

1922

Accounting simplified

G. W. Greenwood

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ACCOUNTING SIMPLIFIED

G. W. Greenwood

PUBLISHED BY
BRICK AND CLAY RECORD

Accounting Simplified

G. W. Greenwood

Treasurer, United Refractories Co., Dunbar, Pa.

FOR A LONG TIME Brick and Clay Record has been looking for the right man to handle the subject of accounting in a manner that would meet the highly diversified interests of our readers. It has been our opinion for some time, that a system of simplified accounting ought to be practical—one that would be basic in character and adaptable to all classes of clay ware manufacture and all sizes of plants—a system that would be as comprehensive as a plant desired but not so involved that it necessitated continual expert counsel with an accompanying great expense for every new problem that came up. We were told that this was impracticable.

We did not give up hope of discovering such a system, however, and when G. W. Greenwood, treasurer, United Refractories Co.,

Dunbar, Pa., outlined to Brick and Clay Record his new system, we knew that our search for a simple and practical system was at an end. Believing that it would be a real service to the clay industry, Brick and Clay Record published the system first in the journal and later collected the articles in pamphlet form.

The system outlined in the following pages is truly a simplified system. It can be operated by an ordinary bookkeeper and will require less of his time than other more cumbersome systems.

If you are looking for a bookkeeping system that presents a minimum of difficulties and at the same time gives a maximum of information, Mr. Greenwood's system will do that for you.

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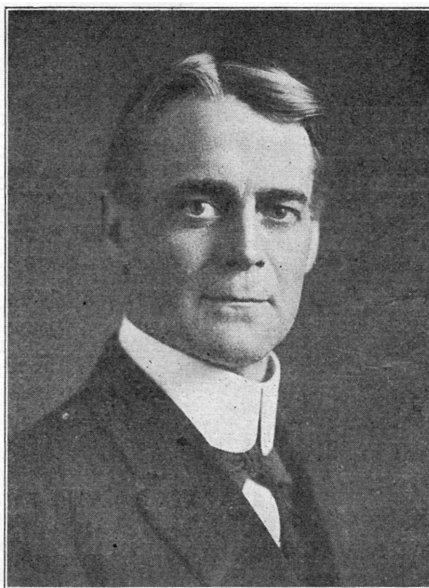
Introducing "Accounting Simplified"

IN PRESENTING to the readers of Brick and Clay Record the series of articles which were promised some time ago on Accounting Simplified by G. W. Greenwood, it is done with the confidence and faith that the system is the best that is available to the clay products industry. Many offers of articles have been received by Brick and Clay Record from industrial engineers, certified public accountants and others who claim to have short-cut and efficient systems. Some of these offers were from men who have had considerable experience in the clay products industry. But all were rejected in favor of Mr. Greenwood's system.

In judging any accounting system, these vital features must be given consideration: Is it written from the standpoint of the clay products manufacturer or is it general? Does the system permit accounting to be carried on to any desired completeness with the minimum of labor, time and cost? Must "expert" aid at \$25 or more a day be necessary to install a simplified (?) system? These and other questions were considered in making the choice of the author and we are proud to say he stands highest of all other prospective contributors.

Mr. Greenwood at an early age commenced working at the office of a brick plant. A few years later without much preliminary training, he applied for admission to Oxford University, England. After four years of study he received the Degree of B. A. from that ancient and well known institution, with a First Class in their Honor School of Mathematics, followed later with a degree of M. A. While an undergraduate, Mr. Greenwood was invited to a meeting of the Oxford Mathematical Society composed of professors and fellows of the University, to read a paper on some original research matter along mathematical lines. This was before the days of Rhodes' Scholarships, and Americans were a rarity at Oxford.

For one-half dozen years following graduation, Mr. Green-



G. W. GREENWOOD

wood was in charge of College courses in mathematics and astronomy, making frequent contributions to mathematical journals. His solutions to problems were characterized by brevity and simplicity.

Later, Mr. Greenwood returned to the brick industry, filling successively positions as author, auditor, secretary, treasurer, and manager. During this period he was a regular contributor to magazines dealing with better accounting methods and cost records. He is now giving all of his time to accounting, specializing in simplified systems such as those to be described in the series that is here published. His business experience and mathematical training has uniquely qualified Mr. Greenwood in accounting simplification.

One of the persons in the clay industry that Mr. Greenwood has counselled on accounting methods and whom we asked for a frank opinion of Mr. Greenwood's ability to write a series of articles on Accounting Simplified, is E. F. Myers, president and treasurer of the Ironton Fire Brick Co. He said, "We are sure that these articles will prove intensely interesting

to those interested in accounting because Mr. Greenwood is not only thoroly conversant with the subject, but can express himself and bring out the salient points as few men can.

"We have adopted some of his suggestions and methods in our accounting which have resulted in a material saving of labor as well as having given us the desired information in a more satisfactory manner.

"We feel sure that there is no other series of articles that you could run in your paper that will be more interesting or prove more beneficial to clay products manufacturers, than those which you contemplate on Accounting Simplified by Mr. Greenwood."

Questions will gladly be answered so far as is practical and discussion is invited by the author.

Accounting Simplified

Detailed Description of a System of Accounting
Which Supplies All Information Desired at the
Least Expenditure of Time, Labor and Money

G. W. Greenwood

Treasurer, United Refractories Co., Dunbar, Pa.

Chapter I. — INTRODUCTION

MANY a practical business man, when an accounting system is mentioned, has visions of a complicated, unintelligible array of forms, which simply add to the expense of the business but which do not bring in any additional income, or aid in its management; he is apt to regard the work of accountants as similar to the feat ascribed by the darkey preacher to Moses—"He led his people into the wilderness, and left them there!"—

These impressions are unfortunately many times well founded.

The object of this series of articles is to outline a method of accounting which gives to the management all information required concerning the business, but without wasting time, money and effort in collecting information which is not desired and which may not be used; and at the same time to furnish the required information by methods simpler, clearer and with less expenditure of time and money than are involved in the system of bookkeeping which they may be using at the present time.

A Tried and Tested Method

The methods to be described are not mere recent experiments, but have been used for years, under conditions calculated to put the acid test on any plan of keeping books; with suitable modifications it has been used in different lines of business, with uniform success; and the claims here made are based on these varied applications.

Where there is a double entry system in use at present (and a single entry set of books is of too little value to be classed as a system), it is the belief of the writer that the plans to be described will

- (a) furnish all information given by the system in use at present, but with less work and consequently at a less expense; or
- (b) give more information at no greater expenditure of time and money; or
- (c) afford any additional information desired at the least possible cost.

The system applies equally well, with necessary minor changes, to a factory making any line of goods, to a general store, in fact to any business which does, or should, keep books.

System Adaptable to Any Plants

It has been used by a factory with one plant, and by another with several different operations; it is in use where the operating expenses are distributed among a few different classes, and again where the distributions cover hundreds of different items; where the firms handle a single commodity, such as common red brick, and where the sales are divided into a score of distinct lines.

It simplifies the posting of ledgers, cutting down this work from ten to fully fifty per cent.; postings are made to the general ledger from a single source, instead of from many sources; and the number of accounts carried in the general

ledger is greatly reduced, without sacrificing any desired information; in fact, with an increase in the information over that obtained by customary methods.

Advantages of the System

It makes easier the taking off of trial balances; it sets forth in clearer form the current operating, administrative and selling expenses so that one can readily see the total charges for the month, and for previous months; he can see the separate individual items which make up the monthly charges and can compare any single item of expense with the charge for previous months. For instance, he can compare his telephone expense for a month with those for preceding months. In one case where the system has been in use for years, it is possible just by running one's eye along a single horizontal line, to trace the rise and fall of any single item of expense listed—salaries, office expense, repairs, and so forth—throughout these years.

It makes it possible to get out monthly financial and operating statements more promptly; for example, in one case where a commodity is bought and sold in car load lots (but which is not handled by the company so there are no inventories to deal with), it is possible to have these enlightening statements on the first day of the following month provided all bills have been received by the last day of the month covered.

Involves No Great Expense

Finally, there is one other important point; when an accounting system is considered, one finds at times that it involves the outlay of a considerable amount of money for bookkeeping machines and other mechanical devices; or that it requires the purchasing of a lot of expensive special forms which an accountant draws up after a few weeks study of the business, and which a few months use show to be ill adapted to the work.

Where mechanical helps are already in use, this system will fit in with them admirably. But it will not be necessary to purchase any new equipment whatever in order to make use of these simplifications. Neither will it be necessary to purchase a quantity of specially ruled and printed forms; the cost of the forms used will not amount to a dollar a month.

Test Out the System

This is a statement of the case we will attempt to prove, and the verdict we will be quite content to leave in the hands of those who may follow the series.

There will also be outlined a method by which each may test out these plans in connection with his own business, and without in any way changing his present accounting system, until he finds for himself what advantage there is for him in the system here described.

A man once stated that he would not be able to put on his new shoes until he had worn them a few weeks. In the present case, it will be found that one can try out the system for a few months before putting it into effect.

Can Be Installed Any Time

The question may arise as to when such a system as this can be installed, and whether or not it can be put into effect at a time other than the beginning of a calendar or fiscal year. The writer first installed such a system right in the middle of a fiscal year (which in this case was also the calendar year), and found that there would have been no advantage in waiting six months to benefit by the change. Also, there is still a vivid recollection of the advantages which immediately accrued from posting to the general ledger from one book instead of from 13 sources, as well as in discarding about 75 per cent. of the accounts which had been carried in this ledger. In fact, it will be better to make a change at some time other than the beginning of the year, because one has his hands full during the first two months making up

various reports and is in no position to take an active interest in changing his methods.

Suit System to Your Requirements

In following the system as outlined herein, together with various modifications to meet different requirements, it may occur to the reader that still further simplification is possible in his individual case. In many instances this will result from inability to explain in this series of articles every possible short cut; and because the only safe plan to insure meeting extended requirements is to cover routes which one company must needs follow but another company may not need to traverse; some such short cuts will be given farther on in the series; others will be left to the more advanced reader to supply for himself.

Chapter II.— THE OPERATING REGISTER

THE ILLUSTRATION here given (figures 1 and 2) is an extension of what is frequently called a Cash Journal sheet and which we will call an Operating Register. The sheet illustrated is 11x14 inches, with two slotted holes $8\frac{1}{4}$ inches from center to center. It contains eight pairs of columns, with a wide descriptive space on the left hand side, together with a space for date. Such a sheet will take care of any ordinary business; where more columns are needed, as when a company operates two or more plants, it may be necessary to use a larger sheet with more columns, or one may use a cut sheet. A cut sheet may be obtained by cutting off two pairs of the outside right hand columns; this sheet is inserted between the full right hand and left hand pages. It will be noticed that the divisions between pairs of columns on each side of the page are exactly opposite each other; this is a small but an important detail when one wishes to form a cut sheet.

Size of Sheets Required

There is sometimes a desire expressed to cut down the descriptive space on the left, and to add one more pair of columns to that side of the page. The writer has found the wide descriptive space in general of decided advantage; one does not wish to economize in explanations of an entry. Also, some do not feel the need of columns which provide for

amounts up to a million dollars; others wish a greater number of horizontal lines to the page. But in the writer's experiences the sheet as shown is better than one which uses less paper and which necessarily cramps the work to a greater extent. It will be found that in some cases one of a particular pair of columns is rarely needed, so it really could be omitted; here again it is doubtful economy, because on the sheet as shown one can distinguish debits and credits without ever looking at the headings. But all these points may be left to the individual judgment of the reader after the method itself has been fully described.

Does Away with Five Books

This book takes the place of a Cash Book, a General Journal, a Voucher Record, a Purchase Invoice Record, a Check Register, and possibly a few other books of entry. In some cases it takes the place of a Sales Book, but not often. However, we will at first have the record play the part of a Sales Book also, and discuss later the use of a separate Sales Book.

The Fundamentals

We will begin with a simple case; that of a company with one plant, desiring a limited distribution of its operating expense accounts. At the top of each page write the month, year, and page number, each month beginning with page 1.

Figure 1. Left Hand Page of Cash Journal and Operating Register. The Full Sheet Is 11 by 14 Inches.

We are now ready to write in the headings of the pairs of columns, beginning with the pair next to the descriptive space, as follows:

GENERAL LEDGER
 SALES
 ACCOUNTS RECEIVABLE
 BANK
 CASH
 ACCOUNTS PAYABLE
 EXPENSES

The arrangement of the columns is of course a matter of choice, but it will be found that an arrangement similar to this will place together the pairs which are most frequently associated in making entries.

Entering Items

We will now consider a number of illustrative entries.

February 1. Shipped to *John-Thomas Construction Co.* a car of brick invoiced at \$176.90.

We write the name, *John-Thomas Construction Co.*, in the descriptive space to the left, and under "SALES," in the right, or credit, column we insert the amount, \$176.90. Also, under "ACCOUNTS RECEIVABLE," in the left, or debit, column we insert the same amount. Suppose the number of the sale, or shipment, is 160; the middle space under "SALES" affords a convenient place in which to insert this reference number.

February 2. Received from *City Building Co.* their check for \$251.75 which was deposited in the bank, applying to their account for January.

Credit this company as shown under "ACCOUNTS RECEIVABLE" and charge to "BANK."

Some might prefer to charge this item to "CASH," and then to make another entry when the deposit is made. In the writer's experience there has never appeared to be any advantage in this additional work.

February 3. Received from the *Higrade Coal Co.* a car of coal, covered by their invoice for \$261.15. Credit this company under "ACCOUNTS PAYABLE" and charge this amount under "EXPENSE."

Where This System Differs

Right here is where we take the first of several steps in parting company with complicated accounting systems. All administrative, selling and operative expenses are unceremoniously dumped into this one column (in plants with a

large classification of accounts a few more expense columns are required); but in the middle column is placed a symbol classifying the charge. In this initial case the following letters will be used for the purpose of illustration:

- a Salaries of executive or superintendent
- b All labor except that used in repairs
- c Raw material purchased
- d Discount received or allowed for anticipated payment of invoices
- f Fuel
- g Supplies
- h Tools
- i Interest paid or received
- l Live stock supplies
- m Office salaries
- n Office rent and supplies
- p Fire insurance
- r Repairs
- s Selling expense
- t Telephone and telegraph (and wireless)
- y Rent received from company houses

Handling the Expense Column

Let us take time out here to discuss this "EXPENSE" column. All items of expense, as they are inserted here, are keyed and picked up later, the recapitulation being shown elsewhere and to far better advantage than if they were carried in the general ledger. It is somewhat like the mail sack which is thrown off a passing train; the mail clerk is interested only in the fact that a particular letter is destined to that town; the local post office sorts the letters according to routes, and the rural carriers sort them according to boxes en route; possibly the family receiving the morning mail makes a further classification by individuals. What if any part of this distribution were placed on the shoulders of the railway mail clerk, requiring him to distribute the contents of the sacks by routes or box numbers or patrons of the local office? Yet this is similar to the requirement that the general ledger be made the distributing agency for operating, or other expense accounts. In this system the "EXPENSE" columns represents the mail sack into which all expense items are thrown, each properly labeled for further distribution by simpler processes, as will appear later.

February 5. Sold to *John Doe Building Co.*, sale number 161, material amounting to \$200, for which payment was received in actual cash less a trade discount of 2 per cent.

Figure 2. Right Hand Page of Cash Journal and Operating Register. The Full Sheet Is 11 by 14 Inches

Since the \$196 goes directly into the cash drawer, we charge "CASH" with this amount, credit "SALES" with \$200 and charge Discount (d) under "EXPENSES" with \$4.

February 6. Bought supplies from the Better Supply Co. amounting to \$15.75. Credit this company under "ACCOUNTS PAYABLE" and charge "EXPENSE" (g).

February 7. Paid the Brixton Telephone Co. by check number 1187 for tolls amounting to \$9.14.

As there is no previous credit to the Brixton Telephone Co., we credit the "BANK" with this amount, inserting the check number in the middle space as shown, charging the amount to "EXPENSE" (t).

February 8. Finding that there is an unnecessary amount of cash in the cash drawer, a deposit is made of \$150.

Credit "CASH" and charge "BANK."

February 9. Received from the John-Thomas Construction Co. a note for \$1,212 covering their account in full to January 31, \$1,200, with 60 days interest added.

We do not have any column in which to insert Notes Receivable, so we charge this in the "GENERAL LEDGER" column crediting the John-Thomas Construction Co. under "ACCOUNTS RECEIVABLE" with \$1,200 and crediting "EXPENSES" (i) with the \$12 received for Interest.

It will be seen that we required here two lines to cover this transaction, so we bracket these to show that they are to be taken together.

February 10. Sold coal for cash, amounting to \$24.80.

Charge "CASH" and credit "EXPENSES" (f).

February 12. Bought from the Brixton Hay & Grain Co. Live Stock Supplies amounting to \$183.60.

Credit them under "ACCOUNTS PAYABLE" and charge "EXPENSES" (l).

February 13. Discounted at the bank the note received from the John-Thomas Construction Co., the discount being \$11.31.

Credit Notes Receivable in the "GENERAL LEDGER" column with the face of the note, charge the "BANK" with the proceeds and charge "EXPENSES" (i) with \$11.31. Do not confuse bank discount with a trade discount which arises from anticipating payment of invoices. This is a set-off against the item of \$12 credited above to Interest. In some cases such a note is credited to Notes Receivable Discounted, with an entry when the note is finally paid. This is a good practice and should be more generally used.

February 14. The company having some unissued Capital Stock, a sale was made of this stock to the amount of \$1,600 at par, the amount being deposited in the Bank.

Credited Capital Stock Unissued in the "GENERAL LEDGER" column and charge the "BANK."

February 15. Bought from the John-Thomas Construction Co. Supplies amounting to \$201.50.

Handle the same as the case of the Brixton Hay & Grain transaction on February 12.

February 15. Paid the Pay Roll for the last half of January by check number 1188 amounting to \$3,474.11.

As this was included in the "ACCOUNTS PAYABLE" outstanding January 31, we charge this account and credit the "BANK."

February 15. The Pay Roll for the first half of the month having been made up, it is found to amount to \$3,175.15 but there are deductions of \$16.18 covering Supplies which have been sold to employes and \$84 for Rent of company houses.

Charge "EXPENSES" (b) with \$3,175.15 credit the same account with (g) \$16.18 and (y) \$84, crediting the remainder \$3,074.97 under "ACCOUNTS PAYABLE," bracketing the entries to show that they constitute a single unit.

February 16. Gave Brixton Office Supply Co. check 1189 for \$7.16 in payment for office supplies.

There being no previous credit for this amount to the Brixton Office Supply Co., charge the item to "EXPENSES" (n) and credit "BANK."

February 1923, page 1

1923		General Ledger	Sales	Accounts Receivable
Feb 1	John Thomas Construction Co.,		160	17690
2	City Building Co.,			
3	Highgrade Coal Co.,			25175
5	John Doe Building Co.,		1	20000
6	Better Supply Co.,			
7	Brixton Telephone Co.,			
8	Cash Deposit			
9	John Thomas Construction Co.,			120000
	Notes Receivable	121200		
10	Cash Sale - Coal			
12	Brixton Hay & Grain Co.,			
13	Notes Receivable	121200		
14	Capital Stock Unissued	160000		
15	John Thomas Construction Co.,			
"	Pay Roll			
16	Brixton Office Supply Co.,			
17	Clayton Mining Co.,			
26	"			
28	John Thomas Construction Co.,			17690

Figure 3. Left Hand Page of Cash Journal and Operating Register. The Full Sheet Is 11 by 14 Inches. The Entries Are Explained in the Text.

February 17. Bought a car of raw material from the Clayton Mining Co. for \$325.08.

Handle as in the case of the Brixton Hay & Grain Co. on February 12.

February 26. Paid the Clayton Mining Co. for their account less two per cent., by check 1190 for \$318.58.

Charge Clayton Mining Co. under "ACCOUNTS PAYABLE" with \$325.08 credit "EXPENSES" (d) with \$6.50 and credit "BANK" with \$318.58.

February 28. There is owing from the John-Thomas Construction Co. under "ACCOUNTS RECEIVABLE," \$176.90; and there is coming to them under "ACCOUNTS PAYABLE," \$201.50. Instead of interchanging checks, we transfer \$176.90 from the first account to the second, as shown.

Handling Bank Deposits

This variety of illustrations will show how the Operating Register is to be used. All deposits in the Bank are entered in one column, whether the deposit arises from the sale of capital assets, the discounting of a note receivable or note payable, a payment received from a customer, a check for sale to an unidentified cash purchaser, a transfer of funds from the cash drawer, or from any other source whatever.

In like manner, the bank is credited with checks drawn for any purpose, such as the payment of a note with accrued interest, of an invoice less a cash discount, for an expense not covered by a previous charge, or to cover any combination of transactions involving any number of different groups of accounts.

