Instructions for Operating and Using Burroughs Visible Adding and Listing Machine
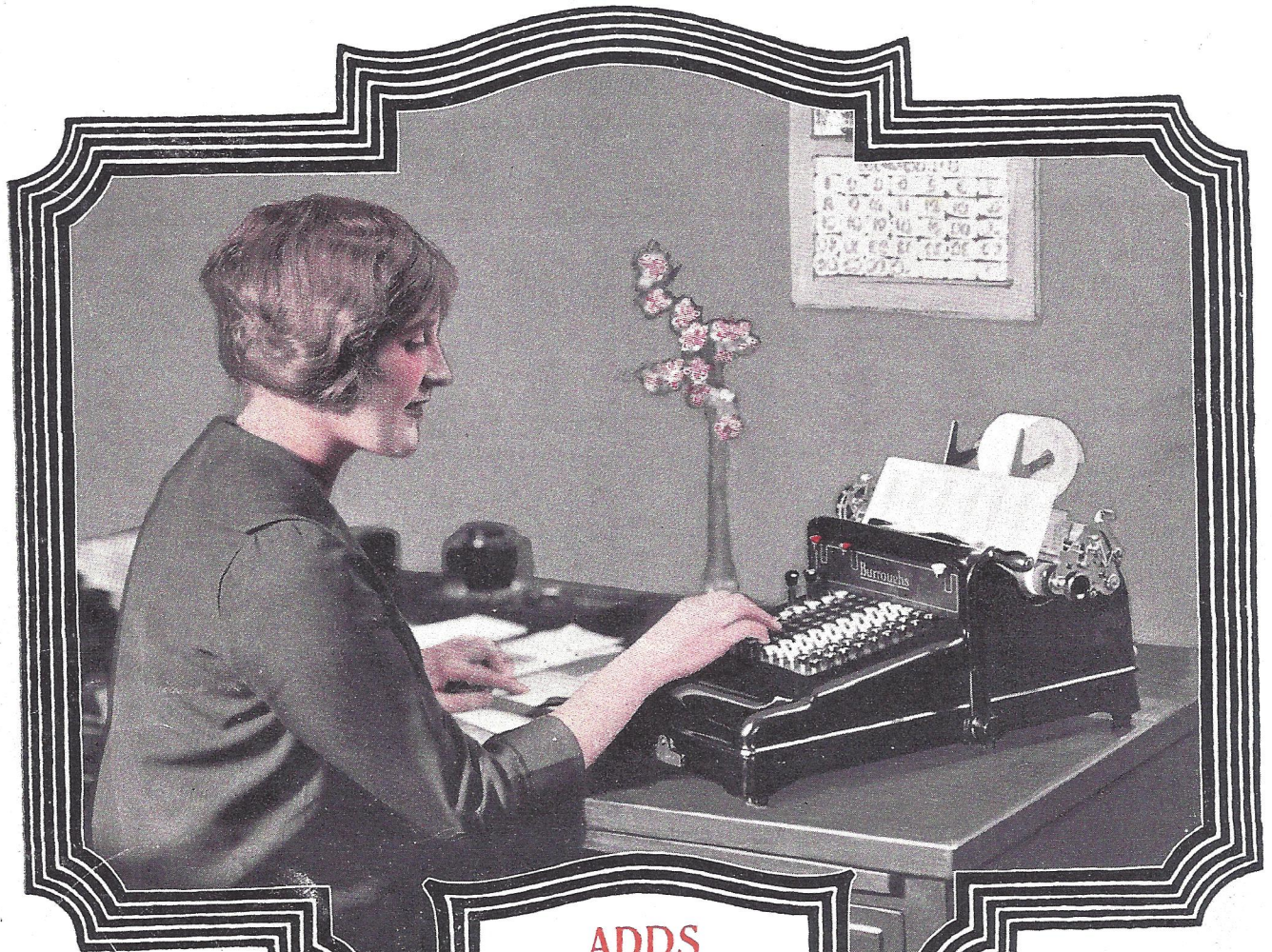
ADDS
+
MULTIPLIES
×
SUBTRACTS
−
DIVIDES
÷

Instructions *for* Operating *and* Using

Burroughs Visible Adding *and* Listing Machines

The information contained in this book is not all necessary for the mere operation of a Burroughs Visible Adding and Listing Machine. A portion of the book is devoted to showing a few of the many varied ways in which a Burroughs may be applied in different lines of business.

SEVENTEENTH EDITION

1925

Burroughs Adding Machine Company

Space Lever causes carriage to non-space or feed up either single or double space.

Burroughs Bell may be used to count items, fix the top position of different columns of figures, or indicate that the bottom of the sheet has been reached.

Accessible Ribbon Spools facilitate changing of the ribbons.

Non-add Key for cutting out addition when item is to be printed but not added. The machine automatically marks such items with symbol $+$.

Non-print Key. Cuts out printing when item is to be added but not printed; automatically stops paper feed.

Sub-total Key, when depressed, causes the machine to print the accumulated total without clearing the machine and mark it with the symbol s .

Total Key. When depressed causes machine automatically to print and designate with the ✱ symbol the accumulated total, also clearing the machine.

Visible Automatic Keyboard. All items can be checked before being printed or added.

Visible Adding Dials are directly under the eyes, yet placed where figures added on dials can not be confused with the items printed on roll paper or wide sheets.

Roll Paper always on machine even when making recapitulations on wide forms.

Adjustable Paper Guides facilitate handling of roll paper, wide forms or customers' statements.

Stop Bar. This bar is provided with adjustable stops which position the carriage to the various columns of a wide form.

Carriage Release. To move carriage from column to column, use this lever.

Paper Release. Pulling this lever forward removes pressure of feed rolls and permits moving paper easily into any position.

Paper Carriage for handling both wide sheets and roll paper. Can be used for cross-tabulating work or making statements.

All Items are Visible as soon as printed. Printing point is only three inches from the back of the keyboard.

Operating Bar. When this bar is depressed the machine operates, printing the amount set in the keyboard on the paper and accumulating it in the adding wheels.

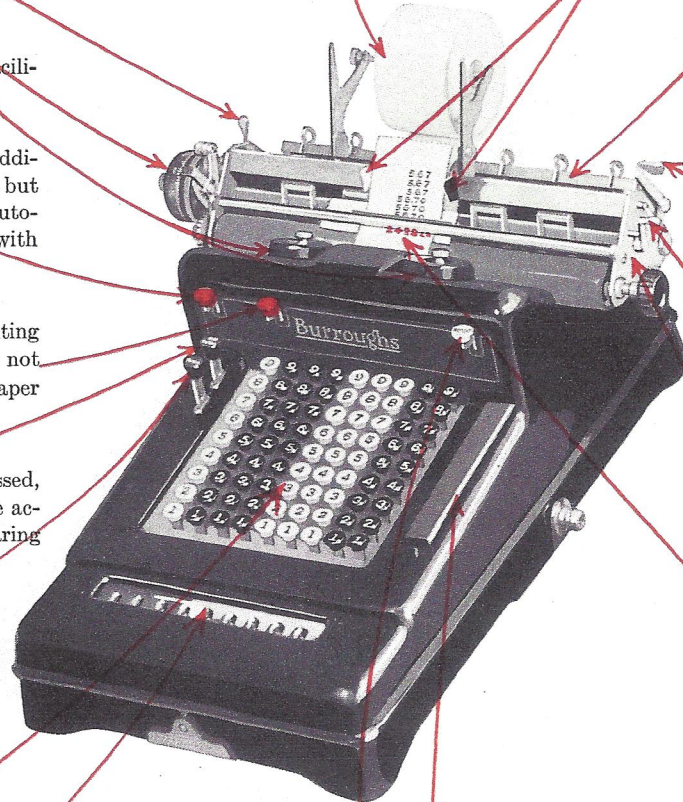**Repeat Key.** For repeating any item as many times as desired. Used for division, multiplication, etc.

Figure 1

Burroughs Low Keyboard Visible Adding and Listing Machines

THESE machines have *triple visibility:* (1) *All* the printing is visible, *all* the time, in easy reading range, the paper carriage being only three inches back of the keyboard; (2) Visible adding dials, directly under the eye; (3) Visibility of each item on the keyboard before it is printed and added.

This visible line is made in four sizes, with 6, 7, 9 and 10-column capacity, and equipped with different styles and widths of carriages, depending upon the requirements of the customer. When you buy a Burroughs you obtain not only an accurate and economical means of handling your figuring problems, but also full support of the Burroughs Adding Machine Company (the largest manufacturer of Adding, Bookkeeping, Calculating and Billing machines in the world) in maintaining your machine in continuous, profitable operation.

How to Unpack and Set Up a Visible Burroughs

EVERY Burroughs is packed in a specially constructed box like the one shown here. This is done so the machine may be unpacked without damaging the box. After the machine has been unpacked the box should be carefully preserved so that if at any time it is necessary to re-pack and ship the machine, its safe transit will be insured by the use of the same box.

Remove the bolts that hold the top of the box in place. With the top removed, loosen and take off the wing nuts on the two upright rods. This will permit the hold-down to be removed. The machine may be lifted out of the box.

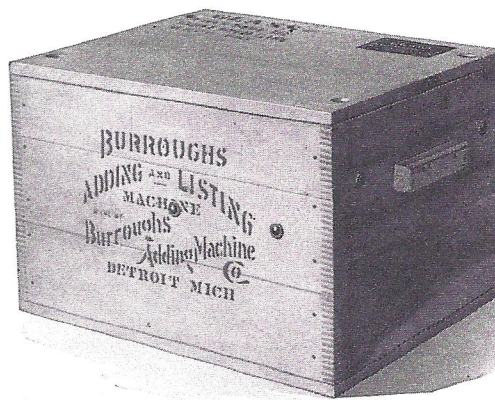Whenever it is found necessary to ship a machine the safest plan is to use one of these boxes.

Figure 2
Specially Constructed Shipping Box

To Unpack a Burroughs Electric

ELECTRIC machines are packed in cases similar in construction to the one in which the hand-operated Burroughs is shipped except that a false bottom is provided to properly protect the motor during transit. The stand is crated separately and should be unpacked first.

In unpacking the electric machine, proceed exactly as has been advised in the preceding paragraphs, until ready to remove the machine from the box. Grasp the machine and tilt it slightly (see Figure 3) so that the motor will clear the false bottom as the machine is being lifted out of the box. The man should stand so that his right hand comes on the motor switch side of the machine, as is shown in Figure 3. When the machine has been placed on its stand, remove the hood and the cords which hold the printing carriage in position. Operate the machine several times with the handle before turning on the electric current.

How to Attach the Handle

THE HANDLE will be found separate from the machine and wrapped in paper. After removing the cover from the machine, attach the handle by

Figure 3
In lifting an electrically operated machine out of its box take care that the motor clears the false bottom

merely slipping it on the shaft at the right side of the machine. It will stand in a nearly vertical position. A little nickeled clip on the under side of the hub of the handle, may be pressed by the forefinger (see Figure 4), which will make the handle go on more easily. To remove the handle, press this clip and pull the handle straight out.
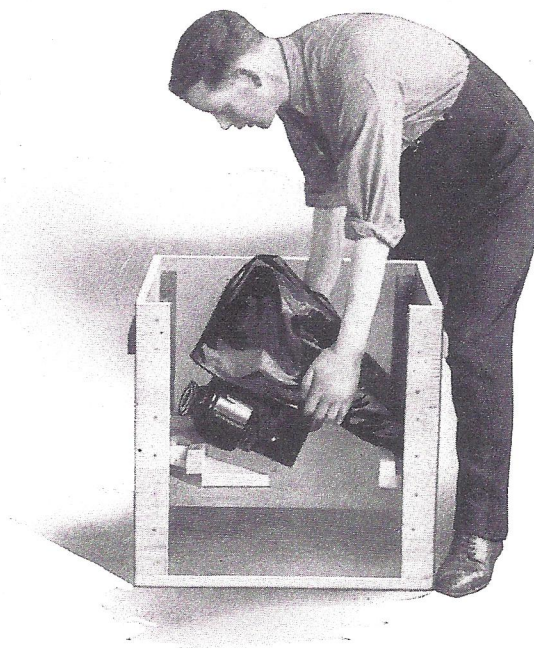
To Insert Roll Paper

THE ROLL paper supports on 12 and 20-inch carriages will be found in a backward position, but they are made to stand erect by first pulling them up and then pressing them down, which will secure them in the proper position. The nickeled spool goes to the left of the narrow roll paper and is removed farther to the left when using the wide roll paper.

