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System of uniform cost finding for paving brick manufacturers

National Paving Brick Manufacturers Association. Committee on Uniform Cost Finding

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A SYSTEM *of*
UNIFORM COST FINDING
for
PAVING BRICK
MANUFACTURERS

A SYSTEM *of*
UNIFORM COST FINDING
for
PAVING BRICK
MANUFACTURERS

Prepared by the
Committee on Uniform Cost Finding
of the
National Paving Brick Manufacturers
Association

No. 159
For American Institute of
Accountants

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By the
National Paving Brick Manufacturers Association
Cleveland, Ohio

INTRODUCTION

Two courses were open to your Cost Committee in preparing this report on Uniform Cost Finding: either to employ a cost expert to write it or to do the work itself. The expert knows more of accounting and less of the paving brick business. Your Committee knows more about the business and less about accounting. The conclusion was that the system must fit the business and therefore that the work could best be done by the Committee.

The constant endeavor has been to make the system as simple as possible and yet maintain its effectiveness. Therefore several changes have been made in the method shown in the Paving Brick Institute Report of 1917. It is our hope that the whole matter has been presented in a more logical, and therefore more easily understood way.

The Committee has not greatly concerned itself about extreme accounting accuracy when by so doing it felt that practicability was interfered with. Nor has it felt that, in this report, it should enter into a discussion of disputed subjects such as the method of charging expense while a plant is shut down, or distribution of general overhead by a company having several plants. Consideration of such subjects will naturally follow the general adoption of the system here given, by the companies in the business.

Your Committee hopes that every Company will put the system into use. In no other way can its strength or weakness be disclosed. Such a report can at no time be regarded as complete. Experience and developments from time to time will doubtless suggest desirable improvements.

Respectfully submitted,

COMMITTEE ON UNIFORM COST FINDING.

W. C. BROWN,
G. E. MOSHER,
H. B. MURRAY, JR.
W. H. TERWILLIGER,
J. R. THOMAS,
S. M. DUTY, *Chairman.*

Cleveland, Ohio,
February 1st, 1921.

UNIFORM COST FINDING

for

PAVING BRICK MANUFACTURERS

Your Committee feels that the first essential of Uniform Cost Finding is uniform understanding of what enters into total cost, and the divisions into which such cost naturally falls. In the opinion of the Committee the divisions are:

MANUFACTURING COST

REHANDLING AND SELLING COST

DEDUCTIONS FROM GROSS SALES

MANUFACTURING COST is the cost of brick taken from the kilns and ready for sale. It includes all cost from the beginning of mining operations until the brick are out of the kilns; also overhead charges such as *General Plant Expense, Fixed Charges, and General Office and Administrative Expense.*

REHANDLING COST is the cost of rehandling the brick after they have been placed in stock ready for sale. *SELLING COST* is the cost of selling the product, including salaries of salesmen.

DEDUCTIONS FROM GROSS SALES

*Freight Outbound,
Teaming on Brick Delivered,
Trade Discount Allowed for Prompt Payment,
Allowance for Rejects and Shortage,
Association Dues and Promotion,
Commissions Paid on Sales.*

This class of expense is properly a deduction from *Gross Sales* to arrive at *Net Sales.* *Association Dues*

and *Promotion* are included in this division instead of *SELLING COST* from the fact that they vary on different shipments and are generally treated as a separate cost in the determination of the price to be quoted.

In addition to the three general divisions named above, there are also allowances for bad debts and contingency reserves such as reserves for unforeseen contingencies or obsolescence, that are deductible from net income as shown on the *Profit and Loss Statement* following.

The arrangement of the different divisions of cost in a *Profit and Loss Statement* is shown herewith and following that an arrangement of the elements of *TOTAL COST* by groups:

PROFIT AND LOSS STATEMENT

GROSS SALES	0000.00
<i>Deduct</i>	
Freight Outbound	000.00
Teaming	000.00
Trade Discount	000.00
Allowance for Rejects and Shortage ..	000.00
Association Dues and Promotion	000.00
Commissions Paid	000.00— 000.00
NET SALES	0000.00
<i>Deduct</i>	
Rehandling Cost	000.00
Selling Cost	000.00—0000.00
GROSS EARNINGS	0000.00
<i>Deduct</i>	
Cost of Sales—	
Opening Inventory Finished Brick plus Manufacturing Cost less Closing Inventory Finished Brick ..	0000.00
NET EARNINGS	0000.00

<i>Add</i>	
Interest Income—	
Interest on Investment	
plus Interest on Finished Brick	
less Interest Paid	000.00
Sundry Income	000.00—0000.00
NET INCOME	0000.00
<i>Deduct</i>	
Allowance for Bad Debts	0000.00
PROFITS AVAILABLE FOR DIVIDENDS.....	0000.00
<i>Deduct</i>	
Dividends	0000.00
SURPLUS PROFITS	0000.00
<i>Deduct</i>	
Contingency Reserves	0000.00
PROFITS CARRIED TO SURPLUS ACCOUNT....	0000.00

GROUPING OF COST

	Divisions	Groups	Sub-Groups*
TOTAL COST	} Manufacturing Cost.....	} Mining, Machining and Drying.....	Mining
			Transportation and Grinding
			Power
			Machining
			Drying
			Plant Expense
			General
			Fixed Charges
			Office and Administrative
		Burning	
		Drawing	
		Kiln and Finished Brick Loss	
	Rehandling and Selling.....	{ Rehandling Cost	
		{ Selling Cost	
	Deductions from Gross Sales....	{ Freight Outbound	
		{ Teaming on Brick Delivered	
		{ Trade Discount Allowed	
		{ Allowance for Rejects and Shortage	
		{ Association Dues and Promotion	
		{ Commissions Paid on Sales	

*See Page 30.

MANUFACTURING COST is the cost of the brick taken from the kilns. If the value of the *Brick in Process of Manufacture* at the beginning and end of any period is known, the cost of the brick taken from the kilns during this period is ascertained as follows:

Value of *Brick in Process* at the beginning of the period:

PLUS

Expense of Manufacturing during the period:

LESS

Value of *Brick in Process* at the end of the period:

RESULT:

Cost of Brick from Kilns, or MANUFACTURING COST, for the period.

Brick in Process of Manufacture are:

- Brick in Dryer,
- Brick Set Green in Kilns,
- Brick Burning,
- Brick Burned, Not Drawn.

In the determination of the value of the brick at these four points of manufacture, it becomes necessary that the cost for such points be known. The Committee feels that the groups of cost, so required, are all that are needed to meet the purposes of uniformity, with the exception of a fifth group, *Kiln and Finished Brick Loss*, which will be discussed later. (See Page 13.) It is necessary that the limits of such groups in the *MANUFACTURING COST* division be set. These groups are:

*Mining, Machining and Drying,
Transferring and Setting,
Burning,
Drawing,
Kiln and Finished Brick Loss.*

MINING, MACHINING AND DRYING

This group of costs starts with the mining operation and ends when the brick are ready to be taken from

the dryer by the setters. Included therein is all *Labor, Fuel, Repairs and Maintenance, Oil, Waste, Supplies, Stable Cost, Royalty on Shale or Clay, Depletion of Shale or Clay Lands*, or other expenses incurred in:

*Stripping,
Drilling and Blasting,
Digging Shale or Clay,
Transporting to Crushers or Pans,
Crushing and Grinding,
Screening,
Machining,
Transferring to Dryer,
Drying,
Power Cost, Power Purchased* included; also:

Plant Expense General—Such as:

*Superintendence and Factory Clerical,
General Plant Labor,
Repairs to Buildings,
Undistributed Incoming Freight,
Royalty (Dunn)
Maintenance Miscellaneous Equipment*; also:

Fixed Charges—Such as:

*Insurance,
Interest on Investment,
Interest on Finished Brick Stock,
Taxes,
Depreciation on Plant and Equipment.* (Kilns not included.)

