

An Introduction to Mechanical Accounting Methods

**A brief discussion of basic
application principles
... basic types of machines**



**Prepared by Burroughs
Adding Machine Company**



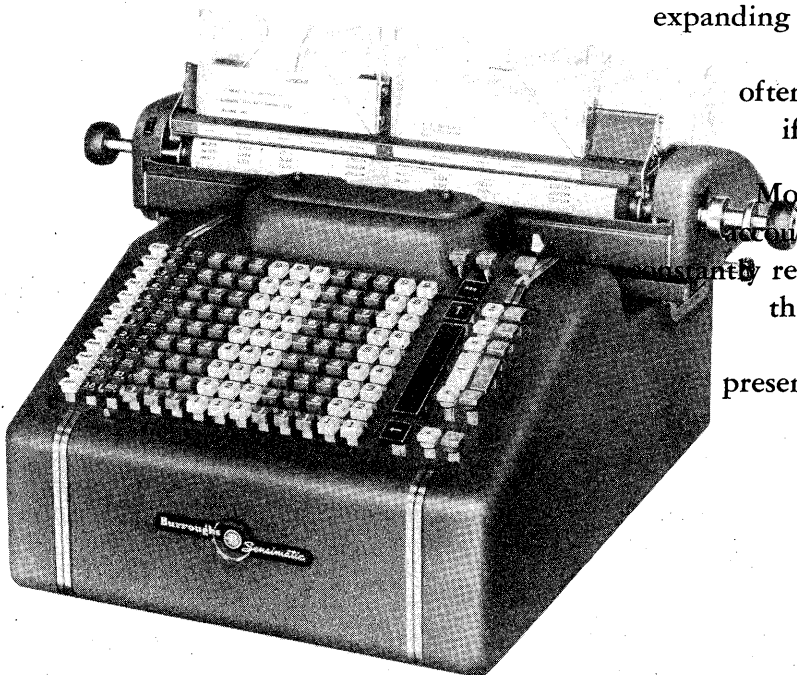
F Foreword

In recent years the mechanization of business offices has progressed very rapidly. This is apparent not merely in clerical work but in the compilation of vital accounting records and statistical reports upon which management must rely for its intelligent guidance of business.

Old principles are being applied in new ways. Traditional forms have been altered. Short-cut operations and combined procedures have been introduced. Form collators and multiple registers on accounting machines, distribution devices and many other technical features are affecting the availability, cost and often the contents of accounting records formerly prepared manually.

A student who is familiar with this new and expanding field will be of much greater value to the concern which employs him and often make faster progress in business than if trained in traditional methods alone.

Most universities, colleges and schools of accounting and business administration are constantly revising their courses to keep pace with this trend. Many introduce mechanical accounting applications through present courses; others establish new courses on machine subjects exclusively.





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Introduction

Prof. Willard J. Graham, Professor of Accounting in the University of Chicago and

an authority on mechanical accounting methods, said:

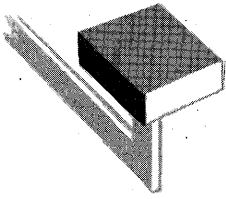
"All accountants should be familiar with accounting machines. Auditors should understand them in order to check machine prepared records more efficiently. System men—well, I can't imagine a good system accountant to be unfamiliar with accounting machines, any more than an electrical construction engineer is unfamiliar with wires, switches, motors, etc. Office managers, purchasing agents, accounting professors—all of them should be informed on modern accounting methods.

"But particularly cost accountants, who supervise accounting operations on machines, who select machines for specific jobs, and develop routines and methods and procedures to make the most efficient use of machines, should be interested in machine accounting. You can't make profits in the accounting department, but you can lose them there; and inefficient use of accounting machines may turn black figures into red very rapidly.

"Cost reductions in the accounting department are to be secured by several alternative methods and in many instances these methods overlap. Briefly, there are changes in the accounting system itself, in the forms and records, in the equipment, and in the personnel. The selection of machines and equipment is closely related to these things. Improvements in routines and procedures, scientifically designed forms and records, a better selection and application of machines and other equipment, and a properly selected, well-trained, well-paid, and well-managed personnel—that is the whole story."

In the first part of this discussion, the subject of Accounts Receivable has been used to illustrate the basic principles because it was one of the first accounting applications mechanized and now provides a familiar

approach to the more complete mechanical systems that prevail today. It is hoped that it will not only be of practical value but serve to stimulate further study in the broader field.



Machine Application Terms Defined

Activity. The frequency with which an account is posted or the percentage of accounts affected during a given period of time, as for example, during a posting run, a day or a week.

Control Account. A summary account representing the total of balances on all accounts in the ledger or section.

Crossfooter. The crossfooter is the computing mechanism used to calculate the new balance on a ledger account. As the term implies, it cross-foots (adds or subtracts) the account as the entries are made in the various columns across the sheet. The crossfooter is normally cleared when the balance of the account is printed.

Collation. Positioning two or more related forms together for simultaneous posting so that the beginning of the next blank writing line on each form will be at the same printing point.

Localizing An Error. The procedure of analyzing the machine records, in case the results do not immediately prove to be correct, in order to determine in what operation and on what account the error was made. See "Proof and Control Methods."

Media. Records of business transactions, which are used for posting the accounts. They include copies of invoices, cash slips, credit memos, vouchers, etc.

When each transaction is recorded on a separate form, such forms are called unit media. When several transactions are recorded on one form, it is known as a multiple medium. Unit media are usually an advantage in posting because they can be sorted according to the ledger arrangement.

Offsetting. Moving a ledger or statement sheet to the right or left of its normal position in the binder. Accounts are offset to facilitate their location when posting, to localize errors in proving, to apply certain methods of proof or for special attention.

Pick-Up. The previous balance of an account which is entered in the bookkeeping machine so that a debit may be added to it or a credit subtracted from it to obtain the current new balance.

Pre-list. A total of the media which is obtained for proof purposes before they are posted. When different kinds of items are to be posted, as for example, debits and credits, a separate total is obtained for each. They should agree with the register accumulations resulting from posting.

Progressive Posting. Posting to accounts in the order in which they occur in the ledger; for example, alphabetically or numerically. The media would be arranged in the same order as the ledger accounts.

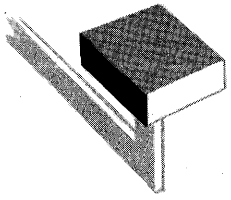
Pulling. Removing accounts from a binder, tray, or file. Sometimes all accounts to be posted are "pulled" before any are posted so they can be posted without repeated interruption for locating the accounts individually.

Random Posting. Posting items in the order in which they appear on the media rather than in the order in which the accounts are filed in the ledger.

Registers. The accumulating mechanisms in which columnar totals are accumulated. The totals may represent the sums of debits, credits, balances, etc., on numerous accounts, or differences between debits and credits. Registers are usually cleared at the end of a batch of postings. In some applications, registers may be used as additional crossfooters.

Skeleton Record. A condensed record to which totals only are posted rather than individual items. Thus, by eliminating detail, both posting time and space on the account are saved.

Stuffing. Placing posting media in the ledger in front of or behind the account affected. This routine combines the locating of accounts and the arranging of media in account order prior to posting.



Machine Accessories

The selection of proper accessories in a mechanical installation often determines its success. The most efficient machine cannot overcome the handicap of poorly adapted accessories.

There are three general types of ledger containers known as binders, trays and "vertical visible" index files. Due to numerous differences in design, their relative merits are comparable only in a general way.

Binders. This type of container is constructed like a book. It may open either at the end or at the side. Usually binders have a somewhat smaller housing capacity than trays. Generally they are preferred to trays under the following conditions:

- (a) High activity. When a large percentage of the accounts are active, accuracy is more easily maintained if there are few accounts in each control unit—500 or less. A binder is a convenient container for this number of accounts.
- (b) Considerable reference to the ledger. When frequent reference is made to a ledger by the bookkeeping and credit departments, confusion is reduced by dividing the ledger into several small posting units or divisions. The work of both departments is thereby facilitated because a large percentage of the accounts is always accessible to both.

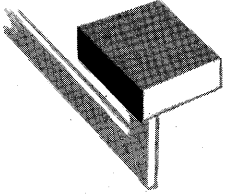
It is also easy to "thumb" the sheets in a binder. Since the covers are hinged, a binder can be opened wide to permit notations without removing the sheets.

- (c) Portability. Lighter weight ledger units are sometimes preferred by operators because of the ease with which they can be moved from the storage vault to the reference table or to the posting machine.

Trays. Short, lightweight trays have some of the advantages of binders. Certain conditions, however, favor the use of trays having greater capacity. They are:

- (a) Low activity. When a relatively low percentage of accounts is active, a convenient posting and control unit may consist of more than 500 accounts, and a large capacity tray may be used. Another advantage of large trays is that space is available in the rear of the tray for filing closed accounts.
- (b) Duplicate records. More filing space is required when two related forms such as ledger and statement are filed in the same container, especially when carbon paper is left between them. Also, when they are to be posted together, they are more easily handled from a tray than from a binder.

Visible Index Cabinets. Although these containers have not been adopted as extensively for machine posting as have binders and trays, they are mentioned because of the speed with which accounts can be located. Each cabinet is constructed in units, each unit consisting of a series of pockets in which the accounts are filed. The pockets are shingled so that about $\frac{1}{4}$ inch of each pocket is visible for indexing purposes. The pocket is hinged so that it may be moved when referring to



Machine Accessories

the account beneath. The names of many accounts can thus be seen at a glance.

Machine Stands. Both high and low stands are available. A low stand is used when a seated position is preferred. If the accounting machine is equipped with a typewriter, a seated position is necessary, of course. Many operators using machines not equipped with typewriters, produce highly efficient results from a standing position, particularly if relatively short posting runs are possible. For long runs or continuous operation fatigue caused from standing must be considered.

Posting Desk. Although machine stands are equipped with shelves or check tables, it is often desirable to have a specially designed machine desk with ample drawer space for blank ledger forms, carbon paper, etc.

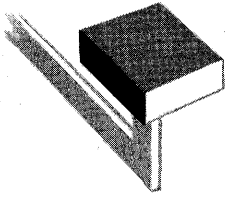
Usually, posting media are placed on the left-hand side of the operator and the ledger on the right-hand side. The ledger should be placed on a lower stand, preferably, so the tops of the ledger

indexes are about the same level as the posting media and machine keyboard.

Operator's Chair. A comfortable correct posture chair is indispensable. If it is equipped with a form fitting seat, comfortable cushion, ballbearing swivel, easy rolling caster, and a properly designed back rest, the operator will be more alert, accurate and proficient. It should be constructed so that any operator can adjust it easily without the use of tools.

Miscellaneous. When different sizes and types of media are used, greater posting efficiency can be promoted by using a specially designed holder with a separate compartment for each class of ticket. If the surface on which the tickets rest is sloped, the tickets will be "feathered" to facilitate handling. Telephone accounting offices, for example, use this device to speed up service billing.

Special meter-book holders are available for utilities and water bureaus where consumers' accounts are posted from meter readers' books. The leaves to the meter book are held in proper order so that they may be turned without fumbling.



Accounts Receivable Posting Media

There is no single factor that contributes so much to routine efficiency as unit media.

- A. Units can be sorted into the same order as the accounts. This permits progressive posting and also facilitates checking of posted accounts against the media at a subsequent run.
- B. It permits stuffing the ledger in preparation for posting. This assures fast locating of the account during posting and a double check against posting to the wrong account.

Obtaining Debit Media. Since a copy of the outgoing invoice is in unit form, it is usually used as a debit posting medium. If necessary, an extended copy of the original order or shipping advice may be used.

If only a sales book or multiple-line invoice register is available, it is best to have the billing department sort the original orders into account sequence before billing them, so they can be posted progressively.

Obtaining Credit Media. Cash received in the mail is usually noted on envelopes, letters, remittance advices or copies of customers' statements retained in the Collection Department. These, or even the checks themselves, provide unit posting media. Cash on account collected by salesmen or over the counter is usually evidenced by a copy of a unit receipt.

If the records definitely require that posting be made from a multiple-line cash book instead of from units, the entries in the cash book should be arranged as nearly as possible in account order.

Filing the Posting Media. Although the billing system may provide numerous invoice copies for various departmental uses, only those that affect the bookkeeping department are discussed. The first three copies are usually disposed of as follows:

1. Original copy is sent to the customer.
2. Duplicate copy is filed in one of two ways:

- (a) By dates, in customer order under each, or

- (b) By customers, in date order under each.

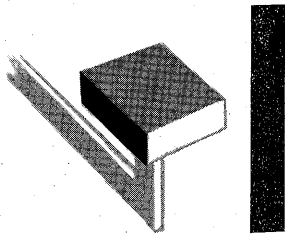
3. Triplicate copy is filed numerically.

Plan (a) is probably the most common because it retains the media in posting order and facilitates checking trial balances, etc. It is adequate as a reference source for any individual transaction since the date and amount are usually known.

Plan (b) is very effective where several transactions are in question, such as when frequent back orders are involved; when repeated reference is made to an original purchase contract; when goods are ordered "same as last order"; or where an original specification sheet affects subsequent orders. This plan requires a separate file folder for each customer.

Credit posting media are usually filed by customers in date order. When bank checks are used as posting media, they are deposited, of course.





Designing Ledger Forms

It is of first importance that a ledger form be designed to fulfill the accounting requirements. If an existing form is being revised, the information on the present form will serve as a guide for the new. When forms for new requirements are being designed, it is advisable to make a list of all probable data required and then arrange it according to heading, body, physical make-up, etc.

Paper Sizes. The most satisfactory quality of ledger stock for general machine use consists of wood sulphite with some rag content. Rag substance makes the sheet more durable and rigid. An all-sulphite stock, however, is satisfactory when accounts, such as bank ledger sheets, are not subjected to long, severe usage.

Paper comes from the mill to the printer in large sheets. The dimensions of three common sizes are 17" x 22", 22" x 34" and 24" x 38". Ledger sheets should be cut with as little waste as possible. A sheet 11" from top to bottom provides space for about 50 entries on each side after making allowance for an average heading and the bottom margin.

Widths can often be reduced by omitting the old balance and proof columns whenever these entries can be printed on the proof journal, which is written at the same operation. Small sizes are more easily handled and require less stock and smaller housing units.

Paper Weights. The most common weight of paper stock for ordinary machine ledgers is about 28 lbs. (per ream of 500 sheets, 17" x 22"). This weight will readily permit the duplication of a carbonized statement if desired. If carbonizing of

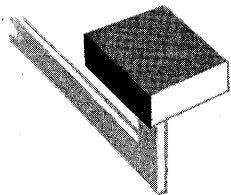
several copies through the ledger is required, 24 lb. stock may be used. However other factors also help increase carbonizing ability, such as the carbon paper used, machine specifications, etc.

To provide rigidity for convenient handling and filing, large ledger forms often require a heavier weight of paper, for example 32 lbs. Most ledger forms should be cut so the grain will run vertically for this reason.

Customers' statements are ordinarily cut from bond stock, usually of about 20-lb. substance. Width should be suitable for standard envelope sizes. The heading should be properly arranged for a window, to save addressing the envelopes.

Printing. Data in the heading should be spaced vertically according to the machine used, usually in multiples of 1/6 inch. To avoid extra carriage stops when arranging the typing positions in the heading, the position of the stops for the amount columns in the body of the form should be considered. A natural sequence of data such as name, address, account number, credit limit etc., should be arranged. The relative importance of the several headings may be emphasized by using type of different size and style.

Horizontal rulings are unnecessary although on especially wide forms, faint lines approximately an inch apart will help in tracing entries across the form. Both sides of the ledger form may be printed. Whether the headings on both sides of the form are printed at the same or at opposite ends will depend primarily on whether the form is punched. Columns should be of sufficient width to permit printing the maximum amounts desired, measured in tenths of an inch.



Types of Accounts Receivable Records

Machines can be adapted to practically any type of ledger form. However, there are more or less definite accounting requirements that determine the type most suitable. Considering the primary requirements of the old balance, debit, credit and new balance, the following are the main types used in machine accounting:

Single Name Accounts:

- A. Continuous
- B. Monthly or Weekly (Foldover Statement and Ledger)
- C. Stub or Single Transaction

customers who buy with reasonable frequency, at least every 60 or 90 days. A sheet 11 inches high ordinarily has a capacity of approximately 100 machine entries (50 on a side). With an average of two entries a week, such a sheet will serve about one year. Therefore, the continuous form of ledger account provides the best reference to the account's history.

B. Monthly or Weekly Ledger Account. This record is usually duplicate in form, being perforated at the top. Its most common use is in small accounts receivable installations. The original is separated from the duplicate at the end of each

LEDGER				
NAME The Modern Store				
ADDRESS 110 Main Street				
RATING LI				
CREDIT LIMIT \$200.00				
DATE	REFERENCE	CHARGES	DEBITS	BALANCE
BALANCE FORWARDED				51.65*
JUN 25	229,860	26.83		80.48*
JUN 25			33.65	268.34
JUL 25	234,655	47.26		746.99*
FEB 25	236,857	23.59		
FEB 25	236,858	35.67		131.35*
FEB 25			74.09	57.26*
FEB 25	239,421	16.84		74.10*

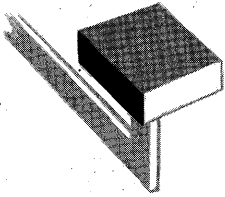
Multiple Name Accounts:

- D. Sundry or Miscellaneous—Few transactions
- E. Register sheet—Single transaction

A. Continuous Ledger Account. This is the usual form found in the large majority of installations. It permits the recording of entries, in date order, until the sheet is filled. It is suitable for all cus-

period and mailed as a statement to the customer. The duplicate becomes the ledger and is filed in customer order.

This type of machine form was originally designed to reduce paper handling time and increase machine production because the ledger and statement could be inserted and posted as a unit. If desired, the carbon may remain between the original and duplicate throughout the period.



Types of Accounts Receivable Records

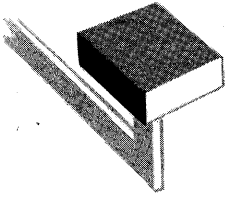
STATEMENT					
BAILEY ARTISTS SUPPLIES					
• William R. Lewis • 1192 Columbus Ave. • Burroughsville					
OLD BALANCE	DATE	REFERENCE	CHARGES	CREDITS	BALANCE
			BALANCE FORWARDED		3 6.45
	JUN 3	1,2 5 5	1 3.44		
	JUN 3	1,2 5 6	7.80		5 7.69 *
5 7.69	JUN 5	1,5 1 2	5 6.00		1 1 3.69 *
1 1 3.69	JUN 7	CSH 4 5		1 7.50 -	
	JUN 7	DIS 4 5		1.20 -	9 4.99 *
9 4.99	JUN 9	1,7 3 4	1 1 3.45		
	JUN 9	1,7 3 5	2 1.50		
	JUN 9	1,7 3 6	4 2.20		2 7 2.14 *
2 7 2.14	JUN 10	CSH 8 1		5 6.00 -	
	JUN 10	CSH 8 2		4 5.00 -	1 7 1.14 *
1 7 1.14	JUN 14	C/M 5 5 6		1 7 7.15 -	6.01 CR
6.01 -	JUN 16	2,1 2 4	1 0 4.67		
	JUN 16	FRT 2,1 2 4	2.75		1 0 1.41 *
1 0 1.41	JUN 18	2,3 5 5	1 3.40		
	JUN 18	2,3 5 6	1 7.53		
	JUN 18	2,3 5 7	4.50		1 3 6.84 *

Its main disadvantage is that there is no continuous history of a customer's account on a single sheet; if the account is not paid at the end of the period, sometimes several sheets must be reviewed to determine the individual items due, or this need must be anticipated by transferring open items to the new account sheet. Transfer files also are necessary to house the sheets of previous periods.

The monthly or weekly ledger account has been successful in small retail installations, such as grocery stores, drug stores, general merchandise

stores, garages, etc. Hotels and clubs have found it practical. Contractors frequently use it on their contract accounts receivable for the duration of a contract. It is more practical where the large majority of accounts are paid in full periodically.

C. Stub-Ledger or Single Transaction Account. This type of ledger consists of a stub created as a by-product of preparing a customer's bill or statement. The stub may be either an original or carbon record. If it is an original record, it is usually created by mechanical repeat printing. Both the



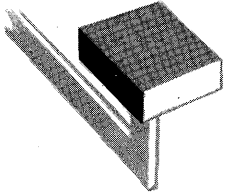
Types of Accounts Receivable Records

CUSTOMER'S BILL							CASH STUB				LEDGER RECORD				
COMPANY	DEMAND	DATE	METER READINGS		USED	NET	CODE	DATE		NET	CODE	DATE	USED	NET	CODE
			PREVIOUS	PRESENT											
		FEB 8	1680	1756	76	4.56	ER	FEB 8		4.56	ER	FEB 8	76	4.56	ER
		FEB 8	6586	6620	34	4.08	GD	FEB 8		4.08	GD	FEB 8	34	4.08	GD
		FEB 8	18568	18590	22	2.20	WD	FEB 8		2.20	WD	FEB 8	22	2.20	WD
						10.84	TL			10.84	TL			10.84	TL
			JOHN DOE, JR. 160 N. MAIN ST., CITY		16-180			JOHN DOE, JR. 160 N. MAIN ST., CITY		16-180		JOHN DOE, JR. 160 N. MAIN ST., CITY		16-180	

bill and ledger show the current charge, arrears if any and the balance due. The stub is separated and retained as the ledger record and the remainder is sent to the customer as a bill.

The stub plan has been most highly developed, probably, in gas, water, electric and telephone utilities. However, this principle may be applied in any business enterprise when a charge is ordinarily offset by a credit before another charge is made and a continuous ledger record of each account is not essential. The following circumstances also should exist:

- (1) Records other than the ledger that reflect the account's history, such as a meter sheet, purchase contract, etc., should be available.
- (2) Selling terms should be short and uniform. Charges should fall due before the next billing date.
- (3) Prompt payment should be enforced by such measures as cash discounts, termination of service, repossession of goods.
- (4) Few, if any, partial payments.

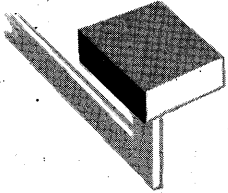


Types of Accounts Receivable Records

LEDGER						
NAME		L. V. Gaines				
ADDRESS		1172 Main Street				
RATING						
CREDIT LIMIT						
DATE	REFERENCE	CHARGES	✓	CREDITS	✓	BALANCE
BALANCE FORWARDED						
JUN 175-	1,172	97.50+				97.50•
JUL 105-	131			97.50-		.00•
NAME		T. S. Hoffman				
ADDRESS		7239 Ewal Circle				
RATING						
CREDIT LIMIT						
DATE	REFERENCE	CHARGES	✓	CREDITS	✓	BALANCE
BALANCE FORWARDED						
OCT 35-	1,210	75.00+				75.00•
NOV 115-	251			75.00-		.00•
JUN 95-	2,117	87.50+				87.50•

D. Sundry or Miscellaneous Account Ledger. This form is used in many enterprises for miscellaneous or sundry accounts where only a few entries are to be made before the account is closed. Several accounts may be on a single sheet in order to economize space on the ledger sheet while still retaining a size of form large enough for efficient handling. A typical business is a custom tailor or a manufacturer of custom built shoes selling directly to consumers.

The multiple form of ledger sheet has definite limitations. For example, an account may require more entries than were first anticipated and, therefore, exceed the space allotted for it. The sequence of the accounts on a single page is, naturally, unchangeable. Therefore, when new accounts are to be opened in that section of the ledger, a strictly alphabetical order is not always possible. For this reason it is often necessary to maintain a separate index of the account names.



Outline of Machine Installation Procedure

Installation problems are more than half solved when definite procedures are developed well in advance of the time the machines are to be installed. The change to the new system can progress smoothly from the outset if preparation is started early. It is much better to delay the installation a month than to start with operators insufficiently trained or before the office staff is fully acquainted with how the new system is intended to operate. In all cases the current work should be up to date before starting.

If the system is to embrace numerous accounting applications, it is often best to install it gradually, so each new step can be assimilated before the next is attempted. For example, accounts receivable may be transferred the first month, accounts payable the second month, journals the next month and general and financial records after other phases have been completed.

An outline of some of the more important steps follows:

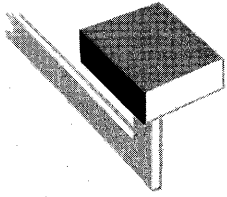
- A. The Machine.** This should be ordered several months in advance of the installation date. The most efficient machines are those which are especially designed and constructed for the particular work to be done. Their construction cannot and should not be rushed. Time should also be allowed for thorough operator training—perhaps two weeks or more.
- B. Stationery.** Forms should be designed and ordered from the printer well in advance, particularly if special paper stock must be first obtained. When forms must be printed out of town, more time must be allowed for checking printer's proofs, etc. Special punching and die-cuts may delay delivery of forms.
- C. Accessories.** Ledger binders or trays, indexes, etc., need to be ordered in ample

time. Delivery is desirable at least two weeks before the installation date.

