(54) Title: SYSTEM FOR ENHANCED MANAGEMENT OF CREDIT

(57) Abstract

A data processing pension plan monitor (40) is directed specifically to the management and controlled access of pension-backed credit (AC). This system permits pension plan participants to establish a line of credit (LOC), based on their vested interest in a sponsored pension plan (10). This LOC is thereafter systematically applied to a plurality of account (80, 90), each permitted selected credit card (90) and/or check writing privileges. The charges associated with the credit accessed are paid back to the pensioner, thereby retaining certain tax deferred privileges while permitting access to the accumulated funds.

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## SYSTEM FOR ENHANCED MANAGEMENT OF CREDIT

The present invention generally relates to a system
permitting enhanced access to subscriber credit, and more
particularly, a data processing apparatus and method for
5  managing a plurality of accounts that can be accessed for
credit tied to and in communication with an associated
pension plan as an underlying source of capital.

## FIELD OF THE INVENTION

There have been two recent and somewhat related
10  developments in the field of consumer credit machinery.
The first involves the rapidly changing tax codes in the
U.S. and the subsequent removal of preferential tax
treatment to conventional consumer debt.  This has had the
effect of increasing the cost of funds for consumer
15  purchasing.

The second development is in the field of pension
funding.  Pension mechanisms were relatively stable items
for many years and transparent to the majority of the
subscribers.  Pursuant to the highly volatile climate
20  regarding sources of pension funds, such as the current
crisis in the banking and insurance industries and the
high profile confusion regarding social security, many
individuals are taking a much greater interest in
monitoring and in fact managing their own pension efforts.
25  A corresponding effort has developed through the
legislature directed to unshackling this burgeoning
segment of the capital markets and expanding its
availability.

The need for new lines of credit is apparent from the
30  substantial interest fees paid by consumers for credit
cards that often exceeding 20% on an annualized basis.
Efforts have been made to link into traditionally
inaccessible lines of credit as a means to reduce consumer
credit costs.  This includes the approach adopted in U.S.
35  Patent No. 4,718,009 to Cuervo, titled "DEFAULT PROOF

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CREDIT CARD METHOD SYSTEM". In that particular
embodiment, the system applies credit using the cash value
associated with a life insurance policy as collateral to
support periodic credit needs of the policy holder.

5    Although the system permits a flexible line of credit, the
act of borrowing still was carried on in a conventional
sense with a bank and/or institution, and the underlying
resource was poorly utilized, thereby limiting the
available savings to the consumer.

10   There has continued a need for a low cost line of secure
credit that is not burdened with excessive administrative
costs and fees.

### SUMMARY AND OBJECTS OF THE PRESENT INVENTION

It is an object of the present invention to provide a
15   system operating in conjunction with an existing pension
plan to provide a pension account-backed line of credit to
pension plan participants.

It is another object of the present invention to provide
a data processing apparatus for managing a plurality of
20   credit accounts, each individually associated with a
separate pension plan.

It is a further object of the present invention to
provide a method of establishing a line of credit for a
plurality of separate accounts that is backed by a rolling
25   pension-backed set of accounts.

The above and other objects of the present invention are
realized in a data processing system that monitors a
plurality of credit accounts, each associated with a
participant of a pension plan. For each account, there is
30   calculated on a periodic basis (daily) a quantity known as
the Available Capital (AC). This Available Capital is
derived from the current vested interest of the plan
participant in his/her pension plan. Applying the
Available Capital derived from the pension plan, the
35   system monitor determines a line of credit for each plan

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participant.  This line of credit is used to support the
loans and consumer purchases made by the respective plan
participant which are thereafter charged an incremental
interest rate, based on a number of factors.

5   In accordance with the varying aspects of the present
invention, the interest charged for the line of credit is
paid directly to the subscriber's pension plan minus a
small processing fee to fund the administrative costs.  In
this way, the participant is paying interest in effect to
10  himself for the accessed funds, and pursuant to statutory
considerations, the funds and collected interest remain
tax deferred.  The foregoing features of the present
invention may be more fully appreciated in the context of
a specific illustrative embodiment as described herein in
15  conjunction with the following drawings.

