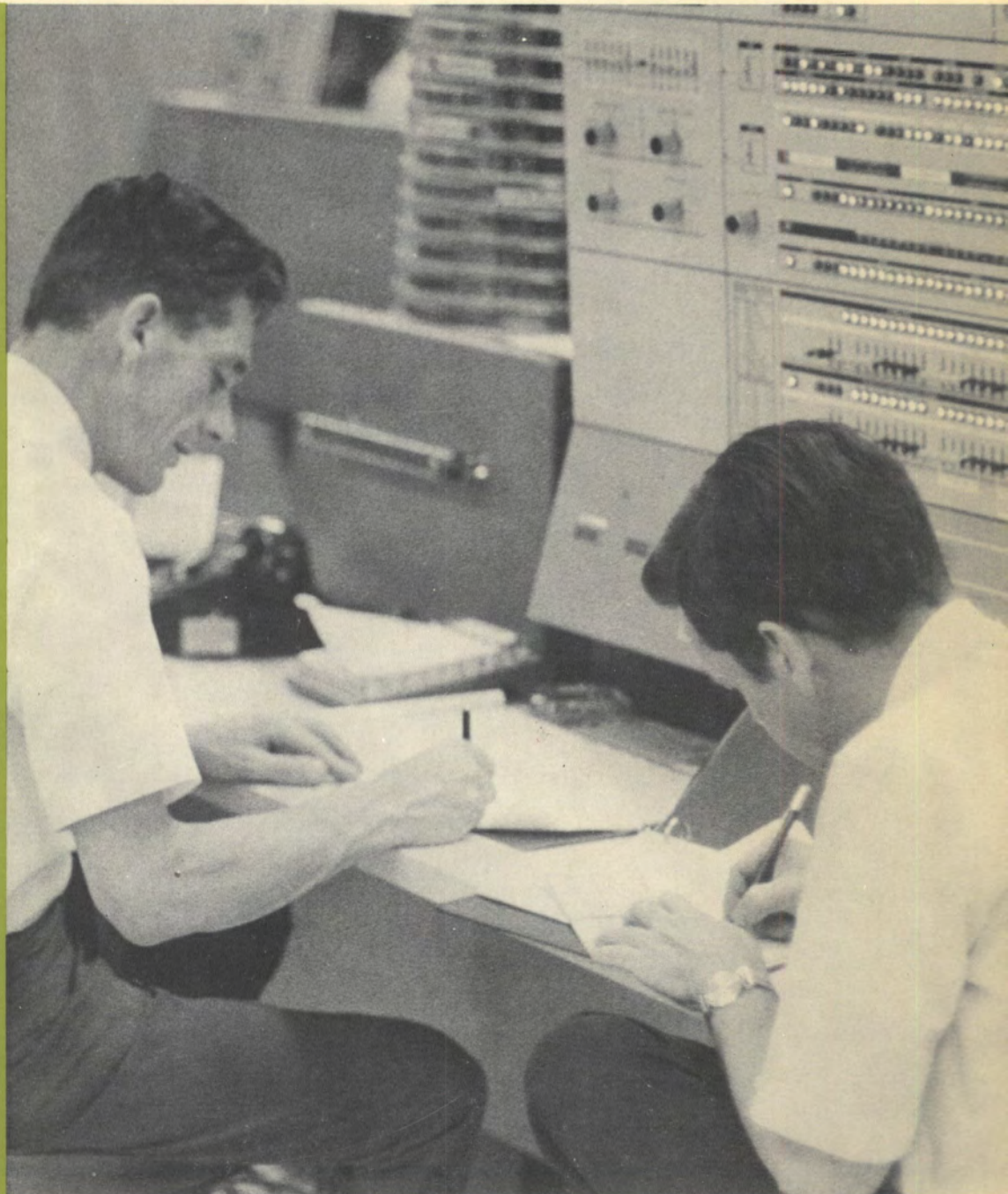
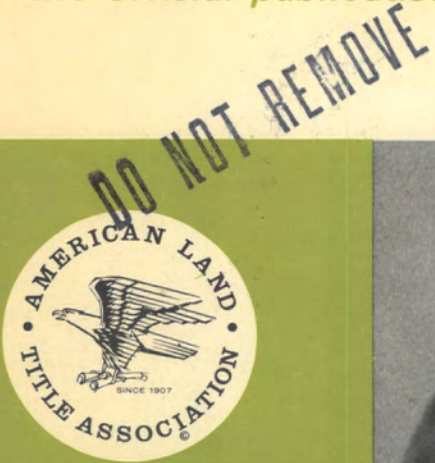


# Title News

*the official publication of the American Land Title Association*



*EDP Systems  
in the Land  
Title Industry*

July, 1969



## President's Message

JULY, 1969

In case you are wondering, the publication you are reading is still *Title News*.

This issue is the first to be published in a new format designed to make the magazine more attractive and easier to read. Appropriately, the first edition bearing the new look is devoted to a subject that exemplifies the dynamic character that has come to the land title industry. In the following pages, you will find penetrating commentaries by five titlemen on aspects of electronic data processing (EDP) systems in our business.

There is knowledge to be gained in this issue. Coverage ranges from a look into the future and possible obsolescence of paper in title examination due to EDP techniques, to practical advice for the smaller company that needs automated help but cannot justify a computer.

This Association is indebted to the authors who somehow found time in their schedules to prepare the articles that follow. They are Ernest J. Billman, chairman of the board, Security Title Insurance Company; Robert J. Fabrizio, vice president and assistant treasurer, Commonwealth Land Title Insurance Company; Edward N. Grskovich, vice president, Chicago Title and Trust Company; Ivan A. Peters, vice president, Title Insurance and Trust Company; and O. B. Taylor, Jr., president, Mississippi Valley Title Insurance Company.

Abstracters and title underwriters with sufficient business volume are implementing EDP systems with enthusiasm and tenacity. It is yet another example of the spirit within our business that enables us to effectively meet the challenge of change and prevail over controversy.

Sincerely,

Gordon M. Burlingame

# Title News

*the official publication of the American Land Title Association*

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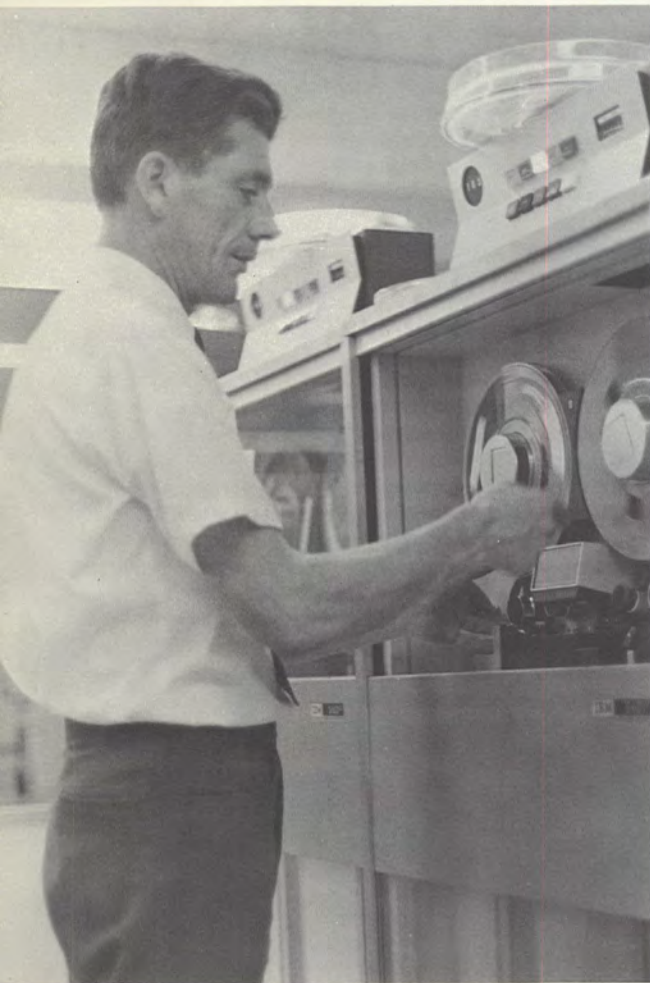
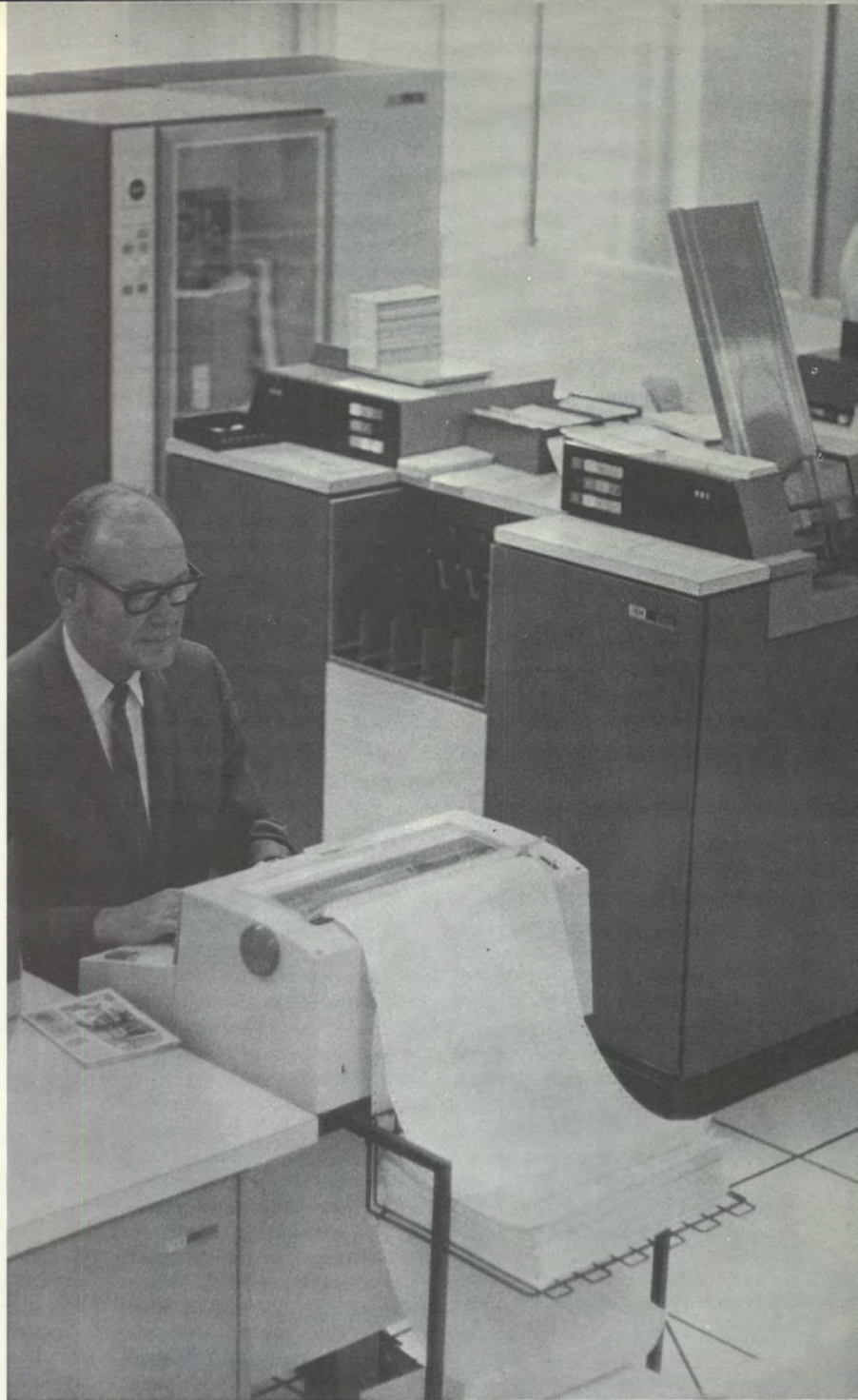
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**ON THE COVER:** Title business moves through a computer with electronic speed and accuracy at Title Insurance and Trust Company. Special articles on the important role of electronic data processing systems in the land title industry are featured in this issue.

