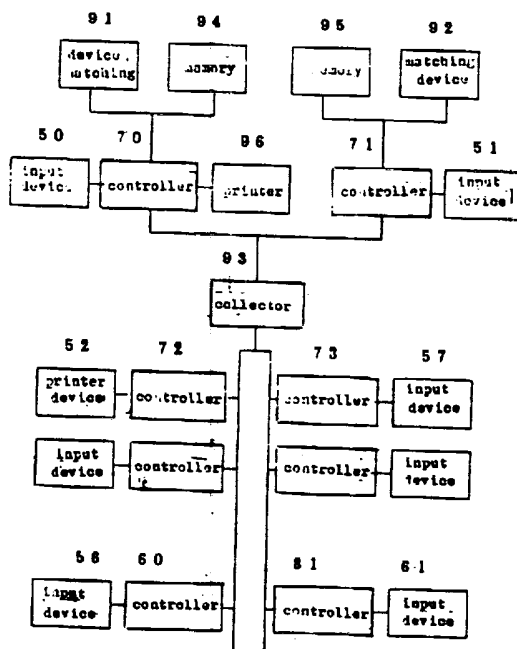




INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 5 : G06K 9/68	A3	(11) International Publication Number: WO 93/15473 (43) International Publication Date: 5 August 1993 (05.08.93)
(21) International Application Number: PCT/KP92/00001 (22) International Filing Date: 24 December 1992 (24.12.92) (30) Priority data: 92045 25 January 1992 (25.01.92) KP (71) Applicant (for all designated States except US): SINWA SYSTEM CORPORATION LTD. PYONGYANG BRANCH [KP/KP]; Sohungdong, Buksae Street, Moranbong District, Pyongyang (KP). (72) Inventors; and (75) Inventors/Applicants (for US only): LI, Chong, Hwan [KP/KP]; KIM, Min, Yong [KP/KP]; LI, Sung, Guk [KP/KP]; HAN, Chi, Ho [KP/KP]; CHAE, Yong, Ho [KP/KP]; KO, Jong, Min [KP/KP]; YUN, Yong, Jun [KP/KP]; HONG, In, Chol [KP/KP]; MUN, Ryong, Ju [KP/KP]; LI, Yong, Ho [KP/KP]; HAN, Sang, Il [KP/KP]; Sohungdong, Buksae Street, Moranbong District, Pyongyang (KP).		(74) Agent: PYONGYANG PATENT & TRADEMARK AGENCY; P.O. Box 6, Pyongyang Central (KP). (81) Designated States: CH, DE, DK, GB, HU, NL, NO, PL, RO, SE, US, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, SN, TD, TG). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i> (88) Date of publication of the international search report: 1st September 1994 (01.09.94)

(54) Title: FINGERPRINT IDENTIFICATION SYSTEM



Configuration of device of identification system

(57) Abstract

Fingerprint (FP) data are collected to collector (93) with best identification parameters (t, n, a, l, d, r, e) through FP data input device (52-61) in close cooperation with expert. FP data are checked, arranged in good order in a collector and stored in memory device (94, 95). Search FP is entered by FP data input device (50, 51) and matched with file FP (94, 95) at the matching device (91, 92).

FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AT	Austria	GB	United Kingdom	MR	Mauritania
AU	Australia	GE	Georgia	MW	Malawi
BB	Barbados	GN	Guinea	NE	Niger
BE	Belgium	GR	Greece	NL	Netherlands
BF	Burkina Faso	HU	Hungary	NO	Norway
BG	Bulgaria	IE	Ireland	NZ	New Zealand
BJ	Benin	IT	Italy	PL	Poland
BR	Brazil	JP	Japan	PT	Portugal
BY	Belarus	KE	Kenya	RO	Romania
CA	Canada	KG	Kyrgyzstan	RU	Russian Federation
CF	Central African Republic	KP	Democratic People's Republic of Korea	SD	Sudan
CG	Congo	KR	Republic of Korea	SE	Sweden
CH	Switzerland	KZ	Kazakhstan	SI	Slovenia
CI	Côte d'Ivoire	LI	Liechtenstein	SK	Slovakia
CM	Cameroon	LK	Sri Lanka	SN	Senegal
CN	China	LU	Luxembourg	TD	Chad
CS	Czechoslovakia	LV	Latvia	TC	Togo
CZ	Czech Republic	MC	Monaco	TJ	Tajikistan
DE	Germany	MD	Republic of Moldova	TT	Trinidad and Tobago
DK	Denmark	MG	Madagascar	UA	Ukraine
ES	Spain	ML	Mali	US	United States of America
FI	Finland	MN	Mongolia	UZ	Uzbekistan
FR	France			VN	Viet Nam
GA	Gabon				

