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(71) Applicant (for all designated States except US):
AU10TIX LIMITED [CY/CY]; 32 Spyrou Kyprianou
Ave., 2nd Fl., Office 3, CY-1075, Nicosia (CY).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **DOLEV, Guy**
[IL/IL]; 23 Nathan Alterman Street, 46364 Herzliya (IL).

(74) Agent: **REINHOLD COHN AND PARTNERS**;
P.O.B.13239, 61131 Tel Aviv (IL).

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Declarations under Rule 4.17:

— of inventorship (Rule 4.17(iv))

Published:

— with international search report (Art. 21(3))

(88) Date of publication of the international search report:
6 October 2011

(54) Title: APPARATUS AND METHODS FOR COMPUTERIZED AUTHENTICATION OF ELECTRONIC DOCUMENTS

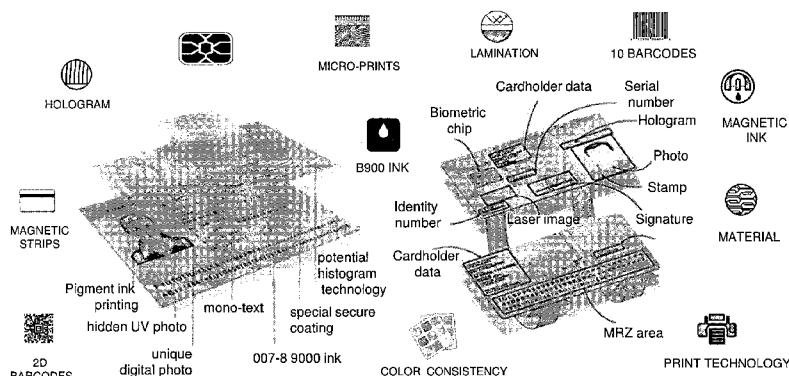


Fig. 4

(57) Abstract: A computerized method for authenticating documents having VIZ sections, the method comprising capturing an image of a document to be authenticated from a scanner and enhancing the captured image, and using a processor for identifying and cropping a VIZ section in the image.



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INTERNATIONAL SEARCH REPORT

International application No.

PCT/IL 10/00932

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - H01L 29/06 (2011.01)

USPC - 713/161

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

USPC: 713/161

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

USPC: 713/150, 153, 160, 161, 170; 700/1, 90; 705/50; 726/22, 26; 382/100, 181, 182, 190, 209 (keyword limited - see terms below)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

PubWEST (PGPB, USPT, USOC, EPAB, JPAB); GoogleScholar

Search Terms: document, electronic document, authenticate, verify, identify, image, OCR, optical character, VIZ, MRZ, zone, scan, illuminate, binary, forge, compliance, threshold, tolerance, weight, consistency, markings, database, checking, date, working days

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2005/0234857 A1 (Plutchak et al.) 20 October 2005 (20.10.2005), entire document, especially; abstract, para. [0006]-[0008], [0025], [0028], [0046]	1-21, 24-37, 39-45
Y	US 2006/0202038 A1 (Wang et al.) 14 September 2006 (14.09.2006), entire document, especially; abstract, para. [0017], [0075], [0078], [0079]	1-4, 22-27, 30, 45
Y	US 2004/0172378 A1 (Shanahan et al.) 02 September 2004 (02.09.2004), entire document, especially; abstract, para. [0003], [0036], [0041], [0116], [0216]	5-9, 18-21, 34, 35, 43, 44
Y	US 2005/0226261 A1 (Varadarajan et al.) 13 October 2005 (13.10.2005), entire document, especially; abstract, para. [0004], [0005], [0010], [0015], [0063]	10-12, 31-33, 36, 37, 39, 40
Y	US 2004/0267586 A1 (McDougal et al.) 30 December 2004 (30.12.2004), entire document, especially; abstract, para. [0016], [0022], [0030], [0035], [0036]	13, 14, 41, 42



Further documents are listed in the continuation of Box C.



* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

03 May 2011 (03.05.2011)

Date of mailing of the international search report

18 MAY 2011

Name and mailing address of the ISA/US

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Authorized officer:

Lee W. Young

PCT Helpdesk: 571-272-4300
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INTERNATIONAL SEARCH REPORT

International application No.

PCT/IL 10/00932

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2005/0071743 A1 (Harrington et al.) 31 March 2005 (31.03.2005), entire document, especially; abstract, para. [0008], [0013]	15-17
Y	US 2004/0243516 A1 (Zinssmeister et al.) 02 December 2004 (02.12.2004), entire document, especially; abstract, para. [0014]-[0018]	22, 23
Y	US 2005/0068463 A1 (Feng et al.) 31 March 2005 (31.03.2005), entire document, especially; abstract, para. [0021]-[0023], [0028]	28, 29
A	US 6,621,916 B1 (Smith et al.) 16 September 2003 (16.09.2003), entire document	1-37, 39-45
A	US 5,729,623 A (Omatu et al.) 17 March 1998 (17.03.1998), entire document	1-37, 39-45

INTERNATIONAL SEARCH REPORT

International application No.

PCT/IL 10/00932

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.: 38
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

Claim 38 is an omnibus type claim, not drafted in accordance with Rule 6.2(a).

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

Group I: Claims 1-4, 24-27, 30 and 45: directed to authenticating documents having VIZ sections.

Group II: Claims 5-9, 18-21, 34-35, 43 and 44: directed to authenticating documents by analyzing binary characteristics.

Group III: Claims 10-12, 31-33, 36-37 and 39-40: directed to analyzing incoming electronic documents by checking incoming documents for integrity of document materials; integrity of document markings; and consistency of data within the document.

Group IV: Claims 13-14, 41 and 42: directed to analyzing authenticity of incoming electronic documents, the system using a working day database storing information indicating dates which are not working days.

Group V: Claims 15-17: directed to establishing identity authentication for incoming electronic documents based on parameters extracted from the document including providing a plurality of parameters characterizing the document and comparing each individual parameter to a corresponding plurality of known values generating a corresponding plurality of comparison results; assigning a plurality of weights to said plurality of comparison results respectively, at least one individual weight based on the weight's corresponding parameter's cumulative success at distinguishing authentic documents from non-authentic documents.

PLEASE SEE PAGE 7 FOR CONTINUATION.

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of additional fees.

3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.

PCT/IL 10/00932

Continuation of Box No. III:

Group VI: Claims 22-23: directed to analyzing incoming documents, by storing a plurality of templates each corresponding to an individual series of an individual type of document in an individual country; and identifying incoming documents which do not match any of the plurality of templates, to generate a new template.

Group VII: Claims 28-29: directed to identifying fraudulent documents by analyzing scanned documents in order to determine whether dithering is present.