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*GARY L. GARRITY, Editor  
DONAILEEN C. WINTER, Assistant Editor*



# A DIMENSION OF SWIFT EXCELLENCE

The thoughtful clank of key punch machines . . . the staccato din of printers . . . the subtle hum of computers. These electronic data processing noises are sounds of the times in the land title industry.

A dimension of swift excellence has emerged since EDP was put to work in volume evidencing and underwriting. The capacity to make rapid, accurate use of stored information has been greatly expanded.

EDP systems are a progressive, provocative force in title company operations. Today's performance is eclipsed only by tomorrow's potential. The following pages tell why.

## **An Investment in the Future**

**T**he computer has permanently established itself in the land title industry, and for a very good reason. One thing a large computer does best is maintain vast quantities of data, organized in such a way that specific information can be retrieved when needed. Similarly, the function of the title company's title plant is to maintain vast quantities of title information, organized in such a way that specific data can be retrieved when needed. The accuracy and speed with which the title plant performs its function are critical to the title company's

success. Since computers cannot be equaled in their speed and accuracy of information handling, they become the logical repository of the title plant.

Computers have been in the title business for a good many years. However, prior to the appearance of the second generation of computers (when computer vacuum tubes were replaced by transistors), the title company's electronic data processing (EDP) equipment was used primarily as an accounting tool. It was not until the advent of second generation hardware that these machines have

been introduced to the problems inherent in storage and retrieval of title information.

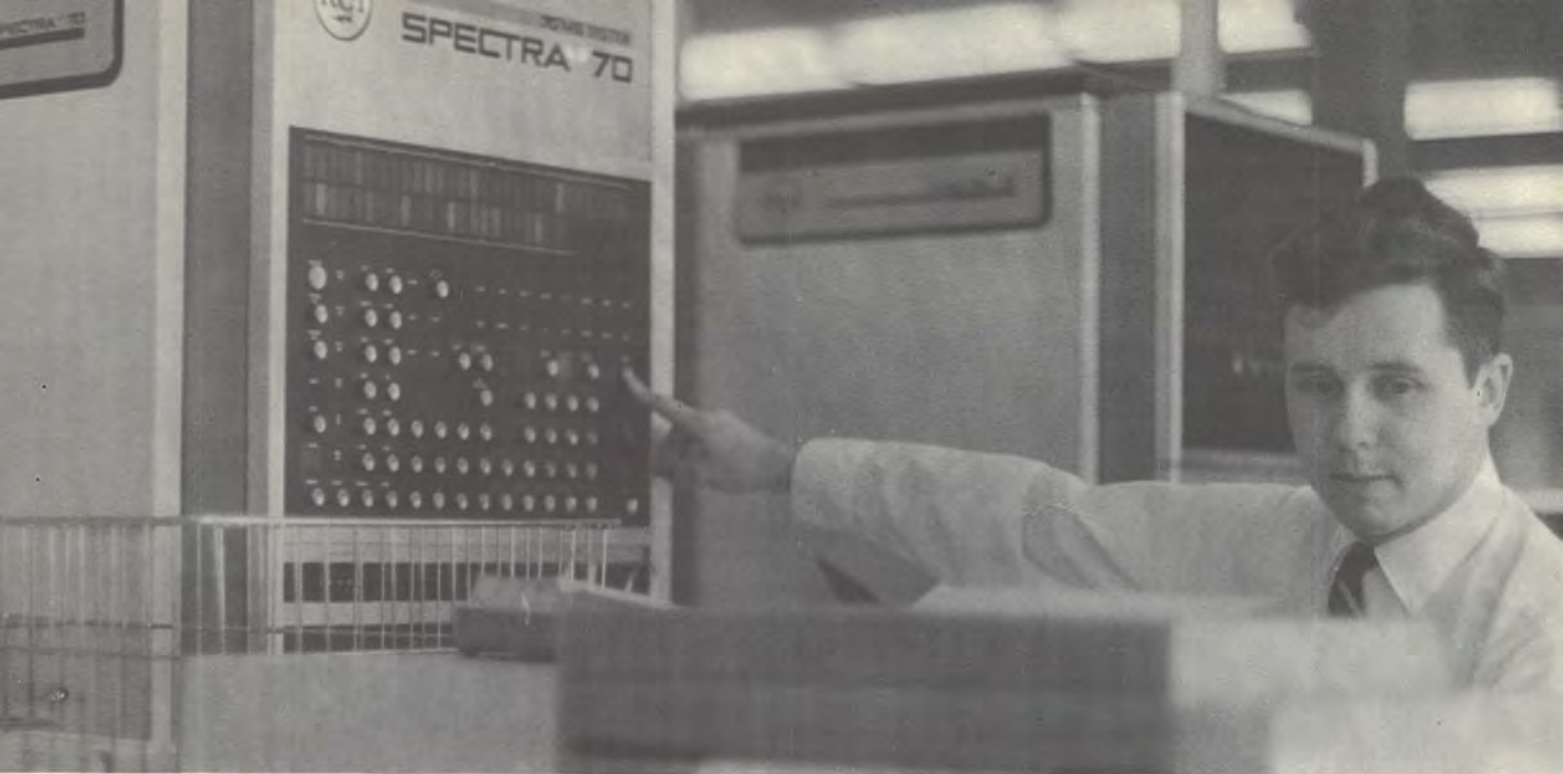
Let us now examine the computer's current role in the title industry and offer some thoughts on what the future might hold.

The most significant of the current developments in EDP has been the automation of title plant indices. Security Title pioneered in this field by building the first punched-card plant index in 1945. These cards were processed on electric accounting machines and retrieved manually until 1962, when Security installed a second generation computer. The computer provided a daily date-down of all open orders, by passing an open order file against the cards representing all documents recorded that day. However, the initial search of the plant index still was conducted manually, since the second generation gear did not have the capacity to deal with the entire index.

Since December of 1967, the name portion of Security's plant index has resided in a mass storage unit of our third generation RCA-Spectra 70 computer. The property portion of the index is currently being converted to the computer. In all, this index consists of 32.5 million entries. The system provides for daily update, with new entries added and released items deleted. As an example of the power of the system, a recent search run



Author Billman, right, talks EDP systems with H. Eugene Tully, president of Security Title.



In a recent name search run against the EDP file, Security Title's computer examined 50,000 separate entries in less than 20 minutes.

called for the searching of 600 individual and corporate names against the file. In order to accomplish the job, it was necessary for the computer to examine 50,000 separate entries. The total run required less than twenty minutes to complete, or less than two seconds per name.

The system is based upon a name code, similar to the "Soundex" code. The computer program itself generates the code for names being entered to the file, as well as those being searched. When searching a name, the computer first finds the appropriate code group on the file. Then each character of the name under search is compared with each character of all the names in the particular group. Selections are made on a "degree of similarity" basis. If, for example, four out of five characters of the name under search compare with a name on the file, the degree of similarity between the two names is expressed as 80 per cent. The user of the system has the option of specifying the degree of similarity he wishes in a given search.

The system also provides for a cross referencing of names. A search for entries affecting the name of Robert Smith would also disclose items affecting the name Bob Smith, Bobby Smith, R. Smith, B. Smith, Robert

Schmidt, Robert Schmidt, Bob Schmidt, etc.

In order for a computerized name and property searching system to meet the needs of the title examiner, it is essential that the computer program provide as many selection criteria as possible. The objective here should be to have the computer determine, as much as possible, the relevancy of entries in its files to the given searching situation. Take, for example, the name searching system described above. Instead of dumping all the names contained in an entire code group out of the computer's memory, so that the title examiner can determine the relevancy of each entry within the group, the computer selects only those names that compare within specified parameters. This system includes additional relevancy factors such as:

- Marital status and gender of individual names.
- Business status of firms (corporate, partnership, etc.)
- The type of title order involved.
- The relationship of the individual or firm under search to the transaction involved.

As more specific relevancy criteria are built into a searching system, the computer is no longer simply the reposi-

tory of the title plant but, in fact, begins to participate in the examination of title.