## DESCRIPTION OF THE DRAWINGS

FIG. 1 depicts an information flow chart relevant to the
transactional information flow path associated with the
present invention;
20  FIG. 2 depicts in block diagram format, the functional
blocks associated with the system monitor of FIG. 1; and
FIG. 3 is a logic flow chart depicting account
management.

## DESCRIPTION OF THE PRESENT INVENTION

25  In summary, the present invention accesses traditional
pension plan management vehicles to establish a line of
credit for participant use.  In this regard, the pension
plan will be one analogous to a 401(K), or 403(b), or
similar account type plan constructed for the accumulation
30  of capital assets to support future pension and/or
retirement needs of the plan participant.  Plans of this
nature may be designed with a variety of separate
embellishments.  For the purposes of the discussion
herein, it is assumed that the plan provides separate
35  accounts for individual participants.  Each of these

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accounts represent an accumulated level of capital that is
invested in various financial vehicles, such as stocks,
bonds or other fundable assets.

There are normally three sources of income to the various

5   pension accounts.  The first is the direct contribution by
the employee, usually by payroll deduction.  The second
source is by employer contributions, and this may be tied
or in relation to the employee contribution.  The last
form of contribution is the return on the existing plan

10  capital, in the form of interest and dividends.  In a
negative investment environment, this income may become
negative.  As can be seen, the Available Capital
associated with a particular plan account is a fluid value
that must be continually updated.

15  Referring now to FIG. 1, an information flow diagram is
presented starting with the pension plan, block 10.  A
series of pension account balances are established and
updated on a periodic basis.  In this regard, pension
plan, block 10, and the account balances associated

20  therewith will receive adjustments pursuant to the
contributions by the employer, block 20, and the employee,
block 30, as part of a regular income that may become
negative.  In addition, the pension plan will receive a
return on an investment, including interest payments from

25  the plan participant for accessed funds.  These
accumulations result in the establishment of the Available
Capital (AC) for each account in the plan.  The Available
Capital is taken by the system monitor, block 40, and used
to determine a line of credit (LOC) for each plan

30  participant.  The determination of a line of credit will
be based on a measured fractional value of the Available
Capital sufficient to ensure repayment and to meet any
legal limits.

The line of credit is then supplied into the conventional

35  credit information apparatus or Clearinghouse, block 60,

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supporting the existing network of credit card and check
writing processors.  In this regard, the credit
information is tapped, block 70, by the credit processing
organizations linked with banks, block 80, and/or separate
5    credit card organizations, block 90.  These, in turn, are
linked with the services and goods supplying
establishments, block 100, accepting the charges from the
plan participant, block 110.

In operation, the system monitor, block 40, is linked to
10   an individual pension plan and possibly other sources of
credit, block 50.  Only the vested value in the pension
plan is made accessible as part of the Available Capital.
This Available Capital can exist in many forms, including
stocks, bonds, CDs, etc.; each of which provides a
15   separate return to the pension plan, block 110.  In
addition, the pension plan is responsible for plan
distributions at set intervals triggered by the working
status and/or age of the plan participant.

The plan participant is provided checks and/or a credit
20   card for use at consumer establishments, block 100, in
accordance with conventional bank card and check
transaction arrangements.  In this way, purchases are made
by check or credit card with the ensuing purchased amount
first sent to credit processing, block 70, to ensure that
25   the amount is consistent with the available line of credit
then pending; if so, the purchase is approved and the
purchase price withdrawn from the pension plan as an
investment (WDL).  This investment by the pension plan is
a loan to the plan participant at the then prevailing
30   interest rate.  In this manner, the Available Capital for
that account in the plan is now reduced by the WDL amount,
and the plan participant is responsible to repay the WDL
back to the pension plan with interest.  In fact, the plan
participant is merely repaying his own plan principal and
35   interest, with the proceeds remaining tax deferred.  As

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expressed therein, information flows from the perimeter
(single) lines, while cash flows are presented as double
lines.