As has already been shown the "EXPENSE" columns cover every charge or credit to this account, no matter how the item may originate, or if it is the result of several interwoven transactions.

Compare This with Your System

As a means of estimating the merits, so far, of the system as outlined, let the reader consider how he would handle

each of these entries by the methods he now employs, finding to what extent the items which here appear in orderly array in a single pair of columns, are by any other system scattered among two or more different books; or what entries which here are covered with a single debit and credit it was necessary to cover by two distinct entries in different books.

Additional advantages will appear as we proceed with the discussion.

The next section will deal with closing entries of this Operating Register, but before taking up this subject we should note the following points:

Errors Are Easily Caught

The book balances on every line, except where two or more lines are bracketed. At the foot of the page all columns are totaled and the total of the debits is compared with the total of the credits up to that point. If these do not agree and there is any difficulty in finding where the error lies, take sub-totals at two or more places and find within what limits the error lies. For instance, if the totals at the middle of the page agree, then the error is below that set of totals. In this way any error may be traced down to narrow limits and inevitably caught.

It will be seen that there are spaces in the box headings in which to insert the amounts carried forward. This eliminates the embarrassment which results when one finds that the top line, intended for this purpose, has already been used thru some oversight.

Prove Headings

When one has balanced a page and has carried forward the totals to the top of the next page, the next step is to prove the headings before adding in the figures below. Often mistakes are made in carrying forward totals from one page to another, and it is usually the last place one looks for such an error. So it is best to make sure one has a proper start before proceeding with the summation of a page.

February 1923, page 1.

Bank	Cash	Accounts Payable	Expenses		
251175					
	19600		26115	26115	F
			400		d
			1525	1525	g
			914	914	t
1187	914				
15000		15000			
	2480				c
					1200
					2480
			18360	18360	e
120069			1131		c
160000					
			20150	20150	g
8	347411	347411			
			307497	317515	6
					9
					1618
					8400
					4
9	716		716		n
			32508	32508	c
1190	31858	32508			d
		17690			650

Figure 4. Right Hand Page of Cash Journal and Operating Register. The Full Sheet Is 11 by 14 Inches. The Entries Are Explained in the Text.

(A Handy Page for Notes)

Chapter III—CLOSING THE OPERATING REGISTER

AFTER THE LAST SALE for the month has been written up, the last deposit entered, the last check recorded, the last invoice for material or for services has been inserted, make pencil totals up to the close. Suppose we have the following pencil totals at the close of February:

GENERAL LEDGER	6,331.36	3,861.25
SALES		15,274.83
ACCOUNTS RECEIVABLE	14,982.19	13,872.94
BANK	17,726.12	17,912.68
CASH	1,130.11	1,102.86
ACCOUNTS PAYABLE	16,217.38	16,113.20
EXPENSES	12,137.76	387.16

This does not mean that the figures already used for the purpose of illustration should give these totals. It means that after the remaining sales have been recorded, their total is \$15,274.83; and that after all deposits and checks have been written up, the totals of the bank columns are those shown, and so forth.

We first, of course, check our results by adding all the debits and all the credits to see if the totals agree. We then strike balances on scrap paper, or by means of a computing machine if one is available, and in the descriptive spaces immediately following the last entry, we write the following, the figures being inserted in the "GENERAL LEDGER" columns (see figures 6 and 7):

Closing Entries:

Sales	15,274.83
Accounts Receivable Control ..	1,109.25
Bank	186.56
Cash	27.25
Accounts Payable Control	104.18
Expenses	11,750.60

The entries need not be made in consecutive order.

Now make totals of the "GENERAL LEDGER" columns to this point and see if they are the same. If not, there has been an error, possibly in striking some of the balances.

Recapitulation of Expenses 1923		January	February	March
a	Superintendence		35.00	
b	Labor		874.13	
c	Raw Material		672.11	
f	Fuel		653.86	
g	Supplies		472.91	
h	Tools		22.03	
e	Live Stock Supplies		269.10	
p	Fire Insurance		-	
r	Repairs		132.15	
z	Miscellaneous		8.02	
	Total		1140.14	
m	Office Salaries		75.00	
n	" " Supplies		24.37	
s	Selling Expenses		248.76	
t	Telephone & Telegraph		50.10	
y	Rent of Company House		84.00 *	
i	Interest		38.41	
d	Discount		31.7 *	
	Total		349.19	
	Gross Total		11750.60	
	Sales		15274.83	

Figure 5.

If this pair of totals balances, then under "SALES" in the left of this pair of columns, insert the \$15,274.83; this pair of columns is then in balance.

Next, under "ACCOUNTS RECEIVABLE" in the right hand column, insert the amount, \$1,109.25, which should balance this pair of columns.

Insert the remaining amounts in their respective columns, seeing that each is in balance.

Finally, since each pair of columns is now in balance, the entire book is in balance, and the totals may be inserted in ink, either immediately following the last entry relating to Expenses, or they can be inserted at the bottom of the page with the customary diagonal red line across the unused descriptive spaces.

We are now ready to consider posting; and we use three ledgers—General Ledger, Accounts Receivable Ledger and Accounts Payable Ledger. This does not by any means indicate that we are using a complicated system, simply because we divide our accounts into three parts. Does any man worry over the fact that he has more than one pocket in his coat? Should a mail clerk put letters for different towns into one package simply because there were only a few of them? In one case the number of accounts receivable and of accounts payable is so small that they are not even indexed, but are simply arranged in two different places in a single loose leaf ledger, which also in another place contains the general ledger with its less than a dozen accounts.

The General Ledger will as a rule contain such accounts as the following:

- Accounts Receivable Control.
- Notes Receivable.
- Bank.
- Cash.
- Capital Stock Unissued.
- Real Estate.
- Buildings.
- Equipments.
- Expenses.
- Inventory.
- Accounts Payable Control.
- Notes Payable.
- Capital Stock.
- Surplus.
- Depreciation.
- Depletion.
- Sales.

As a rule the number of General Ledger accounts will not exceed 20, and in many cases there may be considerably fewer than this number. Postings are made to this ledger from the first pair of columns only, and in the usual manner, using the middle column as a space to check as the postings are made. It is evident that there will be but one posting a month to the Accounts Receivable, Accounts Payable, Bank, Cash, Sales and Expense accounts; to some of the

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	General Ledger		Sales	Accounts Receivable	
<i>Closed totals of all entries up to this point →</i>	633136	386125	1527483	1498219	1387294
<i>Closing Entries.</i>					
<i>Sales</i>		1527483	1527483		
<i>Accounts Receivable Control</i>	110925				110925
<i>Bank</i>		18656			
<i>Accounts Payable Control</i>	10418				
<i>Cash</i>	2725				
<i>Expenses</i>	1175060				
<div style="border: 1px solid black; width: 100%; height: 100%; transform: rotate(45deg); position: absolute; bottom: 0; left: 0;"></div>					
	1932264	1932264	1527483	1527483	1498219

Figure 6.

others there may be two or three postings a month; to most of the others there will be no entries at all during the month. It is evident that posting the general ledger for a month and taking off the trial balance is quite a simple feat; that chances of error are greatly reduced, and that any error may be readily found. As the president of one company expressed it, "The entire system is so simple that there is really nothing to keeping our books any more."

Posting in Accounts Receivable Ledger

The Accounts Receivable Ledger is posted similarly, using the center line as a checking column. But the first page of this ledger is entitled "Accounts Receivable Control," and the closing entry is posted to this account. Then when all postings have been made, the ledger should balance since the same amount has been posted to each side, making this a self-balancing ledger. This control account is just the reverse of the account in the General Ledger with the same heading, thus affording a means of verification. For instance, in some cases these two ledgers are handled by

different people, and the fact that the ledger balances and that the control account corresponds to that of the General Ledger is fairly satisfactory evidence to the one handling the Accounts Receivable Ledger that his work is externally correct. Of course there may be two internal errors which balance each other; a method of guarding against this source of error will be given later. Originally, the writer did not use self-balancing subsidiary ledgers, so that they were always out of balance by the amount of the control account in the General Ledger; sometimes even more so! The use of the self-balancing ledger has proven in all cases more satisfactory.

All that has been said concerning the Accounts Receivable Ledger applies also to the Accounts Payable Ledger.

In the case here used for illustration, all postings to the three ledgers are from this one source, and this has been found to have many advantages in itself. In another section, however, will be discussed the use and advantages of a Sales Book, or other methods of handling sales without writing them up in this book.

Chapter IV—RECAPITULATION OF EXPENSES

We have seen that we have entered all expense items in either the debit or the credit column of the Operating Register, and furthermore that only the net difference was

carried to the General Ledger. We now take a summary sheet, shown in figure 5, "Recapitulation of Expenses," and write down the various items of expense in the descriptive

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Bank		Cash		Accounts Payable		Expenses	
1772.612	17912.68	1130.11	1102.86	16217.38	16113.20	12137.76	387.6
18656			2725		10418		11750.60
17912.68	17912.68	1130.11	1130.11	16217.38	16217.38	12137.76	12137.76

Figure 7.

space, as shown, using the left-hand column to insert the symbol or letter, thus:

a	Superintendence
b	Labor
c	Raw Material
f	Fuel
g	Supplies
h	Tools
l	Live Stock Supplies
p	Fire Insurance
r	Repairs
z	Miscellaneous
	Total
m	Office Salaries
n	Office Expense
s	Selling Expense
t	Telephone and Telegraph
y	Rent of Company Houses
d	Discount
i	Interest
	Total
	Gross Total

Of course the classifications themselves, and the number of them are matters for each company to decide for itself. A brick manufacturer will wish to cover several additional items of expense, while many firms do not use so great an array of expense accounts.

Neither is it necessary to follow the grouping here suggested.

The sheet is the same size as the Operating Register Sheet, and fits the same binder. To distinguish these recapitulation sheets from those of the Operating Register, they should be of different tints: one white, the other, buff, for example. The recapitulation sheet illustrated shows nine columns on the left hand side, and on the right (not illustrated) there are 12 columns. There is no significance in these numbers of columns, it was simply a case of filling the sheet.

In some cases they will not all be needed during a year, in other cases it is necessary to use cut sheets such as have already been described in connection with the Operating Register, to meet a year's requirements.

Recapitulating Expense Column

It is a question as to whether or not every fifth line should be heavy, there are advantages as well as disadvantages in this, with a balance in favor of not making the fifth line heavy, but in favor of making all lines uniform. However, this is entirely a matter of choice.

Let us now head the columns JANUARY, FEBRUARY, MARCH, and so forth. Next, make a recapitulation of the Expense columns, using an adding machine or scrap paper, setting down the net amount of each (total debits less total credits) opposite the proper name and symbol. If the credits exceed the debits, set down the amount in red ink. For instance, Rent of Company Houses as a rule would appear in red, also the Discount for Prepayment of Invoices when the amount received exceeds that allowed purchasers.

Suppose we find the following totals as a result of recapitulating the net amount charged to Expenses for February, two red ink items being indicated by asterisks:

a	Superintendence	\$ 350.00
b	Labor	8,761.23
c	Raw Material	672.11
f	Fuel	653.86
g	Supplies	472.91
h	Tools	82.03
l	Live Stock Supplies	269.10
p	Fire Insurance (no entry)	
r	Repairs	132.15
z	Miscellaneous	8.02
	Total	<u>\$11,401.41</u>

m	Office Salaries	\$ 75.00
n	Office Supplies	24.37
s	Selling Expenses	248.40
t	Telephone and Telegraph	50.18
y	Rent of Company Houses	84.00*
i	Interest	38.41
d	Discount	3.17*
	Total	<u>\$ 349.19</u>

The gross total, \$11,750.60, must of course agree with the net charge to Expenses in the General Ledger for the month.

As has been stated, nothing in this discussion is intended as advice concerning the number of accounts so carried, their names or their arrangements. So far as the system is concerned, these points are immaterial.

Now here is another little feature which has been found of use: Somewhere on this same sheet, either above or below this list, set down the sales for the month, in this case, \$15,274.83. This does not mean that the difference between these two amounts is profit but it does show that this amount has, as a rule, been put into more liquid shape even if most of it has come from the sale of stock from the stock sheds.

System Can Be Installed Any Time

The following month the corresponding items are entered for March, and so on thruout the year. Then totals are made for the year, or for the portion of the year since the system was installed. Where a fiscal year is used other than the calendar year, the first month of the fiscal year should be placed in the first column.

And as previously stated, it is not necessary to install the system at the beginning of a year, but it may be even better to begin at some other time.

Can Trace Each Item

After the system has been in use for some time, one can trace the monthly expenditures for any item, or the total of all items, month by month and year by year. He can compare the charge for Fuel for March, for instance, with the previous charge for February, or for the previous March. He can easily add the current total for the year up to that point. If he wishes, he can use every other column for totals of each item for the year up to that point, or use moving annual averages or totals; this last addition has never been found by the writer to be desired by anyone, but it shows the possibilities of the system.

Some of the Advantages

This system sets these items forth more clearly than if they were buried in a ledger; this summary can be taken off more quickly than such items could be posted in a ledger. If one carried a ledger account for each of these expenses it would increase very decidedly the size of the General Ledger. It would increase the work of taking off trial balances.

This is not a cost system, it is simply a distribution of expenses, but it paves the way for an up-to-date cost system as well as for a more detailed distribution of expenses whenever this is desired.

No attempt has been made to include physical inventories, or deferred charges, or accrued liabilities. This phase will be taken up later, for the consideration of those who desire to go so far. Many, however, will be willing to stop at this point, satisfied with the information already afforded by this sheet. If so, they have already gone far. In fact, one might as well in any case go no farther than this for the first few months after installing this system.

AS HAS BEEN SUGGESTED, the methods herein described are not confined to factories. There is practically no business to which they do not apply, and in which they will not result in a reduction of the work of accounting with an increase in information.

For example, take a firm which contracts for the construction of houses, the building of roads, or for any other kind of work.

We may take a pair of columns with the heading "CONTRACTS." We then number our contracts or designate them in some manner. When material is purchased and delivered to contract number 74, for example, we charge it in the column under "CONTRACTS" and insert the number, 74, in the middle space. The wages of men working on this contract, if included in a general pay roll covering all the firm's activities, would be charged to this contract instead of to "EXPENSES (b)"; or, if payment is made by check at the close of the week for the work of that week, then we can charge up the amount against this contract and credit "BANK." Supplies which are on hand at the main distributing point can be taken for this contract and credited to "EXPENSES (g)." Salaries of foremen who look after different contracts can be distributed in any equitable fashion. In fact, so far as it is possible to determine, or desired to estimate, the value of labor and materials used in connection with any contract, this system of accounting makes it possible to keep track of these items.

How to Handle Contracts

Suppose the contract price for number 74 was \$10,000. At the conclusion of the contract we may charge "ACCOUNTS RECEIVABLE" with \$10,000 and credit "CONTRACTS." We may make this charge in instalments as the work progresses, if we so desire, instead of waiting until the work is entirely done. If the total charge to this contract from start to finish was \$11,000, then we have a loss of \$1,000 which should be credited to "CONTRACTS" and charged to an account in the General Ledger with an appropriate heading: "Profit and Loss on Contracts," for instance. The balance shown by the accounts with Contracts in the General Ledger will thus represent the correct cost of work and materials on open contracts with a deduction for amounts transferred to current Accounts Receivable, or for which payments have been received on the basis of estimates. It is easy to see that when the last contract has been completed, the Contracts account in the General Ledger will balance and the "Profit and Loss on Contracts" will show the amount gained or lost on contracts which were closed during the current year.

It can readily be seen how simple a matter it is to keep track of contract profits and losses, so far as the data is obtainable. Of course, if one keeps no account of the work done on separate contracts, or no record of the brick hauled from the main storage yard and delivered on each separate contract (and this state of affairs is exactly what happens at times!) then it is not possible at the close of any contract to tell what was the outcome.

Bookkeeping consists of ten parts; nine parts are required

to obtain the facts, and the remaining part covers the actual keeping of the books.

Possibilities to Contractors

But the possibilities to contractors of this system have not yet been covered. When one took contract number 74 for \$10,000, presumably he had on file an estimate of the labor and material which would be required, all set forth in considerable detail; so many brick at so much per thousand, and so forth. Then when he makes the charge for material delivered on this contract, he adds to the 74 in the central column a further number or letter indicating what the charge was for. When he finds a loss of \$1,000 on this contract, he can look over the charges and find what costs exceeded the estimate. For instance, if the estimate included \$3,000 for brick, and the charge for brick was \$3,200, he can refer to the records and find if there was an excess amount used, or if the cost was greater than was anticipated.

All this is verging on the use of simplified bookkeeping for standard cost accounting purposes, and for the detection and elimination of wastes. So a further discussion along these lines would lead us too far afield. But enough has been said to show that if a contractor really wishes to know how he makes out on each contract, this system will give him the desired information.

System Applicable to Other Lines

And now let us turn to one or two other lines of business to which this system is equally applicable.

Consider a general store, either wholesale or retail: or a jobber: or any business in which material is bought for resale, but none of which is manufactured by the company itself. Such a company—and when we use the word "company" we include individual proprietorships, and partnerships, as well as corporations—such a company will need one additional pair of columns, to be headed "PURCHASES."

To this account is to be charged all material bought for resale. If it is bought for cash, credit Cash: if by check, credit the Bank: if on account, credit the seller under Accounts Payable.

Operating Register Is Flexible

At the close of the month this account is closed into the "Purchases" account in the General Ledger, the same as the other accounts.

Such a company will in general not require such an extensive classification of expenses as does a factory, and also the classification it uses will be quite different. But the same principles apply. The Operating Register is like a loom, and weaving back and forth among its columns one produces whatever pattern is required for each particular business.

Making a Recapitulation

When it comes to making the recapitulation of expenses for such a company, it is of interest to use a few additional lines to insert the sales and purchases also, for convenience of reference, thus:

Near the top of the recapitulation sheet, write "Sales" and

opposite this insert each month the amount of the sales. Drop down a line or two and write "Purchases," entering these each month. Then a line or two still lower down, write "Sales less Purchases," and insert the difference for each month. If the purchases exceed the sales, use red ink. Then follow with the recapitulation of expenses which it is desired to keep track of. The work will appear as follows:

JANUARY	
Sales	\$15,000.00
Purchases	11,000.00
Sales less Purchases	\$ 4,000.00
Salaries	\$ 450.00
Rent	150.00
Office Supplies	12.00
Fuel	17.00
.
.
.
Total	\$ 3,200.00

Do not mistake the item of "Sales less Purchases" for gross profit. Remember that we have not taken inventories into consideration. But it is a figure well worth studying at all costs: for if the difference is in black ink, and is sufficient to cover the expenses; if this condition persists month in and month out: then one has a comfortable sense of security. That is, so long as his assets are not being appreciably depleted. On the other hand, in one case in the writer's experience the difference between the sales and the purchases was usually in red, showing that the amount received from sales was not even enough to cover the purchases; much less the operating expenses. It is hardly necessary to add that the concern referred to is no longer in existence.

If You Handle Building Supplies

Now let us consider another interesting phase: that of a dealer who handles several lines and wishes to keep each distinct. For instance, suppose a dealer handles sand, lime, brick and cement. He simply designates each of these by a number or a symbol in recording sales and purchases, making a recapitulation at the close of each month. In such cases three columns instead of one may be taken for the recapitulation each month, thus:

	Sales	January Purchases	S-P
Sand	\$2,345.16	\$1,624.35	\$ 720.81
Lime	1,184.17	1,011.62	172.55
Brick	5,427.18	4,822.94	604.24
Cement	871.03	1,241.61	370.58*
Total Sales.....	\$9,827.54		
Total Purchases		\$8,700.52	
Sales less Purchases			\$1,127.02
General Expenses:			
Salaries	\$ 250.00		
Supplies	50.00	\$ 300.00	
Selling Expenses:			
Salaries	\$ 350.00		
Advertising	100.00	450.00	
Total			\$ 750.00

Of course there would be a much larger list of expenses, but this will give an idea as to arrangement.

This monthly summary, while not a profit and loss statement, is nevertheless a stride in this direction. And it is

quite an illuminating combination of figures where one does not, or cannot conveniently, take monthly inventories. For instance, if the difference between the sales and the purchases in one line is habitually low, with occasional lapses into red figures, one knows that line is not carrying its share of current expenses: tho it may be necessary to carry a losing line anyway for the sake of the other products.

What has been said here concerning different lines will apply to a store with different departments. These can be kept distinct by the same process.

Supplementary Recapitulation Sheets

In the Recapitulation of Expenses, figure 5, we show a charge to Labor (b) of \$8,761.23. Now this is as far as many, perhaps most, factories may care to go. If so, there is no reason for their going farther, any more than one should stay on a train until after it has stopped at his station and started again. In this instance, we have shown how to take care of the major distributions of expense. Others, especially those planning or using a modern cost system, will wish to know how this labor charge is distributed among the different departments. We therefore proceed to the next station.