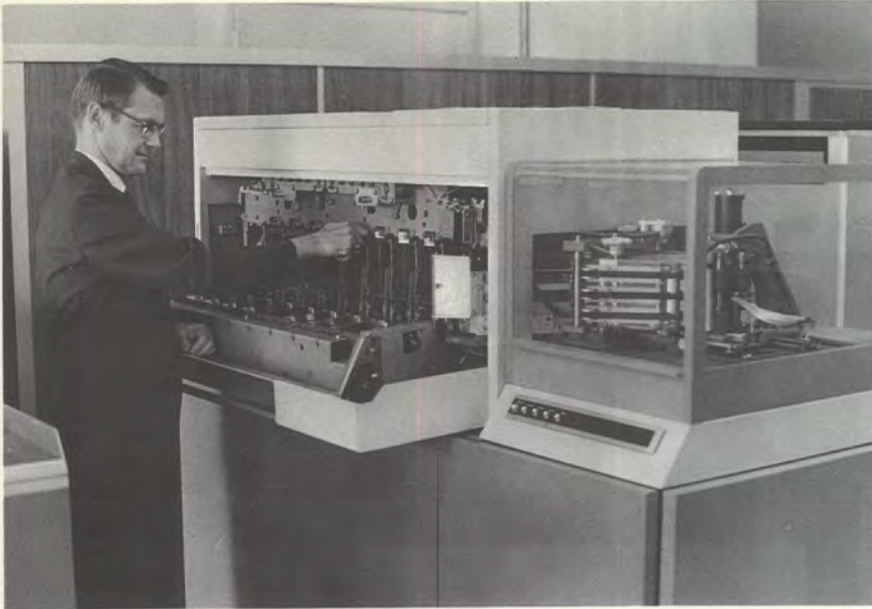
The title company computer also is being used to provide title policies and title reports preliminary to policy issuance. Standard formats and exceptions are assigned code designations and stored on a random access device (usually a disc). Input consists of codes for the appropriate standard material, plus unique information. The computer retrieves the standard formats and exceptions called for, filling in the "blanks" with the unique information, and prints out the total product. For example, say we wish our title policy to show as an exception:

An easement over the rear four feet of subject property, as reserved in deed recorded in Book 3811 Page 26 of official records.

Our standard exceptions file on the computer would contain an easement exception, coded for example E-1, which would recite:

An easement over the \_\_\_\_\_ of subject property, as reserved in deed recorded in Book \_\_\_\_\_ Page \_\_\_\_\_ of official records.

In order to produce the exception in the policy, the input to the computer would include:



Security Title's general index is efficiently stored on magnetic cards in this compact unit.

E-1, rear four feet, 3811, 26. The computer then retrieves the standard exception E-1, inserting the unique information of easement location and recording data in the appropriate spots, and prints the results as part of the finished policy.

In the near future (within the next one to two years), two major developments will make impact on title company electronic data processing operations:

1. "Real-time" update and retrieval of title information, and
2. Transmission of title information via data communication links, connecting the computer with remote terminals.

"Real-time" is a term used to identify a particular method of processing data. Historically, data has been divided into similar groupings or batches, before being taken to the computer for processing. Under this "batch processing," one group of data would be completely processed before another group was introduced to the system. For example, all payroll processing would be completed before the accounts receivable was started. The real-time approach implies that the system can accommodate data that requires processing at any time. In other

words, when operating in real-time, it no longer is necessary to await the next "computer run" to retrieve or update title information. Title examiners, through terminals connected directly to the computer, are able to request specific information, and receive immediate response.

The implications of these developments are many:

- It will be possible to maintain a centralized data bank of title information, servicing any number of offices in any number of counties. Each office will be able to interrogate the computer and update the computer files from their own remote locations, as if the computer were in their own office and dedicated to their own use.
- The title company may place terminals in the offices of preferred customers. Title orders can be opened by transmitting requests from the terminal to the title company and preliminary title reports in turn can be transmitted to the customer.
- As county and state governmental authorities become more sophisticated in EDP, the title companies' computers can be interfaced with those of the governmental authority. The title data bank can thus be updated almost instantaneously, with a significant savings in input preparation costs.
- A computerized title data bank can be designed to yield analyses of real estate trends and

*Continued on page 20*

This printout swiftly provides selected, accurate information for use in title examination.





O. B. Taylor, Jr., President  
Mississippi Valley Title Insurance Company



## EDP in a Smaller Title Company

Mississippi Valley Title Insurance Company started using relatively simple electronic data processing equipment in 1959—in spite of several manufacturers who told us it would be impossible for this type of equipment to be effectively applied in a smaller title plant. Then, and to some extent now, these equipment manufacturers still are more oriented toward accounting and scientific functions of their machines than they are to other applications.

When any new project of this kind is contemplated, there are several questions which must be answered: Why? When? Where? And, how?

As to the “why?” in our case, we discovered ourselves in a situation with an increasing volume of personnel, an increasing volume of business, and an emphatically increasing volume of public records. For example, we found that we had one person in our abstract department who did nothing all day except examine judgment rolls in the county courthouse—which were alphabetized only to the first letter of the last name with the judgments being entered as they were rendered. Surely, we thought, there must be a better way of doing this job and probably one allowing less possibility of

error. Every abstracter knows that if handwritten names in a book are run for a long length of time, it is quite possible for some form of self-hypnosis to take place. Suddenly, one wakes up and realizes he has been doing nothing except going through mechanical motions. To improve the examination of judgment rolls, we made up a strict alphabetical 3 x 5 card system of outstanding judgments, including those which lay within our statute of limitations and also going back to Book Number One to pick up all uncancelled judgments in favor of any governmental body against which the statute would not run. This helped greatly. However, difficulty soon was encountered because we had a hard time finding two people whose definition of alphabetizing was the same. Result: many misfiled cards. The “why?” of our decision to install an electronic data processing equipment system was a matter of pure economics, plus the need for additional accuracy.

The question of “when?” was very easily answered. We felt an urgent need to get on with the job of implementing an effective system as quickly as possible. “Where?” also was easily decided because at that time we had

only one title plant. The question of “how?” was the hard one. About the only knowledge anyone in our organization had about electronic data processing was a brief afternoon tour by the writer through IBM headquarters in New York, which included a demonstration of machines which would appear to work wonders. After this visit, we called in the salesmen of some of the manufacturers, explained our problem to them, took them to the courthouse, showed them the records, and they told us the job simply was not adaptable to any equipment which they had. Curiously enough, every salesman with whom we talked seemed to back away when we mentioned or showed them the enormous amount of alphabetized (as opposed to numerical) information we would need to store. A typical salesman’s reply was, “Sure, we can handle alphabetized information. But, for every type bar installed to provide alphabetical recovery, there would be x number of dollars in monthly rent involved.” We received quite a bit of discouragement from the salesmen themselves. Another source of discouragement was from our own staff. Some of them still do not believe in an electronic data processing system.

However, with two employee converts and a salesman who said he would at least be willing to help us try, we rented at a very small cost a secondhand key punch, an interpreter, and a sorter. If these terms are unfamiliar, the key punch is the gadget which puts the holes in the cards at such positions on the card as to instruct other related equipment; the interpreter then takes the cards and transfers the holes into printed characters readable to ordinary mortals; and the sorter is the machine which arranges the cards for you and in almost any manner desired. It is my recollection that at the time the whole rental for the entire installation was about \$105 per month.

It was a big day when the equipment arrived, and it was quite fascinating—even to the point that the writer stayed up all one night to get enough cards punched so a sample test could be run the next day on the other equipment. Except for a few misspellings and typographical errors, it appeared that the system really would work. Next, we set about putting into key punched cards the entire judgment roll of the First District of Hinds County, which then had a population of slightly under 100,000. After this was done, the cards were manually checked against the original records twice for accuracy and then set up behind straight alphabetic file tabs (except the cards were placed at random in these files and not in alphabetical order). We then adjusted the job which the employee at the courthouse had been doing because the equipment made it quite easy to search through 1,200 cards at the rate of 450 cards per minute. The employee was assigned to making a daily take-off of new judgments, for which cards were punched and dropped in behind their respective "first letter of the last name" file tab. Even this took only a short period, and this employee was assigned to duties which were more productive and helped speed up service. We thus had proved that here was at least one application on which the machines would work — even with pessimism of salesmen.

In spite of our early success, we made the classical mistakes inherent

in starting on something brand new. These mistakes centered on the non-orientation of our staff. This was a serious oversight because of the feeling employees can develop that a new machine means a bunch of people are going to get their pink slips. With us, this simply did not happen—nor do I know of any installation where it has happened. Another result of non-orientation was the fear and lack of confidence among our staff that the machines could operate as accurately as we had operated under old procedures.

Another mistake was that we tried to move too rapidly, particularly in the initial stages of discussion, and did not begin with a thoroughly thought-out plan. However, I do not feel that we can blame ourselves too much for this one. There was simply nobody around who knew anything about our business or who was willing and able to help us plan.

We were penalized by our early failure to find out the availability and reliability of service for the machines, with the result that we had more than a normal amount of down time. After we had made our commitment, we found out that the particular manufacturer whose products we were using was phasing out the unsophisticated machines we were using and pushing hard for big computer installations.

The sales push for large computer installations appears to be a tendency of most manufacturers. However, it is the opinion of the writer that there is a place for less sophisticated equipment in the market among smaller title and other types of companies. We believe this is a market which in the course of time will be tapped and satisfied by some one or more of the manufacturers.

A computer installation is, of course, fine. The computer will do a good job once it has been properly programmed. However, there are many places which do not need the speed nor the capacity of a computer—but do need additional speed and information which presently can be derived from less expensive hardware.

Now, let us look at areas into which we have ventured since our

initial electronic data processing installation. To begin with, having had some success in indexing judgments on punched cards and machine searching them, it certainly was no great effort to add all indices which abstracters use in searching names such as lis pendens, federal tax liens, notice of construction liens, probate or chancery suits, bankruptcy, etc. All of these records were put into punched cards and these were intermingled with judgment cards at random. In other words, we do not maintain a separate file for judgments, a separate file for probate proceedings, etc. These are all in one file so that when the name John Doe is run through the sorter we pick up all of the cards bearing his name with one or two passes, the type of transaction being coded into the card itself.

Our next thinking was that if we had been smart enough to get that far, there certainly should be a means of putting information into the cards so that we could make geographical searches as well as name searches. This procedure turned out well in instances where there was a definite, officially recorded plat bound in a volume with a definite number with a particular map on a particular page—and where there was not more than one map recorded on the same page. After all, it was easy to code Plat Book 1, Page 3, Block A, Lot 4 as 13A4. If the plat book, page, block, and lot all were punched in identical fields in all of the cards, it was a simple matter to get the file containing Plat Book 1, insert it into the sorter, set the sorter to search for the digit 3 and take all of the digit 3's. Resetting the sorter, these cards could then be run back through to find all of the letters A and, lastly, the sorter could be reset again to look for the Figure 4. Since all of the Plat Book 1 cards had been filed behind the file tab Plat Book 1, we already had sorted the first digit of our code number. We then would search for the 3, which eliminated all other digits in that field to narrow our search down. We then ran all of the 3's to find the A's and ran all of the 3 A's to find the cards indexed to Lot 4. If the chain turned out to be a long one, the search could be refined by



Evidencing, marketing, and accounting work—and administrative analysis—are benefited by Mississippi Valley Title's EDP equipment systems.

further sorting to arrange all of the indexed cards into chronological sequence. Up until this time we had been passing the information from the data processing department to the abstract department simply by xeroxing the cards as they came out of the files. We felt that this was best and that the cards be maintained in the same place under one responsibility rather than being scattered about the office.

