiled_IssueFee.pdf	143255 e7a82345734ff983bb0486504b73db086cb 6d003	no	1
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30700 4aaa76057fcb3f47e6e252a56c1114f2e532 1fb0	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			173955		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/948,670	07/23/2013	Edmond ABERGEL	1013-070A	5374
7590 04/16/2014 LOWE HAUPTMAN & HAM, LLP 2318 Mill Road Suite 1400 ALEXANDRIA, VA 22314			EXAMINER DO, AN H	
			ART UNIT 2853	PAPER NUMBER
			NOTIFICATION DATE 04/16/2014	DELIVERY MODE ELECTRONIC

Letter Withdrawing a Notice Requiring Inventor's Oath or Declaration

The Notice Requiring Inventor's Oath or Declaration mailed on 3/12/14 was sent in error, and is hereby withdrawn. The time period set forth in the Notice of Allowance and Fee(s) Due to file a reply and pay the required fees continues to run from the mailing date of the Notice of Allowance and Fee(s) Due. Any time period set forth in the Notice of Allowability continues to run from the mailing date of the Notice of Allowability.

Questions relating to this Notice should be directed to the Application Assistance Unit at 571-272-4200.

(571)-272-4200 or 1(888)-786-0101

Patent Publication Branch

Office of Data Management



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

22429 7590 03/12/2014
LOWE HAUPTMAN & HAM, LLP
2318 Mill Road
Suite 1400
ALEXANDRIA, VA 22314

EXAMINER

DO, AN H

ART UNIT

PAPER NUMBER

2853

DATE MAILED: 03/12/2014

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/948,670	07/23/2013	Edmond ABERGEL	1013-070A	5374

TITLE OF INVENTION: INK JET PRINTER AND METHOD FOR DEPOSITING A PROTECTIVE LAYER ON A SUBSTRATE

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$480	\$0	\$0	\$480	06/12/2014

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

22429 7590 03/12/2014
LOWE HAUPTMAN & HAM, LLP
2318 Mill Road
Suite 1400
ALEXANDRIA, VA 22314

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/948,670	07/23/2013	Edmond ABERGEL	1013-070A	5374

TITLE OF INVENTION: INK JET PRINTER AND METHOD FOR DEPOSITING A PROTECTIVE LAYER ON A SUBSTRATE

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$480	\$0	\$0	\$480	06/12/2014

EXAMINER	ART UNIT	CLASS-SUBCLASS
DO, AN H	2853	347-010000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) The names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____
- (2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____
- 3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (**Please first reapply any previously paid issue fee shown above**)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

- ☐ Applicant certifying micro entity status. See 37 CFR 1.29
- ☐ Applicant asserting small entity status. See 37 CFR 1.27
- ☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/948,670	07/23/2013	Edmond ABERGEL	1013-070A	5374
22429 7590 03/12/2014 LOWE HAUPTMAN & HAM, LLP 2318 Mill Road Suite 1400 ALEXANDRIA, VA 22314			EXAMINER DO, AN H	
			ART UNIT 2853	PAPER NUMBER

DATE MAILED: 03/12/2014

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 0 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 0 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

<i>Notice Requiring Inventor's Oath or Declaration</i>	Application No. 13/948,670	Applicant(s) Edmond ABERGEL	
	Examiner DO, AN H	Art Unit 2853	

This notice is an attachment to the Notice of Allowability (PTOL-37), or the Notice of Allowability For A Design Application (PTOL-37D).

An inventor's oath or declaration in compliance with 37 CFR 1.63 or 1.64 executed by or with respect to each inventor has not yet been submitted.

An oath or declaration in compliance with 37 CFR 1.63, or a substitute statement in compliance with 37 CFR 1.64, executed by or with respect to each inventor (for any inventor for which a compliant oath, declaration, or substitute statement has not yet been submitted) **MUST** be filed no later than the date on which the issue fee is paid. See 35 U.S.C. 115(f). Failure to timely comply will result in ABANDONMENT of this application.

A properly executed inventor's oath to declaration has not been received for the following inventor(s):

If applicant previously filed one or more oaths, declarations, or substitute statements, applicant may have received an informational notice regarding deficiencies therein.

The following deficiencies are noted:

INFORMAL ACTION PROBLEMS

- A properly executed inventor's oath or declaration has not been received for the following inventor(s):
Edmond ABERGEL.

Applicant may submit the inventor's oath or declaration at any time before the Notice of Allowance and Fee(s) Due, PTOL-85, is mailed.

Questions relating to this Notice should be directed to the Application Assistance Unit at 571-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 13/948,670	Applicant(s) ABERGEL, EDMOND	
	Examiner AN DO	Art Unit 2853	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Terminal Disclaimer filed on 27 January 2014.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.
2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
3. ☒ The allowed claim(s) is/are 1-36. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
Certified copies:
a) ☒ All b) ☐ Some *c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)	5. ☐ Examiner's Amendment/Comment
2. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____	6. ☒ Examiner's Statement of Reasons for Allowance
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material	7. ☐ Other _____
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____	

/AN DO/ Primary Examiner, Art Unit 2853	
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DETAILED ACTION

The present application is being examined under the pre-AIA first to invent provisions.

Terminal Disclaimer

1. The terminal disclaimer filed on 27 January 2014 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. Patent No. 8,506,031 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Allowable Subject Matter

2. Claims 1-36 are allowed over prior arts.

The following is an examiner's statement of reasons for allowance:

The primary reason for the allowance of claims 1-17 is the inclusion of the method and apparatus of applying a coating of covering ink to a substrate moving relative to an ink jet nozzle arrangement having a piezoelectric actuator for applying droplets of covering ink to the substrate comprising the step of: controlling by a computer the shapes of the droplets by controlling the shape of an electric waveform applied to the piezoelectric actuator, said shape being controlled by selecting at least a number of plateaus of the electric waveform, in response to at least one of the following parameters: viscosity of the ink, composition of the covering ink, temperature of the covering ink, temperature of the substrate, desired thickness of the layer, type of substrate surface to which the droplets are applied, and relative speed of the substrate and the ink jet nozzle arrangement. It is this step found in the claims, as it is claimed in

the combination of, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claims 18-36 is the inclusion of the method and apparatus of applying a coating of covering ink to a substrate moving relative to an ink jet nozzle arrangement having a piezoelectric actuator for applying droplets of covering ink to the substrate comprising the step of: controlling by a computer the shapes of the droplets by controlling the shape of an electric waveform applied to the piezoelectric actuator, said shape being controlled by a preprogrammed command device with at least a memory correlating the composition of the varnish with the viscosity of the varnish and determining the temperature required by a heating resistance mounted in the nozzle, so that the varnish has a desired viscosity. It is this step found in the claims, as it is claimed in the combination of, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact Information

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to AN DO whose telephone number is (571)272-2143. The examiner can normally be reached on Monday-Friday (Flexible).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on 571-272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/An H. Do/
Primary Examiner, Art Unit 2853

/A.D./ 3/5/2014

EAST Search History**EAST Search History (Prior Art)**

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	1898	347/5.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/03/05 00:18
L2	1111	347/6.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/03/05 00:18
L3	1908	347/7.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/03/05 00:18
L4	2939	347/9.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/03/05 00:19
L5	1709	347/10.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/03/05 00:19
L6	1014	347/11.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/03/05 00:19
L7	3533	347/14.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/03/05 00:19
L8	1316	347/17.ccls.	US-PGPUB;	OR	ON	2014/03/05

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			00:19
L9	5775	347/19.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/03/05 00:19
L10	3604	347/68.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/03/05 00:19
L11	1	1 and (2 3) and (4 5 6) and 7 and 8 and 9 and 10	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/03/05 00:22
L12	1	1 and (2 3) and (4 5 6) and 7 and 8 and 10	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/03/05 00:23
L13	13	1 and (2 3) and (4 5 6) and 7 and 8	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/03/05 00:23
L14	11	1 and (2 3) and (4 5 6) and 7 and 8 and 9	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/03/05 00:23
L15	8	14 AND ((B41J29/393 OR B41J29/38 OR B41J2/04563 OR B41J2/04581 OR B41J11/008).CPC.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/03/05 00:30
L16	0	(B41J29/393 AND B41J29/38 AND B41J2/04563 AND B41J2/04581 AND B41J11/008).CPC.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2014/03/05 00:30

			IBM_TDB			
L17	0	((B41J2/04581 B41J11/008) AND B41J29/393 AND B41J29/38 AND B41J2/04563).CPC.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/03/05 00:31
L18	1	(B41J29/393 AND B41J29/38 AND B41J2/04563).CPC.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/03/05 00:31
L19	547	(B41J29/393 AND B41J29/38).CPC.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/03/05 00:32
L20	18	((B41J2/175 B41J2/17513 B41J2/195) AND B41J29/393 AND B41J29/38).CPC.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/03/05 00:33
L21	3	((((nozzle orifice) with coat\$3 with piezoelectric) and (shape\$1 with (drop\$1 droplet\$1) with waveform) and (viscosity with ink) and (temperature with ink) and (relative with speed with (substrate media medium sheet paper web))))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/03/05 00:35
L22	3	((((nozzle orifice) with coat\$3 with piezoelectric) and (shape\$1 with (drop\$1 droplet\$1) with waveform) and (viscosity with ink) and (temperature with ink) and (speed with (substrate media medium sheet paper web))))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/03/05 00:36
L23	3	((((nozzle orifice) with coat\$3 with piezoelectric) and (shape\$1 with (drop\$1 droplet\$1) with waveform) and (viscosity with ink) and (temperature with ink))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/03/05 00:36
L24	3	((((nozzle orifice) with coat\$3 with piezoelectric) and (shape\$1 with (drop\$1 droplet\$1) with waveform) and (temperature with ink))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/03/05 00:36
L25	3	((((nozzle orifice) with coat\$3 with piezoelectric) and (shape\$1 with (drop\$1 droplet\$1) with waveform) and (viscosity with ink))	US-PGPUB; USPAT; USOCR; FPRS; EPO;	OR	ON	2014/03/05 00:37

			JPO; DERWENT; IBM_TDB			
L27	3	(((nozzle orifice) with coat\$3 with piezoelectric) and (shape\$1 with (drop\$1 droplet\$1) with waveform) and (viscosity with ink) and (temperature with ink) and (speed with (substrate media medium sheet paper web))).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/03/05 00:37

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L26	2	(((nozzle orifice) with coat\$3 with piezoelectric) and (shape\$1 with (drop\$1 droplet\$1) with waveform) and (viscosity with ink) and (temperature with ink) and (relative with speed with (substrate media medium sheet paper web))).clm.	US-PGPUB	OR	ON	2014/03/05 00:37
L28	2	(((nozzle orifice) with coat\$3 with piezoelectric) and (shape\$1 with (drop\$1 droplet\$1) with waveform) and (viscosity with ink) and (temperature with ink) and (speed with (substrate media medium sheet paper web))).clm.	US-PGPUB	OR	ON	2014/03/05 00:38
L29	2	(((nozzle orifice) with coat\$3 with piezoelectric) and (shape\$1 with (drop\$1 droplet\$1) with waveform) and (viscosity with ink) and (temperature with ink)).clm.	US-PGPUB	OR	ON	2014/03/05 00:38
L30	2	(((nozzle orifice) with coat\$3 with piezoelectric) and (shape\$1 with (drop\$1 droplet\$1) with waveform) and (temperature with ink)).clm.	US-PGPUB	OR	ON	2014/03/05 00:38
L31	2	(((nozzle orifice) with coat\$3 with piezoelectric) and (shape\$1 with (drop\$1 droplet\$1) with waveform) and (viscosity with ink)).clm.	US-PGPUB	OR	ON	2014/03/05 00:39

3/ 5/ 2014 12:39:38 AM**C:\Users\ado1\Documents\EAST\Workspaces\13948670.wsp**



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 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 www.uspto.gov

