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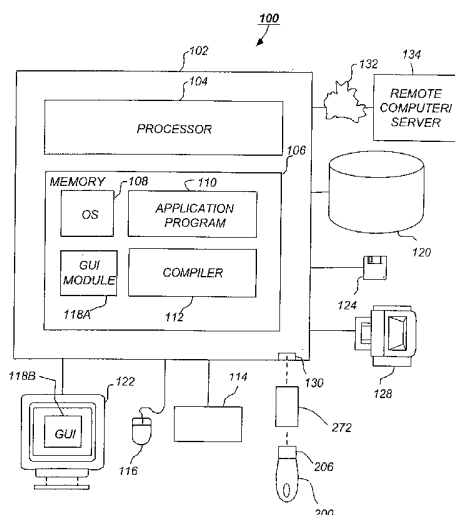
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[Continued on next page]

(54) Title: USB SECURING DEVICE WITH KEYPAD



(57) Abstract: A method and apparatus for securing a token from unauthorized use is disclosed. The present invention describes an apparatus for securing a token from unauthorized use, comprising a PIN entry device, communicably coupleable to a host processing device transmitting a first message addressed to the PIN entry device, and communicatively coupleable to the token according to a universal serial bus USB protocol, the PIN entry device comprising a user input device, for accepting a user-input PIN; and a processor, communicatively coupled to the user input device, the processor for receiving the first message and combining the first message with the user-input PIN, and for producing a second message having at least a portion of the first message and the user-input PIN.



GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent  
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ning of each regular issue of the PCT Gazette.*

# INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 02/00201

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G06F1/00

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)

IPC 7 G06F

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 practical, search terms used)

EP0-Internal

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 00 42491 A (RAINBOW TECHNOLOGIES INC) 20 July 2000 (2000-07-20)	1
Y	abstract; figure 2 page 34, line 29 -page 35, line 12; figure 9 page 37, line 11 - line 25; figure 10 ---	2-17
Y	EP 0 587 375 A (ALGORITHMIC RES LTD) 16 March 1994 (1994-03-16) the whole document ---	2-17
A	US 6 092 202 A (WARD GARY PAUL ET AL) 18 July 2000 (2000-07-18) the whole document -----	1-17

☐

Further documents are listed in the continuation of box C.

☒

Patent family members are listed in 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

3 July 2003

Date of mailing of the international search report

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# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/EP 02/00201

## 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.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box 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:

see additional sheet

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.:

1-17

### Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

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

1. Claims: 1-17

a PIN entry device

- receiving a first message from the host computer,
- accepting PIN entered by user and
- transmitting second message comprising first message and user-entered PIN

2. Claims: 18-23

a hub

- intercepting message from the host computer,
- providing the intercepted message to the PIN entry device,
- receiving user-entered PIN from the PIN entry device,
- transmitting user-entered PIN and part of intercepted message to a token

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 02/00201

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
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