Always attach the roll paper so it will feed from the *bottom* of the roll. Have the adjustable paper guides in line with the sides of the paper roll. Roll paper feeds under the paper knife and sheet paper over the rod which carries the knife. When not in use, the roll drops down out of the way.
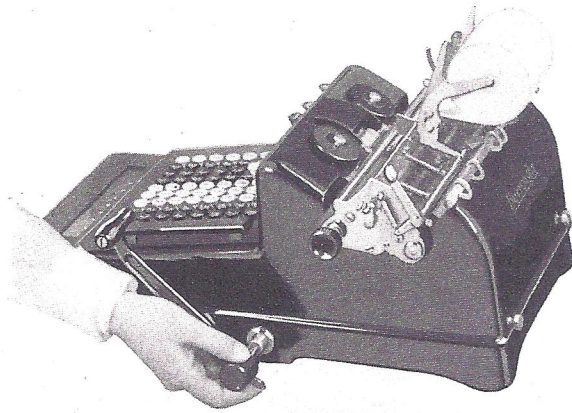
Figure 4—Adjusting the Handle
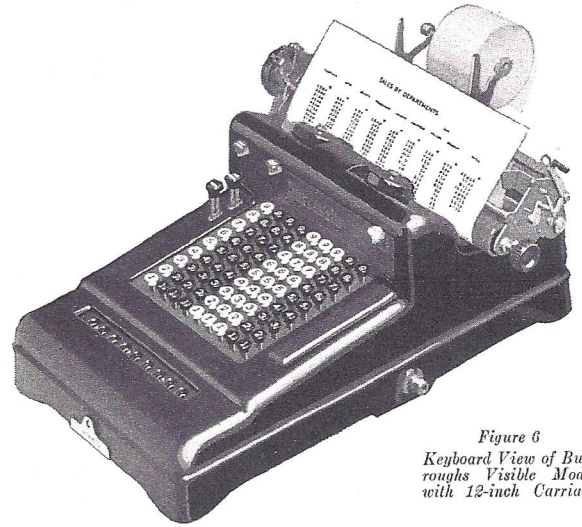*Press the little nickeled clip with forefinger to make the handle go on easier*

Figure 6
Keyboard View of Burroughs Visible Model with 12-inch Carriage

Burroughs Full Visible Keyboard Gives Greatest Speed and Accuracy

WITH the Burroughs full visible keyboard, figures may be written much more quickly than by any other method.

The visibility aids greatly in putting amounts into the machine correctly. An error may be detected as soon as the keys for any amount are depressed. The flexible keyboard permits the correction to be made without having to clear the machine. This saves time.

Consecutive numbers can be listed very rapidly by latching the Repeat key down and changing only the right-hand figure after each operation. This is done by depressing the key next in order. The depression of this key automatically restores the key previously used. This is another valuable feature of the Burroughs flexible keyboard.

On the Burroughs all ciphers and punctuation print automatically, which saves a great amount of work. It has been found by analysis of a very large number of items that approximately 30 per cent of the figures handled in mercantile houses consist of ciphers and punctuation, and that approximately 40 per cent of the figures handled in banks are ciphers.

Such amounts as 500.00, 1.00, etc., are set up by merely depressing one key. Such amounts as 30.05, 1.50, etc., require the depression of only two keys.

Considerable time in setting up is also gained by depressing two or more keys at once in such items as 5.55, 5.75, 2.34, etc. This simultaneous depression is possible only on a full keyboard.

In multiplications involving decimal fractions, an arbitrary decimal point may be taken between any two columns of keys.

To assist the operator further the columns of keys are colored black and white to correspond to the punctuation. Putting items into a Burroughs flexible keyboard machine, therefore, is very much like writing figures in the ruled columns of a ledger.
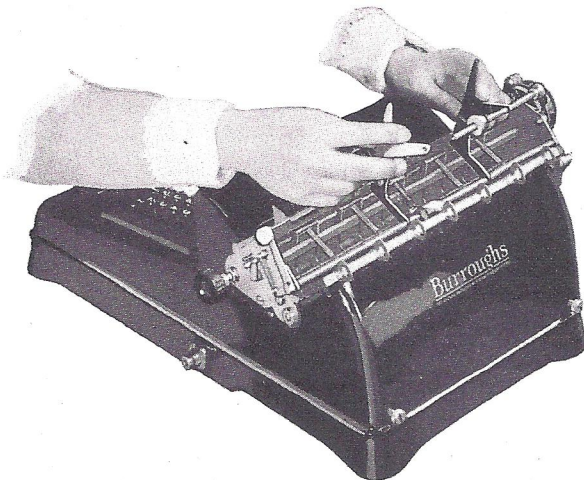

Figure 5—Adjusting Roll Paper Supports
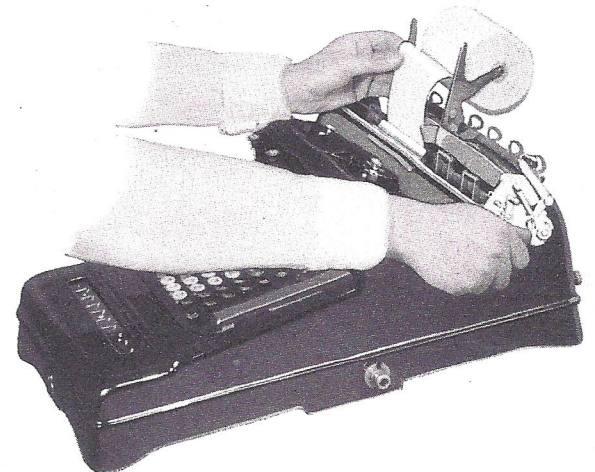*Pull the roll paper supports up towards you and press them down into position*

Figure 7—Adjusting the Paper
Roll paper should feed from the bottom of the roll

The Operation of a Visible Burroughs

IN ACTUAL practice the Burroughs is an easy and simple machine to operate, although the printed explanations are given here in great detail. This is done so that the instructions may be easily followed.

Taking your knife from your pocket, opening it and sharpening a pencil is a very simple process, but to describe it to a man who had never seen it done would require a half page of printed instructions.

How to Write Items on the Keyboard

THE OBJECT of the black and white keys in alternate groups is to punctuate the keyboard and assist the operator to locate proper columns and insert amounts quickly and accurately. Ordinarily the punctuation is for dollars and cents, but it may be had in any other way. The first column of keys on the right is units of cents; the second column, toward the left, tens of cents; the third column, units of dollars; the fourth column, tens of dollars, etc. There are no keys for ciphers; these are printed automatically by the machine when needed.
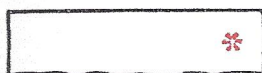
Figure 8
The Burroughs star, printed at the head of a column of listed items, proves that the machine was clear of any figures when the work was started

From this explanation it is evident that items are written on the full Burroughs keyboard in exactly the same way they would be set down on a sheet of paper
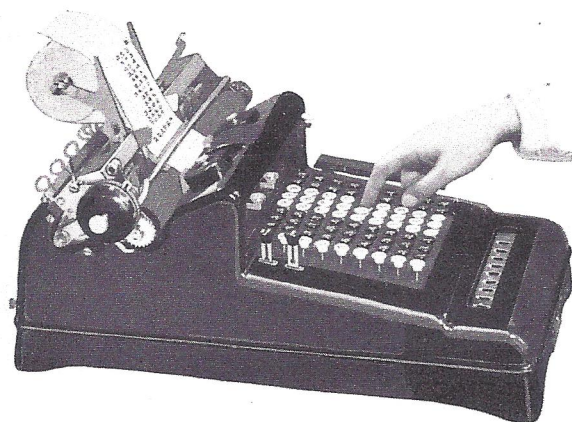
Figure 9—Listing
Press keys in proper columns corresponding to the numerals in the item desired; all ciphers and punctuation print automatically

—a column for units of cents, a column for tens of cents, a column for dollars, etc.

First Prove the Machine Clear

BEFORE beginning to list items the operator should be sure the machine is clear or, in other words, set to zero. To make sure of this depress the Total key, hold it down, and depress the Operating Bar. If there has been a previous total left in the machine this total will be printed on the paper together with a star ✸ to distinguish it from an ordinary item.

If this operation is performed when the machine is already set at zero the star alone will be printed. (See Fig. 8.)

The visible adding wheels also show whether the

Figure 10—Printing
Amounts are visible at three points within easy range of the eyes: on the keyboard, on the roll paper or wide sheet, and in the adding dials where the total is accumulated as amounts are entered in the machine

machine is clear, but a star should always be printed before listing items to give a printed record that the machine was clear.

This also assures the operator, or anyone else who looks at the work days or weeks later, that the total is correct because the machine was clear before the work was started.

Listing Items is a Very Simple Process

THE OPERATION of listing items is very simple and can be learned in a few minutes; it is necessary to depress only the keys representing the figures in the items desired and to depress the Operating Bar. For instance, in order to list and add $34.50, depress the "3" in the tens of dollars column, the "4" in the units of dollars column, the "5" in the tens of cents column, then depress the Operating Bar and release it (see Fig. 10), and 34.50 will appear on the dials

Figure 11
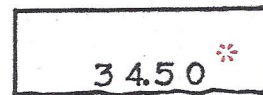*In listing 34.50, only the keys 3, 4 and 5 in the fourth, third and second columns from the right need be depressed. The cipher prints automatically*

at the front of the machine and will also be printed on the paper. (See Fig. 11.)

When a cipher occurs in the item do not depress any key in the column in which it occurs. For instance, $10.00 is "set up" by merely depressing the "1" in the fourth column from the right.

How an Item Can Be Corrected

IF, BY mistake, the wrong key should be depressed, a correction may easily be made before the printing has taken place and before the amount has been added.

1. By the use of the Total or Sub-total keys at the left of the keyboard (Figs. 13 and 15). Depressing either of these keys instantly releases any amount which may be set up in the keyboard.

Figure 12—The Flexible Keyboard
Little time is lost in correcting mistakes made in depressing keys

2. The depression of a key on the flexible keyboard automatically restores any other key in the same vertical column. For example, should it be desired to change 131.40 to 131.50, it would only be necessary to depress the "5" key in the second column from the right; for as the "5" goes down, the "4" comes up. This is an instance of how the Burroughs flexible keyboard simplifies operation of an adding machine. It permits the operator to check an amount before it is printed or added.

The Non-add key (page 8) can be restored by the Total or Sub-total keys before the printing is done.
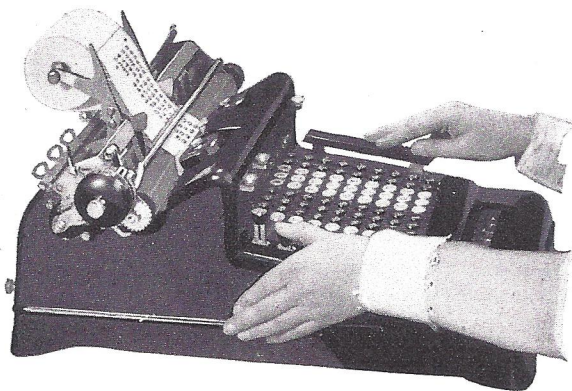

Figure 13—Printing Total
Simply hold the Total key down while Operating Bar is depressed

How the Total is Printed

(Clearing the Machine)

AS THE items are listed and printed in regular columns on the paper (see Fig. 14) the adding wheels change to include in the total the last item listed. Thus a correct total of all items listed may be transferred to the paper at any time.

After listing and adding the last item depress the Operating Bar without any keys depressed. This makes a blank space on the paper between the last item and the place where the total will appear and is called the "spacing stroke." Then depress the Total key and hold it down until the Operating Bar is depressed. The accumulated total will then be printed on the paper (see Fig. 14) and in connection with it the star (✻) to distinguish it from the items.

Figure 14—The "Total" Star
The printing of the star with the total distinguishes the total from other items avoiding all possibility of confusion
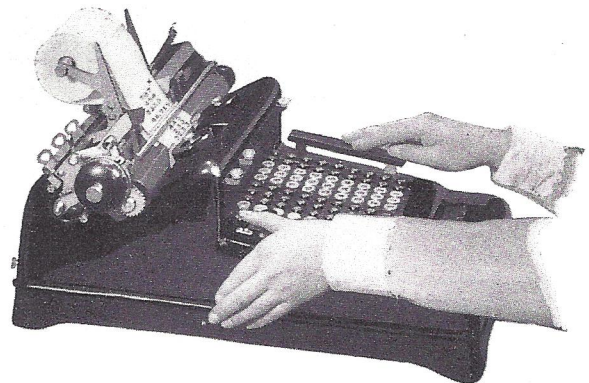
Figure 15—Printing the Sub-total
The letter "S" distinguishes a printed Sub-total, avoiding all possibility of it being confused with a grand total

If it is impossible to depress the Operating Bar, it is because the spacing stroke has been omitted.