Referring now to FIG. 2, a functional block diagram is
5    provided.  The system monitor is controlled by a central
processing unit (CPU), block 200, having stored program
commands and instructions governing its processing
responsibilities.  In communication with the CPU is
external memory, block 210, providing storage for account
10   balances and plan instructions.  In communication with the
CPU, via modem line, block 220, are various channels to
the credit information.  These include credit card, block
230, bank, block 240, and various retail establishments,
block 250.

15   On the input side, the CPU is in communication via modem,
block 270, with the pension plan administrator, block 280,
various investment houses, block 290, and the employer,
block 300.  Finally, the CPU has several report generating
capabilities, including the output of periodic statements
20   summarizing plan performance and available credit.  In
addition, select composite (profile) reports delineating
plan spending patterns may be developed and accessed for
resale to users providing important demographic
information.  All of this is presented via output, block
25   310.

Referring now to FIG. 3, a logic flow chart is presented
regarding the system's updating of individual accounts
based on credit activity.  Logic conceptually begins at
block 400 and proceeds to blocks 410 and 415 where the
30   account and transaction data are entered.  At test 420,
the system determines whether the account is new or exists
in system memory, via comparative algorithms.  If a new
account is determined, logic branches to block 430 wherein
the new account entry subroutine is called out.  Logic
35   returns to the main flow leading to the analysis of the

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inputted transaction.  At test 450, the system determines
whether the transaction concerns a deposit or withdrawal.
If it is a deposit, logic branches to block 460 wherein
the line of credit for that account is recalculated to
5    include the assets now available through the deposit, via
the following computation:

$$LOC(I,J) = LOC(I,J) + DEP(I,J) \qquad\qquad (I)$$

wherein I and J are counters for the transaction period
and participant account, respectively.  This new line of
10   credit is stored in accessible memory at block 470.  Logic
then returns to the main path and block 480 wherein the
new line of credit is now accessed.

At test 490, the system compares the withdrawal WDL
pertaining to the inputted transaction with the then
15   current LOC value; if, in fact, the withdrawal is greater
than the available credit ("Yes" to test 490), logic
branches to alarm, block 500, triggering a warning to the
system monitor.  Thereafter, logic proceeds to test 510
wherein the system queries whether a credit extension will
20   be permitted.  This extension is contingent on a variety
of factors, custom selected by the system monitor and will
reflect the level of risk the monitor is willing to bear.
If the perceived risk associated with the credit extension
exceeds an acceptable level, the response to test 510 will
25   be negative and logic will branch to block 520
disapproving the withdrawal.  This information is
thereafter transmitted to the credit Clearinghouse to
limit continued use of the credit card and/or check
writing by the participant.
30   Assuming a positive response to test 490 or a positive
response to the extension of credit delineated in test
510, the withdrawal WDL is approved by the system, block
530, and transmitted to the credit Clearinghouse.  In
addition, at block 540, the available line of credit for

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that participant is updated and, in fact, decremented by
the WDL value, via the following computation:

$$LOC(I,J) = LOC(I,J) - WDL(I,J) \qquad (II)$$

The system thereafter proceeds to test 550 wherein the

5  account and/or transaction is incremented to the next in
line and logic redirected back to block 410.

The preceding discussion relates specifically to the
qualification and updating of account balance information
pursuant to deposits and withdrawals to the account.  As

10  illustrated, the deposits will accrue due to continued
growth in pension plan assets.  The withdrawal from the
system will reflect individual credit card activity and/or
check writing privileges for each participant.

The above-described arrangement is merely illustrative of

15  the principles of the present invention.  Numerous
modifications and adaptations thereof will be readily
apparent to those skilled in the art without departing
from the spirit and scope of the present invention.