BIB DATA SHEET

CONFIRMATION NO. 5374

SERIAL NUMBER 13/948,670	FILING or 371(c) DATE 07/23/2013 RULE	CLASS 347	GROUP ART UNIT 2853	ATTORNEY DOCKET NO. 1013-070A		
APPLICANTS M.G.I. USA, Inc., Melbourne, FL, Assignee (with 37 CFR 1.172 Interest); INVENTORS Edmond ABERGEL, Paris, FRANCE; ** CONTINUING DATA ***** This application is a DIV of 12/649,765 12/30/2009 PAT 8506031 ** FOREIGN APPLICATIONS ***** FRANCE 08 07500 12/30/2008 ** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** ** SMALL ENTITY ** 08/08/2013						
Foreign Priority claimed ☒ Yes ☐ No 35 USC 119(a-d) conditions met ☒ Yes ☐ No Verified and /AN H DO/ Acknowledged Examiner's Signature		☐ Met after Allowance Initials	STATE OR COUNTRY FRANCE	SHEETS DRAWINGS 2	TOTAL CLAIMS 36	INDEPENDENT CLAIMS 4
ADDRESS LOWE HAUPTMAN & HAM, LLP 2318 Mill Road Suite 1400 ALEXANDRIA, VA 22314 UNITED STATES						
TITLE INK JET PRINTER AND METHOD FOR DEPOSITING A PROTECTIVE LAYER ON A SUBSTRATE						
FILING FEE RECEIVED 1650	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:		☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit			

<i>Index of Claims</i> 	Application/Control No. 13948670	Applicant(s)/Patent Under Reexamination ABERGEL, EDMOND
	Examiner AN DO	Art Unit 2853

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant					☐ CPA					☒ T.D.					☐ R.1.47				
CLAIM		DATE																	
Final	Original	09/12/2013	01/08/2014	03/05/2014															
1	1	✓	✓	=															
2	2	✓	✓	=															
3	3	✓	✓	=															
4	4	✓	✓	=															
5	5	✓	✓	=															
6	6	✓	✓	=															
7	7	✓	✓	=															
8	8	✓	✓	=															
9	9	✓	✓	=															
10	10	✓	✓	=															
11	11	✓	✓	=															
12	12	✓	✓	=															
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30	30	✓	✓	=															
31	31	✓	✓	=															
32	32	✓	✓	=															
33	33	✓	✓	=															
35	34	✓	✓	=															
36	35	✓	✓	=															
34	36	✓	✓	=															

Issue Classification 	Application/Control No. 13948670	Applicant(s)/Patent Under Reexamination ABERGEL, EDMOND	
	Examiner AN DO	Art Unit 2853	

CPC						
Symbol					Type	Version
B41J		29		38	F	20130101
B41J		29		393	I	20130101
B41J		2		195	A	20130101
B41J		2		175	A	20130101
B41J		2		17513	A	20130101

CPC Combination Sets						
Symbol			Type	Set	Ranking	Version

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	36	
/AN DO/ Primary Examiner.Art Unit 2853	3/5/2014	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	2

Issue Classification 	Application/Control No. 13948670	Applicant(s)/Patent Under Reexamination ABERGEL, EDMOND
	Examiner AN DO	Art Unit 2853

US ORIGINAL CLASSIFICATION						INTERNATIONAL CLASSIFICATION													
CLASS		SUBCLASS				CLAIMED					NON-CLAIMED								
347		10				B	4	1	J	29 / 38 (2006.01.01)									
CROSS REFERENCE(S)																			
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)																		

NONE		Total Claims Allowed:	
		36	
(Assistant Examiner)	(Date)		
/AN DO/ Primary Examiner. Art Unit 2853	3/5/2014	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	2

Issue Classification 	Application/Control No. 13948670	Applicant(s)/Patent Under Reexamination ABERGEL, EDMOND
	Examiner AN DO	Art Unit 2853

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☒ T.D. ☐ R.1.47															
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	1	15	17	33	33										
2	2	18	18	35	34										
3	3	19	19	36	35										
4	4	20	20	34	36										
5	5	21	21												
6	6	22	22												
7	7	23	23												
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9	9	25	25												
10	10	26	26												
11	11	27	27												
12	12	28	28												
13	13	29	29												
14	14	30	30												
16	15	31	31												
17	16	32	32												

NONE		Total Claims Allowed:	
(Assistant Examiner)		36	
(Date)			
/AN DO/ Primary Examiner. Art Unit 2853	3/5/2014	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	2

Search Notes 	Application/Control No. 13948670	Applicant(s)/Patent Under Reexamination ABERGEL, EDMOND
	Examiner AN DO	Art Unit 2853

CPC- SEARCHED		
Symbol	Date	Examiner
B41J2/04571	9/12/2013	AD
B41J2/04588	9/12/2013	AD
(Updated Above)	(3/5/2014)	(AD)
B41J29/38	3/5/2014	AD
B41J29/393	3/5/2014	AD
B41J2/175	3/5/2014	AD
B41J2/17513	3/5/2014	AD
B41J2/195	3/5/2014	AD

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner
(B41J29/393 AND B41J29/38 AND B41J2/04563).CPC.	3/5/2014	AD
((B41J2/175 B41J2/17513 B41J2/195) AND B41J29/393 AND B41J29/38).CPC.	3/5/2014	AD

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
347	5-7, 9-11, 14, 17, 19, 68	9/12/2013	AD
	(Updated Above)	(3/5/2014)	(AD)

SEARCH NOTES		
Search Notes	Date	Examiner
Updated EAST Text Search	3/5/2014	AD
CPC Search	3/5/2014	AD

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

	/AN DO/ Primary Examiner.Art Unit 2853
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INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
347	10	3/5/2014	AD
	PGPUB Text Search - See Interference Search History Printout	3/5/2014	AD

	/AN DO/ Primary Examiner.Art Unit 2853
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Docket No.: 1013-070A

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of	:	:	EXPEDITED PROCEDURE
	:	:	Response under 37 CFR 1.116
Edmond ABERGEL	:	:	Confirmation No. 5374
	:	:	
U.S. Patent Application No. 13/948,670	:	:	Group Art Unit: 2853
	:	:	
Filed: July 23, 2013	:	:	Examiner: AN H. DO
For:			
INK JET PRINTER AND METHOD FOR DEPOSITING A PROTECTIVE LAYER ON A SUBSTRATE			

RESPONSE AFTER FINAL

Mail Stop AF
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

This paper is submitted in reply to the Final Office Action mailed January 13, 2014. Applicants respectfully request that the following amendments **as to form** be entered to place this application in condition for allowance.

Application Number 	Application/Control No. 13/948,670	Applicant(s)/Patent under Reexamination ABERGEL, EDMOND	
Document Code - DISQ		Internal Document – DO NOT MAIL	

TERMINAL DISCLAIMER	☒ APPROVED	☐ DISAPPROVED
Date Filed : 01/27/14	This patent is subject to a Terminal Disclaimer	

Approved/Disapproved by:

Angie Walker

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of	:
	:
Edmond ABERGEL	: Confirmation No.5374
	:
U.S. Patent Application No. 13/948,670	: Group Art Unit: 2853
	:
Filed: July 23, 2013	: Examiner: AN H. DO
	:

For: INK JET PRINTER AND METHOD FOR DEPOSITING A PROTECTIVE LAYER ON A
SUBSTRATE

**TERMINAL DISCLAIMER TO OBVIATE A DOUBLE PATENTING
REJECTION OVER A PRIOR PATENT**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450
Sir:

The owner, M.G.I. USA, INC., of 100 percent interest in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application, which would extend beyond the expiration date of the full statutory term defined in 35 U.S.C. 154 and 173, as presently shortened by any terminal disclaimer, of prior Patent No. 8,506,031. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the prior patent are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the owner does not disclaim the terminal part of any patent granted on the instant application that would extend to the expiration date of the full statutory term as defined in 35 U.S.C. 154 and 173 of the prior patent, as presently shortened by any terminal disclaimer, in the event that it later; expires for failure to pay a maintenance fee, is held unenforceable, is found invalid by a court of competent jurisdiction, is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321, has all claims cancelled by a reexamination certificate, is reissued, or is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer.

Application No. 13/948,670

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

The undersigned is an attorney of record and therefore the certification under 37 CFR 3.73(b) is not required.

Respectfully submitted,

LOWE HAUPTMAN & HAM, LLP

/Randy A. Noranbrock/

Randy A. Noranbrock
Registration No. 42,940

2318 Mill Road
Suite 1400
Alexandria, VA 22314
703-684-1111
703-518-5499 Facsimile
Date: January 27, 2014
RAN/ECA

Electronic Acknowledgement Receipt	
EFS ID:	18027714
Application Number:	13948670
International Application Number:	
Confirmation Number:	5374
Title of Invention:	INK JET PRINTER AND METHOD FOR DEPOSITING A PROTECTIVE LAYER ON A SUBSTRATE
First Named Inventor/Applicant Name:	Edmond ABERGEL
Customer Number:	22429
Filer:	Randy A. Noranbrock/Elizabeth Anastasio
Filer Authorized By:	Randy A. Noranbrock
Attorney Docket Number:	1013-070A
Receipt Date:	27-JAN-2014
Filing Date:	23-JUL-2013
Time Stamp:	11:01:00
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Applicant Arguments/Remarks Made in an Amendment	AsFiled_Response2014-01-27.pdf	20470 448d0ec044e655a89b5a52d6c2c70ef3592cad9	no	2

Warnings:

Information:

2	Terminal Disclaimer Filed	AsFiled_RevisedTerminalDisclaimer.pdf	20201 b5ba9ba4cd1e96913747fc18d0d9044d391193fd	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			40671		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					

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RESPONSE AFTER FINAL

Mail Stop AF
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

This paper is submitted in reply to the Final Office Action mailed January 13, 2014. Applicants respectfully request that the following amendments **as to form** be entered to place this application in condition for allowance.

REMARKS

The Office Action dated January 13, 2014, has been received and carefully reviewed. Favorable reconsideration of this application in view of the following remarks is respectfully requested.

In the Office Action, the Examiner objected to the Terminal Disclaimer filed on December 16, 2013. The Terminal Disclaimer has been revised based on the recommendations of the Examiner and is filed herewith.

Applicants respectfully submit that all outstanding issues in the Office Action have been addressed, and the application is now in condition for allowance, and an early notice to that effect is earnestly solicited.

If any issues remain that can be clarified by telephone, the Examiner is cordially invited to contact Applicants' representative at the number indicated below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

Respectfully submitted,

LOWE HAUPTMAN & HAM, LLP

/Randy A. Noranbrock/

Randy A. Noranbrock
Registration No. 42,940

2318 Mill Road, Suite 1400
Alexandria, VA 22314
(703) 684-1111
(703) 518-5499 Facsimile
Date: January 27, 2014
RAN/ECA



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/948,670	07/23/2013	Edmond ABERGEL	1013-070A	5374
22429 7590 01/13/2014 LOWE HAUPTMAN & HAM, LLP 2318 Mill Road Suite 1400 ALEXANDRIA, VA 22314			EXAMINER DO, AN H	
			ART UNIT 2853	PAPER NUMBER
			MAIL DATE 01/13/2014	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 13/948,670	Applicant(s) ABERGEL, EDMOND	
	Examiner AN DO	Art Unit 2853	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2013.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

- 5) ☒ Claim(s) 1-36 is/are pending in the application.
5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1-36 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

- a) ☐ All b) ☐ Some** c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) ☐ Notice of References Cited (PTO-892) | 3) ☐ Interview Summary (PTO-413) |
| 2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) | Paper No(s)/Mail Date. ____. |
| Paper No(s)/Mail Date ____. | 4) ☐ Other: ____. |

DETAILED ACTION

The present application is being examined under the pre-AIA first to invent provisions.

Terminal Disclaimer

1. The terminal disclaimer filed on 16 December 2013 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. Patent No. 8,506,031 has been reviewed and is NOT accepted.

The terminal disclaimer does not comply with 37 CFR 1.321 because:

-The language 35 USC 154 to 156 and 173 is unclear as to 155 and 156 statutes do not cover the same rights, it should be 35 USC 154 and 173.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory double patenting rejection is appropriate where the claims at issue are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*,

686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the reference application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement. A terminal disclaimer must be signed in compliance with 37 CFR 1.321(b).

The USPTO internet Web site contains terminal disclaimer forms which may be used. Please visit <http://www.uspto.gov/forms/>. The filing date of the application will determine what form should be used. A web-based eTerminal Disclaimer may be filled out completely online using web-screens. An eTerminal Disclaimer that meets all requirements is auto-processed and approved immediately upon submission. For more information about eTerminal Disclaimers, refer to <http://www.uspto.gov/patents/process/file/efs/guidance/eTD-info-I.jsp>.