- D. Heading New Sheets.** About the 25th of the month prior to the installation, the ledger sheets and statements should be headed for each account then showing a balance. Both sides of the ledger should be headed. It is well to ascertain the exact data desired by the management so fill-ins will not be required later.

Between the 25th and the 1st only a few of the accounts will usually be closed. In the meanwhile, if entries should come through for additional accounts, forms should be headed for them immediately.

- E. Balance the Old Accounts.** These should be posted up to date, footed and balanced promptly at the month-end. After this is done, avoid the possibility of any delayed posting to the old records that may change the balance.
- F. Trial Balance.** The sum of the account balances should agree with the total on the ledger control. If there is a discrepancy which cannot be readily located, it is not necessary to delay the transfer. Set up an adjustment account headed, "Trial balance differences," and liquidate the errors through this account when they are discovered. Journalize each error which is corrected and show the name of the account affected.
- G. Predetermined Control Total.** The adding machine tape of the trial balance of the old ledgers should be sub-totaled about each 50 accounts, in order to facilitate locating errors when the transfer is made. If any new subdivisions of the ledger are to be established, sub-totals should be taken at these points also. The grand total should agree with the old control account.



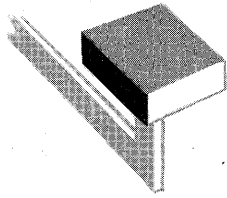
Outline of Machine Installation Procedure

H. The Transfer. This usually consists of entering the date and amount of the unpaid balance on both ledger and statement. Debit balances are added and printed in black; credit balances are subtracted and printed in red or otherwise designated. The net difference accumulated in the machine at the end of each 50 accounts should agree with the sub-totals on the pre-list. The final net total should be printed on a new ledger control sheet.

In some cases, the management may desire the individual unpaid items transferred rather than the total only. However, this is usually unnecessary because the old records can be retained for reference.

Current Postings. These should not be held up under any circumstances. If old balances cannot be transferred to the new records promptly, the current work should proceed regardless of the transfer. Later, the old balance may be posted as a debit entry and designated by a symbol or differently colored ribbon.

During the first month when the bookkeeper is learning to operate the new machine and system, it is a sensible safeguard to check the proof sheets with special care and take a trial balance at least once each week. Thereafter, the usual routine described in "Preparation and Procedure for Posting" can be followed.



Mechanical Principles In Accounts Receivable

Continuous Ledger Account

The data that an accounting machine will be called upon to record on the receivable ledger or records directly connected with it, may be of greater variety than ordinarily undertaken with pen records. This is because a machine is capable of obtaining many desirable results as a by-product of the main debiting and crediting operation.

Not all the data below are likely to be required on one record in any one line of business, but different combinations of these requirements are common.

Account Heading

1. Name, address, account number, credit limit, etc.

Debit Data

2. Date, reference data and amount.

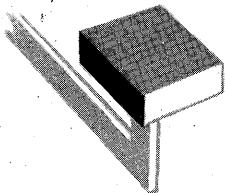
3. Date, description and amount of each item.
4. Total purchases made by customer for period to date.

Credit Data

5. Date, reference data and amount of payments.
6. Date, reference data and amount of other credits.
7. Total payments made by customer for period to date.

Balance Data

8. Balance owing today.
9. Balance or items past due—by months if necessary.
10. Balances or items future dated—by months if necessary.



Mechanical Principles In Accounts Receivable

Product Data

11. Distribution on the ledger of major classes of products purchased.
12. Distribution of entire line of products on auxiliary record.

Collection Data

13. Customer's weekly or monthly statement.
14. Collection follow-up record.

Salesman's Data

15. Total sales of each salesman.
16. Total collection for each salesman.
17. Total outstanding for each salesman.

Suggested Solutions

Item 1. Any typing machine can be used for heading ledgers and statements.

Item 2. The date, invoice number and amount can be entered at one operation with a wide keyboard type of machine. Dates print automatically.

It is generally satisfactory to post the total only of the invoice when a detailed copy of it has been previously mailed to the customer. Manufacturers and wholesalers who sell to other business firms rather than to individuals, usually follow this plan.

Item 3. It is often the practice of retail stores to itemize each purchase on their ledgers and statements because they are dealing with individuals who do not keep systematic records.

Item 4. Records of purchases to date are often required for sales promotion purposes and for estimating the value of a customer's patronage or for use as a basis for quantity discounts.

Items 5, 6 and 7. These credit requirements are handled in a manner similar to the debit operation described above. In some cases, cash credits may be posted in one column and other credits, such as returns, allowances, etc., in a second column. Also, if desired, total debits and total credits may be shown.

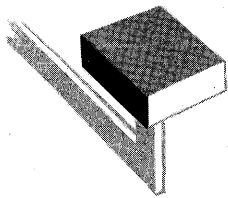
Items 8, 9 and 10. There are several methods of providing an age analysis of account balances. One plan is to record the analysis on the statements at the month's end. Another is to obtain it as a by-product of trial balance and balance forward operation at the end of the month. A third plan is to provide the analysis daily as a by-product of posting the ledger.

Items 11 and 12. Sales distribution by departments or products can readily be combined with the posting procedure. For simple distributions, such as 2% and 5% items, drugs and sundries, etc., two debit columns on the ledger are commonly used.

More numerous distributions can be made on the ledger vertically in one column, however, by using machines which permit register selection from the keyboard, as each item is entered in the debit column. After all of the items on an invoice are posted and stored in their respective registers, the new balance is printed. This detailed distribution method requires more vertical space on the ledger account and also on the customer's statement, if both records are prepared simultaneously, than if invoice totals only are posted.

When the "side" journal method is used, only the invoice totals are posted to the ledger account and statement. As a by-product of the proving operation the items are distributed to a column journal at the right. Each line of distribution on the journal must equal the posted invoice total; otherwise, a mechanical lock will occur.

If the total number of distributions required cannot be accommodated on a journal of reasonable width, a combination of horizontal and vertical distributions may be made. The columns on the journal may be used only for the most active classes, and the remaining items may be entered in one miscellaneous column but distributed into separate totals, by selecting registers from the keyboard. If the number of these miscellaneous distributions exceeds the number of available registers, all the excess classes may be accumulated in the last register but be printed individ-



Mechanical Principles In Accounts Receivable

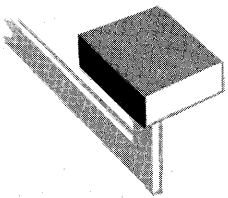
usually on unit distribution accounts, or if preferred, on tickets which may be sorted and re-capped.

Items 13 and 14. As previously described, there is a variety of ways to prepare a statement with a ledger. See "Customers' Statements".

Duplicate or triplicate copies make excellent unit media for following up collections and for credit posting purposes when payments are received. If desired, a multiple line collection register, showing an analysis of current and past due accounts can be prepared as a by-product of copying the month-end analysis notations from the ledger to the statement.

Items 15, 16, and 17. Usually the simplest and

most economical way to obtain a distribution of sales by salesmen is to recapitulate the invoices separately from the posting operation. However, when collections and accounts outstanding by salesmen are also desired every day, conditions usually favor grouping the accounts in the ledger by salesmen. In these cases both debits and credits are normally grouped by salesmen before posting. Therefore, most of the desired results can then be obtained on a journal created as a carbon record or by-product of the posting. It is only necessary to type the customer's name beside the amount posted. The journal will show the customer's name, amount paid and balance owing. If desired, outstanding balances can be further analyzed at the end of each period for each salesman's territory by current and past due accounts.



Preparation and Procedure for Posting

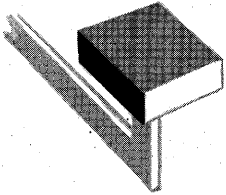
In installations of only one or two machines, each operator usually performs all the work described below in connection with the accounts assigned to her. In larger installations, the chief book-keeper or supervisor may serve as a control clerk for all operators, and an assistant may do all the preparatory and proof checking work.

Duties of Control Clerk. Assigns operators to machines and generally directs the work to maintain an uninterrupted flow.

Has charge of the control account for each ledger, or operator, as well as the master accounts receivable control. Usually posts the proved machine totals to them.

Keeps a record of operator production and accuracy, as a basis for proficiency standards and wage incentives.

Receives all requests for accounting information to be obtained from the ledgers and handles



Preparation and Procedure for Posting

them in such a manner as to avoid interrupting the operators.

Duties of Assistant Control Clerk. Each batch of invoices, cash slips and credit memos will ordinarily arrive in the bookkeeping department with a list attached. Each class of debits or credits will be separately prepared for posting. If the volume of each is small, two classifications may be posted together.

First, a sort is made according to machines. Each batch is then further sorted into account order, preferably by stuffing the media in front of each account to be posted. This not only speeds account location at the machine but provides an extra check on posting to the right account by previously matching the medium with the account. In large installations with low activity it may be advisable to remove all active accounts from the tray and after posting, refile them.

After the media are in account order, they should be pre-listed. If batches are large, totals should be printed for each group of 50 items. Operators will later clear their registers at these points to localize any posting errors. The sum of the pre-lists from all operators should equal the departmental total. The items appearing on the machine proof journal as a result of posting will be in the same order as those appearing on the pre-lists, and will facilitate checking.

If operators are to check for their own posting errors, the pre-list will be given to them with the media. In many cases, operators are instructed merely to mark obvious errors on the journal. All further balancing will be done by the assistant or control clerk. Idle machine time is thus reduced.

Duties of the Machine Operator. Receives each batch of posting media from the assistant, in account order, with list attached if desirable.

Clears the machine to show clear symbols for crossfooter and each register on the proof journal before beginning the posting.

Posts each account and replaces it in an offset position in the binder. Checks off the medium and turns it face down.

At the end of the batch, prints all register accumulations at the bottom of the proof journal and establishes the accuracy of posting. Correction of any errors must be plainly shown on the journal.

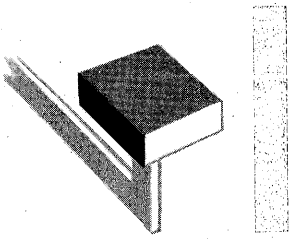
Posts the batch total to the ledger control account or passes it with media and proof journal to the control clerk, properly initialed. Resets the posted accounts into position.

Miscellaneous Procedures

In both large and small installations, efficiency demands specializing each routine operation and performing one at a time. Both speed and accuracy are promoted thereby. At the machine, particularly, an uninterrupted flow of work should be maintained. Suggestions on how to overcome some of the common obstacles to these objectives follow:

"Look-ups" by Operator. Posting media that are not clear as to terms, back orders, returns, allowances, etc., often cause considerable interruption to efficient posting by requiring frequent look-ups in the files or consultation with others. Where this is common, the operator should thumb through all the media before beginning the posting and clear up all doubtful matters at that time.

Opening New Accounts. When an operator turns up an invoice for which there is no account in the ledger, it may not be evident whether a new sheet needs to be opened or the old one has been temporarily removed. If a new one is opened by mistake, unnecessary work and confusion result. To overcome this, the first charge to come through for a new account should be plainly stamped as such. An additional safeguard is to have the Credit Department head the new account sheet when credit is first approved and let it accompany the charge to the bookkeeper.



Preparation and Procedure for Posting

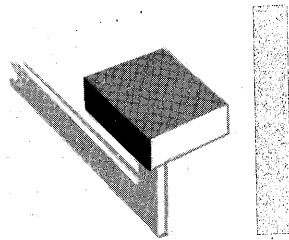
As old sheets are filled during posting, it is not always desirable to interrupt posting to head a new one at that time. Make the posting on a new ledger sheet, then offset it in the binder next to the old account. When posting is finished, head all new sheets at one run.

Reference to Accounts by Credit Department. The Credit and Collection Departments often interrupt posting routine. They may remove an account for inspection from an offset ledger position and then carelessly replace it in the normal position. Perhaps they will take it to another desk pending investigation and fail to return it, until its loss necessitates search for the account at trial balance time.

Short posting runs help overcome this by holding up relatively few accounts at the machine at

one time. The remainder should be locked in the binder or tray and only the entire ledger be removed for reference when necessary. If one account must be taken, replace it with an "out-card" that conspicuously shows its location.

Often a duplicate of the monthly statement furnished to the Credit Department for their information is sufficient to relieve most of this reference, particularly when items comprising the past due balance are detailed on the statement. In other cases, a separate credit record, like many department stores use, may be justified. To this will usually be posted, by hand or machine, the total purchases from the statement copy each month-end and cash or other credits daily as received.



Proof and Control Methods

In pen-and-ink ledger posting, it is not the general practice to foot the accounts and extend the balances until the end of the month, or other period. Errors are usually not detected until the trial balance is then taken, and it may be necessary to check all the postings for the entire period in order to locate them. As a result, a peak load of extra work occurs when time is most valuable.

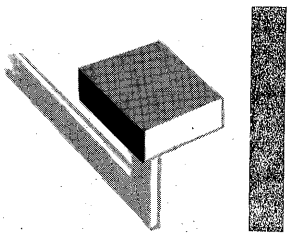
Under mechanical methods the balances are usually extended and proved as the postings are made so that the accounts will be accurate and up to date at all times. Postings should be proved either individually as they are made, or in relatively small batches in order to localize errors more easily.

Some of the more important conditions that determine the method of proof to be used are:

- (a) Nature of accounts and accounting data.
- (b) Degree of protection desired by user.
- (c) Type of equipment to be used.
- (d) Volume of work and daily activity of accounts.
- (e) Plan of posting—unit or dual.
- (f) Necessity for referring to accounts immediately after posting.
- (g) Efficiency of operator.
- (h) Operating cost.

There are three main proofs required under mechanical posting. They are:

1. That the old balances were picked up correctly.



Proof and Control Methods

.00			.00	.00	.00	.00
125.79	JUL 27 5-	3563	210.57		336.36	125.79
83.26	JUL 27 5-	3564	159.71		242.97	83.26
135.00	JUL 27 5-	C/M 327		27.95-	107.05	135.00
10.66	JUL 27 5-	3565	535.00		545.66	10.66
794.20	JUL 27 5-	3566	366.55		1,160.75	794.20
37.50	JUL 27 5-	3567	752.15		789.65	37.50
.00		TOTALS	2,023.98	27.95	3,182.44	1,186.41

NAME	Jones & Simpson Co	ACCOUNT NO.
ADDRESS	7539 Pengree Ave	SHEET NO.

DATE	REFERENCE	DEBITS	CREDITS	BALANCE
BALANCE FORWARDED				
JUL 7 5-	2345	37.50		37.50
JUL 27 5-	3567	752.15		789.65

- That all items were posted correctly and that none were omitted or posted twice.
- That the new balances are correct.

All Proof Methods Based on Repetition. This is an axiom that applies both to pen-and-ink and mechanical posting. If the results of two similar operations agree, it is assumed that the work has been performed correctly.

To prove that the old balances were picked up correctly when making the posting, they are usually handled a second time, either while posting or before or after the posting run.

To prove that the correct amounts were posted, that none were omitted or posted twice, the items are usually automatically accumulated in the machine as they are posted. If the total of this accumulation agrees with a total of the items obtained at some other time, usually before the posting run, it is assumed that the correct amounts were posted.

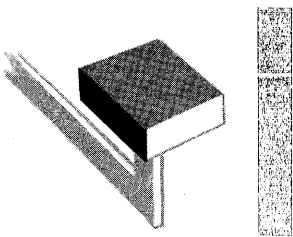
To prove that the cross-computation has produced correct new balances, it is necessary to ob-

tain the difference between the old balances and the new balances and compare it with the pre-listing of the items. This may be done individually with each posting or by batches. By making a carbon copy of the postings on a proof sheet, checking for errors is greatly facilitated.

There are numerous variations by which the above results are obtained under different conditions. Only a few common ones are described below.

The Multiple Register Proof Method. This is a batch method of proof, that is, the batch of media is proved as a whole.

The old balance is first picked up on the ledger, the charge entered, and the new balance is printed from the crossfooter. Then the old balance is picked up again, either at the right or at the left after the carriage returns. The charges, new balances and second pick-ups are accumulated in registers. (The first pick-up need not be accumulated because it is reflected in the new balance.)



Proof and Control Methods

The register total of charges must equal the pre-list of the items. The register total of second pick-ups plus the total of the charges should equal the register total of the new balances. This proves that each of the old balances was entered twice alike and therefore they are presumed to be accurate, and that the new balances were cross-computed correctly.

This is a popular proof method because the media are handled only once for posting and proof and the minimum of mechanical operations is required.

Since the batch of items is proved as a whole, the media and accounts should be kept intact until proof is established.

"Direct Proof" Method. This is a line proof as contrasted with a batch proof. The posting is done in the usual manner up to the printing of the new balance. This is sub-totaled and retained in the crossfooter instead of being cleared. The old balance is then subtracted from it. The difference, which should equal the amount of the invoice or payments posted, is printed in the proof column on the journal either as a positive or negative amount, depending upon whether the item posted was a charge or a credit.

The main advantages of this method are as follows:

- (a) The posting medium can be visually checked against the "proof" amount as the posting to each account is completed, thereby localizing errors to any account at that time.
- (b) Ledgers are available for reference or other uses immediately upon posting. Not necessary to offset the accounts.
- (c) Easy for an operator to learn and use.

"Line Lock" Method. Accounting machines can be built to lock if the two pick-ups are not alike, thus notifying the operator that an error has oc-

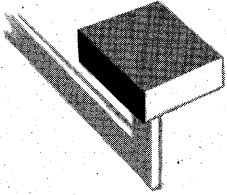
curred. In the "second pick-up" method this is accomplished by causing the first pick-up to add temporarily in an extra crossfooter, or register, and causing the second pick-up to subtract from it. If a difference remains, a lock will occur, and the operator cannot proceed until the error is corrected. In the direct proof method a similar "line lock" is obtained in conjunction with a distribution of the items which is made at the same time the ledger is posted. In either case the debit or credit is separately accumulated for proof against a pre-list, as previously described.

"Control Account" or "Trial Balance" Method.

This is used only where high daily activity prevails—at least 50% of all accounts being posted. A control account is kept, showing the total of all present balances. As today's accounts are posted and offset, the new balances are automatically accumulated in a register. The present balances on the accounts which remain inset in the ledger, are then listed for a total. The sum of these two amounts, representing today's control total, less yesterday's control total, should equal the sum of items posted.

This method is most economical to use when more than 50% of accounts are being posted, and therefore, less than 50% need to be listed to complete the proof. Otherwise, there would be fewer amounts to list for completion of the proof if the "second pick-up" method were used. Although this control method saves a second pick-up during the posting operation and speeds up posting to that extent, the localization of errors is not as easy as with the "second pick-up" or "direct proof" methods.

Trial Balance Procedures. Although proof of posting is normally established daily under mechanical methods, a trial run of the account balances is desirable not only at the month-end but occasionally during the month to prove their agreement with the control account. This saves valuable time at the month-end by detecting:



Proof and Control Methods

.00			.00	.00			.00
125.79	JUL 27 5-	3563	210.57		336.36	125.79-	210.57
83.26	JUL 27 5-	3564	159.71		242.97	83.26-	159.71
135.00	JUL 27 5-	C/M 327		27.95-	107.05	135.00-	27.95 ^{CR}
10.66	JUL 27 5-	3565	535.00		545.66	10.66-	535.00
794.20	JUL 27 5-	3566	366.55		1,160.75	794.20-	366.55
37.50	JUL 27 5-	3567	752.15		789.65	37.50-	752.15
.00			2,023.98	27.95			1,996.03

NAME	Jones & Simpson Co	ACCOUNT NO.
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DATE	REFERENCE	DEBITS	CREDITS	BALANCE
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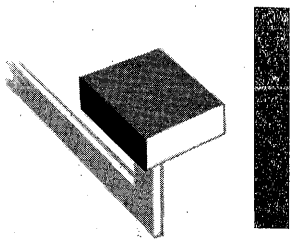
- (a) Accounts missing from the ledger.
- (b) Failure to prove the posting or to post the entry to the control account.
- (c) Failure to correct an error properly.

To help in localizing errors, there should be a subsidiary control account with each ledger or with the number of accounts involved in a normal posting batch of 50 to 100 items. If 100 items usually affect about one account in five there would be 500 accounts under each control. The total of each batch of items should be posted each day to the control account and checked off the proof sheet. Proof of posting and the control account itself should also be shown on the proof

sheet. The most common routine for checking a trial balance is as follows:

1. Check the account balances to the trial balance list.
2. Check batch totals on the proof sheet against pre-list totals and the control account.
3. Check errors on the proof journal and their corrections back to the accounts.
4. Check for missing ledger sheets.

Ordinarily, the accuracy of mechanical methods and the daily proof of posting is such that no month-end difficulty will be experienced, and customers' statements can be released promptly.



Customers' Statements

The main object of rendering a statement to a customer is to collect the account. Sufficient information should be furnished on it so the customer can reconcile it with his records and be satisfied that it is correct. If too much detail is furnished, it may be confusing to the customer and also involve unnecessary work. Ordinarily, the date and amount, and if desired, the number of the invoice are adequate. Credits are designated also by abbreviated description, in most mechanical installations.

A. Unit Plans—Ledger and Statement in One Operation

A unit plan is most suitable where it is desired to furnish the customer with a record of every debit and credit posted to the ledger during the period even though some may offset each other. However, if too many of the month's charges are offset by payments before the statement is rendered, a form showing open items only, prepared at the month-end, may be preferable. The Unit Plan is economical, of course, because all entries for the combined ledger and statement operation are handled only once.

The main form arrangements and mechanical variations for writing both records together are:

- (1) **Original statement and duplicate ledger.** The ledger account is created as a carbon record. Statement copies may be prepared as additional carbon records.
- (2) **Original statement and original ledger.** The forms are inserted beside each other for posting. Items and balances entered on one record are mechanically repeat-printed to the other. Where an original ledger is desired this plan is excellent. In this and the former method, the statement may omit the daily balance column if desired, in which case the last balance before mailing will be copied from the ledger to the statement.
- (3) **Original statement and original ledger (skeletonized).** Items are entered individually

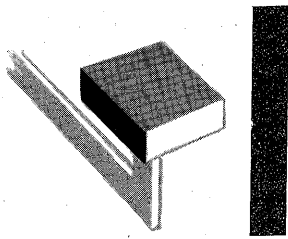
on the statement, and only the total of the items is printed on the ledger from a register in which they are accumulated. Credits are posted in detail to both records. This plan has the advantage of condensing numerous small items on the ledger without sacrificing a detailed statement for the customer. A duplicate of the statement is retained for credit reference purposes.

(4) **Original Statement and Original Ledger (Credit History Record).** All items—charges, payments and returns—are filed by customer during the month. At the billing date these are individually entered on the statement and the totals only of the items and the account balance are printed on the ledger. This plan has the advantage of condensing one month's activity into one line of posting on the ledger and still provides the necessary information for credit reference purposes.

B. Dual Plans—Statement Posted Separately from Ledger

Dual plans offer considerable variation in the amount of detail which may be furnished the customer. When all items are posted daily to the statement as well as to the ledger in separate operations, naturally somewhat more work is entailed. To offset this, however, separate operations furnish some assistance to each other in establishing a good proof of accuracy. Less work will be involved daily, if the preparation of statements is deferred until the month-end so that the open items only may be shown, but some extra work will be required at the month-end when clerical time is most valuable.

- (1) **All items entered.** Each day after the ledger is posted, the same items are entered on the statement. This plan is common in many banks.
- (2) **Open items only.** The ledger will be posted daily as usual. At the end of the period any charges remaining unpaid on the ledger together with partial credits will be listed on the



Customers' Statements

statement. This form is easy for a customer to understand because all closed transactions are omitted.

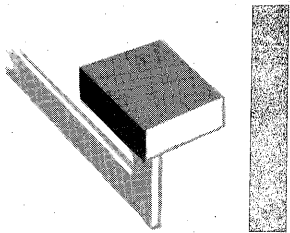
(3) **Total only with tickets attached.** Some retailers, gasoline distributors, etc., may prefer to render a statement showing the total due in a lump sum. In such cases it is a common practice to attach copies of the sales tickets. The plan is used chiefly where customers habitually fail to keep the original copies of sales tickets given them and require the store to furnish them duplicates before paying their accounts.

Miscellaneous Suggestions. The use of addressing machines can save time in heading statements each month. However, if changes in the name

plates are required too frequently it may be preferable to type the headings. This should be begun before the month-end to avoid peak loads when time is most valuable.

To assure early mailing and prompt collections, an increasing number of firms close customers' statements on or about the 28th. Many stamp them "charges after the 28th will be included on next month's statement."

Duplicate or triplicate statement copies are useful in assisting the credit department to follow up collections by mailing one of them as a reminder to each account remaining unpaid on the 15th. Another copy is useful as a credit posting medium when payment is received.



Measuring the Results of Accounting Mechanization

When an accounting machine is properly installed, benefits can be obtained that are impossible by manual methods—or at least impracticable without prohibitive cost. This is true in both large and small offices, the only variance being in the relative value of certain factors.

Mechanical Aids to Routine Accounting

Many manual accounting operations are either eliminated or simplified by machines. For example:

No dipping of a pen in an ink-well—and no blotting.

Machine printing is obviously more legible than penmanship.