Printing the total as outlined above also automatically sets the machine at zero, or in other words "clears" it.

To Print the Sub-total

IF DESIRED, the accumulated total at any point in the list of items can be printed without "clearing" the machine, or in other words the total may be carried forward. To print the sub-total, first make the spacing stroke, then depress the Sub-total key (see Fig. 15) and hold it down until the Operating Bar is depressed.

Where the Sub-total is Used

THE SUB-TOTAL is often used in work where items are listed and added in parallel vertical columns, and where it is necessary to print the total of the column at the bottom and then carry it forward to the next column. A sub-total symbol "S" is automatically printed after each sub-total. (See Fig. 16.)

To Carry Forward the Sub-total

MOVE the carriage into position to print in the first column. Prove the machine clear by printing the star, and list items in the regular way, continuing to the bottom of the sheet. Take the usual spacing stroke, depress the Sub-total key and depress the Operating Bar. The machine will print a total of all items listed, but the amount will be retained in the machine.

Having completed the first column turn the platen back to the position at which the clear signal star was printed and shift the carriage so as to print in the second column. Re-print the sub-total at the top of the column by depressing the Sub-total key and depressing the Operating Bar. Items may then be listed in the regular way and a sub-total taken at the bottom of the second column. The process may then be carried forward in this way into as many columns as the width of the paper will permit.

*	1,325.07 S	1,656.11 S
34.56	3.44	23.43
45.44	34.56	2.34
345.67	45.33	3.45
223.43	23.23	4.34
34.56	76.78	34.06
5.43	8.78	6.07
343.32	7.67	70.65
46.65	16.65	56.08
33.22	45.45	7.09
56.87	43.54	1.23
67.77	4.34	2.12
9.77	4.53	3.35
7.88	8.96	45.00
70.50	7.78	33.40
1,325.07 S	1,656.11 S	1,948.72 *

Figure 16
Carrying the Sub-total forward.   An example for practice

Printing on Wide Sheets

INSERT the paper, move the carriage to print in the first column and print the star. List items similar to the ones shown below, and at the bottom of the sheet take a total of the first column.

Turn the platen back until the paper is in position to print where the first star was printed, shift the carriage to the second column, print the "clear" signal and proceed as before. Continue in this way across the width of the sheet.

Attaining Speed in Operation

SPEED in the operation of the Burroughs is simply a matter of practice.

In listing items the hands should work up the keyboard. Press the keys for the smaller figures first, regardless of their order. Thus, in writing the item $81.92, the 1 and 2 are

*	*	*	*	*	*
4.50	56	6.70	10	9.10	1.22
4.60	1.20	4.50	56	4.78	5.67
3.50	1.08	34	78	34	4.20
62	5.56	7.89	1.40	43	7.80
35	23	1.20	34	20	1.33
6.71	44	45	3.45	10	26
3.40	4.50	67	13.16	2.90	71
88	33	2.40	2.45	5.60	18
8	5.70	5.60	6.06	5.67	1.04
2.10	2.30	11.22	33	8.30	3.07
6.73	5.60	9.04	3.45	24	81
11.08	4.50	1.23	11.20	10	8.03
4.02	6.70	1.46	4.67	4.56	13.17
1.56	3.40	78	3.20	11.90	7.20
91	4.60	1.90	4.80	21	3.80
51.04 *	46.70 *	55.38 *	55.95 *	54.43 *	58.49 *

Figure 17
Printing on wide sheets   An example for practice

```
        4.5 0          *
        4.5 0
        4.5 0
        4.5 0

        1800  *
```
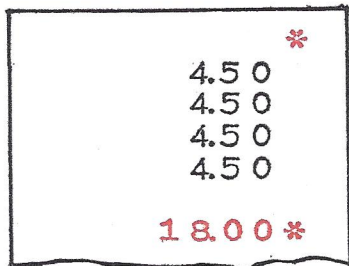
Figure 18
The item 4.50 was set up on the keyboard. Repeat key locked down, and Operating Bar depressed four times

depressed first, then the 8 and 9.

Wherever possible two or more keys are depressed at one operation. For instance in listing the item $2.43 all three keys are depressed simultaneously.

While at first the beginner will not be able to employ these methods with any speed, use of the machine will show how naturally methodical fingering of the keyboard adapts itself to speed in operating the Burroughs.

How to Use the Repeat Key
(For Multiplication, etc.)

IF AN item is to be listed several times in succession, or for multiplication, the keys for the item may be depressed and the Repeat key locked down, after which it is necessary simply to depress the Operating Bar as many times as the item is to be listed. The Repeat key is locked down by simply pressing it back as it is pressed down, which latches it. It is released by a slight forward pressure of the finger.

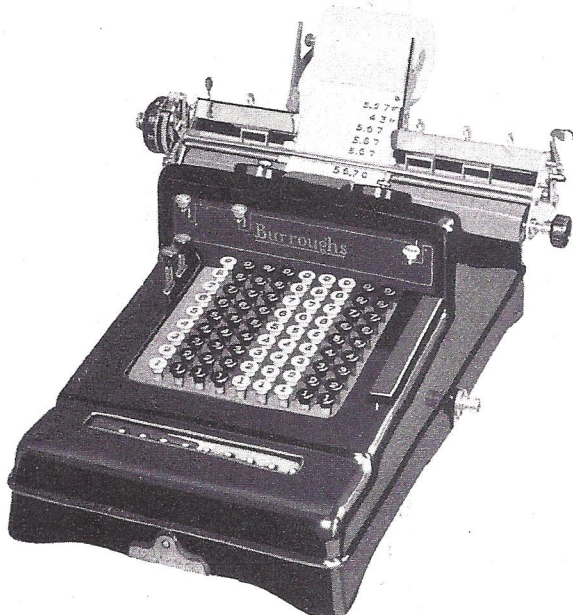When the last item has been listed, release the

Figure 19—Repeat Key
The Repeat key is locked by pressing it down and slightly toward the operator. To restore it press down and forward

Repeat key and restore the depressed keys by depressing the Total key, after which the spacing stroke and total may be taken in the regular way.

Consecutive numbers can be listed very rapidly by latching the Repeat key down and changing only the right-hand figure after each operation.

For further information refer to the third paragraph on page 4.

The use of the Repeat key in multiplication and division is shown in detail on pages 14 to 16.
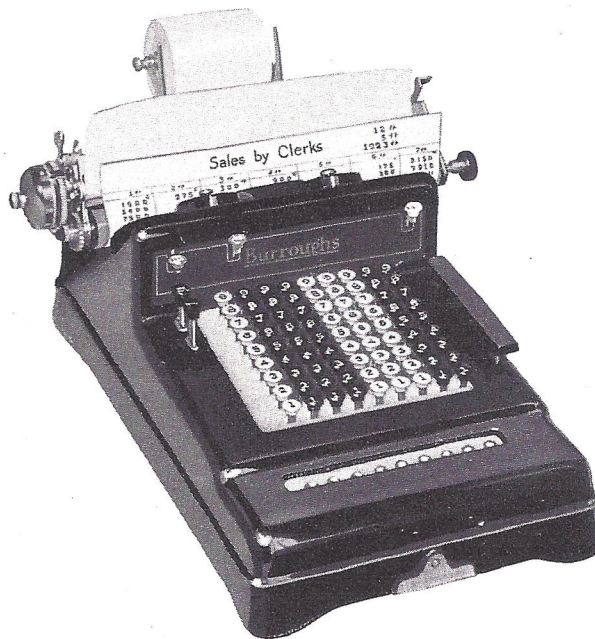

Figure 20—Non-add Key
Merely depressing the Non-add key prevents the item from being added and causes it to be printed with the number symbol (-#-) to distinguish it

How and When to Use the Non-add Key

WHEN an amount has been set on the keyboard and the Operating Bar depressed with the Non-add key pressed down, the amount is printed but will not be accumulated in the adding wheels nor included in the total. Such an item is accompanied by a distinguishing symbol (#) which shows that the amount is a non-add item.

The Non-add key remains down during one operation only. *It restores automatically after each operation.* It may be released without depressing the Operating Bar by depressing the Total key.

The Non-add key has four distinct uses:

1. To List Credits in a Trial Balance.

It can be used to mark certain items in a list that


```
                    *
       3 4.3 4
       4 5.4 5
       4 5.6 0  #
       5 6.5 6
       6 7.6 7
       5 6.7 0  #
       7 8.7 8
       8 9.8 9
       6 7.8 0  #
         7.8 9
         6.7 8
       7 8.9 0  #
         5.6 7
         4.5 6
      1 5 4.3 8  #
         3.4 5
         2.3 4

      4 0 3.3 8  *

      4 0 3.3 8  *
```
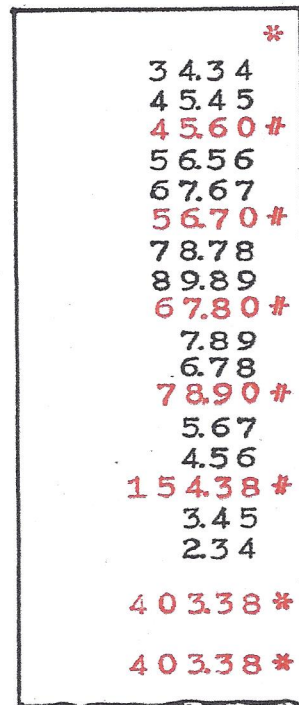
Figure 21
The Non-add key is a valuable feature in listing credits in a trial balance

are to be printed but not added. For example, in listing both debit and credit items the debits can be listed and added and the credit only listed by use of the Non-add key. The total then shows the sum of the debits, and the credits can be listed and totaled by simply "picking up" the marked (#) items and listing them in the regular way. (See Fig. 21.)

2. To Print Number.

It may be used to print, without adding, some abstract number such as clerk number, department number, car number, voucher number, etc. (See Fig. 23.)

3. To Mark Special Items.

The Non-add key can be used to mark certain items in a list, all figures of which are to be added.
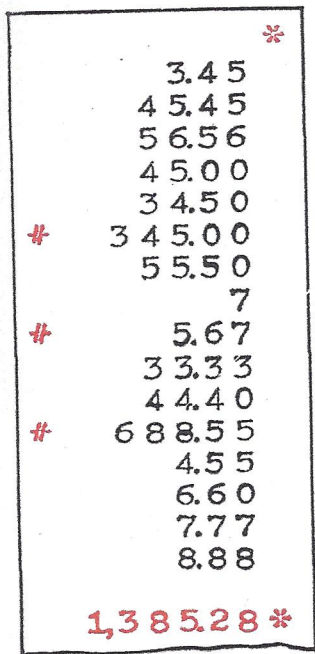

Figure 22

The Non-add key can be used to mark certain items in a list affected by special discounts, etc., permitting the items to be included in the total. The item is marked after printing by turning the platen back one notch, shifting the carriage to the right, depressing the Non-add key only and operating the machine
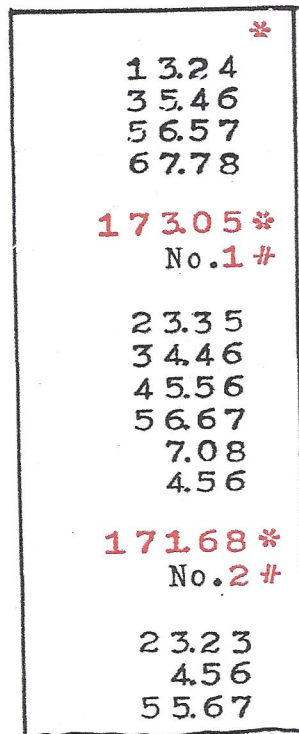

Figure 23

The Non-add key can be used advantageously in recapitulating sales using the Non-add key to give the clerk or department a number

For example, in listing the charges for a month, if it is desired to mark those items that are "net" the others being "2% 10 days," this is done by first adding and listing the item in the regular way, then turning the platen back one notch and, without setting any figures in the keyboard, depressing the Non-add key and depressing the Operating Bar. This causes the symbol (#) alone to be printed, and if the carriage is shifted to the right when it is turned back to the item just listed, the symbol will come to the left of the item and will thus give it the distinguishing mark which means "net cash." (See Fig. 22.)