However, volume grew so we added more refined equipment for the purpose of communicating the information from the cards to the abstracters. At this point, we had a 407 accounting machine with full alphabetical capability in our office. Taking a hypothetical case, if the chain were a long one, we would insert the cards into the 407 and actually print out the chain of title. The printout then would be sent to the abstracters for their examination of copies of the original documents.

An interesting sidelight of this operation, which was impressive to us because of its speed (and there are much faster machines if faster capacity is needed), came when we conducted an experiment on a 12-year-old subdivision on which we already had a base title. This subdivision con-

tained 142 lots. The cards first were sorted as to the plat book page number, then to the block, and then to the lot. They then were sorted into chronological order. The cards then were put into the 407 tabulating machine and, when the run on the machine had finished, we had a reference to the acreage from which the subdivision was carved, reference to the building restrictions, one other general easement affecting the entire subdivision, and a complete chain of title on 142 lots. Time consumed for this entire operation was 17 minutes.

Heretofore, we have talked about the easy part. It is something else again when you try to figure out how to geographically search acreage. Section, township, and range (where such are in existence, of course) are the basis for the code number, but what do you do when any of the following situations might exist:

1. No official section, township, and range is in existence.
2. Where part of the county has no section, township or range and the remainder of it has sections two miles long and one mile wide.
3. Where the grants, Spanish and French, prevalent in our area

of the country contain section numbers up into three digits, or are in all kinds of shapes from triangles to hexagons.

4. Where you have four sections, all regular, surrounding an overlapping square grant which is either un-numbered or, if numbered, the number has no relationship whatever to the remainder of the plat.
5. Where there are in existence unrecorded plats that are not available.
6. Where the human race has for years and years been conveying property by "Lot 6, Black Acres Addition" and there is simply no "Black Acres Addition" except in some deceased person's imagination.

There are three things you do in cases like these: First, naturally, you arbitrate; secondly, you reconstruct as best you can; thirdly, you try to buy, beg, borrow, or steal copies of unrecorded plats. But mainly you pray that, whenever a transaction takes place in any of the areas mentioned above, it will be indexed the same way on the indexes, in whatever form they may be, as it was

*Continued on page 21*

Edward N. Grskovich, Vice President  
Chicago Title and Trust Company

## Automating Name Searches



Author Grskovich with a rapid-access mass storage device (capacity 400 million characters).

**T**itle plants—whether automated or not—are places where we store and index items that have originated in some public record. The amount of information contained in any part of the title plant can vary, depending on the accuracy and accessibility of the local public records and the special needs of the searches. The most common name index items usually are estates, judgments, divorces and bankruptcies. However, in a general discussion of automated name searching, it is not very important to know precisely what information is being indexed against names.

In introducing machines, especially computers, to the name files in a title plant, it is more important to consider the number of items in the file being searched, the number of names that are searched and, therefore, the likelihood of “hits.”

The source and nature of the information being indexed is relevant only in evaluating the likelihood and the risks of errors in the original record or in abstracting it. Also, the cost of irrelevant “hits” is directly dependent on the degree of necessity and the expense of going back to the source documents.

Generally speaking, items that are known to affect the ownership of specific lands can be indexed more economically in tract records. Name indexing becomes necessary when there is no other way to know all

the land that might be affected by the item. Title records can be searched with a great deal of certainty as to items posted against tracts. However, only an uncertain connection is possible between name posted items and specified land.

Of course, it is possible to establish systems of land records which would tend to remove this uncertainty by permitting an item to affect land ownership only if the item clearly identifies the land it is intended to affect. However, it is not the purpose of this article to discuss the advantages or disadvantages of these proposals, but simply to assume that at least for the next decade, we will continue to have many items postable only against names, and, these items will need to be considered in determining the ownership of land.

In searching names, the same problems appear that are present in any file searching system. In building an automated name search system, one of the first things you have to consider is whether you can afford the cost of separate searching of individual names upon request. Or, will you need the economy of batch processing—that is, must you group many names together for infrequent (once a day?) passes against the data file? Only after you know your requirements as to random searching can you choose the hardware appropriate to your needs.

Another consideration is how “sophisticated” the system should be in its handling of name variants. For practical reasons, almost any filing system that uses names of people to index data over a period of years will evolve a set of “rules” to control both posting and searching practices. These rules are the means by which items that may be about a particular person are grouped together even though the person’s name has been spelled differently from time to time, and from item to item.

The simplest way to begin working with any name index, obviously, is to post straight alphabetic and then search alphabetically.

But, even in an alphabetic listing, there are certain questions that have



Names with variance, coded by humans, are in a thesaurus on magnetic tape at Chicago Title.

to be answered. For instance, how long should the longest name be and if necessary, how best to shorten it. To illustrate, it may be better to truncate and then slide the last letter of a given name over. So that if you are trying to keep given names to no more than 8 letters, “Fredericka” becomes “Frederia,” and not “Frederic(k).” Simple truncation of long given names tends to lose gender indicators, and these can be very valuable in holding down the number of irrelevant “hits.” In other words, if you know you’re searching a man, you usually want to have to look at items that are apparently against women. The next step is to decide what to do about slight variations.

Some people think that since most spelling variations occur among the vowels, it is best to remove all the vowels so that “Burke” becomes “Brk.” Others compare the posting and search name letter by letter from both the right and the left and accept all items where some percentage of

letters are in agreement. This system works well to gather in relevant names where there is even some variation in the constants, such as Johnston, Johnson. These two names match on five letters forward and two letters backward or 87.5 per cent agreement. A computer can do this job accurately and quickly on a relatively small data file. However, if a very large file has to be searched many times a day, this style of name searching can bog down even the fastest computer.

Others convert the consonants to one or more numbers to form groups of similar sounding names. “Berk” and “Burke” both get coded as B620. However, so does “Brosseau.” As the number of items in the index increases, this system of the “Soundex” type becomes less attractive since many unrelated names get grouped together. These systems work best when there is always some other information available about the person—like a date of birth. The “Soundex” approach also works especially well

when you are looking for only a particular item—for example, a Social Security, medical or police record.

First names, sometimes called given and Christian names, present special problems because of the frequent use of nicknames, such as "Bill" for "William." Also, the frequent use of initials, nicknames and foreign equivalents, instead of the first name, can be a source of some difficulty.

However, in addition to the practical problems that any name system has in grouping variations in names, a title plant index may have to also consider the effect of statutes and judicial interpretations in setting parameters on the name groups.

Ancient legal decisions have held that if names sound alike, or substantially alike, they are usually regarded as the same, although spelled differently, and the variance in their spelling is considered to be immaterial.

This doctrine has been known by the phrase "idem sonans," which

means "of the same sound." Also, since the general usage in the community, especially as to foreign names has influenced court decisions, it is impossible to be sure that any automatic system is "right." The best hope is to be "practical" rather than "legal" in your approach.

Generally, it is difficult to change public laws or even private plant practices that affect name searching. Many people feel that changes could require many years of judicial interpretation before heavy reliance might be put on them in developing sound name searching procedures. As a result, it is best to design automated name posting and searching systems that do about the same amount of item grouping and excluding that everyone has come to expect in your area. Hopefully, you can do it faster, cheaper, more consistently, etc.

Also, added to the legal requirement is the practical problem related to the fact that someone may have made

a mistake in either abstracting the item, in indexing it, or even in searching it. In other words, the official public record may, in fact, show that a judgment is against "Greene" rather than "Green" as it may have been abstracted or indexed erroneously.

At Chicago Title and Trust Company, we have, over the years, developed a relatively complex system of name grouping. This system has not only attempted to recognize the similarities in spellings that the doctrine of idem sonans would consider equivalent, but also some variations which we felt ought to be grouped because of the possibility of errors due to poor handwriting, typing, etc. The letters "u" and "n" in a signature, for instance, may be indistinguishable. This becomes a sort of "idem sonans of the eyes" doctrine.

Rather than spend our time and money in lawsuits determining how far the concept of idem sonans really went, it always seemed to be more businesslike to try to show all the items that we have reason to suspect are against the party being searched, whether the spelling of the name fitted any rigid pattern of name grouping or not. The trick, of course, is to develop such sound name grouping rules that you don't have to look at too many irrelevant postings in order to find the items you consider appropriate "hits."

At Chicago Title, in developing the automated system, we had available a large number of knowledgeable name searchers. We assumed that these people could do a better job of grouping names for us than any fully automated coding system could do. Therefore, we used a team of our most experienced name searchers and posters to develop a type of thesaurus of names on magnetic tape. The result is that the computer shows only items with variance that our human name coders have been chosen to group.

The principal advantage of this system is that it is very precise in showing items. Very few items are likely to be shown by the computer as "hits" unless the spelling is relevant. However, relevant "hits" are shown even



Two gigantic, highly complex name files are used in computer operations at Chicago Title.

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## Improvement Of Systems

**Ivan A. Peters**  
Vice President  
Title Insurance and  
Trust Company

**J**UST as surely as the quill was replaced by the fountain pen and typewriter, these devices in turn are being replaced more and more—as better and more efficient means of manipulating vast and increasing amounts of business data are developed and applied.

Today's land title industry management job requires a bold and positive analysis of what current systems cost now, what their cost will be in the future, and if and how they can be made more productive and reliable to better serve the purchaser of services. This calls for imagination and an enterprising desire to know more about existing systems within our businesses and their costs in relation to the total costs of doing business. It also calls for the exploration of opportunities where data processing methods in their entire range can be utilized in creative ways to improve performance at reduced costs—or to materially aid in controlling cost escalation.

Evaluation of the continuance of current established methods and of alternative methods on the company's short and long range profits is a vital necessity.

In the land title industry, the availability of competent, trained personnel and the escalating costs to maintain good performance standards are ever before us. The desire to maintain systems or procedures which have withstood the test of time, and which have satisfactorily met the required service performance needs of our customers, is often subconsciously behind objections to change. This desire to maintain existing methods can exert strong influence, even in the face of important economic considerations that point the way to diminishing returns and the inevitable price spiral.

Change just for change's sake is unwarranted, but change for good and sufficient reasons is a necessity, particularly if significant reduction in cost and betterment of performance are to be gained. Change is not new to our industry nor to industry in general. What we do and how we do it today have been the result of continued and persistent vigilance of the cost-price relationship of maintaining

our businesses in a reasonably profitable condition. Betterments in systems improvement often are made in lean times when more attention is focused on the narrowing gap between the cost of maintaining our business and gross income. However, this "back to the wall" motivation to finding ways to improve profits is not a desirable means of operating efficiently. It is just as, if not more, important in more prosperous times to continue to search for ways to improve systems and procedures from both the economic and service improvement standpoints. To reduce costs in good times is to reap even greater rewards than in lean times and the thrust should thus be greater. But it is not always so.

