

Chapter II

PATENTABILITY OF COMPUTER SOFTWARE, PROGRAMMED COMPUTERS, AND INTERNET BUSINESS SYSTEMS

A. INTRODUCTION

In the nineteenth century, computers did not exist. Mathematical calculations and business systems were implemented by humans, not machines. The U.S. Patent and Trademark Office ("PTO") and the courts denied patent protection for such human activity. Gradually, during the last decades of the twentieth century, first mathematical calculations and later business systems came to be implemented by programmed computers. In the early days of computers, the programs did little more than solve mathematical equations. Since mathematical equations were traditionally not patentable, initially the PTO and the courts refused to grant patents on computer programs or on programmed computers. Starting in 1969, the Court of Customs and Patent Appeals [C.C.P.A.], a Federal appellate tribunal which had supervisory jurisdiction over the PTO, began to reverse the patent examiners and the PTO's Board of Patent Appeals and to compel the issuance of software patents. Accordingly, the PTO was forced to issue computer program patents from 1969 until 1972. In 1972, the United States Supreme Court, at the request of the PTO, reversed the C.C.P.A. and blocked the issuance of a patent directed to a method of converting one form of number into another. *Gottschalk v. Benson*, 409 U.S. 63 (1972).

The C.C.P.A. reacted to this Supreme Court decision with hostility, construing *Benson* as narrowly as possible. But even so, the PTO issued very few computer program or programmed computer patents between 1972 and 1981 (when the Supreme Court again ruled on programmed computer patents). Between 1972 and 1981 most attorneys advised their clients not to file patents directed to software. Many fundamental software inventions (for example, the spreadsheet program) were not patented. Attorneys advised their clients to utilize copyright and trade secret protection as substitutes for software patent protection. The World Intellectual Property Organization (WIPO) even proposed a new form of intellectual property protection designed especially for computer

programs. Europe, taking its lead from the United States Supreme Court, enacted statutes prohibiting the patenting of computer programs. The United Kingdom Patents Act of 1977, for example, contains the following language "(2) It is hereby declared that the following (among other things) are not inventions for the purposes of this Act, that is to say, anything which consists of—* * * a program for a computer * * *." In both Europe and the United States, however, attorneys for proprietors of software inventions tried to circumvent the restrictions on patenting programs by seeking patents for programmed computers.

In *Diamond v. Diehr*, 450 U.S. 175 (1981), the Supreme Court authorized the grant of a software-hardware patent. This decision opened the door to the patentability of programmed computers but did not overrule the earlier Supreme Court precedents holding some computer programs unpatentable. Most programmed computer inventions are now patentable. However, a "black hole" of unpatentability, centered about *Benson*, remains.

The C.C.P.A.'s appellate jurisdiction was limited to appeals from the PTO and several other federal agencies, so it could not establish uniform nationwide patent precedents. Patent holders had to file patent infringement suits in the Federal district courts. Prior to 1980, appeals from the district courts went to the respective circuit courts of appeals. Perceived nonuniformity in the appellate decisions in patent cases produced considerable "forum shopping," since some circuits were considered more "pro-patent" than others. The 8th Circuit, for example, was reputed to be extremely "anti-patent." Conflicting circuit court decisions created considerable uncertainty. In 1980 the C.C.P.A. was expanded, renamed the "United States Court of Appeals For The Federal Circuit" (commonly called the "Federal Circuit") and given exclusive appellate jurisdiction over all patent-related appeals, even in cases where there are other non-patent issues.

The creation of this new appellate court eliminated conflicts between Circuits in patent law and has thereby reduced the need for Supreme Court certiorari supervision. Because lawyers perceive the Federal Circuit as "pro-patent," they now more readily advise clients to obtain patents and sue infringers. This court has also increased the importance of prior C.C.P.A. decisions, particularly since several of the former C.C.P.A. judges were appointed to this new court and wrote many of its patent decisions. Judge Rich, in particular, came to be regarded as highly by many patent attorneys as the late Judge Learned Hand is by copyright attorneys.

In re Alappat, 33 F.3d 1526 (Fed.Cir.1994), was a key decision. The Federal Circuit, sitting en banc, characterized the Supreme Court decisions on software patents very narrowly, interpreting them as holding only "that certain types of mathematical subject matter, standing alone, represent nothing more than abstract ideas until reduced to some type of practical application, and thus that subject matter is not, in and of itself, entitled to patent protection." The Federal Circuit went on to hold that

a general-purpose computer, when performing particular functions pursuant to instructions from program software, becomes a special purpose computer. This special purpose computer may be patentable, provided that the claimed subject matter meets all of the other requirements for patentability.

In *State Street Bank v. Signature Financial Group*, 149 F.3d 1368 (Fed.Cir.1998), *cert. denied* 525 U.S. 1093 (1999), Judge Rich reaffirmed the Federal Circuit's position that a programmed computer using a mathematical algorithm that produces useful, concrete and tangible results is statutory subject matter under § 101. *State Street* also eliminated the business method exception to patentable subject matter, thus opening the door for patents on Internet business systems.

The European Patent Office has also moved to allow at least some software to be patented. An important European case, the decision in *International Business Machines*, is included in this Chapter.