Take another sheet, head it "Recapitulation of Labor," and set down the various classes we wish to keep track of. For instance,

- Mixing and Grinding
- Molding
- Setting
- Firing
- Drawing
- Miscellaneous

Some fire brick manufacturers use a classification far in excess of this brief outline, 25 classes being not unusual. In some cases there are different departments, such as machine and shape (or hand molding) departments, and it is desired to keep these separate, as well as to distribute the charges of each.

When we make the current monthly, or semi-monthly pay roll, we distribute the items according to these chosen headings, insert the amounts in this secondary recapitulation sheet, together with their total. The total must, of course, agree with that shown in the primary recapitulation sheet opposite Labor (b).

The Item of Repairs

Again, let us consider Repairs. In one case repairs at the first were all placed in a single group, and designated by a single letter or symbol in the Operating Register, with a single total in the recapitulation sheet. Later it was desired to make a further classification of repairs. The only change necessary was to add a number to the symbol already used, when inserting the item in the Operating Register. For instance, repairs for a dry pan were indicated by "r-27" instead of simply by "r" as formerly.

For such a sub-classification we use a sheet headed "Recapitulation of Repairs," set down the various classes of repairs of which we wish to keep track, fill in the amounts as taken from the Operating Register, and see that the total agrees with Repairs (r) in the primary recapitulation.

Just as the General Ledger accounts control the primary recapitulation sheets, so the items in these sheets control the corresponding secondary recapitulation sheets.

Remember This

An important point to keep in mind is this:

When it was decided to make a further classification of labor, or of repairs, or of supplies (for these, too were later sub-divided), it was not necessary to change the handling of the General Ledger, or anything else except to add the figures

Recapitulation of Expenses 1923		January	February	March
a	Superintendence		3500	
b	Labor		876123	
c	Raw Material		67311	
f	Fuel		65386	
g	Supplies		47291	
h	Tools		3203	
e	Live Stock Supplies		2610	
p	Fire Insurance		-	
r	Repairs		13275	
z	Miscellaneous		802	
	Total		1142141	
m	Office Salaries		7500	
n	" " Supplies		2437	
s	Selling Expenses		24846	
t	Telephone & Telegraph		5218	
y	Rest of Company House		8100*	
i	Interest		3841	
d	Discount		317*	
	Total		34419	
	Gross Total		1175660	
	Sales		1527483	

Figure 5. The Two Items of Divisions y and d Are Credits and Should Be Written in Red. They Are Indicated by Asterisks. This Must Be Remembered When Arriving at the Total \$349.19.

to the letters already being used in the Operating Register column used for the classification of expenses.

A company installing this system can begin with a simple list of major items, and can stop there: it can at any later

date introduce additional classifications, just as one may run the material from a dry pan over screens of any mesh without changing the pan. In this case, there are not even any tailings to go back to the pan!

Chapter VI—DEALING WITH CLAY MINE OR QUARRY AS A SEPARATE OPERATION

Most brick manufacturers have their own clay mines, or pits, or quarries, or other sources of raw material. In many instances such companies desire to have expenses connected with their raw material sources separated from their factory, administrative and selling expenses. Such a plan has everything to commend it, and with this system is easily accomplished.

Designate the factory by "A," the mines by "B." In such cases it is also a good plan to separate the administrative and selling expenses, calling them "C."

Now instead of one single pair of columns in the Operating Register under "EXPENSES," we use three sets of columns headed "OPERATING ACCOUNT A," "OPERATING ACCOUNT B," "ACCOUNT C," respectively. These names used in the heading are not entirely satisfactory, but the writer has never hit on any better designations. Call them what you wish, so long as you know what goes into each set of columns.

As checks are drawn for expenses, or cash paid out, or invoices entered, charge these in the proper column, accompanied by the proper symbol; thus, an invoice for supplies

for the mine would be marked "Bg" and set down under "B" with the symbol "g" added; repair invoices for the plant would be marked "Ar", and so forth.

Now let us see some of the advantages of this arrangement:

Suppose an invoice is received covering material supplied to both factory and mines. Of course one tries to secure separate invoices in such cases, but if he can do so at all times he is in a class by himself. Such an invoice is easily handled by charging each operation with its share and placing the total of the invoice under "ACCOUNTS PAYABLE."

Handling Freight Bills

Suppose one receives several freight bills from the railroad company, covering charges belonging to each operation: perhaps even some freight on sample shipments which are to be charged to selling or advertising expense; or freight on a shipment of office supplies: make out a check for the total amount, credit "BANK," and make the proper distribution. This is much simpler than to give two or more checks.

Suppose there is a supply of repair material at one opera-

tion and it is needed at the other: simply credit one operating account and charge the other, with a line in the descriptive space explaining the transfer. So far as the General Ledger is concerned, no new entries are required. Think what it would mean if each repair or supply account was carried in the General Ledger and an attempt was made to transfer material on the books!

Pay Roll Problems

When the mines and the factory are close together, the same pay roll is often used for both operations and a man may work in each place during a pay period. In such cases, merely distribute the charges according to the operations, distribute the deductions in the same manner, and credit the net amount under "ACCOUNTS PAYABLE."

Some manufacturers sell the product of their raw material operation to the factory each month, using the current market price: others at a price which will cover current expenses at the mine: others again at a standard, based on what the material should cost, regardless of what it does require in the way of expenditures.

So far as this discussion is concerned, it makes no difference what one of these methods is used: arguments regarding this belong to a work on cost accounting, not in one on bookkeeping. But some such method of charging the factory and crediting the mines should in any event be used.

Raw Material Charges

At the close of the month, an entry is made charging "OPERATING ACCOUNT A (c)" with the value of the material from the mine, crediting this amount to "Sales B" in the "GENERAL LEDGER" column. Do not credit this under "OPERATING ACCOUNT B." Do not mix operating expense and income.

Thus "Sales B" in the General Ledger and the amount opposite "Ac" in the recapitulation will at all times balance for each month.

Sometimes a factory mines part of its raw material and buys part. In this case they must use some other designation than "c" to indicate these outside purchases of raw material, and they must carry two lines in the recapitulation of factory expenses—one for material from their own mines, the other for raw material purchased outside.

Then in making up income tax statements at the close of of the year, which require the elimination of inter-plant profits, these self-balancing entries may be easily eliminated without affecting the net profits as shown by the combined operations.

If the Plant Has a Coal Mine

Some factories also have coal mines from which they supply their needs, selling the surplus outside. This is handled as the raw material is handled in the above outline. In some cases the mine is distinct from the source of raw materials, in which case it may be desired to handle this as a separate operation. We can call the coal mine "C" and move the general expense designation along the line of the alphabet to "D." In one case there were six distinct operations, designated by the first six letters, so that the general expenses were appropriately labeled "G." If coal and clay comes from the same mine, of course any distinction in expense would be neither possible nor desired.

Where there is a sale of raw material to outside sources, these sales must be credited to the mining operations apart

from sales to their own plant, since it is only the inter-plant entries which may be eliminated in making income tax statements. Also, one may set different prices on what he sells to himself and on what is sold outside, using standard, fixed, arbitrary or approximate cost figures for the inter-plant sales. In any case the company will wish its outside sales of raw material apart from what it uses in its factory.

Three Primary Recapitulation Sheets

In the case of a plant with two such operations, we take three primary recapitulation sheets, heading them "Recapitulation of Operating Account A," "Recapitulation of Operating Account B," "Recapitulation of Account C," respectively. We set down on the first the corresponding set of charges, including the credit to the second for raw material: below, we set down for reference, the sales of brick or other manufactured products. On the second we place the charges for the second operation: below these we set down for reference the credit for material furnished the factory, and also any outside sales (without combining the two credits). On the third sheet we place the administrative and selling expenses.

Suppose the total of the credits listed on the first two sheets, both outside and inter-plant, exceeds the total of the charges on the three sheets; then we know that when all bills for outside sales are paid, there will be sufficient to meet all charges which have been written up on the books for the month. This, of course, should not be confused with a statement of profits. On the other hand, if the reverse is true for a few months in succession, it does not mean that there is a corresponding loss, as one may be putting a quantity of finished product into the stock sheds, or may be laying in a stock of supplies in anticipation of a rise in price or difficulty in securing them later; but it does mean that one must find somewhere the money to meet the bills.

This information is valuable to any manager, where a monthly profit and loss statement is not made up. The facts are easily collected. And, if standard books on accounting, written by recognized authorities, are any criterion, securing this data is accompanied by a decided simplification of accounting methods.

Two or More Factories, Stores or Banks

Suppose a company has two or more factories. All that is required is to set up an operating account for each factory. One can then handle any variety of transaction affecting either factory, or both, or inter-plant. He can distribute salaries of a general superintendent according to any desired basis.

The same reasoning follows in the case of two stores owned by the same company; or where the company owns a supply store and a factory: or they may own a brick plant and conduct a general building supply business.

Sometimes a company carries accounts in two banks. In this case, we have two headings in the Operating Register, Checks can be deposited or notes discounted at either bank, with no change in the contra credit to Accounts Receivable, Notes Receivable, or other source of revenue. Checks may be drawn on either bank and applied to Accounts Payable or to current expenses. Funds may be transferred from one bank to the other. This is most likely to occur where there are two or more factories and it is desired to carry a bank account in the locality where each factory is situated.

(A Handy Page for Notes)

CHAPTER VII—SALES RECORD

NO SINGLE METHOD of handling sales will meet the requirements of every company. The Operating Register, however, can be used in conjunction with any desired system of recording and entering sales. To demonstrate this it will be necessary first to describe a system and then to show how the sales so recorded reach the Accounts Receivable Ledger.

We are therefore choosing for illustration a method we believe to be fully in use only by the company for whom it was devised originally, but which may appeal generally on account of several novel features involved.

Plan Not Many Can Use

Note particularly that this plan will not suit many brick companies. But the most readers will not be able to apply the method directly to their companies, it is used by a firm closely related to the brick industry, and one should hesitate before classifying his business as one to which the scheme is not applicable.

In the factory referred to, some of the sales are for cash; others are paid by check; still others are on account; and there are usually many of each every day.

In seeing how the Operating Register takes care of all these, we will get an idea as to the adaptability of this simple book.

Practice in One Factory

In this factory, sales are recorded as they are made, using a register which produces several copies. One carbon copy goes at once to the purchaser. In the case of charge sales, another carbon copy is signed by the purchaser. A third carbon is placed on a file in numerical order, which is also, of course, the chronological order. This file enables one to find any sale if the number or the date is known. The original record of the sale is placed on one of three files; one file for cash sales, another for sales paid by check, and a third for charge sales.

The cash sales are totaled daily and their sum charged to Cash and credited to Sales in the Operating Register. The total of the sales paid by check is credited to Sales and charged to the Bank. For reasons to appear later, it is well

to indicate these two classes of sales by placing the letters "C" and "K" in the middle space in the pair of "SALES" columns. Nothing is done with the charge sales slips until the close of the month. Thus there will never be more than two entries daily to the credit of Sales in the Operating Register until the last day of the month.

At the end of the month, four adding machine lists are made; of the cash sales, of the check sales, of the charge sales, and finally of the numerical list, taking sub-totals of each at the close of each day.

Obviously, the cash and check sales taken together should equal the amount already credited to Sales in the Operating Register. If there is a discrepancy, run up the "C" and the "K" items separately and find whether it is the list of Cash sales or of Check sales with which the Operating Register fails to agree. When these two have been reconciled, the next step is to add to these two lists the sum of the charge sales, finding if the grand total is the same as the total of the numerical list. If there is a difference here, compare the total of the first three slips for the first day with the total of the first day's sales as shown by the fourth list. Compare these day by day until the difference has been found and rectified.

When the total sales for the month have been thus accounted for, we make one single entry in the Operating Register to cover the charge sales, charging Accounts Receivable and crediting Sales with the amount.

For instance, suppose that the totals of the four slips were as follows: Cash sales, \$3,000; check sales, \$6,000; charge sales, \$11,000; total sales, \$20,000.

Referring to the accompanying illustration (figures 8 and 9) we see that during the month of March, \$9,000 was credited to Sales and was accounted for, either thru the cash account or in bank deposits. This agrees with the total of the first and second slips. If there had been a difference, as a first step toward finding the discrepancy we would have run down the "SALES" column and taken separate totals of the "C" and of the "K" sales, thus finding which class of sales was "out."

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		General Ledger		Sales		Accounts Receivable	
1923		2500.00	200.00		5000.00	200.00	9500.00
Mar 29	Sales				C 200.00		
"	"				K 400.00		
30	"				K 100.00		
31	"				C 300.00		
"	"					11000.00	11000.00
	Closing Entries:						
	Sales		20000.00	20000.00			
	Accts. Receivable	17000.00					17000.00
	Bank		500.00				
	Cash	1000.00					
	Accts. Payable	1000.00					
	Expenses	14500.00					

Figure 8.

When we have reconciled these amounts, we then turn to the charge slips, which total \$11,000. We enter this amount to the credit of Sales and debit Accounts Receivable.

We have now credited Sales with the total of the sales for the month, \$20,000, and when we make our closing entries this amount is transferred to the General Ledger to the credit of Sales.

Now just glance at what we have accomplished: We found that the total sales for the month, as shown by the numerical list, was \$20,000. Of this amount, \$3,000 was paid for in actual cash; \$6,000 by checks; and \$11,000 was bought on account. We find that the \$3,000 went into the cash drawer and is necessarily accounted for; \$6,000 went directly into the bank; and finally \$11,000 has been charged up against the Accounts Receivable Ledger and we eventually will get paid for these sales or will know the reason why not.

Making and verifying or reconciling these lists soon becomes automatic and is accomplished speedily. As yet, no invoices have been sent out for the month. It is true that a slip was given with each purchase, but these are not always kept or are not always turned in to the office of the purchaser by the man who receives the material and the slip. Also, in practically every instance the purchaser desires at the close of the month, a complete itemized list covering every purchase made during the month. This is accomplished as follows:

Take the file of original charge sales slips and assort them according to customers, and the customers in alphabetical order. Make for each customer a summary giving the date of each of his slips, the number, and the amount, thus:

Brixton Contracting Co.		March 31, 1923.	
Bought of Brixton Clay Products Co.			
Material as per attached sales slips during the above month only, as follows:			
March 1.....	No. 1372	\$17.25	
3.....	1569	34.00	
17.....	2063	52.00	
24.....	2899	7.59	\$110.84

When we have finished making these summaries, we take their total. In the present instance the total must equal \$11,000. If not, then there has probably been an error in copying or in totaling one of the summaries. In taking the

total of these summaries, there is an advantage in sub-totaling after each letter of the alphabet. If the totals agree, staple to each summary the corresponding original sales slips and mail them to the customers.

Work Eliminated

Before adopting this system, it had been the practise of this company laboriously to copy these slips each month, making one large itemized invoice for each customer, which of course involved the re-writing of every charge slip, with every possibility of error. It can readily be seen that it would take considerably longer to copy the sales slip in full than to write down simply the serial number of it, the saving of work in this factory being measured each month, not merely in hours, but by days. In addition to this saving, it made it possible to get these invoices out promptly, and eliminate a fruitful source of error.

Distributing Material Costs

In some cases the purchaser is buying material to apply to several different contracts, and desires to keep track of each contract separately. This is easily accomplished by distributing his sales slips and giving him a summary for each contract. Here is a case in point: A contractor and builder in a city of fair size buys his hardware from one large store. At the close of each month he receives one lengthy itemized invoice covering all his purchases together with a notation as to the contracts to which they apply. But they are all on one invoice, in chronological order. The bookkeeper for the contractor states that he spends hours each month recapitulating these invoices. We have shown that it is possible to furnish the contractor invoices better suited to his requirements, and with less work on the part of the hardware merchant.

Monthly Summaries

As the monthly summaries are made out, a carbon copy is kept of each. After the originals have been mailed, post from the carbon copies directly to the customers' accounts in the Accounts Receivable Ledger. Post only the single total of each summary; except where a customer has desired separate summaries, this involves but one charge to the account of each active customer.

Let us see how this works out. Page 4 of the Operating

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Bank		Cash		Accounts Payable		Expenses	
12000 ⁰⁰	19000 ⁰⁰	7000 ⁰⁰	6500 ⁰⁰	9000 ⁰⁰	8000 ⁰⁰	15000 ⁰⁰	1500 ⁰⁰
100 ⁰⁰		200 ⁰⁰					
100 ⁰⁰		300 ⁰⁰					
500 ⁰⁰			1000 ⁰⁰		1000 ⁰⁰		
						14500 ⁰⁰	

Figure 9.

Register for March, as illustrated, shows at the top of the "ACCOUNTS RECEIVABLE" column debits of \$200 and credits amounting to \$9,500. The ledger was naturally in balance at the close of February; we have posted these debits and credits from the first three pages of the Operating Register. We have posted from these sales summaries, debits which we had already found to total \$11,000. We next post to the Accounts Receivable Control account a credit of \$1,700; we have therefore posted during March a total of \$11,200 to the debit and to the credit sides, so that the ledger should be in balance at the end of March. We have complete control over the posting of this ledger, as well as of the other ledgers.

Errors Easily Found

Suppose an invoice is called into question. The copy on file gives the numbers of the sales, and these are readily located in the file of sales in serial order, and the error, if an error has been made, corrected.

It may appear unusual to post a ledger from the carbon copies of sales summaries, but it has been shown how the ledger is controlled so that one cannot fail to post the sales accurately and get away with it. Later we will show how even the single letters of the alphabet are under control.

Many Advantages to System

But we have by no means exhausted the advantages which follow from this system. Suppose a customer purchases material on the first and the fifth of March; that on the tenth he pays for these two sales. These are at once removed from the charge file and placed on one of the other files, depending upon how payment was made. In other words, cash sales are sales for which payment was received in cash before the close of the current month; not necessarily sales which were paid for in cash immediately; and the same is true for check sales. Of course, this does not apply to sales made in a previous month. Once sales have been entered in the Accounts Receivable Ledger the only way to enter a payment is by crediting the customer's account. But the method outlined eliminates the charging of sales only to neutralize the charge before the close of the month.

Illustrating Advantages

Let us give another illustration to emphasize the advantages of this. This illustration, like others used in this series, is from a large well rated firm; a firm with branches in different cities; one with every accounting facility and mechanical device. Some merchandise was purchased on which there was a discount for immediate cash payment. It was delivered, accompanied by a sales slip showing the amount of the sale and the discount for cash which it was known the purchaser intended to take advantage of. Payment was in the hands of the firm within an hour after the goods left the store. Now if cash had been handed in before the slip had been made out; it would have been handled as a cash sale. But the sales slip had been made out; the die was cast;

The Moving Finger writes; and, having writ,
 Moves on; nor all your piety nor wit
 Shall lure it back to cancel half a line,
 Nor all your tears wash out a word of it.

At the close of the month, sandwiched between other purchases, was an itemized list of these goods, followed by a credit for cash and discount, the balance being taken up by the accounting machine and raised, lowered, and set down again as it was before. An amusing feature of the case was the claim of the manager that their accounting department would not commit such an absurdity. On another occasion the manager was asked if they ever had any difficulty reconciling their Accounts Receivable Ledger with their charge slips. He stated that they were out a few dollars the previous

month and that it had taken two or three days to find the mistake. It should not have taken an hour.

Feature Not New

We know that there are large companies which make out at one operation bills of lading, shipping notices, and copies which with prices later inserted serve as invoices and office records, so that this feature of the method above described is far from being new.

But where the system as outlined can be used in its entirety, and there are many lines of business in which this is true, it has the following advantages:

It insures accounting for all the sales, however classified.

It avoids charging in the Accounts Receivable Ledger any sales except those which were unpaid during the month, reducing the number of postings.

It further minimizes posting by combining as far as possible the sales of each customer. This also reduces the work of taking off a trial balance.

It posts from original sources, except for this combination of each customer's sales, direct to the Accounts Receivable Ledger: a saving of the time which some spend in transferring sales to an intermediate sales book or journal.

It enables one to locate any sales slip, either by date, number, or name of the purchaser.

It affords thru the Operating Register a most simple control over these Accounts Receivable.

Another Method

In contrast with the system above outlined, consider the following method at present in use by another company:

Sales are made out on the same kind of a register as used in the previous instance, but the charge slips are all copied in detail into a book and at the close of the month an itemized invoice is made out from this book for each purchaser. Thus each charge is entered three separate times. The writer does not know what plan, if any, is used to prevent errors in copying these slips.

When All Sales Are Charge

Next, let us consider a case in which all sales are charge sales, none of them being paid in the month in which the material was received.