All systems and procedures utilized should be critically examined as to methodology and cost, regardless of the length of their establishment and general acceptance that it was "always done that way, therefore, it must be the best way." Objective analysis of current systems or procedures often can reveal areas that can be substantially bettered. This is particularly true when full attention is given to past and future trends of costs—which takes into account personnel required, space, equipment, materials, supplies, salaries and fringe benefits, escalation factors, together with other appropriate considerations in relation to volume of business and percentage of the market. An enthusiastic search for alternate means of doing the same or better job often discloses that new methods of utilizing mechanization and automation are recommended.

The same critical analysis must be applied to proposed alternatives with particular emphasis on cost, recovery of capital investment, savings, impact of change on the balance of the operation, and customer service. Such alternatives cannot be properly evaluated without being based on detailed systems analysis often requiring outside assistance from specialists who can provide knowledge and objectivity. It goes without saying that any proposed alternative to an existing system must be able to provide the

*Continued on page 23*

## Progress in Philadelphia

When one takes the lead or participates in the introduction of a new and successful order of things, he often is justifiably pleased with the results. The management of Commonwealth Land Title Insurance Company has thus been proud to note the company's contributions to land title industry leadership since Commonwealth issued the first title insurance policy in 1876. Subsequent development of Commonwealth title information processing systems and standards has provided a continuing challenge and has resulted in a reputation for prime quality. The traditional Commonwealth pride also is evident in the introduction of the computer into company operations.

In August, 1964, Commonwealth moved toward computerization by organizing a full-time computer feasibility study team. There were earlier considerations of applying a computer to processing large volumes of information in the company's operations. However, it was not until 1964—after IBM announced its System/360 computer and the data cell with the massive random access storage needed to satisfy our information retrieval requirements—that management interest was galvanized into this full-fledged study effort. IBM provided personnel to work with the Commonwealth study team. Together, the teams represented title experience and systems know-how.

The principal subjects of the study were the manual operations of Com-

monwealth's Philadelphia title plant. The financial operations also were covered, but not in the same depth because they already were being handled on IBM punched card tabulating machines. Seven months later, in February, 1965, the teams made a two-day presentation to the officers of Commonwealth. The proposal called for the development of a total information system of company operations with the large title plant files on the massive random access storage devices. The proposed first phase toward that end was a magnetic tape computer system which basically would process the financial work and build the large title files. A favorable recommendation was received from company officers, and the Commonwealth Board of Directors approved the plan in April, 1965.

The company, in June, 1965, ordered an IBM System/360, Model 30, as the Phase I magnetic tape computer system. In July, 1965, a file conversion unit was organized, and additional transfers were approved for other experienced plant and financial personnel to become programmers. During August, 1965—one year after the full-time study began—the study organization became an implementation unit working on a full-time basis. The magnetic tape computer system was installed in February, 1967. In July, 1968, the Model 30 Central Processing Unit was replaced with a Model 40 Central Processing Unit. The first data cell was added

in September, 1968. Lybrand, Ross Bros. and Montgomery were engaged in September 1965, to provide management with independent reports on the status of all the activities in the project; to review all systems design; and to insure that adequate audit controls were built into the computer programs. Their participation ended in January, 1967, when it was felt that the Commonwealth staff had gained sufficient electronic data processing (EDP) experience.

Computer systems review meetings are held regularly with Commonwealth's top management personnel. The IBM sales representative and systems engineer usually are present at these meetings.

Some of the important goals of Commonwealth management in the company's EDP commitment are: (1) to re-allocate a portion of the typing and clerical resources now employed in the title plant operation to perform in other expanding areas of the company; (2) to increase capacity to handle the rising volumes of plant input without a proportionate rise in cost; (3) to maintain the high standard of accuracy in title information processes, even in the face of increasing volume; (4) to reduce the time lag between application and title report delivery and between the closing and the issuance of the policy; (5) to improve company services to applicants and agents; (6) to keep strong the value of our policy for





A 625-book lien file now is on four tapes.



Author Fabrizio reads over an EDP message.



Requests for lien searches are keypunched.

the mortgage lender and the real estate owner; and (7) to provide company officers and managers with more meaningful information to assist them in the conduct and development of business.

In the financial area, the change-over of jobs has effected many improvements and advantages over the tabulating system used from 1956 to 1967.

Some of the specific financial activities changed over are: the high-volume jobs of escrow funds book-keeping and fee income processing; general income and expense accounting; the payrolls of Commonwealth and of Union Title Guaranty Company; and applicant and agent analysis.

Commonwealth now can handle the peaks of accounting volume with less strain. A fee program takes certain gross fees reported by branches and allocates them based on their liabilities and insurance types to the premium and examination accounts. Another fee program takes certain net fees reported by agents and calculates the gross fees and commissions based on their liabilities and insurance types. An escrow fund program provides a daily journal of all accounts needing adjustments with trouble indicators for special situations. New and more meaningful reports, previously unobtainable, now are reaching company management. Also, Commonwealth has discontinued use of the tabulating equipment formerly needed for the financial jobs. Significant rental reductions have resulted. The expense of imprinted continuous forms needed with the tabulating equipment was eliminated because the computer prints any desired headings on blank stock paper.

In the Philadelphia title plant operations, much systems design, programming and file conversion work has been done in two major areas.

The first major plant area affected by EDP is the mechanics and municipal liens file, which has been converted and daily is being searched and maintained on the computer system. In manual form, the file consisted of 625 ledger books. The lien

file now resides on four magnetic tapes. Three contain the master file and one contains the file of accumulated daily maintenance transactions. Each month, the maintenance file is applied to and updates the three master files. There were approximately 500,000 hand-posted entries in the manual lien file which have been converted for EDP via punched cards. The cards were verified and in turn captured on magnetic tape.

During the first half of 1968, the computer system was maintained and searched in parallel with the manual system. During this parallel phase, the search outputs of both systems were compared and refinements were built into the computer system. After this parallel period confirmed the integrity of the file and usefulness of the maintenance and search facilities of the computer system, the manual system was discontinued.

Requests for lien searches for the title plant, for the settlement (closing) division, and for the policy department are keypunched and then captured on magnetic tape. The search request tape is run against the three master tapes and the maintenance tape. This operation is done twice during business hours for any special settlement bring-downs and for direct bring-down matters. The regular production run including maintenance is done on the second shift and takes less than one hour to complete. There are approximately 1,000 lots that are searched each night. This may sound like a large number, but it must be remembered that almost every matter eventually requires three searches (plant, closing, and policy). Also, each matter has an hierarchy of lot numbers caused by smaller parcels having been carved from the larger ancestor lots and sometimes by smaller lots having been merged into larger parcels. The devolution of these lot numbers is reviewed in the lien search locating process, and the search requests contain every lot number involved in the present premises in question.

The computer reports are produced on the high speed printer at a speed of over 1,000 lines per minute. A

good number of lots are lien prone and wind up on the sheriff sale lists. Although such lots have a long history of lien filings, the search reports are printed very quickly and accurately. In the manual system these entries had to be copied in longhand from the books to the search reports. Tedium and the risk of transcription errors have been eliminated. Under program control the search logic and procedures are not subject to human errors due to forgetfulness, sickness, pressure to produce, unauthorized procedures, boredom, inadequate knowledge, etc. Besides speed and accuracy in processing, the printed information is much more easily understood in all the subsequent operations compared to the previously handwritten search reports. Abbreviations and their variations have been eliminated by coding on the input and complete and uniform translation on the output.

In the manual system the increasing lien file size was a concern which virtually has been eliminated with the capacity of the computer system. Purging of expired liens (over 20 years old) from the file will be done when required by a simple and quick-running computer program.

Since December, 1964, the City of Philadelphia has used one of its computers on three occasions to file city and school tax liens. In the local press they are referred to as "instant liens." Between 15,000 to 20,000 liens are filed instantly by this method. After the plant located the 15,800 liens in the most recent filing, with some help from a partial computer location file, the Commonwealth lien file was updated in the regular course of a few evening runs. It would have taken additional weeks to transcribe this spate of entries into the lien books.

Although the basic sequence of the file is geographic (plate, block, and lot), the whole file was re-sequenced on one occasion to save much clerical effort that would have otherwise been necessary to do a high volume special lien satisfaction project involving very old liens. This flexibility is typical of the many side benefits possible with the computer system.

Although the hand-posted lien books are gone, listings are computer printed semiannually of the entire updated file, monthly of the maintenance file, and daily of the file transactions for the purpose of emergency hard copy backup in the lien department.

Another advantage of the computer file system comes about monthly after updating of the three master tapes with the maintenance transactions. The three updated tapes are duplicated and the three duplicate tapes are sent to a remote location. The previous tapes are retrieved and used for other purposes. The new three duplicate tapes then are available in the event there would ever be any problem trying to process the three in the computer operations department or in the event there would be fire or other casualty loss. The manual file was completely unprotected from these hazards.

The second major plant area is the name file, which has been converted and is now in a parallel search phase. The name file has approximately 700,000 variable length records totaling about 200 million characters. In total character length it is over five times larger than the lien file. The name file will be maintained and searched on the data cell, which provides the needed massive random access storage. The dramatic reduction in space requirements for the computer name file over the manual name file will be especially beneficial in light of the tight space situation throughout our entire plant facility.

The name file conversion began with the daily take-off entries in 1966. Commonwealth implemented the design and installation of a dual purpose method of name file input which supplies typed cards for the manual file at the same time the information is punched into paper tape for the computer file. This dual purpose method will continue until the manual file is discontinued. For the file entries prior to 1966, the typed output of the paper tape machines was used only as the operator's guide. The paper tape typewriters used for both these jobs were Friden Flexowriters.

Commonwealth's "Soundex" card system was installed in 1946. Prior to the installation of the Flexowriters, the key portion of the record was typed—and items such as addresses, other identifying information, and comments were hand-written on to the bottom half of the file cards. Beginning with the cards produced in the dual purpose system in 1966, the whole record is being typed. This has eased the transcription of information to the manual search reports.

The discontinuance of the manual file system will free up a considerable number of typing and clerical man hours, which are in great demand for computer conversion activities and other areas of company operations.