It is faster to enter figures on a keyboard than write them manually.

Several forms may be collated and prepared in one writing.

Dates are automatic—not only faster but uniform and accurate.

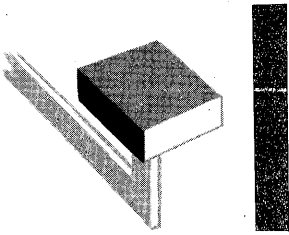
Addition and subtraction on each account as well as the accumulation of items and balances on all accounts are automatically performed.

Balances and totals are printed by a single key depression, or may be entirely automatic; therefore, they are more rapidly and accurately entered.

Proof of all operations is easier to obtain by mechanical methods than by manual methods.

A more even flow of work is obtained—month-end work is reduced.

Where volume is sufficiently large to keep a machine busy on one application, the machine can be designed especially for that work by being equipped with automatic controls to eliminate every possible manual operation. Some machines, for example, are almost entirely automatic, after the old balance and the items are entered.



Measuring the Results of Accounting Mechanization

Speed Factors in Posting

Since saving of time also results in a saving of money and increases profits, the factors that promote or retard speed in mechanical accounting should always be understood by the accounting systems man.

An accounting machine may have a theoretical mechanical operation of more than 7,000 machine strokes an hour. When applied in the usual Accounts Receivable installation, the machine may reasonably be expected to post from 300 to 1500 accounts a day. Although any result within this range is considerably faster and of better quality than manual methods usually produce, some of the factors influencing production can often be controlled to good advantage.

- A. Non-productive time.** Only an uninterrupted flow of work can permit any machine to produce the results of which it is capable. Factors that cause idle machine time are the operator's personal time out, frequent delay in preparing the posting media for the machine, interruptions for reference to accounts, necessary mechanical service, etc.
- B. Operator's skill.** Adequate training is essential. A poor operator will retard the best machine. Of course, accuracy should be developed before speed. Each manual motion should be studied and synchronized with relation to the media, forms, and machine's operation, so an easy, smooth flowing sequence of operations will result. Naturally, any automatic features that relieve the operator's efforts make the development of skill easier to attain.
- C. Physical layout.** The accessories must be selected for the particular requirements of each installation. Proper binders, indexes, media holders, desk, chairs, stand, etc., will economize motions, reduce fatigue and help produce better results.
- D. Assistance rendered to operator.** This is important in estimating the capacity of the operator and machine. If an assistant pre-lists the media, stuffs them in the ledgers, helps check out errors, etc., an operator's capacity for continuous work at the machine is greatly increased. Comparisons between different

installations cannot be reliable without consideration of these factors.

- E. Design of Machine.** It is easy to accomplish practically any accounting results desired where the manufacturer has available a large variety of machines for different applications and lines of business, and a wide selection of optional features that meet special requirements.

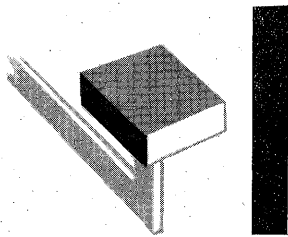
Automatic features—possible on machines with moving carriages—eliminate the "human element" and its mistakes, forgetfulness, fatigue, indifference, etc., and promote speed and accuracy.

- F. Media and Forms.** Paper-handling time is a factor which can greatly increase or retard production. Speed is promoted by media made of correct paper stock, unit in form, easy to read and easy to handle. Speed is also materially promoted by a well-arranged ledger indexing, the right carbon handling method and a modern form aligning mechanism.

It is somewhat faster, in general, to select, insert, align and post a single form than two or three related forms together. In most cases, however, the combined result is faster than handling and posting the three forms separately. Besides a better accounting control will be established.

- G. Data to be recorded.** Estimates and comparisons of machine posting speed must consider the extent of the data that are recorded. The data which permit the greatest speed involve as few columnar stops as possible, uniform dates that can be automatically repeated, simple reference data and small amounts. More than one entry to each account helps to produce the maximum number of entries with the minimum of paper handling. Of course, balances should be printed by a single key depression or automatically, rather than copied one digit at a time.

In some cases it may be preferable to use a "straight line" method of posting without typewritten description by making entries vertically in one column rather than across several columns. This is a rapid operation on a full keyboard bookkeeping machine, because



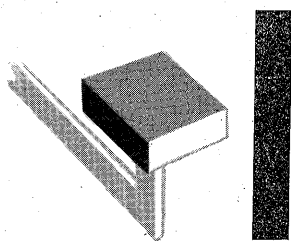
Measuring the Results of Accounting Mechanization

date, number and amount can be entered simultaneously and the machine will space the form vertically.

In a small office, adaptability of a machine to a variety of small-volume jobs is often of more importance than speed. With modern machines it is not necessary to sacrifice the advantages of automatic features to obtain this adaptability. The mechanical control devices for each accounting job are designed with the one thought of making the machine most efficient for that job regardless of its volume. Each set of controls is then assembled on a control rail which is interchangeable as one unit in a few moments. As a result, these operations which the machine performs automati-

cally cannot be forgotten nor done wrong. Inexperienced clerks are thereby made more efficient.

When complete accounting systemization is involved, the smaller office often benefits from mechanization more than a large office. The owner of a small business usually cannot afford a permanent systems department to revise old procedures and establish new ones. Neither can a highly efficient clerical staff always be maintained. A machine helps to overcome some of these handicaps by becoming a controlling factor in assuring that whatever system is devised will actually be carried out. It is well known that it is easier to follow definite procedures, obtain reliable proofs and keep the records up to date by mechanical methods than by manual methods.



Miscellaneous

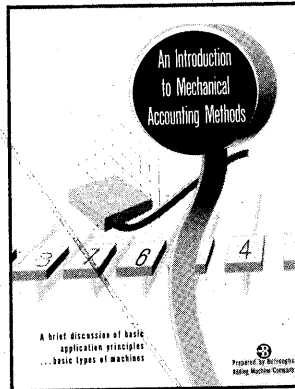
When Does Mechanization Cease to Be Profitable in Any Office?

This question is often asked. The president of a large industrial organization recently said, "You can afford to spend \$15,000 to do the work of a \$1,800 clerk." He meant that an investment of \$15,000 in mechanical equipment, assuming a machine life of 10 years, is less than the total that would be expended over a like period for clerical help at \$1,800 a year. Price is different from cost.

In a large office this principle is illustrated in another manner. Most business men advocate the use of a figuring machine for every desk where there is figuring work to do. Is this economical? Let us say that manual figuring methods are used at 26 desks. For \$15,000, approximately equivalent to the real cost of one clerk as described above, each of 25 clerks could be equipped with a \$600

machine—a tool to make them more efficient. There would then be 25 efficient clerks instead of 26 inefficient ones.

In a smaller office with only a single clerk, mechanization also results in direct savings. For example, as the small business grows, it eventually becomes necessary to employ an extra clerk. This cannot be deferred until there are eight full hours of extra work to do, but is done when there is only one hour's more work than the present clerk can handle. Then, for 12½% more work, labor cost is frequently increased 100%. Mechanization of the accounting routine would usually save this additional salary or at least defer it for a considerable time. This would defray the machine's cost in about a year and save many years of additional salary expense for the proprietor, besides improving his accounting records.



Machine



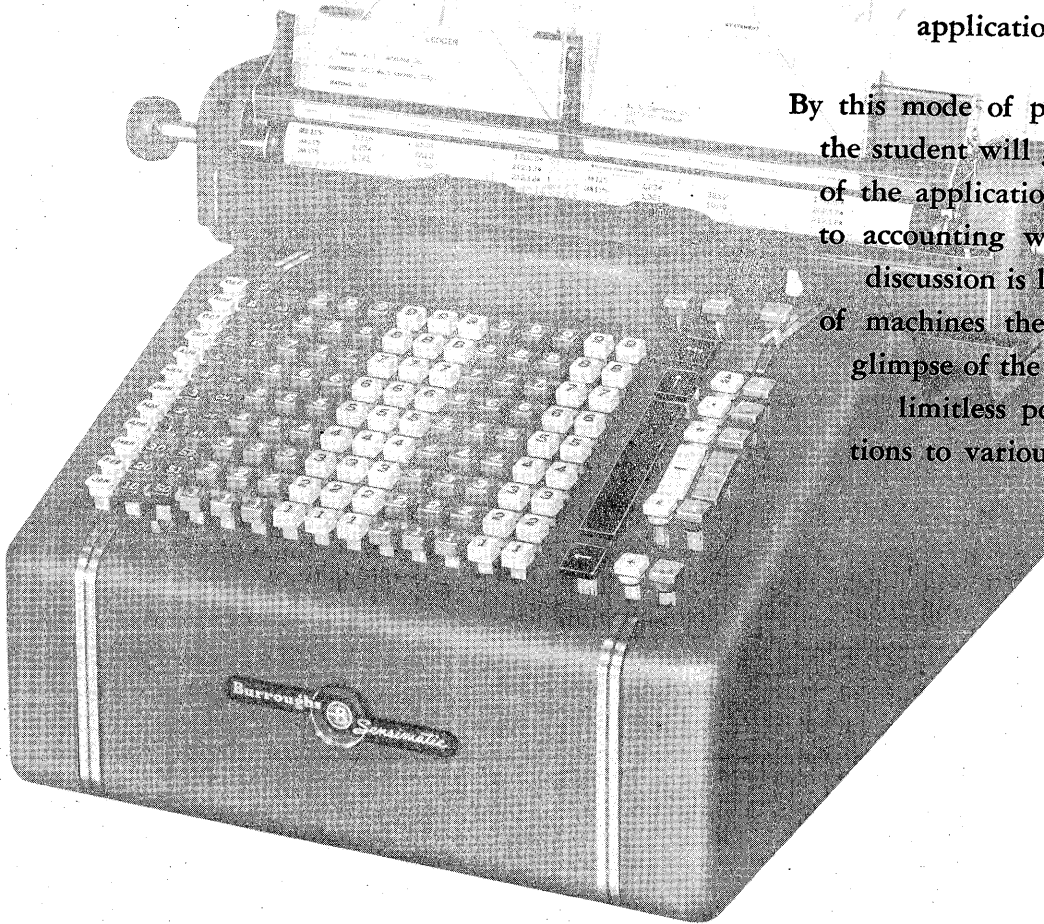
Section

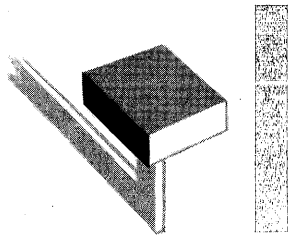
Foreword

The scope of mechanization of accounting and other office records is as broad as business itself. It is neither practical nor desirable to cover the entire range of accounting and record keeping applications.

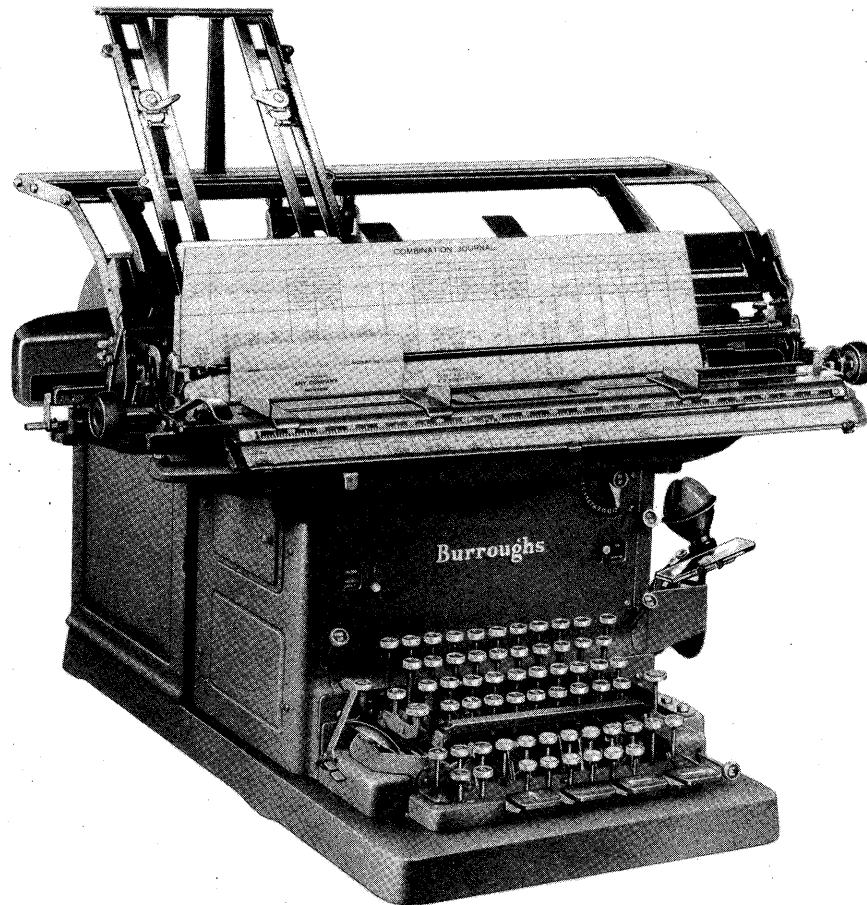
This section is broken down into four parts. Each of the first three is devoted to the study of a basic type of accounting machine and a discussion of the more common accounting applications on which it is used. The fourth section deals with other figuring machines and their application to a variety of records.

By this mode of presentation, it is felt that the student will get a better understanding of the application of accounting machines to accounting work. Although the detail discussion is limited to three basic types of machines the student will still get a glimpse of the long line of machines and limitless possibility of their applications to various phases of office routine.



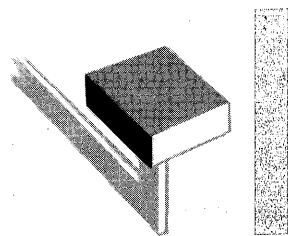


Descriptive Accounting Machine



As is evident from the name, this machine is used where description or an explanation of the accounting entry is required. It is by no means, however, limited to that type of applications. Because

of its flexibility, it is frequently applied on two or more applications, some of which may require descriptive explanations.

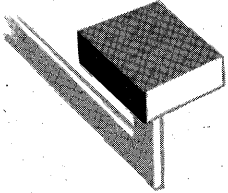


Accounts Receivable

In our study of this machine, we shall apply it to Accounts Receivable. First, however, let us review the steps required in handling this application on a manual basis:

DAILY

1. Journalize sales
2. Add and record the totals
3. Journalize cash receipts



Accounts Receivable

4. Add and record the totals
5. Post charges and credit memos to the customers' accounts
6. Add these postings and prove against the Sales Journal
7. Post cash receipts to the customers' accounts
8. Add these postings and prove against the Cash Receipts Journal

MONTHLY

1. Foot the Sales Journal and post to the accounts affected
2. Foot the Cash Receipts Journal and post to the accounts affected
3. Foot the debit column of each customer's account
4. Foot the credit column of each customer's account
5. Strike a balance on each customer's account
6. Take a trial balance of the customers' accounts
7. Prepare a statement for each customer
8. Prove the balance on the statement with the balance on the ledger account
9. Mail the statements

The outstanding advantages of machine methods over manual methods are the ability of collation and preparation of several forms simultaneously and the establishment of figure totals as a by-product of the posting operation.

In machine posting, the routine may be broken down as follows:

DAILY

1. Pre-list the posting media
2. Post the debits and credits to the ledger, extending the balance on each account, and obtain the Statement and Journal entries as a by-product

MONTHLY.

1. Pull and mail customers' statements
2. Transfer balances to next month's statements, and obtain the trial balance simultaneously.

The requirements of an accounts receivable system vary from industry to industry and from one company to the next within the same industry. Regardless of what other information may also be required, journalizing, posting of a ledger account and the preparation of a customer's statement are usually present.

Journalizing of sales may be done in total or in detail. Either plan can be readily handled with this type of machine. If journal entries are made in total, then the machine operation is reduced to the posting of ledger, statement and proof journal—which is a continuous roll journal with carbon facing—in one operation. The proof journal contains a complete transcript of every entry made.

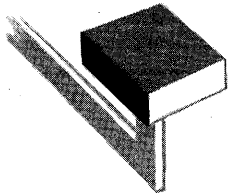
For this operation a machine with one cross-footer and four registers and the Multiple Register Proof Method are usually used. The crossfooter is used to cross-add or subtract to arrive at the account balance, and the four registers for down footing of charges, credits, new balances and proof balances. Thus the necessary figures for proof are accumulated automatically as the accounts are posted.

Where journalizing in detail is desired, it can be obtained simply as a by-product of the posting operation. All that is required is to widen the proof journal to provide space for typing the customer's name and columns for the necessary journal entries. This journal may be in unit sheets with printed headings and is then known as the Sales Journal.

Line-lock proof is an excellent proof method to use with this operation.

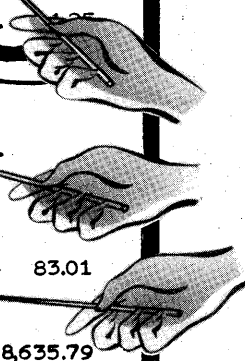
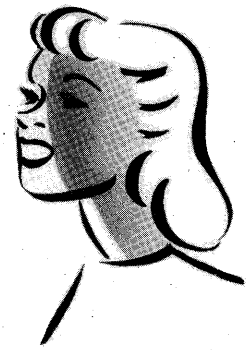
The Sales Journal may be further expanded to provide for distribution of sales by departments, during the posting operation. This is an excellent way of obtaining distribution where the bulk of the activity is limited to a few active departments. A miscellaneous column is provided for the relatively inactive departments, and whenever an entry is made in that column, the department number or account number is designated.

In machine accounting, the totals provided through the machine operation may be posted to the appropriate general ledger accounts daily or may be brought forward and then posted to the general ledger account in total at the end of the month. The miscellaneous distribution items, of



Accounts Receivable

64.75	JAN 25 5-	SHOES	8.75		73.50	64.75		
24.91	JAN 25 5-	GLOVS	4.58						
		BOY'S SPT JACKT	7.75						
		TAX	.39		37.63	24.91		
91.20									
<p>NAME MRS W E KENNEDY ACCOUNT NO. 91.20</p> <p>ADDRESS 1342 E DARWIN ST SHEET NO. 28.69</p> <p>CITY</p>									
28.69									
15.35									
					DATE	REFERENCE	DEBITS	CREDITS	BALANCE
18.64	BALANCE FORWARDED								41.26
STATEMENT ANY COMPANY ANYWHERE									
MRS W E KENNEDY 1342 E DARWIN ST CITY									
PLEASE RETURN THIS STUB WITH YOUR CHECK. AMOUNT ENCLOSED \$ _____									
					DATE	REFERENCE	CHARGES	CREDITS	BALANCE
					BALANCE FORWARDED				55.60
JAN 4 5-	SHIRT	2.50							
	GLOVS	3.45							
	SHOES	5.00							
	SUIT	45.00							
	TAX	1.68						113.23	109.74
JAN 11 5	UNDWR	1.00							
	TIE	1.75							
	COAT	25.00							
	BAG	1.50							
	TAX	1.18							
	CASH		55.60						
	RET'D		5.05					83.01	41.90
JAN 25 5	SOX	1.00							
	HAT	5.00							
	HOSE	1.75							
	DRESS	18.20							
	TAX	.78							109.74
83.01	JAN 25 5	SOX	1.00						
		HAT	5.00						
		HOSE	1.75						
		DRESS	18.20						
		TAX	.78						109.74
	JAN 25 5-	TOTALS TODAY	935.20					426.35	9,144.64
									8,635.79
									.00



SALES JOURNAL

PREVIOUS BALANCE	DATE	REFERENCE	CHARGES	CREDITS	BALANCE	PROOF	NAME	SALES	ACCT. NO.	MISC.
.00	JUL 27 5-	3563	.00		336.36	125.79	CENTRAL DISTRIBUTING CO	.00		.00
125.79	JUL 27 5-	3564	210.57		242.97	83.26	HARRISON MFG CO	210.57		
83.26	JUL 27 5-	C/M 327	159.71	27.95-	107.05	135.00	NATIONAL ENG CO	159.71	25-357	
135.00	JUL 27 5-	3565	535.00		545.66	10.66	CITY TOOL REPAIR CO	27.95-		
10.66	JUL 27 5-	3566	366.55		1,160.75	794.20	JOHNSON SERVICE CO	366.55		535.00
794.20	JUL 27 5-	3567	752.15		789.65	37.50	JONES & SIMPSON CO	752.15		
37.50		TOTALS	1,996.03					1,461.03		535.00
.00										535.00

STATEMENT

Burroughs

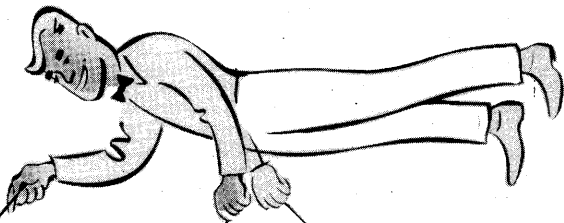
Jones & Simpson Co
7539 Pengree Ave
City

NAME: Jones & Simpson Co ACCOUNT NO. _____
ADDRESS: 7539 Pengree Ave SHEET NO. _____

DATE	REFERENCE	DEBITS	CREDITS	BALANCE
JUL 7 5-	2345	37.50		37.50
JUL 27 5-	3567	752.15		789.65
BALANCE FORWARDED				

PLEASE RETURN THIS STUB WITH YOUR CHECK. AMOUNT ENCLOSED \$ _____

DATE	REFERENCE	CHARGES	CREDITS	BALANCE
JUL 7 5-	2345	37.50		37.50
JUL 27 5-	3567	752.15		789.65
BALANCE FORWARDED				



**Ledger, Statement and Sales Journal
Prepared Simultaneously**

SALES JOURNAL

REVIDUS BALANCE	DATE	REFERENCE	CHARGES	CREDITS	BALANCE	PROOF	NAME	ACCT. NO.	MISC.	DATE	A	B	C	D	E	F
31.65	JAN 95	8105 NET	25.00		56.65	31.65	AMERICAN CORP		.00	JAN 95	.00	.00	.00	.00	.00	.00
125.00	JAN 95	8196 2 10 FRT	137.50		270.70	125.00	ANDREWS AND JORDAN	32	8.20	JAN 95	15.00	137.50	10.00			
134.86	JAN 95	8117 C M	8.20	3.20	131.66	134.86	BRAMWOOD, DAVIS CO			JAN 95	3.20				19.50	
6.72	JAN 95	8332 NET 60	39.50		39.50	6.72	COLLINGWOOD CORP			JAN 95	117.00	13.25	20.00			
8.25	JAN 95	8537 C M	117.00		110.28	8.25	DAVIS SUPPLY CO			JAN 95	122.25					
146.50	JAN 95	8602 NET	122.25	13.25	268.75	146.50	GRAHAM SALES			JAN 95						
							R A JACKSON CO									
			433.00		1,275.00		TOTALS TODAY		8.20	JAN 95	251.05	124.25	10.00	20.00	19.50	.00
			1,275.00				TOTALS PREVIOUS		35.00	JAN 95	716.50	310.47	64.50	52.17	56.50	39.86
			1,708.00		1,275.00		TOTALS TO DATE		43.20	JAN 95	967.55	434.72	74.50	72.17	76.00	39.86

If desired, miscellaneous distribution amounts may be recorded on individual account sheets or unit tickets during the posting operation.