The Federal Circuit clarified its position in *AT&T v. Excel*, 172 F.3d 1352 (Fed.Cir.1999), *cert. denied*, ___ U.S. ___, 120 S.Ct. 368 (1999), which held that the mathematical algorithm need not involve physical transformation or conversion to be deemed patentable subject matter. With this decision it is clear that today a general-purpose computer, when operating according to software instructions that transform or convert data from one form into another new and useful form, is patentable subject matter.

The last few cases in this Chapter, also from the Federal Circuit, provide additional details on patent law, particularly with regard to the use of "means for" terminology which is frequently included in claims to define the metes and bounds of software inventions, as well as the "doctrine of equivalents," an equitable doctrine that permits a court to find infringement even when a patent is not literally infringed.

B. A NETWORKED COMPUTER METHODS PATENT

This patent is a typical networked computer business methods patent. All the claims are method claims, and the figure is a flow chart. We have reproduced the entire patent to give an idea of what a patent is like. We have omitted, however, two certificates of correction filed after the patent was granted.



US005963921A

United States Patent [19]
Longfield

[11] **Patent Number:** 5,963,921
[45] **Date of Patent:** Oct. 5, 1999

[54] **ELECTRONIC INCOME TAX REFUND EARLY PAYMENT SYSTEM WITH MEANS FOR CREATING OF A NEW DEPOSIT ACCOUNT FOR RECEIPT OF AN ELECTRONICALLY TRANSFERRED REFUND FROM THE IRS**

5,193,057 3/1993 Longfield 705/31
5,694,322 12/1997 Westerlage et al. 705/417

Primary Examiner—Edward R. Cosimano
Attorney, Agent, or Firm—Connolly & Hutz

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- [73] Assignee: Beneficial Financial Corporation, Wilmington, Del.
- [21] Appl. No.: 08/982,807
- [22] Filed: Oct. 15, 1997

[57] **ABSTRACT**

Electronic data processing system for preparation of electronically filed tax returns and authorization and payment of refunds based on the data supplied in those returns. Electronic data processing programs are provided for creating an electronic tax return that is filed with a tax collecting authority. At the same time as the electronic tax return is created, a loan application is processed to create an electronic deposit/loan account for the tax filer at an authorized credit institution. As early as the day after completion of the tax return and loan application, the tax filer receives initial refund payment from the loan account. The authorized credit institution electronically files the electronic tax return with the tax collecting authority which processes the return and transfers by electronic fund transfer the refund amount to the deposit/loan account at the authorized credit institution. Any refund in excess of the initial refund payment is then forwarded to the tax filer. Provision is also made for checking the credit worthiness of the tax filer.

Related U.S. Application Data

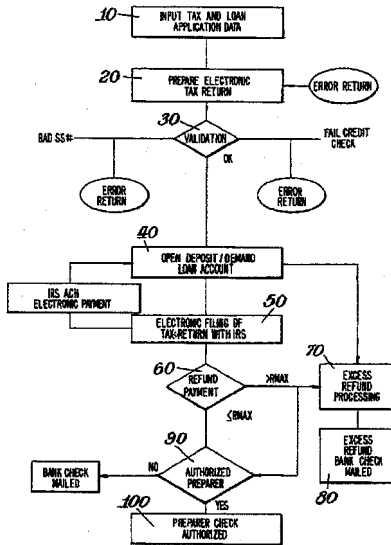
- [63] Continuation of application No. 08/000,270, Jan. 4, 1993, abandoned, which is a continuation of application No. 07/615,903, Nov. 20, 1990, Pat. No. 5,193,057, which is a continuation of application No. 07/384,654, Jul. 25, 1989, abandoned, which is a continuation of application No. 07/146,324, Jan. 21, 1988, Pat. No. 4,890,228.
- [51] Int. Cl.⁶ G06F 17/60
- [52] U.S. Cl. 705/31; 705/30
- [58] Field of Search 705/1, 30, 31