3. Claims 1-36 are rejected on the ground of nonstatutory double patenting as being unpatentable over claims 1-25 of U.S. Patent No. 8,506,031. Although the claims at issue are not identical, they are not patentably distinct from each other because claims 1-25 of Patent '031 encompass the same subject matter of an apparatus and method for applying a coating of covering ink to a substrate comprising all the claimed limitations as shown in claims 1-36 of the instant application.

Response to Arguments

4. Applicant's arguments filed 16 December 2013 have been fully considered but they are not persuasive. Applicant filed a Terminal Disclaimer to overcome the Double patenting rejection but the Terminal Disclaimer was not accepted due to the language 35 USC 154 to 156 and 173 is unclear as to 155 and 156 statutes do not cover the same rights, it should be 35 USC 154 and 173. Therefore, the Double Patenting rejection remains until the Applicant resubmits the new Terminal Disclaimer that meets the above requirement.

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to AN DO whose telephone number is (571)272-2143. The examiner can normally be reached on Monday-Friday (Flexible).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on 571-272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/An H. Do/
Primary Examiner, Art Unit 2853

<i>Index of Claims</i> 	Application/Control No. 13948670	Applicant(s)/Patent Under Reexamination ABERGEL, EDMOND
	Examiner AN DO	Art Unit 2853

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant				☐ CPA				☐ T.D.				☐ R.1.47			
CLAIM		DATE													
Final	Original	09/12/2013	01/08/2014												
	1	✓	✓												
	2	✓	✓												
	3	✓	✓												
	4	✓	✓												
	5	✓	✓												
	6	✓	✓												
	7	✓	✓												
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	29	✓	✓												
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	31	✓	✓												
	32	✓	✓												
	33	✓	✓												
	34	✓	✓												
	35	✓	✓												
	36	✓	✓												

Application Number 	Application/Control No. 13/948,670	Applicant(s)/Patent under Reexamination ABERGEL, EDMOND	
Document Code - DISQ		Internal Document – DO NOT MAIL	

TERMINAL DISCLAIMER	☐ APPROVED	☒ DISAPPROVED
Date Filed : 12/16/13	This patent is subject to a Terminal Disclaimer	

Approved/Disapproved by:

Td disapproved.

The language 35 USC 154 to 156 and 173 is unclear as to 155 and 156 statues do not cover the same rights, it should be 35 USC 154 and 173.

Also resubmit Td with these papers, NO Fee is required

Lawana Hixon

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of	:
	:
Edmond ABERGEL	: Confirmation No.5374
	:
U.S. Patent Application No. 13/948,670	: Group Art Unit: 2853
	:
Filed: July 23, 2013	: Examiner: AN H. DO
	:

For: INK JET PRINTER AND METHOD FOR DEPOSITING A PROTECTIVE LAYER ON A
SUBSTRATE

**TERMINAL DISCLAIMER TO OBVIATE A DOUBLE PATENTING
REJECTION OVER A PRIOR PATENT**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450
Sir:

The owner, M.G.I. USA, INC., of 100 percent interest in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application, which would extend beyond the expiration date of the full statutory term defined in 35 U.S.C. 154 to 156 and 173, as presently shortened by any terminal disclaimer, of prior Patent No. 8,506,031. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the prior patent are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

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Application No. 13/948,670

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Respectfully submitted,

LOWE HAUPTMAN & HAM, LLP

/Randy A. Noranbrock/

Randy A. Noranbrock
Registration No. 42,940

2318 Milll Road
Suite 1400
Alexandria, VA 22314
703-684-1111
703-518-5499 Facsimile
Date: December 16, 2013
RAN/ECA

Electronic Patent Application Fee Transmittal				
Application Number:		13948670		
Filing Date:		23-Jul-2013		
Title of Invention:		INK JET PRINTER AND METHOD FOR DEPOSITING A PROTECTIVE LAYER ON A SUBSTRATE		
First Named Inventor/Applicant Name:		Edmond ABERGEL		
Filer:		Randy A. Noranbrock/Elizabeth Anastasio		
Attorney Docket Number:		1013-070A		
Filed as Small Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Statutory or Terminal Disclaimer	1814	1	160	160
Total in USD (\$)				160

Electronic Acknowledgement Receipt	
EFS ID:	17670315
Application Number:	13948670
International Application Number:	
Confirmation Number:	5374
Title of Invention:	INK JET PRINTER AND METHOD FOR DEPOSITING A PROTECTIVE LAYER ON A SUBSTRATE
First Named Inventor/Applicant Name:	Edmond ABERGEL
Customer Number:	22429
Filer:	Randy A. Noranbrock/Elizabeth Anastasio
Filer Authorized By:	Randy A. Noranbrock
Attorney Docket Number:	1013-070A
Receipt Date:	16-DEC-2013
Filing Date:	23-JUL-2013
Time Stamp:	15:42:10
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$160
RAM confirmation Number	2909
Deposit Account	
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
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1	Applicant Arguments/Remarks Made in an Amendment	AsFiled_Amendment.pdf	27390	no	4
			e6accc76bd6928152d44c99b9b481f05c2e9772c		
Warnings:					
Information:					
2	Terminal Disclaimer Filed	AsFiled_TerminalDisclaimer.pdf	20211	no	2
			f8ccd9d1c14f6b6475bd67df66b813e906bf260b		
Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	30431	no	2
			835f1461e68f057882fb3e3c79d15ab72274b6d3		
Warnings:					
Information:					
Total Files Size (in bytes):			78032		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					

Docket No.: 1013-070A

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AMENDMENT

Mail Stop Amendment
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

This paper is submitted in reply to the Office Action mailed September 16, 2013. Applicants respectfully request that the following amendments **as to form** be entered to place this application in condition for allowance.

Amendments to the Specification:

On page 1 after the title, please insert the following:

-- RELATED APPLICATIONS

The present application is a continuation of Application Number 12/649,765, filed December 30, 2009, now U.S. Patent 8,506,031, the disclosure of which is hereby incorporated by reference herein in its entirety. –

REMARKS

The Office Action dated September 16, 2013, has been received and carefully reviewed. Favorable reconsideration of this application in view of the following remarks is respectfully requested.

In the Office Action, the Examiner objected to the specification due to informalities. Amendments to the specification have been made herewith. No new matter is believed to have been added by the forgoing amendments.

As a result of the Office Action, claims 1-36 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-25, of U.S. Patent No. 8,506,031. In response, Applicants hereby submit a Terminal Disclaimer to obviate the nonstatutory obviousness-type double patenting rejection.

Applicants respectfully submit that all outstanding issues in the Office Action have been addressed, and the application is now in condition for allowance, and an early notice to that effect is earnestly solicited.

If any issues remain that can be clarified by telephone, the Examiner is cordially invited to contact Applicants' representative at the number indicated below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

Respectfully submitted,

LOWE HAUPTMAN & HAM, LLP

/Randy A. Noranbrock/

Randy A. Noranbrock
Registration No. 42,940

2318 Mill Road, Suite 1400
Alexandria, VA 22314
(703) 684-1111
(703) 518-5499 Facsimile
Date: December 16, 2013
RAN/ECA

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875				Application or Docket Number 13/948,670		Filing Date 07/23/2013		☐ To be Mailed	
ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO									
APPLICATION AS FILED – PART I									
(Column 1)			(Column 2)						
FOR		NUMBER FILED	NUMBER EXTRA		RATE (\$)		FEE (\$)		
☒ BASIC FEE (37 CFR 1.16(a), (b), or (c))		N/A	N/A		N/A		140		
☒ SEARCH FEE (37 CFR 1.16(k), (i), or (m))		N/A	N/A		N/A		300		
☒ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))		N/A	N/A		N/A		360		
TOTAL CLAIMS (37 CFR 1.16(i))		36 minus 20 =	* 16		x \$40 =		640		
INDEPENDENT CLAIMS (37 CFR 1.16(h))		4 minus 3 =	* 1		x \$210 =		210		
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))		If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).							
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))									
* If the difference in column 1 is less than zero, enter "0" in column 2.					TOTAL		1650		
APPLICATION AS AMENDED – PART II									
(Column 1)			(Column 2)		(Column 3)				
AMENDMENT	12/16/2013		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)		ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))		* 36	Minus	** 36	= 0	x \$40 =		0
	Independent (37 CFR 1.16(h))		* 4	Minus	***4	= 0	x \$210 =		0
	☐ Application Size Fee (37 CFR 1.16(s))								
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))								
							TOTAL ADD'L FEE		0
(Column 1)			(Column 2)		(Column 3)				
AMENDMENT			CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)		ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))		*	Minus	**	=	x \$ =		
	Independent (37 CFR 1.16(h))		*	Minus	***	=	x \$ =		
	☐ Application Size Fee (37 CFR 1.16(s))								
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))								
							TOTAL ADD'L FEE		
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.									

LIE
/AJAY R. DAVID/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



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UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/948,670	07/23/2013	Edmond ABERGEL	1013-070A

CONFIRMATION NO. 5374

22429
LOWE HAUPTMAN & HAM, LLP
2318 Mill Road
Suite 1400
ALEXANDRIA, VA 22314

PUBLICATION NOTICE



OC000000065122137

Title:INK JET PRINTER AND METHOD FOR DEPOSITING A PROTECTIVE LAYER ON A SUBSTRATE

Publication No.US-2013-0307890-A1

Publication Date:11/21/2013

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently <http://www.uspto.gov/patft/>.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Office of Public Records. The Office of Public Records can be reached by telephone at (703) 308-9726 or (800) 972-6382, by facsimile at (703) 305-8759, by mail addressed to the United States Patent and Trademark Office, Office of Public Records, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently <http://pair.uspto.gov/>. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/948,670	07/23/2013	Edmond ABERGEL	1013-070A	5374
22429 7590 09/16/2013 LOWE HAUPTMAN & HAM, LLP 2318 Mill Road Suite 1400 ALEXANDRIA, VA 22314			EXAMINER DO, AN H	
			ART UNIT 2853	PAPER NUMBER
			MAIL DATE 09/16/2013	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 13/948,670	Applicant(s) ABERGEL, EDMOND	
	Examiner AN DO	Art Unit 2853	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 July 2013.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 1-36 is/are pending in the application.
5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1-36 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

- 10) ☒ The specification is objected to by the Examiner.
- 11) ☒ The drawing(s) filed on 23 July 2013 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

- a) ☒ All b) ☐ Some * c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 12/649,765.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) ☒ Notice of References Cited (PTO-892) | 3) ☐ Interview Summary (PTO-413) |
| 2) ☒ Information Disclosure Statement(s) (PTO/SB/08) | Paper No(s)/Mail Date. ____. |
| Paper No(s)/Mail Date <u>7/23/2013</u> . | 4) ☐ Other: ____. |

DETAILED ACTION

The present application is being examined under the pre-AIA first to invent provisions.

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119 (a)-(d). The certified copy has been filed in parent Application No. 12/649,765, filed on 30 December 2009.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 23 July 2013 was filed and is being considered by the examiner.

Specification

3. The disclosure is objected to because of the following informalities: Applicants need to provide the updated continuation data in the very first paragraph of the specification. Appropriate correction is required.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory double patenting rejection is appropriate where the claims at issue are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been

obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the reference application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement. A terminal disclaimer must be signed in compliance with 37 CFR 1.321(b).

The USPTO internet Web site contains terminal disclaimer forms which may be used. Please visit <http://www.uspto.gov/forms/>. The filing date of the application will determine what form should be used. A web-based eTerminal Disclaimer may be filled out completely online using web-screens. An eTerminal Disclaimer that meets all requirements is auto-processed and approved immediately upon submission. For more information about eTerminal Disclaimers, refer to <http://www.uspto.gov/patents/process/file/efs/guidance/eTD-info-I.jsp>.