The size of the name file also has been outgrowing the facilities of the manual file system. In 1946, the total records inputted were approximately 30,000 and in 1968 there were approximately 160,000. The storage and access facilities of the data cell will accommodate this growth rate more easily. In Pennsylvania, the lien of an unrevived judgment expires after five years. Computer purging of stale entries will be done in hours, compared with weeks on the manual file.

The searching logic satisfies idem sonans and involves many factors such as the search period, the type of search, the capacity of the parties, special name characteristics, the surname sound-alike references, the first name equivalents, and the degree of likeness between the search names and the file names even though in the proper phonetic area. Committing such vitally important search procedures to program control insures the consistent use of not only the basic search logic but also of the abstruse refinements which could be overlooked in a manual search.

The computer name searches are printed quickly and in a standard format. Names which have many file entries present retrieval problems in the manual search system but are printed with ease, accuracy and speed in the computer system. Another important benefit not feasible in the manual system is periodic duplication of the file on magnetic tapes for



An EDP lien file tape readied for updating.



Paper tape is punched for computer input.



A data cell contains the entire name file.

security storage at a remote location.

Besides the work done in the financial area and in the Philadelphia title plant, another important accomplishment is our computerized phonetic index system of daily take-off for our South Jersey Division title plant. Daily, at the remote plant site, file cards are typed and paper tape simultaneously is punched. The paper tape is mailed to the computer systems department. The file cards are used locally but only temporarily until the monthly computer listings are received. Within each year some of the listings are cumulative. Such a listing replaces the previous listings and the card file to the cover date of the current cumulative listing. The phonetic sequence of the listings is an efficient closed format in contrast to the previously handwritten index books, which of necessity had to have a chronological format.

Immediately after the name file job is out of parallel and on an independent basis, the systems and programming department will direct its attention to title reports and policies. This in turn will lead into the conversion of the largest of all the Philadelphia title plant files, the property file. It contains hard copies of the deeds, mortgages and other documents that affect titles from 1925 to

date. There presently are over 600,000 discrete folders in the file, covering all the parcels in the City of Philadelphia. Depending on how extensive a conversion the company undertakes, this file will require the addition of one or two additional data cells. Beyond the Philadelphia title plant, Commonwealth management looks forward to doing more to service national agents; more financial and plant work for company subsidiaries; more work for company plants in the counties surrounding Philadelphia; and, ultimately, a total information system.

In the Commonwealth EDP conversion, people have played and will continue to play a vital role. People are interposed between the computer and its provident use. The computer cannot even start without being turned on. The programs that make it do useful work can be compared to musical compositions; musical notes are likened to instructions which the computer is built to execute. From an infinite array of possibilities, the composer selects notes and places them into a sequence. The quality of the sequence determines the quality of the composition. So it is with computer instructions and the programs that programmers write. The system design work is the result of the com-

bined efforts of operating personnel on the one hand and systems personnel on the other. The progress Commonwealth has made is directly attributable to such cooperation. So, no matter how stunning is the potential of the computer, it is people who are the very brain, heart and soul of the whole system.

Commonwealth looks upon its computer as a modern tool to help management increase profits by both reducing operating costs and making its product more attractive to customers and potential customers. The efficient employment of people with modern equipment is essential to continued progress in the land title industry. Commonwealth is resolved, among other things, to improve all operations, to obtain take-off information in computer usable form whenever possible, to participate in the growing movement to improve land title records being supported by many groups outside the land title industry, and to compete on an equal footing with other companies using computers. While the company's EDP accomplishments are pleasing to date, there are no signs of absolute contentment. Commonwealth's management is fully aware that, if the company had not issued the first title insurance policy in 1876, someone else would have!

names  
names  
names  
names in the news



GRIFFITH

**David T. Griffith, Jr.** has been elected president and chief officer of The Title Guarantee Company, New York. He is also a vice president of Pioneer National Title Insurance Company, the California parent.

\* \* \*



MACHACEK



BAUMGARDNER

Title Insurance Company of Minnesota, Minneapolis, has announced the election of **D. P. Waddick**, **J. F. Machacek** and **D. E. Baumgardner** as vice presidents. **R. E. Nelson**, **W. T. Jane**, **L. P. Martin** and **R. G. Gandrud** have been elected assistant vice presidents.

Mr. Nelson is in charge of the company's local title policy production; Mr. Jane manages a section of the abstract department; Mr. Martin is an escrow officer specializing in new construction and Mr. Gandrud is assistant counsel in the company's legal department.

Also announced were the promotions of **C. H. Krueger** to assistant treasurer; **D. J. Dorr**, **M. R. Morgan** and **Frances Steguara** to assistant secretaries; and **B. K. Korman** to escrow officer.

**James C. Klusmeyer** of the company's Cincinnati branch office has been promoted to assistant vice president. In the Cleveland office, **F. Ernest Pulse, Jr.** has been named assistant secretary and title officer and **Phil S. Hendrix** has been promoted to escrow officer.

\* \* \*



SMITH



RUSHING

**Ralph C. Smith** has been named president of Commonwealth Land Title Company, a subsidiary of Commonwealth Land Title Insurance Company, Philadelphia. Smith is in charge of the subsidiary operation in Washington, D.C. **J. A. Rushing** has been appointed manager of a new branch office of the subsidiary.

\* \* \*

Commonwealth Land Title Insurance Company, Philadelphia, has announced the appointment of **Chris G. Papazickos** as assistant vice president of the legal department; **Anthony G. Petro** as data processing officer, computer department; and **David S. Kluxen**



PAPAZICKOS



PETRO



KLUXEN

as assistant title officer, Norristown plant.

Five branch managers have been promoted to title officers. They are **William H. Rice, III**; **Dominic J. Malatesta**; **Joseph J. Wiley, Jr.**; **J. Walter Gallagher**; and **Melvin F. Hess**.

\* \* \*



MOHLER

**Richard C. Mohler**, currently manager of Washington State Branch Operations, has been elected vice

president and Washington State manager of Pioneer National Title Insurance Company.

\* \* \*



ROBINSON



O'BRIEN

District-Realty Title Insurance Corporation, Washington, D.C., has elected **James W. Robinson** senior vice president. Robinson is responsible for administration, promotion and public relations. The board also elected **Richard H. O'Brien** vice president with responsibility for business development.

\* \* \*



LITTLE

The election of **Bill Little** to the board of directors of Security Title Insurance Company, Los Angeles, has been announced.

\* \* \*



RENEER



SELLERS

The board of directors of Tucson Title Insurance Company has elected **L. A. Reneer** chairman of the board

## Transamerica Division Moves



New headquarters for the Northwest Division of Transamerica Title Insurance Company is this building at the southeast corner of Second Avenue and Columbia Street in Seattle. The division's operations are in Washington, Oregon, and Alaska. Transamerica Title now has 30 branches and agencies throughout the state of Washington. In its new headquarters, the division will occupy approximately half of the 47,000-square-foot building. Division operations will be in redecorated facilities on two levels. Increased business and future growth prospects made the move a necessity, according to Frank Benecke, president of the division.

and **James R. Sellers** president at the annual meeting of the company held in Tucson.

\* \* \*

Chicago Title Insurance Company, Home Title Division, has announced the appointment of **Barry W. Crelin** as manager of the Newark office. **Herbert J. Shulman** will manage the Jersey City

office while **Robert W. Solinski** has been appointed manager of the New City, New York, office.

\* \* \*

St. Paul Title Insurance Corporation, St. Louis, Missouri, has announced that **Fred H. Benson** has been promoted to vice president of marketing and regional operations.

## Commercial Standard Acquires Metropolitan

Commercial Standard Insurance Companies of Fort Worth, Texas, have announced purchase of all the outstanding common stock of Metropolitan Title Guaranty Company of New York City.

The acquisition expands Commercial Standard's title insurance operations into New York, New Jersey, Connecticut, and the District of Columbia.

Metropolitan will continue to operate as a separate concern, and is a

wholly owned subsidiary of Commercial Standard.

**B. L. Davis**, president of all Commercial Standard companies, has become president of Metropolitan. **Paul F. Dickard, Jr.**, Commercial Standard's vice-president of title operations, is executive vice-president of Metropolitan. **Arthur J. Seltzer**, who has been associated with Metropolitan for 23 years, is senior vice-president and general manager of the subsidiary and will continue to maintain offices in its New York City headquarters.



J. L. Boren, Jr., executive vice-president, Mid-South Title Company, Inc., Memphis, received a pleasant surprise recently upon returning from a trip. Hanging on his office wall was a plaque commemorating his selection as 1969 "Boss of the Year" by the Realtors' Secretaries & Associates of Memphis. Inspecting the award with him is Mrs. Agnes B. Jowers, an escrow assistant for Mid-South and member of the organization presenting the award. Realtors' Secretaries and Associates membership includes secretaries who work for real estate brokers, real estate companies, title companies, and the real estate departments of banks in the local area.

INVESTMENT—Continued from page 6

lending activity by geographic area. The availability of such information to real estate brokers, land developers and lending institutions would be invaluable.

In the more distant future, computer interfaced image retrieval systems will be commonplace. Although image retrieval hardware and techniques exist today, their cost is prohibitive. When such systems become economically feasible for the title company, the inquiry of the title data bank will yield video images of recorded documents, rather than references to them. It will be at this stage that paper will truly become obsolete in the examination of title. From his video terminal, the examiner will be able to obtain all information pertinent to the title in question. He then can activate the policy or preliminary report writing routines that will cause the title evidence to be printed out, either in his office or the customer's place of business. As we can see, the computer will be assuming an ever-increasing portion of responsibility in

the production of title evidence. Already, computers are making determinations as to the relevancy of name and property information they hold in storage. As computer technology progresses, the scope of these determinations will widen.

It is even conceivable that document examination will some day be assumed by optical scanning devices. Optical scanners can already interpret handwritten characters and translate them into machine readable forms. We can safely assume that if present trends in optical character recognition continue, we will some day have a computer that can spot forged signatures with unfailing accuracy.

If any of the concepts discussed here seem like too much "blue sky," we should remind ourselves that many business systems being implemented today seemed like Buck Rogers fantasy 10 years ago. Few people really believed then that video terminals, mass storage units and processing times measured in billionths of seconds would be a reality today.

Finally, it should be emphasized that the transition from manual to computerized systems is never easy. Development of computer systems is expensive, and their implementation is full of pitfalls, headaches and heartaches. We at Security Title feel, however, that our investment in such systems is essential. The Los Angeles County Recorder records 4,000 documents every day. Today, California's population is up about 850 over yesterday. This week there are some 6,000 more Californians than last week. Experts say we'll have 27 million Californians by 1980. In any densely populated, dynamic real estate market such as this, a title company will have to be automated in order to survive the flood of information it will have to deal with. In such an environment, the EDP program becomes an essential investment in the future.