[56] **References Cited**

U.S. PATENT DOCUMENTS

4,890,228 12/1989 Longfield 705/31

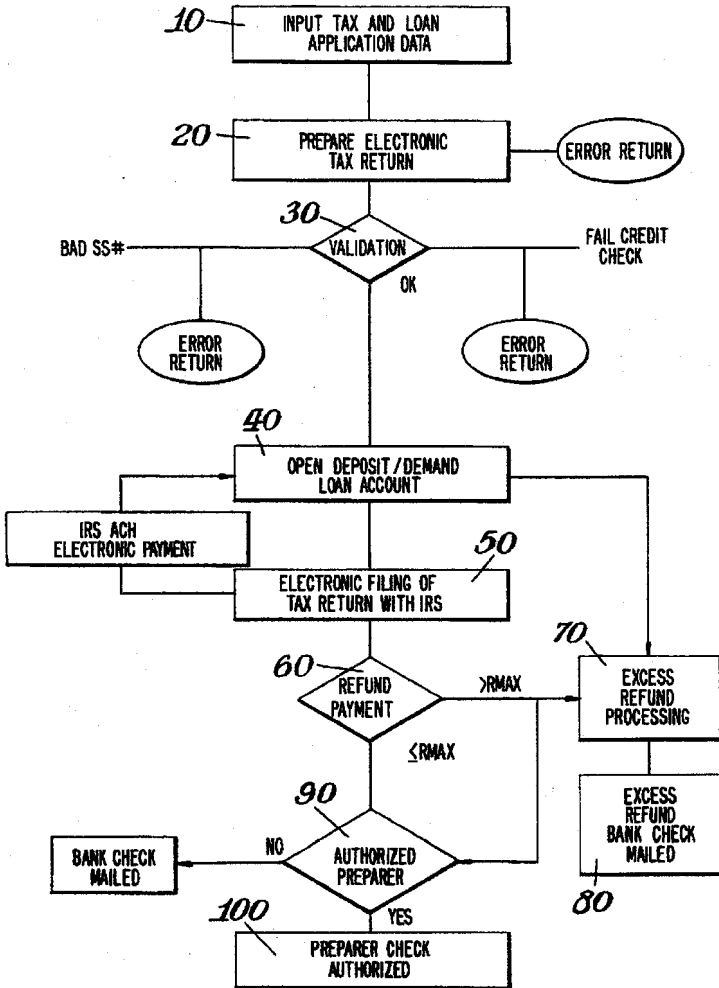
15 Claims, 1 Drawing Sheet



U.S. Patent

Oct. 5, 1999

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**ELECTRONIC INCOME TAX REFUND
EARLY PAYMENT SYSTEM WITH MEANS
FOR CREATING OF A NEW DEPOSIT
ACCOUNT FOR RECEIPT OF AN
ELECTRONICALLY TRANSFERRED
REFUND FROM THE IRS**

This application is a continuation of Ser. No. 08/000,270 filed Jan. 4, 1993, which is now abandoned. Which is a continuation of Ser. No. 07/615,903 filed Nov. 20, 1990, now U.S. Pat. No. 5,193,057, which is a continuation of Ser. No. 384,654 filed Jul. 25, 1989, now abandoned, which is a continuation of Ser. No. 146,324, filed on Jan. 21, 1988 now U.S. Pat. No. 4,890,228.

BACKGROUND OF THE INVENTION

This invention relates to a data processing system for use on programmable data processing machines. More particularly, the invention comprises a data processing program for the preparation of tax returns, for electronic filing thereof with a taxing authority and data processing programs for creating a deposit/loan account at an authorized financial institution for providing immediate payment of tax refunds based on such prepared and filed returns. The deposit/loan account is created with the capability of receiving electronic fund transfer deposits directly from the taxing authority.

In recent years, taxing authorities have increasingly automated the tax collecting and tax return filing process. In particular, the United States Internal Revenue Service has instituted a system for the electronic filing of tax return data. In conjunction with that system, the IRS has arranged to pay refunds by electronic funds transfer using the Treasury ACH origination system. While this has greatly improved the tax filing and refund process it still requires a period of three to six weeks from the filing of an individual's tax return to the time of receipt of a refund check.

In contrast, the system of the invention shortens the time from filing to receipt of a refund to as little as one day. Additional advantages and features of the instant invention will become more readily apparent from the following detailed description of a specific illustrative embodiment thereof presented hereinbelow in conjunction with the accompanying drawing and appendices.

BRIEF SUMMARY INVENTION

The present invention is a unique combination of data processing programs resulting in a data processing system that provides a tax refund payment within 24-48 hours from the time of filing a tax return. In the present embodiment an Electronic Filing Program prepares a 1040, 1040A or 1040EZ federal tax return acceptable for electronic transmission to the United States Internal Revenue Service, on the basis of tax filer provided data. At the same time, the tax filer applies for a refund loan and, on the basis of filer provided credit data, a deposit/loan account is opened at a authorized financial institution. In a preferred use of the system of the invention, the entire transaction takes place at the offices of an authorized tax return preparer. Such a use of the system provides the tax filer with the benefit of having a tax return prepared and filed on one day and picking up a check at the same office for any refund due, less tax preparation fees and filing fees, on the next day; all without any out of pocket payment by the tax filer.

The specific embodiment of the data processing system of the invention is disclosed in the form of program flow charts enabling a skilled programmer to write programs in any of

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a variety of computer programming languages (e.g., COBOL) which can be executed on any of a number of data processing machines. It is also anticipated that programs equivalent to the disclosed programs can be written by those skilled in the art to achieve the unique benefits of the data processing system of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a schematic flow diagram of data processing functions of the invention.

Microfiche Appendix I is a program flow diagram for the Electronic Filing Program of the disclosed embodiment of the invention. Appendix I is one page with 9 sheets.

Microfiche Appendix II is a program flow diagram of the deposit/loan program of the disclosed embodiment of the invention. microfiche Appendix II is one page with 22 sheets.

**DETAILED DESCRIPTION OF THE
INVENTION**

Referring now to FIG. 1, there is shown in schematic flow diagram form an overall depiction of the data processing functions for implementing the invention. Input means 10 is used for inputting tax preparer, taxpayer identification, taxpayer tax return information and refund anticipation loan information. In a preferred embodiment input means 10 comprises an intelligent terminal such as a personal computer having programmable data processing arithmetic and logical functions, a keyboard, a visual monitor, data storage and data transmission capabilities. Data input using such an input means is hereinafter described in more detail.