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What is claimed is:

1. In combination in a system for the management of a
plurality of pension-backed credit accounts comprising: a
deposit and/or withdrawal input means for receiving select
5 deposit and withdrawal transaction activity associated
with a particular plan account; memory means for storing
current vested pension account data associated with a
plurality of individual pension plan participants; data
processing means for receiving said deposit and withdrawal
10 transaction activity, in conjunction with memory access
means for retrieving current vested pension account data
and responsive thereto for determining the level of
Available Capital associated with a pension-backed credit
account, approval of the requested withdrawal, if any; and
15 account update means for adjusting a line of credit value
stored in conjunction with said credit account.

2. The system of claim 1, wherein said vested pension
account data reflects contributions and disbursements from
a pension account and determines a level of vested
20 interest therein pursuant to corresponding years of
service for the plan participant.

3. The system of claim 2, wherein said line of credit
value (LOC) is applied as a source of secured credit
permitting distributed charges in the form of credit card
25 or check transactions in support of consumer purchases.

4. The system of claim 3, wherein said repayment of
said distributed charges is made directly to said pension
plan by said plan participant and said repayment updates
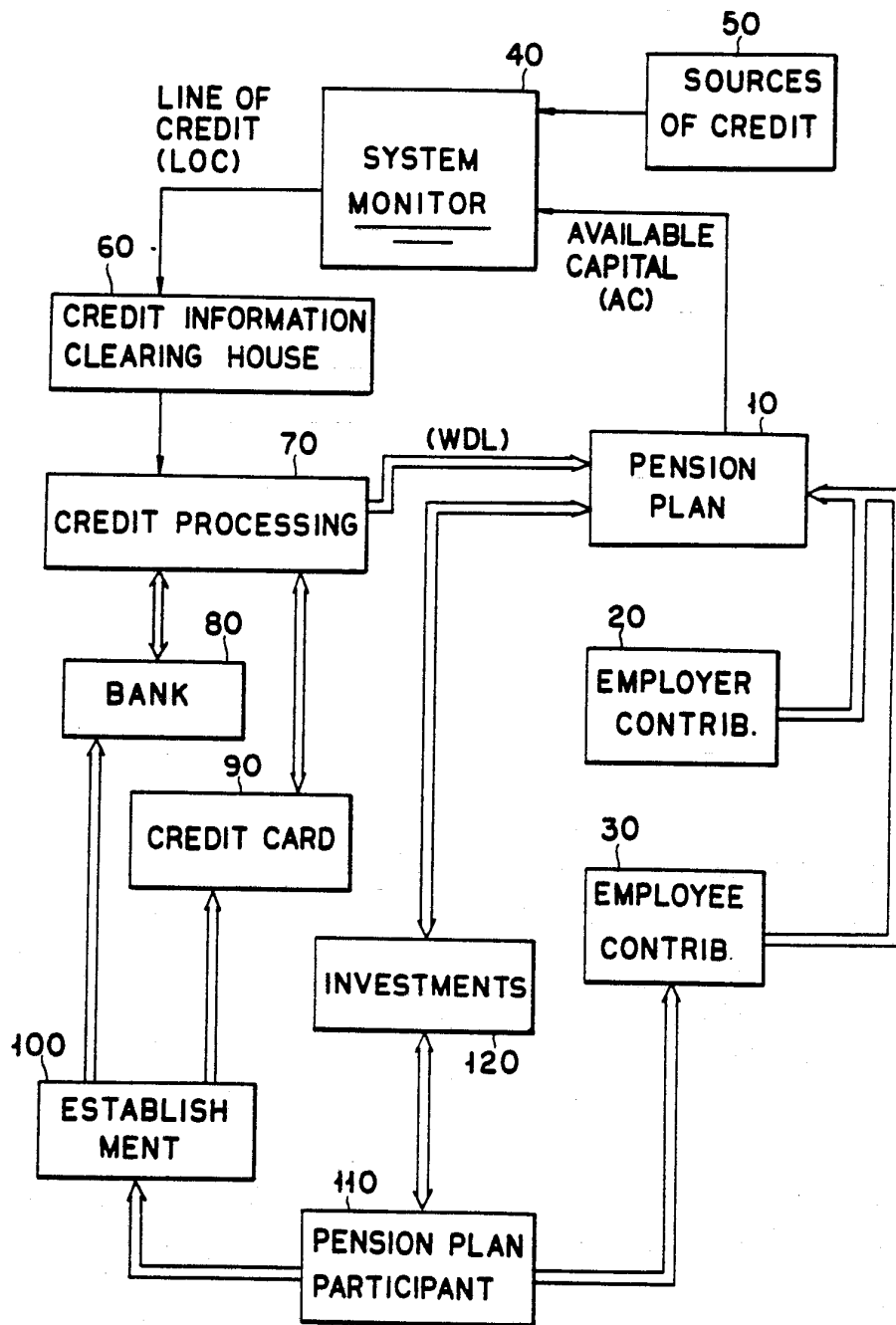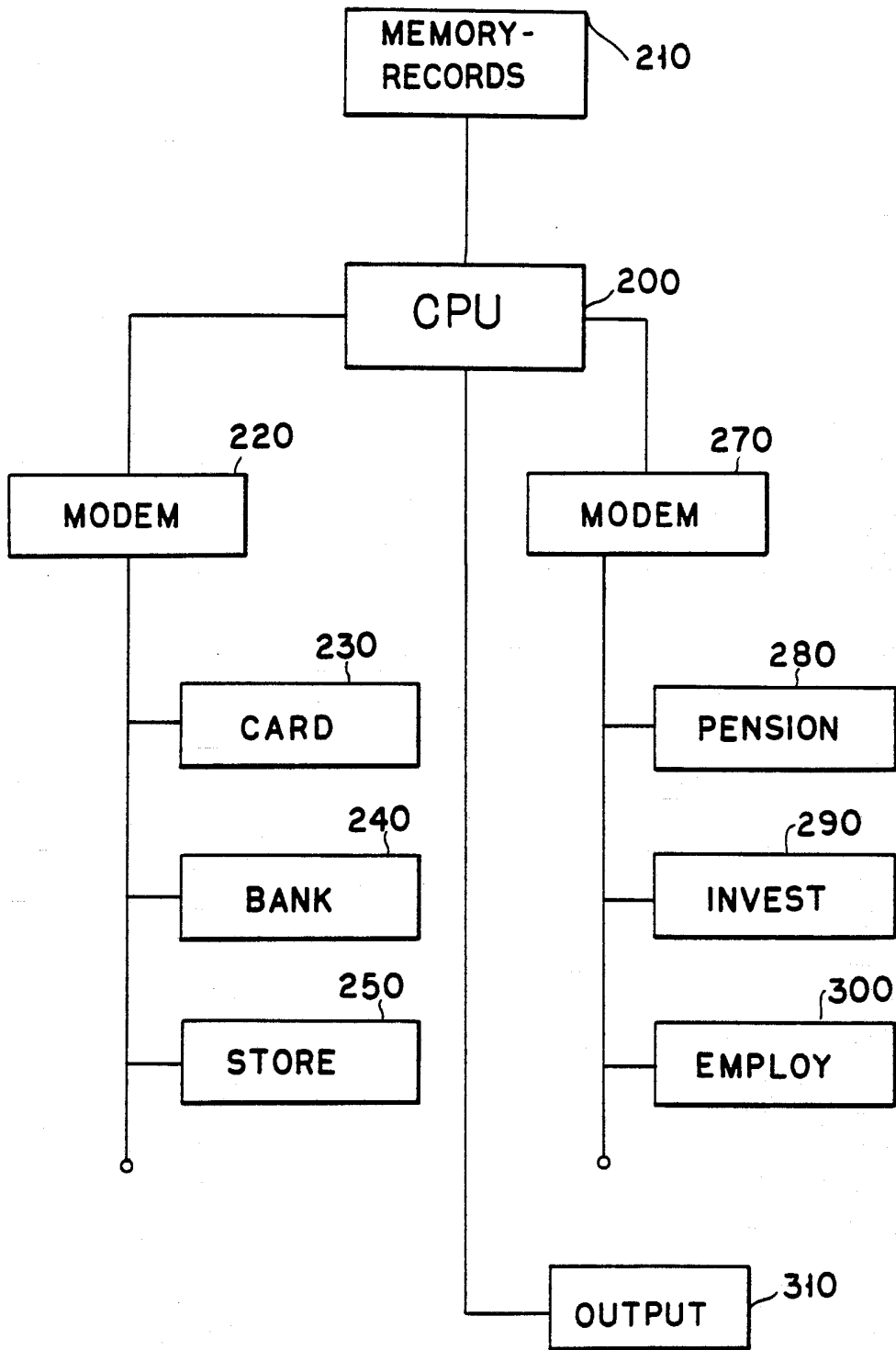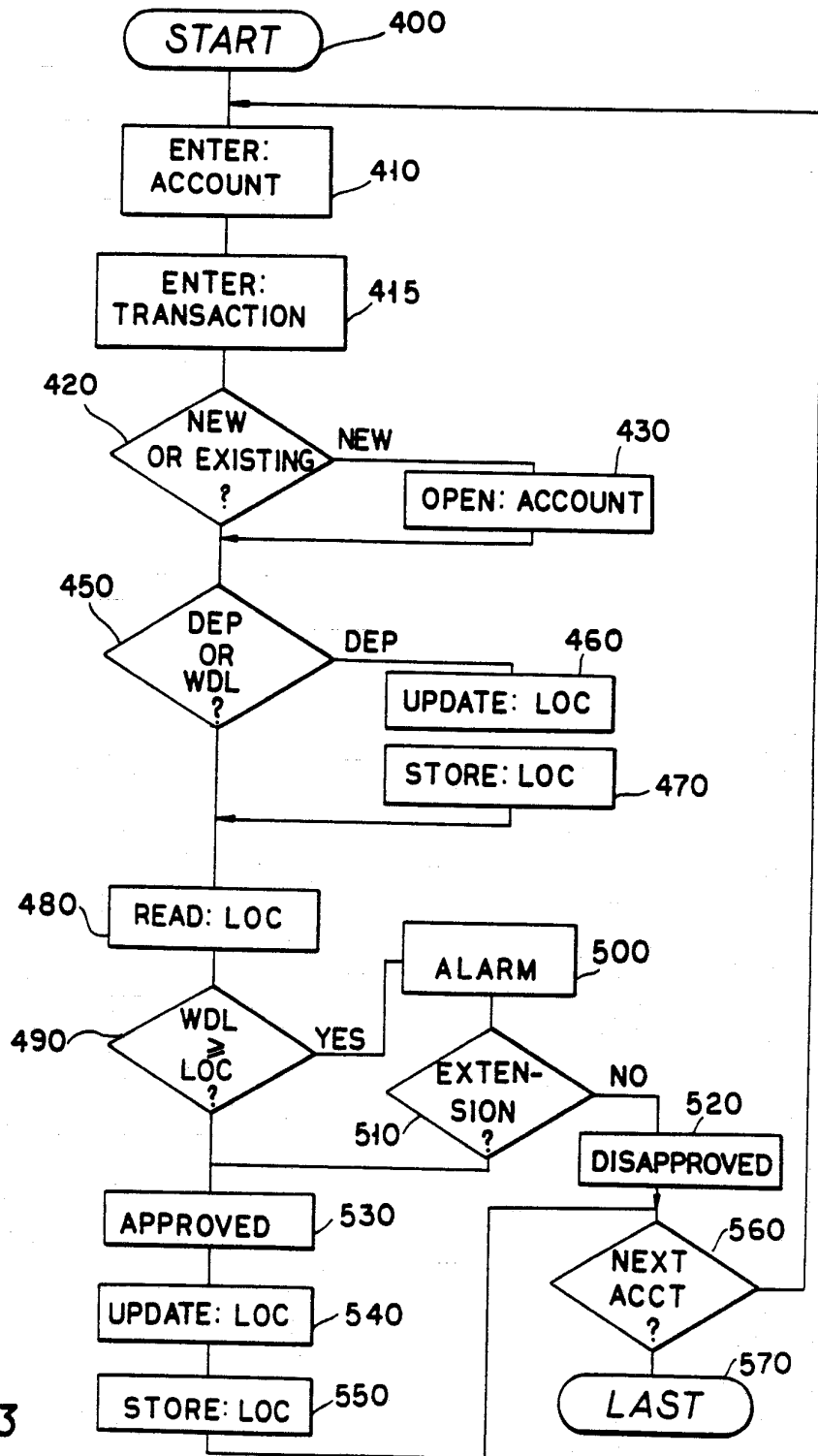said line of credit data.
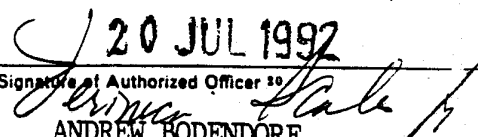
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FIG. 1