Office and Administrative—Such as:

Executive Salaries (Salesmen not included),
*Clerical Salaries,
Office Stationery and Supplies,
Telephone, Telegraph and Postage,
Office Rent,
Legal Expense.*

TRANSFERRING AND SETTING

This group of costs begins when the brick are ready to be taken from the dryer by the setters and ends when they are set in the kilns. Included therein are:

*Labor,
Repairs and Maintenance,
Supplies,
Setting Sand,
Power for Transfer Car,*

or other expense incurred in taking the brick from the dryer, transferring to the kilns and setting them in the kilns. If it is the regular practice to employ men to draw the cars from the dryer and place them upon the stubs ready for the setters, then the cost of so doing should be included in this group.

BURNING

This group of costs begins when the brick are set in the kilns and ends when the brick are burned. Included therein is all *Labor, Fuel, Repairs and Maintenance, Supplies, Stable Cost, Depreciation of Kilns,* and other expense incurred in:

*Closing Kilns,
Burning Brick,
Unloading Kiln Fuel from Cars,
Placing Fuel around Kilns,
Removing Ashes,
Cleaning Fire Boxes,
Opening Kilns,
Cleaning Sand from Kilns.*

Repairs and Maintenance includes not only that necessary for the upkeep of the kilns, but also that required for the tools and equipment used in burning.

DRAWING

This group of costs begins when the brick are burned and are ready to be drawn, and ends when the brick have been taken from the kilns and placed in the cars or on the stock piles. It does not include *Re-handling* from stock piles, as *Rehandling* is not included in *MANUFACTURING COST*. *Drawing* includes all

Labor, Repairs and Maintenance of Drawing Equipment, Supplies, or other expense incurred in:

Sorting Brick,

Wheeling, or otherwise taking brick from kilns.

It is intended that *Drawing* should include but one handling of the brick, that required to get the brick out of the kilns so that the manufacture of brick may proceed.

KILN AND FINISHED BRICK LOSS

The Committee believes that the loss which occurs, both in quantity and value, in the kilns and while the brick are in stock, is of enough importance to deserve more systematic consideration than has generally been given it. It matters little from what causes this loss comes, whether from loss in burning, overcounting by the men or faulty sorting of the brick as they come from the kilns; it is constantly occurring. Either the loss has to be taken when discovered, or a method used which will provide for the loss as a regular cost. The last seems to your Committee the better way, in fact the only way, if true costs are to be known. The amount to be allowed for *Kiln and Finished Brick Loss* depends, of course, upon conditions at each plant.

A satisfactory way to handle this matter is to regularly charge an amount estimated to be sufficient and to credit a *Reserve Account* with such amount. The loss when determined can then be charged to this *Reserve Account*. If the loss, when discovered, is promptly charged to this *Reserve Account*, the condition of the reserve will determine whether the amount credited is proper.

NET MACHINE TONS

In addition to the *Kiln and Finished Brick Loss* there is the loss which occurs in the dryer and while the brick are being set. It is desirable that the record of

the brick set shall not be inflated by this loss, but be as nearly correct as is possible. This loss should be taken care of by a deduction from *Gross Machine Tons* to arrive at the *Net Machine Tons*. Some companies arrive at the *Net Machine Tons* by using a percentage deduction from *Gross Machine Tons*, using a percent that experience has shown to be reasonable. However arrived at, if the amount deducted is not sufficient, a large *Kiln Loss* will be disclosed when the brick are drawn, or if the amount is greater than needed a *Kiln Gain* will be shown.

UNIT COST OF GROUPS

Having outlined the groups into which *Expense of Manufacturing* should be charged, we are now interested in obtaining the Unit Cost of each of the groups, and the value of *Brick in Process of Manufacture*. We will proceed with the determination of the Unit Cost first, and the value of *Brick in Process* later.

UNIT, TON OR THOUSAND

At present there is no uniform unit of production in the paving brick industry. If manufacturers are to obtain the greatest good from a uniform cost finding system, it is necessary that they speak a common language and have a common understanding. The majority of plants make more than one kind of brick. The Committee is agreed that the ton of 2000 pounds is the only unit that can meet the needs of all.

The unit of a thousand has a different meaning to every manufacturer. *The Committee strongly urges that every company adopt the ton as a common unit.* In arriving at the quantity of tons handled in each division or group, the *burned weight* of the brick should be used, as otherwise the weight of the brick from the machine would be greater than the weight of the same brick from the kilns, thus causing a loss that is not provided for in this report.

TON DIVISOR FOR GROUPS

It has sometimes been the practice to use a common divisor for all costs, either the number of tons from the machine or the tons from the kilns. While this makes for simplicity, it does not make for even reasonable accuracy. It has been contended that over long periods little difference is made. It is to be hoped that manufacturers of paving brick are not satisfied with either costs obtained at long intervals, or costs that are not accurate. A serious error will prevail when costs are obtained monthly or quarterly, to such an extent as to make many of little value. The only accurate way is to divide the expense of manufacturing, of each group, by the tons handled in that department.

MINING, MACHINING, AND DRYING, TON COST

The *Mining, Machining and Drying Expense* applicable to the period is divided by the *Net Machine Tons* to obtain the cost per ton.

TRANSFERRING AND SETTING, TON COST

The *Transferring and Setting Expense* applicable to the period is divided by the *Tons Set* to obtain the cost per ton. The tons set are determined as follows, using the month of September for illustration:

In Dryer September 1st.....	1,270	tons
Net Machine Production in September.....	6,491	“
	7,761	“
In Dryer September 30th.....	1,185	“
Transferred and Set in September.....	6,576	“

BURNING, TON COST

In obtaining the *Burning Ton Cost* it is necessary that consideration be given the burning expense that has been incurred upon the brick that are in process of

burning. There are several ways of handling this, but the one which has the most to commend it is to consider the brick in process of burning as either burned, or set green in kilns. For simplicity in accounting, *Brick in Process of Burning* is done away with.

To illustrate: If the average time of burning is ten days and a kiln has been on fire three days, 3/10 of the brick in the kiln can be considered as burned, and 7/10 as set green. With eight kilns on fire, and an average burning time of ten days, if these kilns had been on fire for a total of 32 days, 40% of the brick in the kilns would be considered as burned, and 60% as set green.

The *Burning Expense* applicable to the period is divided by the tons burned off to obtain the *Cost per Ton*. The tons burned off are determined as follows:

Set Green in Kilns September 1st.....	1,818 tons
Transferred and Set in September.....	6,576 "
	8,394 "
Set Green in Kilns September 30th.....	1,650 "
Burned Off in September.....	6,744 "

Included in the tons set green would be the brick that are in the process of burning but which are regarded as being set green. It would follow that the brick that are in process of burning, but which are considered as burned off, will be included in the tons burned off.

DRAWING, TON COST

The *Drawing Expense* applicable to the period is divided by the *Tons Drawn* from the kilns during the period to obtain the *Cost per Ton*.

KILN AND FINISHED BRICK LOSS, TON COST

The amount charged to this Group is divided by the tons drawn during the period to obtain the *Cost per Ton*. The charge should be journalized, crediting same to *Reserve for Kiln and Finished Brick Loss*, and adjusting the inventory at the end of any given period by charging shortage to above *Reserve* and crediting *Inventory*.

The brick as they come from the kilns are counted and a record made, not only of the count but also of the grades into which they are sorted. Any shortage, or gain, will be disclosed as follows:

Burned Off not Drawn September 1st.....	8,707	tons
Burned Off in September.....	6,744	“
	<u>15,451</u>	“
Burned not Drawn September 30th.....	8,300	“
Drawn if no shortage occurs.....	7,151	“
Actually Drawn in September.....	<u>7,067</u>	“
Kiln Loss	84	“

A method of handling this loss is shown later in this report. (See Page 34.)

VALUE OF BRICK IN PROCESS

Having the tons of *Brick in the Dryer, Set Green in the Kilns*, and *Burned not Drawn*, together with the ton cost for the different groups of *MANUFACTURING COST*, it is a simple matter to ascertain the value of the *Brick in Process of Manufacture*. Such value is based upon cost, the cost used being that of the current period, determined by the methods illustrated in the preceding sections of this report.

The value of the *Brick in Dryer* is ascertained by multiplying the tons in the dryer by the cost of *Mining, Machining and Drying* for the current period.

The value of the *Brick Set Green* is ascertained by multiplying the tons set green by the cost of *Mining, Machining and Drying* plus the cost of *Transferring and Setting* for the current period.