5. Claims 1-36 are rejected on the ground of nonstatutory double patenting as being unpatentable over claims 1-25 of U.S. Patent No. 8,506,031. Although the claims at issue are not identical, they are not patentably distinct from each other because claims 1-25 of Patent '031 encompass the same subject matter of an apparatus and method

for applying a coating of covering ink to a substrate comprising all the claimed limitations as shown in claims 1-36 of the instant application.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Konno (US 7,543,899) discloses an inkjet recording apparatus comprising a liquid applicator, an ink applicator and a control device to control the speed movement and varied temperatures of the media. Okada et al (US 8,172,352) disclose a printing apparatus having a drive waveform generating circuit, an adjustment value setting circuit and driver register and transistor sets. Hoisington et al (US 5,502,467) disclose an inkjet printing system having an ink viscosity controller so as to control the temperature of the ink to maintain the ink viscosity.

Contact Information

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to AN DO whose telephone number is (571)272-2143. The examiner can normally be reached on Monday-Friday (Flexible).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on 571-272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/An H. Do/
Primary Examiner, Art Unit 2853

Notice of References Cited	Application/Control No. 13/948,670	Applicant(s)/Patent Under Reexamination ABERGEL, EDMOND	
	Examiner AN DO	Art Unit 2853	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-8,506,031	08-2013	Abergel, Edmond	347/10
*	B	US-8,172,352	05-2012	Okada et al.	347/11
*	C	US-7,543,899	06-2009	Konno, Masaaki	347/6
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

<i>Index of Claims</i> 	Application/Control No. 13948670	Applicant(s)/Patent Under Reexamination ABERGEL, EDMOND
	Examiner AN DO	Art Unit 2853

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant											☐ CPA											☐ T.D.											☐ R.1.47										
CLAIM			DATE																																								
Final	Original	09/12/2013																																									
	1	✓																																									
	2	✓																																									
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Receipt date: 07/23/2013

13948670, GAU: 2853

Approved for use through 09/30/2007. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		
	Filing Date		2009-12-30
	First Named Inventor	Edmond ABERGEL	
	Art Unit		
	Examiner Name		
	Attorney Docket Number		1013-070

U.S.PATENTS						
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	7614725		2009-11-10	Schulmeister	
	2	7451698		2008-11-18	Schneider et al.	
	3	4743924		1988-05-10	Scardovi	
	4	5502467		1996-03-26	Hoisington et al.	
	5	7332037		2009-02-19	Abergel et al.	US Equiv EP1749670
	6	7279506		2007-10-19	Sisler et al.	
	7	7543899		2009-06-09	Masaaki Konno	
	8	7226141		2007-06-05	Kazuo Asano	

/An Do/

09/10/2013

Receipt date: 07/23/2013 INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13948670 - GAU: 2853	
	Filing Date		2009-12-30	
	First Named Inventor	Edmond ABERGEL		
	Art Unit			
	Examiner Name			
	Attorney Docket Number		1013-070	

	9	7018459		2006-03-28	Takatsugu Doi	
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If you wish to add additional U.S. Patent citation information please click the Add button.

U.S. PATENT APPLICATION PUBLICATIONS

Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	20040189732		2004-09-30	Usuda	

If you wish to add additional U.S. Published Application citation information please click the Add button.

FOREIGN PATENT DOCUMENTS

Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ²	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T ⁵
	1	1749670	EP		2007-02-07	MGI France		☐
	2	1621260	EP		2006-02-01	Toshiba Tec Kabushiki Kaisha		☐
	3	1186410	EP		2002-03-13	Seiko Epson Corporation		☐

If you wish to add additional Foreign Patent Document citation information please click the Add button

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵
	1		☐

/An Do/

09/10/2013

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13948670 - GAU: 2853	
	Filing Date		2009-12-30	
	First Named Inventor	Edmond ABERGEL		
	Art Unit			
	Examiner Name			
	Attorney Docket Number		1013-070	

If you wish to add additional non-patent literature document citation information please click the Add button			
EXAMINER SIGNATURE			
Examiner Signature	/An Do/	Date Considered	09/10/2013
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.			
¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.			

Receipt date: 07/23/2013 INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13948670 - GAU: 2853
	Filing Date		2009-12-30
	First Named Inventor	Edmond ABERGEL	
	Art Unit		
	Examiner Name		
	Attorney Docket Number		1013-070

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ None

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Randy A. Noranbrock/	Date (YYYY-MM-DD)	2013-07-23
Name/Print	Randy A. Noranbrock	Registration Number	42940

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

/An Do/

09/10/2013

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

/An Do/

09/10/2013

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /A.D./



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BIB DATA SHEET

CONFIRMATION NO. 5374

SERIAL NUMBER 13/948,670	FILING or 371(c) DATE 07/23/2013 RULE	CLASS 347	GROUP ART UNIT 2853	ATTORNEY DOCKET NO. 1013-070A		
APPLICANTS M.G.I. USA, Inc., Melbourne, FL, Assignee (with 37 CFR 1.172 Interest); Edmond ABERGEL, Paris, FRANCE; ** CONTINUING DATA ***** This application is a DIV of 12/649,765 12/30/2009 PAT 8506031 ** FOREIGN APPLICATIONS ***** FRANCE 08 07500 12/30/2008 ** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** ** SMALL ENTITY ** 08/08/2013						
Foreign Priority claimed ☒ Yes ☐ No 35 USC 119(a-d) conditions met ☒ Yes ☐ No Verified and Acknowledged <u>/AN H DO/</u> Examiner's Signature		☐ Met after Allowance Initials	STATE OR COUNTRY FRANCE	SHEETS DRAWINGS 2	TOTAL CLAIMS 36	INDEPENDENT CLAIMS 4
ADDRESS LOWE HAUPTMAN & HAM, LLP 2318 Mill Road Suite 1400 ALEXANDRIA, VA 22314 UNITED STATES						
TITLE INK JET PRINTER AND METHOD FOR DEPOSITING A PROTECTIVE LAYER ON A SUBSTRATE						
FILING FEE RECEIVED 1650	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:			☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit		

Search Notes 	Application/Control No. 13948670	Applicant(s)/Patent Under Reexamination ABERGEL, EDMOND
	Examiner AN DO	Art Unit 2853

CPC- SEARCHED		
Symbol	Date	Examiner
B41J2/04571	9/12/2013	AD
B41J2/04588	9/12/2013	AD

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
347	5-7, 9-11, 14, 17, 19, 68	9/12/2013	AD

SEARCH NOTES		
Search Notes	Date	Examiner
EAST Text Search	9/12/2013	AD
Reviewed Parent Application	9/12/2013	AD

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

	/AN DO/ Primary Examiner.Art Unit 2853
--	---

/A.D./ 9/12/2013

EAST Search History**EAST Search History (Prior Art)**

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	5	"8506031".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/10 09:38
S7	926	347/11.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/10 09:51
S6	1495	347/10.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/10 09:51
S5	2612	347/9.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/10 09:51
S4	1739	347/7.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/10 09:51
S3	942	347/6.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/10 09:51
S2	1714	347/5.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/10 09:51
S11	3281	347/68.ccls.	US-PGPUB;	OR	ON	2013/09/10

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			09:52
S10	5197	347/19.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/10 09:52
S9	1219	347/17.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/10 09:52
S8	3099	347/14.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/10 09:52
S13	1	S2 and (S3 S4) and S5 and (S6 S7) and S11	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/10 10:03
S12	0	S2 and (S3 S4) and S5 and (S6 S7) and (S8 S9 S10) and S11	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/10 10:03
S14	10	("20040189732" "4743924" "5502467" "7018459" "7226141" "7279506" "7332037" "7451698" "7543899" "7614725").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2013/09/10 10:43
S15	20	US-1013070-\$.DID. OR US-7614725-\$.DID. OR US-7451698-\$.DID. OR US-4743924-\$.DID. OR US-5502467-\$.DID. OR US-7332037-\$.DID. OR EP-1749670-\$.DID. OR EP-67279506-\$.DID. OR US-7279506-\$.DID. OR US-7543899-\$.DID. OR US-7226141-\$.DID. OR US-7018459-\$.DID. OR US-20040189732-\$.DID. OR US-1749670-\$.DID. OR EP-20070207-\$.DID. OR US-1621260-\$.DID. OR EP-20060201-\$.DID. OR US-1186410-\$.DID. OR EP-20020313-\$.DID. OR US-1331018-\$.DID.	US-PGPUB; USPAT; USOCR	OR	ON	2013/09/10 10:49
S16	207	((MICHAEL) near2 (MILLS)).INV.	US-PGPUB; USPAT	OR	ON	2013/09/10 10:50
S18	83	((STEPHEN) near2 (MILLS)).INV.	US-PGPUB;	OR	ON	2013/09/10

			USPAT			10:51
S17	19	((JOE) near2 (BYRNE)).INV.	US-PGPUB; USPAT	OR	ON	2013/09/10 10:51
L2	2	((nozzle orifice) with coat\$3 with piezoelectric with actuator) and (shape\$1 with (drop\$1 droplet\$1) with waveform) and (viscosity with ink) and (temperature with ink) and (relative with speed with (substrate media medium sheet paper web)))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/12 22:42
L4	2	((nozzle orifice) with coat\$3 with piezoelectric with actuator) and (shape\$1 with (drop\$1 droplet\$1) with waveform) and ((viscosity with ink) (temperature with ink)) and (speed with (substrate media medium sheet paper web)))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/12 22:43
L3	2	((nozzle orifice) with coat\$3 with piezoelectric with actuator) and (shape\$1 with (drop\$1 droplet\$1) with waveform) and (viscosity with ink) and (temperature with ink))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/12 22:43

EAST Search History (Interference)

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9/ 12/ 2013 10:44:37 PM**C:\ Users\ ado1\ Documents\ EAST\ Workspaces\ 13948670.wsp**



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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/948,670	07/23/2013	Edmond ABERGEL	1013-070A

CONFIRMATION NO. 5374

POA ACCEPTANCE LETTER

22429
LOWE HAUPTMAN & HAM, LLP
2318 Mill Road
Suite 1400
ALEXANDRIA, VA 22314



Date Mailed: 08/22/2013

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 08/14/2013.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

/hgray/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101



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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
13/948,670	07/23/2013	2853	1650	1013-070A	36	4

CONFIRMATION NO. 5374

22429
LOWE HAUPTMAN & HAM, LLP
2318 Mill Road
Suite 1400
ALEXANDRIA, VA 22314

FILING RECEIPT



OC000000063154002

Date Mailed: 08/14/2013

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

Edmond ABERGEL, Paris, FRANCE;

Applicant(s)

M.G.I. USA, Inc., Melbourne, FL

Assignment For Published Patent Application

M.G.I. USA, Inc., Melbourne, FL

Power of Attorney: None

Domestic Priority data as claimed by applicant

This application is a DIV of 12/649,765 12/30/2009 PAT 8506031

Foreign Applications (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see <http://www.uspto.gov> for more information.)

FRANCE 08 07500 12/30/2008

If Required, Foreign Filing License Granted: 08/08/2013

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 13/948,670**

Projected Publication Date: 11/21/2013

Non-Publication Request: No

Early Publication Request: No

**** SMALL ENTITY ****

Title

INK JET PRINTER AND METHOD FOR DEPOSITING A PROTECTIVE LAYER ON A SUBSTRATE

Preliminary Class

347

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

LICENSE FOR FOREIGN FILING UNDER
Title 35, United States Code, Section 184
Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875						Application or Docket Number 13/948,670				
APPLICATION AS FILED - PART I										
(Column 1)		(Column 2)		SMALL ENTITY		OTHER THAN SMALL ENTITY				
FOR	NUMBER FILED	NUMBER EXTRA	RATE(\$)	FEE(\$)		RATE(\$)	FEE(\$)			
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	70		N/A				
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A	300		N/A				
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	360		N/A				
TOTAL CLAIMS (37 CFR 1.16(j))	36	minus 20 = *	16	x 40 =	640					
INDEPENDENT CLAIMS (37 CFR 1.16(h))	4	minus 3 = *	1	x 210 =	210					
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			0.00						
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				0.00						
			TOTAL	1580		TOTAL				
* If the difference in column 1 is less than zero, enter "0" in column 2.										
APPLICATION AS AMENDED - PART II										
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OTHER THAN SMALL ENTITY		
AMENDMENT A		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)	ADDITIONAL FEE(\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	x	=		x	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x	=		x	=
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))									
						TOTAL ADD'L FEE			TOTAL ADD'L FEE	
AMENDMENT B		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)	ADDITIONAL FEE(\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	x	=		x	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x	=		x	=
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))									
						TOTAL ADD'L FEE			TOTAL ADD'L FEE	
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.										