4. To Correct an Item that has been Listed.

The operator may occasionally list and add an item which he at once realizes should not have been taken. He can then depress the Non-print key, subtract that item out of the machine (see Subtraction, page 14), turn the platen back one notch and print the non-add symbol to show that the item was not added into the total.

For instance, in Fig. 24, the item 4.56 was listed and accumulated in the adding wheels through error. Before subtracting the item from the accumulating section, mark the item by turning the platen back one notch and printing the symbol (#). Then set the complement of 4.56 into the keyboard, i. e., 9,999,995.44. Depress the Non-print key and depress the Operating Bar. The item is now subtracted from the machine. Release the Non-print key and continue the work. Complete information covering the "complement" of a number may be found on page 14.
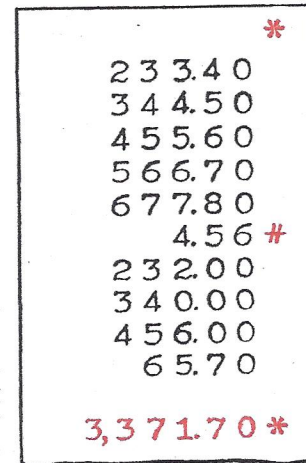

Figure 24
Correcting an item after listing

How and When to Use the Non-print Key on Machines so Equipped
(Adding Without Printing)

AT THE rear of the keyboard, just to the right of the Non-add key is located the Non-print key. With this key depressed, items may be set up on the keyboard and added, but not printed. The feeding of the paper is stopped until the key is released.

This key has three valuable uses:

1. It may be used to add, without printing, any item or group of items.

2. When multiplying it is not necessary to have a long list of repeat figures appear on the paper. The Non-print key permits the operator to eliminate printing these if he so desires.

3. It can be used to correct items which have been listed and added. If any wrong item has been added, lock down the Non-print key and perform subtraction as directed on page 14, release the Non-print key and mark the item with the non-add sign to show that it is not included in the total.

You Can Safeguard Your Unfinished Work

THE REMOVABLE handle of the Burroughs protects the operator against interference with his work when he is away. He simply locks the keyboard by pulling the handle forward to the first notch, then removes the handle (see Fig. 4, page 4), puts it in a safe place and his work is securely locked.

Operation and Use of Burroughs Visible Model Standard Carriages

How a Wide Sheet is Inserted

THE INSERTION and handling of roll paper is described in detail on page 3. If the machine has been handling roll paper and it is desired to change to a wide sheet, it is not necessary to remove the roll paper from the hangers. Simply free the end of the roll paper by turning the platen backward and shift the sliding paper guides to the width of the sheet. Then insert the sheet in the platen, disregarding the roll paper entirely, and upon turning the platen twirler the paper comes into printing position, square and true (Fig. 25). The sheet can be adjusted to any desired position by simply pressing the Pressure Roll Lever (Fig. 26).

Wide paper, when used, feeds over the paper knife and thus gives *complete* visibility to the printing.
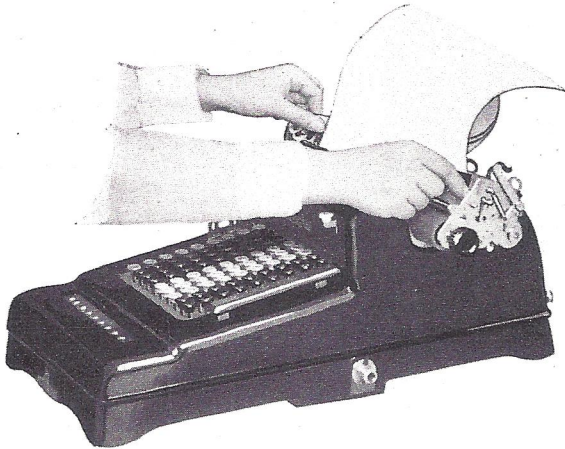
Figure 25—Shifting Guides for Different Widths of Paper
This machine has a 12-inch carriage. The paper guides may be shifted to proper width to accommodate wide sheets

THE VISIBLE Model is ordinarily furnished with one of two different width carriages—the 4-inch or the 12-inch. When desired, an extra wide 20-inch carriage is supplied. Except for size, all are similar in operation and in construction to typewriter carriages. They have improved devices to control the insertion and feeding of paper, the lateral movement of the carriage, the spacing of items, etc. These features and their operation are described in the paragraphs that follow.

All visible models having movable carriages are provided with adjustable stops to position the carriage to any ruling on any wide form.
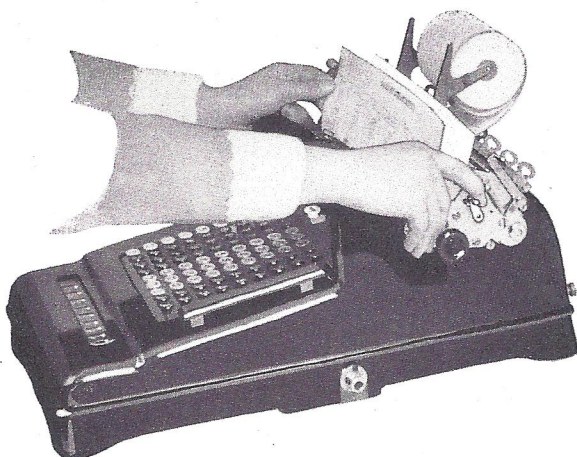
Figure 27—Carbon Copies
Carbon copies are made as easily as on a typewriter

Carbon Copies are Made Same as on a Typewriter

CARBON copies may be made in the same manner as on a typewriter (Fig. 27). Where a great many copies are desired at one writing, the machine is specially prepared for such purpose by providing a heavier stroke of the type hammers.

How the Paper Carriage is Shifted

THE CARRIAGE can be shifted by pressing the Shift Lever (Fig. 28).

The Visible Model is particularly adapted to cross-tabulating work. Simply throw out the paper feed by pressing forward the lever at the left end of the

Figure 26—Adjusting Position of Paper
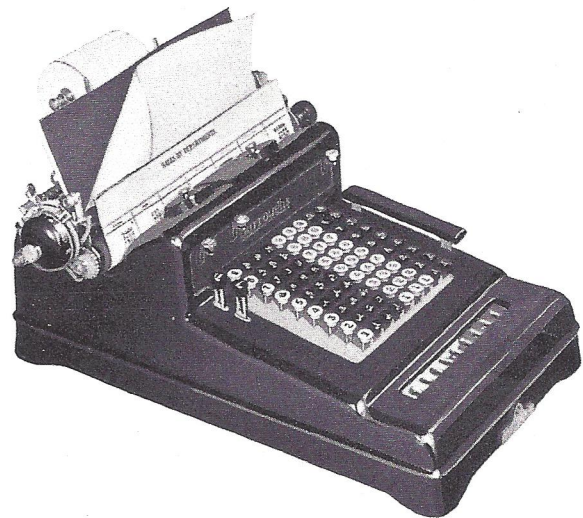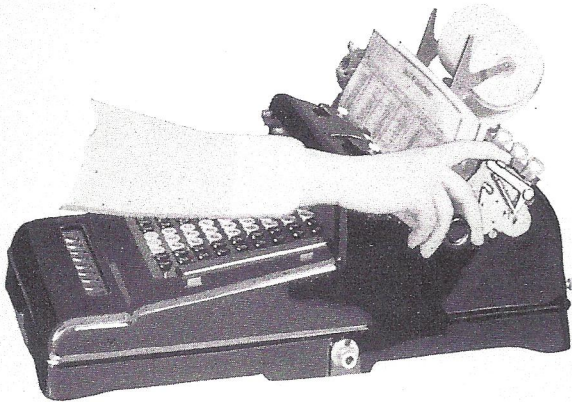*By holding the pressure roll lever, the paper may be adjusted to any position in the carriage*

Figure 28—Shift Lever
The Burroughs Visible is particularly adapted to cross-tabulating work

Figure 30—Adjusting Paper Feed Lever
The Paper Spacing Lever has three positions—non-feed, single space and double space

carriage (Fig. 30). Now the paper will not feed vertically, and the carriage is shifted to any position by pressing the Shift Lever, located at the right end. To attain speed in operation it is best to set the numeral keys first and then shift the carriage depressing the Operating Bar as the hand is brought back toward the keyboard.

Restore paper feed at left end of carriage to single or double spacing position after completing cross-tabulating work.

How to Regulate Stops

THE STOP Bar is at the rear of the machine. Each bar is provided with a number of stops which position the carriage to the various columns on the wide form. These stops can be easily adjusted (Fig. 29) to position the carriage to any ruling on any wide form.
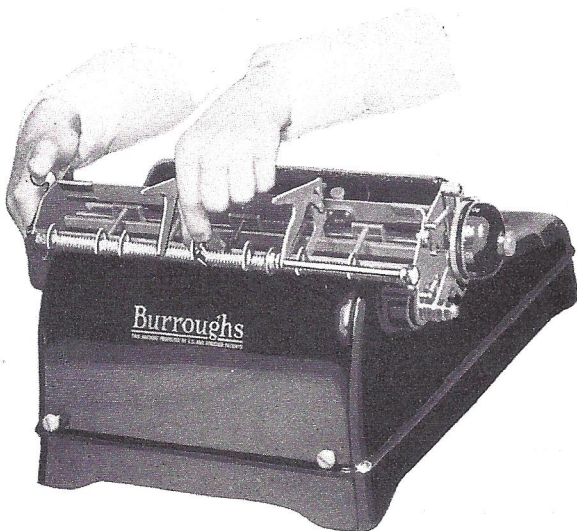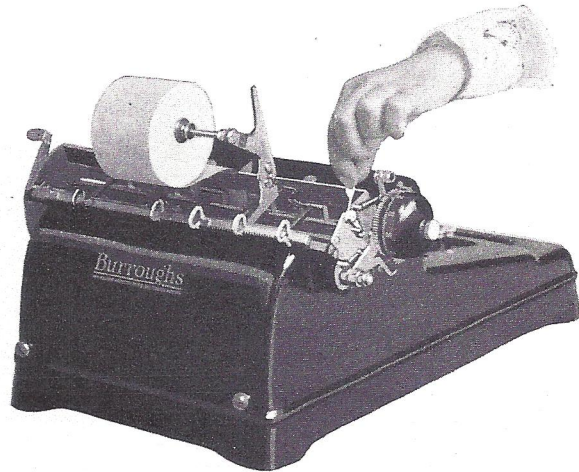
How to Adjust Paper Feed

THE PAPER feed is readily adjusted by the thumb lever at the left of the carriage (Fig. 30). When the lever is moved clear forward it is at non-space, and when rearward it is at double space. When at the middle it regulates the paper feed to the single space which is standard typewriter spacing. These positions can be instantly determined by touch.

Burroughs Symbols Valuable on Record Work

THE PRINTED record of a Burroughs tells a complete story, for the totals, sub-totals and non-added items all have their distinctive symbols. Whether the record is an original or a carbon copy there can be no occasion for uncertainty, for these

Figure 29—Stop Bar
Stops can be easily adjusted to position the carriage to any ruling on any wide form

Some Suggestions for the Operator

1. Before starting to add, see that Repeat key is not locked down.

2. Machine should be far enough away from the wall or desk to give the paper room to feed.

3. See that paper guides are lined up on each side of paper.

4. Be sure lever for regulating paper feed is set at desired position—i. e., single or double space.

5. Always press Total key and depress Operating Bar before starting to use machine.

6. Machine should always be covered at night.

symbols are evident in either case. Any person can tell at any time by referring to the work of the Burroughs just what has been done. That is why the Burroughs is used so extensively for permanent accounting record work.

The star "*" gives a permanent record of every total or, when alone, indicates beyond all question that the machine was clear.

The Burroughs "S" indicates a sub-total; the "#" indicates that the item was listed but not added.

Burroughs Motors

Burroughs motors are furnished in two distinct types, to operate on either alternating or direct current. When the machine is not in use the "Burroughs Automatic Cut-off" shuts off the current after the machine has stood a short time without operating. If at any time it is desired to operate the machine by hand, the handle may be attached at a moment's notice.

How to Use the Bell

THE BURROUGHS bell has four distinct uses, all of practical service in the handling of figure work. This device is provided on all standard Burroughs carriages which handle wide sheets.

1—A Paper Return Lock.