The value of the brick burning is not ascertained, such value being included in *Brick Set Green* and *Brick Burned not Drawn*. For explanation of method see *Burning Ton Cost*. (See Page 15.)

The value of the *Brick Burned not Drawn* is ascertained by multiplying the tons *Burned not Drawn* by the *Mining, Machining and Drying* cost, plus the costs of *Transferring and Setting* and of *Burning* for the current period.

COST OF BRICK FROM KILNS

It has been stated that the cost of brick from kilns, or *MANUFACTURING COST*, is ascertained by adding to the *Expense of Manufacturing* during the period the value of the *Brick in Process* at the beginning of the period, and deducting the value of *Brick in Process* at the end of the period.

It will be noted that an addition of the cost per ton of the five groups will not give the *Cost of the Brick from Kilns* for the period. Such addition gives the per ton *MANUFACTURING COST* for the period, but the brick which come from the kilns have partly been made during the prior period and as a result have a combination of the costs of both periods.

COST OF NO. 1 BRICK

On practically every paving brick plant there are produced by-product brick which are usually sold for less than cost. The consequent loss is part of the *Cost of No. 1 Brick* and should be so considered. If it is not so considered the difference between the selling price

of No. 1 Brick and cost will not be profit. Neglect of this factor is one reason why the paving brick business has not been a profitable industry, nor can it be until all the elements which enter into cost are recognized. The *Cost of No. 1 Brick* is ascertained as follows:

From the cost of *Brick from Kilns*, which is

MANUFACTURING COST

DEDUCT:

The estimated revenue from the sale of

By-product Brick:

RESULT

The Cost of No. 1 Brick:

which divided by

The Tons of No. 1 Brick:

GIVES

The *Cost per Ton of No. 1 Brick*

The revenue from the sale of the by-product has to be estimated for the reason that the sales will rarely equal the output from the kilns, which revenue has to be based upon the output of by-product from the kilns to obtain the *Cost of No. 1 Brick from Kilns*.

The estimated selling price should be a conservative estimate of the price which can be obtained for these grades of brick, and should represent the value on the plant, in other words the selling price less *DEDUCTIONS FROM GROSS SALES* and also *REHANDLING AND SELLING COSTS*.

In order to make clearer the method used in obtaining the ton costs, *Value of Brick in Process*, *Cost of Brick from Kilns* and *No. 1 Brick Cost* the following example is shown. The figures used are for the purpose of illustration and are not supposed to represent actual costs:

September—1919

	Expense	Tons	per ton	Cost Cumulative Total	
Min. Mach. and Dry'g.	\$13,696.01	Net Mach.	6,491	\$2.11	\$2.11
Transferr'g and Sett'g.	1,512.48	Set	6,576	.23	2.34
Burning	13,150.80	Bur'd Off.	6,744	1.95	4.29
Drawing	2,897.47	Drawn	7,067	.41	
Kiln & Fin. Brk. Loss.	1,130.72	Drawn	7,067	.16	4.86
<hr/>					
Total Expense	\$32,387.48	Net Mach.	6,491		
In Process Sept. 1st	44,760.12				11,795
<hr/>					
	\$77,147.60		18,286		
In Process Sept. 30th	41,968.35				11,135
<hr/>					
	\$35,179.25		7,151	@ \$4.92 per ton	
Less Kiln Loss	413.28		84	@ \$4.92 per ton	
<hr/>					
Brick Drawn	\$34,765.97		7,067	@ \$4.92 per ton	
By-product Drawn	3,721.00		1,260		
<hr/>					
No. 1 Brick Drawn	\$31,044.97		5,807	@ \$5.35 per ton	

Brick in Process September 1st, 1919

In Dryer	1,270 tons @ \$2.06 per ton	\$ 2,616.20
Set Green in Kilns	1,818 tons @ 2.30 per ton	4,181.40
Burned not Drawn	8,707 tons @ 4.36 per ton	37,962.52
<hr/>		
Total	11,795	\$44,760.12

The above per ton values are based on August costs which are assumed to have been obtained by the identical manner as explained above under *Brick in Process*. The closing value of August 31st becomes the opening value of September 1st.

Brick in Process September 30th, 1919*

In Dryer	1,185 tons @ \$2.11 per ton	\$ 2,500.35
Set Green in Kilns	1,650 tons @ 2.34 per ton	3,861.00
Burned not Drawn	8,300 tons @ 4.29 per ton	35,607.00
<hr/>		
Total	11,135	\$41,968.35

The above per ton values are based on September costs as explained under value of *Brick in Process*.

By-Product Brick Estimated Revenue

420 tons No. 2 Brick @ \$3.57	\$1,499.40
580 tons No. 3 Brick @ 2.75	1,595.00
260 tons No. 4 Brick @ 2.41	626.60
<hr/>	
1,260 tons	\$3,721.00

The kiln loss of \$413.28 can be charged to *Reserve for Kiln and Finished Brick Loss*. If this is done the

*See first table at the top of this page for per-ton values. (Column for Cumulative Total.)

balance in the reserve account is available for *Finished Brick Loss*.

COST OF NUMBER 1 BRICK NOT TOTAL COST

The *Cost of No. 1 Brick* is the cost taken from the kilns and ready for sale. To this cost must be added *REHANDLING AND SELLING COST* and also the items shown under *DEDUCTIONS FROM GROSS SALES* to obtain *TOTAL COST*.

INTEREST ON INVESTMENT AND FINISHED BRICK STOCK

The methods of financing adopted by different companies in the paving brick industry vary considerably. Some are heavy borrowers, especially during the time when stocks are the largest. Part of the money thus borrowed may be invested in the plant and equipment. Others borrow little or nothing.

Interest on the borrowed money is charged to the *Cost of Manufacturing*, while the return upon invested capital is in the form of profits earned. Thus we could have two concerns with an equal investment in plant and working capital. Their cost could be practically alike on other items. But their *TOTAL COST* would vary greatly due to the fact that one borrowed part of the investment needed in the business while the other did not. Such a result is avoided by charging *Interest on Investment* as an item of cost.

Objection is sometimes made to so doing because of the fact that it inflates the value of *Brick in Stock*. A method whereby this objection can be overcome and at the same time the advantages of such a charge retained is shown in a book* recently written by J. Lee Nicholson and John F. D. Rohrbach entitled "Cost Accounting." We quote the following from page 140 of their book:

“Wherever it is desirable to include as a cost the interest on the capital invested in fixed assets, two special accounts should be opened in the ledger: (1) *Interest Reserve Account* and (2) *Interest Income Account*. The interest, calculated for a current month, is charged as a cost in the same manner as any other cost item, while the total interest so charged is credited to *Interest Reserve Account*. This account, of course, should not include or contain any interest charges which are actually paid for borrowed capital.

“At the end of the current month, the amount of interest charged as cost on the product actually shipped during the current month should be ascertained and charged to *Interest Reserve Account*, the offsetting credit being to *Interest Income Account*. Any interest items affecting manufacturing costs which have been actually paid or received would also be charged, or credited, to *Interest Income Account*. The balance of *Interest Income Account* would then be credited to *Profit and Loss*, while the balance of *Interest Reserve Account* would represent the interest on goods in process and finished stock. When the monthly financial statements are prepared the *Interest Reserve Account* is deducted from the inventory of goods in process and finished stock as shown in the balance sheet. In this way, interest is not included as part of an asset in the financial statements, thus answering the principal objections to opponents of interest as a cost. At the same time, the principle of charging interest as a cost for the purpose of fixing a fair selling price is adhered to.”

In ascertaining the investment upon which interest is to be charged, the net value of the land, buildings, machinery and equipment should be used. In other words, the value should be less all allowances for depletion and depreciation.

The value of the finished brick in stock upon which interest is to be charged should be the value at the beginning of the current month.

REPAIRS AND MAINTENANCE

Repairs and Maintenance include all expenditure for repairing and partial renewing.

The relationship between maintenance and depreciation requires that a *definite* line be drawn between these items, or that they be considered *together*. Taken jointly, the difficult subject of depreciation is rendered more difficult. The amount spent for maintenance is definite. The amount required for depreciation is not; its determination calls for judgment, experience in the business, and knowledge of the plant and its characteristics.