DISTRIBUTION TICKET

Burroughs

REFERENCE	ACCT. NO.	AMOUNT	DATE
	32	8.20	JAN 95

MISCELLANEOUS DISTRIBUTION LEDGER

ACCOUNT NAME	Dept K	ACCOUNT NO.	32
REFERENCE		SHEET NO.	
REFERENCE		AMOUNT	8.20
		DATE	JAN 95

NAME R A JACKSON CO
ADDRESS 1833 W DAVIS ST
ACCOUNT NO. 32
SHEET NO. 2

DATE	REFERENCE	DEBITS	CREDITS	BALANCE
JAN 95	8602 NET	122.25		146.50
				268.75

STATEMENT ANY COMPANY ANYWHERE

R A JACKSON CO
1833 W DAVIS ST
ANYWHERE

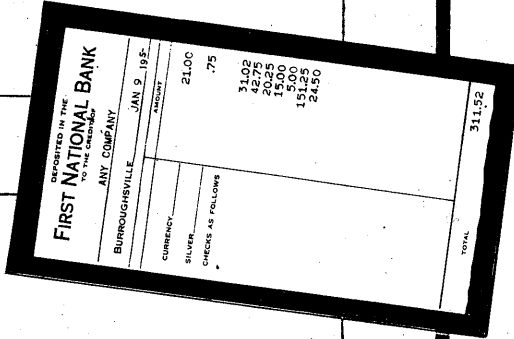
PLEASE RETURN THIS STUB WITH YOUR CHECK. AMOUNT DROPPED

DATE	REFERENCE	CHARGES	CREDITS	BALANCE
JAN 95	8602 NET	122.25		146.50
				268.75

Ledger, Statement and Sales Journal with Distribution Prepared Simultaneously

CASH RECEIPTS JOURNAL

PREVIOUS PAGE	DATE	REFERENCE	CASH ON ACCOUNT	BALANCE	PROOF	NAME	CASH	DATE	DISCOUNT	A	B	C	MISC.	ACCT. NO.
47.50	JAN 95-	CASH	.00	15.85	47.50	ADAMS AND SON	.00	JAN 95-	.00	.00	.00	.00	.00	
65.25	JAN 95-	CASH	31.65	.00	65.25	BOSWELL, JONES AND CO	31.02	JAN 95-	.63					
	JAN 95-	CASH	45.00	.00			20.25	JAN 95-	2.25					
	JAN 95-	DEP	20.25	15.00 CR		CUNNINGHAM CO	15.00	JAN 95-						
27.25	JAN 95-	CASH	3.00	32.25 CR	27.25	DUNBAR CORP	3.00	JAN 95-						
175.00	JAN 95-	CASH	175.00	.00	175.00	GREAT LAKES SUPPLY CO	151.25	JAN 95-	23.75					
368.75	JAN 95-	CASH	24.50	244.25	268.75	R A JACKSON CO	24.50	JAN 95-						
	JAN 95-	OTHER RECEIPTS				C O D SALES	12.50	JAN 95-		12.50	3.25		6.00	114
						MISC RECEIPTS	3.25	JAN 95-						
							6.00	JAN 95-						
			316.40			TOTALS TODAY	311.52	JAN 95-	26.63	12.50	3.25	.00	6.00	
			500.00			TOTALS PREVIOUS	530.00	JAN 95-	35.00	20.50	10.00	29.50	5.00	
			816.40			TOTALS TO DATE	841.52	JAN 95-	61.63	33.00	13.25	29.50	11.00	



If desired, a bank deposit slip
 can be prepared at a separate
 operation, or obtained as a by-
 product of posting cash receipts

NAME R A JACKSON CO ACCOUNT NO. _____
 ADDRESS 1833 W DAVIS ST SHEET NO. 2

DATE	REFERENCE	DEBITS	CREDITS	BALANCE
JAN 95-	8602	122.25		146.50
JAN 95-	CASH		24.50	268.75
				244.25

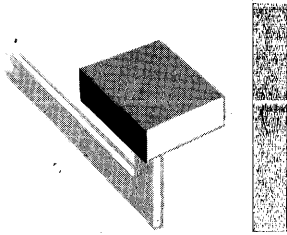
STATEMENT
ANY COMPANY
ANYWHERE

R A JACKSON CO
1833 W DAVIS ST
ANYWHERE

PLEASE RETURN THIS STUB WITH YOUR CHECK. AMOUNT ENCLOSED \$ _____

DATE	REFERENCE	CHARGES	CREDITS	BALANCE
JAN 95-	8602	122.25		146.50
JAN 95-	CASH		24.50	268.75
				244.25

Ledger, Statement and Cash Receipts Journal with Distribution Prepared Simultaneously



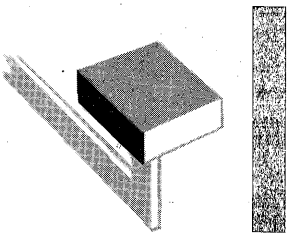
Accounts Receivable

course, need to be posted daily from the sales journal. If desired, a distribution ticket may be prepared at the time of entering a miscellaneous distribution on the Sales Journal. These tickets are then sorted into account order, summarized and posted in total to the appropriate ledger accounts. Another choice available under this plan is to insert the ledger account itself into the machine and the distribution made directly onto the ledger account. Periodically, or at the end of the month, these ledger accounts are footed to obtain the account totals.

Proof of accuracy in any accounting setup, whether manual or machine methods are used, is of utmost importance. Under a manual method, however, it is difficult to obtain on a day to day basis and therefore very often nothing is done about it. The trial balance at the end of the month is used to serve as the basis for accuracy of all the posting activities during the month. As a consequence, if the trial balance is out, the error may have occurred in any one of the detailed steps outlined on pages 29 and 30 and may involve a complete review of the entire month's work before the error is located.

The automatic accumulation of totals in a machine system makes proof of accuracy easy and lends itself to a daily proof operation. In a setup using line-lock proof, proof of posting as well as of distribution is obtained on a line to line basis because the machine construction is such that if an error is made on any one line of posting—whether on the ledger posting or in the distribution—the machine will lock against operation, thus localizing the error to the last line of posting.

The simplicity and flexibility of machine methods are illustrated in posting cash receipts. No change in procedure or operations—merely a change in headings of the Journal—and cash receipts are posted just as simply as charges. Line-lock proof proves the accuracy of each line of posting, and cash received and distribution totals are automatically accumulated for comparison with pre-lists. If it is desired to provide the Cash Receipts Journal in some other manner, a continuous roll proof journal may be substituted and the posting operation would stop with the proof pick-up.



Accounts Payable

The requirements of accounts payable, like accounts receivable, vary from industry to industry as well as from individual company to company. Whether the plan embodies the use of an accounts payable ledger, remittance advice or voucher check has no effect on the machine application; all can be handled with equal ease.

In the plan illustrated, the accounts payable entries are made to a remittance voucher and purchase journal simultaneously. Items are distributed direct to columns for inventory or expense accounts at the same time the vendors' accounts are posted. Balances due vendors are immediately available at the payment date and can be paid

without further verification. If desired, miscellaneous expense and inventory distribution amounts may be recorded on individual account sheets or unit tickets during the posting operation.

On the due dates the check and check register are written simultaneously. A carbon copy of the check is also made on the office copy of the remittance advice at the same time. Partial payments may be posted to the vendors' accounts during the check writing operation. Miscellaneous checks are quickly written and distributed direct to the account columns affected. Net control and distribution totals are accumulated automatically.

Remittance Advice and Purchase Journal with Distribution Prepared Simultaneously

PURCHASE JOURNAL

PREVIOUS BALANCE	DATE	REFERENCE	INVOICES	DEDUCTIONS	BALANCE	PROOF	NAME	ACCT. NO.	MISC.	DATE	A	B	C	D	E	F
254.10	JAN 9 5-	165	.00		377.60	254.10	LEVY AND MALONE		.00	JAN 9 5-	.00	.00	.00	.00	.00	.00
55.20	JAN 9 5-	166	123.50		76.00	55.20	NELSON BROS			JAN 9 5-	15.30	123.50				
172.75	JAN 9 5-	167	5.50		150.50	172.75	PERRY-BROWN CORP			JAN 9 5-	5.50	22.25				
	JAN 9 5-	1276	18.50	22.25	18.50		RANDOLPH CO	33		JAN 9 5-						
	JAN 9 5-	168			15.00	4.20	RENEWICK AND WILLIAMS	34	1.10	JAN 9 5-	10.00	11.50	17.00			
4.20	JAN 9 5-	169	19.20	11.50	3.25 OR	8.25	SCHUSTER CORP			JAN 9 5-						
8.25	JAN 9 5-	1290	16.00		170.00	145.50	SMITH SUPPLY CO	84	16.00	JAN 9 5-						
145.50	JAN 9 5-	171	8.50		567.20		SMITH SUPPLY CO	92	8.50	JAN 9 5-						
			739.95				TOTALS TODAY		26.00	JAN 9 5-	30.80	89.75	9.20	17.00		.00
			567.20				TOTALS PREVIOUS		11.00	JAN 9 5-	351.20	128.50	18.50	26.75	13.90	17.35
							TOTALS TO DATE		37.00	JAN 9 5-	382.00	218.25	27.70	43.75	13.90	17.35

Accounts Payable Ledger may be posted at the same time if required

REMITTANCE ADVISE
ANY COMPANY
 ANYWHERE

SMITH SUPPLY CO
 14TH AND GRAND
 ANYWHERE

JAN 10
 DUE DATE

DATE	REFERENCE	INVOICES	DEDUCTIONS	BALANCE
JAN 6 5-	83	125.00		150.00
JAN 8 5-	84	25.00		145.50
JAN 9 5-	988	16.00	4.50	170.00
JAN 9 5-	170			
JAN 9 5-	171	8.50		

MISCELLANEOUS DISTRIBUTION LEDGER

ACCOUNT NAME

ACCOUNT NO. 84

SHEET NO. 1

REFERENCE	ACCT. NO.	AMOUNT	DATE
KINNEMAN AND SON	84	127.50	JAN 7 5-
LORA INNE CORP	84	4.00	JAN 7 5-
DORSEY AND BROWN	84	17.50	JAN 8 5-
SMITH SUPPLY CO	84	16.00	JAN 9 5-

MISCELLANEOUS DISTRIBUTION LEDGER

ACCOUNT NAME EXP DEPT M

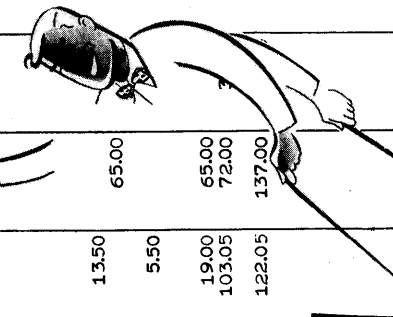
ACCOUNT NO. 92

SHEET NO. 1

REFERENCE	ACCT. NO.	AMOUNT	DATE
SMITH SUPPLY CO	92	8.50	JAN 9 5-

CHECK REGISTER

REVISIONS BALANCE	DATE	REFERENCE	ACCOUNTS PAYABLE		BALANCE	PROOF	NAME	CHECK NO.	DISCOUNT	DATE	BANK	A	B	C	MISC.	ACCT. NO.
			COMPLETE PAYMENT	PARTIAL PAYMENT												
			.00					.00	JAN 95			.00			.00	
	JAN 95-	2216	219.50				BURDSAL COMPANY	345	4.39	JAN 95-	215.11					
	JAN 95-	2217	54.00				CALLAHAN AND JONES	346	1.08	JAN 95-	52.92					
	JAN 95-	2218	32.75				CURWOOD BROS.	347		JAN 95-	32.75					
137.25	JAN 95-	2021	57.25		80.00	137.25	DEWBERRY CORP.	348	1.15	JAN 95-	56.10					
55.75	JAN 95-	2024	13.25		42.50	55.75	E. R. EDWARDS	349	.66	JAN 95-	12.59					
	JAN 95-	2026	170.00				SMITH SUPPLY CO.	350	3.40	JAN 95-	166.60					
			546.75		627.10		TOTALS TODAY		10.68	JAN 95-	536.07					
			627.10				TOTALS PREVIOUS		18.71	JAN 95-	608.39					
			1,173.85				TOTALS TO DATE		29.39	JAN 95-	1,144.46					
							Miscellaneous checks not affecting accounts payable.									
							GEORGES TRUCKING CO.	351		JAN 95-	13.50					
							R. W. HONEST	352		JAN 95-	65.00					
							CASH	353		JAN 95-	25.00					
							KENTUCKY FREIGHT CO.	354		JAN 95-	5.50				25.00	35
							TOTALS TODAY			JAN 95-	109.00					
							TOTALS PREVIOUS			JAN 95-	213.05				25.00	
							TOTALS TO DATE			JAN 95-	324.05				10.00	

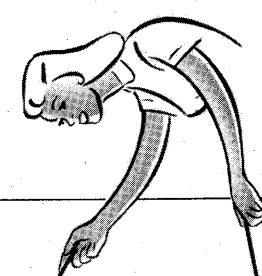


ANY COMPANY ANYWHERE No. 850
SMITH SUPPLY CO.
 DATE: JAN 95- \$ 166.60
 PAY ORDER OF: SMITH SUPPLY CO.
 NAME OF BANK: _____
 Lower section of Remittance Advice

Remittance Advice, Check and Check Register with Distribution Prepared Simultaneously

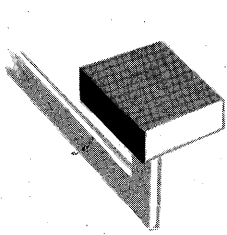
GENERAL JOURNAL

PREVIOUS BALANCE	DATE	REFERENCE	DEBITS	CREDITS	BALANCE	PROOF	NAME	ACCT. NO.	DR GENERAL LEDGER	DATE	CR GENERAL LEDGER	EXPLANATION
11,560.50	JAN 95-		.00		11,993.50		CONTROL A R	5	.00	JAN 95-	.00	
45.60	JAN 95-	SJ	433.00		37.40	11,560.50	PP FREIGHT	32	433.00	JAN 95-	8.20	
5,350.00	JAN 95-	SJ A		8.20		45.60	SALES	112		JAN 95-	251.05	
		SJ B		124.25						JAN 95-	124.25	
		SJ C		10.00						JAN 95-	10.00	
		SJ D		20.00						JAN 95-	20.00	
		SJ E		19.50						JAN 95-	19.50	
6,245.18	JAN 95-	PJ		172.75	15,774.80 CR	15,350.00	CONTROL A P	33	1.10	JAN 95-	172.75	
17.00	JAN 95-	PJ	1.10		6,417.93 CR	6,245.18	OFFICE SUPP	34	.40	JAN 95-		
6.50	JAN 95-	PJ A	30.80		18.10	17.00	POSTAGE	80	30.80	JAN 95-		
18,107.45	JAN 95-	PJ B	89.75		6.90	6.50	MOSE PURCHASES		89.75	JAN 95-		
		PJ C	9.20						9.20	JAN 95-		
		PJ D	17.00						17.00	JAN 95-		
		PJ K	16.00						16.00	JAN 95-		
		PJ M	8.50						8.50	JAN 95-		
14.50	JAN 95-				38,107.20	38,107.45	EXP	90		JAN 95-	316.40	
11,993.50	JAN 95-	CJ		316.40	23.00	14.50	CONTROL A R	5	311.52	JAN 95-		
1,275.05	JAN 95-	CJ	311.52		11,677.10	11,993.50	BANK DEP	7	26.63	JAN 95-		
35.00	JAN 95-	CJ	26.63		1,586.57	1,275.05	DISC GIVEN	28		JAN 95-	15.75	
5,774.80	JAN 95-	CJ		15.75	61.63	35.00	CTR AND COD SALES	112		JAN 95-	6.00	
11.50	JAN 95-	CJ		6.00	15,790.55 CR	15,774.80	MISC INCOME	114		JAN 95-	25.00	
10.00	JAN 95-	CR	25.00		17.50 CR	11.50	PETTY CASH	35		JAN 95-		
1,586.57	JAN 95-	CR		25.00	35.00	10.00	BANK	7		JAN 95-		
					1,561.57	1,586.57	TOTALS DR AND CR		968.90	JAN 95-	968.90	



NAME BANK ACCOUNT		ACCOUNT NO. 7	SHEET NO. 2	
DATE	REFERENCE	DEBITS	CREDITS	BALANCE
	BALANCE FORWARDED			900.00
JAN 85-	9 CJ	375.05		1,275.05
JAN 95-	10 CJ	311.52		1,586.57
JAN 95-	10 CR		25.00	1,561.57

Ledger and General Journal Prepared Simultaneously



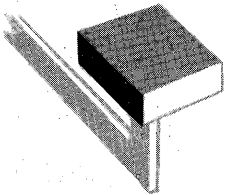
Payroll

A modern payroll system requires the preparation of at least four distinct forms: namely, the Payroll Register, Employee Statement of Earnings, the Paycheck and an Employee Ledger. To prepare and prove each one of them separately is time consuming.

With payroll machines all of these forms are

completed and proved in one operation.

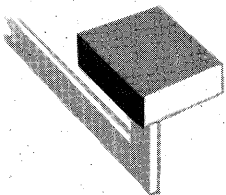
Totals to date of earnings and tax are available at all times for separation reports, quarterly Social Security Reports and yearly Income Tax Reports. Columnar totals are provided for instant proof of payroll writing by departments or other groupings.



General Ledger Records

Posting to the general ledger is nothing but a simple debit and credit posting operation. Control and distribution totals from subsidiary jour-

nals and other general ledger items may be posted daily, periodically, or at the end of the month, as required.



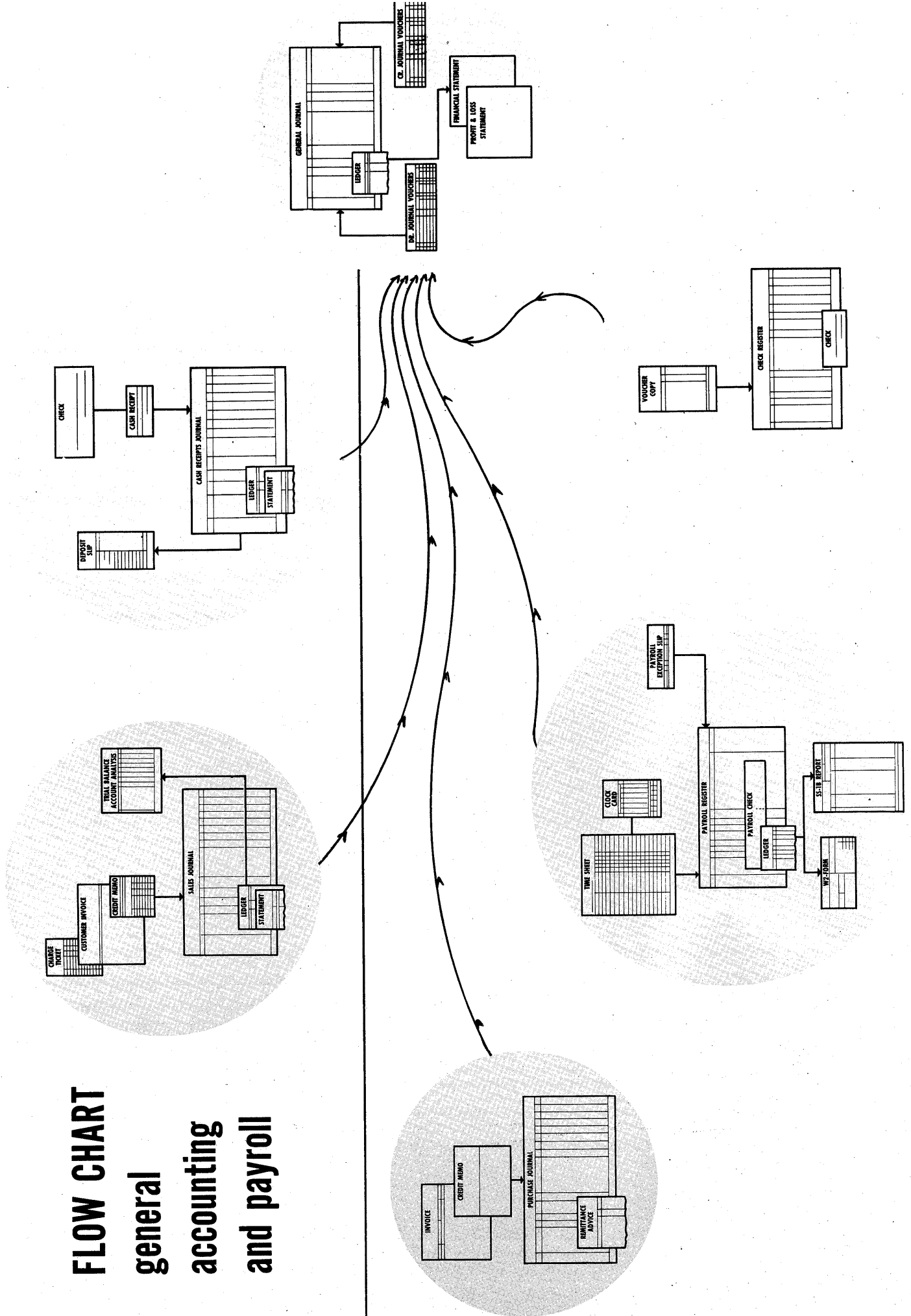
Other Applications

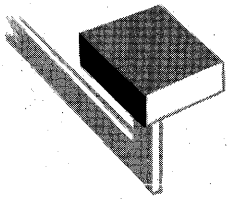
The preceding discussion and illustrations describe the usual applications found in any accounting department. This by no means, however, completes the range of applications that may be handled with this type of machine. In the final

analysis, preparation of accounting records may be reduced to adding, subtracting and totaling. Obviously, these operations can be performed better in less time and with less effort with machines than without machines.

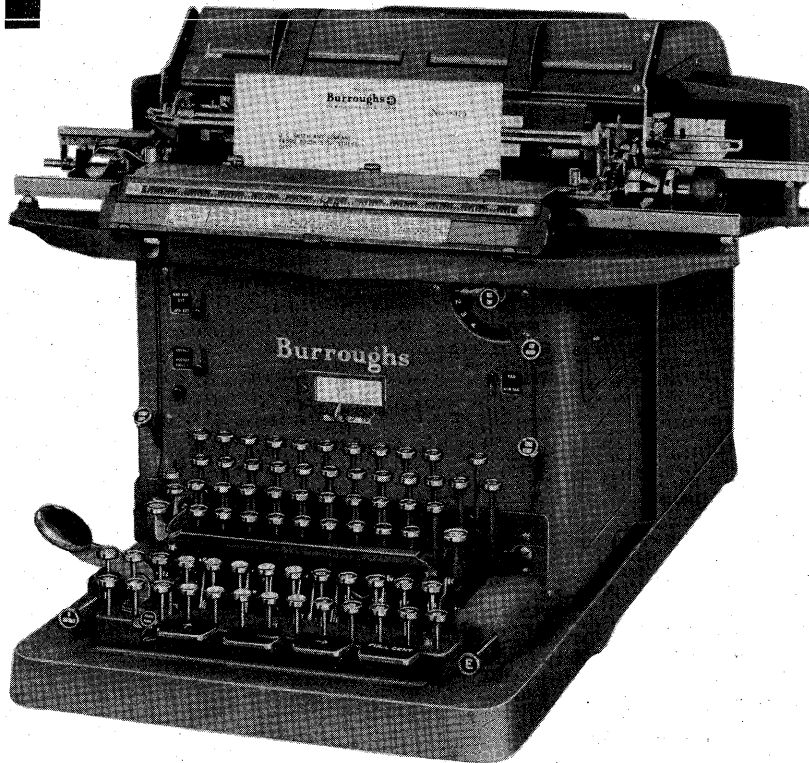
FLOW CHART

general accounting and payroll



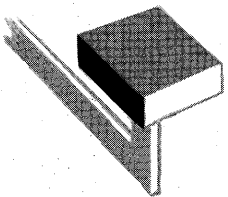


Multiplying Accounting Machine



With this machine it is possible to compute and print the final results on usable forms. For this reason, it is usually used on applications where multiplication is involved. It is not, however,

limited to that type of application. It is frequently used on two or more applications where one or more may require multiplication.



Billing

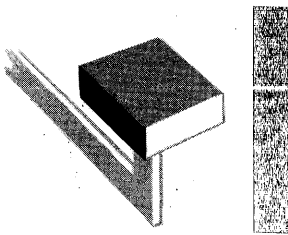
In the study of this machine we shall examine billing in commercial enterprises. First, however, let us review the manual procedure of a billing operation.

1. Extend values of items shipped.
2. Write values on order form.
3. Write invoice copying from order form.
4. Recalculate values and check against invoice for accuracy.

Some enterprises recalculate the values before the invoice is written and then visually check the accuracy of the invoice.

In machine methods the procedure is as follows:

1. Calculate and write the invoice in one operation.
2. Visually check for accuracy.



Billing

ANY COMPANY		INV. N ^o 750
ANYWHERE		
A CUSTOMER ANYWHERE U S A		
DATE DEC 21 5	OUR ORDER NO. 47262	YOUR ORDER NO. 2456
		CONTRACT NO. B 8956
TERMS NET	HOW SHIPPED FREIGHT	SALESMAN JONES
QUANTITY	DESCRIPTION	PRICE AMOUNT NET
.25	ANYTHING	1.22 30.50
.32	ANYTHING	.78 24.96
2	ANYTHING	.37 <u>.74</u>
		56.20

The requirements of a billing operation are as varied as business. It may consist of a simple computation of quantity times price and a totaling of the extended items. On the other hand, it may contain fractions in the price or quantity; the quantity and price may be in different units; it may be subject to a single or chain discount; freight may need to be computed and added on or deducted from the invoice amount; etc. Similarly, the invoice forms may consist of unit sheets or continuous forms with interleaved carbon. The billing routine may be one of the following:

1. Bill from filled order.
2. Call billing.
3. Bill and order.

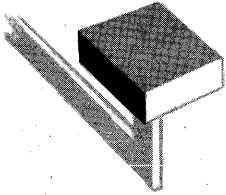
The procedure involved is evident from the names of the billing routines. Bill from filled order means copying the necessary data from the filled order form onto the invoice. In call billing the name of the customer, the items and other essential data are called to the billing clerk after the items have been prepared for packing. Bill

and order is a combination order and invoice form that is prepared at the same time showing all data up to the price and extensions. The order portion of the form is then sent to the shipping department for processing. After shipment it is returned to the billing department where the invoice is then completed by entering the quantity shipped, price and extensions.

Whatever the requirement, the operation can be handled efficiently with this type of machine.

It is usually possible to do the complete invoice—calculating and typing—in less time than is normally required merely to copy it. The extension of the items on the invoice illustrated above is simple. The operator merely enters the quantity, types the description of the item, and then multiplies by the price. The price and the product are printed from a single key depression, thus all of the factors of the multiplication—the multiplicand, multiplier and the product—are printed and may be visually checked.