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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/948,670	07/23/2013	Edmond ABERGEL	1013-070A

CONFIRMATION NO. 5374

22429
LOWE HAUPTMAN & HAM, LLP
2318 Mill Road
Suite 1400
ALEXANDRIA, VA 22314

NOTICE



Date Mailed: 08/14/2013

INFORMATIONAL NOTICE TO APPLICANT

Applicant is notified that the above-identified application contains the deficiencies noted below. No period for reply is set forth in this notice for correction of these deficiencies. However, if a deficiency relates to the inventor's oath or declaration, the applicant must file an oath or declaration in compliance with 37 CFR 1.63, or a substitute statement in compliance with 37 CFR 1.64, executed by or with respect to each actual inventor no later than the expiration of the time period set in the "Notice of Allowability" to avoid abandonment. See 37 CFR 1.53(f).

The item(s) indicated below are also required and should be submitted with any reply to this notice to avoid further processing delays.

- A properly executed inventor's oath or declaration has not been received for the following inventor(s):
Edmond ABERGEL

Applicant may submit the inventor's oath or declaration at any time before the Notice of Allowance and Fee(s) Due, PTOL-85, is mailed.

Attorney Docket No. 1013-070A Application No. 13/948,670

PATENT

First Named Inventor: Edmond ABERGEL Confirmation No.

Filed:

Title: INK JET PRINTER AND METHOD FOR DEPOSITING A PROTECTIVE LAYER ON A SUBSTRATE

DECLARATION (37 C.F.R. §1.63) FOR UTILITY OR DESIGN APPLICATION

As the below named inventor, I hereby declare that:

This declaration is directed to either the attached application, or the above identified United States application or PCT international application number PCT

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. §1001 by fine or imprisonment of not more than (5) years, or both.

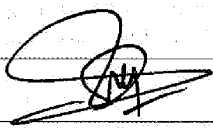
Direct all correspondence to the address associated with Customer Number: **22429**

Lowe Hauptman Ham & Berner, LLP

Telephone: +1-703-684-1111

Email: docketing@ipfirm.com

www.ipfirm.com

Legal Name of Sole or First Inventor: (e.g., Given name (First and middle (if any) and Family Name or Surname)) Edmond ABERGEL			
Inventor's Signature: 		Date (Optional):	
Residence: City Paris	State	Country France	
Mailing address 86, Cours de Vincennes			
City Paris	State	Zip 75012	Country FR

Note-A person may not execute an oath or declaration for an application unless that person has reviewed and understands the contents of the application, and is aware of the duty to disclose to the Office all information known to the person to be material to patentability as defined in 37 C.F.R. §1.56.

Note-Whenever an individual making an oath or declaration cannot understand English, the oath or declaration must be in a language that such individual can understand and shall state that such individual understands the content of any documents to which the oath or declaration relates.

POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 C.F.R. §3.73(c).

I hereby appoint practitioners associated with Customer Number: **22429**

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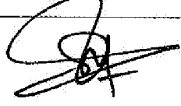
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Address: 3143 Skyway Circle, Melbourne, Florida 32934

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Signature: 	Date: 02/08/2013
Name: ABERGEL Edmond	Telephone: 
Title: CEO	

Electronic Acknowledgement Receipt	
EFS ID:	16586203
Application Number:	13948670
International Application Number:	
Confirmation Number:	5374
Title of Invention:	INK JET PRINTER AND METHOD FOR DEPOSITING A PROTECTIVE LAYER ON A SUBSTRATE
First Named Inventor/Applicant Name:	Edmond ABERGEL
Customer Number:	22429
Filer:	Randy A. Noranbrock/Stephanie Bolger
Filer Authorized By:	Randy A. Noranbrock
Attorney Docket Number:	1013-070A
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Application Type:	Utility under 35 USC 111(a)

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Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Oath or Declaration filed	AsFiled_SignedDocs2.pdf	2376439 bb672cbe5a27ce9f69d713696ba848565bc8ef4a	no	2

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2	Power of Attorney	AsFiled_SignedDocs.pdf	2376439 bb672cbe5a27ce9f69d713696ba848565bc Ref4a	no	2
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Attorney Docket No. 1013-070A Application No. 13/948,670

PATENT

First Named Inventor: Edmond ABERGEL Confirmation No.

Filed:

Title: INK JET PRINTER AND METHOD FOR DEPOSITING A PROTECTIVE LAYER ON A SUBSTRATE

DECLARATION (37 C.F.R. §1.63) FOR UTILITY OR DESIGN APPLICATION

As the below named inventor, I hereby declare that:

This declaration is directed to either the attached application, or the above identified United States application or PCT international application number PCT

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. §1001 by fine or imprisonment of not more than (5) years, or both.

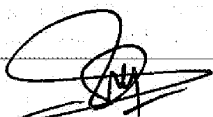
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Legal Name of Sole or First Inventor: (e.g., Given name (First and middle (if any) and Family Name or Surname)) Edmond ABERGEL			
Inventor's Signature: 		Date (Optional):	
Residence: City Paris	State	Country France	
Mailing address 86, Cours de Vincennes			
City Paris	State	Zip 75012	Country FR

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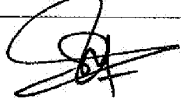
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Signature of Assignee of Record: The individual whose signature and title are supplied below is authorized to act on behalf of the Assignee:	
Signature: 	Date: 02/08/2013
Name: ABERGEL Edmond	Telephone: 
Title: CEO	

Document code: WFEE

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ATTORNEY DOCKET NUMBER: 1013-070A

Sir:

Transmitted herewith for filing is the Utility patent application of:

INVENTOR(S):	Edmond ABERGEL
FOR:	INK JET PRINTER AND METHOD FOR DEPOSITING A PROTECTIVE LAYER ON A SUBSTRATE

Enclosed are:

- ☒ 23 pages of Specification, Claims and Abstract
- ☒ 2 sheet(s) of formal drawings
- ☒ Application Data Sheet
- ☐ Declaration
- ☐ Power of Attorney
- ☐ Statement of Assignee and copy of Assignment
- ☐ Preliminary Amendment
- ☒ Information Disclosure Statement and Reference(s)

The filing fee is calculated as shown below:

	NO. FILED		NO. EXTRA	RATE	AMOUNT
Total Claims	36	MINUS 20	16	x \$80 =	\$ 1280.00
Independent Claims	4	MINUS 3	1	x \$ 420 =	\$ 420.00
If multiple dependent claims are presented, add \$ 780.00					\$ 0.00
Basic Fee					\$ 280.00
Search Fee					\$ 600.00
Examination Fee					\$ 720.00
☐ Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2.					
Total of above calculations					\$3300.00
☒ Late Declaration Fee (\$140.00)					\$ 140.00
TOTAL FEE					\$ 3440.00

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Respectfully submitted,

LOWE HAUPTMAN & HAM, LLP (22429)

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Randy A. Noranbrock
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Date: July 23, 2013
RAN/eca

Ink Jet Printer and Method for Depositing a Protective Layer on a Substrate

RELATED APPLICATION

5 The present application is based on, and claims priority from, FR Application Number 08 07500, filed December 30, 2008, the disclosure of which is hereby incorporated by reference herein in its entirety.

FIELD OF INVENTION

10 The present invention relates to ink jet printers and methods for depositing a protective layer on a substrate and more particularly to such a printer and method wherein a voltage waveform particularly adapted to the ink is applied to a piezoelectric actuator for an ink jet nozzle arrangement. The protective layer is formed from a material referred to herein as a varnish
15 or ink.

BACKGROUND ART

 During printing, ink is deposited on the surface of a substrate, made, for example, of paper or plastic. It is then common to cover the printed surface of the substrate with a protective layer. This protective layer
20 completes the fixation of the printed image on the substrate while protecting

the print against certain external aggressions such as projections, and/or light, heat and humidity. The protective layer is typically formed of an ink like material that enables creation of different visual effects by printing the ink like material as patterns on certain areas. Deposition of this protective layer on a printed substrate is generally performed by flexographic, offset, screen printing. It is also possible to customize the protective layer by causing some areas of the substrate to have varnish patterns and other areas to not have any varnish.

Patent application EP 1749670 relates to a digital ink jet machine for laying a coating with medium viscosity on a variable coating substrate by using ink jet nozzles including hollow needles set into vibration by a piezoelectric actuator adhesively bonded to a resonator including an assembly of the hollow needles. The size and the shape of a droplet of material (i.e., an ink or varnish) deposited by each nozzle on the surface of the substrate, depend on the duration and amplitude of an electric wave driving the actuator. However, such a device, if it is able to deposit varnish drops with medium or high viscosities (which are of the order of about a thousand centipoises), is not suitable for optimum ejection of varnishes with much lower viscosity.

A goal of the present invention is to overcome one or more drawbacks of the prior art by providing a suitable device for optimal deposition of a protective ink layer on a surface of a substrate independently of the ink viscosity and the substrate to be covered.

SUMMARY OF THE INVENTION

An aspect of the invention relates to a method of applying a protective layer to a substrate moving relative to an ink jet nozzle arrangement having a piezoelectric actuator, wherein the ink jet nozzle arrangement applies to the substrate ink droplets that form the protective coating. The method comprises controlling the shapes of the droplets by controlling the shape of an electric waveform applied to the piezoelectric

actuator. The shape of the electric waveform is controlled in response to at least one of the following parameters: viscosity of the ink droplets, temperature of the ink droplets, temperature of the substrate, desired thickness of the layer, type of substrate surface to which the droplets are applied, temperature of the substrate, and relative speed of the substrate and the ink jet nozzle array.

Another aspect of the invention relates to an apparatus for applying a protective layer to a substrate, wherein the apparatus comprises an ink jet nozzle arrangement having a piezoelectric actuator, and a transport mechanism for causing relative movement between the substrate and the ink jet nozzle arrangement. The ink jet nozzle arrangement is arranged for applying to the substrate droplets that form the protective coating. An electric source applies an electric waveform to the piezoelectric actuator. The waveform is arranged for controlling the shapes of the droplets. The electric source is arranged so the electric waveform has a shape determined by at least one of the following parameters: viscosity of the ink droplets, temperature of the ink droplets, temperature of the substrate, desired thickness of the layer, type of substrate surface to which the droplets are applied, temperature of the substrate, and relative speed of the substrate and the ink jet nozzle arrangement.

In one embodiment, a first polarity portion of the waveform has a rising portion with one or more intermediate plateaus, between a neutral portion of the waveform, where the nozzle is at rest, and a maximum plateau of the waveform where ink is expelled from the nozzle. The amplitude and duration of the intermediate plateau are determined by the ink viscosity. In another embodiment, the rising waveform portion has a duration and amplitude having an increasing continuous progression.

A memory of a control computer for the apparatus preferably includes at least one data base correlating at least one predefined temperature of the ink applied to the nozzle with the ink viscosity and /or with the composition of the ink to be deposited.

One type of ink includes a polymer photoinitiator, in which case a UV lamp is positioned downstream of the nozzles, to derive UV radiation that is incident on the ink applied to the substrate and having a wavelength and intensity to activate the photoinitiator.

5 Preferably an infrared drying lamp arrangement is positioned (1) to face the substrate and (2) upstream of the UV lamp to pre-dry and stretch ink deposited on the substrate. The optimum distance between the ink jet nozzles and the UV source depends on characteristics of the substrate and/or the composition of the deposited varnish.

10 At least one wavelength of the infrared lamp provides a pre-drying of the ink and optimum stretching of the ink on the substrate, depending on the characteristics of the substrate and/or the composition of the deposited ink.

 Preferably, there are at least two infrared lamps for emitting IR radiation in different wavelength ranges. The respective power of each of the
15 lamps is controlled and monitored by a device for managing a combination of radiations from the infrared lamps that pre-dry depending on the substrate on which the ink is deposited and/or on the composition of the deposited ink.

 The substrate can be displaced before reaching at least one infrared lamp so the substrate is a determined distance from the at least one IR lamp,
20 based on the substrate speed, the type of substrate on which the ink is deposited and/or of composition of the deposited ink.

 It is also possible to provide a system for correcting at least one lateral shift of the printing by the device.