With the above distinctions in mind, some consideration must be given the units used in the determination of what is partial, and what is complete renewing. A kiln, boiler, engine, machine or motor is a unit in itself, and therefore when completely renewed its original cost would be charged to *Allowance for Depreciation*, as explained in the following part of this report under the head of Depreciation.

To treat each and every belt as a separate unit would cause needless accounting and accomplish little. Belts can be treated as a class, so that when a belt is replaced its cost can be charged to *Repairs and Maintenance*, under the proper group of costs. It may happen that with such a definition of *Repairs and Maintenance*, the expenditure during a period may be heavy and tend to throw the costs for that period out of line. A shut-down for repairs, or unusual kiln repairs might bring about such a condition. It may be desirable to spread such expenditures over a longer period.

A method whereby such variations can regularly be provided for is to divide the expenditures of each group of costs, for the prior twelve months, by the tons handled in the group during the same period. This will give a rate for each group, which, multiplied by the tons handled during the current month, will give the amount which should be charged to each group for this month. Corresponding credits are made to the *Repairs and Maintenance Account*, which account is charged with the actual expenditures that are made, whether for material or labor. If a *Store Room Account* is kept, *Repairs and Maintenance* is not charged until the material is taken from the store room.

DEPRECIATION

In the preceding sections of this report it is provided that depreciation be charged to cost in two places. The depreciation of plant and equipment (kilns not included) is charged to the *Mining, Machining and Drying* group of costs under *Fixed Charges*, while the depreciation of kilns is charged to the *Burning* group. The corresponding credits are not made to the *Plant Account*, but rather to accounts known as *Allowance for Depreciation of Plant and Equipment*, and *Allowance for Depreciation of Kilns*.

Plant values should be on the books at the original cost. If the original cost is not known, an appraisal of such cost should be made. In which case, the loss from the original value which has been caused by depreciation would be credited to the *Allowance for Depreciation Account*. Additions to the plant are charged to the *Plant Accounts* at cost. When any part of the plant is discarded the *Allowance for Depreciation Account* is charged and the *Plant Account* credited, the amount of the charge and credit being the cost value with which the *Plant Account* was originally charged.

By this method, the *Plant Account* always represents the cost value of the plant, and the *Allowance for Depreciation Account* the amount which has been allowed for depreciation. The more exact the methods used in determining the proper amount that should be allowed for depreciation, the better the result. But it is true that if the cost of a plant is known, especially if such cost be for the different divisions of the plant, a careful examination of the physical condition of the plant will indicate what proportion of the original value has been lost by reason of depreciation, and whether the allowance is sufficient.

It would seem that the reasons for making a suitable charge for depreciation would be self-apparent, but the *history of American business is a history of depreciation ignored*. Our industry is not without blame in this regard. We complain of the meager profits of the business, but we forget that profits cannot be made if selling price is not greater than TOTAL COST. *If we leave out of consideration important elements of cost, we ourselves are to blame for our lack of profits.*

Unless reasonable allowance for depreciation be made, part of that which is considered a profit may be drained from the investment in the business. An investor is entitled to have his investment safeguarded. The safeguarding of the investment comes first. Profits come second. A true profit can not be shown if the investment is not maintained intact.

Every ton of material that is produced helps to wear out the plant and its equipment, and every ton should have included in its cost the expense of making good this loss. That part which is made good by repairing becomes *Repairs and Maintenance*, but that part which is not made good by repairing must be taken care of by a charge for depreciation, if true costs are to be known.

While your Committee does not, at this time, feel that it is prepared to state the exact method that should be used in determining the amount which should be allowed for depreciation, there are certain principles that should apply in any cost finding system. *Allowance for Depreciation* should be credited at every accounting period, and the proper group of costs charged. The amount so charged should represent the best judgment of the management of the company, and should not be confused with anything else that may affect the value of the property. Each should be judged on its merits.

Additions and improvements are properly charged against the *Plant Account*, and never should be considered as offsets to depreciation. Any expenditure of capital, whether from capital invested or capital earned, should always be accounted for on the books, and to consider it an offset to part of the expense of manufacture can not be justified.

The permanent assets of a company may increase in value from causes outside the business. While this increase belongs to the stockholders, it cannot be disbursed until the property is sold, except as a stock dividend. If such increase comes as a result of the depletion of the purchasing power of the dollar, it will be gradually lost as the dollar regains its value. However it comes, whether substantial or not, *it should not be regarded as an offset to depreciation.*

Loss from depreciation is part of the expense of making brick and to say that depreciation is offset by appreciation is to say that you intend to pay part of your cost of manufacture from a profit to which you are entitled. Instead of collecting the entire cost of the brick from those to whom you sell your brick, you are going to collect part, by making withdrawals from the increased value of the permanent assets.

It may be felt that the increase in the value of the permanent assets should appear on the books. Without entering into the advisability of so doing, it is apparent that there is only one way to do it. Increase the *Plant Accounts* and recognize the resulting profit, while a company profit, as being other than that made from the manufacture of brick. You are entitled to receive a price for your product that will include all proper items of cost, and net you a reasonable profit. *Do not throw away your profit by neglecting to include depreciation in cost.*

In many industries there have been worked out detailed schedules of the probable life of the equipment used. The life of any part of a plant depends considerably upon the amount and character of the maintenance given it, and any system based on probable life must be checked to determine whether maintenance, or lack of it, has lengthened or shortened what was assumed to be the life of the different parts of the plant. Another method is by means of revaluations of the entire plant at regular intervals, to check whether the amount allowed has been proper.

Some are of the opinion that the best method is to arrive at a rate of depreciation for the different natural divisions of the plant, and rely upon the increase or decrease of the *Allowance for Depreciation Account* for each division to indicate whether the amount charged has been sufficient. If old equipment is not being replaced by new it is apparent that the amount in the *Allowance Account* should increase. When considerable renewing has taken place the *Allowance Account* might decrease, but when it stops the account should again begin to increase.

The Committee does not feel that it is within its province to dictate any particular method. It does urge

that every Company give the matter their most earnest consideration, and *adopt some method of regularly charging depreciation into cost.*

DEPLETION

In the outline of expense included in the Mining, Machining and Drying group of cost, reference is made to depletion of clay and shale lands. The reasons given for charging depreciation apply with equal force to depletion, except that depletion does not, in most cases, amount to as much as depreciation.

The method of handling depletion is the same as that given for depreciation, that is, there should be provided an *Allowance for Depletion Account* which is credited with the amounts that are charged to the *Mining, Machining and Drying* group. If the supply of clay or shale is obtained from leased land there would not be a charge for depletion.

STRIPPING

It is the practice of many companies that have waste material which requires removal from their clay or shale banks, to carry on this work during the more favorable seasons of the year and considerably in advance of their mining operations. When this is done there should be maintained a *Stripping Suspense Account* to which is charged all expense incurred. This account is then credited, and *Mining, Machining and Drying* charged with a fixed amount per ton of material mined. This *Suspense Account* is a deferred account, and the fixed amount per ton has to be sufficient to wipe out the *Suspense Account* while the clay or shale which has been stripped is being used.

DRILLING AND BLASTING

Drilling and blasting is sometimes carried on in advance of use of the raw material, which causes an

abnormal expense while it is being done. This may make it advisable to spread the expense over the period during which the blasted material is being used. The method to be used is identical with that given for Stripping.

COAL MINING

Many companies obtain a supply of coal from their own property. When possible this should be considered as a separate operation, and while the obtaining of this supply of fuel is an advantage to the company, the profit should be taken as resulting from coal mining instead of brick making. If the conditions under which the coal is mined are such that the expense can not be separated from the mining of clay or shale, then it will be necessary to charge the total expense to the mining operation, and credit this operation with the value of the coal mined. The value of the coal, whether the expense is kept separate or combined with the clay or shale mining expense, should be the price at which coal of similar quality can be obtained at the plant.

TAXES

Taxes as a rule are paid in the year following that for which they are assessed. They are therefore an *Accrued Expense*, and should be so treated. The total amount that will accrue for the fiscal year should be estimated, and each accounting period *Fixed Expense* in the *Mining, Machining and Drying* group of cost should be charged with a proportionate amount of this total. The corresponding credit is made to an *Accrued Taxes Account*, which is charged with the taxes when paid. The balance of the account will thus show the amount that is estimated to be accrued, it being understood of course, that when the taxes are paid any discrepancy between the amount estimated and the amount paid will have to be adjusted.