Assume as before that the total sales for the month amount to \$20,000. These are either written up in a Sales Book, or are made out on loose-leaf records. In the latter case, the loose sheets must, of course, be serially numbered to guard against loss. Prices are inserted and the amount of each sale is calculated. When a total of the sales is made from these original sources, it amounts, as we have assumed, to \$20,000. We charge this amount on the last day of the month to Accounts Receivable and credit Sales. When we make the closing entries in the Operating Register, we transfer this from the "SALES" columns to the "GENERAL LEDGER" columns. Thus here are but two, counter-balancing entries in the "SALES" columns, thus:

	GENERAL LEDGER		SALES		ACCOUNTS RECEIVABLE	
	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.
Acts. Receivable (or Sales).....				20 000	20 000	
Closing Entries: Sales.....		20 000	20 000			

We are here omitting the "key" spaces between the debit and credit columns, which of course are contained in the Operating Register.

We can readily see that we will get the same result, with the same amount of postings, but with a less number of Operating Register entries, if we make the final entry covering the charge sales thus:

	GENERAL LEDGER		Dr.	Cr.	ACCOUNTS RECEIVABLE	
	Dr.	Cr.			Dr.	Cr.
Sales.....	20 000..	.....	.....	20 000	.....

Thus we see that if all sales are charge sales, as in many brick plants they are, we do not need the pair of "SALES" columns. In fact, we are better off without them.

Or, if only a few sales are paid during the month, we may still omit this pair of columns if we so desire. For instance, suppose we have one sale for \$500 paid by check, the remaining \$19,500 being charge sales. We may make the credits to Sales right in the "GENERAL LEDGER" columns, thus:

	GENERAL LEDGER		BANK		ACCOUNTS RECEIVABLE	
	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.
Sales	500	500	.....	.....	.....
Sales.....	19 500..	.....	.....	19 500	.....

We see that each such entry requires an extra posting to the Sales account in the General Ledger. If there were a

Author's Note.—Possibly on account of the standpoint from which these chapters are written, it has been assumed by some readers that the system described will work to advantage only in small factories or plants.

As a matter of fact, these articles are intentionally written with the smaller factory in mind, with occasional excursions into the field occupied by large organizations. When one looks at the display in a photographer's studio, he does not assume, because the examples on exhibition show only groups as high as five, that he cannot portray equally well a family of twelve.

The writer does not know of a case in which the use of the Operating Register, supplemented by other records perhaps, will not result in a reduction of the work required by other methods in use.

We should not lose sight of the fact that the system described is not a collection of stock forms. Each application is molded to meet individual requirements.

score of such sales each month in addition to the charge sales, one would have to choose between making a dozen extra postings each month to the Sales account and combining all credits to Sales into one total by means of the "SALES" column.

Postings Can Be Made at Will

In any case, the individual charges to the Accounts Receivable are made from the original sales records, or from the copies of invoices to customers, either by posting each sale separately, in which case postings to the Accounts Receivable ledger can be made daily or at frequent intervals, or posting each customer's account in one item by combining all his sales.

In some cases charges are made directly from carbon copies of invoices rendered customers, in which case one should, one MUST have some independent method of arriving at the total sales. He must not make his Operating Register entry from a total obtained by summing up the copies of invoices.

Accident Reveals Error

In one instance where this method was used an error of over a hundred dollars was discovered merely by accident, a few months later. It should be unnecessary to state that this firm was not then using the methods herein described.

As we have already pointed out, if we make a mistake in posting charge sales and fail to charge exactly \$20,000 in the first instance, or exactly \$19,500 in the second instance, the Accounts Receivable Ledger will not balance.

No Balance if There Is an Error

Having posted the charges direct from some record of charge sales, we post all other entries to the Accounts Receivable Ledger from the "ACCOUNTS RECEIVABLE" columns of the Operating Register, knowing that, except in the rather rare case where two errors cancel each other, the Accounts Receivable Ledger will not balance if there had been an error made in posting or in adding an account. Of course one may post a sale to the wrong account without being aware of it, so far as this check is concerned.

In later chapters we will discuss the omission of other columns from the Operating Register, as well as the insertion of columns to meet other requirements sometimes encountered.

Doing Without Accounts Receivable Ledger

But while we are considering the question of handling Sales, we will digress in the next chapter by explaining how one may do away entirely with the Accounts Receivable Ledger.

If all sales are for Cash, or are paid by check, then it is practically necessary to carry this pair of "SALES" columns in the Operating Register.

(A Handy Page for Notes)

CHAPTER VIII.—ELIMINATING THE ACCOUNTS RECEIVABLE LEDGER

THIS CHAPTER DIFFERS from others in that it is not based on actual experience of the writer. But the process of eliminating the Accounts Receivable Ledger is easily understood, altho it has not apparently been generally adopted.

One reason for its not being more generally used is a fear that records may easily be lost, the attitude for years concerning loose-leaf records. Any loss must be guarded against, and as will be shown, it can be.

No Accounts Receivable Ledger Needed

It will also be shown how one can have complete control over his accounts receivable without a ledger, so that the question becomes one as to simplicity of operation.

Is it easy to understand? Does it save time and work? Each must determine the answers for himself. Let us state at the beginning, that the elimination of the Accounts Receivable Ledger does NOT form a part of the Simplified System thru use of the Operating Register. But the Operating Register will continue to function whichever method is used for handling the accounts receivable.

Except in the hands of thoroly qualified bookkeepers, the omission of this ledger is not recommended by the writer.

Handling the Invoices

A carbon copy of each invoice we send out is placed in an open file. When payment is received for one or more of these invoices, they are transferred to another file, a closed file this time, containing only copies of paid invoices.

The total of the unpaid invoices in the open file at the

Statement		
Brixton, Pa., January 31, 1923		
John Doe		
IN ACCOUNT WITH		
Brixton Brick Co.		
Jan. 2		\$ 198.75
10		237.17
26		136.24
		\$ 572.16

Figure 10.

close of each month must agree with the amount shown in the Accounts Receivable Control in the General Ledger.

But what if they do not agree? And what if an invoice is filed in the wrong place, or is not removed when it is paid, or should be lost entirely? It is not enough to state that in some particular office this has never happened yet.

One should not wait until after a fire before taking out insurance, unless the premium is prohibitive.

How to Go About It

We will therefore discuss the cost of insurance where this ledger is omitted, leaving the reader to judge if the premium is too high.

Let us suppose that we are just starting in business, and that the current month's sales are the first we have made.

We make in addition to the copies required by the customer, two additional copies: one is filed chronologically and is referred to only in the case of emergencies; the other is placed in the open, unpaid accounts, file. Each customer has a separate folder. The two file copies of the invoices should be in different colors. At the close of the month, suppose we find in the John Doe file three invoices.

We make for him a regular monthly statement somewhat as shown in Figure 10.

But in the meantime, having arrived at the total charge sales from original sources, we have debited Accounts Receivable in the Operating Register, and have credited Sales with this total.

List All Statements

We make an adding machine list of all statements and see if their total agrees in this case with the amount shown by the Accounts Receivable control in the General Ledger. Of course we do not wait until the General Ledger is posted, since we can tell from the Operating Register what this charge will be.

In taking off the adding machine list, there are advantages in sub-totaling at the end of each letter of the alphabet.

Having thus verified the total of our statements, they are ready to be mailed.

Three Copies of Statement Needed

In addition to the copy for John Doe, we make two more: one is filed with a similar copy of every other statement for January, and the entire set for all customers, alphabetically arranged, is filed for possible reference later. The other copy of John Doe's statement, made out on a much wider sheet, is placed in John Doe's open file, together with the three unpaid invoices. It is not attached to them, however.

The three statements should be on paper of different colors.

During February, checks are received from John Doe in payment of the first two invoices. A notation to this effect is made on the copy of the statement in the open file, and the two invoices are removed to John Doe's closed file. (See figure 12.) We may mark the date of payment on the face of each invoice, but this will not always be practicable.

A Good Example

Suppose during February three more shipments are made. At the close of the month we make up a new statement.

The statement for February may begin with the total for January, less the amount paid. Or it may simply begin with the January unpaid invoice, followed by the February invoices, as shown in Figure 11.

Where this method can be used, it has a decided advantage: because it shows clearly what the company's claim against John Doe consists of. But this is not always practicable. In some cases, it would require the listing of quite a number of invoices; or, the credit might be a payment on account, the proceeds of a note, or a contra account for material purchased from John Doe, so that the credit would not cancel any particular invoices.

Balancing With Operating Register

In such a case one must begin with the previous January balance followed with a statement of February credits, or he

Statement		
Brixton, Pa., February 28, 1923		
John Doe		
IN ACCOUNT WITH		
Brixton Brick Co.		
Jan.	26	\$ 136.24
Feb.	5	213.47
	14	181.45
	23	228.90
		\$ 760.06

Figure 11

must make a complete itemized statement of all debits and credits.

When all February statements have been made up, we make an adding machine list of them and compare their total with the amount which is slated to appear in the Accounts Receivable Control in the General Ledger. If there is a difference, we can check all the credits stricken off, or otherwise applied, with the credits listed in the Operating Register, following this with a comparison of the items charged with the items as they appear on the original list from which the invoices were made, and from which the charge was made to Accounts Receivable in the Operating Register.

Handling the Statement Files

When the total amount of all the statements has been harmonized with the amount which will be shown in the General Ledger, we mail out John Doe's February statement, place a copy in his open file, place another in the alphabetical file of statements for the month, and transfer John Doe's January statement from the open file to his closed file of paid invoices.

Exceptional cases will naturally arise, such as the payment in February of a February invoice. One way of handling this is to place a memorandum in the file with the paid

invoice. It is not a good idea to transfer the invoice prior to closing the Accounts Receivable for February, since we may need to refer to this self-balancing debit and credit entry in locating an error.

Much Posting Saved

All these precautions may not appear necessary to those using the system, but in the writer's opinion they cannot safely be omitted.

We have in this manner saved a lot of posting, but on the other hand we have had some extra filing. Also, when we wish to know what volume of business we have had with a particular firm, we cannot summarize a large number of invoices as quickly as we can scan a ledger sheet. A ledger sheet, containing 50 invoices, covered by contra credits, and filed away in a transfer ledger, takes up considerably less room than 50 copies of the invoices, with scattered notations as to their payment instead of having the credits in orderly array. If we wish to know the largest credit ever extended to John Doe, we can of course tell this from the file copies of the statements for each month, but we can also determine this from the ledger.

Complete Control Possible

There is no question but that we can have complete control over the situation in the above manner. If an invoice or a statement were lost from the open file, the loss would be discovered and a new copy of the missing document could be easily made.

But there still remains the question as to how much

Statement		
Brixton, Pa., January 31, 1923		
John Doe		
IN ACCOUNT WITH		
Brixton Brick Co.		
Jan.	2	\$ 198.75 ^{2/14/23}
	10	337.17 ^{2/26/23}
	26	136.24
		\$ 572.16

Figure 12

time, if any, one saves by the elimination of the Accounts Receivable Ledger.

The use of a card ledger is equivalent to that of an Accounts Receivable Ledger, differing in form only and not in principle. There is no connection between the use of the card ledger and the disuse of the Accounts Receivable Ledger.

CHAPTER IX.—THE CASH RECORD

WHEN WE SPEAK OF CASH and a Cash Book, we refer to Cash—not to checks, notes receivable, trade acceptances, drafts, or anything else except currency. The present custom of using a Cash Book to handle bank deposits and checks is apparently inherited from early times, before busi-

ness gradually changed from a cash basis to one in which other forms of payment were employed, but without any change in the name of the book in which the transactions were recorded. We still encounter the term "Bills Receivable" which is a relic of the time when actual bills, or invoices,

were accepted and used as notes and trade acceptances are now used.

When to Omit "Cash" Column

In many businesses practically all material sold or purchased is paid for by check. The actual handling of currency is in small sums for minor transactions. If entries of cash received and paid in such cases were carried in the Operating Register, the only other columns affected would in general be the "EXPENSES" columns. Under these circumstances it is well to omit the "CASH" columns and to make one single summary at the close of the month, crediting to the various accounts the cash received and charging properly the cash paid out, the difference being either charged or credited to Cash in the "GENERAL LEDGER" columns. There will be occasional checks drawn to replenish the petty cash, or deposits made if a surplus is accumulated. Such checks or deposits are entered in the "BANK" columns and "GENERAL LEDGER" columns under the date they occur, and are of course to be omitted in making the summary of cash received and paid at the close of the month. Thus the Cash account in the General Ledger agrees at the close of the month with the amount of currency in the petty cash drawer.

Consider These Questions

In some cases the petty cash account is restored each month to a fixed level, in which case the difference is either covered by a check to make good a deficit, or is deposited if there is a surplus; in either case there is no entry to Cash, the only entry to this account being when the cash was originally placed in the petty cash drawer.

In determining whether or not one should carry a pair of "CASH" columns in the Operating Register, the following questions must be considered:

Are many sales made for Cash?

Are many Accounts Receivable paid in actual Cash?

Are many purchases made for Cash?

Are many Accounts Payable paid in Cash?

If the answer to all these questions is "No," then the only Cash transactions would in general be those affecting the expenses. In this case one should make one entry at the close of the month, just as he enters a salesman's expense account, omitting the "CASH" columns.

But if the answer to one or more of these questions is "Yes," then in all probability one will require this pair of columns.

Don't Make Extra Work

Some firms make a practice, when checks are received, of charging Cash and then crediting Cash when these are deposited. There is no logical reason for this, and it makes extra work.

Checks should be deposited promptly. If desired, they may be entered at once, charging the Bank, making a deposit slip and attaching the checks to it in case it is not convenient to deposit them in the bank on that day.

In this connection, we may call attention to the desirability in all cases of keeping duplicates of deposit slips, and of inserting on the duplicate, if not on the original, the name of the company from whom the checks are received, or other information concerning the source of deposit. Most banks furnish deposit slips on request, padded in two colors for this purpose.



Asks How System Works Where Company Has Several Plants

I have been reading with much interest your articles "Accounting Simplified," in the Brick and Clay Record, and have installed some of your ideas in one of our companies the first of the year. We are, however, contemplating combining several plants into one company, and were wondering how your system would work out in this respect. Would we have to have a separate ledger for each plant, and would we also need separate sales books for each plant?

While "Accounting Simplified" is being developed primarily from the standpoint of a single plant, as a matter of fact the more complicated one's accounting requirements, the greater the advantages which so far have been found to follow from the use of the Operating Register.

In the case of several plants, you will wish to use a cut sheet, trimming off the two pairs of columns from the right hand side, which also at the same time cuts off the descriptive space from the left hand side. In this way you obtain 14 pairs of columns with a single descriptive space. In such cases, it is better to purchase full size sheets and cut sheets at the same time, instead of cutting the sheets by hand.

Designate Each Plant by Letter

To avoid writing the names of the different plants continually, assign to each plant or other operation a capital letter. Each will have a pair of columns for its operating expenses, but do not put Sales in these columns. In other words, do not mix up operating expenses and income from the various sources. In addition to these columns, you will require a pair for General Office, Selling, Advertising and Overhead Expenses which cannot be definitely charged to any particular plant. In general one pair of columns will

take care of all these, using appropriate symbols. For instance if "q" is used to designate Advertising, then different lines of advertising can be designated by "q-1," "q-2," and so forth.

Only One General Ledger Necessary

One General Ledger, one Accounts Payable Ledger and one Accounts Receivable Ledger will handle everything simply and effectually for all operations. Of course one may use the voucher system, which is really merely a form of the Accounts Payable Ledger.

It will be advisable, however, to use different Sales Books or other Sales Records, for each plant. In this connection, it is possible to combine sales records in an interesting manner. Your local plant will of course send your general office a report of each sale or shipment. By inserting prices and extensions, together with the purchaser's order number, this report from the plant becomes your general office sales record, from which postings are made direct to the Accounts Receivable Ledger.

Convenient Record Form

A convenient form of such record, the outgrowth of several years' experience, is shown in the accompanying illustration. The sheet is perforated on the left, and is bound in a book with permanently bound alternate sheets of a different color (blank). The sheet when removed from the book measures 8½x11 inches, which is letter size. The books when received from the printer are not numbered, but before a new book is sent to the plant from the general office, it is numbered serially with a numbering machine, the blank sheets being also numbered in the same order. Then so long as one has

at hand a single book of sales reports, he can take care of the needs of any plant whose book is filled. This has all sorts of advantages over the plan in which a number of books are printed with the name of each plant and serially numbered. One plant is always running out while another has quite a stock on hand.

No. _____ Advice No. _____ Purchaser's Order No. _____ 191 Invoiced to _____ Address _____ Shipped to _____ Via _____ Car No. _____ Cap _____			
Count O K _____ Est Wgt _____ Prices O K _____ Order Book _____ Scale Wgt _____ Extension O K _____ Shipping Report _____ Rate _____ Invoiced by _____ Postal Notice _____ Fgt _____ Posted by _____ Paid _____			

Convenient General Office Sales Record

Eliminating Printing

Originally, the name of the company was printed on these sheets, and the copy left in the book when the plant office made its report was also printed the same as the one torn out and sent to the general office. This extra printing was also eliminated.

As has been stated, prices and extensions are inserted when the sheet is received, and the invoice is made out from this information. These sales records are posted to the Accounts Receivable Ledger indiscriminately from each plant thruout the month.

At the close of the month, the sales from each plant are listed on a separate sheet, also 8½x11, giving the number and amount of each, thus:

SALES A			
MARCH, 1923			
710	\$ 125.00	833	\$ 233.00
711	221.50	834	127.35
712	188.00	835	213.60
.	.	.	.
.	.	.	.
.	.	.	\$12,000.00

Suppose the plants are designated by A, B, and so forth, and that the sales for the month are \$12,000, \$10,000, and so forth. We credit Sales A in the "GENERAL LEDGER" columns with \$12,000, charging this amount to Accounts Receivable (I am assuming that all your sales are charge sales, so that you will not need a "SALES" account in the Operating Register). We make this entry direct from this summary sheet, and thus have an independent check on the posting of the individual sales. We file all sales at the close of the month on an inexpensive screw post binder, with wing nuts, the sales being numbered from the bottom to the top and the summary for the month being placed on top. It is a good plan to use linen tabs to attach to each summary sheet, the month and year being written thereon.

Handling Sales for Other Plants

The sales for plants B and the remaining plants are handled in the same manner. Of course we might combine these entries, crediting Sales A, Sales B, and so forth, and debiting Accounts Receivable with their sum, but this entry to the Accounts Receivable Ledger is posted only by proxy thru the separate sales reports, so that it makes little difference.

An interesting application arises when the plants begin to interchange their products, as when material made at one plant is shipped to, and stock at, another plant for reshipment; or, when a car is loaded at one plant, shipped to another, partly unloaded and the lading then completed from stock at the second plant. The Operating Register has always handled these problems easily and simply.

(A Handy Page for Notes)

CHAPTER X.—OTHER OPERATING REGISTER ACCOUNTS

IN SOME LINES of business, and this includes many firms in the brick business, material is sold with freight allowed to destination. The purchaser is charged with the full amount, including the freight allowance, and in the final settlement provision is made for this deduction.

For instance, a bill of material is sold for \$500 with freight allowed to destination, the freight being estimated at \$100. In many cases this freight is worked out by the firm's traffic department exactly, barring the tendency of humans to err occasionally. The invoice is made out for \$500 and the customer is charged with this amount. But instead of crediting Sales with this \$500, it is only credited with \$400, the difference of \$100 being credited the Freight Allowance. Then when the customer pays his account, he remits \$400 together with his statement of freight paid amounting to \$100. He is credited with the full amount of his invoice, \$500, his account in the Accounts Receivable Ledger being squared, so far as this charge is concerned. The Bank is charged with his remittance, \$400, and Freight Allowance is charged with the deduction. Or, the railroad company may require the prepayment of this freight. In this case the check drawn is credited to the Bank and charged to Freight Allowance, and the customer is not entitled to any deduction when he remits.

Handling Freight Allowances

Where a firm sells all, or any considerable portion, of its output on this basis, it should carry in the Operating Register a pair of columns for "FREIGHT ALLOWANCES," a corresponding account being carried in the General Ledger.

In order to keep track of these allowances, the sales record should provide for the estimated freight allowance in each case. At the close of the month, the purchasers are charged with the full amounts of their invoices, the total is

charged to Accounts Receivable in the Operating Register, the sum of the estimated freights is credited to Freight Allowances and the balance to Sales. Thus, the Sales account is credited only with the value of the material sold, f. o. b. the factory, as should be the case.

Examples

For instance, suppose the sales, including freight, amount for a month to \$25,000; that the estimated freight which is either to be paid and deducted by the customer, or prepaid by the company is \$5,000. Then the net sales, f. o. b. factory or original shipping point is \$20,000 and the entry at the close of the month is like this, the names in capitals referring, as heretofore, to the headings of pairs of columns.

	SALES	FREIGHT ALLOWANCES	ACCOUNTS RECEIVABLE
	Credit	Credit	Debit
Sales	20,000	5,000	25,000

The "FREIGHT ALLOWANCES" columns contain charges for all freight properly deducted by customers in settlement of their accounts or for freight prepaid by the company. The account is balanced the same as all others at the close of the month so that the account in the General Ledger shows the amount of outstanding freight owing either to the customers or to the railroad company. This balance is to be deducted from the Accounts Receivable in making up financial statements at the close of any period; it should not be shown among the Accounts Payable.