If the operator, in listing several columns of items on a wide sheet, desires to start the different columns
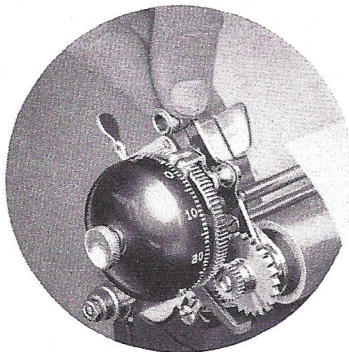

Figure 31—Bell and Its Uses
When used as a paper return lock the Bell detects automatically the proper printing position for the first item in each column

*	*	*	*	*
66.80	9.70	4.00	6.80	8.00
3.70	3.70	30.70	3.00	5.78
30.87	.87	7.50	.86	3.06
2.00	29.08	2.90	5.90	20.88
6.00	10.77	4.30	3.70	5.33
8.50	4.85	5.04	2.65	3.60
2.80	5.20	7.86	8.66	6.43
30.80	1.80	2.90	3.78	1.80
30.19	4.90	8.06		3.78
3.80	6.30	2.05	3535*	5.05
2.77	.60	50.57		7.04
7.50		8.44		20.09
5.30	77.77*			7.00
		13432*		5.08
20103*				10292*
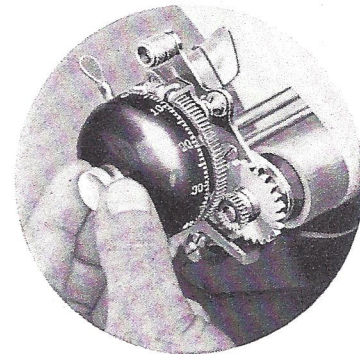
on the same line (see Fig. 31) the bell can be used advantageously as a paper lock.

Insert the paper so that it is in the desired printing position for the first item. Engage the bell by lifting and then depressing the latch clear down. This locks the platen at that point, preventing it from being turned further backward, though it may be turned forward as much as desired. So when the first column is completed all that is necessary to obtain the correct printing line at the beginning of the second column is to turn the platen back as far as it will go.

The bell after having once been engaged should remain set until the last column has been completed.

2—Warns When Items are Completed.

Should it be desired to list one or more columns of a given number of items each (see Fig. 32), the bell may be set to ring and give warning before the last of the predetermined number of items has been listed.

For example, assume that 10 items are to be listed in each column. Place the paper in the carriage so that it is in the proper printing position for the first item, then lift the latch and depress it. As before, this locks the platen so that it cannot be turned back beyond the starting position. Pull out the knurled knob on the bell and turn it until the graduation "10" on the bell comes to the small pointer at the top. (See Fig. 32.) With the dial set in this position (the star "*" having been printed at the top of the column after the dial was set), the bell will ring on the ninth item, warning the operator that only one more item is to be listed before printing a sub-total or total.

| *	*	*	*	*
77.43	40.66	9.77	2.80	44.60
4.67	5.03	40.77	47.77	30.50
30.76	2.88	20.87	20.98	60.20
2.87	2.66	19.07	1.87	9.76
4.29	80.44	7.99	3.76	2.80
70.44	30.77	4.29	92.07	4.05
38.07	30.86	2.97	10.79	70.70
20.56	3.97	20.97	3.74	36.50
2.44	4.77	20.74	4.60	59.08
8.66	2.56	1.78	7.40	3.00
4.06	1.98	3.86	2.70	5.78
30.04	5.66	60.97	8.31	2.00
8.44	9.44	19.39	6.00	7.60
302.75*	221.68*	233.44*	212.79*	336.57*

Figure 32—Bell as Warning Signal
The Bell can be set to ring on the completion of a predetermined number of items

For double spacing, set the dial at twice the number of items desired.

3—*Warns When Items Reach Bottom of Sheet.*

The bell can be used to sound a warning when items being listed in a vertical column reach the bottom of the sheet. When used in this capacity it performs its function as a paper return lock at the same time.

Obtain the proper printing position for the first item and engage the bell as explained under its first use. Revolve the platen by hand until the finder indicates the printing position for the last item in the column at the foot of the sheet. Pull out the knurled knob on the bell and turn the bell backward until it stops with the pointer at zero.

Revolve the platen backward until the paper return lock causes it to stop at printing position for the first item. When items are listed the bell will ring when the sheet reaches the position predetermined for the last item.

4—*To Count Items Listed.*

The bell may be used to count the number of items that have been listed. Engage it as a paper return lock as explained under its first use, with the paper in the proper position for printing the first item. Run off the items and when the last item has been listed pull out the knob and turn the bell until the zero on the
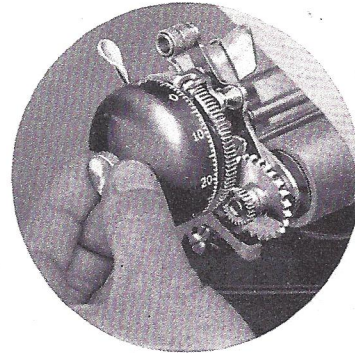

Figure 34
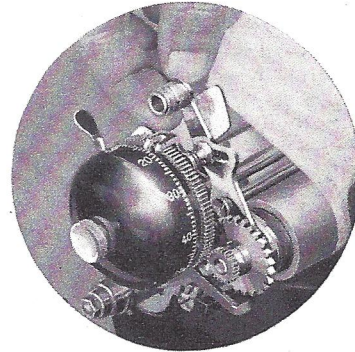*When items have been listed and before total is taken, set the Bell at zero*

Figure 35
Raise the latch, disengaging the Bell, and the dial will revolve backward and show opposite the pointer the number of items that have been listed.

dial comes opposite the pointer. (See Fig. 34.) Pull up the latch, disengaging the bell, and the dial will revolve back against its stop and bring the number of items opposite the pointer. (See Fig. 35.)

This use of the bell works out to especially good advantage in totaling the number of sales made by any one clerk or department. The number of items in the column may be printed below the total of each column, the Non-add key being used to denote the quantity. (See Fig. 33.)

18.00	4.00	18.00	3.00	5.00
2.50	3.45	22.50	3.00	4.50
23.00	2.60	15.00	4.50	.35
2.00	14.50	320.50	7.00	2.50
15.00	1.30	7.50	5.00	10.00
1.80	.75	3.75	2.50	7.50
20.00	6.65	4.50	4.00	.75
5.60	23.50	5.00	6.00	2.25
10.00	6.45	27.50	5.25	.50
9.98	5.35	6.75	4.00	.35
2.75	12.55	5.40	3.98	
12.50			3.50	33.70*
3.45	81.10*	43.40*	2.00	10*
	11*	11*		
126.58*			53.73*	
13*			13*	

Figure 33—Bell as Automatic Counting Device
The Bell can be set to count the number of items listed in a column, for instance, the number of sales made by a clerk or a department

How to Subtract, Multiply and Divide
Checking Invoices, Figuring Discounts and
Computing Interest on the Burroughs

Definitions

Minuend..............The number from which another is to be subtracted.
Subtrahend.........That which is to be subtracted.
Multiplicand....A number to be multiplied by another.
Multiplier..........A number by which another is to be multiplied.
Dividend.............A number to be divided.
Divisor...............That by which a number is divided.
Complement......The complement of a number is another number, which, when added to the first number, will give a sum equal to ten or a power of ten; i. e., 10, 100, 1,000, 10,000, etc. Thus the complement of 7 is 3; of 38 is 62; of 3467 is 6533.

NOTE—To get the best results it is advisable to run through all the explanations carefully with the machine at hand, so as to work out each step in the order it is explained.

How to Subtract on a Burroughs

To PERFORM subtraction on the Burroughs, it is only necessary to add to the minuend the complement of the subtrahend and also all of the 9s to the left of the subtrahend. The result will be the remainder.

To determine the complement of a number commence at the left of the number and add to each figure enough more to make 9—except to the last figure at the right, to which add enough to make 10. When the last right-hand figure or figures are ciphers, disregard them; add enough to make ten to the last figure to the right, which is not a cipher.

Suppose we desire to find the complement of 1604. Commence at the left and set down under the 1 an 8, under the 6 a 3, under the 0 a 9, under the 4 a 6. These figures, 8396, are the complement of 1604.

The complement added to the first number will make 10,000 or the 4th power of 10.

If it is required to subtract 1604 from 29,872, we first put the minuend 29,872 in the machine. Then strike the complement of 1604; viz., 8396, together with all the 9 keys to the left of the subtrahend, so you will have 999,998,396 on the keys, as illustrated, then depress the Operating Bar, and the result on the dials will be the remainder of 28,268. (See Fig. 36.) The subtrahend may be printed by the use of the non-add key where a full picture of the operation is desired. The object in striking the row of 9s is to carry the 1, which would otherwise appear on the dial to the left of the remainder, out of and beyond the capacity of the machine.
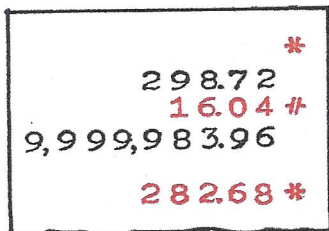

Figure 36—Subtraction
29,872 — 1604

How to Multiply on a Burroughs

MENTAL multiplication of figures, particularly where fractions are involved, is tedious work for anyone. The business man has found this true when figuring percentages, extending stock inventories, etc.

In fact the time and effort required to do such work have discouraged some business men from keeping many of the records they *need*.

And yet multiplications of both whole numbers and fractions can be handled on the Burroughs in much less time than by the old hand method and with very little mental effort.

Furthermore, the Burroughs method of multiplication is simple to learn. One who has never used an adding machine can, after thirty minutes' practice, multiply with the Burroughs faster and easier than by the mental process.

Multiplication is simply repeated addition or, in other words, a short method of making many additions of the same number.

The biggest element of chance for error in multiplication of fractions is in pointing off the decimal places.

On the Burroughs keyboard each column of keys is numbered from 1 to 9 so that a multiplier can be set in any position on the keyboard. The Burroughs full-keyboard feature makes it possible to multiply either from right to left or left to right.

The old mental method is to multiply from right to left. *By multiplying from left to right on the machine the decimal point may be predetermined where fractions are being handled* and thus avoid any likelihood of error in pointing off the product properly.

Multiplying from Right to Left

To MULTIPLY 566 by 435, first latch down the Repeat key and depress the keys representing 566. Then multiply by the 5 of the multiplier 435. Multiplying by five is of course merely adding 566 five times;

Figure 37—Multiplication
566 x 435 and the Total (disregard the punctuation printed by the machine)

so depress the Operating Bar five times. The next step is to multiply by the 3 in the multiplier. Restore the keys 566 by depressing the Total key and set them over one column to the left of their former position.
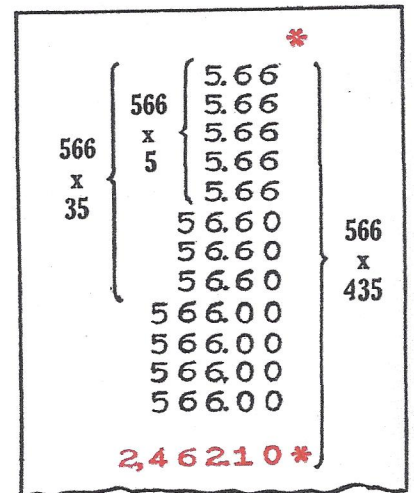
By depressing the Operating Bar three times 566 is multiplied by 30. So far then we have multiplied 566 by 35 and it remains to complete the work by multiplying by the 4 in the multiplier. This is accomplished by setting the 566 one column farther to the left, and depressing the Operating Bar four times. The total is then taken in the regular way and the product 2,462.10 is printed on the paper. (See Fig. 37.)

In multiplying from right to left, point off as many places from the right as there are decimal places in both multiplier and multiplicand.

Multiplying from Left to Right

TAKE the same problem 566 x 435. Latch down the Repeat key. The first step is to multiply by 4, the first figure of the multiplier.