 The invention with its characteristics and advantages will become
25 more clearly apparent upon reading the description made with reference to the appended drawings.

BRIEF DESCRIPTION OF THE DRAWING

Fig. 1 is a top schematic view of a preferred embodiment of an ink jet device for applying a protective layer to a substrate, and

Fig. 2 is a diagram of an exemplary voltage waveform applied to the piezoelectric actuator of Fig. 1, for controlling the shape of ink droplets supplied by the ink-jet nozzles of Fig. 1 to form the protective layer on the substrate for expelling coverage ink, generated by the piezoelectric actuator of at least one nozzle of the printing device of the invention.

DETAILED DESCRIPTION OF THE DRAWING

In the present document, the terms of “covering ink”, “viscous product” and “varnish” are synonyms.

The apparatus of Fig. 1 is a printing device for depositing ink from ink container 36 onto the surface of substrate 23 independently of the viscosity of the ink. The deposited ink forms a protective layer for the substrate.

The printing device is controlled by computer 50 which controls different work stations and collects information from various sensors. These sensors, for example, provide information about the position of the substrates, information about the configuration of the substrates and validation information indicating whether an operation was properly or improperly performed, as well as conditions (particularly viscosity and temperature) of the ink. Computer 50 includes CPU 52 having interface 54 responsive to (1) key board 56 and (2) sensors 58 and 60 for the viscosity and temperature of the varnish flowing from container 36, respectively, as well as sensors 62 and 64 for the temperature and forward speed of substrate 23, respectively. Computer 50 also includes memory 66 which responds to signals gathered by interface 54 to derive various control signals that are supplied to the CPU, thence via interface 54 to various actuators and controllers.

The substrates awaiting printing (i.e., to have a protective layer deposited thereon) are placed in an input tray 22 having a capacity based on

the nature of the substrate and to the printing needs. In an exemplary embodiment, the input tray 22 accepts (at one time) several thousand substrates, each having a thickness up to 800 μm and variable sizes, for example between the format of a credit card up to an A0 format, and possibly
5 including at least one face which is plastic. After the protective layer has been deposited, the substrates are stored in output tray 36, generally having the same capacity as the input tray. A device (not shown) for gripping the substrates extracts the substrates (e.g., substrate 23) from input tray 22 and positions the substrates on a conveyor belt 24 which is driven longitudinally
10 by roller 26, in turn driven by motor 28 to displace the substrates along a working chain including several work stations.

The first work station is a sheet feeder 49 which indexes the substrate to position two reference edges relative to each other or for detecting a mark printed on the substrate. A sensor detects the information
15 on positions and transmits the information to computer 50 via a wired or wireless network. This information stored in memory 66 is then be reused at other work stations driven by computer 50. Inspections are also carried out in order to detect the presence of a single substrate at each station of the conveyer.

20 The second work station 70 projects the ink which forms the protective layer on substrate 23. Second work station 70 includes ink container 36, pipes 40 and 42 and pump 38 for supplying the ink or varnish in container 36 under pressure to manifold 44 which distributes the ink to ink jet nozzles of nozzle array 46. Each nozzle of nozzle array 46 includes a
25 passageway containing one of resistance heaters 45 and is vibrated by its individual piezoelectric actuator of actuator array 47. Manifold 44, nozzle array 46 and actuator array 47 extend between opposite edges of substrate 23 to enable the ink to form a protective coating across the entire width of the substrate. Alternatively, at a particular time, only some or none of actuators
30 47 apply energy to only some or none of the nozzles of array 46, as substrate 23 is moving past the nozzles, in which case, a protective coating is formed

on only a portion or portions of the substrate aligned with the nozzles that are responsive to energy from actuators 47. The centers of the nozzles of array 46 are typically spaced from each other by one tenth to several thousandths of a millimetre, preferably between 0.01 and 0.1 mm.

5 Non-limiting examples of inks in container 36 are varnish, scratch-off ink, conducting ink, printing ink or adhesive with typical average viscosities in the range of 100 to 1,000 centipoises, but which may have viscosities as low as about ten centipoises. Container 36 may be fed, for example, manually or automatically by a feeding circuit or semi-automatically by a device controlled
10 by an operator. The outlet of container 36 is connected in fluid flow relation by pipe 40 to a pressurization device (pump) 38 which applies sufficient pressure to the material flowing from container 36 to nozzles 46 to enable the nozzles to operate properly. The pressurization device 38 therefore includes a detector (not shown) for monitoring and regulating the pressure of the ink
15 sent towards nozzle 46; computer 50 can be part of this pressure regulation.

 The area covered by the ink droplets is defined for each substrate by a parameterization file contained in memory 66 of computer 50. The file contains data relating to the shape of the substrate area to be covered, the position on the substrate relative to the marks on the substrate, and the
20 amount of ink to be projected in each droplet. Memory 66 also has a software package for controlling the machine of figure 1 so the machine can exploit this information, and for expressing this information in parameters indicative of relative displacement of the substrate 23 and nozzle array 46, and of selective control of the nozzles of array 46, e.g., to control the shapes
25 of the droplets, and of reiteration of the shifted passage of substrate 23 in front of nozzles of array 46 in order to produce joined lines if required.

 Downstream of the projection station 70 is drying station or oven 34. Drying station 34 completely or partly dries the ink projected onto substrate 23 by nozzle array 46. The drying, depending on the applied ink, is achieved
30 with infrared radiation in the case of an aqueous varnish or with a stream of heated air for an adhesive or a scratch-off ink or with UV depending on the

projected ink. After substrate 23 has been dried, some substrates are transferred to output tray 36, without the projected ink being transferred to other substrates or on the tray with which the substrate is in contact.

A protective varnish layer can be applied to a face of the substrate before or after printing. A protective varnish layer can, for example, occupy a quasi rectangular area on the substrate, the corners of which are rounded. A margin not covered with the protective layer can be left on the perimeter of the face of the substrate. A thermally re-activatable adhesive layer can be applied to an area of a substrate, according to a pattern that is, for example, a small rectangle rounded at its corners. Various patterns of scratch-off ink can be laid on other areas, and have various shapes, such as an arrow, a star or any other pattern including, in a non-limiting way, a contour formed of angles and straight and/or curved lines.

Two machines of the type illustrated in Fig. 1 can be provided for applying protective layers to different faces of a single substrate. One of the machines can be before printing, the other after printing. The ink containers of these two machines can be loaded with suitable inks so various patterns can be made on both faces of a substrate. These print materials are, for example, printed on areas protected by a varnish, a scratch-off ink or sized areas or a combination of these various possibilities on any face. Printing on the various faces is achieved by a reversal mechanism between a machine and the following or preceding machine.

With the piezoelectric control, it is possible to adjust the duration and intensity of the ink projected by nozzles of array 46 onto substrate 23. The protected areas are specified by data loaded into memory 66, which in turn activates interface 54 that controls piezoelectric actuator array 46 and nozzle array 46 to provide a digital process having accuracy of the order of 0.05 mm. The protective layer may therefore cover only a point or the whole surface of a substrate. The area of the protected layer is defined for each substrate by a file in memory 66 relating to the shape of the area, its position on the substrate relative to reference marks on the substrate, and the amount

of product to be projected. A software package in memory 66 controls the machine of figure 1 to exploit this information by expressing the information in parameters of relative displacement of substrate 23 and nozzle array 46, in parameters for selectively controlling the nozzles and in parameters for
5 reiterating a shifted passage of the substrate in front of the nozzles in order to produce joined lines if required.

In other exemplary embodiments, the machine of Fig. 1 can be modified to include additional work stations which, for example, assemble various parts together, e.g., applying an adhesive on determined contact
10 areas of the substrates.

Each of the ink-jet nozzles of array 46 is electro-acoustically driven by a piezoelectric actuator of array 47. The piezoelectric actuators are activated by a particular electric waveshape derived by electric source 80, in turn responsive to an output of interface 54 which indicates the shape of a
15 voltage wave that source 80 applies to the piezoelectric actuators. The shape of the voltage wave and the droplet depend on the waveform information stored in memory 66 which is read out to electric source 80 in response to at least one of the following parameters: viscosity of the ink droplets, temperature of the ink droplets, temperature of the substrate,
20 desired thickness of the layer, type of substrate surface to which the droplets are applied, temperature of the substrate, and relative speed of the substrate and the ink jet nozzle array.

The shape of the voltage wave which source 80 applies to actuator array 47 ensures expulsion of the correct quantity of ink and its deposition on
25 substrate 23. The voltage wave (Fig. 2) has a rising portion 82 from a neutral voltage value 84, corresponding to a rest condition of a nozzle, to a peak positive value which forms a phase plateau 86. Plateau 86 corresponds with the ejection phase of the ink loaded in the nozzle. The intensity of the actuator of array 47 which drives the nozzle then changes in proportion to the
30 voltage amplitude of plateau 86 above neutral value 84. During plateau 86 the volume of the nozzle expands by an amount proportional to the amplitude

of plateau 86; the expansion is for a period substantially equal to the duration of plateau 86 so that the diameter and duration of the droplet are controlled. As a result the droplet shape and therefore droplet volume are controlled.

The voltage derived by source 80 then has a polarity inversion 88 to
5 a voltage having a negative polarity relative to neutral value 84. The negative polarity voltage has a plateau 90 having an amplitude and duration enabling the nozzle to be reloaded with ink from manifold 44. The duration and amplitude of both of plateaus 86 and 90 are usually the same and in the range of 1 to 100 microseconds and 5 to 100 volts (preferably 10 to 50 volts)
10 to achieve optimum operation. According to a preferred embodiment, the duration of plateau 90, during which the ink is reloaded from manifold 44 into the nozzle, is equal to that of plateau 86, during which the ink is ejected from the nozzle. Upon completion of plateau 90, the voltage source has a rising edge 92 so the voltage source 80 returns to neutral value 84. Data stored in
15 memory 66 are such that the amplitude and/or duration of plateaus 86 are greater for inks having high viscosity than for ink having low viscosity. As ink temperature increases the inks usually become less viscous, so that the data stored in memory 66 are such that as ink temperature increases there are decreases in the amplitude and/or duration of plateaus 86.

20 Rising voltage waveform portion 82 preferably has an intermediate amplitude at plateau 94 between the amplitudes of neutral value 84 and plateau 86. Plateau 94 enables the ink to be prepared for ejection before the actual expulsion during plateau 86. According to a particular embodiment, the voltage amplitude of intermediate plateau 94 is typically about one-half the
25 voltage amplitude of plateau 86 and the duration of plateau 94 is in the range of 60 nanoseconds to 10 microseconds (preferably between 100 nanoseconds and 1 microsecond). The voltage amplitude and duration of plateau 94 depend on the viscosity of the ink so that increases in viscosity are accompanied by increases in voltage amplitude and duration of plateaus
30 94.. Plateau 94 enables reloading of the varnish in the nozzle by providing

pauses during the loading to avoid an upward flow of air into the nozzle from its expulsion orifice.

According to one embodiment, the rising portion 82 can have several intermediate plateaus for loading ink. The number, voltage amplitude and
5 duration of each of these plateaus are a function of the ink viscosity. According to a particular embodiment, the succession of intermediate plateaus have progressively reduced durations, leading to the formation of an increasing, continuous and gradual loading of the varnish in the nozzle, which may have the aspect of a curve or of a straight line. Ideally, the varnish
10 used has a viscosity from 4 to 100 mPa.s. According to another particularity, the voltage amplitude(s) of the plateau(s) are also determined by the type of detected substrate used during deposition by nozzles of the protective layer.

CPU 52 monitors and adjusts the values and durations of the different plateaus of the wave that source 80 derives and therefore of the
15 shape of the ink droplet depending on at least one printing parameter, for example a characteristic of the substrate or of the ink intended to be deposited on the substrate surface. This characteristic may for example be the viscosity of the ink, as derived in detector 58; the temperature of the ink, as derived by detector 60 or of the substrate, as derived by detector 62; the
20 type of surface on which the ink is projected (e.g., the stiffness and/or chemical composition of the substrate), the sought final quality; or the velocity of the substrate passing under the nozzle, as derived by detector 64. The outputs of one or more of detectors 58, 60, 62 and 64 can be supplied to interface 54 to provide partial or completely automatic control of the shape of
25 the wave that source 80 derives. Alternatively, outputs of the detectors can be observed by an operator who loads them via keyboard 56 into memory 66 via interface 54. As a further alternative, the operator can, in certain instances, assume that viscosity and some other parameters will not be subject to change and enter predetermined values into memory 66 via
30 keyboard 56. .