DISTRIBUTION OF OVERHEAD CHARGES

Overhead charges are included in the *Mining, Machining and Drying* group of cost under *Plant Expense General, Fixed Charges, and Office and Administrative*. With one exception, there is not recommended any distribution of these items of expense to the different groups of cost. The one exception is *Depreciation*, the depreciation of the kilns being charged to the *Burning* group. The depreciation of the kilns is of sufficient importance to warrant its being included in the cost of burning, especially if the cost of one plant is to be compared with that of another. The greater portion of the remaining depreciation would naturally fall within the *Mining, Machining and Drying* group and any attempt to further distribute it would not be worth the effort.

To distribute the other overhead charges to the different groups, or sub-groups, would require a great deal of accounting work, and would not furnish information of value as to the cost of manufacture. The process of manufacture of all types of material made in a paving brick plant is practically identical, the difference between the types being principally in the shape and weight. We do not have the problem that confronts many manufacturers in other lines of business, where one article produced may be made by a process greatly different from that of another, who must distribute their overhead if they are to obtain costs of any value at all.

MINING, MACHINING AND DRYING SUB-GROUPS

The difference in the physical arrangement of brick plants make it somewhat difficult to establish limits for sub-groups of the *Mining, Machining and Drying* group. When the Institute Report was being prepared the following seemed to be the only arrangement which will apply to all. It is here given for your information,

and not as indicating that it must be used. While its use facilitates comparison of costs of different plants, it is realized that some companies might find that it is not adapted to their needs.

Mining. Includes:

Stripping,
Drilling and Blasting,
Digging Raw Material and Loading on Cars.

Transporting and Grinding. Includes:

Transporting of Raw and Crushed Material,
Crushing and Grinding,
Screening.

Power. Includes:

Cost of Generated Power,
Cost of Purchased Power.

It will be noted that in the *Transferring and Setting* group is included the power for transfer car. Of greater importance is the use of power for driving the fans used on some types of continuous kilns. Practically all the power used except these two instances is in the *Mining, Machining and Drying* group. It would hardly pay to attempt to further distribute the power costs to the subgroups.

Machining:

Includes all expense incurred in the machining process, from the delivery of ground clay to feeder or pug-mill until the brick are placed in the dryer.

Drying:

Includes all expense incurred in drying the brick. If men are employed to draw the brick from the dryer and place them on the stubs ready for the setters, then the cost of so doing is included in the *Transferring and Setting* group.

Plant Expense General.

Fixed Charges.

Office and Administrative.

The expense included in these sub-groups is shown in the early part of the report under *Mining, Machining and Drying*. (See Page 10.)

METHOD OF KEEPING BOOKS

The methods of keeping books so as to meet the requirements of such a system of cost finding as has been outlined can vary considerably. That which will meet the need of one company may not be suited to another. What ledger expense accounts should be used, when and how they should be credited and the manufacturing account charged, must be determined by each company for itself.

If costs are to be known there must be some record that clearly shows what group, or sub-group, is chargeable with the expense. If such information is made part of the ledger records, then it is of necessity in balance, as any errors will be disclosed by the trial balance. If it is kept in cost records apart from the ledger, care must be taken to keep them in balance.

It is quite out of the question to describe all the methods that can be used, but the general principles can be understood from a description of one. Each company can then determine for itself what it needs. The plan which will follow provides for the crediting of the *Ledger Expense Accounts* monthly, and the charging of the *Manufacturing Account*, with the expense applicable to the month. The *Manufacturing Account* is credited, and the *Finished Brick Accounts* charged with the brick taken from the kilns. The *Finished Brick Accounts* are credited, and an account which is generally known as *Cost of Sales* charged with the brick sold and shipped.

By this method the information for a *Profit and Loss Statement* is obtained as a matter of course in the regular routine of keeping the books, and a statement is

a matter of a few minutes' work after the trial balance is out. The advantage of having such information monthly is self-apparent and well worth the effort required.

The ledger expense accounts are a matter of opinion with each company. Such accounts as *Labor, Fuel and Maintenance* are common to all. A good way to determine what should be set up, is to consider what is the information that is needed in each group, or sub-group, of cost. If you do not need the information that some detailed account would disclose, then do not keep the account.

At the close of each month each *Expense Account* is credited with the expense that is applicable to the costs of the month. As the required records have been kept to show to what group, or sub-group, this expense applies, the credit is made so as to show, either in the journal or on the ledger account, the division of *Manufacturing Account* which will be charged. The debit and credit balances in the expense accounts represent assets or liabilities as the case may be. The *Fuel Debit Balance* is the fuel inventory, the *Labor Credit Balance* the accrued unpaid labor.

When the expense accounts are credited it is necessary that the corresponding charges be made in such a way that the expense for each cost group becomes known. This can be accomplished by means of ledger accounts for each cost group, which are first charged with the expense and then are closed out to the *Manufacturing Account*. The *Manufacturing Account* is charged with the *In-Process* values of the first of the month. In starting this system and making the charge for the first of the month, it may be necessary to assign arbitrary values to the *In-Process Brick*.

The value of the *Brick in Process* at the end of the month is ascertained, which becomes a credit to the *Manufacturing Account*. The *Kiln Loss* is determined (it may be a *Kiln Gain*) and *Reserve for Kiln and Finished Brick Loss* is charged with the amount, and the *Manufacturing Account* credited. If instead of a *Kiln Loss* there is a *Kiln Gain* the charge and credit will be reversed. *Kiln Gain* can occur because of undercounting of the brick on the dryer cars, over-counting of the brick by the wheelers, or by reason of brick which have been left in the kilns to be reburned, coming out.