Set the amount 566 in the keyboard so that the first figure 5 is in the second column from the left side of
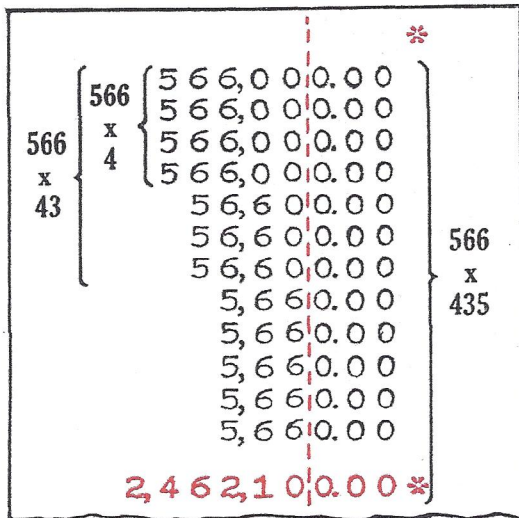

Figure 38
566 x 435—Multiplying from left to right

the keyboard. This leaves the left-hand column for "carrying into." Depress the Operating Bar four times. Set the amount 566 one column to the right and depress the Operating Bar three times to multiply by 3, the second figure of the multiplier.

Set the 566 one column again to the right and depress the Operating Bar five times to multiply by the third figure 5. Restore keys by depressing Total key.

The product is secured by taking a total in the regular way. The answer should be pointed off as follows: Begin with the first digit to the left of the first amount printed on the adding tape in making the multiplication and point off as many places to the right thereof as there are whole numbers in both multiplicand and multiplier. If a multiplier has no whole numbers and there are ciphers to the right of the decimal point, point off to the left one place for each cipher. In the problem 566 x 435 there are six whole numbers (i. e., six figures that are not decimals) so point off six places from the left including the extra dial on the left, whether or not a "carry" has gone into it.

Multiplying When One Multiplier is Already on the Dials

WE WILL assume that the dials show 181,473 and it is required that this amount be multiplied by 766. It is obvious that having one amount already on the dials, it will only be necessary to add to it 765 times itself to produce the correct result.

Lock down the Repeat key. Set 765 on the keys so that the 5 comes immediately over the left-hand figure 1 on the dial. Then with the eyes on the dials depress the Operating Bar as many times as the figures on the dials indicate; thus make one stroke at the beginning, for there is a 1 on the dials. Release the keys by pressing the Total key and set 765 one place to the right, depress the Operating Bar eight times because 8 is the next figure on the dials. Then continue setting the multiplier one place to the right and depress the Operating Bar as many times as the corresponding figures on the dials indicate. Finally release the keys, make a spacing stroke, and take the total. The dials then read 139,008,318, which is the product of 181,473 times 766.

This method of working from left to right is advantageous where an addition has been made, the total of which is to be multiplied. This method can be used without canceling the amount in the machine, setting the figures down on paper, or memorizing them. This is particularly useful in computations of interest where one multiplication is made and the product is multiplied by another amount.

Multiplication of Fractions

THE FIRST step is to reduce fractions to decimals. The arrangement of the Burroughs full keyboard is a distinct advantage in the multiplication of fractions for three reasons:

1. A fixed decimal point can be used. Mistakes in "pointing off" are responsible for a large percentage of errors in multiplication of decimals. The fixed decimal point makes such mistakes almost impossible.

2. When a permanent common decimal point is used, the total of several multiplications may be permitted to accumulate in the machine and a grand total of all of them may be printed without totaling each problem and then recapping the totals.

3. By multiplying from left to right the Operating Bar is first depressed the number of times represented by the left-hand figure of the multiplier, then the next to the right, etc. It is easier to read and remember the multiplier in the sequence in which it is written than to remember the figures backwards.
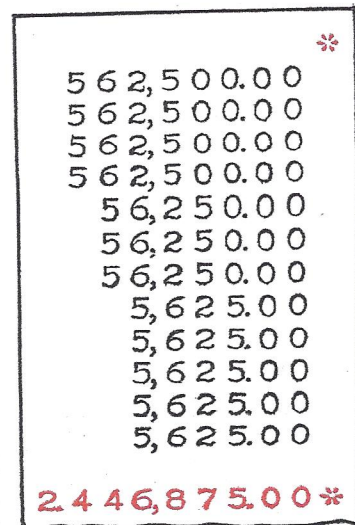

Figure 39
56¼ x 43½

Easy to Check Invoices

```
                   ⎧ 28,800.00
                   │  2,880.00
   288             │  2,880.00
   x               │    288.00
  .12½             ⎨    288.00
                   │    288.00
                   │    288.00
                   ⎩    288.00

                   ⎧ 14,000.00
                   │ 14,000.00
                   │  1,400.00
                   │    140.00
   140             ⎨     14.00
   x               │     14.00
  .21⅛             │      1.40
                   │      1.40
                   │      1.40
                   │      1.40
                   ⎩      1.40

                   ⎧    750.00
                   │    750.00
                   │    750.00
                   │    750.00
    75             ⎨     75.00
    x              │     75.00
  .04¼             │      7.50
                   │      7.50
                   │      7.50
                   │      7.50
                   ⎩      7.50

                   ⎧ 56,000.00
                   │  5,600.00
                   │    560.00
                   │    560.00
    56             ⎨     56.00
    x              │     56.00
  1.12½            │     56.00
                   │     56.00
                   ⎩     56.00

              1 3 1,7 6 2.5 0 *
```

Figure 40
Showing   Method   of   Checking   Invoice   when
only the   total   of   the   entire   invoice   is   wanted

I N THIS illustration extensions have been figured on 288 items at 12½ cents, 140 pounds at 21⅛ cents, 75 pounds at 4¼ cents and 56 yards at $1.12½. Each extension is left in the machine so that the total amount of the invoice is the final result.

Although the decimals vary as to number of decimal places, a fixed decimal division has been maintained throughout all the extensions. This allows the totals of all extensions to accumulate so that a grand total of the invoice may be printed as soon as the extension of the last item has been made.

The operator need notice only one thing; that is, the total of whole numbers (figures to the left of the decimal point) in both price and quantity. Then it becomes a simple multiplication from left to right.

If there are large decimals, the items can be run off the keyboard to the right without affecting the accuracy, because only figures beyond the fifth decimal place are thus dropped.

Should the extension of each item be wanted, it is necessary to total after each multiplication, then recapitulate the totals afterwards.

This method offers the quickest, easiest way to protect your business against invoice errors.

Division

D IVISION on the Burroughs Adding and Listing Machine is somewhat more difficult to explain in print than addition, multiplication, or subtraction; but the process is not so involved as it at first appears.

In the first place, to explain the process more readily, we must consider that the division of 3492 by 15 means practically the process by which we find out how many times 15 can be subtracted from 3492. In order to do this, we put 3492 into the machine so that the amount shows on the right-hand dial wheels. We first find out how many times the divisor is contained in the first two figures of the dividend 3492. Proceed as follows:

Use the Complement of the Divisor Throughout*

Put the complement of 15, which is 85, on the keyboard in the columns directly over the dial wheels in which the number 34 appears. Depress 9 in the first column to the left of the figures 85 (depressing the 9 causes the machine to carry into the next column to the left).

The Repeat key is locked down during the entire operation.

Depress the Operating Bar and the dials show 000101992 (on a 9-column machine) and the two dials which formerly showed 34 now show 19. Therefore 15 has been subtracted from 34 once. Inasmuch as 19 is still larger than 15, depress the Operating Bar once more. The dials now show 000200492 and the two dials which originally showed 34 now show 04. Fifteen has been subtracted from 34 twice, leaving a remainder of 4 and the first subdivision is finished.

It now becomes necessary to "bring down" the next figure, 9, of the dividend, and this is done by moving the complement of the divisor one column to the right. To do this, release the depressed keys and depress the same keys, 985, one column further to the right.

After depressing the Operating Bar three times we find that the 04 appears on the dials where the figures 49 appeared before. We have, therefore, subtracted 15 from 49 three times, leaving a remainder of 4.

The next step is to bring down the fourth figure, 2, of the dividend. Two depressions of the Operating Bar and 42 is reduced to 12. Looking on the dials we find that 15 has been subtracted from 3492 two hundred and thirty-two times, leaving a remainder of 12.

Depress the Total key to restore the depressed keys, make the usual spacing stroke, and take a total. This will show the amount 232012. This is read 232 and 12/15.

Always point off from the right as many spaces as there are figures in the divisor. Cross out one cipher to the left of this point. The figures on the left of the cipher which we have crossed out represent the whole number part of the answer. The figures on the right of that cipher represent the numerator of the fractional remainder—the denominator being, of course, the same as the divisor.

*Definition of Complement is given on page 14.

Proving the Ledger Postings

THE BURROUGHS Visible Adding and Listing Machine will handle all the figure work of the average business. However, because of limited space, we can show only the more common uses of the machine here.

Thousands of business houses are proving ledger postings with a Burroughs along the plan illustrated. Markers are placed in the ledger at the pages on which each posting is made. (See Fig. 41.) To distinguish debit from credit postings different colored markers are used. Some bookkeepers place the debit markers so they project from the top of the page and the credit markers from the bottom.

When the postings have been completed a proof sheet (See Fig. 42) is inserted in the Burroughs and the amounts indicated by the projecting debit markers are listed and added. The projecting credit markers are then handled in the same way. The totals of the debits and credits should agree with

DAILY PROOF OF POSTING Date *May 4, 1922*			
Charge Items	Credit Items	Charge Items Posted	Credit Items Posted
23.35	10.00	23.35	10.00
4.50	2.50	4.50	2.50
12.00	15.00	12.00	15.00
4.50	32.00	4.50	32.00
3.75	45.00	3.75	45.00
5.50	1.50	5.50	1.50
25.00	3.75	25.00	3.75
4.00	5.00	4.00	5.00
2.65	8.50	2.65	8.50
6.30	12.00	6.30	12.00
2.58	3.40	2.58	3.40
4.50	8.32	4.50	8.32
6.85	5.68	6.85	5.68
10.00	152.65*	10.00	152.65*
7.50		7.50	
32.25		32.25	
14.00	Predetermined Totals of Charge and Credit Items	14.00	
23.00		23.00	
4.00		4.00	
10.00		10.00	
8.00		8.00	
214.23*		214.23*	

Figure 42
When the total of items posted to the ledger agrees with the predetermined total the bookkeeper is assured that the right amount has been posted to the ledger
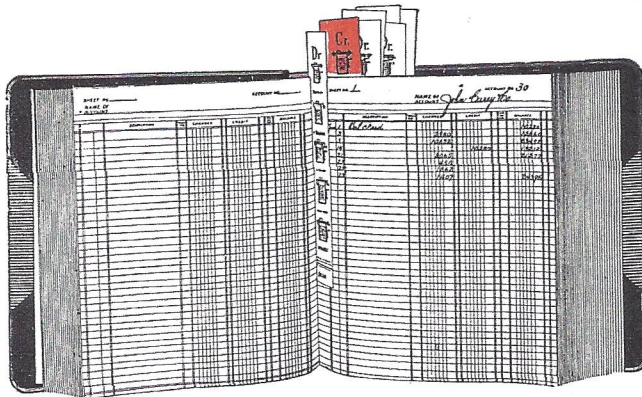

Figure 41
Debit and credit markers placed between the ledger pages show where postings have been made

the predetermined totals of the debits and credits obtained by adding amounts taken from sales slips or other media before the posting work was started.

If there is a difference, the error can be quickly located as the markers are allowed to remain in the ledger until the balance is obtained. The fact that the total debit postings agree with the predetermined total of debit items assures the operator that the right amounts have been posted to the ledger.

By securing this proof daily or as frequently as postings are made, the accuracy of the month-end trial balance is assured.

Trial Balance—Using Ledger Balances

FIGURE 43 illustrates the Burroughs method of taking a trial balance where general ledger balances are used.

The first step is to turn through the ledger and list with the machine all the debit balances. Where a credit balance occurs a marker is placed in the ledger.

When all debit balances have been listed a total is taken. The paper carriage is then shifted to the proper column and credit balances, the location of which are shown by the projecting markers, are listed and a total taken.

Dr. *	Dr. 855.85 s	Dr. 1,480.27 s	Dr. 1,879.36 s	Dr. 2,150.15 s	Cr. *
54.40	3.45	45.30	34.50	4.00	350.00
35.60	43.56	3.45	3.50	35.40	500.00
4.50	54.30	2.34	5.30	5.00	34.50
56.70	121.12	23.40	54.40	45.00	45.00
133.00	109.90	34.20	33.50	3.30	346.00
524.00	56.60	3.44	5.20	23.00	54.00
45.50	44.34	32.20	2.35	66.00	23.45
3.45	53.30	24.30	34.10	5.60	40.30
32.35	43.35	46.60	2.34		342.20
54.35	4.50	67.40	33.40	2,337.45*	34.56
60.00	6.00	45.30	4.50		.56.50
45.60	50.00	4.86	23.20		510.94
6.40	34.00	66.30	34.50		2,337.45*
855.85 s	1,480.27 s	1,879.36 s	2,150.15 s		

Figure 43
Trial balance sheet in which the debit balances and credit balances have been listed and totaled in separate columns

Trial Balance—Using Non-add Key for Credits

IN FIGURE 45 is shown how advantageously the Non-add key lends itself to taking a trial balance using ledger balances. With this plan it is necessary to make but one trip through the ledger.