Discrepancies between the estimated freights and the actual amounts allowed should be closed out periodically, say once a year, which is often enough when the estimates can be made carefully and closely.

In the clay industry, to the writer's certain knowledge there is no reason for being out of adjustment five cents a month. Where it is properly carried, one can tell what dis-

General Ledger Trial Balances, 1923

	January 1, 1923	January 31, 1923	February 28, 1923
Accounts Receivable	500.00	600.00	635.00
Bank	3175.00	2875.00	1425.00
Property	5000.00	5000.00	5000.00
Inventory - Brick	200.00	200.00	200.00
Inventory - Supplies	100.00	100.00	100.00
Deferred Charges	25.00	25.00	25.00
Expenses		180.00	37.00
Accrued Liabilities		200.00	200.00
Accounts Payable		1500.00	800.00
Mortgage		1000.00	900.00
Sales		2000.00	4500.00
Capital Stock		5000.00	5000.00
Totals	6120.00	6120.00	6450.00

Figure 13

crepancy, if any, has occurred in the case of every sale, and the sales on which freight is still outstanding, the net result being the balance as shown by this account in the General Ledger. One can catch at once an error in a freight bill, and there have been cases in the writer's experience in which a single freight bill contained errors in weight, rate and extension—none of the three being correct and not even in accord with one another. There have also been many cases where the freight was prepaid by the shipper and also paid and deducted by the customer.

Columns for Notes Payable

Sometimes a company has outstanding so many notes that it is necessary to carry a "NOTES PAYABLE" set of columns. In other cases it may be advisable to carry columns for "TRADE ACCEPTANCES." An installment house would require columns for "NOTES RECEIVABLE." Whenever there are so many entries of one general character that it is a matter of economy to carry them in a flock by themselves, one can always assign a pair of columns for this purpose. The Operating Register is as versatile in this respect as is up-to-date filing equipment.

Chapter XI.—GENERAL LEDGER TRIAL BALANCE SHEET

OVER 75 YEARS AGO there appeared in London Punch a couple of lines reading as follows:

WORTHY OF ATTENTION

ADVICE TO PERSONS ABOUT TO MARRY—Don't.

Possibly no other lines of that pseudo-humorous periodical—not even Hood's "Song of a Shirt"—have ever been more widely quoted. We may paraphrase this advice thus:

WORTHY OF ATTENTION

ADVICE TO PERSONS WHO CONTEMPLATE
CLOSING THEIR BOOKS MONTHLY—Don't

Most of those who read these chapters do not close their books oftener than once a year anyway, and it is from their standpoint that these articles are written. They need offer no apology for the fact that they do not close them oftener.

Much Unnecessary Bookkeeping Done

In fact, it is the largest companies, in the brick business and out of it, which appear to be most guilty when it comes to excessive and unnecessary bookkeeping. No company, however large, needs to close its books more than once a year, and at the same time it need not sacrifice any of the information it is now securing along cost keeping lines.

In Chapter IV we described the Recapitulation of Expenses sheet, by which any number of expense accounts are

removed from the General Ledger with a reduction of work, and an increase in information, but without scrambling the accounts.

We next consider a companion sheet, playing the same role with regard to Assets and Liabilities.

Trial Balances

Let us take an Operating Register sheet and head it "GENERAL LEDGER TRIAL BALANCES, 1923." Head the first pair of columns, "January 1, 1923," assuming that the system is being installed on that date. The next pair is headed "January 31, 1923," and so on thruout the year, using a cut sheet with six pairs of columns, three pairs on each side, between two full sheets. This gives a total of 14 pairs of columns with a descriptive space. (See figures 13 and 14).

Can Add Indefinitely to System

If the system were to be installed in July, then the first pair of columns used would be headed "July 1, 1923." A new sheet should be started at the beginning of each fiscal year, which is usually the calendar year.

September 30, 1923		October 31, 1923		November 30, 1923		December 31, 1923	
						8580.00	
						15750.00	
						50000.00	
						20000.00	
						10000.00	
						25.00	
						20870.00	
							2000.00
							1850.00
							9000.00
							23000.00
							50000.00
						84050.00	84050.00

Figure 14

Now in our illustration we are going to make everything as simple as possible in the beginning, using only few of such expense accounts as might be carried by any company. Later it will be shown how one may add to this system to his heart's content, always remembering that he is the sole judge as to when he has gone as far as he deems necessary. It is like a radio receiving set, which one may add to without discarding any of the parts he already has installed.

We are introducing a Mortgage account, not with the implication that mortgages are frequent in the brick industry, but to show how one may deal with accrued interest on mortgages, bonds, and so forth.

Suppose upon taking off a trial balance from the General Ledger on January 1, and striking balances instead of using debits and credits we find the following (the order of the accounts being immaterial):

Accounts Receivable	\$ 5,000.00	
Bank	3,175.00	
Property	50,000.00	
Inventory—Brick	2,000.00	
Inventory—Supplies	1,000.00	
Deferred Charges	25.00	
Expenses.....		
Accrued Liabilities	\$ 200.00	
Accounts Payable	1,000.00	
Mortgage	10,000.00	
Sales		
Capital Stock	50,000.00	
		<u>\$61,200.00</u> <u>\$61,200.00</u>

Initially there is no balance in the Sales account, since this amount was closed out at the close of the year. But it is to be hoped that it will not remain empty at the close of the month. Nor have any Expenses as yet been charged up.

The Brick Inventory is the value on January 1 of all brick in stock and in process of manufacture. The Supplies Inventory consists of everything in the nature of supplies, on hand and unused.

The Deferred Charges are for one month's Fire Insurance prepaid and unexpired, at \$25 per month. The Accrued Liabilities are for four months' interest on the mortgage, at \$50 per month. The other accounts are readily understood.

Just as we pointed out that the Recapitulation of Expenses is not a Profit and Loss statement, so we must bear in mind that a Trial Balance is not necessarily a Financial Statement. A Financial Statement corresponding to the trial balance here shown would be something like this, there being many different forms in which financial statements may be made up:

BRIXTON BRICK COMPANY
Balance Sheet, December 31, 1922.

Assets	
Accounts Receivable.....	\$ 5,000.00
Brixton National Bank.....	3,175.00
Property	50,000.00
Inventory	
Brick on Hand and in Process of	
Manufacture	2,000.00
Supplies	1,000.00
Deferred Charges	
Prepaid Fire Insurance.....	25.00
TOTAL ASSETS	<u>\$61,200.00</u>
Liabilities and Capital	
Accounts Payable	\$ 1,000.00
Mortgage	
Purchase Money Mortgage, payment	
to be made at the rate of \$1,000	
per year, with interest at six per	
cent. on deferred payments.....	10,000.00
Accrued Interest on Mortgage.....	200.00
TOTAL LIABILITIES	<u>\$11,200.00</u>
Capital Stock Issued.....	50,000.00
TOTAL LIABILITIES AND CAPITAL....	<u>\$61,200.00</u>

In a later chapter we will discuss further the preparation of these necessary statements; at present we are dealing with Trial Balances only.

Use Summary Sheets If Preferred

Instead of Operating Register Sheets, one may use summary sheets; in the writer's experience the Operating Register sheets have proven the better. One can purchase standard columnar sheets with pairs of columns, similar to the Operating Register sheets except that the characteristic center key column is lacking. But it is not advisable to use a greater number of forms when two will suffice.

We now write up the Operating Register for January, post the General Ledger, take off a trial balance, strike debit and credit balances and insert them in the column headed "January 31, 1923."

Suppose the General Ledger balances for the close of January are as follows:

Accounts Receivable	\$ 6,000.00	
Bank	2,875.00	
Property	50,000.00	
Inventory—Brick	2,000.00	
Inventory—Supplies	1,000.00	
Deferred Charges	25.00	
Expenses	1,800.00	
Accrued Liabilities	\$ 200.00	
Accounts Payable	1,500.00	
Mortgage	10,000.00	
Sales	2,000.00	
Capital Stock	50,000.00	
		<u>\$63,700.00</u> <u>\$63,700.00</u>

It will be noticed that we are still carrying the same inventory values of brick and supplies as at the beginning of the month, altho we know these are not the same except under exceptional circumstances. Neither do the Deferred Charges or the Accrued Liabilities remain the same; yet we have not changed our figures.

Ledger Changes Not Made Monthly

As a matter of fact, these items are not changed oftener than once a year; the General Ledger is not the place to record monthly fluctuations.

This fact is ordinarily not appreciated by companies which change their Inventory accounts in the General Ledger every month so as to conform to actual physical inventories which have been taken. They charge up an additional month's interest which has accrued on the Mortgage, and make any changes necessary in the Deferred Charges. Their purpose is to secure monthly financial and profit and loss statements, but they go far afield to do so.

It is by no means necessary to make these entries in the General Ledger to obtain these results. They can be more easily secured without this additional work.

Much Work Could Be Eliminated

The writer once asked the lecturer on mathematics at Balliol the practical use of one of his subjects. After a moment's reflection he replied, "I use it to keep a roof over my head." Aside from its value as a training in mental gymnastics, he was right. If we were asked why certain entries are made monthly in books of account by some companies, we might be compelled to make the same response as to the practical value; they help keep roofs over the heads of bookkeepers.

In the illustrations (figures 13 and 14), we show these trial balances for January 1, January 31, February 28 and also, omitting intervening months, for the close of the year.

Balance at Close of Year

Let us assume that the trial balance at the close of the year is as shown in the table at top of page 31.

Accounts Receivable	\$ 8,580.00	
Bank	1,575.00	
Property	50,000.00	
Inventory—Brick	2,000.00	
Inventory—Supplies	1,000.00	
Deferred Charges	25.00	
Expenses	20,870.00	
Accrued Liabilities		\$ 200.00
Accounts Payable		1,850.00
Mortgage		9,000.00
Sales		23,000.00
Capital Stock		50,000.00
		<hr/>
	\$84,050.00	\$84,050.00

Now, this list of General Ledger accounts may appear brief; but only a large company with a complex organization will require more than 20 General Ledger accounts. And with this sheet before him, month in and month out, one can trace the rise and fall of Accounts Receivable; of Accounts Payable; of the Bank Account. He sees the growing accumulation of the Expenses Account and of the Sales Account. He sees when the Mortgage dropped from \$10,000 to \$9,000. In fact, this sheet gives him more information—information in better form, than he can derive by leafing thru any General Ledger—even the abbreviated, vitalized ledger we have been describing; for it affords a ready com-

parison of groups of accounts, such as the combined Accounts Receivable and Bank accounts, as compared with the Accounts Payable.

Very Little Posting Required

Just notice also how the amount of work in connection with the General Ledger has been reduced to a minimum; there is but one posting a month to Accounts Receivable, whether the number of customers is ten, or a thousand; one posting to the Bank account regardless of the number of deposits and of checks; one posting to Accounts Payable; one to Sales; one to Expenses, tho at the same time we may be carrying a distribution numbering 20 classes or 200. To many of the accounts, no posting at all for months at a stretch. The total number of postings for a year will in most companies be fewer than a hundred; just think what that means when it comes to taking off trial balances from this ledger. And the reduction of work does not stop even there; when it comes to closing the General Ledger at the end of the year, it will be found in the next chapter that a ridiculously small number of closing entries is required.

And in another chapter it will be shown that even, in the case of those who require the most elaborate monthly Profit and Loss statements, the situation will be unchanged, just as the same ten figures will form inconceivably large, or infinitesimally small, numbers.

Chapter XII.—CLOSING THE GENERAL LEDGER

IT WILL BE NOTICED in the example in the previous chapter that the Expenses for the year amount to \$20,870, and the Sales to \$23,000. Naturally these must agree with the totals as shown by the Recapitulation of Expenses sheet. Let us assume that the figures on this sheet are as follows for the month of January, of February, and for the entire year.

	January	February	Total
Labor	\$1,000	\$1,200	\$14,850
Supplies	440	400	5,090
Fire Insurance	360	...	360
Interest .....	...	300	570
	<hr/>	<hr/>	<hr/>
Totals	1,800	1,900	20,870
	<hr/>	<hr/>	<hr/>
Sales	2,000	2,500	26,000

Now instead of setting forth the closing entries as briefly as possible, let us elaborate upon them first, going into the underlying principles.

A "Deferred" Charge

We have charged up in Expenses the sum of \$20,870. In addition to this, we hold the current year responsible for Supplies amounting to \$1,000 which were on hand at its beginning. Also, there is a Deferred Charge from the previous year of \$25; that is, \$25 which, tho paid in the previous year, was for the benefit of the current year and therefore not included in the previous year's operating costs, but "deferred;" these amounts are to be added to the \$20,870 charged up in the current year.

On the other hand, when the interest on the Mortgage, amounting to \$300, was paid out at the close of February, \$200 of it was for interest which had accrued during the previous year, and was included in the operating costs of that year; it was therefore carried forward as a credit to the present year.

We therefore have the following:

Expenses	\$20,870
Supplies on Hand, January 1.....	1,000
Deferred Charges from previous year.....	25
	<hr/>
	\$21,895
Less Accrued Liabilities charged in previous year	200
	<hr/>
	\$21,695

After the payment on February 28 of \$1,000 on the Mortgage account, the mortgage drew interest at the rate of \$45 per month. Six months' interest was paid August 31, and at the close of the year \$180 more had accumulated. This will be paid at the close of February the following year, but belongs in the current year just as much as an invoice entered and unpaid at the close of the year. The current year must therefore be charged with this additional \$180.

Crediting Unused Supplies

On the other hand, at the close of January there was paid a Fire Insurance premium for a year amounting to \$360—an

increase over the premium paid the previous year on account of taking out additional insurance. One month of this, \$30, belongs to the following calendar year and is therefore a Deferred Charge to be credited to the current year.

The current year is also to be credited with Supplies to the amount of \$800, charged up but according to a physical inventory not used.

We therefore have the following continuation:

	\$21,695
Accrued Liabilities	180
	<hr/>
	21,875
Less Supplies Inventory.....	800
	<hr/>
	21,075
Less Deferred Charges to following year.....	30
	<hr/>
Net Operating Charges.....	\$21,045

This is sometimes called the cost of the brick made. For the lack of a better expression, we may use this—apologetically; but if this were a treatise on cost accounting we would explain just why it is decidedly NOT the "cost of brick made."

However, taking this figure for whatever it may be, and applying the initial and final inventories, we get what we may with equal inaccuracy call the "cost of brick sold," thus:

Brick Inventory, January 1.....	\$ 2,000
Cost of Brick Manufactured.....	21,045
	<hr/>
	23,045
Brick Inventory, December 31.....	2,500
	<hr/>
Cost of Brick Sold.....	\$20,545
And now as a last step we have the following:	
Sales	\$ 23,000
Cost of Brick Sold	20,545
	<hr/>
Net Profit	\$ 2,455

Except for the use of the terms "Cost of Brick Made" and "Cost of Brick Sold," the foregoing calculations are reliable. And until we find better expressions we will have to continue using the ones criticized.

Arranging the Computations

A convenient method of arranging all these computations is shown in the accompanying illustration (figure 15), where the versatile summary sheet appears in still another role.

It will help very much if black and red ink are used in making out this form, the headings as well as all the figures in the third, fifth and sixth columns being in red; the item credited to Sales is also in red, as well as the Net Profit.

For the first group, we insert in the descriptive space the names of the Expense accounts as they appear in the Recapitulation of expenses the totals for the year amounting to \$20,870, being placed in the fourth column. In the first column we place the amount of the initial inventory of Supplies.

Profit and Loss Statement 1923									
	January 1, 1923				December 31, 1923				
	Inventory	Deferred Charges	Accrued Liabilities		Inventory	Deferred Charges	Accrued Liabilities		
Group I	Labor			1485c				1485c	
	Supplies	1000		509a	800			529a	
	Fire Insurance		25	36c		30c		315c	
	Interest			700			180	550	
		1000	25	200	2087a	800	30	180	21045
Group II	Cost of Brick Made			21045					
	Inventory	2000			2500				
	Cost of Brick Sold							20545	
Group III	Cost of Brick Sold			20545					
	Sales			23000					
	Profit							2435	

Figure 15, Profit and Loss Statement for 1923, Showing Method of Arriving at Net Profits. The Figures and Words Between the Heavy Lines Are Supposed to Be in Red.

In the next column are placed the Deferred Charges carried over from the previous year, in this case prepared Fire Insurance Premium.

Liabilities Accrued

The next column contains, in red ink, the liabilities accrued but unpaid or unentered in the previous year, the example used being that of interest accruing on a mortgage.

The headings and amounts which are to appear in red have a heavy line above and below in the illustration.

In the fifth column, in red, is inserted the inventory of Supplies on hand at the close of the year. In the next column, also in red, are the Deferred Charges which belong to the following year. In the seventh column are the Accrued Liabilities which have accumulated but which have not yet been entered on the General Ledger.

Use Computing Machine

We now find the amounts to be entered in the final column by adding the black and deducting the red items in each horizontal line. It facilitates this very much if there is available a computing machine which adds and subtracts.

When we have extended all the items, we add all columns and find if the eighth total is also the result obtained from the first seven, adding the black and deducting the red items.

It is this total which we have with some hesitation called the "Cost of Brick Made." The various items in the eighth column are oftentimes considered elements of factory costs, and many manufacturers solemnly divide these items by the number of brick molded during the year (deducting an arbitrary per cent. to cover breakage), calling the quotients "Cost per thousand."

Transferring Total of Items

Transferring Total of Items

We transfer this total from column eight to column four in group II, where it is combined with the inventories of Brick for the beginning and the end of the year. The result is placed in the final column, and is now called, for want of a more exact title, the "Cost of Brick Sold."

This result is transferred likewise to column four in group III, and combined with the Sales (the Sales being in red), the result in the eighth column being the Net Profit, inserted in red. A Net Loss (and this has been known to occur), would be inserted in black ink.

Notice how these computations and extensions are made almost automatically and mechanically. In fact, they can be made by a person who has no accounting experience.

Closing the General Ledger

Our next move is to "close" the General Ledger. We have among the General Ledger accounts a set consisting of Supplies Inventory, Deferred Charges and Accrued Liabilities at the beginning of the year; we wish first to replace these by the corresponding values at the close of the year, the difference being transferred to the Expense account. We simply turn to the Operating Register, and in the descriptive space, following the close of December, we write, "Closing Entries for 1923." There is also an advantage in starting these on a new sheet instead of on the same sheet following December,

so that there is a distinct line of cleavage between the monthly closing entries and the annual closing entries.

According to tradition, when one makes a journal entry he first writes a debit or debits and follows with the corresponding credit or credits. This is no longer strictly adhered to; so we will take the items as they occur on the Profit and Loss sheet, setting down amounts which when posted will cancel these entries at the beginning of the year, and will establish in their stead, those for the close of the year, the entry being as follows (using only the GENERAL LEDGER columns):

Inventory Supplies January 1, 1923.....	\$1,000
Deferred Charges January 1, 1923.....	25
Accrued Liabilities January 1, 1923.....	\$200
Inventory Supplies December 31, 1923.....	800
Deferred Charges December 31, 1923.....	30
Accrued Liabilities December 31, 1923.....	180
Expenses (to balance).....	175

In making this entry, notice that the black amounts are set down on the credit side and the red on the debit side; it is easy to remember the combination of words, "red" and "debit."

When this entry is posted, the original Inventory, Deferred Charges and Accrued Liabilities are ruled off and the current ones take their places. The Expenses account now amounts to \$21,045, which is the total of the eighth column. We next combine this with the Brick Inventories in a similar manner, and transfer the net result to the Sales, thus:

Inventory—Brick January 1, 1923.....	\$ 2,000
Expenses (cost of brick made).....	21,045
Inventory—Brick December 31, 1923.....	2,500
Sales (cost of brick sold).....	20,545

The Sales account now shows a net credit of \$2,455 which we transfer to Profit and Loss, 1923, thus:

Sales	\$ 2,455
Profit and Loss.....	\$ 2,455

Now notice that we have effected the closing of the General Ledger, in the simple case we are considering, in three journal entries; entries no more complicated than many which occur in the course of ordinary routine business. Entries which can be made by any intelligent person with no knowledge of accounting.

The first four totals in the first group are carried in the ledger initially, and the first of the three journal entries substitutes the last four totals. The next entry now substitutes the last two totals of the second group for the first two. The third entry substitutes the final amount in the third group for the amounts in the fourth column.

The General Ledger trial balance for December 31, 1923, after closing will be as follows:

Accounts Receivable.....	\$ 8,580
Bank	1,575
Property	50,000
Inventory—Brick	2,500
Inventory—Supplies	800
Deferred Charges	30
Expenses—(None)	
Accrued Liabilities	\$ 180
Accounts Payable	1,850
Mortgage	9,000
Sales—(None)	
Capital Stock	50,000
Profit and Loss 1923.....	2,455
	<hr/>
	\$63,485 \$63,485

These are the figures which are to be inserted in the new General Ledger Trial Balance Sheet for 1924 as a starting point, under the caption of January 1, 1924.