Once data input is complete, a program process is executed by a data processing means to create electronic tax return files 20 which are in a form accepted by the taxing authority processing the taxpayer tax return. In the present embodiment, a program flow chart of an Electronic Filing Program for preparing 1040, 1040A and 1040EZ tax returns in electronic format acceptable to the United States Internal Revenue Service comprises Microfiche Appendix I hereto. It is also necessary to validate tax return data and loan application data as is shown in block 30. Validation of tax return data including mathematical checking is performed by the Electronic Filing Program of Microfiche Appendix I. In addition, individual identification data is compared to a file containing credit information to identify individuals with unacceptable credit histories.

When validation is complete, a deposit/loan account 40 is created at a authorized financial institution, e.g., bank, financial union, Savings and Loan Association, etc., that issues advance payments of taxpayer refunds. To accomplish this in the present embodiment the authorized financial institution programs a data processor means in accordance with the program flow chart of Microfiche Appendix II which is more fully described hereinafter.

After creation of the deposit/loan account file 40, the tax return data is electronically filed with the taxing authority as indicated in block 50. In the present embodiment, the taxing authority is the IRS and the tax preparer and return data is supplied via electronic transmission to designated IRS computers. This data also includes identification of the deposit/loan account which is designated to receive electronic fund transfer refunds directly from the IRS through the Treasury Department's ACH system.

As soon as the validated tax return data and loan application data have been processed and a refund amount is

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determined, the refund loan payment procedure 60 is initiated. The payor authorized financial institution may have set a maximum amount (Rmax), for example \$2,500, which will immediately pay out as a refund loan. Therefore a determination is made as to whether or not the claimed refund exceeds this amount. If that is the case, excess refund processing is entered and an excess refund payment 80 is generated when the electronic funds payment is received. Simultaneously, the maximum authorized amount of refund anticipation loan is processed by determining whether or not payment is to be made through an authorized preparer 90 or directly by the authorized financial institution 100. In the case of an authorized preparer a financial institution check is issued by the preparer for delivery the next day. In the case of direct payment by the authorized financial institution, a check is mailed to the tax filer the next day. The foregoing constitutes an overall description of the data processing system of the invention.

Returning now to the Electronic Filing Program 20 of the present embodiment which is set forth in the program flow charts of Microfiche Appendix I. The Electronic Filing Program (EFP) is designed to be used by tax preparers having an intelligent terminal input means 10. The program enables preparers 20 to electronically enter tax returns and transmit them to a remote processing center. The remote processing center gathers tax returns from many tax preparers and collectively transmits them to the IRS. The System Specifications of the EFP are divided into four main sections these sections describe the tax preparers duties and systems operations as they pertain to 1. SYSTEM INITIALIZATION, 2. DATA ENTRY, 3. TRANSMIT, and 4. FOLLOW-UP.

The system initialization process is designed to make it as easy as possible for the tax preparer. It sets up all the files required by the EFP software, and guides him through the terminal screen provided for the entry of the tax preparer information (Microfiche Appendix I). The system is designed for the entry of the tax preparer information separately so that it needs only be entered once, but provides the tax preparer the opportunity to change this information if needed. In the present embodiment, such tax preparer data is in the form required by the IRS for preparers eligible to file tax return data electronically.

The tax preparer gathers all the necessary information from a client to file a tax return. The EFP can handle the three basic tax returns, 1040, 1040A, and 1040EZ and certain supported schedules and forms. The tax preparer then goes to his intelligent terminal and enables the EFP program.

After the preparer has completed the 1040, 1040A or 1040EZ form by following the input procedures, the EFP software performs two major functions. First, it determines the presence of errors in the entry of most of the major fields. Second, it determines from the information entered on the 1040 if any of the supported forms or schedules are required. If any of the supported forms or schedules are required it automatically brings to the screen the required data entry format for completion by the preparer.

After the preparer has entered all of the information for the 1040, 1040A, or 1040EZ, and all related forms and schedules, the software automatically displays a summary screen.

The preparer then enters his code on the summary screen and the system automatically displays all of the information from the preparer file. The information on the preparer file is entered only once and can be updated as needed by using option seven from the main menu. It is attached to each tax

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return through the summary screen. The summary screen also provides for the input of authorized financial institution route information and displays a list of the required documents.

When the summary screen is completed the system displays the screen for the entry of W-2 information.

When all of the required W-2's have been completed the software automatically returns to the main screen. At this time the preparer can either enter another 1040, 1040A, or 1040EZ, or select which returns are to be transmitted to the remote processing center.

After all required tax returns have been entered the preparer can transmit the returns to the remote processing center. This is accomplished by selecting the 'NEW TRANSMISSION FILE' entry from the main screen. When this item is selected the transmit screen is displayed, the preparer indicates the returns to be transmitted by changing the status code on the transmit screen to 'T'. The system then adds these tax returns to the transmit file, dials the remote processor center number, and transmits the data over either dedicated or ordinary telecommunication lines.

The week after a tax return has been accepted by the IRS, the preparer must ship a form 8453 and supporting documents such as W-2's to the IRS. IRS rejected returns are corrected by the central processing center unless the tax meaning of the return would be altered, in which case the preparer is informed and asked to re-process the return.

In the present embodiment the validation 30, account file creation 40 electronic filing 50, and refund payment processing 60, 70, 80, 90 and 100 are all performed at the remote processing center. These functions are performed by data processing programs created in accordance with microfiche appendix II hereto. In overview this embodiment of the system of the invention permits a taxpayer to obtain a refund loan within one or two days of filing his tax return through an authorized preparer directly or by mail from the participating authorized financial institution. This is in contrast to the typical 6 to 8 weeks required to receive a refund directly from the IRS.