Debit balances are listed in the regular way. When an account is reached which shows a credit balance the credit is listed with the Non-add key depressed.

When all debits have been listed and the total printed the Non-print key is depressed and the credits as shown by the non-add symbol "⌿" listed. The Non-print key is restored when the total of the credits is taken.

Recapitulating Sales

FIGURE 46 shows a simple way of recapitulating sales by departments or kinds of goods sold.

The form is made up directly from the previously assorted invoices or sales slips. Sheets similar to the sample illustrated up to 18 inches in width and containing 12 to 20 columns can be prepared on the Burroughs.

Having completed postings, a proof is made by first listing and adding on the Burroughs (see Fig. 44) the old balance on the accounts which have changed that day. By going through the ledger again the new balances of the same accounts are listed and added.

A new account opened that day is considered a new balance; if an account has been closed the old balance only is used.

Add to the total of the old balances the footings of the Sales Book and the total of cash paid out. To the new balances add the total of merchandise returned and total of cash received. The results should balance.

This proves the postings and balances, and checks the footings of the Cash Book, the Sales Book and merchandise returned.

Figure 44
Daily Ledger Balance showing listing and totaling of old and new balances

Figure 45
Trial Balance Sheet showing the credits marked with Non-add (⌿) symbol, the debits only being added. Credits are added in another operation

By charging to each department the purchases for that department together with its share of the expense, and crediting it with all sales from that department, a very close estimate of the profits produced by each division may be secured.

By subtracting the gross profit on the goods from the sales of each department and then subtracting this amount from the goods on hand previously, the value of the goods on hand may be secured.

On page 19 is shown a method of recapitulating cash and charge sales by clerks.

A Daily Ledger Balance

AT EACH posting a new balance is extended and a marker inserted at the page where accounts have thus changed.

Figure 46
Sales Sheet showing sales listed and totaled by kinds of goods

CASH SALES

```
        *
      1 #            3 #          4.46 s
    1.00 #          1.01 #        4.50
      .45             .50         2.70
      .65            4.60
      .75             .75       11.66 *
      .10            1.10
     2.35            5.00         1.03 #
     5.00            6.75          .35
      .54             .35          .70
      .20                         6.35
     1.35          19.05 *        1.27
     3.97                         1.00
                     4 #
   15.36 *          1.01 #        9.67 *
                    8.00
      2 #            .45            6 #
    1.00 #           .93          1.02 #
      .35           4.45           .65
     1.52           6.57          3.45
      .30            .25           .80
     3.50           1.65           .90
     7.00           4.56          1.60
     5.75           1.20           .75
     1.75            .63          7.00
      .35           1.02          3.56
      .50           1.25
                               18.71 *
   20.82 *         30.96 *
                                  7 #
    1.01 #           5 #         1.03 #
      .50           1.01 #       7.00
      .75            .96         5.68
     5.00            .75        15.00
     2.35            .55         3.86
      .90            .75
      .75            .10       31.54 *
     3.45            .75
     6.50            .60
   20.20 *         4.46 s
```

CHARGE SALES

```
      1 #            4 #           7 #
    1.00 #          1.01 #       1.00 #
    3.45            4.50         2.45
    8.95            5.65         6.50
     .86            8.85         4.65
     .50            1.25         3.45
    5.60            4.30          .75
    4.95                         8.00
     .85          24.55 *
     .35                       25.80 *
                    1.02 #
   25.51 *         7.00          1.03 #
                   3.47          3.45
      2 #           .90          6.00
    1.01 #        11.50          7.50
    1.10           3.45          2.40
    3.45                          .85
    8.25          26.32 *        1.25
     .90                         2.40
    3.45            5 #
    6.50           1.02 #      23.85 *
    3.60           4.65
    1.25           2.30          1.04 #
    7.45           6.75          6.00
    1.75            .85          7.60
     .45           7.65          3.45
    4.79           3.40          6.50
    7.60                         1.35
    4.56          25.60 *         .98
                                  .75
   55.10 *         1.03 #        4.00
                   9.35         15.46
      3 #           .75
    1.01 #         3.70        46.09 *
    2.50            .95
    5.60           5.35
    8.10 *        20.10 *
```

	CASH SALES RECAP					
DEPT.	100	101	102	103	104	TOTAL
1	15.36					15.36
2	20.82	20.20				41.02
3		19.05				19.05
4		30.96				30.96
5		11.66		9.67		21.33
6			18.71			18.71
7				31.54		31.54
8						
9						
10						
TOTAL	36.18	81.87	18.71	41.21		177.97

Fig. 47

	CHARGE SALES RECAP						
DEPT	100	101	102	103	104	TOTAL	
1	25.51					25.51	40.87
2		55.10				55.10	96.12
3		8.10				8.10	27.15
4		24.55	26.32			50.87	81.83
5			25.60	20.10		45.70	67.03
6							18.71
7	25.80			23.85	46.09	95.74	327.28
8							
9							
10							
TOTAL	51.31	87.75	51.92	43.95	46.09	281.02	458.99
	36.18	81.87	18.71	41.21			
	87.49	169.62	70.63	85.16	46.09		Total Sales 458.99

Recapitulating Sales by Clerks

IN ORDER to determine the amount of sales made by each clerk in a retail store it is necessary to recapitulate the sales by clerks. This recapitulation is made up from the sales tickets sent in by each clerk.

The cash sales are first added and listed as follows:

A clear signal is first printed to show that there is nothing in the machine. The clerk's number and department number are printed at the top of the column, with the Non-add key depressed. The items for clerk number one are then listed and a total taken. The cash sales and charge sales of the rest of the clerks are then handled in order. The totals are then entered in a space at the bottom of the sheet and grand totals of clerks and departments extended.

Burroughs Visible Machines for Making Customers' Statements

MANY retailers, wholesalers and manufacturers are making monthly statements to their customers on Burroughs machines. For this work there is a specially equipped machine with three columns at the left for printing months and days of the month.

All firms desire that monthly statements be sent out as early in the month as possible, as a day gained on this work means more prompt collections and additional time devoted to other important work demanding attention at the same time in the month.

In making up this statement (Figure 50) on the Burroughs the items are taken direct from the ledger. The debits are listed, the carriage shifted to the next position and the total printed at the right.

The credits, if any, are next listed and a sub-total printed under the total debits.

The balance as taken from the ledger is set into the machine and printed as an item with the "BL" key depressed. The adding wheels will then show the same amount as the total debits, and thus prove each statement. If this method is used the machine must be cleared after each statement is finished. This may be done by printing the total on the back of the statement, making it easy to compare with the total debits. This proves the ledger footings and so prevents many trial balance troubles.

The Burroughs not only saves a great deal of time and money but insures neat, accurate, businesslike statements. It enables you to get your statements out on the first of the month, after which the machine can be used for other figure work.

Figure 49
This shows the Burroughs Visible Adding and Statement Machine with Injector and Ejector device for quickly inserting and removing customer's statements

Work Speeded Up

THE INJECTOR and Ejector is a small lever conveniently placed on the right end of the carriage. Its purpose is to bring a blank statement into printing position quickly, and after the statement is finished to eject it from the carriage without the loss of time occasioned by twirling the platen with the hand.

After the sheet has been dropped into the carriage a forward stroke of the handle whirls the platen and feeds the paper into the machine. It is done so quickly that the eye cannot follow; the action of the device is so accurate that every sheet will be fed into the machine the same predetermined distance.

The stroke of the handle may be regulated by shortening or lengthening the distance between the stops. If the sheet is injected too far with

Figure 48—The Injector and Ejector
This device saves a great deal of valuable time placing a sheet in the machine or taking it out

Figure 50
Statement made on Burroughs Statement Machine

a full throw, hold the handle forward, release the back stop, by pressing down on the knurled knob lever, and move the stop forward.

The handle automatically returns to a backward position after each forward stroke. When it is entirely back and also when it makes the return stroke, the pawl is disengaged from the teeth of the gear; thus free action of the platen is in no way interfered with, if it is desired to twirl it either backward or forward by hand.

A sheet is ejected from the carriage in the same quick manner, by a second forward stroke of the handle.

Machine-made Deposit Slips

THE BURROUGHS will save time and eliminate all possibility of errors in making out Bank Deposit Slips. An excellent example of how the Burroughs will handle the work is shown in Figure 51.

When the deposit slip is made a carbon copy—*an exact duplicate* is also prepared. This duplicate

Paid Checks		Deposits
4540	Bal.	2,343.35
335.56		453.30
66.54		345.50
256.70		150.75
500.00		540.25
135.45		330.67
76.76		245.56
50.00		377.98
100.00		754.30
433.35		178.80
5.00		344.40
23.45		
10.37		6,064.86
356.50		
2,395.08 *		2,395.08 *

Bank Balance 3,669.78 *

Checks Outstanding

Number	Amount
33.45	56.50
33.46	325.00
33.48	43.35
33.50	67.66
33.56	125.25
33.60	4.50
	622.26 *

Bank Balance 3,669.78
Cks. Outstd. 622.26 *

True Balance 3,047.52 *

Figure 52
Bank balance proven with unpaid check

is filed but can, when desired, be pasted on the back of the check book stub. Where it is desired to get a deposit to the bank at an early hour and to know that the duplicate is an exact copy of the items that have gone to the bank there is no medium that will lend such valuable assistance as the Burroughs.

The accuracy insurance of making Bank Deposit Slips on a Burroughs is reason enough why this plan should be used, even if it were not that the work can be done many times faster than by the pen-and-brain method.

Proving the Bank Balance

WHEN the bank's monthly statement or pass

book is returned with the canceled checks the balance should be tested. First, list and add on the Burroughs the checks returned by the bank. Next, list the balance shown by the bank on its last statement or when the book was previously balanced, and to this balance add all deposits made since. From this total subtract on the machine the total of the checks returned. This will give the present balance as shown by the bank.

Now list by number and amount all checks drawn but not yet returned. These can easily be found by checking the returned checks against stubs of the check book. The total of these checks subtracted from the balance shown by the bank, will give your true balance as shown in check book.

Close-up Position of the Keyboard and Paper Carriage an Advantage

ON THE Burroughs Low Keyboard Visible the paper carriage is but *three inches* back of the keyboard. This close-up construction is especially advantageous from the standpoint of convenience in operation. Not only is the necessity of "reaching" in making carriage adjustments overcome, but the printed work is brought within the operator's easy vision.

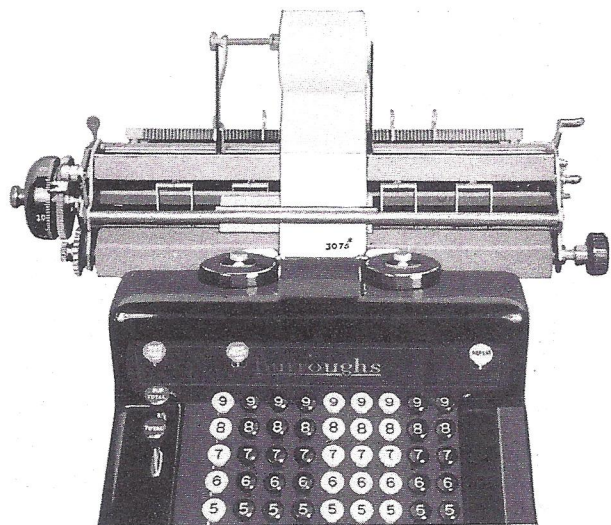The adding wheels, keyboard and printing position are all an

Figure 53
An item listed on the Burroughs Visible can be seen immediately just as shown here

Figure 51
Bank deposit slip made in duplicate on a Burroughs

equal distance from the eyes of the operator, which affords protection from eye fatigue. When an item has been listed the printed figures can be easily seen without having to lean forward.

These are points that will possess importance to you in proportion to the amount of experience you have had with visible types of figuring machines, or the amount of thought you have given to the subject.