The illustrations show the wide range in billing that may be handled with this machine.



Billing

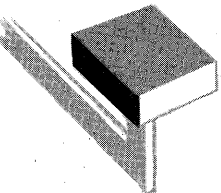
ANY MANUFACTURER OR WHOLESALER

Customers Order No. & Date 2465 12/19 Requisition No. Contract No.	Invoice Date 12/21 Vendor's No. 2365	Refer to Invoice Number _____ FOR CUSTOMER'S USE ONLY Register No. _____ Voucher No. _____ F. O. B. Checked _____ Terms Approved _____ Price Approved _____ Calculations Checked _____ Transportation _____ Freight Bill No. _____ Amount _____ Material Received _____ Date 19 _____ Signature _____ Title _____ Satisfactory and Approved _____ Adjustments _____ Accounting Distribution _____ Audited _____ Final Approval _____
---	---	--

• A I CUSTOMER
• ANYWHERE

Shipped to & Destination SAME Date Shipped 12/21 Car Initials & No. NP 235767 How Shipped and Route GT-CB&Q-NP Terms: 2% 10 DAYS	From ANYPOINT F. O. B. ANYWHERE Prepaid or Collect PREPAID Salesman	
---	---	--

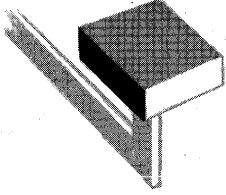
QUANTITY	DESCRIPTION	PRICE	AMOUNT	NET
6	DZ ARTICLES	4 25	25 50	
10	DZ ARTICLES	12 50	125 00	
29	DZ ARTICLES	9 87	286 23	
10 3/4	DZ ARTICLES	3 12 1/2	33 59	
1/2	DZ ARTICLES	2 25	1 13	
			471 45	
	LESS 60-10=5%			161 24
72	ONLY	1 12 C NT		81
	LESS FRT 608 LBS AT	26 1/2 CWT		162 05
				1 61
				160 44



Payroll

In most companies payroll preparation is broken down into two distinct operations: (1) payroll calculation; and (2) the writing of the payroll records. Where the employees work on an hourly rate, the two operations may be combined into one efficient payroll calculation and payroll writing plan through the use of this multiplying accounting machine. As shown in the illustration, all of the payroll records, the employee pay statement, the payroll check, the employee ledger and

the payroll journal are collated and prepared in one writing. The operator works from a clock card, which shows the total hours worked and the rate of pay, multiplies the two to arrive at the regular earnings, computes total earnings, enters the deductions and arrives at the net pay in one continuous operation. At the same time that the forms are produced the machine automatically accumulates figure totals for proof.

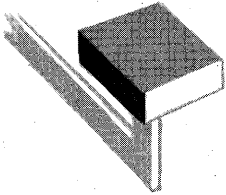


Time Ticket Extension and Wage Accrual

In manufacturing industries the handling of time tickets frequently is a volume job. If costs are on an actual basis, these tickets must be extended for cost purposes. If the employees work on a piece rate basis, then these tickets must also be used for wage calculation and accrual. In order to release the time tickets to the cost department daily for maintenance of cost records, it becomes necessary to set up a wage accrual plan that will facilitate

preparation of the payroll records at the close of the pay period.

The illustration shown is a simple operation that provides for rapid calculation of time tickets and as a by-product obtain a wage accrual record that may be used for payroll writing, thus releasing time tickets daily for cost purposes and still providing the necessary information for payroll writing purposes at the end of the pay period.



Stores Ledger

Material accounting involves the maintenance of records that facilitate the following:

1. Providing inventory quantities that tie in with physical stocks.
2. Accurately valuing each item of material withdrawn from stock.
3. Properly allocating charges currently for material used.

There are several methods of pricing inventories in use, the most popular of which is the

average price method. That is the one used in this illustration.

The volume activity in any material accounting plan is the handling of issues. If costs are on an actual basis, then the material requisitions will be the media for posting material issues to the proper cost records. The illustration shows how the extension of the material requisition and the posting of the stores ledger are combined into one simple, fast operation. Figure totals for proof of accuracy of both records are accumulated at the same time.

DAILY COST PROGRESS REPORT

HOURS	LABOR	BURDEN RATE	BURDEN	MATERIAL	JOB NO.	PREVIOUS BALANCE	DATE	HOURS	LABOR	BURDEN	MATERIAL	REMARKS	COST TO DATE	PROOF
41 35 8 156	2.45 6.75 12.12	22	26.66	18.92	5453	146.79	SEP 75	.156	12.12	26.66	18.92		204.49	146.79
56 75 193	4.74 5.21 5.91 15.86	22	34.89	5.65 135.76	5470	275.82	SEP 75	.193	15.86	34.89	141.41		467.98	275.82
2 8 63 163	2.07 7.65 5.77 15.49	22	34.08	365.76	5472	159.18	SEP 75	.163	15.49	34.08	365.76		574.51	159.18

COST SHEET
Form TA 3462

ARTICLE MODEL 12 PUMP
JOB NUMBER 5472
MATERIAL USED #109 RIGHT LEVER ASSEMBLY

ORDER NO. 1167
DATE DUE DEC 2
72-9 PINS

ORDER DATE SEP 2
DATE FINISHED 302-4 CASTING

QUANTITY 240

DATE	HOURS	LABOR	BURDEN	MATERIALS	REMARKS	COST TO DATE
SEP 25	.16	15.39	41.64	45.88		102.91
SEP 55	.14	12.97	34.34			150.22
SEP 65	.65	2.45	6.51			159.18
SEP 75	.163	15.49	34.08	365.76		574.51

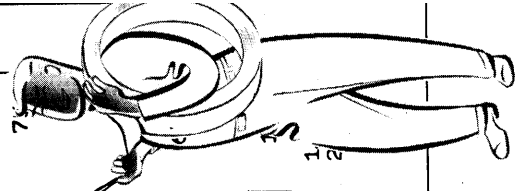
TIME TICKET
Form TA 3377

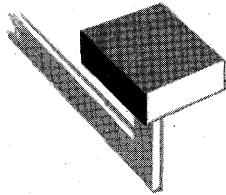
NAME Geo. Stebbins
DEPT. Assembly #3
OPERATION Assembly # 91
JOB NO. 5472
ACCOUNT NO. 301

DATE 9/7
CLOCK NO. 3-70

DATE 9/7
CLOCK NO. 3
OPERATION Assembly

HOURS	DAY WORK	P. W. RATE	PIECE WORK	PIECE WORK RATE	VALUE
2	.61	34	7.65	5.77	365.76

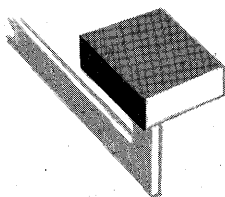




Cost Ledgers

Whatever cost method may be used, the keeping of cost records usually resolves itself into summarizing of time tickets and material requisitions and computing the necessary burden to be absorbed in the cost of the product.

The illustration shows an application of job cost records, summarizing the time tickets, applying the burden rate on the direct labor and summarizing of material requisitions, and then totaling these onto a cost ledger and producing cost to date at the same time.



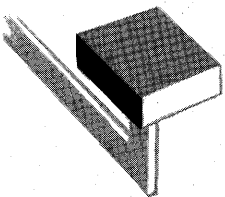
Tax Billing

The requirement of a tax billing system varies from state to state and may vary from one county to another within a given state. The application of a tax billing machine must always meet all of the requirements of state and local laws.

The machine must be able to handle a variety of computations. These may consist of a single or multiple tax rate, assessments, instalment calculations, delinquencies, etc. Similarly it must be able to accommodate a wide range of forms; such as the tax roll, bill and receipt, tax ledger, where required; assessment roll and permanent valuation

records; delinquent notice, delinquent tax roll and delinquent tax ledger; apportionment journal, etc.

The illustration shows a tax billing plan that has wide popularity. It provides for preparing the tax roll, tax bill and receipt in one operation. The rate is entered into the machine at the beginning of the operation, and thereafter all the operator does is to insert the form and multiply by the valuation. The rest of the operation is automatic, and proof totals of valuation and tax are accumulated in the machine at the same time for proof purposes.



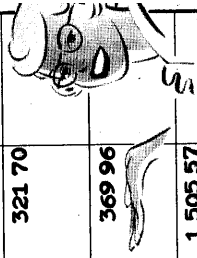
Other Applications

The foregoing illustrates a few of the applications on which this type of machine is frequently used. These by no means exhaust its possibilities. It can be used profitably on any office or accounting record where the product of a calculation is written

on a form of record. It is fast, because it multiplies by direct mechanical principles and because it eliminates copying answers on temporary forms and then recopying on final forms with all of the attendant possibility for errors.

TAX ROLL

NAME AND ADDRESS	DESCRIPTION OF PROPERTY	NUMBER	RATE	VALUATION	TAX	WHEN PAID
JAMES L. LONGWORTH 7125 SHADY LANE CITY	SUBURBANCREST SUB. No. 3 LOT 17	7120	321 70	7500	241 28	
L. THOMAS LAPCIUK 7129 SHADY LANE CITY	SUBURBANCREST SUB. No. 3 LOT 18 & S. 17' LOT 19	7121	321 70	9000	289 53	
JOHN L. SULLIVAN 611 MORNINGSIDE AVE CITY	SUBURBANCREST SUB. No. 3 N. 33' LOT 19 & S. 30' LOT 20	7122	321 70	8800	283 10	
JAMES V. FENTON 7137 SHADY LANE CITY	SUBURBANCREST SUB. No. 3 S. 20' LOT 20 & LOT 21	7124	321 70	10000	321 70	
CHAS. A. SCHMIDT 7143 SHADY LANE CITY	SUBURBANCREST SUB. No. 3 LOT 23 & S. 20' LOT 24	7125	321 70	11500	369 96	
				46800	1 505 57	



TAX BILL

Burroughs Ⓟ

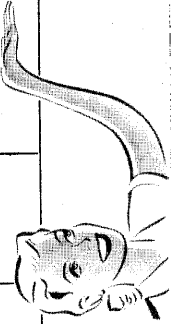
CHAS. A. SCHMIDT
7143 SHADY LANE
CITY

CHAS. A. SCHMIDT
7143 SHADY LANE
CITY

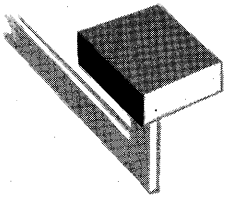
STUB

Burroughs Ⓟ

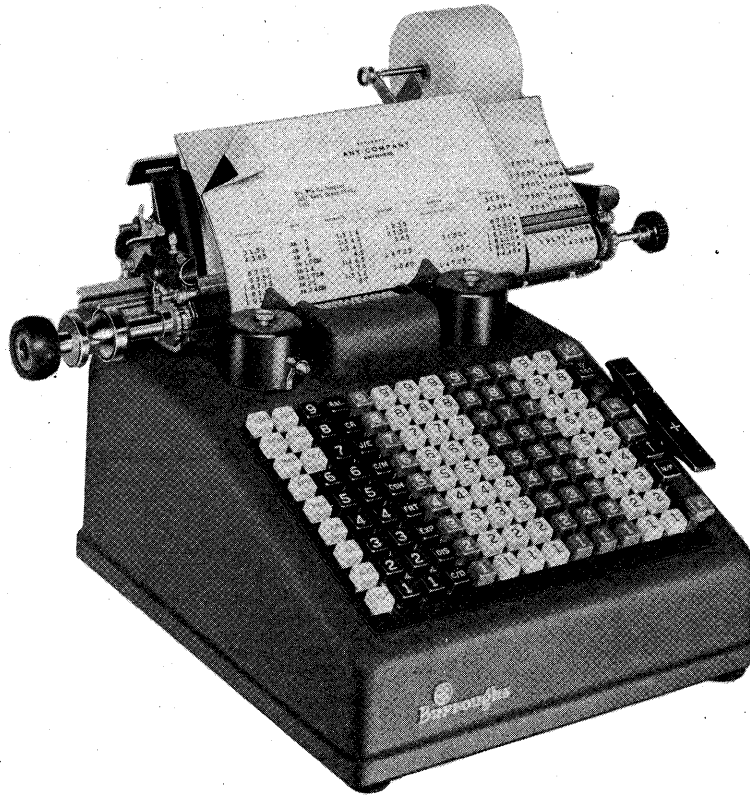
NUMBER	RATE	VALUATION	HALF TAX	TOTAL TAX	NUMBER	HALF TAX	TOTAL TAX
7125	321 70	11500	184 98	369 96	7125	184 98	369 96



THIS IS RECEIPT ONLY FOR AMOUNT CERTIFIED ABOVE:

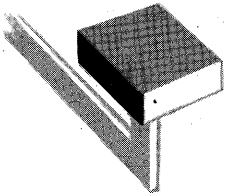


Non-Descriptive Accounting Machine



As is evident from the name, these machines are not equipped with a typewriter and are used where numerical reference and a few character abbreviations are sufficient description of the accounting entry. Three different types of machines will be studied under this category. These machines are in different price ranges and are designed to fit specific needs.

operation with machine printed figures and machine accuracy. It is not equipped with registers for accumulation of figure totals, and the proof operation, therefore, is usually a separate operation following posting. However, since volume is usually small, the proof of the operation can usually be established in a matter of minutes.



Desk Model Machines

These machines were designed to fit the needs of the smaller business and such applications where activity is relatively small. It may be used on any type of posting and will produce a fast posting

Typical applications are illustrated. The Accounts Receivable form is a fold-over ledger and statement whereby the ledger is a carbon copy of the statement. At the end of the month the forms are separated, the statement is mailed to the customer and the carbon copy is filed as the ledger record. If preferred, a continuous ledger may be collated with the statement.

STATEMENT

BAILEY ARTISTS SUPPLIES

* William R. Lewis
* 1492 Columbus Ave.
* Burroughsville

OLD BALANCE	DATE	REFERENCE	CHARGES	CREDITS	BALANCE
			BALANCE FORWARDED		3 6.45
	JUN 3	1,2 5 5	1 3.44		
	JUN 3	1,2 5 6	7.80		57.69 *
57.69	JUN 5	1,5 1 2	5 6.00		113.69 *
113.69	JUN 7	7CSH		17.50 -	
	JUN 7	7DIS		1.20 -	94.99 *
94.99	JUN 9	1,7 3 4	11 3.45		
	JUN 9	1,7 3 5	2 1.50		
	JUN 9	1,7 3 6	4 2.20		272.14 *
272.14	JUN 10	10CSH		5 6.00 -	
	JUN 10	10CSH		4 5.00 -	171.14 *
171.14	JUN 14	14C/M		177.15 -	6.01 CR
6.01 -	JUN 16	2,1 2 4	10 4.67		
	JUN 16	2,1 2 4	2.75		101.41 *
101.41	JUN 18	2,3 5 5	1 3.40		
	JUN 18	2,3 5 6	1 7.53		
	JUN 18	2,3 5 7	4.50		136.84 *

IDEAL ASSOCIATES

DATE JUN 27 195 No. 796

PAY TO THE ORDER OF Jones and McLaughlin Supply Company
1423 Greenview, City

AMOUNT OF CHECK

Two hundred seventy one and 32/100 dollars \$ 271.32 *

PAYABLE AT
THE FIRST NATIONAL BANK
ANYWHERE

J. L. Jones
AUTHORIZED SIGNATURE

REFERENCE	DATE	INVOICE NO.	AMOUNT OF INVOICE	DEDUCTIONS	BALANCE DUE
4 5 5	JUN 17	2 1,2 3 4	5 6.25		
4 6 2	JUN 19	2 1,2 6 1	1 3.50		
4 6 3	JUN 19	2 1,2 6 2	4 1.35		
	JUN 23	1 3 4		1 3.50 -	
4 8 8	JUN 25	2 1,4 3 3	1 4 2.50		
4 9 0	JUN 25	2 1,4 3 4	4 5.50		
	JUN 27	DIS		1 4.28 -	271.32 *

TIME SHEET AND PAYROLL REGISTER

PERIOD ENDING
6/24/

EMPLOYEE'S NAME	HOURS WORKED							TOTAL HOURS	RATE	REGULAR EARNINGS	OVER-TIME	GROSS PAY	DEDUCTIONS			CHECK NUMBER	NET EARNINGS		
	M	T	W	T	F	S	S						F.I.C.	FED. TAX	INS.			MISC.	
Arthur Jones	8	8	8	8	8			40	1.60	64.00		6.40	.46	4.00	1.80	1.50	610	55.74	
Sam Davis	8	8	8	8	8			40	1.50	60.00		60.00	.90	3.40	1.60		611	54.10	
Paul Johnson	10	10	9	8	8			45	1.95	87.75	4.88	92.63	1.39	8.10	3.75		612	79.39	
Paul Lee	8	8	8	8	8			40	1.65	66.00		66.00	.99	4.30	.50		613	60.21	
Sidney Brewer	8	8	7	8	8			39	1.80	71.64		71.64	1.07	4.90	2.20	5.00	614	58.47	
Melvin Bruner	8	8	8	8	8			41	1.70	69.70		85.70	.55	1.00	4.90	2.20	615	62.39	
John Carlson																			
TOTALS												245 ⁸	419.09	5.73	42.48	6.37	29.60	20.50	370.30*

REFERENCE OR CHECK NUMBER	DAYS OR HOURS	DATE	EARNINGS	F.I.C.	FED. TAX	INSURANCE	MISC.	NET EARNINGS
444	41.50	MAY 27	70.55	1.06	4.90	2.20		62.39
470	40	JUN 3	68.00	1.02	4.60	2.20		60.18
513	43.50	JUN 10	73.95	1.11	5.50	2.20	.50	64.64
580	40	JUN 17	68.00	1.02	4.60	2.20		60.18
615	41	JUN 24	70.55	1.06	4.90	2.20		62.39

Burroughs
STATEMENT OF EMPLOYEE EARNINGS AND PAYROLL DEDUCTIONS

DATE JUN 24 195__

No. 615

EMPLOYEE'S NAME John Carlson

DETACH BEFORE CASHING CHECK

DATE OR HOUR	DATE	TOTAL EARNINGS	F.I.C.	FED. TAX	INSURANCE	MISC.	NET EARNINGS
41	JUN 24	70.55	1.06	4.90	2.20		62.39*

PARIN PRODUCTS, INC.

DATE JUN 24 195__

PAY TO THE ORDER OF John Carlson

No. 615

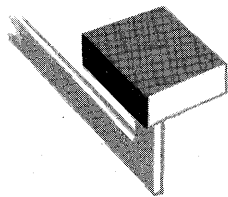
—Sixty-two and 39/100 dollars—

AMOUNT \$ 62.39*

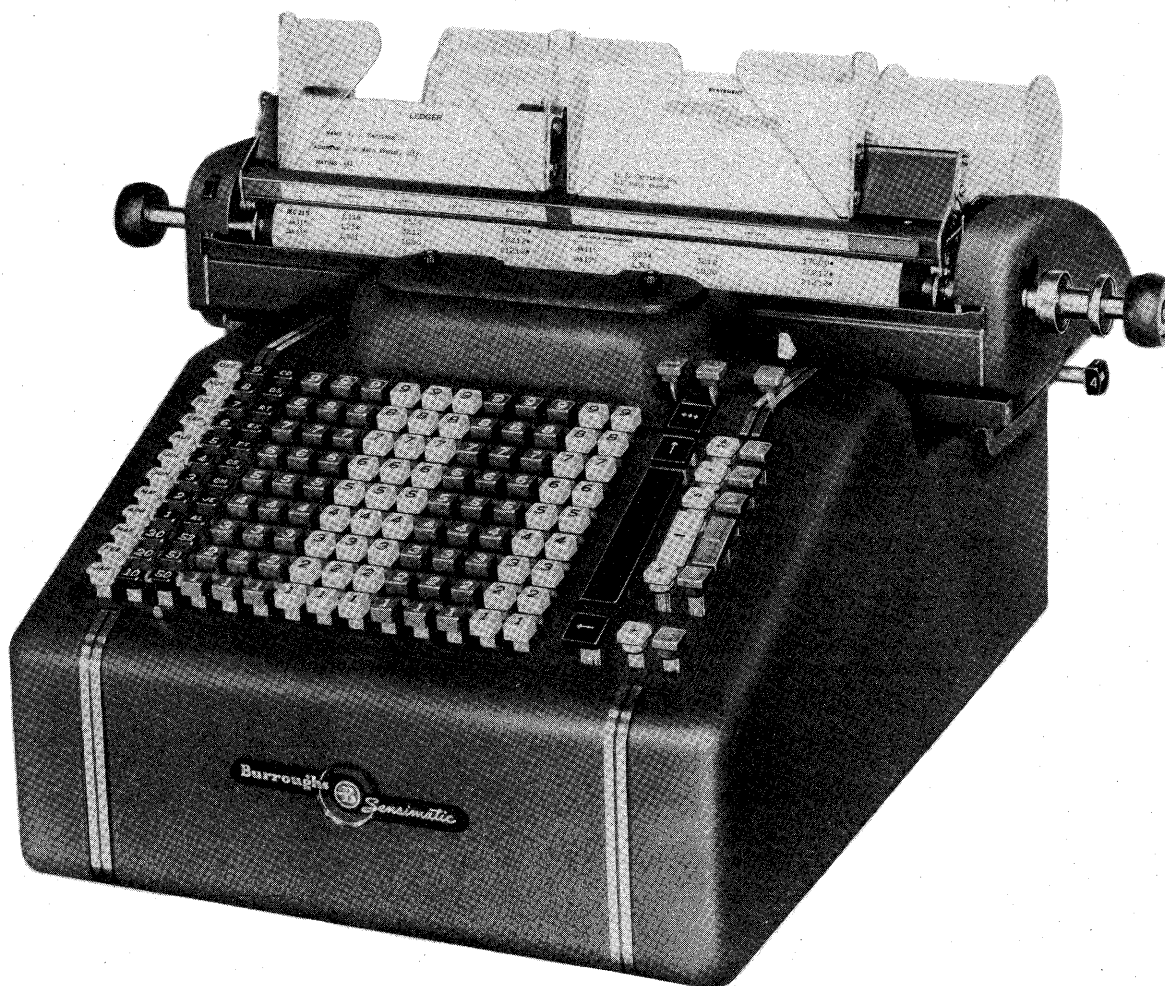
PAYABLE AT THE FIRST NATIONAL BANK ANYWHERE

PAYROLL ACCOUNT
C. J. Parr
AUTHORIZED SIGNATURE





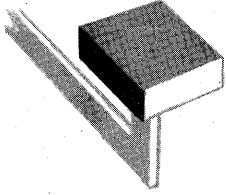
Sensimatic Machines



This machine is in the medium price range and provides many benefits because of its flexibility and automatic machine operations. In Accounts Receivable, for example, the ledger, statement and proof tape journal are prepared simultaneously and all are original records, providing a long lasting always readable print. The operator merely enters the old balance, the reference number and charge, the rest of the operation—repeat printing

and printing of the dates and balances—is entirely automatic. The machine is very flexible and by a simple turn of a knob at either end, the entire controls are quickly adjusted to provide for four different accounting records. A wide range of accounting forms can be handled on this machine.

Some of the applications illustrated are Accounts Receivable, Accounts Payable, Payroll and General Ledger.



Accounts Receivable

.00**	
.00**	
23.65 -	48.76**
67.95 -	74.23**
88.21 -	121.25**
53.76 -	45.34**
21.53 -	50.60**
57.26 -	16.84**
	357.02**

STATEMENT

Burroughs *SEMIAUTOMATIC*

The Modern Store
110 Main Street
Burroughsville

PLEASE RETURN THIS STUB WITH YOUR CHECK

DATE	REFERENCE	CHARGES	CREDITS	BALANCE
BALANCE FORWARDED				
FEB 3*	236,857	23.59		131.35*
FEB 3*	236,858	33.67	74.09 -	57.26*
FEB 12*				74.10*
FEB 27*	239,421	16.84		

LEDGER

NAME The Modern Store
ADDRESS 110 Main Street
RATING AA
CREDIT LIMIT \$2500.00

DATE	REFERENCE	CHARGES	CREDITS	BALANCE
BALANCE FORWARDED				
JUN 9*	229,860	26.83		53.65*
JUN 10*			53.65 -	80.48*
JUN 27*	234,655	47.36		26.83*
FEB 3*	236,857	23.59		74.09*
FEB 3*	236,858	33.67	74.09 -	131.35*
FEB 12*				57.26*
FEB 27*	239,421	16.84		74.10*

Burroughs *SEMIAUTOMATIC*

Original Ledger and Statement

PURCHASE REGISTER

JAN 275-	11,679	34.28	61.13	26.85	34.28**
JAN 275-	3,427	64.23	176.76	112.53	64.23**
JAN 275-	126,845	48.66			
JAN 275-	126,923	143.54	1,477.68	1,285.48	192.20**
JAN 275-	32,026	16.85	701.05	684.20	16.85**
JAN 275-	102,335	343.63	707.48	363.85	343.63**
					651.19**

DATE	REFERENCE	INVOICES	DEDUCTIONS	BALANCE
JAN 55-	98,764	18.64		18.64
JAN 125-	99,858	225.86		244.50
JAN 235-	101,247	34.56		363.85
JAN 235-	101,279	84.79		707.48
JAN 275-	102,335	343.63		

Feb. 10, 195-
DUE DATE

REMITTANCE ADVISE

\$ 14.15
DISCOUNT AMOUNT

Progressive Suppliers, Inc.
220 First Street
Burroughsville

PAY TO THE ORDER OF
Progressive Suppliers, Inc.