Rapid refund payment is accomplished by the authorized financial institution issuing to the tax filer a demand loan for an amount of the tax filer's calculated IRS refund. This loan is in the form of a check issued by the authorized financial institution and has the loan terms on the check document. A deposit account is opened for the customer at the authorized financial institution to which the tax filer's IRS tax refund is sent via the IRS electronic funds transfer ACH system. This IRS refund payment, when received is automatically applied as payment of the tax filer's loan, paying it off, assuming that none of the refund was withheld by the IRS. In the event that a cap has been set by the lender, any refund in excess of the amount of the loan is subsequently issued in an additional check for that excess amount and mailed to the tax filer.

To accomplish this in the Refund Anticipated Loan (RAL) system of the embodiment of Microfiche Appendix II, an issue file will be transmitted from the remote processing center. Multiple files are allowed on a daily basis. This file will be posted to a masterfile on the authorized financial institution data processing means, in this instance an NCR 8250. Validation will be performed on the file received from the remote processing center. Fields validated include the Social Security Number field for numerics and non duplicate Social Security Number, the amount file for numerics and the Name and Address filed for Alpha/Numerics. The individual items and amounts are summed up and compared against the trailer record for control. The loan application is

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also compared to a master credit data file to validate the credit worthiness of the applicant tax filer. A failure of this test will result in an error return to the originating tax preparer the next day. The RAL refund checks are generated from the file transmission and update. The checks are mailed within 24 hours from receipt of file from the authorized financial institution or in the case of authorized preparers will be issued the next day by the preparer. Four reports are generated by this program. They are the Input Validation, Update Report, RAL Checks, and Check Register.

Each day three reconciliations are performed against the RAL Masterfile. One is for the clearing of the cashed RAL checks. The information from all captured bank checks is searched and RAL refund check information extracted. This is posted against the RAL Masterfile. The checks are matched by serial number to the RAL Masterfiles Serial Number to insure that the amount cleared equals the amount issued. All exceptions are noted as an exception for manual exception item handling. All validated checks are posted against the RAL Masterfile, and the date cleared is stored.

A second reconciliation is performed daily. This is a reconciliation against all incoming IRS ACH items. The IRS ACH Incoming file is searched for RAL IRS Tax Refunds. This is keyed off of the account number field in the IRS ACH record. A unique constant eight digit number followed by the tax filer's Social Security number is used in the Account Number field for the IRS ACH Refund. Based upon this unique number, the IRS ACH items are searched and information pulled for validation and update to the RAL Masterfiles. Four reports are generated. They are the IRS ACH RAL Validation Report, the Update Report, Excess Refund Checks, and Excess Refund Check Register. These Excess Refund Check Issues are posted to another reconciliation masterfile.

A third reconciliation is made for the Excess Refund Checks. This is a basic reconciliation system. Each day all data from the captured checks is searched and Excess Refund check information is extracted to post against the Excess Refund reconciliation Masterfile. Again two reports are generated, one is a Validation Report and the second an Update Report.

On a periodic basis, a program is run to strip off from the RAL Masterfile and Excess RAL Refund Masterfile, all completely cleared items to a history file.

Having described the unique properties of the system of the invention and without limitation illustrated the invention in a specific embodiment;

What is claimed is:

1. A method of operating at least one programmable electronic data processing machine comprising the programmed steps of:

- a) receiving inputted tax preparer data, tax return data and refund payment data from a tax preparer site prepared by a tax preparer and not the tax payer;
- b) creating electronic tax return data files from said tax return data;
- c) immediately after creating said electronic tax return data files, creating a new, previously unopened electronic deposit account files for said tax return data and said refund payment data to an authorized financial institution and the sole purpose of the account files is for receiving IRS funds to offset against the loan debit;
- d) designating said electronic deposit account file at said authorized financial institution as the recipient of electronic funds;
- e) electronically transmitting said electronic tax return data files to at least one tax collecting authority;

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f) authorizing receipt by said authorized financial institution of tax refund electronic fund transfers, based on said tax return data, from said tax collecting authority;

g) processing said tax return data files and said electronic deposit account files and authorizing payment, at said tax preparer site, by said authorized financial institution from said deposit account files of a tax refund amount based on said tax return data upon completion of tax return processing and electronic fund transfer refund payment by said tax collecting authority,

h) electronically closing said electronic deposit account file after payment of the tax refund amount from the IRS is received by said financial institution to the taxpayer.

2. The method of claim 1 further comprising the steps of deducting processing fees from said refund amount and transmitting at least part of said fees by electronic funds transfer.

3. The method as claimed in claim 1, wherein said electronic tax return data is inputted by an input means into a computer system.

4. The method as claimed in claim 3, wherein said input means includes keyboard input means, visual monitor means, data storage means, data transmission means and programmable data process means for executing said program means for processing said tax preparer data and said tax return data and transmitting said electronic tax return data files and said payment data, to a remote processing center.