Trial Balance as Financial Statement

With only a change in arrangement this particular trial balance becomes a Financial Statement for December 31, 1923, as outlined in chapter XI. These initial and final financial statements are incorporated in income tax reports. A Profit and Loss Statement for the year 1923 can be prepared in many ways, one of which would be as follows:

Profit and Loss Statement for 1923

Sales	\$23,000.00
Inventory January 1, 1923....	\$ 2,000
Cost of Brick Made.....	21,045
	<hr/>
	\$23,045.00
Inventory December 31, 1923.....	2,500.00
	<hr/>
	20,545.00
Profit for 1923.....	\$2,455.00
Cost of Brick Made—	
Labor	\$14,850.00
Supplies	5,290.00
Fire Insurance	355.00
Interest	550.00
	<hr/>
	\$21,045.00

Number of Accounts Immaterial

It may be imagined that the simplicity of these closing entries and the facility with which the Profit and Loss sheet is made out is due to a considerable extent to the fact that we are dealing with fewer than ten accounts. So far as the General Ledger is concerned, and so far as these closing entries are concerned, it makes no difference whether the Expense account of \$20,870 is composed of four items, or forty; because we are dealing with totals, and not with individual expense accounts. Let us illustrate this:

Suppose we are making a considerable larger distribution of expenses; for instance—

Superintendence	Fire Insurance
Direct Labor	Compensation Insurance
Indirect Labor	Advertising
Raw Material	Selling Expenses
Fuel	Freight
Explosives	Demurrage
Factory Supplies	Taxes—State and Local
Live Stock Supplies	Taxes—Federal
Tools	Commissions
Molds	Discounts
Machinery Repairs	Interest on Notes
Kiln Repairs	Interest on Liberty Bonds
Office Salaries	Truck Expense
Office Supplies	Depreciation—Machinery
Office Rent	Depreciation—Kilns
Telephone and Telegraph	Depreciation—Buildings

Of course some firms carry many more accounts than these.

Assign Symbol to Each Account

All that is necessary is to assign a sufficient number of letters and symbols to identify these different amounts as the charges and credits appear in the Operating Register, and to insert these names in the descriptive spaces in the Recapitulation of Expenses.

We then insert month by month the amount of each, in the recapitulation sheet; we extend the total of each for the year in the column following December; we total this thirteenth column and see if this total agrees with the gross total of the 12 previous totals, and also with the net amount charged to Expenses in the General Ledger.

These items are then copied from this thirteenth column into the fourth column of the Profit and Loss Statement; we then total this fourth column and verify the result by comparing with the total of the former column from which

it was copied. Do not ever copy a total; add the column and compare the result with that of the original column.

Taking Inventories

Now with such an array of accounts as this, we would in general have at the close of the year physical inventories of raw material, fuel, explosives, factory supplies, live stock supplies, tools, molds, office supplies, unused repair material, and so forth. Of course we are not advising any reader to take physical inventories of all these; but on the other hand, so far as this system of handling accounts is concerned, he can go just as far as he wishes without its making any essential difference in the amount of work required. We simply insert in the fifth column, in red ink, as many of these inventory values as it is desired to carry.

We then go down the list, finding that during the year we have paid and charged up fire insurance, advertising expenses, taxes, excessive repairs, and other amounts the benefits of which will accrue directly to the ensuing year, or years. We insert such values in column six also in red, opposite the proper descriptive titles. There is one other class of items akin to these, but not exactly in the same class, which for want of a better place may safely be included in this column; that is, credits which have accumulated but which have not yet appeared on the books; for instance, interest accrued on Liberty Bonds, on uncancelled bonds of the company held in its treasury, on notes receivable drawn with interest, and so forth.

Accrued Liabilities

Finally, we go down the list and find that we have accrued liabilities, such as interest on a mortgage, compensation insurance, interest on interest-bearing notes payable, which charges belong to the current year but will be entered and charged in the following year. We insert these in black ink in the seventh column.

Another item which can properly be included in this column is the unearned portion of interest on a note receivable, the interest of which was paid in advance, or was included in the amount of the note.

Of course all companies do not go to this extent. But

here is a feature which is really valuable: suppose an invoice has been received for fuel, but that it is in dispute for some reason. Under the circumstances the invoice should not be entered; but if the coal has been used, it will not be fair to let the succeeding year bear this expense when the amount shall have been definitely determined. So we insert in this seventh column either the full amount of the invoice or the amount which we believe will approximate the final payment.

Journal Entries Not Involved

In all this, there has been no formidable array of journal entries; we have simply inserted the amounts in either red or black ink, retaining such supporting papers or schedules as would be required in any case.

We have a similar set of figures for the beginning of the year, in columns one, two and three.

We now perform the elementary addition and subtraction necessary to determine the amounts in the eighth column, total the remaining columns and verify the eighth total as a result of the previous seven.

Inventory Accounts Handled Simply

Notice that it makes no difference how many inventories we have of supplies, of raw material of diverse kinds; only the total of all such inventories appears in the General Ledger, and this single amount remains unchanged from the first of the year until the end, at which time it is replaced by the new amount. Just compare this complete dodging of entries with the work involved where each inventory is carried in the General Ledger and each of these many inventories is rectified at the close of each month! And of course this same economy exists in the handling of the Deferred Charges and Accrued Liabilities.

Having now completed group I, we write up groups II and III as previously outlined.

We then write up the three closing journal entries as before, using the totals of the three groups. Thus we see that no matter how complicated the initial and closing adjusting items, or how numerous the classes of accounts, there are under the circumstances but three closing entries which involve no difficulties.

Chapter XIII.—MONTHLY PROFIT AND LOSS STATEMENTS

WE have yet another phase to consider: the case of those who desire monthly profit and loss statements.

Those who do not require such statements monthly, or whose business is such that they cannot take inventories easily with sufficient accuracy, will pass lightly over this chapter. But should such companies ever desire to secure such statements monthly, or even at intervals of three, or four, or six, months instead of annually, they will find the methods heretofore outlined, with no change whatsoever, to afford the necessary basis for this step.

Making Monthly Statements

We begin by preparing a recapitulation sheet as before, heading it "Profit and Loss Statement for January, 1923." In the descriptive space we write the three groups of accounts; the first three columns are headed as before, "January 1, 1923," each of the three bearing the same headings as in the last chapter and containing the same figures. But

in the fourth column we now insert the amount of each item as shown by the Recapitulation of Expenses for the month of January; that is—

Labor	\$1,000
Supplies	440
Fire Insurance	360
Interest (none) .....	...
Sales	2,000

The next three columns are now headed "January 31, 1923," the separate columns being headed "Inventory" (red ink); "Deferred Charges" (red ink); "Accrued Liabilities."

In the fifth column we insert in red ink the values of the physical inventories of Supplies and of Brick. Let us assume these to be \$1,050 and \$1,700 respectively. Since at the close of January a year's fire insurance premium was paid in advance, there is a deferred charge of this item of \$360,

	January 1, 1923			January 31, 1923				
	Inventory	Deferred Charges	Accrued Liabilities	Inventory	Deferred Charges	Accrued Liabilities		
Labor				1000.00			1000.00	
Supplies	1000.00			440.00	1050.00	1000.00	490.00	
Fire Insurance		250.00		360.00	360.00		250.00	
Interest			200.00			250.00	500.00	
Totals	1000.00	250.00	200.00	1800.00	1050.00	360.00	3500.00	1565.00
Cost of Brick Made				1565.00				
Inventory	2000.00				1700.00			
Cost of Brick Sold								1865.00
Cost of Brick Sold				1865.00				
Sales				2000.00				
Net Profit								135.00

Figure 16. Profit and Loss Statement for January, 1923, Showing Method of Arriving at Net Profits. The Figures and Words Between the Heavy Lines Are Supposed to Be in Red.

appearing in red ink. During the month, an additional month's interest has accrued on the outstanding mortgage, which interest now amounts to \$250, and is inserted in black ink. Let us assume that there is an invoice of \$100 for supplies which for some reason had not been entered but that the supplies had been received and either used or inventoried. We make an entry of this in the seventh column opposite Supplies.

We are now ready to complete the sheet. By taking the difference between the black and the red items we arrive at the following results for Group 1 (see Figure 16):

Labor\$1,000
 Supplies 490
 Fire Insurance 25
 Interest 50
 Cost of Brick Made..... 1,565
 Transferring \$1,565 to Group II we get as the Cost of Brick Sold \$1,865.

Transferring this amount to Group III we get as the Profit for the month, \$135.

We are now ready to make up a Financial Statement for January 31, 1923. The Trial Balance for January 31, as outlined in Chapter XII was as follows:

Accounts Receivable\$ 6,000
 Bank 2,875
 Property 50,000
 Inventory, Brick 2,000
 Inventory, Supplies 1,000
 Deferred Charges 25
 Expenses 1,800
 Accrued Liabilities \$ 200
 Accounts Payable 1,500
 Mortgage 10,000
 Sales 2,000
 Capital Stock 50,000

Now let us interject this important remark: In preparing the Profit and Loss Statement for January, we used for the first three columns the figures from the fifth, sixth and seventh columns of the Profit and Loss Statement for the close of the previous year, the colors of ink being interchanged; for the fourth column we took our figures from the Recapitulation of Expenses; for the following three columns we used inventory and other figures worked up for this purpose; in no case did we use the Operating Register or the General Ledger. We shall now see that in arriving at the Financial Statement, we still have no need of the

General Ledger. From the standpoint of Cost Accounting, these facts are extremely significant.

Financial Statement

A Financial Statement contains Assets and Liabilities, together with Capital and Profits (or some such account measuring variations in the invested capital). We must therefore drop the Expenses and Sales accounts; we must bring the Inventories, Deferred Charges and Accrued Liabilities accounts into accord with their values on January 31. We must incorporate a Profit and Loss Account. All the other accounts remain just as they appear in the General Ledger Trial Balance Sheet. Making these substitutions from the Profit and Loss Statement we have the following:

Financial Statement, Jan. 31, 1923

Accounts Receivable.....\$ 6,000
 Bank 2,875
 Property 50,000
 Inventory, Brick..... 1,700
 Inventory, Supplies..... 1,050
 Deferred Charges..... 360
 Accrued Liabilities..... \$ 350
 Accounts Payable..... 1,500
 Mortgage 10,000
 Capital Stock..... 50,000
 Undivided Profits, 1923.. 135

At the close of February, the Operating Register is completed, the General Ledger is posted, the Recapitulation of Expenses is written up for February and the Trial Balance is inserted for that month—all without any regard for the fact that we had taken off a Profit and Loss Statement and

	February 1, 1923			February 28, 1923		
	Inventory	Deferred	Accrued	Inventory	Deferred	Accrued
	Change	Liabilities		Change	Liabilities	
			120000			120000
	105000	10000	40000	85000		50000
		30000			33000	3000
		35000	30000			5000
	105000	30000	190000	85000	33000	178000
			178000			
	170000			170000		278000
			278000			
			278000			72000

Figure 17. Right Hand Page, Showing Profit and Loss Statement for February, 1923. The Figures and Words Between the Heavy Lines Are Supposed to Be in Red.

had prepared a Financial Statement for January. To revise the General Ledger would merely add to our work without adding to our information.

Profit and Loss Statement

We now set about preparing a Profit and Loss Statement for February. We trim off the three outer columns from another recapitulation sheet as shown in Figure 17, and use this sheet for the right hand page opposite the January sheet, so we need not rewrite the three descriptive groups. When this sheet is turned, we can write up March on the reverse side. In this manner we may prepare sheets for the entire year, with one descriptive space.

We head the first three columns "February 1, 1923." The fifth, sixth and seventh columns are headed "February 28, 1923." The sub-headings of these six columns are just the same as they were for January.

Use Black and Red Figures

Under the first three we insert the same figures, naturally, as were used for January 31, but with this essential difference: the colors of the figures are transposed; black instead of red, red instead of black. The reason is obvious. For instance, an inventory credited to January becomes a charge against February. We could, of course, save this re-writing of these three columns by simply referring to the fifth, sixth, and seventh January columns at the left; but the advantage in using two colors is thereby lost and it is a decided advantage to know just by looking at a set of figures whether we should add or subtract to incorporate them properly in our computations.

Insert Recapitulation Figures

In the fourth column are inserted the figures from the Recapitulation of Expenses shown in Chapter XI, as follows:

Labor	\$1,200
Supplies	400
Fire Insurance .....	...
Interest	300
Sales	2,500

We have taken inventories of Supplies and of Brick; let us assume that these are \$850 and \$1,200 respectively. The physical inventories are ascertained by going thruout the plant and ascertaining what is on hand, then evaluating them in the office.

Interest on Mortgage

We easily see that whereas the amount of prepaid fire insurance on the first of the month was \$360, it is \$330 at the close. Also, that the interest on the mortgage, which had mounted to \$300 at the close of the month, has been paid, leaving no interest accrued and unpaid.

Extending net totals into the eighth column, we obtain the following results:

Labor	\$1,200
Supplies	500
Fire Insurance	30
Interest	50
Cost of Brick Made.....	1,750

Inserting this amount in Group II we get as the Cost of Brick Sold, \$2,280.

Find Net Profit

From Group III we find the Net Profit to be \$220.

We now take the trial balance for February 28, omit the Expenses and Sales accounts, substitute the values on February 28 of the Inventories, Deferred Charges and Accrued Liabilities, and insert the accumulated profits for the two months, arriving at the following results:

Accounts Receivable	\$ 6,350
Bank	1,425
Property	50,000
Inventory, Brick	1,200
Inventory, Supplies	850
Deferred Charges	330
Accrued Liabilities	\$
Accounts Payable	800
Mortgage	9,000
Capital Stock	50,000
Profit and Loss.....	355
	<hr/>
	\$60,155 \$60,155

At the risk of tedious repetition we again point out that these Profit and Loss Statements and Financial Statements are prepared from data secured from the General Ledger Trial Balances and from the Recapitulation of Expenses, coupled with supplementary figures, without in the least altering the General Ledger or modifying the work done in posting the General Ledger.

General Ledger Not Altered

When an officer on ship board observes the altitude of the sun with a sextant, the angle is first read from the instrument; then correction is made for the height of the deck above the sea and refraction of the atmosphere, eventually arriving at the true angle of elevation. But the officer does not alter the instrument to conform to the corrected result.

In like manner, we take an observation of the business as shown by the General Ledger Trial Balance and apply corrections necessary to tell the position of the ship; and having secured this information we stop without altering the General Ledger itself to conform to the revised figures.

Depreciation

For instance, consider the question of Depreciation. Some companies charge the same amount each month, while others charge an amount based on the output. Without entering into the merits of the two methods, let us suppose that beginning January 1 we are to charge off Depreciation at the rate of \$500 per month. In such a case some companies make an actual journal entry charging this amount to the operating expenses each month and crediting a Reserve for Depreciation. This is entirely unnecessary. We need only insert \$500 in the Accrued Liabilities column at the close of January, \$1,000 at the end of February, and so on to the close of the year, when we make one single entry in the Operating Register, charging \$6,000 to Expenses and crediting Reserve for Depreciation.

Cutting Entries from 12 to 1

In this manner, we have incorporated each month in the Cost of Brick Made, a charge of \$500 for Depreciation; but we make one entry a year in the General Ledger instead of 12. And as we have seen, the same is true for interest on a mortgage or on bonds; we make entries only when payment is made. It holds for prepaid fire insurance and accrued compensation insurance premiums. It applies to obsolescence, taxes, and the amortization of bond premium or discount. But the simplicity of the method of handling the General Ledger is undisturbed.

There is an old story of a man going to mill on horseback, carrying a sack of grain on his shoulder; he claimed that the horse had enough to do to carry him without having to carry the grain in addition. Many accountants go to the opposite extreme in assuming that a charge can get into monthly costs only by being loaded first onto the General Ledger.

Of course we can line up the General Ledger at any time to conform to the current financial statement by making the three entries referred to in chapter XII; we can even

make one complex entry serve instead of three; but we readily see that we do not obtain any additional information. The information the General Ledger apparently gives after closing is the same information we had to possess before making the closing entries.

Moreover, there is no logical necessity for making these entries monthly, because the General Ledger can only represent the approximate status at midnight on the last day of the month and ceases to represent it accurately five minutes after the whistle blows on the following morning.

Monthly Inventories

While not urging the taking of monthly physical inventories, it is not amiss to point out that it is not 12 times as much work to take monthly inventories as to take annual inventories. Many items recur and much of the information is more easily obtained because it is never a month old. In the case of annual inventories, items are from one to eleven months old, requiring one to dig back thru records of many months.

Many of the other elements of cost such as insurance can be determined merely by inspection, when Profit and Loss Statements are prepared monthly.

Good Basis for Cost Finding

For those who use or contemplate using standard costs, with all their manifold advantages, the figures in column eight of the monthly statement furnish a basis which it would

be hard to duplicate; and this system of accounting affords a decidedly good basis for genuine twentieth century cost finding.

It has probably been noticed already that the Recapitulation of Expenses Sheet is not really required where one makes up monthly Profit and Loss Statements. All one needs to do is to copy the figures each month into column four instead.

When it comes to preparing the Annual Profit and Loss Statement, we simply begin by using the figures in the first three columns under January 1; then insert in the fourth column the totals of all figures in the fourth column for each month; then copy the figures from the fifth, sixth and seventh columns under December 31; and, if we have performed our work correctly, the figures in the eighth column will agree with the totals of the corresponding items for the 12 months.

Cutting Out Trial Balance

In like manner, it is not necessary to prepare the Monthly Trial Balance Sheet when one prepares Monthly Financial Statements. One sets down the current inventories, deferred charges and accrued liabilities as shown in the current Monthly Profit and Loss Statement; the accumulated profit or loss for the year to date; he omits the Expenses and Sales accounts; the other figures in the case here cited are taken directly from the General Ledger; and if the work has been properly done, the Debits and Credits will balance.

ONE CANNOT STRESS too strongly the fact that this system is **not a stock system**. In every instance, even where two firms are engaged in the same line and are of about the same size, there are details which must be handled in different ways. One firm has reason to keep track of certain items of cost which the other has no occasion to keep separate.

The series has been written from the standpoint of the average small factory, but with suitable modifications the methods apply to any large, extensive and varied business.

Distributes Cost Over Nine Departments

For instance, there is a concern, not in the brick industry, which distributes its operating costs among nine different departments. For this purpose they have a voucher register with nine columns. The date, the name of the firm in whose favor it is drawn, the number and the amount of the voucher are inserted, and the amount then set down in one of the nine columns (assuming that the voucher is not divided). In another part of the voucher register the vouchers charged in the first column are again set down: the date, name, number and amount; and the amount is then carried to one of the secondary division columns. The second, third, up to the ninth column in the main section are similarly dealt with.

Save One-Half the Time Required

After investigation, writing up one month along the lines of the Operating Register system, with sheets for the Recapitulation of Expenses, it was the verdict of the manager that the adoption of such a system would save one-half the time now required in handling their vouchers, and that it would set forth the information more clearly and would simplify the making of quarterly and annual statements in addition to the regular monthly ones required.

Reference has repeatedly been made to an Accounts Payable Ledger. But practically the only difference between the voucher system and the ledger system is that instead of posting a credit, the voucher is placed in an open file: and instead of posting a debit, the voucher is removed to a closed file: the amounts of the vouchers in the open file at the close of the month being compared with the controlling account in the general ledger.

Register Will Simplify Work

There are some large firms which claim it is simpler to run an Accounts Payable Ledger than to keep track of loose vouchers. But, in any case, the Operating Register method should afford considerable simplification. For instance, an institution using this system holds its books open at the close of the month until it has written checks for nearly all bills incurred during the month. These checks are credited to the bank and charged directly to the various accounts. The few remaining invoices are credited to Accounts Payable. But there is no ledger. The checks written in subsequent months in payment of these accounts held over are charged to Accounts Payable and a notation made in the original entry showing the check number later given in payment. Thus the items in the ACCOUNTS PAYABLE column showing no check numbers should have as their total the amount of the Accounts Payable Control account in the General Ledger.

One brick company which also uses this plan assigns a number to each account payable, the number consisting of the page of the Operating Register, followed by the number of the invoice on the page. Thus invoice 1322 is the twenty-second invoice entered on page 13. When a check is given in payment, the amount is charged to Accounts Payable and this number is inserted in the space before the charge. Of course all invoices from one customer, unpaid at the close of any month, would be combined in one credit. Naturally, this scheme would not apply if there were a large number of invoices holding over for two or three months continually: but the examples cited indicate the diversity of applications of the Operating Register method and its flexibility.