DATE FEB 105

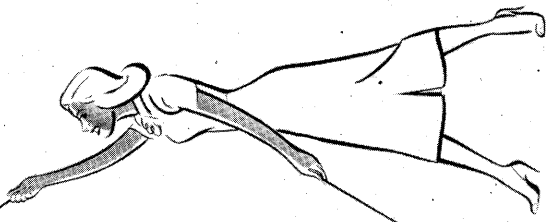
CHECK NO. 26,928

DISCOUNT 14.15-

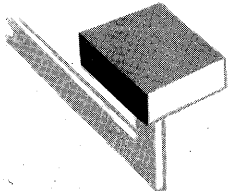
AMOUNT 693.33

THE FIRST NATIONAL BANK
PAYABLE AT ANYWHERE

John R. Merrill
AUTHORIZED SIGNATURE



Accounts Payable (Sensimatic Accounting Machine)



Accounts Payable

Invoices may be posted to remittance advice on an accrual basis and checks written at a separate operation on the due date. Or remittance advice

and check may be written together as invoices come in. *Both methods are fast, easy, economical on the Sensimatic Accounting Machine.*

PAYROLL

PERIOD ENDING July 30, 1955

PAYROLL NO. 26
SHEET NO. 2

PREVIOUS EARNINGS	HOURS	EARNINGS		EARNINGS TO DATE	PERIOD ENDING	DEDUCTIONS			DATE	CHECK NO.	EMPLOYEE	CHECK AMOUNT	
		REG.	OTHER			F.I.C.	W.H. TAX	FIXED					MISC.
1,543.52	42.00	67.20	1.60	68.80	JUL 30	1.03	2.60	6.50	1.00	JUL 30	123456	975 B. B. Brownlee 685-02-3435	57.67
1,728.43	47.00	70.50	5.25	75.75	JUL 30	1.14	5.50	8.75	7.5	JUL 30	123457	976 K. H. Perkins 288-04-1260	59.61
2,017.52	46.00	66.70	4.35	71.05	JUL 30	1.07	6.80	5.50	1.25	JUL 30	123458	977 J. A. Manning 374-02-7650	56.43

STATEMENT OF EMPLOYEE EARNINGS AND PAYROLL DEDUCTIONS

HOURS WORKED: 160.00
EARNINGS: 435.70
DEDUCTIONS: 107.60
NET PAY: 328.10

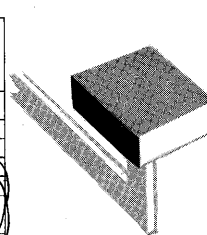
EMPLOYEE: J. A. Manning
DATE: JUL 30, 1955
CHECK NO.: 123458
AMOUNT: \$ 56.43

PAYABLE AT THE FIRST NATIONAL BANK ANYWHERE

J. A. Manning

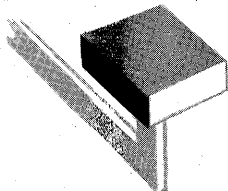
PREVIOUS BALANCE EARNINGS: 2,017.52

PREVIOUS BALANCE EARNINGS	HOURS	EARNINGS		EARNINGS TO DATE	PERIOD ENDING	DEDUCTIONS			
		REG.	OTHER			F.I.C.	W.H. TAX	FIXED	MISC.
1,750.71	44.00	63.80	2.90	66.70	JUL 25	1.00	6.80	5.90	7.5
1,817.41	45.00	66.70	4.35	71.05	JUL 25	1.07	6.80	5.50	1.00
1,888.46	45.00	65.25	3.63	68.88	JUL 15	1.03	6.50	5.90	1.00
1,977.34	43.00	63.45	7.1	70.55	JUL 15	0.98	5.50	5.50	
2,017.52	46.00	66.70	4.35	71.05	JUL 30	1.07	6.80	5.90	1.25



Payroll

On payday the Sensimatic will do a fast, efficient job, preparing check, statement of earnings, employee's ledger with earnings to date, and payroll journal in one operation.



General Ledger

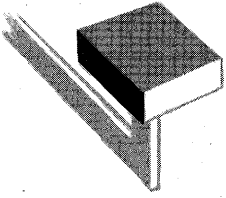
The biggest figures in any business — the balances on the general ledger accounts — are easily handled with Sensimatic's ample capacity. Sensimatic is ideal too, for miscellaneous ledger posting. *Material, cost and other ledgers are well within the extensive scope of the Sensimatic Accounting Machine.*

GENERAL LEDGER

ACCT. NAME Sales

ACCT. NO. 7
SHEET NO. 2

DATE	REFERENCE	DEBITS	CREDITS	BALANCE
BALANCE FORWARDED				7,569.43
FEB 23	11		428.64	7,998.07
FEB 24	12		1,272.88	9,270.95
FEB 25	13		356.21	9,627.16
FEB 26	14		728.56	10,355.72
FEB 27	15		357.02	10,712.74



Multiple Total Machines

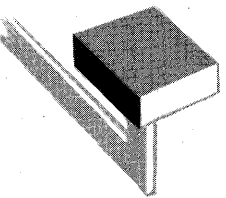


This machine is a high speed production machine and is used on specialized volume jobs. In our study of it we shall apply it to a payroll writing application.

Manual Procedure

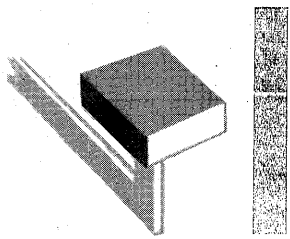
- Weekly** —1. Prepare payroll journal.
2. Arrive at net pay of each employee.
3. Foot all columns to arrive at totals for proof.
4. Prepare pay statement and pay check.
5. Add all amounts on pay statement and net pay on pay check to prove accuracy.
6. Post employee ledger.
7. Add amounts on ledger to prove accuracy.

- Quarterly**—1. Add earnings for each pay period of the quarter on each ledger card to arrive at quarterly earnings.



Payroll

Before getting into the machine application, let us compare the manual procedure with that of the machine procedure.



Payroll

2. Add quarterly totals and prove against control account.
3. Write Form 940a to report earnings of each employee to Federal and State Governments.
4. Add amounts on Form 940a to prove accuracy.

- Annually—
1. Add four quarterly totals on each employee ledger to arrive at year to date totals.
 2. Add year to date totals to prove against control.
 3. Add Income Tax withheld for each employee for the year.
 4. Add year to date tax totals and prove against control.
 5. Write Form W-2 showing earnings and tax withheld for the year.
 6. Add earnings and tax withheld on Form W-2 for accuracy.

The machine procedure shown below brings out very clearly the simplicity of the operation under machine methods because of collation and simultaneous preparation of forms, the extension of necessary total to date figures and automatic accumulation of proof totals.

Machine Procedure

- Weekly —
1. Payroll journal, pay statement and pay check in one writing, netting the pay and accumulating necessary proof totals at the same time.
 2. Post employee ledgers and automatically provide earnings to date for the year and quarter, and Income Tax to date for the year.
- Quarterly—
1. Prepare Form 940a copying quarterly totals to date from employee ledger, proof totals accumulating automatically.
- Annually—
1. Prepare Form W-2 copying earnings and tax to date for the year from the employee's ledger, proof totals accumulating automatically.

The requirements with respect to hours worked, earnings and number of deductions that need to be provided for on payroll records vary greatly from one company to another. If pay-

ment is by check, as it usually is, a payroll journal, pay statement, pay check and employee ledgers are the forms that need to be prepared. If these forms are prepared in one writing, the payroll plan is called a "unit plan." If the payroll journal, pay statement and pay check are prepared in one operation, and then the employee ledger is prepared at a later operation, it is called a "dual plan."

The dual plan is used when time between payroll closing and payment date is limited. Checks, pay statement and Payroll Journal are written at high speed in one operation, then the ledgers are posted afterward. This plan provides an even flow of work through the Payroll Department and takes about the same over-all time as the unit plan.

With both operations proof totals are accumulated automatically.

With the dual plan the employee ledger provides complete information on the necessary totals to date for reporting to both the state and federal governments with respect to earnings and deductions for each employee. For example, it shows earnings to date for the year, which is needed for reporting of earnings to the Federal Government for Income Tax purposes. The same figure also will enable us to quickly determine when the cut-off point of \$3,600.00 for Social Security deduction is reached. Earnings for the quarter to date is shown so that the quarterly earnings can be quickly copied without further computation and reported on Form 940a to the Federal and State Governments. Withholding Tax is carried for the year to date for Income Tax purposes at the end of the year. It also shows a bond account — deductions, purchases and balances.

The unit plan is usually used when times between payroll closing and payment dates permits. With this plan, however, earnings to date for the year and Withholding Tax to date for the year are usually the only totals to date provided. This means that at the end of each quarter the quarterly earnings for each employee have to be computed by deducting the previous quarter to date figure from the current year to date earnings before the Form 940a can be prepared. Also, if the company subscribes to a payroll plan bond deduction, the bond ledger is usually maintained separately.

High-Speed Dual Plan

Checks, Statements and Register Prepared at High Speed

The Dual Plan is used when time between payroll closing and payment dates is limited. Checks are written at high speed in one operation, then the ledgers are posted afterward. This plan provides an even flow of work through the payroll department and takes about the same overall time as the Unit Plan.

PAYROLL JOURNAL

PAYROLL NO. 31
SHEET NO. 42

WEEK ENDING July 30, 1955

PERIOD ENDING	HOURS WORKED	GROSS PAY	DEDUCTIONS			NET PAY	CHECK NO.	CLOCK NO.	NAME
			W. H. TAX	F. I. C.	BONDS				
JUL 30 55	43.50	7150	680	107	750	5113	973	A. G. BROWN	
JUL 30 55	42.00	6560	150 MS	200 MS	150 CU	4962	974	V. E. KIEL	
JUL 30 55	40.00	6400	200 MS	96	375	4929	975	J. C. Mayberry	

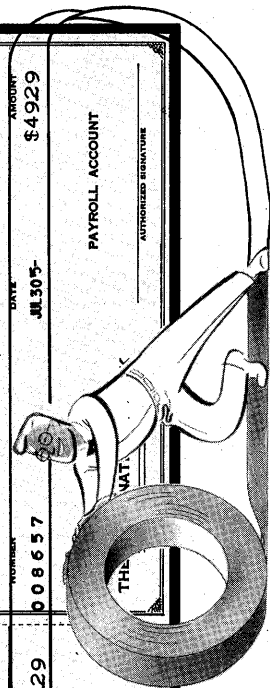
STATEMENT OF EMPLOYEE EARNINGS AND PAYROLL DEDUCTIONS

DATE	HOURS WORKED	GROSS PAY	DEDUCTIONS			NET PAY	DATE	AMOUNT
			W. H. TAX	F. I. C.	BONDS			
JUL 30 55	40.00	6400	200 MS	96	375	500	4929	

PAY TO THE ORDER OF J. C. Mayberry
176-03-4816

WORKED 008657 DATE JUL 30 55 AMOUNT \$4929

THE NATIONAL PAYROLL ACCOUNT AUTHORIZED SIGNATURE



DETACH THIS STUB BEFORE CASHING CHECK

Ledgers Posted Between Payroll Writing Periods

DATE	BONDS	PUR. PRICE	PERMISSION	DATE	AMOUNT	DATE	AMOUNT
JUL 30 55	200	1700	4200	JUL 30 55	6745	263485	49305
JUL 30 55	900	1200	4300	JUL 30 55	6920	242045	6470
JUL 30 55	350	1750	4000	JUL 30 55	6750	229280	260
JUL 30 55	400	1875	4000	JUL 30 55	5510	229565	620
JUL 30 55	375	375	4000	JUL 30 55	6400	210960	250
							6550
							250285

DEDUCTIONS

DATE	BONDS	PUR. PRICE	PERMISSION	DATE	AMOUNT	DATE	AMOUNT
JUL 21	375	1875	May 1	JUL 2	175	2635	100

CU-CREDIT UNION
DATE
AMOUNT

EMPLOYEE LEDGER

DEDUCTION	PURCHASE	BALANCE	DATE	HOURS	CURRENT EARNINGS		EARNINGS TO DATE		WITHHOLDING TAX		PROOF BALANCE
					W-2	SS-1B	W-2	SS-1B	CURRENT	TO DATE	
375		750	JUL 25	4 000	6400	6400	184960	6400	200	5720	197830
375		1125	JUL 9	4 000	6400	6400	191360	12800	200	5920	211205
375		1500	JUL 16	4 200	6560	6560	197920	19360	200	6120	224900
375	1875	00	JUL 23	4 300	6640	6640	204560	26000	230	6350	236910
375		375	JUL 30	4 000	6400	6400	210960	32400	200	6550	250285

J. C. Mayberry
176-03-4816

CLOCK NO. NAME SOCIAL SECURITY NO.

Unit Plan

Paycheck, Statement, Ledger with "To Date" Totals and Payroll Journal . . . All in One Operation

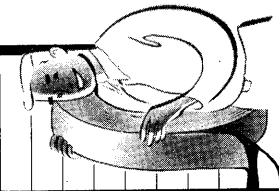
WEEK ENDING July 30, 1955 PAYROLL NO. 31 SHEET NO. 85

DATE	REGULAR		OVERTIME		GROSS PAY	W. H. TAX	DEDUCTIONS			NET PAY	CHECK NO.	CLOCK NO.	NAME
	HOURS	AMOUNT	HOURS	AMOUNT			F. I. C.	BONDS	MISCELLANEOUS (SEE CODES)				
JUL 30 '55	42.00	6720	1.00	160	6880	260	103	500	500	4917	008633	973	A. G. BROWN 345-01-4509
JUL 30 '55	47.00	7050	3.50	525	7575	550	114	375	500	5536	008634	974	V. E. KIRK 196-01-9682
JUL 30 '55	46.00	6670	3.00	435	7105	580	107	750	500	4693	008635	975	J. C. Mayberry 176-03-4816

STATEMENT OF EMPLOYEE EARNINGS AND PAYROLL DEDUCTIONS													
DATE	REGULAR		OVERTIME		GROSS PAY	W. H. TAX	DEDUCTIONS			NET PAY	NUMBER	DATE	AMOUNT
	HOURS	AMOUNT	HOURS	AMOUNT			F. I. C.	BONDS	PENSION				
JUL 30 '55	46.00	6670	3.00	435	7105	200	107	750	500	4693	008635	JUL 30 '55	\$4693

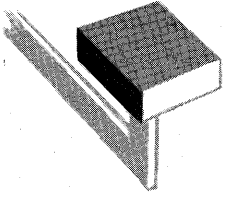
EMPLOYEE LEDGER													
DATE	BONDS	REGULAR	OVERTIME		GROSS PAY	W. H. TAX	DEDUCTIONS			NET PAY	CHECK NUMBER	TOTALS TO DATE	PROOF BALANCE
			HOURS	AMOUNT			F. I. C.	BONDS	MISCELLANEOUS (SEE CODES)				
JUL 25	44.00	6380	2.00	290	6670	620	100	750	500	3875	000821	17105	198846
JUL 9	46.00	6670	3.00	435	7105	150	107	750	500	4618	002143	17785	206631
JUL 16	45.00	6525	2.50	363	6888	450	103	750	500	4735	004206	18435	214169
JUL 23	41.00	5945	.50	73	6018	530	90	750	500	4048	006411	18965	220717
JUL 30	46.00	6670	3.00	435	7105	200	107	750	500	4700	008635	19645	228502

STATEMENT OF EMPLOYEE EARNINGS AND PAYROLL DEDUCTIONS													
DATE	BONDS	REGULAR	OVERTIME		GROSS PAY	W. H. TAX	DEDUCTIONS			NET PAY	CLOCK NO.	NAME	SOCIAL SECURITY NO.
			HOURS	AMOUNT			F. I. C.	BONDS	PENSION				
JAN 5	7.50	37.50	May 1	5.00	1.50	Dec 15	1.75			975	J. C. Mayberry	176-03-4816	



This "three-in-one" Unit Plan is used when time column headings and infrequent deductions between payroll closing and payment dates per-coded. Sheet carbon eliminates the need for carbon spotting on the checks. The Journal is a complete record of all items and totals.

The Employee Ledger is a complete, original record. Fixed deductions are described in complete record of all items and totals.



Customer Accounting in Banks

.00*									
.00*									
		.00*							
		.00*							
			.00*						
			.00*						
500.00	1000.00-	500.00-		JUL 22 ⁵ -		.00*			
1,875.25				JUL 22 ⁵ -		.00*			
26.50	277.50-		1,050.00	JUL 22 ⁵ - 17		350.00*			
5175.00	5000.00-	4900.00-		JUL 22 ⁵ - 31		2,925.25*			
798.00	6500.00-		200.00	JUL 22 ⁵ - 12		1.2500			
635.00	795.70-			JUL 22 ⁵ - 32		4185.00*			
555.43-				JUL 22 ⁵ - 22		348.00*			
555.43	795.70C	797.50-		JUL 22 ⁵ - 6		555.43*			
				JUL 22 ⁵ - 6		555.4300			
				JUL 22 ⁵ - 6		555.25*			
133	9,565.18*								
1	555.43*								
134	9,009.75*								
		0	1,977.07*						
		999	795.70*						
		7	1,997.50*						
				1,250.00*					
				.00*					
				2	1,250.00*				
				JUL 22 ⁵ - 12		8,918.93*			
				JUL 22 ⁵ - 12		556.8*			
				JUL 22 ⁵ - 131		8,362.25*			

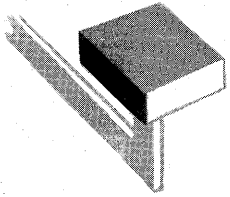
FIRST NATIONAL BANK BURROUGHSVILLE				J. H. HARRISON 712 MAIN STREET				J. H. HARRISON 712 MAIN STREET					
CHECKS		DEPOSITS	DATE	NO. OF CHECKS PAID	BALANCE	DATE	NO. OF CHECKS PAID	BALANCE	ANALYSIS				
AMOUNT BROUGHT FORWARD									TRAVEL	CLASS	FLYING	OTHER	
750.00-	47.75-		JUL 15-		550.00	JUL 15-		550.00					
			JUL 5-	2	427.25*	JUL 5	2	427.25					
		3000.00	JUL 7-	2	727.25*	JUL 7	2	727.25	5	1	15	25	
1000.00-	52.25-		JUL 15-	5	635.00*	JUL 15	5	635.00					
400.00-		1000.00	JUL 22-	6	555.43*	JUL 22	6	555.43					
795.70-			JUL 22-	6	555.25*	JUL 22	6	555.25					
795.70C	79.75-												

While customers' accounting in banks is relatively standardized, there are still a number of different posting plans in use. Whatever plan a bank may use, this posting machine can be applied to it readily.

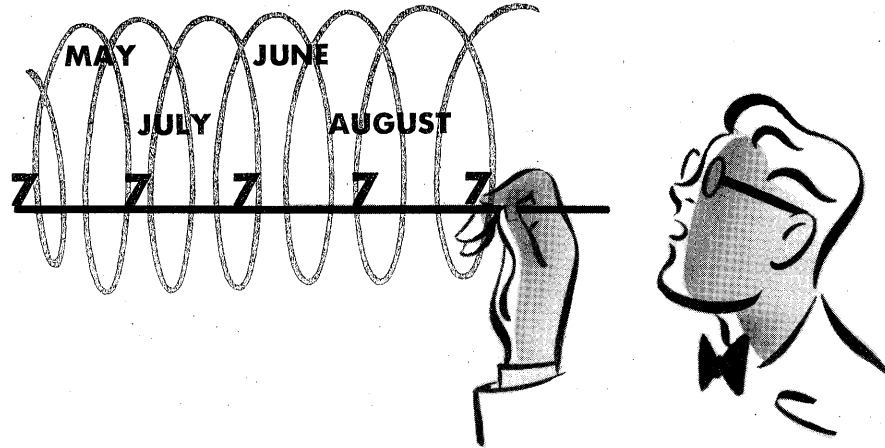
The illustration shows the statement operation of a posting plan known as the dual plan. Under this plan the customer's ledger is posted in one operation and then the customer's statement in a separate operation. During both runs the machine

accumulates totals automatically of old plus and minus balances, checks and check corrections, count of checks and corrections, deposits and deposit corrections, and new plus and minus balances. These totals on the two separate runs should agree with each other.

Some banks obtain a stub from the statement operation on which necessary data are recorded that will enable the bank to calculate its service charges on each individual account.



Cycle Billing



Cycle billing has been in use by public utilities for many years. In recent years, however, this mode of rendering customer statements has been adopted and is gaining in popularity in department stores. In essence, the plan provides for preparing statements at billing dates and spreads the mailing of statements over an entire monthly period instead of the first of the month. This results in a more even distribution of the work load and results in greater efficiency.

There are various cycle billing plans in use, but the one illustrated here provides the greater over-all efficiency as well as space requirement.

The usual procedure is to accumulate the sales tickets, return tickets and cash receipt tickets along with a credit history card in a customer file.

At the billing date, the file is taken to the posting machine, the statement and credit ledger are inserted in the machine, and the purchases, returns and payments summarized on the statement, and then the totals are printed on the ledger card automatically. This ledger card serves as a reference for the Credit Department. The tickets and statements are then microfilmed and mailed to the customer.

100001

50.00	6.07	50.00 Cr	JAN 35-	7	47.56
	23.05				
	10.44				
	6.37				
	7.70				
<p>STATEMENT</p> <p>Burroughs, Inc.</p> <p>DETROIT</p> <p>A E Adams</p> <p>8116 Evans Ave</p> <p>5-45611 Middleton Mich</p>					
<p>PLEASE DETACH AND ENCLOSE WITH YOUR REMITTANCE. THANK YOU.</p>					
PREVIOUS BALANCE	PURCHASES	RETURNS	PAYMENTS	CLOSING DATE	NO. OF ITEMS
5 00 0	6 07				
	23 05				
	10 44				
	6 37				
	7 70				
		6 07 Cr	5 00 0 Cr	JAN 35-	7
					47 56
<p>ACCOUNTS ARE DUE AND PAYABLE WITHIN 10 DAYS AFTER THIS CLOSING DATE.</p> <p>FOR YOUR CONVENIENCE SALES CHECKS AND CREDIT ITEMS COVERING ALL TRANSACTIONS THROUGH THE ABOVE CLOSING DATE ARE ENCLOSED. PLEASE PRESENT THEM WITH THE STATEMENT IF THERE IS AN INQUIRY ABOUT ANY ITEM.</p>					
Net Old Balances	373.978	16.07 Cr	1,013.52	7	16
Net New Balances					

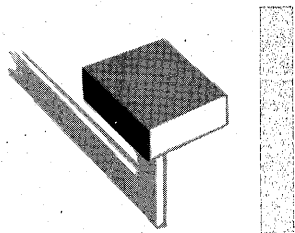


CREDIT LEDGER

A. E. Adams
8116 Evans Ave
5-45611 Middleton Mich

NO.	PURCHASER	RETURNS	PAYMENTS	BILLS DATE	NO. OF TICKETS	BALANCE	OWING FROM A	PAY. TWD. Y
JAN	53.63	6.07	50.00	JAN 35-	7	47.56		50.00
FEB	20.16	.00	47.56	FEB 35-	6	20.16		
MAR	123.15	.00	50.00	MAR 35-	5	93.31		
APR	100.00	1.59	93.31	APR 35-	12	84.41		
MAY	.00	.00	84.41	MAY 35-	1	84.41		
JUN				JUN 35-		.00		
JUL								
AUG								
SEP								
OCT								
NOV								
DEC								

Burroughs, Inc.



Budgetary Accounting

APPROPRIATION BALANCES						
DATE June 30, 195-		DEPARTMENT Public Works				
ACCOUNT	MEMO	BUDGET	EXPENDITURES	UNEXPENDED BALANCE	OUTSTANDING ENCUMBRANCES	UNENCUMBERED BALANCE
1,201		25,000.00	4,800.00 -	20,200.00 \$		20,200.00
1,202		22,000.00	4,000.00 -	18,000.00 \$	9,250.00 -	8,750.00
1,203		12,000.00	835.00 -	11,165.00 \$	850.00 -	10,315.00
1,204		6,500.00	3,150.00 -	3,350.00 \$	350.00 -	3,000.00
		65,500.00	12,785.00	52,715.00	10,450.00	.00
						42,265.00
1,301		10,000.00	4,247.52 -	5,752.48 \$		5,752.48
1,302		6,000.00	3,600.00 -	2,400.00 \$	500.00 -	1,900.00
1,303		7,500.00	4,750.00 -	2,750.00 \$	249.50 -	2,500.50
1,304		5,500.00	2,500.00 -	3,000.00 \$	400.00 -	2,600.00
		29,000.00	15,097.52	13,902.48	1,149.50	.00
						12,752.98
1,401		8,000.00	3,500.00 -	4,500.00 \$		4,500.00
1,402		1,800.00	1,200.00 -	600.00 \$	200.00 -	400.00
1,403		2,500.00	1,150.00 -	1,350.00 \$	350.00 -	1,000.00
1,404		1,200.00	700.00 -	500.00 \$	550.00 -	50.00 CR
		13,500.00	6,550.00	6,950.00	1,100.00	50.00
						5,900.00

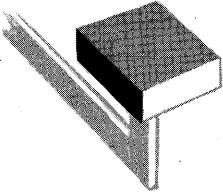
Budgetary accounting in governmental institutions is of paramount importance because all activities operate with funds allotted to them, and expenditures must not exceed these allotments. It is extremely important, therefore, that the unencumbered balance (available free balance) is known at all times for efficient management of funds. It is also important that the total of expenditures and the outstanding encumbrances against the funds are also available at all times.