FIG. 2

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START — 400

ENTER: ACCOUNT — 410

ENTER: TRANSACTION — 415

420 — NEW OR EXISTING ? — NEW — 430 — OPEN: ACCOUNT

450 — DEP OR WDL ? — DEP — 460 — UPDATE: LOC

STORE: LOC — 470

480 — READ: LOC

ALARM — 500

490 — WDL ≥ LOC ? — YES

510 — EXTENSION ? — NO — 520 — DISAPPROVED

APPROVED — 530

UPDATE: LOC — 540

STORE: LOC — 550

560 — NEXT ACCT ?

LAST — 570

FIG. 3

# INTERNATIONAL SEARCH REPORT

## I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all) ³

According to International Patent Classification (IPC) or to both National Classification and IPC

IPC(5):   G06F 15/30
US CL.:   364/408

## II. FIELDS SEARCHED

Minimum Documentation Searched ⁴

| Classification System | Classification Symbols |
|---|---|
| US | 364/401, 408, DIG 1, DIG 2 |

Documentation Searched other than Minimum Documentation
to the Extent that such Documents are Included in the Fields Searched ⁵

## III. DOCUMENTS CONSIDERED TO BE RELEVANT ¹⁴

| Category * | Citation of Document, ¹⁶ with indication, where appropriate, of the relevant passages ¹⁷ | Relevant to Claim No. ¹⁸ |
|---|---|---|
| X | US,A, 4,648,037 (VALENTINO), 03 MARCH 1987, SEE FIGS. 4 AND 5. | 1 |
| A | US,A, 4,742,457 (LEON ET AL.), 03 MAY 1988, SEE FIGS. 1-6 COL. 9. | 1 |
| A | US,A, 4,969,094 (HALLEY ET AL.), 06 NOVEMBER 1990, SEE ENTIRE DOCUMENT. | 1 |
| A,P | US,A, 5,083,270 (GROSS ET AL.) 21 JANUARY 1992 SEE FIG 1-4 AND COLS. 2 AND 11. | 1 |

* Special categories of cited documents: ¹⁵

"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

"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

## IV. CERTIFICATION

Date of the Actual Completion of the International Search ²

23 JUNE 1992

Date of Mailing of this International Search Report ²

20 JUL 1992

International Searching Authority ¹

ISA/US

Signature of Authorized Officer ²⁰

ANDREW BODENDORF

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