Memory 66 has one or more databases including information about the waveforms source 80 derives, such as the voltage amplitudes and durations of the plateau(s), the numbers of plateaus, and/or possible ratios of the heights of these plateaus, including the values of these characteristics which are correlated with one or more of the printing parameters. According to a preferred embodiment, the parameters which are mainly taken into account for regulating the foregoing characteristics of the waveforms are the viscosity and/or the composition of the ink used and/or of the substrate intended to be covered.

Each of the nozzles of array 46 includes a resistive heater 46 which is connected to temperature controller 96, in turn responsive to an output of interface 54 indicative of the ink viscosity. Consequently, the temperature of the ink drops is controlled and regulated, and is therefore based on its viscosity. A resistive heater 45 is housed in each of the nozzles of array 46 upstream of the ejection orifice of the nozzle. Memory 66 also has a database including at least one predefined temperature value for each resistive heater 45 to obtain a particular viscosity value of the ink at the outlet of the nozzle. This temperature value depends on the composition of the ink to be deposited, which is pre-recorded in memory 66. This correlation between a temperature value required for the resistive heater 45 and the composition of a particular ink can be obtained, for example, via memory 66 storing a table based on a mathematical function relating the viscosity of the ink having a determined composition to a temperature value. This temperature in the nozzles is typically between 10 and 50°C.

Memory 66 can be pre-programmed by an operator via keyboard 56 and interface 54 through which the operator defines the ink and/or the substrate used. Alternatively, information about the ink and/or substrate can be read into memory 66 in response to outputs of detectors 58-64 which conduct measurements enabling detection of one or more parameters required for selecting the shape or a characteristic of the waveform that source 80 derives. As a further alternative, memory 66 stores desired values

for the temperatures to which resistive heaters 54 heat the ink in the nozzles, so that the ink has a viscosity in a defined range or even at a particular value. Detectors 58 and 60 can be replaced by individual detectors in flow paths in manifold 44 leading directly to each of the nozzles in array 46 so the
5 detectors are positioned immediately upstream of the resistive heater 45 in each nozzle relative to the direction of displacement of the ink in the printing nozzles. Positioning the temperature and viscosity detectors downstream of the resistive heaters 45 would only allow adjustment of the wave derived by source 80 after a first deposition of ink has already been carried out.
10 Positioning the temperature and viscosity detectors upstream of the resistive heaters allows adjustments of the wave derived by source 80 without the need of carrying out a first "test" deposition of ink.

The printing device of Fig. 1 is likely to employ inks which include in their composition at least one photo-initiator for activating polymerization of
15 the ink. Such photoinitiators are generally activated by radiation having one or more particular wavelengths which cause formation of one or more free radicals. The activating wavelengths are typically of ultraviolet (UV) radiation. The machine of Fig. 1 therefore includes one or more UV lamps 32 located downstream of the printing nozzles of array 47 in the displacement direction
20 of substrate 23. Preferentially, the wavelengths of the UV lamp are of the order of 200-400 nm. The wavelength depends on the type of photo-initiator(s) in the composition of the ink deposited on substrate 23.

The printing device of figure 1 also comprises a drying station 34 with one or more infrared (IR) radiation lamps which carry out pre-drying of the
25 deposited ink. Drying station 34 is downstream of nozzle array 46 and upstream of UV source 34 at a position determined by the expected forward speed of substrate 23. Station 34 is transversely spaced from the substrate at predefined optimum distance depending on at least one characteristic of the deposited ink and on the type of substrate to be covered. These pre-
30 drying parameters are stored in a memory 66.

The IR lamps of drying station 34 have emissions in different wavelength regions. The power for each of the lamps is controlled and regulated by a device adapted for managing the combination of the radiations of the lamps. The managing device is associated with CPU 50 and memory
5 66 that includes programming of the radiation specific to each lamp depending on the type of covered substrate and/or at least one characteristic of the deposited ink. According to a particular embodiment, the lamps of drying station 34 irradiate the substrate with wavelengths between 0.5 and 8 μm .

10 If station 34 derives a pair of wavelengths, short wavelengths, between 0.5 and 3.2 μm , and medium wavelengths, between 1.6 and 8 μm , are incident on substrate 23. The combination of the wavelengths for a substrate of the printed paper type relies on a power of the order of 100% for the medium wavelengths and on a power of the order of 50% for the short
15 wavelengths. Also, the combination of IR wavelengths for a plastic type substrate requires a power of the order of 80% for medium wavelengths and on very low or even zero power for short wavelengths.

Fig. 1 also includes a system 98 for checking the plotting of the areas intended to be printed. System 98, which includes a readout station (not
20 shown) which reads and determines the position of the areas to be covered, is driven by electromechanical processes so that a rectification guide follows a rectification line and ensures substantially perfect location between the printed substrate and a new printed area. This rectification line has a strong contrast, is ideally black, and printed with the printing pattern of the substrate,
25 that is, so-called background printing. The readout station uses this rectification line as a reference for computing a side shift relative to the direction of displacement of the substrate relative to the nozzles which deposit the ink. From the measured shift, the rectification guide corrects the trajectory by modifying it accordingly so that the rectification line remains
30 strictly centred with the readout system.

It should be obvious for persons skilled in the art that the present invention allows embodiments under many other specific forms without departing from the field of application of the invention as claimed. Therefore, the present embodiments have to be considered as an illustration but they
5 may be modified within the field defined by the scope of the appended claims. For example, the ink-jet nozzle arrangement can be one or more ink-jet nozzles that scan from edge to edge or the illustrated stationary array of ink-jet nozzles.

CLAIMS

1. A method of applying a coating of covering ink to a substrate moving relative to an ink jet nozzle arrangement having a piezoelectric actuator for applying droplets of covering ink to the substrate, the method comprising controlling
5 by a computer the shapes of the droplets by controlling the shape of an electric waveform applied to the piezoelectric actuator, said shape being controlled by selecting at least a number of plateaus of the electric waveform, in response to at least one of the following parameters: viscosity of the ink , composition of the covering ink, temperature of the covering ink, temperature
10 of the substrate, desired thickness of the layer, type of substrate surface to which the droplets are applied, and relative speed of the substrate and the ink jet nozzle arrangement.
2. The method of claim 1 wherein the shape of said electric waveform is controlled in response to the viscosity and/or the temperature of the ink,
15 detected as the ink flows from the ink container to the nozzle by at least one detector upstream from a heater included in the nozzle arrangement.
3. The method of claim 1 wherein the substrate surface type parameter includes chemical composition of the substrate and/or stiffness of the substrate.
4. The method of claim 1 wherein the waveform has (a) neutral value
20 associated with the nozzle arrangement being at rest, (b) a first polarity relative to the neutral value for causing the nozzle arrangement to have a volume greater than the neutral value, and (c) a second polarity relative to the neutral value for causing the nozzle arrangement to have a volume less than the neutral value; the waveform first polarity having an intermediate
25 substantially constant amplitude between the neutral value and a peak value, each peak value causing a droplet to be expelled from the nozzle arrangement, the intermediate value having an amplitude and/or duration dependent on the viscosity of the ink droplet.

5. The method of claim 1 further including maintaining the temperature of the covering ink at a predetermined temperature within the ink jet nozzle arrangement by said heater.
6. The method of claim 1 wherein the ink includes a photoinitiator and further
5 including irradiating the covering ink applied to the substrate with radiation that activates the photoinitiator.
7. The method of claim 1 wherein the parameter includes the viscosity of the droplet of covering ink at the outlet of the nozzle.
8. The method of claim 1 wherein the parameter includes viscosity of the
10 covering ink measured by a probe upstream from the piezoelectric actuator and/or from a heater heating the covering ink.
9. Apparatus for applying a coating of covering ink to a substrate, comprising a transport mechanism for causing relative movement between the substrate and an ink jet nozzle arrangement, the ink jet nozzle arrangement having a
15 piezoelectric actuator for applying droplets of covering ink to the substrate; a computer controlling a heater included in the nozzle arrangement heating the covering ink and an electric source for applying an electric waveform to the piezoelectric actuator, said waveform controlling the shapes of the droplets, said apparatus comprising a command device controlling the shape of the
20 electric waveform by selecting at least a number of plateaus of the electric waveform, in response to at least one of the following parameters: viscosity of the covering ink, composition of the covering ink, temperature of the covering ink, temperature of the substrate, desired thickness of the layer, type of substrate surface to which the droplets are applied, and relative
25 speed of the substrate and the ink jet nozzle arrangement.
10. The apparatus of claim 9 further including at least one detector upstream from the heater for detecting the viscosity of the ink and/or a detector for detecting temperature of the ink as the ink flows from the ink container to the nozzle and wherein said command device selects said number of plateaus in

response to the viscosity and/or temperature of the covering ink measured by said detector.

11. The apparatus of claim 9 wherein the substrate surface type parameter includes chemical composition of the substrate and/or stiffness of the
5 substrate.

12. The apparatus of claim 9 wherein the waveform has (a) neutral value associated with the nozzle arrangement being at rest, (b) a first polarity relative to the neutral value for causing the nozzle arrangement to have a volume greater than the neutral value, and (c) a second polarity relative to
10 the neutral value for causing the nozzle arrangement to have a volume less than the neutral value; the waveform first polarity having an intermediate substantially constant amplitude between the neutral value and a peak value, each peak value causing a droplet to be expelled from the nozzle arrangement, the intermediate value having an amplitude and/or duration
15 dependent on the viscosity of the ink droplet.

13. The apparatus of claim 9 further including a temperature detector for the ink flowing to the ink jet nozzle arrangement, and a temperature controller responsive to the temperature detector, the temperature controller being arranged for controlling the temperature of the ink flowing in the ink jet nozzle
20 arrangement, wherein the computer controls the heater via the temperature controller.

14. The apparatus of claim 9 further including a memory storing information associated with the shapes of a plurality of the waveforms, an interface for controlling readout of said information in the memory in response to at least
25 one of the parameters being entered into the interface, and a controller arranged to be responsive to the information readout of said memory for controlling the electric source for causing the electric source to derive a waveform having a shape determined by the readout information.

15. The apparatus of claim 9 wherein the parameter includes the viscosity of the
30 droplet of covering ink at the outlet of the nozzle.

16. The apparatus of claim 9 wherein the parameter includes viscosity of the covering ink measured by a probe upstream from the piezoelectric actuator.

17. The apparatus of claim 14, wherein the interface includes an operator memory interface for enabling an operator to enter at least one of the
5 parameters into the interface.

18. A method of applying a coating of covering ink to a substrate moving relative to an ink jet nozzle arrangement having a piezoelectric actuator for applying droplets of covering ink to the substrate, the method comprising controlling by a computer the shapes of the droplets by controlling the shape of an
10 electric waveform applied to the piezoelectric actuator, said shape being controlled by a preprogrammed command device with at least a memory correlating the composition of the varnish with the viscosity of the varnish and determining the temperature required by a heating resistance mounted in the nozzle, so that the varnish has a desired viscosity.

19. The method of claim 18 wherein said shape is further controlled by said command device in response to at least one of the following parameters: viscosity of the ink droplets, composition of the covering ink, temperature of the covering ink, temperature of the substrate, desired thickness of the layer, type of substrate surface to which the droplets are applied, and relative
20 speed of the substrate and the ink jet nozzle arrangement.

20. The method of claim 18 wherein the shape of said electric waveform is controlled in response to the viscosity and/or the temperature of the ink, detected as the ink flows from the ink container to the nozzle by at least one detector upstream from a heater included in the nozzle arrangement.

21. The method of claim 18 wherein the substrate surface type parameter includes chemical composition of the substrate and/or stiffness of the substrate.

22. The method of claim 18 wherein the waveform has (a) neutral value associated with the nozzle arrangement being at rest, (b) a first polarity
30 relative to the neutral value for causing the nozzle arrangement to have a

volume greater than the neutral value, and (c) a second polarity relative to the neutral value for causing the nozzle arrangement to have a volume less than the neutral value; the waveform first polarity having an intermediate substantially constant amplitude between the neutral value and a peak value,
5 each peak value causing a droplet to be expelled from the nozzle arrangement, the intermediate value having an amplitude and/or duration dependent on the viscosity of the ink droplet.