INTERNATIONAL SEARCH REPORT

International application No.

PCT/KP92/00001

A. CLASSIFICATION OF SUBJECT MATTER

G 06K 9/68

According to International Patent Classification (IPC) or to both national classification and IPC - 5

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

G03B 21/11, G06F 15/62, 15/74, G 06K 9/00, 9/26, 9/36, 9/46, 9/50, 9/62, 9/68, 17/00; H04L 5/14 (1960-1992)

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

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US, A, 4792226 (C.F.A. TECHNOLOGIES, INC.), Dec. 20, 1988 (20.12.88), columns 7-10, fig. 1, 2, 20	1, 3-5, 7
Y	US, A, 4817183 (MALCOLM K. SPARROW), Mar. 28, 1989 (28.03.89), fig. 1A, 2, 4, 5	1, 6, 13, 14
Y	US, A, 4151512 (ROCKWELL INTERNATIONAL CORPORATION), Apr. 24, 1979 (24.04.79), columns 7-12, fig. 2, 4-6	1, 8, 11
Y	US, A, 4388716 (FUJI ELECTRIC CO., LTD), Jun. 14, 1983 (14.06.83), column 7, fig. 9-10	9
Y	EP, A2, 0361989 (DATA CARD JAPAN LIMITED), Apr. 04 1990 (04.04.90), column 16, fig. 2, 20	6
Y	DE, C1, 3622008 (AGFA-GEVAERT AG.), Dec. 10, 1987...	

☒ Further documents are listed in the continuation of Box C.☐ See patent family annex.

* 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 document 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

05 July 1994 (05.07.94)

Date of mailing of the international search report

11 July 1994 (11.07.94)

Name and mailing address of the ISA/RU
 The All-Russia Research Institute
 of State Patent Examination (VNIIGPE)
 Russia, 121858, Moscow, Berezhkovs-
 Facsimile No. kaya nab. 30-1

Authorized officer

O. Revinsky

Telephone No.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/KP92/00001

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
	(10.12.87), abstract	3
Y	JP, B2, 62-15905, Apr. 09, 1987 (09.04.87), the whole document	1
Y	JP, B2, 63-13226, Mar. 24, 1988 (24.03.88), fig. 1-2	1, 11-12
Y	JP, B2, 63-34508, Jul. 11, 1988 (11.07.88), fig. 8	1, 11-12
Y	SU, A1, 739573 (O. ESTERLE), Jun. 15, 1980 (15.06.80) claims	3
	<p>OBSERVATIONS:</p> <p>Claims 3-9 are considered as depended of claim 1 and claims 12-14 -as depended of claim 11</p>	

INTERNATIONAL SEARCH REPORT

International application No.

PCT/KP92/00001

Box I Observations where certain claims were found unsearchable (Continuation of item 1 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.: 2,10,15 haven't been taken into consideration by the
~~Authority because they relate to subject matter not required to be searched by this Authority, namely:~~
~~an extent that no meaningful international search can be carried out, especially~~ examination because
of the following reasons:
1. Claims 2,10 represent only the formulation of the problem
and don't contain the means for it's realization.
2. Claim 15 doesn't correspond with the description of the
application.
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 II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

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

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 an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ 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.

☐

No protest accompanied the payment of additional search fees.