\* \* \*

(The author extends appreciation to James H. Vorhies, Security Title's vice president in charge of data processing, for assistance in the preparation of this article.)



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## Lawyers Title Buys Arizona Land Title

More than 96 per cent of the stock of Arizona Land Title & Trust Company has been purchased for cash by Lawyers Title Insurance Corporation, according to an announcement by Lawyers Title.

An offer to purchase was made to Arizona Land Title's approximately 100 shareholders. The offer was reported still open at the time of the purchase announcement.

Arizona Land Title conducts a statewide title insurance business and operates as a wholly-owned subsidiary of Lawyers Title. The Tucson-based concern has been an exclusive agent of Lawyers Title since it started business in that city in 1946. Arizona Land Title now has branch offices in all principal cities of Arizona.

indexed previously. You are forced back into a reliance upon the simple grantor-grantee index or the type of index sometimes known in the trade as the index to instruments which are not possible to index.

We had a classic example (in Mobile, Alabama) of the irregular section or grant mentioned here. This particular piece of land is affectionately known in the title trade in Mobile as the "Shooting Star Grant." I do not know how big it is, but it must be pretty big, and we simply arbitrated it. It is in the form of a long, narrow triangle, the point of which juts out into the Alabama River. How and why it got into this shape, no one has been able to tell us (except possibly the original grantee liked triangles instead of curves.)

Getting back to the story of our electronic data processing equipment, we found out that we could get 142 chains of title in 17 minutes, and we decided that we either had too much machine or that it was not being adequately used. Therefore, we decided we would put our accounting system on the machine. We experienced a fierce amount of opposition from our little man with the green eye shade and cuff protectors. There were loud and acrimonious moments in the halls involving the managers of the machine department and the accounting department. Nevertheless, we plugged ahead, starting first with accounts receivable and gradually adding all of the general accounting. Happily for us, everyone finally was convinced that the machine actually could do accounting work. All of the handwritten, double entry, posted bookkeeping could be double entered and double posted by the machine—provided that the people who wrote out the source documents for the account entries could write so that somebody else could read what had been written. At any rate, the accounting function is performed on the machines now and they seem to be doing pretty well at it.

Almost simultaneously with the de-

velopment of the operations previously described, we started to build an abstract plant based entirely on machines in Memphis. We experienced the difficulties there which we experienced initially in our Jackson operation, although by that time a few of the answers to the traditional problems had become known. Almost at the same time the Memphis operation was being set up, we purchased an abstract plant in Little Rock. This operation was running fairly well, and we did not feel like taking on further, additional machine problems. So we simply left it alone to continue on the system in effect at the time of our purchase. Two or three years later, we purchased a plant in Mobile, which we treated in the same manner we treated the Arkansas operation. Two years ago, after some nine years of study and after gaining a lot of experience in Jackson and Memphis, we ventured out once again to set up a 100 per cent machine operation in Birmingham. Although our president in Birmingham had 15 years experience in the old tract book type of plant, he adapted very readily to the punched card system.

In the Birmingham operation, we avoided the mistake of moving too fast. No orientation was necessary because the Birmingham president had spent a period of time in the two machine-oriented plants. He knew that they would work, proper controls were instigated from the start, and we had a verbal understanding as to how quickly we could have a machine serviced and how often preventive maintenance would be pulled on the machines.

In Birmingham, we realized that we could not for months and months pour \$10,000 or \$12,000 per month into the operation without having income coming in. Therefore, we planned accordingly. We inventoried the records necessary to be searched at the courthouse, decided which would be searched most frequently and which would be the most difficult to search, and these particular records were put into the machine system in their entirety first. We gave a priority to each record so that, within a period of some three or four months, we

were able by hard struggle to start delivering title evidence. We are now in a conversion stage in the Little Rock and Mobile plants, and these operations are moving smoothly.

We are now considering the installation of a computer, the memory of which will contain the accumulated knowledge and records of all five plants. We do not yet know whether this is feasible from an economic standpoint.

Thus far, very little has been mentioned as to whether we are pleased with information we have been able to obtain through the use of machines. Generally speaking, we have been quite pleased. In the accounting end, we are getting the same statements from the machines that we previously received through longhand bookkeeping. However, these reports become available to us within a day or two after the close of the month—rather than within a week or ten days as experienced previously. Where we used to receive a simple balance sheet and a previous month's operations report, we now not only received this information but also a year to date comparison of operations comparing the current year against the previous year.

Also, we are able to easily derive from the figures furnished a ratio comparison of operating expenses to gross income, which we are in turn able to compare against ratios established during favorable years of operation. In other words, we know that if the ratio of operations expense to gross income is within the limits of certain standards we have established based on experience, that we can expect a certain amount of profit prior to taxes. This, of course, enables us to very quickly spot any operating expense item which may be getting too far out of line. When this occurs, it is a very simple matter to within minutes secure a detailed listing of each item going into the operating expense account and to at least satisfy ourselves as to the validity of such items. This can all be multiplied by six, as all of this information is obtained on the basis of each individual branch operation plus similar reports on the operation of the

company on a consolidated basis. Marketing-wise, there is also a considerable amount of valuable information that we obtain with the machine system—such as volume of business derived on a county basis, on an attorney basis, on a state basis, on a mortgage or insurance company basis. The field is almost unlimited in this area. Comparisons can quickly be made to determine from a business volume standpoint whether or not we were high with one company one month and low the next, which might lead us to suspect that we have done something which has unfavorably impressed the particular company involved. In such a case, we have someone make a personal visit to the particular company to find out the cause of a radical change in volume.

Through use of electronic data processing equipment, we are able to furnish "starters" in numerous instances in all areas where we operate (whether by branches or approved attorneys). Every file in the entire system (the total extends into the hundreds of thousands) has been to some extent geographically indexed. For instance, we recently were successful in securing a contract with the Corps of Engineers outside our county because we had "starters" up to date within five years on approximately 50 per cent of the property involved in the particular project.

As to searches by name, there is room for argument that this particular file has been invaluable. In many instances, attorneys who are familiar with the title under scrutiny (or who have an abstract in their possession which can be brought down to date from the general indices by the attorney himself in a very short period of time) will turn to us to make their name search for them. This is an additional service which we have been able to offer at a very low cost, saving the attorney hours of time. Since this service was offered some five years ago, the number of orders in this particular category has doubled each year.

One other machine which we use is the magnetic tape selectric typewriter (MTST). We use this machine in its

more conventional sense by reproducing and duplicating personal letters and certain other documents commonly used in the office. In addition, we now have "canned" on tape in the machine's permanent memory something over 70 title requirements and exceptions which we use frequently. When the title binder or commitment is written, whether automatically or manually, a recording is made of the entire commitment. Immediately after the writing of the commitment or binder, the section of the policy which will contain the same information as the binder is written and placed in the file. In this way, it is a simple matter to fill in the variable information relating to changes when the policy is ordered. These are changes which have occurred between issuance of the commitment and the policy, and nothing has to be proofread except this variable information.

Another use to which we have adapted the MTST is escrow accounting. As the various checks are typed following closing, they are automatically recorded on tape. As soon as the last check has been typed, our escrow account card is inserted into the machine and this accounting document is automatically made up simultaneously with the cutting of the checks on the check writer. We are searching for additional uses for this machine.

Is it all worth it? To us, the proof is in the pudding. For example, in one of our locations we have 18 staff members and machines. Our share of that particular market is approximately 25 per cent. Our competitors have approximately 75 per cent of the market without machines, insofar as we know. Their combined staffs total approximately 150 personnel. Our machine rental in this particular area amounts to approximately one month's salary of an experienced staff member.

We are sold on electronic data processing but the question is: should you be? Certainly, in a rural Mississippi county with perhaps a dozen recordings on a good day there would be very little justification for even paying a nickel a month for a machine. However, if pertinent recordings per day

reach up into the hundreds, it is our opinion that at least some consideration should be given to some of the more simple machines. After all, hundreds increase to thousands, thousands to tens of thousands, tens of thousands to hundreds of thousands, and hundreds of thousands to millions. And, as everybody knows, no one ever throws away any record brought into the abstract plant.

In our opinion, it must be realized that an abstract plant is mainly an index. It would be a practical impossibility, at least at present, to get away from examination of original instruments where original material is being covered. Our plants or indices have been built on the theory of securing quick reference material which quickly leads us to copies of the original documents—which in our case are filed by book and page on 35-millimeter film in file jackets. There may be better methods, and we have looked at many, including geographical filing of either hard copy of microfilm, aperture cards, or data cells. But, for us, these have not yet found a practical application. Hopefully, in the near future, there will be devices manufactured which will be within economic reason, and by which titles can be searched, instruments viewed, and images printed by one machine. Perhaps the components of such a machine are all now presently available. However, the likelihood is that the cost of such equipment would be prohibitive.

Much credit for our successful electronic data processing operation is due to L. H. Baggett, who supervises our entire system and who has played such a large part in the development of the same. He has helped get the system off the ground and sees that it keeps functioning smoothly. He and the writer have spent many, many hours in many places—simply trying to solve some of the perplexing problems inherent in a machine system such as that described in this article. Also, much credit goes to our entire staff throughout our territory for the patience and help that, in spite of initial doubts, has made this part of Mississippi Valley Title Insurance Company click.



where there are significant variations in the spelling of the names.

However, because in our system there is no "automatic" coding of names, like a "Soundex" type of system provides, any new spellings never coded before by human name coders cannot be searched or posted unless special attention is given to them. On the other hand, most of the time these new spellings turn out to be errors in abstracting or typing. Most automatic coding systems tend not to notice the strangeness of the name being searched or posted, and so more attention must be given to input data checking and verification. At this point, you must take into account that with keypunched data, verification is easier and more accurate. But, if you use paper tape or on-line terminals to input data to the computer, you have to have proofreading. Human searchers and posters are always more likely than a machine to "know" that a name probably has been misspelled.

We began by using a basic list of some seven million names of real people. We spent the next four years coding, a process of coding all names that sound the same (regardless of the spelling) into the same group, along with their foreign equivalents. Once this had been accomplished, the list was checked against all of the names we have maintained in our own indexes through the years and several thousand names had to be added to the master list, following the same coding process. A last name or "surname" file of approximately 400,000 names was created. Every possible name collected by us then could be cross-indexed for computer use to one particular spelling identified as the "key" name, such as "Nichols."