Keeping Income Tax Information

One cannot tell from year to year what information is going to be required by income tax blanks: but so far as can be anticipated, information called for separately therein can, if desired, be carried separately in the Recapitulation of Expenses. In general, the information required by the blank can be filled in quickly and directly from the final Trial Balance figures and from the annual Profit and Loss Statement, which shows the inventories and the operating charges in detail.

One Controlling Often Does the Work

It has been shown how the operating charges are combined in a few, perhaps even in one, controlling account in the General Ledger, regardless of the number of different classifications. It has been shown how, without changing in any manner the entries in the General Ledger and in the Operating Register, one may take this list of operating charges and combine it with physical inventories, accrued liabilities, deferred charges, accrued credits, deferred credits, unadjusted invoices—in fact, any figures which affect the financial status of the concern at the close of the month but which either have not yet appeared on the books or which, having been entered, belong to a succeeding month,—and can prepare a monthly Profit and Loss statement together with a corresponding Financial Statement. In many firms, especially large ones desiring up-to-date accounting information, it is the practice to make adjusting entries in the General Ledger in order to achieve these results.

Handling Inventory Accounts

During the course of publication of this series, an inquiry was received as follows:

We keep track of our various Inventory Accounts, and have a separate account in our General Ledger for each of the following, which we would like to eliminate if there is any way to do it and to give us the same results with less work.

(Here follows a list of inventory accounts, including raw material mined and raw material purchased, together with other supplies and brick inventories.)

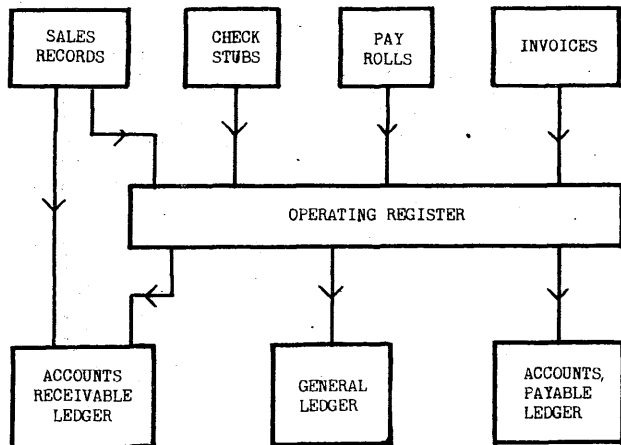
Once a month these accounts are adjusted to agree with the actual material on hand.

We do not like this way of handling these Inventory accounts and will be very glad to have your suggestions.

In response to this inquiry, there was supplied a copy of the manuscript of some of the chapters in this series which had not yet appeared. In consequence it was found possible to reduce the number of inventory accounts to but two—one consisting of the finished or semi-finished product, the other of all raw materials, supplies, and so forth—and to allow these two inventories to stand unchanged in the General Ledger from the first to the last of each year, at the same time giving the same amount of information as before.

System Not a Cost System

As has been stated more than once, this is a series of articles on Accounting—not on Cost Accounting. Cost Accounting begins where this series leaves off. But when one has



This Chart Shows the Simple and Easy Way in Which Entries Are Made When Using the System Described in This Series

set forth the operating expenses as outlined in the Monthly Profit and Loss Statement, he has laid the foundation for a most illuminating cost system along modern lines, where the actual charges are contrasted side by side with standards based on what these charges should be. Where these are out of line, an investigation follows to see if the standards are unreasonable or if there is an avoidable waste in some department. With these Profit and Loss sheets and with his auxiliary figures covering hours of operation, quantities of brick produced or materials consumed, the cost accountant works out his deviation from standards without further recourse to the records of the general bookkeeper: just as the chemist analyzes specimens far from the scene of their discovery, and the scientist develops the photographic plates far from the spot where the eclipse of the sun was observed. Some writers make the mistake of speaking of "costs," when they mean a distribution of expenses incurred as a result of operation, idleness, accidents, or of a generous mixture of all three. Of course, the general bookkeeper and the cost accountant may be, and often are, one and the same person, but that is no reason for confusing the two lines of work.

And now with regard to installing the system:

Where one already has a good system in use, begin writing up the records in an Operating Register but at the same time keep up the other system. Keep this up for a month, or possibly more, carrying on the two systems side by side. This will afford a direct comparison, and, so far as the writer's experience and observation have gone, the comparison has always been in favor of the Operating Register system. During the writing up of the Operating Register it will be found in general that there are short cuts which do not appear at the beginning, and by deferring the cutting loose from the old system—provided one does decide to cut loose—the Operating Register has seen one or more months of practical application before it is installed. Then, at the beginning of some subsequent month, the old system is dropped and the Operating Register system, not as an experiment but as a proven process, takes its place.

Can Install Any Time of Year

As originally worked out by the writer, the system was installed in the middle of a year. There were seven major distributions of accounts, "Repairs A" referred to repairs for one plant, "Repairs B" indicated repairs for another, "Office Expense C" was the office expense for a third plant, and so on, all these accounts being carried in the General Ledger. So far as possible charges to the different plants were written up in different invoice registers, distributing a charge to plant A, for example, according to the various classes of charges, repairs, supplies, raw material, and so forth. The totals of these columns were posted to the General Ledger. This method entailed additional work when a charge pertained to two or more plants, since it had to be written up piecemeal. But at the same time it did away with the necessity of rewriting the charges for a more detailed distribution along the lines already described.

Supplants 13 Books with One

But, having become satisfied that the proposed plan was feasible, the 13 books from which entries were made to the General Ledger were laid aside in favor of the one Operating Register, the various accounts in the General Ledger pertaining to plant "A" were transferred to a single "Operating Account A," the amounts in detail were entered in the first column of the Recapitulation of Expenses A sheet and headed "January-June," their total agreeing with the total of the General Ledger account. The "B," "C," and other accounts were similarly dealt with, and with but small changes the system is still in use. A brief description of the system was given in Brick and Clay Record in January, 1917.

Books on accounting frequently give diagrams showing how entries are to be made from one set of books to another, the lines and arrows forming a chart which would shame a diagram of the solar system (not including asteroids or periodic comets). We, therefore, close with a chart showing the simple and easy way in which entries are made in the series we have described.

This article ends the highly interesting series on Accounting Simplified which has been running in Brick and Clay Record since January. This series has aroused widespread interest because of the clear, concise and simple style in which the articles have been written.

The system described is an innovational one and was designed by the author, G. W. Greenwood, because he felt that the bookkeeping methods now in use involved the use of too much time, experience and knowledge for the ordinary business. Mr. Greenwood's system is eminently simple and can be installed and operated by anyone having even a limited knowledge of bookkeeping. No trained accountant is necessary.

An Uncostly Cost Accounting System

A Complete System Using Only Four Forms Which Has
Been Proven Thoroughly Successful in Actual Operation

W. A. Barron

Barron Brick Co., Chicago and Roanoke, Ill.

The September 5 issue of Brick and Clay Record contained an editorial entitled "Secrecy a Bugaboo of Business," in which special attention was called to the injury that can be done to our industry and to ourselves by trying to keep secret any improvement or advantage that we have gained. This editorial closed with this sentence: "We help ourselves by helping our competitor."

That spirit of helping others by helping themselves inspired the Barron Brick Co., with a hollow tile plant at Roanoke, Ill., and main offices in the Tribune Building, Chicago, to permit Brick and Clay Record to publish this complete cost accounting system. The figures are not taken from their records; in fact, they are sample figures put into place to show the operation of the system. This system has been in successful operation for the manufacture of hollow tile for six years, and has been improved and simplified at several points so that today it represents experience and revision and the best practice for this product. It can be changed and enlarged slightly at several points to adapt it to the manufacture of other classes of clay products. At some plants the breakage of the ware in process amounts to a considerable item. In these cases a line can be added below each of the semi-total lines 33, 47, 60 and 74 and a percentage of the cost shown on these lines added before the cost is carried further in the tabulation. The proper percentage to add in each case can be determined easily by keeping proper production records. Our readers are urged to study the steps as explained in the accompanying article for a full understanding.

System Takes Little Time To Operate

After the imaginary figures had been placed in columns B, F, J, N, R, and V, Mr. Barron took his Marchant Calculating Machine and in less than two hours' actual operation, disturbed by several telephone calls and other distractions, arrived at the figures found in columns C, G, K, O, S and W, by dividing the several tonnages into the costs of each item. This is ample proof that the system is not expensive to operate.

The explanation accompanying these sheets is very comprehensive and is intended to be complete. Very often, however, those very familiar with the operation of any cost accounting system know its ins and outs so perfectly that it is difficult to explain all of the details in a space as condensed as this. The Barron Brick Co. therefore will gladly answer any question for additional information, either by correspondence or at their offices. Brick and Clay Record will gladly assist any of its readers in every possible way toward the same end, namely a thorough understanding of the advantages, benefits, and simplicity of the complete cost accounting system presented herewith.

Cost accounting for clay products plants presents different problems than for other industries. The foundations or principles are the same for many lines of manufacture, but the success or failure of the system depends primarily on the details—on how these basic principles are applied to the particular problems involved. In this application the old adage of "Experience Is the Best Teacher" finds its truest use. We have found this particularly true because Brick and Clay Record has had several outlines of cost accounting systems submitted for publication. In practically every instance the author of the articles submitted knew the general principles of cost accounting but had no experience in the clay products industry. We have not accepted these because we felt that a system such as the one described herein is worth infinitely more than an explanation or exposition of a theoretical application of cost accounting principles to our industry.

There can be no question of the practicability of the system of the Barron Brick Co. It has been in use for six years and has been improved in that time. There are no theoretical ideas in it—it is practical from start to finish. The use of imaginary figures to show the method of operating it, makes this article the most serviceable and valuable that can be written, published or gathered on this subject for actual use by any clay products plant, which is operated on the plan followed almost universally in the manufacture of heavy clay products.

Broad-Minded Spirit Is Commendable

We cannot speak too commendably of this broad-minded spirit of the Barron company in this and other instances. This is a case where a manufacturer has spent good money to perfect a system, and has had such good results that he is willing to tell any and all of his competitors and other clay products manufacturers of its benefits and inner workings. The best part of this assistance is that there is no cost at all for any of the advice.

Those who have no cost system and do not take advantage of this magnanimous offer will have only themselves to blame, when at the end of each year their profits are not as large as they expect them to be, on a foundation based on estimated costs.

The Barron Brick Co. know that if their competitors would keep their costs accurately, the prices these competitors would charge in order to show a reasonable profit instead of a loss, would increase the profits of the Barron company more than enough to pay for any trouble toward giving assistance in this direction. The Barron Co. believe in the statement contained in the editorial quoted above, "We help ourselves by helping our competitors." The clay products industry would be in better condition if more believed in and followed this principle.

THE OPERATION of our cost system, the time necessary to give us the resultant figures shown in the accompanying forms, the work of obtaining these detailed figures, which give us the necessary knowledge that enables us to run our plant so as to make the largest possible profit every

day and every year—all of this work under our system takes no more time than usually required for keeping an ordinary set of books. In fact less than three-quarters of one person's time is given to this work.

These statements seem so revolutionary and are so calcu-

...red to take the wind out of the opinion of many who are dubious of the efficiency and benefits to be derived from a good simple cost accounting system that we believe an explanation of the system will be very interesting and instructive thruout the industry. These same men who are dubious of the good results are generally the men who are firmly convinced, with no foundation or experience, that a cost system must be expensive to operate. Every good system adds to the profits far more than it costs.

Study This System Thoroly

There is one suggestion that I feel impelled to make and one thought that should be uppermost in the minds of all reading this article. Cost accounting seems complicated to the inexperienced but simple to those who know its details. The same is true of the carburetor, timing gear, and internal combustion engine, and of the regulation of the valves of a Corliss engine. This article can be digested at one sitting by only a few who are experienced in cost accounting. It should, however, be studied word by word.

and read again and again by everyone. Every time you read it and every time you study the charts you will get a better insight into the simplicity and at the same time the comprehensiveness of this system.

Learned Costs in Explosive Industry

The founder of our company, J. T. Barron, has known for many years the great value of a good cost accounting system from any and every standpoint, on account of his extensive experience in the manufacture of explosives. He learned ahead of time that knowledge of costs is the most important feature in the successful manufacture of clay products just the same as it is in the manufacture of explosives. One of his first actions, therefore, was the investigation of the steps necessary to develop a system as serviceable in the clay industry as the systems in use in the explosive industry. Our present system, which is described in this article is the result of this investigation, altho it has been changed and improved slightly from its first draft.

Our cost system is really consist of only four forms as follows:

Works Cost Month of *October* 1922

SHEET No. 1

	Manufacturing	This Month			Last Mo.	To Date This Year			Last Yr.
		Quantity A	Amount B	Per Ton C	Per Ton D	Quantity E	Amount F	Per Ton G	Per Ton H
Labor Oper.	Steam Shovel	1	298 95	069	071	3046 25	074	079	
	Trans. Clay	2	207 89	048	049	2153 26	052	056	
	Dry Pans	3	107 40	025	024	958 75	023	027	
	Screening	4	72 16	017	017	759 64	018	021	
	Pugging	5	86 60	020	019	784 17	019	022	
	Mix Press Cut	6	371 30	086	090	3957 23	096	112	
	Hacking	7	170 02	039	042	1917 08	047	053	
	Dryer	8	102 10	024	023	1005 10	024	029	
	Total Labor Oper.	9	1416 42	328	335	1458 148	353	398	
Labor Repairs	Steam Shovel	10	18 62	004	005	327 15	008	009	
	Dry Pans	11	10 84	003	004	228 77	005	006	
	Clay Car	12	49 39	011	009	197 56	005	007	
	Pug Mill	13	1 93	001	001	77 20	002	001	
	Bldgs. Equip.	14	73 37	017	014	629 17	015	020	
	Total Labor Repairs	15	154 15	036	033	1459 85	035	043	
Mat'l Repairs	Steam Shovel	16	5 15	001	002	125 70	003	004	
	Dry Pans	17	33 0	001	002	78 29	002	002	
	Clay Car	18	10 84	002	002	75 88	002	002	
	Pug Mill	19	1 75	001	001	50 164	001	002	
	Bldgs. Equip.	20	83 45	019	013	500 70	012	015	
	Total Material Repairs	21	104 49	024	020	832 21	020	025	
Mat'ls	Coal	22	391 32	090	101	4599 56	111	099	
	Oil	23	116 47	027	030	1222 93	030	031	
	Preventive	24	389 34	090	086	3496 06	085	072	
	Total Materials	25	897 13	207	217	9318 55	226	202	
Power	Power	26	4813 20	1113	1217	55479 52	1345	1437	
	Distrib. Exps.	27	248 72	057	059	2599 08	063	069	
	Total Mill Cost	28	7634 11	1765	1881	84270 69	2042	2174	
Gen. Exps.	Main Office Superv.	29	362 46	084	086	3742 25	091	115	
	Fire Liability Insurance	30	27 94	006	006	265 90	006	007	
	Depr. Plant Value	31	271 31	063	064	2709 41	066	067	
	Total General Expense	32	661 71	153	156	6717 56	163	189	
Total Cost Manufacturing		33	8295 82	1918	2037	9098 825	2205	2363	
Production tons		34	4326			41258			

Sheet No. 1 of the Barron Cost System. The Several Features Are Fully Described in the Text. The Heading on Column H Should Read "To Date Last Year."

Works Cost Month of *October* 192*2*

SHEET No. 2

	This Month			Last Mo.	To Date This Year			Last Yr.
	Quantity I	Amount J	Per Ton K	Per Ton L	Quantity M	Amount N	Per Ton O	Per Ton P
Setting	Setting—Burning—Loading							
Trans. From Dryer	35	177.92	0.42	0.43		1879.74	0.46	0.48
Setting Product	36	1188.70	2.80	2.72		9924.40	2.45	2.53
Total Labor Oper.	37	1366.62	3.22	3.15		11804.14	2.91	3.01
Labor Repairs Equipment	38	63.04	0.15	0.16		463.47	0.12	0.10
Material Repairs Equipment	39	124.77	0.29	0.30		926.25	0.23	0.21
Product "Man'd"	40	8150.06	19.18	20.37		89568.90	22.05	23.63
Distrib. Exps.	41	82.91	0.19	0.20		866.36	0.21	0.24
Total Mill Cost	42	9787.40	23.03	24.18		103629.12	25.52	27.19
Main Office Superv.	43	120.82	0.29	0.30		1247.22	0.31	0.38
Fire Liability Insurance	44	9.31	0.02	0.02		88.64	0.02	0.02
Depr. Plant Value	45	904.41	0.21	0.21		903.41	0.22	0.22
Total General Expense	46	220.57	0.52	0.53		2239.27	0.55	0.63
Total Cost	47	10007.97	23.55	24.71		105868.39	26.07	27.82
Production Tons	48	4250				40614		
Burning	Firing Kilns							
Firing Kilns	49	1030.40	2.31	2.53		12526.77	3.04	3.21
Labor Repairs Kilns	50	147.21	0.33	0.25		1777.19	0.43	0.45
Material Repairs Kilns	51	91.30	0.20	0.23		1225.63	0.30	0.26
Product "Set"	52	10502.50	23.55	24.71		107205.34	26.07	27.82
Coal	53	7479.65	16.77	19.47		91753.76	22.37	19.73
Distrib. Exps.	54	110.54	0.25	0.26		1155.15	0.28	0.30
Total Mill Cost	55	19367.60	43.41	47.55		215643.84	52.43	51.87
Main Office Superv.	56	161.09	0.36	0.38		1663.22	0.40	0.51
Fire Liability Insurance	57	12.42	0.03	0.03		282.98	0.07	0.03
Depr. Plant Value	58	120.58	0.27	0.28		1204.18	0.30	0.29
Total General Expense	59	294.09	0.66	0.69		3150.38	0.77	0.83
Total Cost	60	19655.69	44.07	48.24		218794.22	53.20	52.70
Production Tons	61	4460				41127		
Loading	Unloading Kilns							
Unloading Kilns	62	934.73	2.15	2.29		11125.77	2.72	2.93
Sorting—Loading	63	379.35	0.87	1.05		7216.56	1.76	1.92
Total Labor Oper.	64	1314.08	3.02	3.34		18342.33	4.48	4.85
Labor Repairs Equipment	65	65.67	0.15	0.16		765.47	0.18	0.21
Material Repairs Equipment	66	71.72	0.17	0.17		651.73	0.16	0.19
Product "Burned"	67	19170.89	44.07	48.24		217922.34	53.20	52.70
Distrib. Exps.	68	110.54	0.25	0.26		1155.15	0.28	0.30
Total Mill Cost	69	20732.90	47.66	52.17		238837.02	58.30	58.25
Main Office Superv.	70	161.09	0.37	0.38		1663.22	0.41	0.51
Fire Liability Insurance	71	12.42	0.03	0.03		118.18	0.03	0.03
Depr. Plant Value	72	120.58	0.28	0.28		1204.18	0.29	0.29
Total General Expense	73	294.09	0.68	0.69		2985.58	0.73	0.83
Total Cost	74	21026.99	48.34	52.86		241822.60	59.03	59.08
Production Tons	75	4350				40963		

Sheet No. 2 of the Barron Cost System. The Several Features Are Fully Described in the Text. The Heading on Column P Should Read "To Date Last Year."

which are illustrated herewith. Sheet No. 1 shows the manufacturing costs up to the point of the dried ware, ready for the kiln. The word "Manufacturing" at the top of the left hand column is meant to be a head and the words in the left hand column are subheads. On sheet No. 2, the words "Setting," "Burning" and "Loading" govern the respective parts shown inside the double lines. On sheet No. 3 the words at the top "Power-Heat-Light" are intended as a head for the part down to and including line No. 101 and the words at the left are subheads. Below line No. 102 the heads are in the left hand columns.

Use Symbols to Designate Accounts

All of our accounts and charges are controlled by the symbol system, that is, in making up the pay roll or in passing any bills for payment a code of initials is used which designates exactly into which ledger account the charge

should be placed. Every item on these sheets has a separate account in the ledger, and as an explanation of the entire list would take up too much space we will explain only those of more common use at all plants.

- HTM means hollow tile manufacturing
- HTD means hollow tile drying
- HTS means hollow tile setting
- HTB means hollow tile burning
- HTU means hollow tile unloading
- P means power, heat and light
- D alone means distributive expense
- GE means general expense
- LO means labor in operation
- LR means labor on repairs
- MR means material on repairs
- SS means steam shovel

It will be noticed that these symbols are easy to remember and use because they are really a shorthand description of the account headings. The symbols are combined to designate the several accounts, for instance. LO—SS signifies that the charge should be placed under Labor operating the Steam Shovel shown on line No. 1 of Sheet No. 1 of the attached forms. MR—HTB signifies that the charge should be placed under Material Repairs for Burning Hollow Tile shown on line No. 51 on Sheet No. 2 of the attached forms.