MANUFACTURING ACCOUNT

<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Sept. 1</td> <td style="width: 40%;">In Dryer</td> <td style="width: 10%; text-align: right;">\$ 2,616.20</td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> </tr> <tr> <td></td> <td>Set Green</td> <td style="text-align: right;">4,181.40</td> <td></td> <td>Sept. 30</td> <td>In Dryer.....</td> </tr> <tr> <td></td> <td>Burned not</td> <td></td> <td></td> <td></td> <td>Set Green....</td> </tr> <tr> <td></td> <td>Drawn</td> <td style="text-align: right;">37,962.52</td> <td></td> <td></td> <td>Burned not</td> </tr> <tr> <td>30</td> <td>Mining, Machin-</td> <td></td> <td></td> <td></td> <td>Drawn</td> </tr> <tr> <td></td> <td>ing and Drying</td> <td style="text-align: right;">13,696.01</td> <td></td> <td></td> <td>Kiln Loss.....</td> </tr> <tr> <td></td> <td>Transfer. and</td> <td></td> <td></td> <td></td> <td>No. 1 Brick</td> </tr> <tr> <td></td> <td>Setting</td> <td style="text-align: right;">1,512.48</td> <td></td> <td></td> <td>Account ...</td> </tr> <tr> <td></td> <td>Burning</td> <td style="text-align: right;">13,150.80</td> <td></td> <td></td> <td>By-product</td> </tr> <tr> <td></td> <td>Drawing</td> <td style="text-align: right;">2,897.47</td> <td></td> <td></td> <td>Brick Acct..</td> </tr> <tr> <td></td> <td>Kiln and Fin.</td> <td></td> <td></td> <td></td> <td style="text-align: right;">3,721.00</td> </tr> <tr> <td></td> <td>Brick Loss....</td> <td style="text-align: right;">1,130.72</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td style="border-top: 1px solid black; text-align: right;"></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Oct. 1</td> <td>In Process.....</td> <td style="text-align: right;">\$41,968.35</td> <td></td> <td></td> <td></td> </tr> </table>	Sept. 1	In Dryer	\$ 2,616.20					Set Green	4,181.40		Sept. 30	In Dryer.....		Burned not				Set Green....		Drawn	37,962.52			Burned not	30	Mining, Machin-				Drawn		ing and Drying	13,696.01			Kiln Loss.....		Transfer. and				No. 1 Brick		Setting	1,512.48			Account ...		Burning	13,150.80			By-product		Drawing	2,897.47			Brick Acct..		Kiln and Fin.				3,721.00		Brick Loss....	1,130.72										Oct. 1	In Process.....	\$41,968.35				<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Sept. 1</td> <td style="width: 40%;">In Dryer</td> <td style="width: 10%; text-align: right;">\$ 2,616.20</td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> </tr> <tr> <td></td> <td>Set Green</td> <td style="text-align: right;">4,181.40</td> <td></td> <td>Sept. 30</td> <td>In Dryer.....</td> </tr> <tr> <td></td> <td>Burned not</td> <td></td> <td></td> <td></td> <td>Set Green....</td> </tr> <tr> <td></td> <td>Drawn</td> <td style="text-align: right;">37,962.52</td> <td></td> <td></td> <td>Burned not</td> </tr> <tr> <td>30</td> <td>Mining, Machin-</td> <td></td> <td></td> <td></td> <td>Drawn</td> </tr> <tr> <td></td> <td>ing and Drying</td> <td style="text-align: right;">13,696.01</td> <td></td> <td></td> <td>Kiln Loss.....</td> </tr> <tr> <td></td> <td>Transfer. and</td> <td></td> <td></td> <td></td> <td>No. 1 Brick</td> </tr> <tr> <td></td> <td>Setting</td> <td style="text-align: right;">1,512.48</td> <td></td> <td></td> <td>Account ...</td> </tr> <tr> <td></td> <td>Burning</td> <td style="text-align: right;">13,150.80</td> <td></td> <td></td> <td>By-product</td> </tr> <tr> <td></td> <td>Drawing</td> <td style="text-align: right;">2,897.47</td> <td></td> <td></td> <td>Brick Acct..</td> </tr> <tr> <td></td> <td>Kiln and Fin.</td> <td></td> <td></td> <td></td> <td style="text-align: right;">3,721.00</td> </tr> <tr> <td></td> <td>Brick Loss....</td> <td style="text-align: right;">1,130.72</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td style="border-top: 1px solid black; text-align: right;"></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Oct. 1</td> <td>In Process.....</td> <td style="text-align: right;">\$41,968.35</td> <td></td> <td></td> <td></td> </tr> </table>	Sept. 1	In Dryer	\$ 2,616.20					Set Green	4,181.40		Sept. 30	In Dryer.....		Burned not				Set Green....		Drawn	37,962.52			Burned not	30	Mining, Machin-				Drawn		ing and Drying	13,696.01			Kiln Loss.....		Transfer. and				No. 1 Brick		Setting	1,512.48			Account ...		Burning	13,150.80			By-product		Drawing	2,897.47			Brick Acct..		Kiln and Fin.				3,721.00		Brick Loss....	1,130.72										Oct. 1	In Process.....	\$41,968.35			
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The figures used in the above illustration are the same as previously used, and you are referred to the previous sections for the methods by which they are obtained.

The value of *No. 1 Brick* and the *By-Product Brick* having been determined, the *Manufacturing Account* is credited and the *No. 1 Finished Brick Account*, and the *By-Product Account* charged. Both accounts have balances that are carried over from the previous month. The method used in ascertaining the amounts credited to these accounts and charged to the *Cost of Sales Account* is shown, using the *No. 1 Finished Brick Account* for illustration. The method for the *By-Product Account* is identical.

Sept. 1	15,000 tons	\$ 94,500.00	Balance No. 1 Brick in Stock
30	5,807 tons	31,044.97	From Kilns during month
	20,807 tons @ \$6.03..	\$125,544.97	Available for sale during mo.
	7,200 tons @ 6.03..	43,416.00	Sold and shipped
Oct. 1	13,607 tons	\$ 82,128.97	Balance No. 1 Brick in Stock

The \$94,500.00 balance is a charge at the first of the month. The \$31,044.97 is the amount which was credited to the *Manufacturing Account* for No. 1 Brick, and is a charge to the *No. 1 Finished Brick Account*. The average cost value of the No. 1 Brick available for sale during the month is \$6.03 per ton, which cost value is used to credit the *No. 1 Finished Brick Account* and charge the *Cost of Sales Account*, for the 7,200 tons which were shipped.

It is probable that after operating the *Finished Brick Accounts* for some time that an actual inventory of the finished brick will show a loss from the amounts which the *Finished Brick Accounts* show should be on hand. It is to provide for this loss that the *Kiln and Finished Brick Loss* group has been set up in the costs. With the loss ignored you are naming prices based on costs which do not include an allowance for this loss. The *Reserve for Kiln and Finished Brick Loss Account* should have sufficient to absorb this loss, if not, you have not provided enough and you should either locate and correct the cause of the loss, or increase the allowance. The fact that such a loss will turn up to annoy you is not a weakness of the system, it is a strong point in its favor, because it shows where anticipated profits may have disappeared.

REHANDLING AND SELLING, TON COST

To obtain the per-ton cost for *REHANDLING AND SELLING* divide the amount of the expense of each, by the tons of brick shipped. During some parts

of the year shipments may be light, and this per-ton cost will not be a fair indication of what the costs of *REHANDLING AND SELLING* will be for a year's business. In naming a price, which should be determined after careful consideration of cost, you would use a per-ton cost for these items which past experience has shown to be correct, with due regard whether the expense of either is increasing or decreasing as compared to former years.

THE MANUFACTURING COST is the cost of the brick taken from the kilns. With *REHANDLING AND SELLING* added you have the cost on cars or wagons. To this add the *DEDUCTIONS FROM GROSS SALES* and you have the *TOTAL COST*.

It will be noted by reference to the *Profit and Loss Statement*, as shown in the first of the report, that with the cost of the material that has been sold carried into a *Cost of Sales Account*, that a few ledger accounts have the needed information to prepare a *Profit and Loss Statement*. The *Profit* or *Loss* which will be shown will be based on actual sales. Accountants differ on many things, but few will deny that a profit should not be taken until the material is sold and shipped.

NOTES

SUPPLEMENT

The calculations illustrating various points in the text are here reproduced in proper order for the convenience of the reader:

In Dryer September 1st.....	1,270	tons
Net Machine Production in September.....	6,491	"
	7,761	"
In Dryer September 30th.....	1,185	"
Transferred and Set in September.....	6,576	"
	1,818	tons
Set Green in Kilns September 1st.....	1,818	"
Transferred and Set in September.....	6,576	"
	8,394	"
Set Green in Kilns September 30th.....	1,650	"
Burned Off in September.....	6,744	"
	8,707	tons
Burned Off not Drawn September 1st.....	8,707	"
Burned Off in September.....	6,744	"
	15,451	"
Burned not Drawn September 30th.....	8,300	"
Drawn if no shortage occurs.....	7,151	"
Actually Drawn in September.....	7,067	"
Kiln Loss	84	"

September—1919

	Expense	Tons	Cost	Cumulative	
			per ton	Total	
Min. Mach. and Dry'g.	\$13,696.01	Net Mach..	6,491	\$2.11	\$2.11
Transferr'g and Sett'g.	1,512.48	Set	6,576	.23	2.34
Burning	13,150.80	Bur'd Off...	6,744	1.95	4.29
Drawing	2,897.47	Drawn	7,067	.41	
Kiln & Fin. Brk. Loss.	1,130.72	Drawn	7,067	.16	4.86
	\$32,387.48	Net Mach..	6,491		
Total Expense		In Process Sept. 1st...	44,760.12	11,795	
	\$77,147.60		18,286		
In Process Sept. 30th.	41,968.35		11,135		
	\$35,179.25		7,151	@ \$4.92 per ton	
Less Kiln Loss.....	413.28		84	@ \$4.92 per ton	
	\$34,765.97		7,067	@ \$4.92 per ton	
Brick Drawn	3,721.00		1,260		
By-product Drawn ...	\$31,044.97		5,807	@ \$5.35 per ton	
No. 1 Brick Drawn...					