23. The method of claim 18 further including maintaining the temperature of the covering ink at a predetermined temperature within the ink jet nozzle
10 arrangement by said heater.

24. The method of claim 18 wherein the ink includes a photoinitiator and further including irradiating the covering ink applied to the substrate with radiation that activates the photoinitiator.

25. The method of claim 18 wherein the parameter includes the viscosity of the
15 droplet of covering ink at the outlet of the nozzle.

26. The method of claim 18 wherein the parameter includes viscosity of the covering ink measured by a probe upstream from the piezoelectric actuator and/or from a heater heating the covering ink.

27. Apparatus for applying a coating of covering ink to a substrate, comprising a
20 transport mechanism for causing relative movement between the substrate and an ink jet nozzle arrangement, the ink jet nozzle arrangement having a piezoelectric actuator for applying droplets of covering ink to the substrate; a computer controlling a heater included in the nozzle arrangement heating the covering ink and an electric source for applying an electric waveform to the
25 piezoelectric actuator, said waveform controlling the shapes of the droplets, said electric waveform having a shape determined by a preprogrammed command device with at least a memory correlating the composition of the varnish with the viscosity of the varnish and determining the temperature required by a heating resistance mounted in the nozzle, so that the varnish
30 has a desired viscosity.

28. The apparatus of claim 27 wherein said command device further controls the shape of the waveform in response to at least one of the following parameters: viscosity of the covering ink, composition of the covering ink, temperature of the covering ink, temperature of the substrate, desired
5 thickness of the layer, type of substrate surface to which the droplets are applied, and relative speed of the substrate and the ink jet nozzle arrangement.

29. The apparatus of claim 27 further including at least one detector upstream from the heater for detecting the viscosity of the ink and/or a detector for
10 detecting temperature of the ink droplets as the ink flows from the ink container to the nozzle and wherein said command device selects said number of plateaus in response to the viscosity and/or temperature of the covering ink measured by said detector.

30. The apparatus of claim 27 wherein the substrate surface type parameter
15 includes chemical composition of the substrate and/or stiffness of the substrate.

31. The apparatus of claim 27 wherein the waveform has (a) neutral value associated with the nozzle arrangement being at rest, (b) a first polarity relative to the neutral value for causing the nozzle arrangement to have a
20 volume greater than the neutral value, and (c) a second polarity relative to the neutral value for causing the nozzle arrangement to have a volume less than the neutral value; the waveform first polarity having an intermediate substantially constant amplitude between the neutral value and a peak value, each peak value causing a droplet to be expelled from the nozzle
25 arrangement, the intermediate value having an amplitude and/or duration dependent on the viscosity of the ink droplet.

32. The apparatus of claim 27 further including a temperature detector for the ink flowing to the ink jet nozzle arrangement, and a temperature controller responsive to the temperature detector, the temperature controller being
30 arranged for controlling the temperature of the ink flowing in the ink jet nozzle

arrangement, wherein the computer controls the heater via the temperature controller.

33. The apparatus of claim 27 further including a memory storing information associated with the shapes of a plurality of the waveforms, an interface for
5 controlling readout of said information in the memory in response to at least one of the parameters being entered into the interface, and a controller arranged to be responsive to the information readout of said memory for controlling the electric source for causing the electric source to derive a waveform having a shape determined by the readout information.

10 34. The apparatus of claim 27 wherein the parameter includes the viscosity of the droplet of covering ink at the outlet of the nozzle.

35. The apparatus of claim 27 wherein the parameter includes viscosity of the covering ink measured by a probe upstream from the piezoelectric actuator.

36. The apparatus of claim 33, wherein the interface includes an operator
15 memory interface for enabling an operator to enter at least one of the parameters into the interface.

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ABSTRACT

A protective layer is applied to a substrate moving relative to an ink jet nozzle array. Each nozzle responds to a piezoelectric actuator. Shapes of ink droplets deposited by the nozzles on the substrate, to form the protective layer, are controlled by shapes of electric waveforms applied to the actuators. Shapes of the waveforms respond to at least one of: droplet viscosity and temperature, temperature of the substrate, desired thickness of the layer, type of substrate surface to which the droplets are applied, and relative speed of the substrate and the ink jet nozzle array.

INK JET PRINTER AND METHOD FOR DEPOSITING A PROTECTIVE LAYER ON A
SUBSTRATE

Application No. 12/649,765
Inventor: Edmond ABERGEL
Replacement Sheet

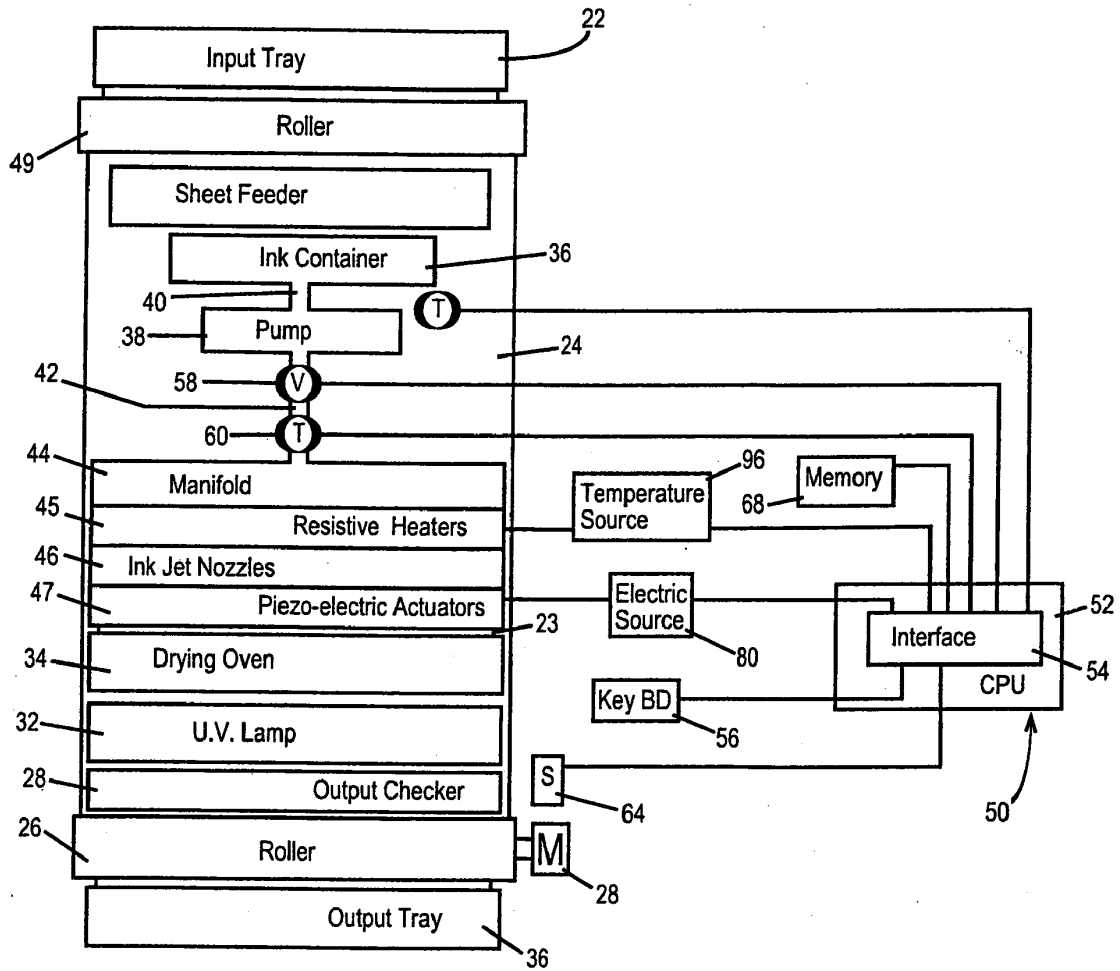


Figure 1

Application No. 12/649,765
Inventor: Edmond ABERGEL

Figure 2

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	1013-070A
		Application Number	
Title of Invention	INK JET PRINTER AND METHOD FOR DEPOSITING A PROTECTIVE LAYER ON A SUBSTRATE		
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Title of the Invention	INK JET PRINTER AND METHOD FOR DEPOSITING A PROTECTIVE LAYER ON A SUBSTRATE		
Attorney Docket Number	1013-070A	Small Entity Status Claimed	☒
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	2	Suggested Figure for Publication (if any)	

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	1013-070A
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Title of Invention	INK JET PRINTER AND METHOD FOR DEPOSITING A PROTECTIVE LAYER ON A SUBSTRATE		

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	1013-070A
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Title of Invention	INK JET PRINTER AND METHOD FOR DEPOSITING A PROTECTIVE LAYER ON A SUBSTRATE		

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	1013-070A
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Title of Invention	INK JET PRINTER AND METHOD FOR DEPOSITING A PROTECTIVE LAYER ON A SUBSTRATE		

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	1013-070A
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Title of Invention	INK JET PRINTER AND METHOD FOR DEPOSITING A PROTECTIVE LAYER ON A SUBSTRATE		

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	First Named Inventor	Edmond ABERGEL	
	Art Unit		
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	Attorney Docket Number	1013-070	

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Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	7614725		2009-11-10	Schulmeister	
	2	7451698		2008-11-18	Schneider et al.	
	3	4743924		1988-05-10	Scardovi	
	4	5502467		1996-03-26	Hoisington et al.	
	5	7332037		2009-02-19	Abergel et al.	US Equiv EP1749670
	6	7279506		2007-10-19	Sisler et al.	
	7	7543899		2009-06-09	Masaaki Konno	
	8	7226141		2007-06-05	Kazuo Asano	

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	Art Unit		
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	9	7018459		2006-03-28	Takatsugu Doi	
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Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	20040189732		2004-09-30	Usuda	

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	1	1749670	EP		2007-02-07	MGI France		☐
	2	1621260	EP		2006-02-01	Toshiba Tec Kabushiki Kaisha		☐
	3	1186410	EP		2002-03-13	Seiko Epson Corporation		☐

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	1		☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		
	Filing Date		2009-12-30
	First Named Inventor	Edmond ABERGEL	
	Art Unit		
	Examiner Name		
	Attorney Docket Number		1013-070

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		
	Filing Date		2009-12-30
	First Named Inventor	Edmond ABERGEL	
	Art Unit		
	Examiner Name		
	Attorney Docket Number		1013-070

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

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☐ See attached certification statement.

☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ None

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Randy A. Noranbrock/	Date (YYYY-MM-DD)	2013-07-23
Name/Print	Randy A. Noranbrock	Registration Number	42940

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Electronic Patent Application Fee Transmittal				
Application Number:				
Filing Date:				
Title of Invention:		INK JET PRINTER AND METHOD FOR DEPOSITING A PROTECTIVE LAYER ON A SUBSTRATE		
First Named Inventor/Applicant Name:		Edmond ABERGEL		
Filer:		Randy A. Noranbrock/Elizabeth Anastasio		
Attorney Docket Number:		1013-070A		
Filed as Large Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Utility application filing	1011	1	280	280
Utility Search Fee	1111	1	600	600
Utility Examination Fee	1311	1	720	720
Pages:				
Claims:				
Claims in Excess of 20	1202	16	80	1280
Independent claims in excess of 3	1201	1	420	420
Miscellaneous-Filing:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Late Filing Fee for Oath or Declaration	1051	1	140	140
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				3440

Electronic Acknowledgement Receipt	
EFS ID:	16391863
Application Number:	13948670
International Application Number:	
Confirmation Number:	5374
Title of Invention:	INK JET PRINTER AND METHOD FOR DEPOSITING A PROTECTIVE LAYER ON A SUBSTRATE
First Named Inventor/Applicant Name:	Edmond ABERGEL
Customer Number:	22429
Filer:	Randy A. Noranbrock/Elizabeth Anastasio
Filer Authorized By:	Randy A. Noranbrock
Attorney Docket Number:	1013-070A
Receipt Date:	23-JUL-2013
Filing Date:	
Time Stamp:	15:34:29
Application Type:	Utility under 35 USC 111(a)

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