5. The method as claimed in claim 4, wherein said remote processing center includes at least one programmable data processing means for executing said program means for processing payment data and creating electronic deposit account files, for transmitting electronic tax return data to and for authorizing receipt of by said authorized financial institution electronic funds transfer data from, at least one electronic data processing means controlled by at least one tax collecting authority and for executing said program means for processing said tax return data files and said electronic deposit account files and program means for transmitting said files to said authorized financial institution for authorizing payment of a tax refund amount from said electronic deposit account whereby said payment made be made at a tax preparer site upon tax return processing and electronic funds transfer refund payment by said tax collecting authority.

6. The method as claimed in claim 4, further including program means for deducting processing fees from said refund amount and program means for transmitting at least a part of said fees by electronic funds transfer.

7. The method as claimed in claim 1, wherein a check for the loan amount is mailed within twenty-four hours of receipt of the file from the authorized financial institution or in the case of an authorized preparer, will be issued the next day by the preparer.

8. The method as claimed in claim 7, which further comprises generating an input validation report, an update report, refund anticipation loan check and check register.

9. The method as claimed in claim 8, which further comprises performing a reconciliation for clearing of the cashed refund anticipation loan check whereby the information from the captured check is searched and the refund anticipation loan check information extracted.

10. The method as claimed in claim 9, which further comprises removing, from the refund anticipation loan master file and excess refund anticipation loan refund master file, all of the completely cleared items to a history file.

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11. A method of operating at least one programmable electronic data processing machine comprising the programmed steps of:

- a) receiving tax return data from a taxpayer prepared by a tax preparer and not the taxpayer at said tax preparer's site;
- b) calculating tax refund data based on the tax return data;
- c) inputting said tax refund data and taxpayer identification data into a database on a computer;
- d) electronically transmitting taxpayer identification data and the tax refund data to an authorized financial institution;
- e) immediately after transmitting said tax refund data to the financial institution, electronically requesting the creation of a single transaction deposit account file at the financial institution and said single transaction deposit account file's sole purpose is of receiving IRS funds to offset against the loan debit in the account and electronically receiving information identifying the account file from the financial institution;
- f) electronically communicating the taxpayer identification data, tax refund data and the single transaction account file data to at least one tax collecting authority;
- g) transmitting authorization to the tax collecting authority to perform tax refund electronic fund transfers based on the tax return data to the single transaction account file;
- h) disbursing funds to the taxpayer from the single transaction account file based on the tax refund data; and
- i) electronically closing said electronic deposit account file after payment of the tax refund amount to the taxpayer is sent from the IRS by said financial institution.

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12. The method as claimed in claim 11, further including program means for deducting processing fees from said refund amount and program means for transmitting at least a part of said fees by electronic funds transfer.

13. The method of claimed in claim 11, further comprising the steps of deducting processing fees from said refund amount and transmitting at least part of said fees by electronic funds transfer.

14. The method as claimed in claim 11 wherein said computer includes an input means which includes keyboard input means, visual monitor means, data storage means, data transmission means and programmable data processing means for executing said program means for processing said tax preparer data and said tax return data and transmitting said electronic tax return data files and said payment data, to a remote processing center.

15. The method as claimed in claim 14, wherein said remote processing center includes at least one programmable data processing means for executing said program means for processing payment data and creating electronic deposit account files, for transmitting electronic tax return data to and for authorizing receipt of by said authorized financial institution electronic funds transfer data from, at least one electronic data processing means controlled by at least one tax collecting authority and for executing said program means for processing said tax return data files and said electronic deposit account files and program means for transmitting said files to said authorized financial institution for authorizing payment of a tax refund amount from said electronic deposit account whereby said payment made be made at a tax preparer site upon tax return processing and electronic funds transfer refund payment by said tax collecting authority.

* * * * *

1. A patent begins with a "Title," an "Abstract," and an illustrative drawing on a cover page that together summarize the teachings of the patent. One or more drawings of the invention come next, and these are required. (See 35 U.S.C. § 113 and 37 C.F.R. § 1.83(a)). The specification begins by summarizing what the inventor knows about the "prior art"—the prior work of others that relates to the invention. The specification then continues with a brief summary of the invention that defines generally what the inventor believes is new and unobvious and worthy of patent protection. A completely detailed description of the "preferred embodiments" of the invention comes next. This is the inventor's statement of what is the best way to practice the invention, together with a listing of alternative ways to practice the invention, and it may go on for many pages. The detailed description contains frequent references to the drawings and to reference numbers that the rules require to be affixed to the individual elements shown in the drawings.

At the very end of the patent specification, the most important part of the patent appears in a series of numbered paragraphs that are called "claims." Each claim precisely defines an invention itself—what the inventor believes is new and patentable and what the inventor desires to exclude others from making, using, selling, offering for sale, and importing. (The claims are not to be confused with the detailed description of the "preferred embodiment," which may define the invention much more narrowly than the claims do.) See 35 U.S.C. §§ 111, 112. During "prosecution" of the patent application before the patent examiner, it is

the precise wording of the claims that is the subject of most of the discussions and negotiations between the examiner and the patent attorney representing the inventor/applicant for a patent. Before a patent finally issues, the claims may be amended many times.