This machine meets all the requirements of an efficient budgetary accounting system. It is fast and highly automatic and makes possible the posting of 8 types of entries in one run:

(1) Budget increases

- (2) Budget decreases
- (3) Encumbrances
- (4) Encumbrance cancellations
- (5) Vouchers
- (6) Voucher cancellations
- (7) Liquidations
- (8) Voucher liquidations

In addition to the register of transactions a statement of the ledger postings may be produced as a by-product and furnished to activity heads to show them daily changes in the fund status, if desired. If preferred, periodic reports can be made readily by simply copying from up-to-date ledger totals and balances the required information, which is then submitted to the proper officials.



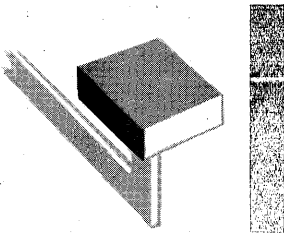
Budgetary Accounting

BUDGET LEDGER										
ACCOUNT Material and Supplies							ACCOUNT NO. 1,203			
ACTIVITY							PAGE NO. 2			
DEPARTMENT Public Works										
REFERENCE			TRANSACTIONS				TOTAL CHARGES		BUDGET **	UNENCUMBERED BALANCE
DATE	CODE	NUMBER	CL	KIND	AMOUNT	TOTAL EXPENDITURES Δ	OUTSTANDING ENCUMBRANCES Σ			
JUN 15-						.00	1,500.00	10,000.00	8,500.00	
JUN 95-	1321	12,345.20	Δ		600.00	600.00	900.00	10,000.00	8,500.00	
JUN 105-		12,347.5	Δ		150.00					
JUN 105-	1322	12,346.24	Δ		285.00					
JUN 105-	1523				300.00					
JUN 105-	1715				250.00					
JUN 10 TR		1,234	**		2,000.00	1,035.00	850.00	12,000.00	10,115.00	
JUN 115-CAN		12,654.20	Δ		200.00	835.00	850.00	12,000.00	10,315.00	

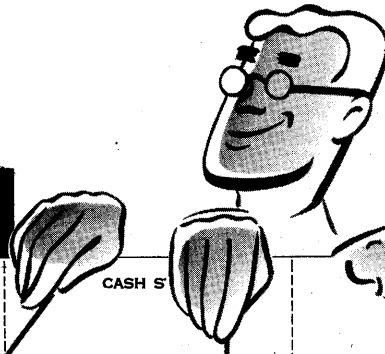
REGISTER OF TRANSACTIONS											
PREVIOUS BALANCES	ACCOUNT	REFERENCE			TRANSACTIONS			BALANCES AND TOTALS TO DATE			
		DATE	CODE	NUMBER	CL	KIND	AMOUNT	TOTAL EXPENDITURES	UNLIQUIDATED ENCUMBRANCES	BUDGET	UNENCUMBERED BALANCE
								.00	.00	.00	.00
5,200.00 -	1,105										
6,950.00 -	1,106										
		JUN 115-	1201	2,361.21	Δ		300.00	300.00	1,500.00	7,000.00	5,200.00
		JUN 115-ADJ		11,342	Δ		60.00				
		JUN 115-	1311	2,142.24	Δ		218.00				
		JUN 115-	1512				100.00				
		JUN 115-	1702				150.00				
		JUN 11 TR		1,234	**		1,500.00	1,578.00	800.00	10,500.00	8,122.00
10,115.00 -	1,203	JUN 115-CAN		12,654.20	Δ		200.00	835.00	850.00	12,000.00	10,315.00
								378.00	150.00	1,500.00	22,265.00
											23,637.00

REPORT OF EXPENDITURES

DAILY STATEMENT OF BUDGETARY TRANSACTIONS * BUDGET INCREASE OR DECREASE Σ ENCUMBRANCES Δ EXPENDITURES	PREVIOUS BALANCE	ACCOUNT	DATE	CODE	NUMBER	CL	KIND	TRANSACTION AMOUNT	TOTAL EXPENDITURES	UNLIQUIDATED ENCUMBRANCES	TOTAL BUDGET	UNENCUMBERED BALANCE
		5,200.00 -	1,105	JUN 115-	1201	2,361.21	Δ		300.00	300.00	1,500.00	7,000.00
	6,950.00 -	1,106	JUN 115-ADJ		11,342	Δ		60.00				
			JUN 115-	1311	2,142.24	Δ		218.00				
			JUN 115-	1512				100.00				
			JUN 115-	1702				150.00				
			JUN 11 TR		1,234	**		1,500.00	1,578.00	800.00	10,500.00	8,122.00
	10,115.00 -	1,203	JUN 115-CAN		12,654.20	Δ		200.00	835.00	850.00	12,000.00	10,315.00



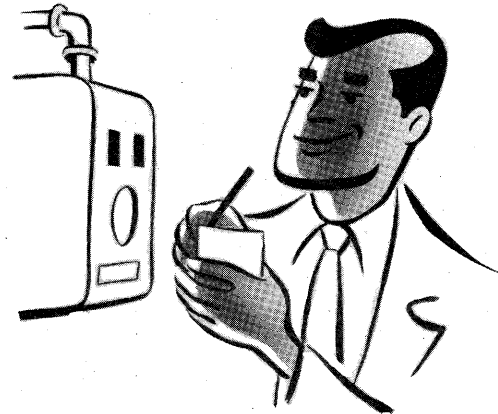
Utility Billing



Stub Plan

CUSTOMER'S BILL						CASH STATEMENT			LEDER RECORD					
CONSTANT	DEMAND	DATE	METER READINGS		USED	NET	CODE	DATE	NET	CODE	DATE	USED	NET	CODE
			PREVIOUS	PRESENT										
		FEB 8	1680	1756	76	4.56	FR	FEB 8	4.56	ER	FEB 8	76	4.56	ER
		FEB 8	6586	6620	34	4.08	GD	FEB 8	4.08	GD	FEB 8	34	4.08	GD
		FEB 8	18568	18590	22	2.20	WD	FEB 8	2.20	WD	FEB 8	22	2.20	WD
						10.84	TL		10.84	TL			10.84	TL
JOHN DOE, JR. 160 N. MAIN ST., CITY						16-180		JOHN DOE, JR. 160 N. MAIN ST., CITY			16-180	JOHN DOE, JR. 160 N. MAIN ST., CITY		

3826	229.56	ER
664	25.92	EC
2412	48.24	EP
1860	223.20	GD
710	63.90	GC
1240	78.40	GI
796	79.60	WD
1420	71.00	WC
13128	819.82	TL
	90.10	AR
	6.70	CR
	83.40	TL

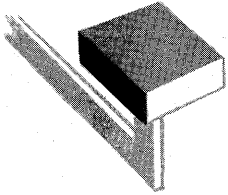


Utility billing is a term given to the operation of rendering bills to customers of public utility companies. While there are many variations in practices of different companies, there are three basic types of billing plans:

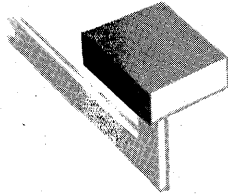
1. Stub plan
2. Bill and ledger plan
3. Register sheet plan

The differences in the plans are evident from the illustration. The stub plan provides a ledger

stub which becomes a ledger record with each customer. This stub is filed in customer order until paid, at which time it is placed in a paid file. The bill and ledger plan provides a separate ledger for each customer and gives a continuous history record of the activity with each customer. The register sheet plan provides a customer record on a sheet. Any of the plans can be handled very readily with this Burroughs machine and the plans may be either net, or gross and net billing on either paper or post card bills.



Other Machines



Adding Machines

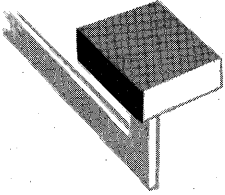
Accounting machines are production machines and may be compared to such production machines as lathes, grinders, screw machines, etc., in the factory. Just as production machines in the factory do not eliminate the need for screw drivers, wrenches, and pliers, so accounting machines in the office do not eliminate the need for adding machines. A wide range of adding machines is available, each machine built to provide a specified result. It is just as important to be familiar with adding machines and their applications as it is to be familiar with accounting machines and their applications.

It is possible to purchase "more" adding machine than is needed for a specific job just as it is possible to purchase an inadequate adding machine. Machines are available in various capacities; they may be hand or electrically operated;

they may be built to add only or to add and subtract; they may be equipped with a minus balance mechanism so as to produce a true minus balance when more is subtracted than added; they may be equipped with narrow carriages, wide carriages, front feed carriages, tabulating carriages or carriages with split platens to accommodate side by side two forms that require independent spacing. A few of the adding machines and some of the adding machine applications are illustrated in the following pages.

Adding-Subtracting Electric Operation

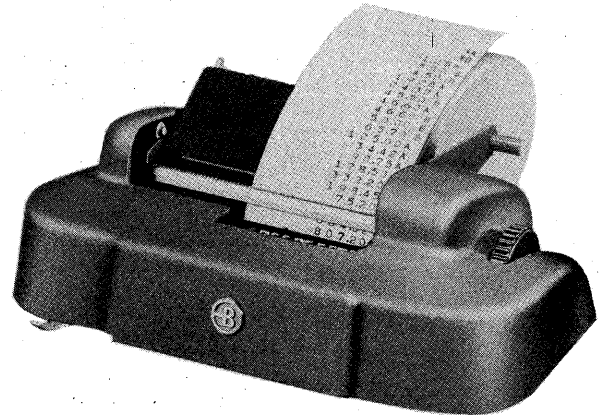
The machine illustrated is an electrically operated adding-subtracting machine. It has 10-column capacity and provides both plus and minus totals up to 99,999,999.99. Multiplication and division problems are handled speedily.



*The Carriage
for the Job
to be Done*

The Narrow Carriage

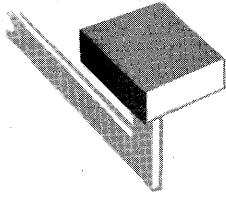
This narrow carriage is surprisingly versatile. The tape may be removed and a narrow form substituted. Figures may then be listed and totaled directly on the form. This eliminates the need for listing by hand and the copying of totals from a separate adding machine tape. Deposit slips, statements, inventory lists and many other forms may be prepared in this way.



NAME	
D. O. Bally	
DATE	
6/24/5-	
NUMBER	
472-16-5767	
REGULAR EARNINGS	4 1.1 6
OVERTIME	.98
TOTAL EARNINGS	4 2.1 4*
DEDUCTIONS	
SOCIAL SECURITY TAX	.63-
INCOME TAX	2.80-
HOSPITAL INS.	.60-
HEALTH & ACC. INS.	
BONDS	
MISC. DEDUCTIONS	1.50-
NET EARNINGS	3 6.61*
THIS IS YOUR RECORD OF YOUR EARNINGS AND STATEMENT OF DEDUCTIONS.	
Burroughs Ⓟ	

STATEMENT	
TO	CHARGES .00*
Mrs. J. H. Albert	1.25
7120 Poplar St.	4.50
CALIF.	7.50
	5.00
	12.00
	2.50
	3.00
	2.35
	4.79
	.23
	CREDITS 2 2.00-
	BALANCE FORWARD 5.00
	PAY THIS AMOUNT 2 6.12*
	Ⓟ
COUNT AS PER TICKETS ATTACHED	

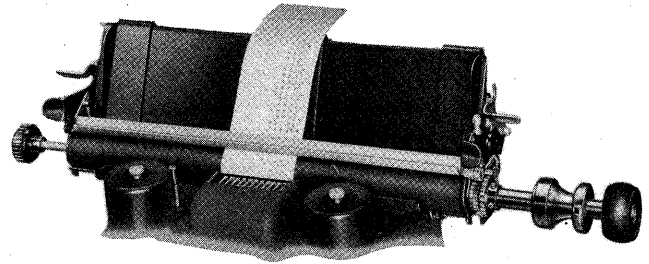
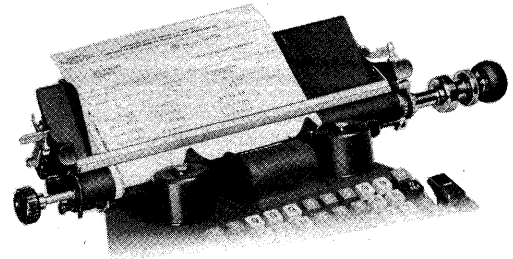
DEPOSITED IN THE		
FIRST NATIONAL BANK		
BURROUGHSVILLE		
	DOLLARS	CENTS
CURRENCY	4 50.00	*
SILVER	69.32	
CHECKS:		
(If in City, name of Bank; if out of City, name of place where payable)		
	37.82	
	61.60	
	55.40	
	32.20	
	98.70	
	45.00	
	1 23.50	
	1 21.60	
	2 22.45	
	3.00	
	78.50	
	39.20	
	45.80	
	37.62	
	29.80	
TOTAL	1 551.51*	
CREDIT ACCOUNT OF		
R. P. Nye		
Printed in U. S. A. '40		
Form G-211		
DATE	Jan. 28	195-
TR.	CLS.	FLOAT
		MISC.



The Carriage for the Job to be Done

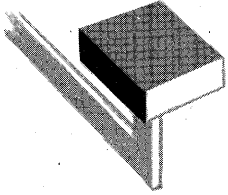
The Wide Carriage

The Burroughs wide carriage is optional on all styles, either with or without automatic cross-tabulation. It accommodates forms up to 11 $\frac{3}{4}$ " wide and makes it exceptionally useful for listing in columns on wide sheets or for preparing Social Security reports and similar forms. When you list and add or subtract directly on such forms, you eliminate one complete handling of the figures. A roll paper holder is included to permit listing on a tape.



ACCOUNTS RECEIVABLE TRIAL BALANCE and ANALYSIS OF ACCOUNTS					
Date 6/30/5-					
ACCT. NO.	CURRENT	30 DAYS	60 DAYS	90 DAYS and OVER	TOTAL
.02 #	1 4 5.30				1 4 5.30 *
.06 #		3 5.00		1 0.00	4 5.00 *
.10 #	4 5.85	2 5.00	1 5.50		8 6.35 *
.14 #	5 6.30				5 6.30 *
.16 #		7 9.80	2 2.55	1 0.00	1 1 2.35 *
.21 #	2 7 3.20	2 6 7.80	1 4 7.00		6 8 8.00 *
.25 #				1 2 5.60	1 2 5.60 *
.28 #	5 2.80	1 3.60			6 6.40 *
.34 #	6 9.30	2 4.35	1.45		9 5.10 *
.42 #	2 5 8.15	3 5.00	1 0.64	1 6.90	3 2 0.69 *
.54 #		1 4 7.85	2 1.15		1 6 9.00 *
.63 #		1 5.34	1 2 5.00	5 4.00	1 9 4.34 *
.74 #	6 4.50				6 4.50 *
.79 #	1 3 0.85	2 0.00			1 5 0.85 *
.81 #				3 6.75	3 6.75 *
.87 #	1 5.95	3 4.05			5 0.00 *
.95 #	1 2 5.45	3 4.06	5.75		1 6 5.26 *

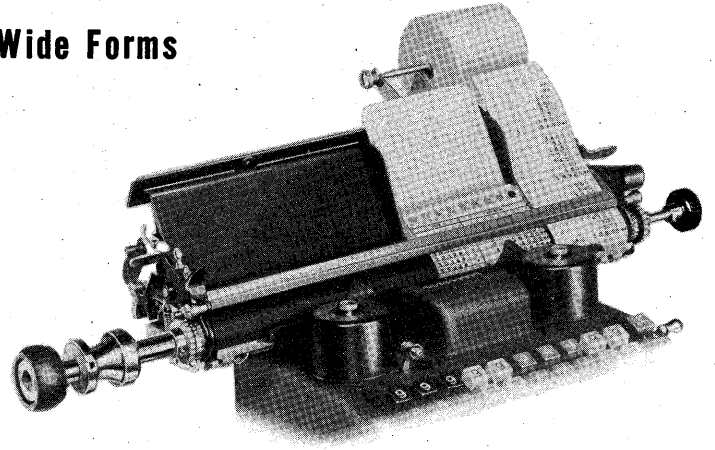
FINANCIAL STATEMENT	
PROFIT AND LOSS STATEMENT	
JANUARY 1 to APRIL 30	
REVENUES	
Sales (This Year to Date)	3 8 1 2 5.88 -
Cost of Merchandise Sold	3 1 3 5 3.90 -
GROSS PROFIT FROM SALES	6 7 7 1.98 M
Discounts Earned	5 0 8.15 -
Interest Received	6 7.03 -
Miscellaneous Income	1 3 4.90 -
TOTAL GROSS PROFIT	7 4 8 2.06 M
EXPENSES	
Rent	6 4 0.00
Light, Heat, Power, Water	2 0 5.26
Freight, Telephone, Telegraph	1 0 2.10
Interest Paid, Discounts Allowed	9 8.73
Salaries	2 3 5 7.50
Taxes, Insurance	3 2 5.75
Supplies	2 1 5.40
Delivery Expense	6 5 2.65
Depreciation	4 9 7.20
Miscellaneous Expense	3 1 0.94
TOTAL EXPENSE	5 4 0 5.53 M
Total Gross Profit	7 4 8 2.06 -
Total Expense	5 4 0 5.53 -
TOTAL NET PROFIT	2 0 7 6.53 M



The Carriage for the Job to Be Done

The Wide Carriage for Narrow Tape and Wide Forms

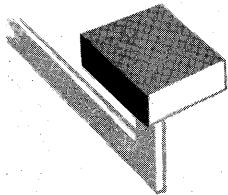
Another optional carriage features a "split" or divided platen which accommodates the listing tape and a wide form at the same time. This permits independent spacing of the tape and the form and removal of the form without disturbing the tape. It is particularly useful in the preparation of statistical forms, where figures are listed and subtotaled on the tape and totaled on the form. The carriage tabulates automatically, but may also be positioned for listing in columns on wide forms.



CLERK	TAX	AMOUNT		
A	225	75.09	*A	
B	391	129.84	*A	
C	690	229.23	*A	
D	829	275.90	*A	
E	406	134.42	*A	
F	479	159.42	*A	
G	431	143.47	*A	
H	788	262.16	*A	
J	634	210.11	*A	
K	577	192.10	*A	
L	632	210.30	*A	
M	751	249.22	*A	
N	403	133.23	*A	
O	610	202.80	*A	
P	320	106.38	*A	
Q	483	160.83	*A	
R	571	189.33	*A	
S	576	190.92	*A	
TOTAL	9796	3254.55	*B	

54	17.84	*A
14	4.50	*B
42	14.16	
17	5.77	
13	4.42	
64	21.45	
17	2.45	
14	4.50	
225	75.09	*A
35	11.50	
103	34.30	
14	4.65	
190	63.29	
14	4.50	
10	3.30	
5	1.50	
20	6.80	
391	129.84	*A
73	24.40	
20	6.65	
14	4.39	
20	6.67	
17	5.31	
14	4.50	
20	6.70	
26	8.70	
97	5.67	
34	7.98	
132	40.50	
97	32.30	
197	65.50	
6	2.00	
23	7.56	
690	229.23	*A
15	5.00	
14	4.50	
20	6.60	
22	7.45	
92	30.50	
204	67.90	
163	55.00	
10	3.40	
6	2.00	
12	4.05	
17	5.50	
21	7.00	
135	45.00	
96	32.00	
829	275.90	*A
4	1.22	
10	3.30	
30	9.87	
30		
28		
14		

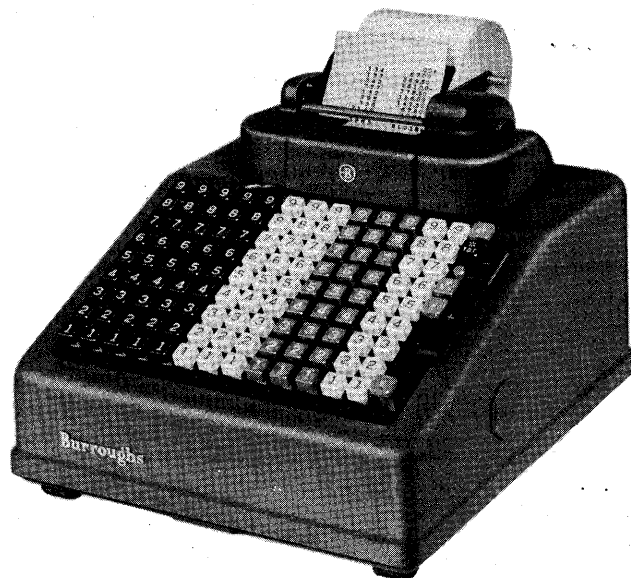
THE MODERN STORE
BURROUGHSVILLE



Adding — Subtracting Electric Operation

Adds Two Sets of Figures Simultaneously or Lists Quantities and Amounts

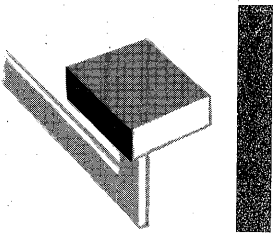
Some types of work require extra large adding capacity. The electrically-operated 13-column adding and subtracting machine with plus and minus totals (illustrated) fills this need. Either the full capacity of the machine may be used for accumulating a single total, or the keyboard may be "split" for accumulating separate totals of two classes of items, such as quantities and amounts, or for listing numbers and totaling amounts.



Adds and Subtracts Fractional Amounts

There are many figuring jobs involving fractions—such as feet and inches, or inches and fractions of inches, or bushels and pounds. Electrically-operated machines (such as the one shown here) add and subtract such fractions as well as whole units. As the fractions are accumulated, they are automatically converted to whole numbers.

The machine with $\frac{1}{8}$ fractions (illustrated) adds and subtracts to $9999,999.\frac{99}{8}$. Also available with $\frac{1}{12}$ fractions, adding and subtracting to $999,999.\frac{99}{12}$, and with $\frac{1}{60}$ fractions, adding and subtracting to $999,999.\frac{99}{60}$, or combinations of $\frac{1}{12}$ and $\frac{1}{8}$ fractions.