Brick in Process September 1st, 1919

In Dryer	1,270 tons @ \$2.06 per ton.....	\$ 2,616.20
Set Green in Kilns.....	1,818 tons @ 2.30 per ton.....	4,181.40
Burned not Drawn.....	8,707 tons @ 4.36 per ton.....	37,962.52
Total		\$44,760.12

Brick in Process September 30th, 1919

In Dryer	1,185 tons @ \$2.11 per ton.....	\$ 2,500.35
Set Green in Kilns.....	1,650 tons @ 2.34 per ton.....	3,861.00
Burned not Drawn.....	8,300 tons @ 4.29 per ton.....	35,607.00
Total		\$41,968.35

The above per ton values are based on September costs as explained under value of *Brick in Process*.

By-Product Brick Estimated Revenue

420 tons No. 2 Brick @ \$3.57.....	\$1,499.40	
580 tons No. 3 Brick @ 2.75.....	1,595.00	
260 tons No. 4 Brick @ 2.41.....	626.60	
1,260 tons		\$3,721.00

Manufacturing Account

Sept. 1 In Dryer\$ 2,616.20 Set Green 4,181.40 Burned not Drawn 37,962.52 30 Mining, Machining and Drying 13,696.01 Transfer. and Setting 1,512.48 Burning 13,150.80 Drawing 2,897.47 Kiln and Fin. Brick Loss.... 1,130.72	Sept. 30 In Dryer.....\$ 2,500.35 Set Green.... 3,861.00 Burned not Drawn 35,607.00 Kiln Loss..... 413.28 No. 1 Brick Account ... 31,044.97 By-product Brick Acct.. 3,721.00
Oct. 1 In Process.....\$41,968.35	

Method of Obtaining Cost of Sales

Sept. 1 15,000 tons	\$ 94,500.00	Balance No. 1 Brick in Stock
30 5,807 tons	31,044.97	From Kilns during month
20,807 tons @ \$6.03..\$125,544.97 Available for sale during mo.		
7,200 tons @ 6.03.. 43,416.00 Sold and shipped		
Oct. 1 13,607 tons \$ 82,128.97 Balance No. 1 Brick in Stock		

INDEX TO CONTENTS

ITEMS PRINTED IN CAPITAL LETTERS
INDICATE THE MAIN SECTIONS INTO
WHICH THIS REPORT IS DIVIDED.

Account, Accrued Taxes	29
Account, Allowance for Depreciation.....	25-27
Account, By-Product Brick	34
Account, Cost of Sales.....	34-35-36
Account, Expense	33
Account, Finished Brick	32-35
Account, Interest Income	22
Account, Interest Reserve	22
Account, Kiln and Finished Brick, Reserve.....	13-17-34-35
Accounts, Ledger Expense	32
ACCOUNT, MANUFACTURING	34
Account, Manufacturing	32-33-34-35
Account, No. 1 Brick	34-35
Account, Plant	24-25-26-27
Account, Repairs and Maintenance.....	24
Account, Store Room	24
Account, Stripping Suspense	28
Accrued Expense	29
Accrued Taxes Account	29
Administrative Expense, Office and.....	7-30-31
Allowance for Bad Debts	9
Allowance for Depletion	28
Allowance for Depreciation	23-26
Allowance for Depreciation Account	25-27
Allowance for Rejects and Shortage	7-8-9
Appreciation	26
Ashes, Removing	12
Association Dues and Promotion.....	7-8-9
Bad Debts, Allowance for.....	9
BLASTING, DRILLING AND	28
Blasting, Drilling and.....	11-31
Brick Burned, Not Drawn.....	10-17-18-20-34
Brick Burning	10
Brick Delivered, Teaming on.....	7-8-9
Brick Drawn	20
Brick Drawn, By-Product	20
Brick, Finished, Account	32-35
Brick, Finished, Loss	21
Brick, Finished, Opening Inventory	8
BRICK FROM KILN, COST OF	18
Brick from Kilns, Cost of.....	10-18-19
Brick in Dryer	10-17-20-34
Brick in Process of Manufacture.....	10-14-16-17-18-19-33-34
BRICK IN PROCESS, VALUE OF	17
Brick in Stock	21
Brick, Interest on Finished.....	9-11
Brick Loss, Kiln and Finished.....	9-10-13-20-34-35
Brick, No. 1 Drawn	20
Brick Set Green in Kilns.....	10-17-18-20-34
Brick, Sorting	13
Buildings, Repairs to	11
BURNING	12
Burning	9-10-12-18-24-34
Burning Expense	16-20
BURNING TON COST	15
Burning Ton Cost	15-18
By-Product Brick	10-20-34
By-Product Brick Account	34
By-Product Brick Drawn	20
Charges, Fixed	7-11-24-30-31
Clay, Digging Shale or.....	11-31
Clay Land, Depletion of Shale or.....	11
Clay, Royalty on Shale or.....	11
Cleaning Fire Boxes	12
Cleaning Sand from Kiln	12
Clerical Salaries	11
Clerical, Superintendence and Factory.....	11
Closing Inventory, Finished Brick.....	8

Closing Kilns	12
COAL MINED	29
Commissions Paid on Sales.....	7-8-9
Contingency Reserve	8-9
COST OF BRICK FROM KILNS.....	18
Cost of Brick from Kilns.....	10-18-19
Cost, Divisions of	9
Cost of Generated Power.....	31
COST, GROUPS OF	9
Cost, Groups of	9
Cost, Manufacturing	7-8-9-10-12-17-18-19-21-36
COST OF NO. 1 BRICK.....	18
Cost of No. 1 Brick.....	18-19-21
COST OF NO. 1 BRICK, NOT TOTAL COST.....	21
Cost of No. 1 Brick from Kilns.....	19
Cost, Power	11
Cost of Purchased Power.....	31
Cost, Rehandling	8-9-12
Cost of Sales	8-32
Cost of Sales Account	34-35-36
Cost, Selling	7-8-9
Cost, Selling and Rehandling	7-9-19-21
Cost, Stable	11-12
Cost, Sub-Groups of	9
Cost per Ton	16-17
Cost per Ton of No. 1 Brick.....	19
Cost, Total	8-9-21-25-36
Crushing and Grinding	11-31
Deductions from Gross Sales.....	7-9-19-21-36
DEPLETION	28
Depletion, Allowance for	28
Depletion of Shale or Clay Land.....	11
DEPRECIATION	24
Depreciation, Allowance for	23-26
Depreciation Account, Allowance for.....	25-27
Depreciation, Importance of	25
Depreciation of Kilns	12-30
Depreciation of Kilns, Allowance for.....	24
Depreciation of Plant and Equipment, Allowance for.....	24
Depreciation of Plant and Equipment (Kilns not Included).....	11
Digging Shale or Clay.....	11-31
Discount, Trade, Allowed for Prompt Payment.....	7-8-9
DISTRIBUTION OF OVERHEAD CHARGES.....	30
Dividends	9
Dividends, Profits Available for.....	9
Divisions of Cost	9
DRAWING	12
Drawing	9-10-12-13-34
Drawing Equipment	13
Drawing Expense	16
DRAWING TON COST	16
DRILLING AND BLASTING.....	28
Drilling and Blasting.....	11-31
Dryer, Transferring to	11
Drying	11-31
DRYING, MINING, MACHINING AND.....	10
Drying, Mining, Machining and.....	15-20
Dues, Association and Promotion.....	7-8-9
Dunn Royalty	11
Earnings, Gross	8
Earnings, Net	8
Equipment, Depreciation of Plant and (Kilns not Included).....	11
Equipment, Drawing	13
Equipment, Miscellaneous Maintenance	11
Executive Salaries (Salesmen not Included).....	11
Expense Account	33
Expense Accounts, Ledger	32
Expense, Accrued	29
Expense, Burning	16-20
Expense, Drawing	16
Expense, Fixed	29
Expense, General Plant	7-11-30-31
Expense, Legal	11
Expense of Manufacturing	10-14-18
Expense, Mining, Machining and Drying.....	15-20
Expense, Office and Administrative	7-30-31
Expense, Total	20
Expense, Transferring and Setting	15-20