Determining Machine Production

When the books are balanced at the end of each month, the totals of each account are placed in the line corresponding to the account under columns B, J and R. We then determine the figure for our machine production, as shown on line No. 34 in column A. To determine this we deduct the actual dryer loss from the gross machine production. The result is the net machine production in tons as shown on line No. 34.

The tonnages for the setting, burning and loading departments are also found by using similar records of production and loss. It will be noticed that the production figure for Power, Heat and Light and for Distributive Expense and General Expense is the same as for the manufacturing departments.

The production figures on line No. 34 in columns A and E are supposed to be entered on every line from 1 to 33 inclusive. They are entered only in this one place to increase the simplicity of the system. Similarly on sheet No. 2, line No. 48 governs all lines from 35 to 47, line No. 61 governs all lines from 49 to 60 and line No. 75 governs all lines from 62 to 74. Line No. 129 on sheet No. 3 shows tonnage figures for all of the other lines on sheet No. 3.

Dividing the Production Figures

After obtaining the figures for the production of the

Works Cost Month of *October* 1922

SHEET No. 3

		This Month			Last Mo.		To Date This Year			Last Yr.
		Quantity Q	Amount R	Per Ton S	Per Ton T	Quantity U	Amount V	Per Ton W	Per Ton X	
	Power—Heat—Light									
Labor Oper.	Boilers	76	324 34	0 75	0 77		3516 26	0 85	0 92	
	Engines	77	204 17	0 47	0 52		2276 79	0 55	0 57	
	Total Labor Oper.	78	528 51	1 22	1 29		5793 25	1 40	1 49	
Labor Repairs	Buildings	79	18 95	0 04	0 04		93 72	0 02	0 03	
	Boilers	80	37 1	0 01	0 01		49 22	0 01	0 01	
	Engines	81	14 7	0 01	0 01		20 50	0 01	0 01	
	Pumps	82	65 8	0 01	0 01		32 77	0 01	0 01	
	Electrical Machinery	83	28 6	0 01	0 01		63 51	0 01	0 02	
	Steam Lines	84	18 4	0 01	0 01		15 63	0 01	0 01	
	Water Lines	85	5 20	0 01	0 01		47 50	0 01	0 01	
Total Labor Repairs	86	40 67	0 10	0 10		322 85	0 08	0 10		
Mat'l Repairs	Buildings	87	10 76	0 02	0 02		99 21	0 02	0 03	
	Boilers	88	21 00	0 05	0 05		181 50	0 04	0 05	
	Engines	89	17 5	0 01	0 01		15 20	0 01	0 01	
	Pumps	90	35 0	0 01	0 01		25 75	0 01	0 01	
	Electrical Machinery	91	9 37	0 02	0 03		133 16	0 03	0 04	
	Steam Lines	92					76 24	0 02	0 03	
	Water Lines	93					5 27	0 01	0 01	
Total Material Repairs	94	46 38	0 11	0 12		542 33	0 14	0 18		
Mat'ls	Fuel	95	3738 29	8 64	9 58		4429 27	1 074	1 151	
	Oil Waste Grease	96	38 83	0 09	0 09		349 47	0 08	0 09	
	Water	97	420 58	0 97	0 99		4170 55	1 01	1 06	
	Total Materials Cost	98	4197 70	9 70	1 066		4882 29	1 183	1 260	
Total Cost	99	4813 20	1 113	1 217		55479 52	1 345	1 437		
Generated Power	Manufacturing	100	4620 68	1 068	1 169		53260 34	0 54	1 380	
	General Buildings	101	192 52	0 45	0 48		2219 18	1 291	0 57	
Distrib. Exps.	Superintendence	102	225 00	0 52	0 53		2250 00	0 55	0 58	
	Works Office	103	100 00	0 23	0 23		1000 00	0 24	0 27	
	Watchman Gatekeeper	104	76 00	0 18	0 18		760 00	0 18	0 18	
	General Transportation	105							0 03	
	Tile Transportation	106							0 04	
	Team Maintenance	107	41 07	0 10	0 10		425 75	0 10	0 12	
	Works	108	17 65	0 04	0 04		183 25	0 04	0 04	
	Traveling	109	34 77	0 08	0 10		587 19	0 14	0 17	
	General Buildings	110	14 25	0 03	0 03		153 23	0 04	0 04	
	Shops	111	9 65	0 02	0 02		109 10	0 03	0 03	
	Tools	112	63 6	0 01	0 01		57 20	0 01	0 01	
	Taxes	113	28 00	0 06	0 07		280 00	0 07	0 07	
	Idle Works	114								
	Miscellaneous	115								
Total Distrib. Expense	116	552 71	1 27	1 31		5775 74	1 40	1 53		
Gen. Exps.	Salaries M. O.	117	2578 33	5 96	6 20		26127 00	6 33	7 93	
	Rent	118	175 00	0 40	0 41		1750 00	0 42	0 40	
	Traveling	119	229 58	0 54	0 58		2586 63	0 61	0 77	
	Telephone—Telegraph	120	67 91	0 16	0 17		884 37	0 22	0 39	
	Stationery Supplies Off.	121	116 77	0 27	0 25		956 20	0 23	0 27	
	Advertising	122					754 00	0 18	0 25	
	Sundry Accounts to Cost	123					76 21	0 02	0 04	
	Depr. Furniture, Fixtures	124	54 29	0 12	0 13		560 00	0 14	0 15	
	Total M. O. Superv.	125	3221 88	7 45	7 94		33624 41	8 15	10 20	
	Fire Liability Insurance	126	62 09	0 14	0 14		590 90	0 14	0 15	
Depr. Plant Value	127	602 91	1 39	1 40		6020 91	1 46	1 48		
Total General Expenses	128	3886 88	8 98	9 48		40236 22	9 75	11 83		
Production Tons	129	4326				41258				

various departments we divide these several figures into the amounts charged against each account as shown on the several lines in columns B, J and R, and set down the quotients obtained on the same lines in columns C, K and S.

Some of these lines contain total figures. For instance the figures on line No. 9 are the total of all the figures on lines from No. 1 to No. 8. Similarly Lines No. 10 to 14 are totalled on line No. 15. Lines No. 16 to 20 are totalled on line No. 21. Lines No. 22 to 24 are totalled on line 25. Lines No. 9, 15, 21, 25, 26 and 27 are totalled on line No. 28. Lines No. 29 to 31 are totalled on line No. 32. Line No. 33 contains totals of the figures on lines No. 28 and 32.

On Sheet No. 2 lines No. 35 and 36 are totalled on line 37. Then lines No. 37 to 41 are totalled on line No. 42. Lines No. 43 to 45 are totalled on line No. 46. Lines 42 and 46 are added together and the total placed on line No. 47. Lines No. 49 to 54 are totalled and the results placed on line No. 55. Lines No. 56 to 58 are totalled on line No. 59. Line No. 60 contains the totals of lines 55 and 59. Lines 62 and 63 are added and the result placed on line 64. Lines 64 to 68 are added and the result placed on line 69. Lines 70 to 72 are added and the result placed on line 73. Lines 69 and 73 are added together and the result placed on line 74.

Dividing Overhead

Sheet No. 3 contains the overhead items that must be divided up among the several departments. Lines No. 76 and 77 are added and the result placed on line No. 78. Lines No. 79 to 85 are added and the result placed on line No. 86. Lines No. 87 to 93 are totalled and the result placed on line No. 94. Lines No. 95 to 97 are totalled and the result placed on line No. 98. Lines 78, 86, 94 and 98 are totalled and the result placed on line 99. The totals on this line are then transferred to line 26 on Sheet No. 1. This is the only source for the information or figures shown on line 26.

The figures on lines 100 and 101 are not used except as advisory figures. They simply show an approximate division by percentages of the cost of power and light separately. Lines 102 to 115 are totalled on line 116. These totals on line 116 are Distributive Expenses and must be divided into the several departments in order to have each bear its proper proportion. This division is made as follows: 45 per cent. to the manufacturing departments is added on line 27 on Sheet No. 1; 15 per cent. to the Setting Department on line 41; 20 per cent. to the Burning Department on line 54; and 20 per cent. to the Loading Department on line 68. These last three entries are all located on Sheet No. 2. Each plant should use its own percentage figures.

Charging "Main Office" Expense

Returning to Sheet No. 3 we find that lines 117 to 124 are totalled and the result placed on line No. 125. The abbreviation M.O. on lines No. 117 and No. 125 stand for Main Office. This item of "Main Office Supervision" is divided, 75 per cent. of it being charged to selling and is subdivided according to the tonnage of the various products. We will explain this division as shown on Sheet No. 4 later. The remaining 25 per cent. of line No. 125 is charged to factory operations. This 25 per cent. is divided up on the same basis as the distributive expenses, that is 45 per cent. to manufacturing, 15 per cent. to setting, and 20 per cent. to each of the other two departments, burning and loading. These last two figures, therefore, amount to exactly five per cent. of the total found on line No. 125. These four divisions, into which the 25 per cent. of the Main Office Supervision chargeable to factory operations is divided, are entered on lines 29 on Sheet No. 1 and 43, 56 and 70 on Sheet No. 2. Line 128 contains the total of lines 125, 126 and 127.

The amounts shown on lines 126 and 127 are divided on the same percentage as used on all of the other overhead charges, namely 45 per cent. to manufacturing (Lines 30 and

31), 15 per cent. to setting (Lines 44 and 45), and 20 per cent. to each burning (Lines 57 and 58) and loading (Lines 71 and 72).

Cost of Setting the Ware

On line No. 33, of column C we find the price per ton, for the ware manufactured and dried ready to be set, to be \$1.918. This is figured on a basis of an output of 4,326 tons. The setting output is 4,250 tons, so that in order to determine the dollar and cents amount to enter on line No. 40 in column J, we multiply \$1.918 by 4,250 and obtain \$8,150.06 (which is the amount entered there). Likewise the cost per ton of the ware set ready to be burned as shown on line No. 47 of column K is \$2.355. This figure multiplied by the output of the burning department, 4,460 gives the amount spent for that many tons of ware up to that point. The result, \$10,502.50, is entered on line No. 52 of column J. Again the cost per ton of ware burned in the kiln, ready to be taken out as shown on line No. 60, in column K is \$4.407. This figure multiplied by the tonnage output of the loading department, 4,350 gives \$19,170.89, which is the total amount spent for producing that number of tons up to the point where the ware is ready to be taken out of the kiln and is entered on line No. 67 of column J. The costs per ton as shown in columns C, K and S were originally worked out to five points to the right of the decimal, or to thousands of a cent, as this is the method we always use. However, in order to make the explanation of the system as easy as possible we have used only three places or only as far as tenths of a cent. The multiplications, explained in this paragraph, therefore, may not work out exactly to the cent. We explain this in order to avoid any misunderstanding of our explanation.

Figures for Previous Month

Having explained how each figure entered under this month is arrived at, we will pass on to the other columns. The figures in columns D, L and T are the figures that appeared in columns C, K and S of the previous month, in this case September. Columns E, F and G of Sheet No. 1; M, N and

ROANOKE WORKS

SUMMARY OF

Number	Kind	PROCEEDS				Per Ton	Amount
		Wt Each	Tons	Quantity	Amount		
9 800	3x12x12 Tert	15	735		588.00	80.	35.25
5 200	4x " " "	16	416				
18 700	5x " " "	19	1765				
39 900	6x " " "	27	4389				
43 900	7x " " "	26	1807				
47 800	8x " " "	30	717				
25 000	10x " " "	35	4025				
15 000	12x " " "	42	376				
30 000	4x5x12 Backup	8	1200				
9 700	4x8x12 " "	17	582				
7 100	5x8x12 " "	14	497				
1 500	16x12x12 Ql. Junt.	75	5625				
2 500	2x12x12 " "	75	10				
59 200	8x12x12 Load Rec.	34	10064				
83 900	10x12x12 " "	48	20136				
			5622975				
SUMMARY OF B							
15 200	2x12x12 Tert	12	912		78432	86.0	538.55
88 200	3 " " "	15	6615				
75 300	4 " " "	16	6024				
125 600	5 " " "	19	11931				
214 900	6 " " "	27	23639				
33 500	7 " " "	26	4355				
259 500	8 " " "	30	38925				
11 300	9 " " "	33	18645				
325 600	10 " " "	35	5698				
711 100	12 " " "	42	23331				
527 600	4x5x12 Backup	8	2104				
79 300	4x8x12 " "	17	4758				
125 700	5x8x12 " "	14	3799				
22 500	16x12x12 Ql. Junt.	75	84375				
46 200	2x12x12 " "	75	1248				
355 200	8x12x12 Load Rec.	34	60384				
503 400	10x12x12 " "	48	120816				
57 800	12x12x12 " "	42	4124				
			39775425				

Sheet No. 4 of the Barron Cost System, on Which All of the Costs and Profits Are Sh ately Be Styled the Bal

O of Sheet No. 2; and U, V and W of Sheet 3 contain in each corresponding place the totals of the amounts that have appeared in columns A, B and C of Sheet No. 1; I, J and K of Sheet No. 2; and Q, R and S of Sheet No. 3, for all of the months of the present year from January up to and including the present month. In this case these columns contain totals for ten months.

The last column of each sheet, namely columns H, P and X, contain the corresponding costs for each item to date for the past year, in this case 1921. These comparisons with past records can be enlarged upon very easily by adding other columns for various periods.

A study of these figures will reveal some interesting sidelights, even tho they are imaginative. For instance on line 33 of Sheet No. 1 we find:

Column H Cost (manufactured and dried) for the first ten months of 1921.....	\$2.363
Column G Cost (manufactured and dried) for first ten months of 1922.....	2.205
Column D Cost (manufactured and dried) for September, 1922	2.037
Column C Cost (manufactured and dried) for October, 1922	1.918

These figures indicate that the cost up to this point is steadily being reduced, that the cost during the first ten months of 1922 were almost as high as the corresponding cost of 1921, but that evidently since then steps have been taken to reduce this and that they have been so successful that the cost during the month just past is 44.5 cents lower than it was for the ten months of 1921. This equals almost 19 per cent. of the 1921 cost and of course such a saving as this is very commendable. In examining the individual items we find almost a steady decrease in each, but notice that line No. 12 shows a higher cost for the present month than in 1921. This is a labor repair item and since the increase is slight, and may easily be caused by more cars for repair we will not investigate this increase any further. Line No. 24 also shows an increase for the present month compared to the months to date in 1921. If the standard amount of this

preventive to be used per ton of ware has been increased the increase may account for this larger cost per unit. Again an increase in the cost of the preventive delivered may account for this increased cost per unit. The exact cause of this increase should be looked into and if wrong should be corrected.

Comparing the Costs

Line No. 36 on Sheet No. 2 shows a variation in costs that surely demands a thoro examination. This item shows the following comparisons:

Column P Labor for setting product for the entire year 1921	\$0.253
Column O Labor for setting product for first ten months of 1922	0.245
Column L Labor for setting product for September, 1922	0.272
Column K Labor for setting product for October, 1922	0.280

A study of these figures indicates that the cost for the first few months of 1922 must have been quite low, especially in view of the fact that the October cost is 3.5 cents and the September cost 2.7 cents higher than the cost for the entire first ten months of 1922, that is of the present year up to date. Since the cost for 1921 was lower than the cost for the past two months there seems to be something radically wrong with the present cost of labor for setting. This demands an immediate and thoro examination. Possibly this same condition showed up on the September report. If so, the examination and investigation made at that time may not have been as complete as it should have been, because the cost increased eight-tenths of a cent or three per cent. during the past month of October.

Sheet No. 4

Sheet No. 4 requires little explanation. The upper part gives figures for the past month only, and the lower part the cumulative figures for the current year up to date, including the month whose figures are shown in the upper part. Columns I, II, III and V are filled in from the sales records, the unit weights being decided upon by the Western Railway Weighing Association. The figures in column IV are found by multiplying together the figures in columns I and III. The figures in column VI are found by dividing column IV into column V. The figure in column VIII is taken from line No. 74 of column K on Sheet No. 2. The figures in column VII are found by multiplying together columns VIII and IV. The figures for column X are copied from the account book or sheet on which the freight charged to each shipment is posted and later tabulated and totalled. Multiplying column X by column IV gives us column IX.

If we refer back to the explanation of the division of the total amounts found on line No. 125 of Sheet No. 3, we will find that we said that we charge 75 per cent. of the total shown there to selling or distribution. This 75 per cent. is entered in column XII of sheet No. 4. To do this we divide the total tonnage sold in any month, as found at the bottom of column IV on sheet No. 4, 5,622.975 into the figure found by taking 75 per cent. of the amount found on line No. 125 of column R, on sheet No. 3. This figure is \$3,221.88 and 75 per cent. of this amount is \$2,416.41. \$2,416.41 divided by 5,622.975 tons equals \$0.430, which is the amount entered in column XII. This latter amount multiplied by the figures in column IV gives the total amount spent for that part of main office supervision devoted to selling this item, in this case amounting to \$31.61.

Finding the Margin of Profit

In order to arrive at the figure in column XIII, we add together the figures found in columns VII, IX and XI. This figure represents every possible cost that can be charged to

BUSINESS MONTH OF *October* 1922 SHEET No. 4

FREIGHT		EXPENSE			MARGIN	
Per Ton <i>XIV</i>	Amount <i>XV</i>	Per Ton <i>XVI</i>	Amount <i>XVII</i>	Per Ton <i>XVIII</i>	Amount <i>XIX</i>	Per Ton <i>XX</i>
4834	8820	120	3161	430	11289	1536
JANUARY 1, 1922 TO <i>October 31</i> , 1922						
2903	10670	117	5718	627	8409	900
<p><i>The Total at this Point for a Full Year Represents the Total Profits for the Year and is the same as the Profits as shown for the Year on the Balance Sheet.</i></p>						

THE BARRON COMPANY

own. This is indeed the Summary of the Business, and Can Properly and Appropriately Sheet of the System.

the manufacture of the tile, including depreciation, overhead, interest, and so forth. By subtracting this figure from the amount of the proceeds for this size of ware, \$588, we obtain the total margin of profit for this item, in this case \$112.89. By dividing the tonnage as found in column VIII into this latter figure in column XIII, we arrive at a margin of profit per ton which is entered in column XIV, in this case \$1,536.

The lower part of Sheet No. 4 gives the same information for the present year up to date, including the past month. as the upper part of sheet No. 4 gives for the month just past. We have omitted the other figures on sheet No. 4 because the method of obtaining them is easily understood and we feel that too many figures will only complicate the explanation. They are all worked out on the same basis.

The total of all of the figures in the lower part of column XIII on sheet No. 4 represents the total profits for the entire year up to date. This figure on the last report for the year, that is, December's report, will show the entire total profits for the year. This figure agrees with the total profits as shown by a balance sheet taken from our books.

System Furnishes Points for Study

Many other points for study, in addition to those explained above can be found by comparing the figures shown on these sheets. That is what a good cost system is for—to furnish items for study regarding the past and future operation of

the plant. The few examples explained above show the ease with which present costs can be compared with those of past periods and be made the foundation for improved methods in the future. The examples given show a few of the beacon lights afforded by this or any other good system—beacon lights that show clearly where costs are going up and what points should be investigated. It is very evident to anyone familiar with factory operations that conditions around a plant always have a tendency to change one way or another. Many factory managers spend useless time and energy to correct conditions in directions that do not need correction. They think that certain conditions need correction, but their judgment is frequently erroneous. Anyone can make these mistakes of judgment easily, in fact it is being done right along.

A cost system is like a block system on a railroad. If costs are at the same level or going down, a green or white light is flashed on the scene, indicating that everything is clear ahead unless something unforeseen occurs. On the other hand if costs are going up, a red light is flashed on the scene and the factory manager knows at once that that is where his energies are needed and he throws all of his ability in that direction, to correct those deficiencies. The most beneficial function of a good cost accounting system is to tell the executive what needs attention, whether costs are too high or prices too low. Our system has fulfilled this function most successfully in every particular.

The Ironton Fire Brick Company

Ironton, Ohio

December 7, 1922.

Mr. F. L. Steinhoff, Managing Editor,
Brick and Clay Record,
Chicago, Illinois

Dear Sir:

We have your letter of the 4th, and are pleased to note that you expect to launch a series of articles written and prepared by Mr. G. W. Greenwood, Dunbar, Pa., on the subject of Simplified Accounting.

We are sure that these articles will prove intensely interesting to those interested in accounting, because Mr. Greenwood is not only thoroughly conversant with the subject, but can express himself and bring out the salient points as few men can. We have adopted some of his suggestions and methods in our accounting, which have resulted in a material saving of labor, as well as giving us the desired information in a more satisfactory manner.

We feel sure that there is no other series of articles that you could run in your paper that will be more interesting or prove more beneficial to Clay Products Manufacturers, than those which you contemplate on Simplified Accounting by Mr. Greenwood.

Very truly yours,

THE IRONTON FIRE BRICK COMPANY
E. F. Myers,
Pres. and Treas.

EFM/HML