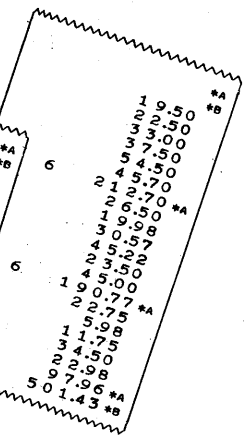
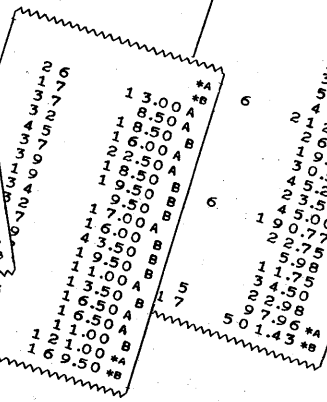
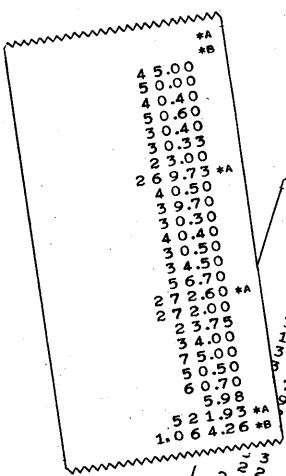
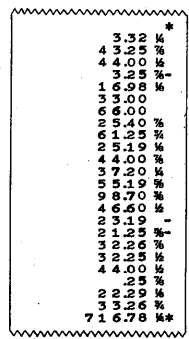
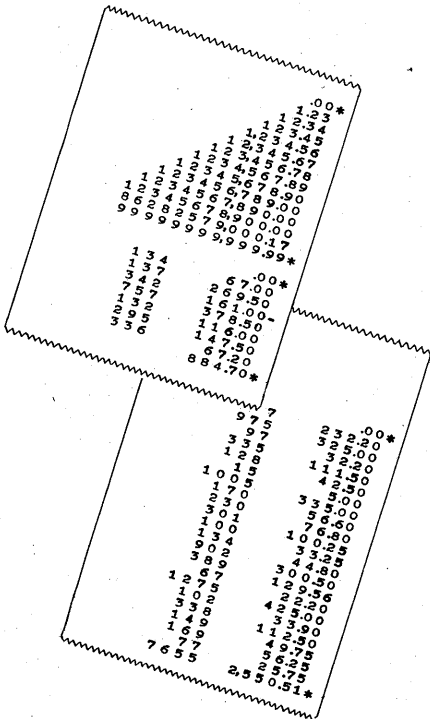
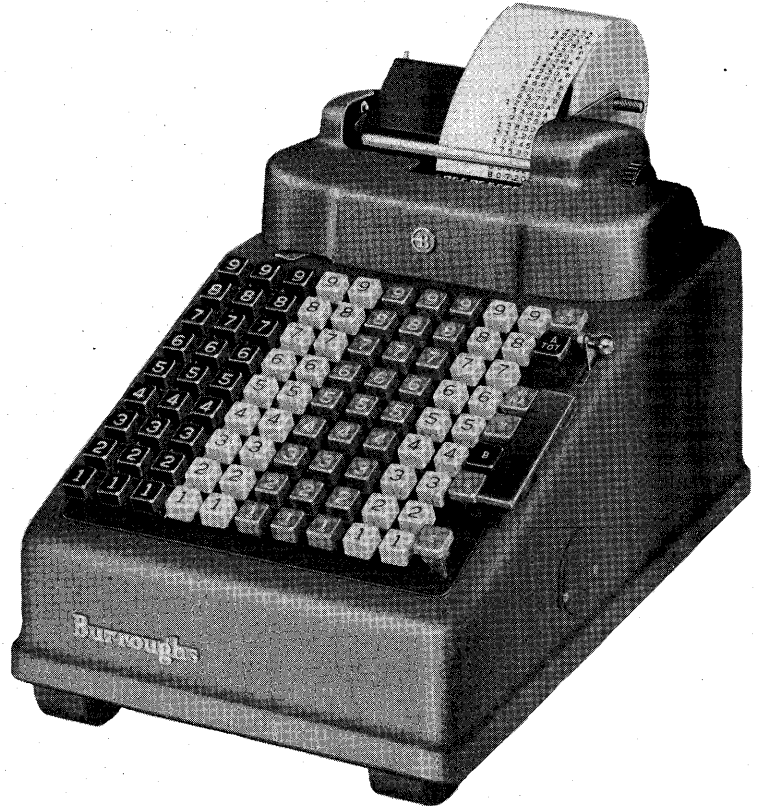


Adding Machines Electric Operation

Individual and Grand Totals 4 Totals or Count of Items

Two-total adding machines save a great deal of time by accumulating group totals and a grand total without recapping. These machines have two accumulating registers. Amounts may be accumulated in both registers simultaneously, or in either register, as desired. Each amount is automatically designated as it is printed, by the symbol of the register in which it is accumulated.

With the machine, illustrated, by a simple shift of a lever the operator may: (1) Use full capacity of machine for listing and totaling amounts to 99999,999.99; (2) "split" the keyboard between columns 7 and 8 for listing reference numbers with amounts; or (3) set the machine to count items automatically, to 999, as they are printed.



Calculators

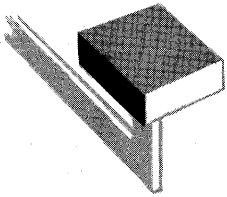


There are many types of calculations in an office to which the Multiplying Accounting Machine does not readily lend itself. For such calculations conventional calculators are used. It becomes important, therefore, to be familiar with such machines so as to provide the machine that fits the job specification.

Calculators are available with hand or electric operation, with totaling capacity from six to

fourteen digits, with one or two answer dials, and direct subtraction. Two typical styles are illustrated here.

The duplex—two answer dials—calculator is particularly suitable for such calculations as billing and payroll. All calculations from beginning to end are made without rehandling of figures, without recapping, straight to the answer.



Validating and Receipting



Whenever money is collected, only mechanical receipting, such as is provided by this machine, can protect and control receipts. It provides an exact receipting of the moneys collected. The customer is assured of receiving full credit for the amount paid. The automatically printed transaction number positively identifies each doc-

ument receipted with a corresponding number on the audit tape.

All forms are easily certified, regardless of size or shape. Certification prints both on the application form and on the machine tape. Repeat receipting is mechanically enforced. Thus the customer's record is an exact duplicate of the record retained by the business.

BURROUGHS UNIVERSITY

RECEIVED OF

Geo. P. Hunt

PD02930 OCT 35- 50.00

J. D. BOLT
TREASURER

BURROUGHS UNIVERSITY

Receipt Oct 3 1935

Received of William P. Smith

Notice	Subject	Amount
All bills must be paid at the Cashier's Office, Room— Administration Building. This instrument does not become a receipt until validated and your enrollment is incomplete until payment has been made.	Botany	
	Chemistry	
	Geology	
	Home Economics	
	Journalism	
	Physical Edu (M) (W)	
	Physics	
	Physiology	
	Zoology	
	Accounting	
Statistics		
Sec. Science		
Education		
Engineering	25 -	
Art		
Applied Music		
Law Notes		
Pharmacy		
Non-Residence	50 -	
Incidental	15 -	
Graduation	10 -	
Military Science		
Student Ticket	5 -	
Receivable	44	
Total	149 00	

Original PD02929 OCT 35- 149.00

Validation

Checked By *HFB* Added By *AR*

J. L. Lind, Comptroller

Colleges and universities speed up student payments at registration time and control general receipts throughout the year with this versatile machine. Separate accumulations of cash and non-cash student credits or of student and general receipts, are provided. The machine is also readily adaptable to supply store sales, athletic association receipts and general cashing.

DEPOSITED WITH
THE FIRST NATIONAL BANK
BURROUGHSVILLE

THIS IS YOUR RECEIPT

ALWAYS OBTAIN A REGISTERED RECEIPT WHEN MAKING A DEPOSIT
BANK SYMBOL, TRANSACTION NUMBER, DATE AND AMOUNT OF DEPOSIT ARE SHOWN BELOW

NBTC 883 JUL 12 240.00 D54

Burroughs

CUR SILY CHE TO

NBTC 883 JUL 12 240.00 D54 50.00 54

PLEASE DO NOT WRITE IN THIS SPACE

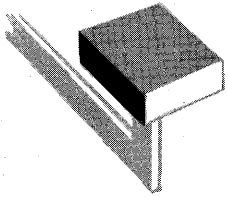
NBTC 899 JUL 12 12327 54
1475 54
75.00 54

1336.43 54
635.16 54

DATE *Nov. 29* 1935

CLG. FLOAT MISC. TR.

The machine shown on the preceding page, with some modification of features, is also used by bank tellers for receipting deposits. Here the problem is not only one of accounting for moneys taken in but also of moneys paid out, and of issuing of receipts for deposits, which may consist in part or in whole of checks.

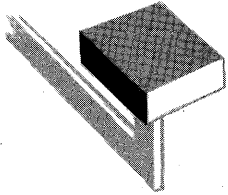


Layaway and Installment Accounting



The accounting for layaway and installment sales is substantially the same. The difference in terminology indicates who has possession of the goods. Layaway means that the store will retain possession until the merchandise is paid for. In

installment sales the customer has possession of the merchandise while payments are being made. In both, the problem is one of recording payments in the customer's receipt book and on his ledger record and of accounting for cash taken in.



Savings Accounting



An efficient savings accounting system must at least provide for —

1. Quick service to customers at the window
2. A neat, readable pass book
3. Assurance that the pass book and bank records agree

There are two basic systems in use. These are known as the unit and dual plans. The unit plan

provides for posting both the pass book and the ledger while the customer is at the window. Under the dual plan only the pass book is posted at the window, the ledger being posted at a separate operation later.

Either of these plans can be handled with maximum efficiency with this machine. It is equipped with protective features that facilitate audit control.

.00**
 .00**
 1,235 12555
 255 121010
 3,360 268.71 2.78
 2,340 352.33
 789 797.63
 5,235 120.00 1.09
 1,271 379.72 3.89

266.01**

35.00 JAN 175- 160.55**
 25.00 JAN 175- 1,235.10**
 10.00 JAN 175- 281.45**
 53.25 JAN 175- 277.33**
 25.00 JAN 175- 850.88**
 35.00 JAN 175- 96.09**
 418.61**

SAVINGS LEDGER
 NAME Mary J. Cutting Acct. No. 1271
 Address 7217 Shady Lane

WITHDRAWALS	DEPOSITS	DATE	BALANCE
	50.00	MAR 105-	50.00**
	25.00	APR 175-	75.00**
	133.57	MAY 15-	208.57**
50.00		JUN 105-	158.57**
	1.73	JUL 15-	160.30**
	133.57	AUG 15-	293.87**
	50.00	SEP 20-	243.87**
	3.89	OCT 15-	247.76**
	35.00	JAN 15-	282.76**
		JAN 175-	418.61**

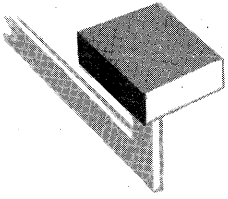
THE PROGRESSIVE BANK
 SAVINGS DEPOSIT SLIP
 FOR ACCOUNT OF
 MARY J. CUTTING
 1271
 35.00
 7217 Shady Lane
 418.61

FIRST NATIONAL BANK
 OF BURROUGHSVILLE

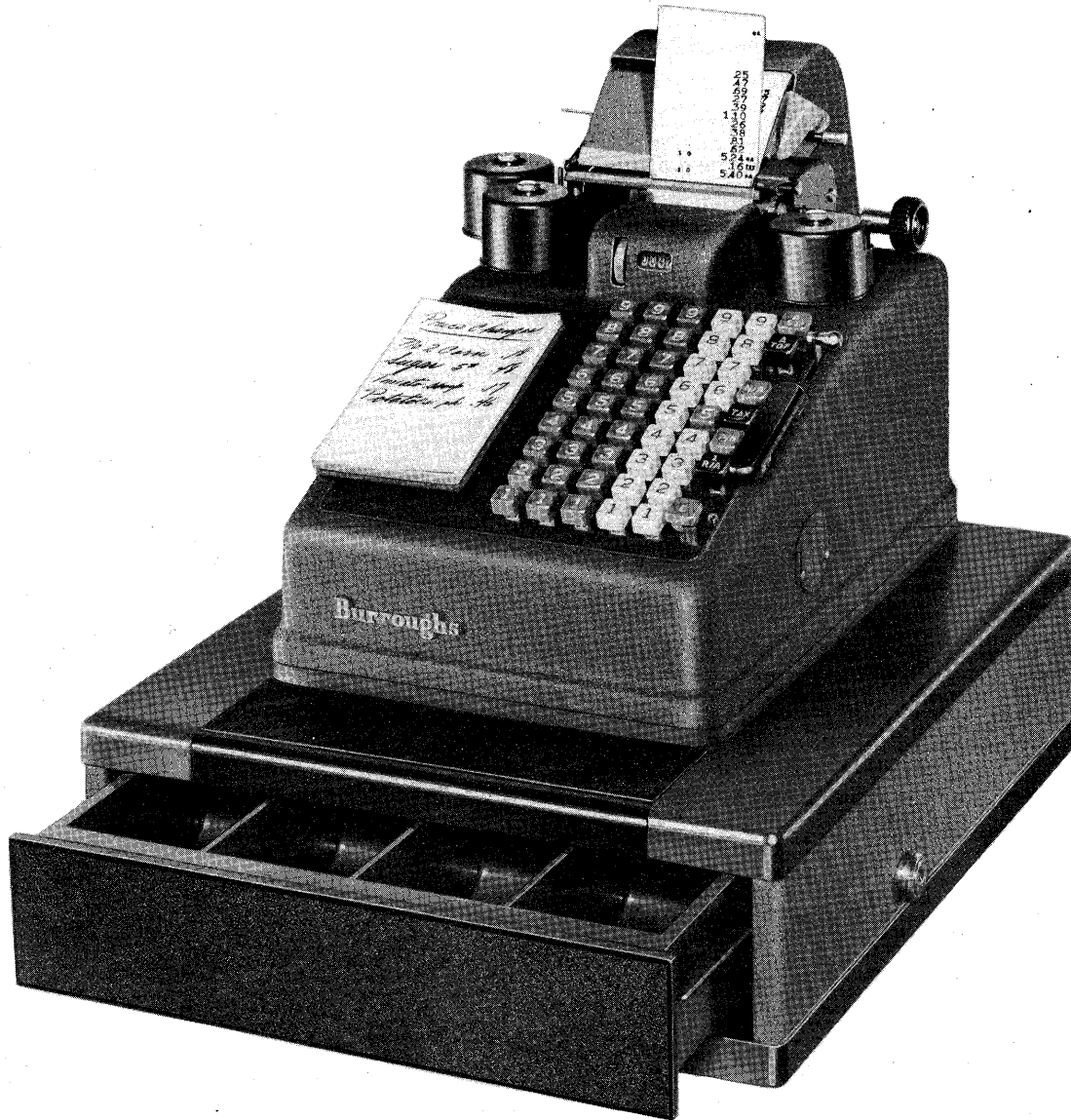
IN ACCT WITH Mary J. Cutting Acct. No. 1271

WITHDRAWAL	DEPOSIT	DATE	INTEREST	BALANCE
	50.00	MAR 105-		50.00**
	25.00	APR 175-		75.00**
	133.57	MAY 15-		208.57**
50.00		JUN 105-		158.57**
	1.73	JUL 15-		160.30**
	133.57	AUG 15-	1.73	293.87**
	50.00	SEP 20-		243.87**
	3.89	NOV 3-		247.76**
	35.00	JAN 175-	3.89	282.76**
		JAN 175-		418.61**





Cash Registering Machine



Wherever goods or services are sold for cash, there is a need for cash registering machines to make sure that all the money taken in is properly accounted for. Besides protecting money, cash registering machines should also furnish management information to the operator of the

business. The type of information required varies with different businesses. That's why cash registering machines are built to fit specific requirements. The one illustrated above is ideally suited to food stores, cafeterias, etc., where several items must be added to arrive at the total of the sale.

Micropilming

Today microfilming is an integral part of business administration. It consists of making a photographic record of printed or written matter on a reduced scale. It reduces storage space, simplifies reference and increases the permanence of records. Photographic accuracy and speed save time and eliminate the errors that are common to other methods of reproduction.

There are three steps in the microfilm process:

1. Photographing the document.
2. Developing the film.
3. Reading and analyzing processed film.

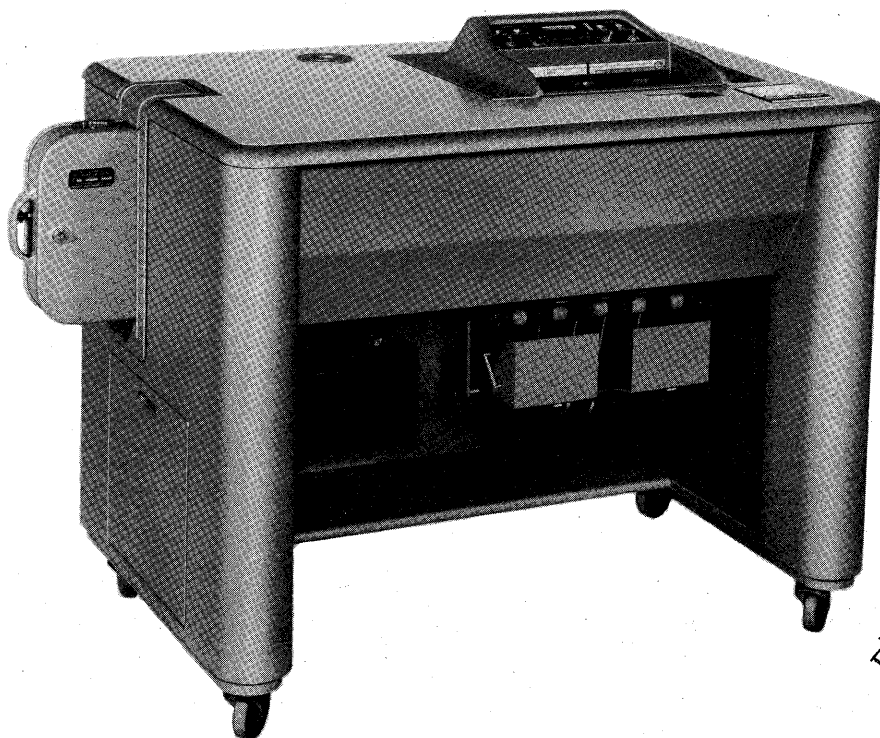
The unit used for photographing the document is known as the Recorder. Documents may be

reduced during the photographing process in various ratios, depending on requirements and condition of the media photographed. If a ratio of 37 to 1 is used, a document 37 inches long may be reduced to 1 inch of film.

Exposed microfilm may be developed on the user's premises with the Microfilm Processor, without the use of a dark room.

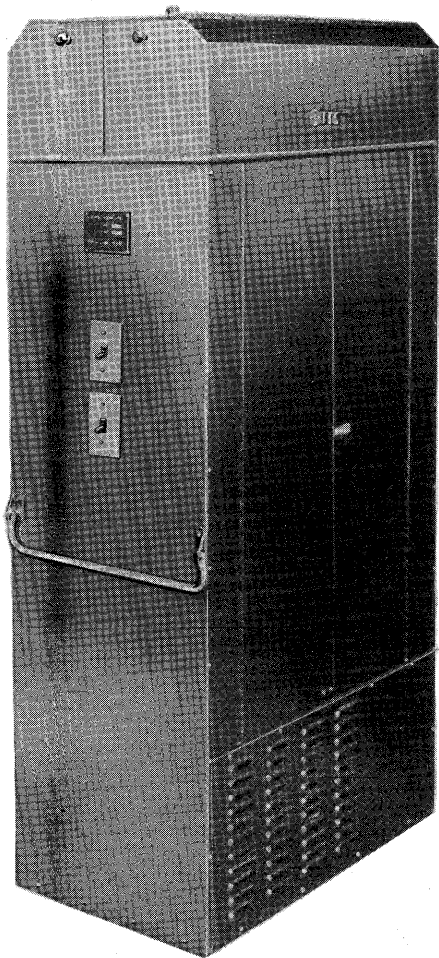
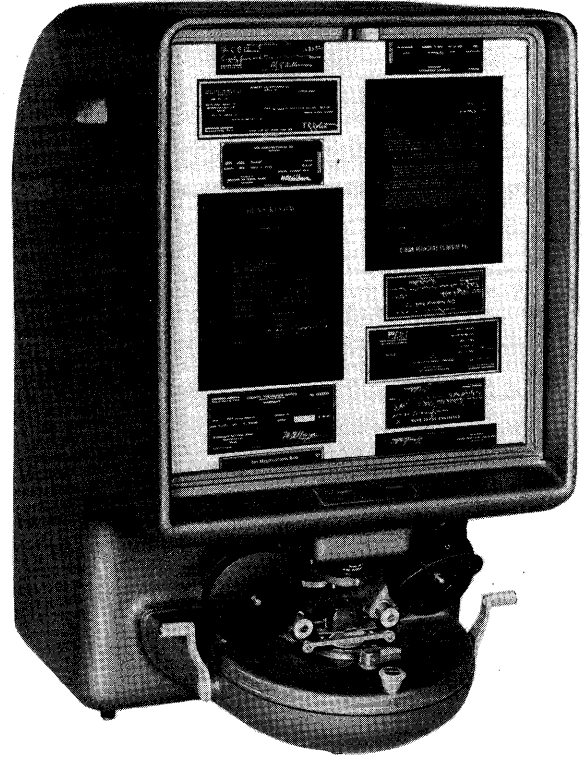
Processed film is read by placing it on the Reader which will project an enlargement of the small film image onto a translucent screen. Various magnifications are available, so that images on the screen may be larger or smaller than the original document, or actual size.

When desired, facsimile paper prints of any image on the film can readily be produced.

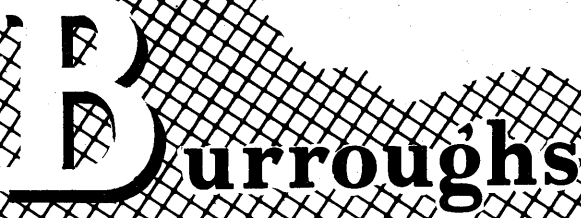


Microfilm Recorder

Microfilm Reader



Microfilm Processor

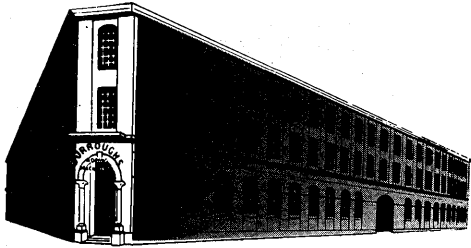


Burroughs

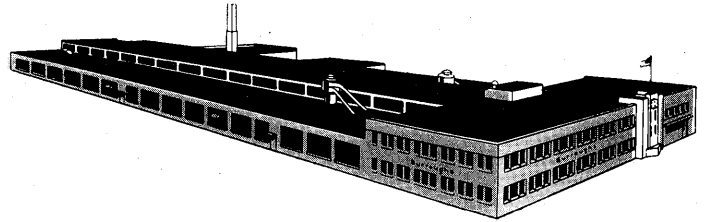
Burroughs is a world-wide organization represented by company owned branches in every major market.

These branches are staffed by factory trained sales and service personnel with years of practical experience in solving accounting and other record keeping problems.

This vast experience is available to you at no cost.



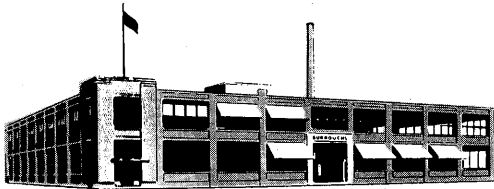
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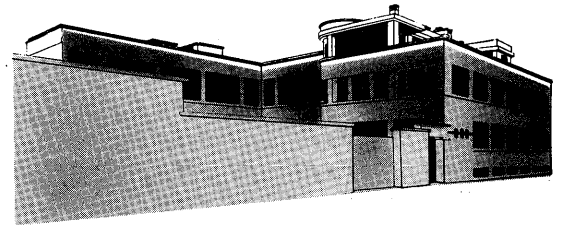
Detroit Factory



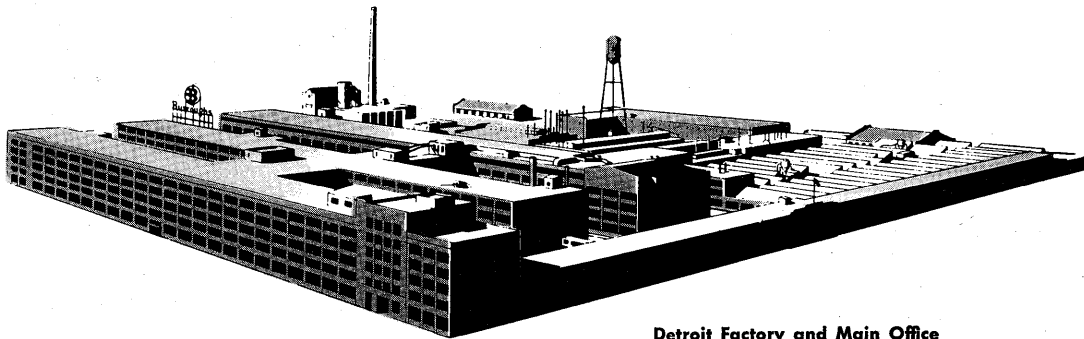
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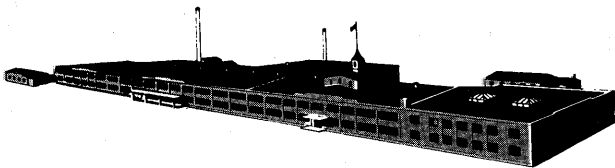
Windsor, Canada



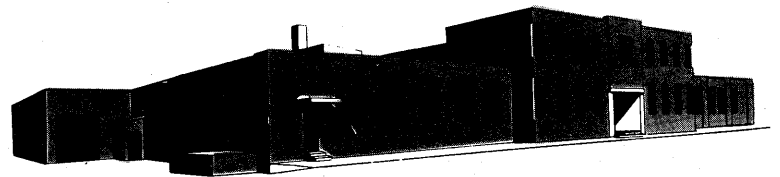
Paris, France



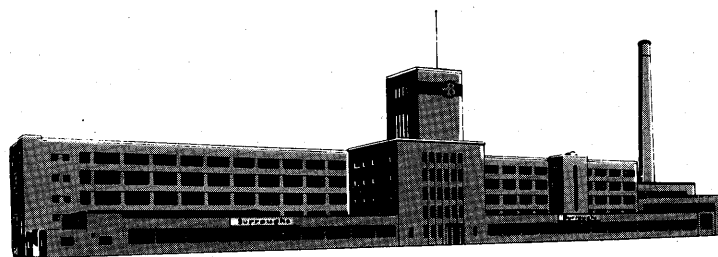
Detroit Factory and Main Office



Park Ridge, New Jersey



Toronto, Canada



Plymouth, Michigan



**Factories in Detroit and Plymouth, Michigan; Windsor,
Canada; Nottingham and Strathleven, Great Britain
OFFICES IN PRINCIPAL CITIES**