2. The inventions defined by the Longfield patent's claims are "pure software" in the sense that the inventions can be implemented on a general-purpose computer having no new or novel elements other than the software converting one type of data into a new and useful second type of data. Note that only a very simple "flow diagram" of the program is defined by one or more of these claims. In cases where hardware or software elements are novel, they must be disclosed. Sometimes complete or partial program listings are essential, and they may be submitted in appropriate format. Section 112 of the Patent Act requires "a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same . . ." This description must enable one skilled in the art to make the invention "without undue experimentation." *U.S. v. Telectronics*, 857 F.2d 778, 785 (Fed. Cir.1988).

3. Note that the date when the patent application was filed appears in the patent along with an application serial number. Once approved by the patent examiner, a patent is assigned a unique patent number and a date of issuance. Once issued, a patent grants the inventors, or their assignee, a monopoly on making, using, offering to sell, selling, and importing the invention (35 U.S.C. § 271(a)) that lasts twenty years from the date of filing (35 U.S.C. § 154(a)(2)). If the application claims the priority of an earlier (non-provisional) U.S. application, the twenty-year term commences with the filing date of that earlier application. Patents issued from an application filed prior to June 8, 1995 expire 20 years from the date of filing or 17 years from the date of issue, whichever is longer (35 U.S.C. § 154(c)(1)).

4. Note the list of "prior art" references on the cover page of the patent. These patents and articles were examined by the patent examiner, and the inventions defined by the claims in the patent are presumed by the courts to be "valid"—to define inventions that are new (35 U.S.C. § 102) and unobvious (35 U.S.C. § 103)—over these "prior art" references (this presumption is set forth at 35 U.S.C. § 282). Accordingly, to successfully attack the "validity" of a patent in court, an alleged infringer must usually find and present to the court new and different "prior art" that the patent examiner did not see during the prosecution of the patent application. The inventor/applicant for a patent and his or her attorney both have an ethical duty to send copies of any relevant prior art references that they know of to the examiner, and failure to do so may constitute fraud and may also invalidate the patent (37 C.F.R. § 1.56), with the defendant possibly recovering its attorney's fees (35 U.S.C. § 285).

5. The process of applying for and obtaining a patent is called the "prosecution" of a patent. Individual inventors may "prosecute" their own patents (usually a very unwise approach), or they may be represented by a "registered" patent attorney or patent agent. To register one must meet educational requirements in science and engineering (or have equivalent experience) and also pass a rigorous examination on patent procedure. 37 C.F.R. § 10.7. The examination covers Title 35, the Rules of Practice set forth in 37 C.F.R. Chapter 1, and the Manual of Patent Examining Procedure, or M.P.E.P. (a set of two bulky three-ring binders containing numerous additional rules of practice). Non-registered attorneys may not practice before the patent section of the PTO. They may practice before the Trademark section, however. See 37 C.F.R. § 10.14.

6. Large corporations usually require employees to sign contracts agreeing to assign their inventions to the corporation. If the corporation decides that the benefits of a potential patent outweigh the costs of the application procedure, it will pay patent attorneys to prosecute the patent application. The inventor here, Ross N. Longfield, assigned his patent to Beneficial Financial, Corp., which then hired the firm of Connolly & Hutz to represent it. Assignments of patents must be recorded in the PTO. 35 U.S.C. § 261. An assignment is void as against a subsequent purchaser for value if not recorded within three months or prior to the subsequent assignment. If there is more than one owner of a patent, each owns the whole in the sense that each joint owner may grant licenses and collect royalties, and there is no obligation to account to the other joint owners (35 U.S.C. § 262) unlike the case with joint owners of a copyright (see NIMMER ON COPYRIGHT, 6.12[A]). Accordingly, an agreement on ownership, licensing and distribution of royalties is essential. Liens against patents must be recorded at the state level under Article 9 of the U.C.C. A lien on "general intangibles" is sufficient to cover patents. Recording of patent liens in the PTO is also desirable. (Copyright liens, however, must be recorded with the Register of Copyright, not at the state level.)

7. Each claim appended to the end of a patent, for instance each of the 15 claims of the "Longfield" patent, defines a unique invention. The patent examiner studies the "prior art" and then negotiates with the inventor's patent attorney or agent over the precise wording of the patent claims. Initially, the examiner typically rejects all of the claims, sends the "prior art" to the applicant's attorney or agent, and awaits a response. The applicant's attorney or agent responds with an "amendment" to the claims, typically narrowing the inventions defined by the claims. The patent may then issue, or negotiations may continue for years, with the patent applicant paying fees periodically to continue the examination process (35 U.S.C. § 132(b)), or the applicant may re-file an application several times as a "continuation" or "division" of the original application, claiming the benefit of the original application's filing date under 35 U.S.C. § 120. However, the patent will still expire twenty years from the date of the original filing. Another option is to re-file a

patent application with additional inventive material added (a "continuation-in-part" patent application).

8. An adverse decision of the Examiner may be appealed first to the Board of Patent Appeals and Interferences within the PTO (35 U.S.C. § 134) and then to the Court of Appeals for the Federal Circuit (35 U.S.C. § 141). Alternatively, the Commissioner of Patents may be sued in the United States District Court for the District of Columbia (35 U.S.C. § 145), but that is not a particularly favorable forum for inventors.

9. A patent application, unless withdrawn, is normally published eighteen months after it is filed. 35 U.S.C. § 122. Publication destroys any trade secrets contained in the application. Publication can also give rise to "provisional rights" to recover a reasonable royalty from infringers commencing on the date of publication, providing the patent ultimately issues with claims "substantially identical" to the claims as published (35 U.S.C. § 154(d)).