A given name file, consisting of approximately 50,000 names, was created and cross-indexed in the same meticulous manner. This file was also coded in three categories of male, female and unknown. (Many names such as Leslie, Shirley, Marion, etc. are used by both men and women.)

The fact that these two gigantic name files now are in existence for computer use, however, does not mean that the project is completed. There always will be a continuing job of maintenance to code the names that come in daily . . . new names, unusual names. At first monthly, and now less frequently, our computer files are updated to incorporate all of these new and unique spellings of names that had not previously been introduced into the computer system.

Our experienced name experts point out that, even with such comprehensive indices of every conceivable name, new ones continue to be introduced in the form of foreign variations, such as "Tai" and "Tae," showing an Asian influence.

Once you understand the role these name master files play in our system, the rest is easy.

Name items come into the system as either searchers or "maintenance." Maintenance items are things like judgments, divorces, estates that need to be posted by the name of the parties. We enter these into the system either by punching paper tape or using one of the 48 cathode ray tube (CRT) terminals that we have "on-line" at all times to one of our two IBM 360 Model 40 computers.

The data is edited by computer programs and the names are abstracted by the computer for posting. The full item is stored on a magnetic strip in a direct access storage cell which is kept in the IBM mass storage device called the data cell drive (2321). We have three of these devices at this time. They each have a capacity to hold 400 million characters of data with access to any one record within a half a second.

The longer record as entered and edited is stored in case number sequence. It becomes part of our "docket" or "case master."

The names are matched against the name master files which are maintained on an IBM direct access device (2314). At this point, the original (variable) spellings of names are cross referenced to the key (coded) spellings. The postings (names, case numbers, dates and

codes) are then sorted by the computer by the key spellings and posted into the "name index master." Therefore, any one of 76 spellings of the name "Nickols" goes to one place, but no other names are given the same key.

Searchers also are edited by the computer, names abstracted, variable spellings are crossed to key spellings. The searches are sorted in with the postings, so that only one pass against all of the files and indices is necessary. Generally, the work is batched for a single run each night. However, certain edit portions of the computer run are done during the day, and more will be scheduled as our needs develop for more frequent searching.

Corporate names, trade names, and names of partnerships present a number of special problems. Generally being less permissive as to variant spellings in business names, the "laws" are more on the side of automation, but the names of firms remain troublesome to a computer program. Finding "Harry's Bar and Grill," when searching "Harry's Grill and Bar" isn't easy and finding items posted against "Harry's Tavern" is even harder. Of course, it may not be necessary in your area to show any variant when searching names of firms. However, don't be too sure that your prior non-automated system with human searchers didn't keep you out of trouble by showing more than the "rules" called for—especially if the item was important enough.

In summary, automating name searching and posting is one of the more complex and least rewarding tasks a computer programmer faces. However, the increasing difficulties in maintaining manual systems and the need to integrate more operations in the title plant makes the job a worthy challenge.

#### IMPROVEMENT—Continued from page 13

same results and hopefully much improved results. Of prime importance is what can be provided in savings and what impact it will have on the total operating function.

The analysis must set forth the de-

sign of the proposed alternative; what equipment is able to do the job and whether it is available; what its purchase or rental costs will be; what the costs are for operating personnel, maintenance, supplies, space, special building modifications (if any); setup charges; one-time cost of conversion; number of personnel required; training of personnel required in the new system; parallel operating time; one or two shift considerations; use of equipment already on board; and any other material factors, including escalation of salaries and fringe benefits and an allowance for contingencies. Cash flow analysis should be made showing periodic advances, schedule of anticipated savings, total cost, period for recovery of total expenditures and projection of future savings. Not to be overlooked as an additional cost factor is the result of diverting capital from its normal earning capability to a non-earning status during the projected period necessary to recover investment to an earning status.

Also highly important is a realistic system implementation schedule setting forth the commencement time and the period of duration for each phase and the necessary personnel required as the project proceeds through each step. Adherence to the schedule is important because it can materially increase projected costs if it is delayed.

Careful consideration of the end product, its appearance, ease of handling, and usability inside the company or by the customer (if he is to receive the end product) beforehand can minimize perplexing problems that can arise along the line.

The previously-mentioned approach touches the main points of consideration and is not meant to be a complete representation of everything necessary to be looked into. Nevertheless, if it can be shown that current methods can be improved and important savings can result over a rea-

sonable period of time, change is not justified, it is necessary.

It is not, therefore, the justification of a financial investment—but rather the discharging of the responsibility of management—to produce the best product possible more economically, accurately and consistently.

## meeting timetable



**July 13-14-15-16, 1969**  
New York State Land Title Association  
Whiteface Inn  
Lake Placid, New York

**August 14-15-16, 1969**  
Montana Land Title Association  
YoGo Inn  
Lewistown, Montana

**August 21-22-23, 1969**  
Minnesota Land Title Association  
Edgewater Motel  
Duluth, Minnesota

**August 22-23-24, 1969**  
Ohio Title Association  
Atwood Lodge  
Dellroy, Ohio

**September 4-5-6-7, 1969**  
Missouri Land Title Association  
Plaza Inn, Kansas City, Missouri

**September 11-12-13, 1969**  
North Dakota Land Title Association  
Plainsman Hotel  
Williston, North Dakota

**September 12-13, 1969**  
Kansas Land Title Association  
Lassen Motor Hotel  
Wichita, Kansas

**September 12-13, 1969**  
Nevada Land Title Association  
Reno, Nevada

**September 28-29-30, October 1, 1969**  
ANNUAL CONVENTION  
American Land Title Association  
Chalfonte-Haddon Hall Hotel  
Atlantic City, New Jersey

**October 9-10-11, 1969**  
Nebraska Title Association  
Lincoln, Nebraska

**October 16-17, 1969**  
Dixie Land Title Association  
Calloway Gardens  
Pine Mountain, Georgia

**October 26-27-28, 1969**  
Indiana Land Title Association  
Stouffer's Inn  
Indianapolis, Indiana

**October 30, November 1, 1969**  
Florida Land Title Association  
Causeway Inn Resort  
Tampa, Florida

**October 30-November 1, 1969**  
Wisconsin Land Title Association  
Holiday Inn  
Eau Claire, Wisconsin

**October 31-November 1, 1969**  
Land Title Association of Arizona  
Francisco Grande Hotel  
Casa Grande, Arizona

**December 3, 1969**  
Louisiana Land Title Association  
Royal Orleans Hotel  
New Orleans, Louisiana

### 1970

**April 1-2-3, 1970**  
MID-WINTER CONFERENCE  
American Land Title Association  
The Roosevelt Hotel  
New Orleans, Louisiana

**October 4-5-6-7, 1970**  
ANNUAL CONVENTION  
American Land Title Association  
Waldorf-Astoria Hotel  
New York, New York

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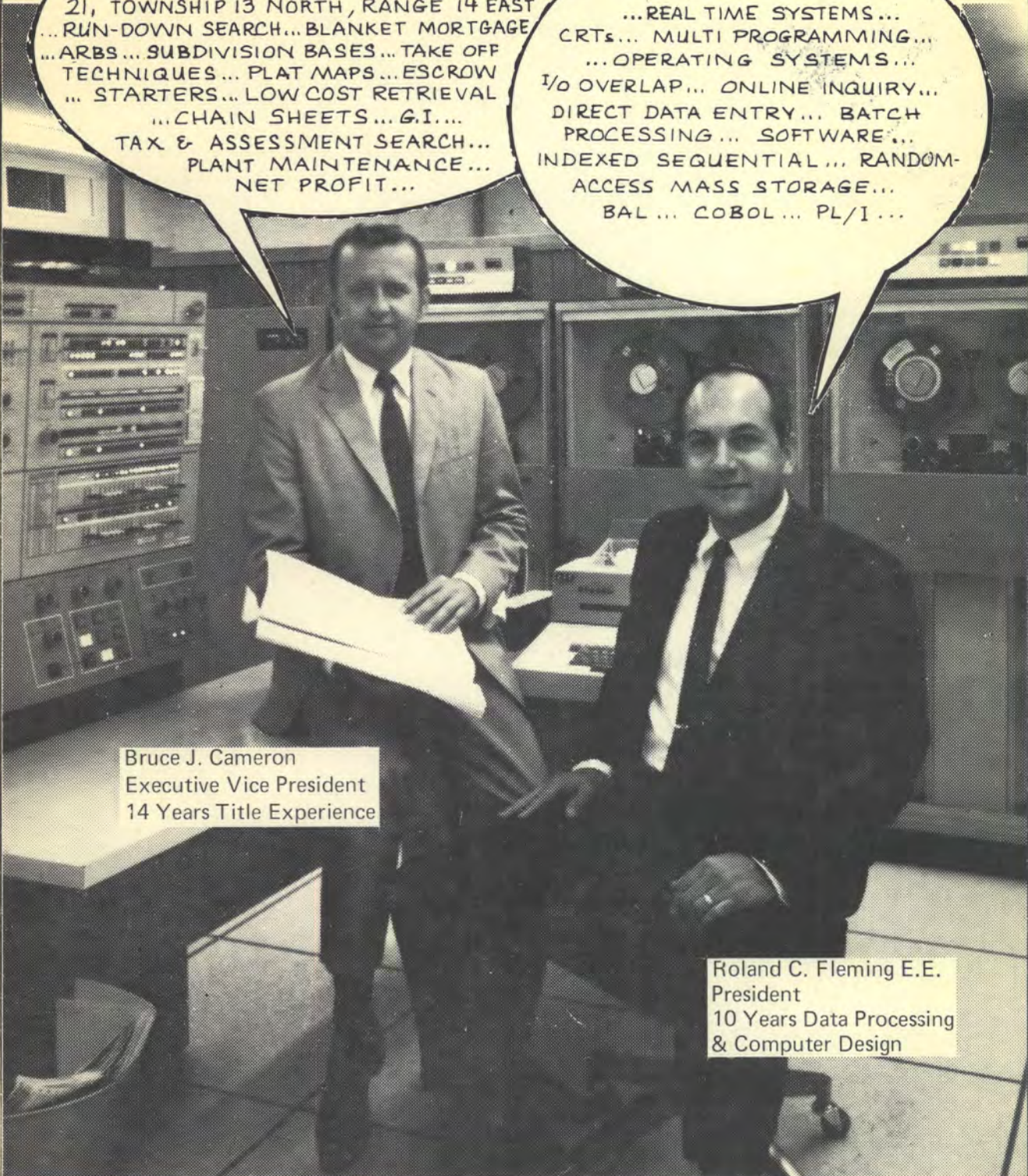
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