Finished Brick Account	32
Finished Brick, Closing Inventory	8
Finished Brick, Interest on	9-11-23
FINISHED BRICK STOCK, INTEREST ON INVESTMENT AND	21
Finished Brick Loss, Kiln and	9-10-13-20-34-35
Finished Brick Loss Reserve Account, Kiln and	13-17-34-35
Finished Brick, Opening Inventory	8
Fire Boxes, Cleaning	12
Fixed Charges	7-11-24-30-31
Fixed Expense	29
Freight, Undistributed Incoming	11
Fuel, Debit Balance	33
Fuel, Kiln, Unloading from Cars	12
Fuel, Placing Around Kiln	12
Gain, Kiln	14-34
General Plant Expense	7
General Plant Labor	11
Grinding, Crushing and	11-31
Grinding, Transporting and	31
Gross Earnings	8
Gross Machine Tons	14
Gross Sales	7-8
Gross Sales, Deductions from	7-9-19-21-36
GROUPS OF COST	9
Groups of Cost	9
GROUPS, TON DIVISOR FOR	15
GROUPS, UNIT COST OF	14
Income, Interest	9
Income, Interest, Account	22
Income, Net	9
Income, Sundry	9
Incoming Freight, Undistributed	11
Insurance	11
Interest on Finished Brick	9-11-23
Interest Income	9
Interest Income Account	22
Interest on Investment	9-11
INTEREST ON INVESTMENT AND FINISHED BRICK STOCK	21
Interest Paid	9
Interest Reserve Account	22
Inventory	17
Inventory, Closing, Finished Brick	8
Inventory, Opening, Finished Brick	8
Investment, Interest on	9-11
KEEPING BOOKS, METHOD OF	32
Kilns, Depreciation of	12-24-30
KILN AND FINISHED BRICK LOSS	13
Kiln and Finished Brick Loss	9-10-13-20-34-35
Kiln and Finished Brick Loss, Reserve Account	13-17-34-35
KILN AND FINISHED BRICK LOSS TON COST	17
Kiln, Fuel, Unloading from Cars	12
Kiln Gain	14-34
Kiln Loss	14-20-34
Kilns, Opening	12
Kiln, Placing Fuel Around	12
Labor	11-12-13-33
Labor, General Plant	11
Land, Depletion of Shale or Clay	11
Ledger Expense Accounts	32
Legal Expense	11
Loss	36
Loss, Finished Brick	21
Loss, Kiln	14-34
LOSS, KILN AND FINISHED BRICK	13
Loss, Kiln and Finished Brick	9-10-13-20-34-35
LOSS STATEMENT, PROFIT AND	8
Loss Statement, Profit and	22
MACHINING AND DRYING, MINING	10
Machining, Mining and Drying	9-10-17-18-24-28-29-30-31-32-34
Machining	11-31
Maintenance	33
Maintenance Account, Repairs and	24
Maintenance, Miscellaneous Equipment	11
MAINTENANCE, REPAIRS AND	23
Maintenance, Repairs and	11-12-13-23-24-25

Manufacture, Expense of	10-14-18
MANUFACTURING ACCOUNT	34
Manufacturing Account	32-33-34-35
Manufacturing Cost	7-8-9-10-12-17-18-19-36
Manufacturing, Cost of	21
METHOD OF KEEPING BOOKS	32
MINED, COAL	29
Mining	31
MINING, MACHINING AND DRYING	10
Mining, Machining and Drying	9-10-17-18-24-28-29-30-31-32-34
Mining, Machining and Drying Expense	15-20
MINING, MACHINING AND DRYING SUB-GROUPS	30
MINING, MACHINING AND DRYING TON COST	15
Net Earnings	8
Net Income	9
NET MACHINE TONS	13
Net Machine Tons	14-20
Net Sales	7-8
No. 1 Brick Account	34-35
NO. 1 BRICK, COST OF	18
No. 1 Brick, Cost of	18-19-21
NO. 1 BRICK, COST OF, NOT TOTAL COST	21
No. 1 Brick Drawn	20
No. 1 Brick from Kilns, Cost of	19
No. 1 Brick, Value of	34
Office and Administrative Expense	7-30-31
Office Rent	11
Office Stationery and Supplies	11
Oil	11
Opening Inventory, Finished Brick	8
Opening Kilns	12
Outbound, Freight	7-8-9
OVERHEAD CHARGES, DISTRIBUTION OF	30
Placing Fuel Around Kilns	12
Plant Account	24-25-26-27
Plant and Equipment, Depreciation of (Kilns not Included)	11
Plant Expense, General	7-11-30-31
Plant Labor, General	11
Postage, Telephone and Telegraph	11
Power Cost	11-31
Power for Transfer Car	12-31
Power Purchased	11-31
Profit	36
Profit and Loss	22
PROFIT AND LOSS STATEMENT	8
Profit and Loss Statement	8-32-36
Profits Available for Dividends	9
Profits Carried to Surplus Account	9
Profits, Surplus	9
Promotion, Association Dues and	7-8-9
Purchased Power, Cost of	31
Rehandling Cost	8-9-12
Rehandling and Selling	35-36
Rehandling and Selling Cost	7-9-19-21
REHANDLING AND SELLING TON COST	35
Rejects and Shortage, Allowance for	7-8-9
Removing Ashes	12
Rent, Office	11
REPAIRS AND MAINTENANCE	23
Repairs and Maintenance	11-12-13-23-24-25
Repairs to Buildings	11
Repairs and Maintenance Account	24
Reserve Account, Interest	22
Reserve Account, Kiln and Finished Brick Loss	13-17-34-35
Royalty, Dunn	11
Royalty on Shale or Clay	11
Salaries, Clerical	11
Salaries, Executive (Salesmen not Included)	11
Sales Account, Cost of	34-35-36
Sales, Commissions Paid on	7-8-9
Sales, Cost of	8-32
Sales, Deductions from Gross	7-9-19-21-36
Sales, Gross	7-8
Sales, Net	7-8
Sand, Cleaning from Kiln	12
Sand, Setting	12

Screening	11-31
Selling Cost	7-8-9
Selling Cost, Rehandling and	7-9-19-21
Selling, Rehandling and	35-36
Setting Expense, Transferring and	15-20
Setting Sand	12
Setting, Transferring and	9-10-18-31-34
Shale or Clay, Digging	11-31
Shale or Clay, Royalty on	11
Shale or Clay Land, Depletion of	11
Shortage, Allowance for Rejects and	7-8-9
Sorting Brick	13
Stable Cost	11-12
STATEMENT, PROFIT AND LOSS	8
Statement, Profit and Loss	8-32-36
Store Room Account	24
STRIPPING	28
Stripping	11-31
Stripping Suspense Account	28
Sub-Groups of Cost	9
Sundry Income	9
Superintendence and Factory Clerical	11
Supplies	11-12-13
Supplies, Office Stationery and	11
Surplus Profits	9
Suspense Account, Stripping	28
TAXES	29
Taxes	11
Taxes Accrued, Account for	29
Teaming on Brick Delivered	7-8-9
Telegraph, Telephone and Postage	11
Telephone, Telegraph and Postage	11
TON COST, BURNING	15
Ton Cost, Burning	15-18
TON COST, DRAWING	16
TON COST, KILN AND FINISHED BRICK LOSS	17
Ton Cost, No. 1 Brick	17
Ton, Cost per	16-17
TON COST, REHANDLING AND SELLING	35
TON COST, TRANSFERRING AND SETTING	15
TON DIVISOR FOR GROUPS	15
Tons Burned Off	20
Tons Drawn	16-20
Tons, Gross Machine	14
Tons, Net Machine	14-20
TONS, NET MACHINE	13
Tons Set	15-20
Total Cost	8-9-21-25-36
Total Expense	20
Trade Discount Allowed for Prompt Payment	7-8-9
Transfer Car, Power for	12
Transferring to Dryer	11
TRANSFERRING AND SETTING	11
Transferring and Setting	9-10-18-31-34
Transferring and Setting Expense	15-20
TRANSFERRING AND SETTING TON COST	15
Transporting Raw Material	11-31
Transporting and Grinding	31
Undistributed Incoming Freight	11
Uniform Cost Finding, Division of	7
UNIT COST OF GROUPS	14
UNIT TON OR THOUSAND	14
Unloading Kiln Fuel from Cars	12
VALUE OF BRICK IN PROCESS	17
Value of No. 1 Brick	34
Waste	11
Wheeling	13