10. While not reproduced here, the original patent application, plus all correspondence between the applicant and the Examiner, is open to public inspection once the patent issues, with copies available at nominal cost. It is stored in a large manila folder called a "file wrapper." Statements made by the applicant during "prosecution" of the patent before the examiner are frequently used later by the courts in construing the meaning of the "claim" language and thus the scope of the invention. These statements can give rise to "prosecution history estoppel" (also called "file wrapper estoppel"). If an applicant has interpreted a claim narrowly to get the examiner to issue a patent, the patent-holder is "estopped" to argue later for a broader interpretation of the same claim. Accordingly, it is essential to review the file wrapper of a patent before rendering an opinion on patent validity or patent infringement.

11. The process of suing a patent infringer before a United States district court is called "litigation". Any attorney admitted to practice may "litigate" a patent. The trend in recent years is toward more jury trials in patent cases. Patent infringement is for the trier of fact to determine, as are damages. The patent claims, such as claims 1-15 in the "Longfield" patent, define the scope of the patent for the purpose of determining infringement. The Judge determines the meaning of the claim language in what is called a "Markman" hearing preceding the trial. In some instances, the claims may be interpreted to cover "equivalents" outside the scope of their literal language. The successful litigant may receive actual damages or, if greater, a "reasonable royalty," typically 3 to 5 percent of the sale price of the invention as claimed in the patent claims. 35 U.S.C. § 284. Compare this to copyright damages, which include actual damages plus defendant's profits not included in actual damages, 17 U.S.C. § 504(b) or, in the alternative, "statutory damages" set by the judge, 17 U.S.C. § 504(c). Injunction against further infringement is also available under 35 U.S.C. § 283 (patent) and 17 U.S.C. § 502 (copyright).

12. A patent owner may normally seek up to six year's of damages for infringement arising before the date when litigation commences. 35 U.S.C. § 286. However, if the patent owner or its licensees have been selling the invention and not marking the patent number of the invention, then past damages can only go back to the date when the infringer was notified of the infringement. 35 U.S.C. § 287(a). If the jury finds the infringement to be willful, the court may treble the damages (35 U.S.C. § 284), and the court may award attorney fees to the prevailing party in "exceptional cases." (35 U.S.C. § 285) In an effort to protect against such punitive damages, many companies routinely ask their attorneys to provide them with an opinion of invalidity/noninfringement if they plan to continue engaging in the allegedly infringing activity following formal notification of infringement.

C. ELIGIBILITY FOR PATENT PROTECTION

In general, an invention must be "useful" and patentable subject matter under 35 U.S.C. § 101, "novel" under § 102, "nonobvious" under § 103, and meet "procedural requirements" set forth in § 102(b), § 112, and other sections for the PTO to issue a valid patent. The issue of whether or not a patent application meets the requirements of the patent act (title 35 U.S.C.) may arise before the PTO. This happens when the patent examiner rejects the application and the applicant contests the rejection. The issue of validity may also be raised by the defendant in patent infringement litigation, who may (and usually does) argue that the PTO erred in issuing a patent because the applicant had failed to meet the statutory standards. (The defendant usually will also argue in the alternative, that if the patent is valid, the defendant has not infringed it because the defendant's process or product does not fall within the claims of the patent.)

PATENT ACT,

35 U.S.C. §§ 101-103,112

§ 101. Inventions patentable

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

§ 102. Conditions for patentability; novelty and loss of right to patent

A person shall be entitled to a patent unless—

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent, or

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States, or

(c) he has abandoned the invention, or

(d) the invention was first patented or caused to be patented, or was the subject of an inventor's certificate, by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application for patent or inventor's certificate filed more than twelve months before the filing of the application in the United States, or

(e) the invention was described in—

(1) an application for a patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for a patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application defined under the treaty defined in section 351(a); or

(f) he did not himself invent the subject matter sought to be patented, or

(g)(1) during the course of an interference conducted under section 135 or section 291, another inventor involved therein establishes, to the extent permitted in section 104, that before such person's invention thereof the invention was made by such other inventor and not abandoned, suppressed, or concealed, or

(2) before such person's invention thereof, the invention was made in this country by another inventor who had not abandoned, suppressed, or concealed it. In determining priority of invention under this subsection, there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other.

§ 103. Conditions for patentability; non-obvious subject matter

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title,

if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

(b) * * * [§ 103 (b) is directed to special problems relating to "biotechnological" process and composition of matter patents, and is not relevant to the subject matter of this casebook.—Eds.]

(c) Subject matter developed by another person, which qualifies as prior art only under subsection (e), (f), and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

§ 112. Specification

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

A claim may be written in independent or, if the nature of the case admits, in dependent or multiple dependent form.

Subject to the following paragraph, a claim in dependent form shall contain a reference to a claim previously set forth and then specify a further limitation of the subject matter claimed. A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers.

A claim in multiple dependent form shall contain a reference, in the alternative only, to more than one claim previously set forth and then specify a further limitation of the subject matter claimed. A multiple dependent claim shall not serve as a basis for any other multiple dependent claim. A multiple dependent claim shall be construed to incorporate by reference all the limitations of the particular claim in relation to which it is being considered.

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.