But even if you have had no personal experience with figuring machines you will see the logic of bringing the keyboard and paper carriage in close relation to each other, as we have succeeded in doing in the Low Keyboard of Burroughs. For this facilitates the operation of the machine, which means satisfied and willing operators and more work accomplished in a given time.

How to Get More Use From Your Burroughs

YOU PROBABLY bought the Burroughs with the idea of using it for certain definite work—mostly straight adding and listing. As you become familiar with it, however, you will find many ways to use it which never occurred to you before.

Listed on this page are some of the things which are being handled on Burroughs machines to save time on detail work. Of course, you may not have all these uses for your Burroughs.

They are merely listed as suggestions, to show the widespread adaptability of this machine. Some of the most progressive business men have adapted the Burroughs to these uses.

If you want to know how to apply the Burroughs to any of these things, or to any other phases of your work, just write the details to the nearest of the 200 offices the Burroughs Adding Machine Company maintains in the United States and Canada. Your telephone book or your bank will supply the address.

The information is yours for the asking.

Daily Uses

1—Proving Daily Postings.
2—Daily Ledger Balance.
3—Daily Cash Balance.
4—Preparing Deposit Slip in Duplicate.
5—Daily Recap. of Sales—Cash, Credit, C.O.D., etc.
6—Checking Invoices and Freight Bills.
7—Figuring Discounts.
8—Comparing Commissions.
9—Summary of Day's Receipts and Disbursements.
10—Figuring Estimates.
11—Listing and adding yardage, feet, or weight of goods packed, received or shipped.
12—Listing and adding hours and minutes, tons and cwt., feet, inches and fractions of inches, and other compound numbers.
13—Posting Perpetual Inventory Records.

Weekly Uses

14—Preparing Weekly Pay Roll.
15—Making Out Pay Envelopes.
16—Preparing Weekly Summaries of Labor Distributions.
17—Making Weekly Summaries of Sales by Departments, by Salesmen, by Territories, by Ledgers, by Commodities, or by any desired division.
18—Analysis of Accounts Receivable.
19—Analysis of Accounts Payable.
20—Handling Petty Cash Expenditures.
21—Compiling Change Sheet for Pay Roll.
22—Comparative Statements of Operating Expenses and Earnings.
23—Proving Travelers' Expense Reports.

Monthly Uses

24—Taking off Trial Balance Figures, Debits and Credits.
25—Footing Ledger Accounts preparatory to taking off Trial Balance.
26—Reconciling Cash Book Balance with Bank Balance, listing number and amount of each outstanding check.
27—Making Monthly Customers' Statements, giving months, date, total of debits, total of credits and balance due.
28—Monthly Summaries of Merchandise Sales and Profits.
29—Recapitulation of Accounts Receivable and Payable for Controlling Accounts.
30—Analysis of Accounts Receivable and Payable.
31—Compiling Statement of Production Cost.
32—Compiling Statements of Material and Supplies used.

Annual Uses

33—Footing Inventories, Calculating Extensions.
34—Compiling Statement of Profit and Loss for year.
35—Preparing of Balance Sheet.
36—Making Comparative and General Statistical Statements to show progress made by business.

Burroughs Paper Helps to Make Work Neat and Readable

Good paper is required in order to get the best results from the operation of an adding machine. It must be of such strength that it will not tear under the tension required for feeding in the carriage; it must have a surface that will take a clear impression and give carbon copies; and above all

Figure 54—Burroughs Paper, 2 5/16 inches wide

it must be free from "paper lint." This latter is most important. After each listing operation the paper is torn off, and ordinary paper will deposit minute particles, or lint, which fly into the mechanism and ultimately cause mechanical trouble.

After considerable difficulty we have obtained a paper which is made at one of the largest mills to our special order, and which we recommend as being practically free from any such defects.

Figure 55
Burroughs paper is packed in boxes containing 25, 50 or 100 rolls

Burroughs Ribbons are Made for Burroughs Machines

Though the item of ribbon expense is small, it is none the less important to get the best service in this particular.

Burroughs ribbons are made of woven fabrics, especially designed to retain the ink, give a clear impression and prevent ravelings, which are liable to get into the mechanism when inferior ribbons are used. Every Burroughs ribbon is packed in a metal box, wound on a metal spool and wrapped in tinfoil.

Figure 56—Burroughs Ribbons
Burroughs ribbons retain the ink and give a clear impression

To Put on New Ribbon

The ribbon is quickly changed, for the ribbon spools are on the outside of the case. Remove the dust caps by loosening the thumb screws. In replacing the spools with the new ribbons, see that it feeds from the top of the spool, and also that it is squarely under the guide rolls. Should the spools fail to settle down, turn them around slowly until they engage with the small pins. They will then drop into position.

The Burroughs Visible Machine is sometimes equipped with the bi-chrome or two-color ribbon. In any event, each special function is designated by a separate symbol such as the asterisk (⁂) for the Total; (S) for the Sub-total, and the number sign (#) for the Non-add items.

Burroughs Service Blankets the Map
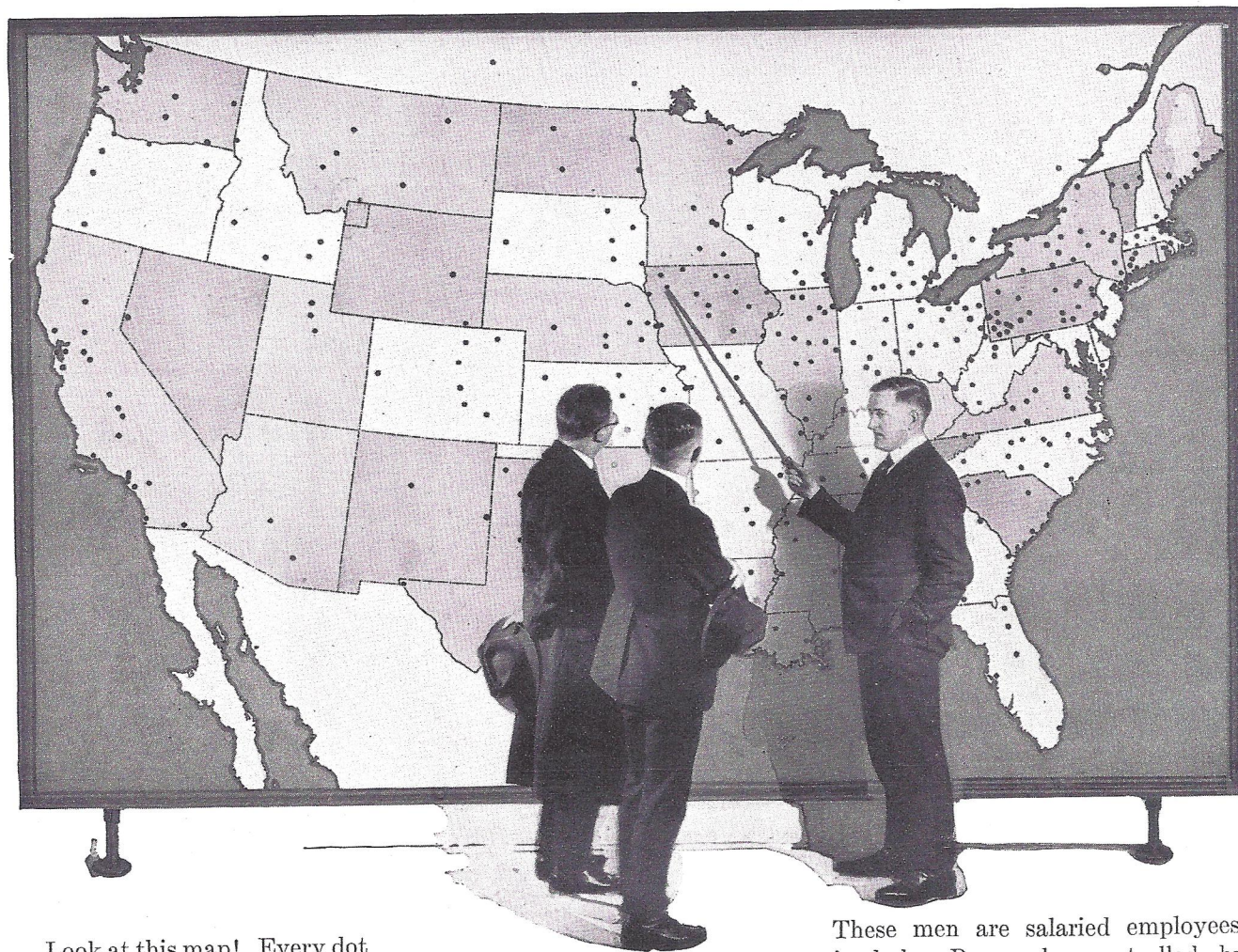
Look at this map! Every dot represents a Burroughs Service Center.

At these 432 centers, mechanically trained Burroughs service men are at the call of the users of the more than 850,000 Burroughs Adding, Bookkeeping, Calculating and Billing Machines.

We are proud of this organization. We do not know of another like it in the world. It is maintained to protect our good name and to insure the Burroughs user in the continuous and profitable use of his machine.

No matter where the Burroughs user may be located or how old his machine may be, there is a trained man almost at his elbow, who is prepared to give him quick and reliable service on his equipment, whether the changing of a ribbon or rebuilding of a machine is required.

These men are salaried employees, trained by Burroughs, controlled by Burroughs and placed by Burroughs where they can best serve Burroughs users.

They are thoroughly familiar with Burroughs machines. As fast as new Burroughs models are introduced, they are schooled in their construction, operation and adjustment, and every six months they are required to pass an examination as to their fitness to meet the requirements of our customers.

When you contemplate the purchase of a machine to handle your figuring problems, think what it means to have such an organization at your call. If you buy a Burroughs you have not only an efficient, accurate and economical means of handling your figure problems, but also full support of the Burroughs Adding Machine Company in maintaining that equipment in continuous, profitable operation.

INDEX

What "Burroughs" Means to Business

From the original "Adding Machine" has developed a diversified line of figuring machines for service to manufacturing, banking, wholesaling and retailing.

TWENTY years ago the Burroughs Adding Machine seemed marvelous in its capacity to list items rapidly and compute the total with automatic accuracy.

But the banker and the business man said. "I must have a daily balance; why not post directly to the ledger?" and Burroughs developed the automatic bookkeeping machine equipped with a carriage into which the ledger leaf or card could be inserted — automatically moving from column to column.

The jobber and the accountant needed rapid calculating to get at a price, an estimate or a cost—and the Burroughs Calculator took its place in business.

Many businesses said: "How can we save time in distributing sales or costs?"—and Burroughs answered with the "Duplex," a double adding machine which delivers individual totals and accumulates a grand total simultaneously.

Now Burroughs has acquired the Moon-Hopkins Billing Machine— the only machine ever invented that produces a complete bill at one operation, including the typewritten itemization, automatic extensions and totals.

Whatever the figure-needs of your business, Burroughs has already given thought to them, and to the easiest, shortest, most economical way to satisfy them.

That is our conception of what "Burroughs" means to business— the best way available today and a still better way tomorrow.

Burroughs Adding Machine Company, Detroit, Michigan

Burroughs manufactures four classes of machines in many different styles and sizes to meet the varied figuring requirements of every kind of business These machines are priced as low as $125 with small down payment and the balance in easy monthly payments.

Burroughs maintains sales and service organizations in 200 principal cities to give you the proper figuring equipment and insure you in its continuous, profitable operation.
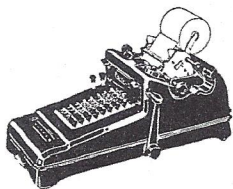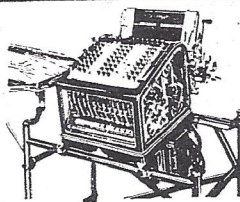
For desk, counter or office use—triple visibility automatic printing of all ciphers and punctuation, wide or narrow carriage.
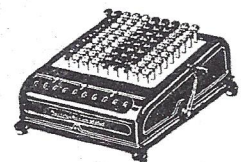
Adding
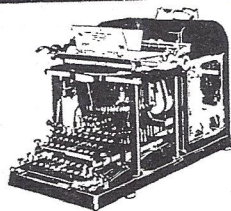
For writing a complete bill in a single operation, including a typewritten itemization, automatic extensions and total.

Billing

For ledger posting, statement writing, distribution stock records, payrolls, transit letters and other bookkeeping work

Bookkeeping

For rapid-fire figuring and checking of invoices, discounts and estimates—jobs that require only a quick, accurate answer.

Calculating