

## How to Arrive at Actual Costs.

BY CHARLES E. WILLIAMS.

The new "system" (cost accounting) in manufacturing business is much greater than a few years ago. Now, in all companies, especially the large ones, routine details must be handled expeditiously, and while managers should be conversant with detail statistics and know that they are correctly assembled, the system should be such that a manager's time is not absorbed with the multitudinous matters which make the perfect whole.

Details will make or break almost any business; therefore, eliminate all detail statistics where the cost of assembling is more than the value to be derived.

Sometimes there is so much system that it is worse than a lack thereof. I have known instances where too much system needed a system to systematize itself.

When appointed treasurer of my company some eight years ago, I decided that a modern accounting system was absolutely necessary, and the foundation was then laid for our present accounting department. Having held all positions from office boy to treasurer (at that time), no one appreciated better the necessity of knowing where we stood, and of knowing it at any and all times.

Opposition appeared everywhere, as it always does when an innovation is instituted, but nobody would care to go back to the old method now. While, naturally, first results were rather unreliable, we can now, after grafting and pruning, "bank" on costs arrived at. The constant changes in business methods, which should always be betterments, are naturally followed by an increase of efficacy in any system. The millennium has not been reached; when it is there will be no need of system.

The company manufactures principally steam and hot water heating boilers, "The Dunning," of steel construction, also tanks of all kinds, specially plate work, operates a foundry and a machine shop, and, as the larger portion of the output is exclusive, when beginning the formation of the system, nothing published could be found whereby the "other fellow's" knowledge could be used; so methods had to be evolved to fit the requirements.

Orders as soon as received are entered in triplicate. On the original is full description with all details, and this is the official record. The duplicate is for the superintendent and shipping clerk, and is only seen by them, and gives shipping directions and descriptions of goods. The triplicate is the acknowledgment of the order to the consumer.

All goods are built on production orders. These "pro" orders are made in triplicate; the original for office use, the duplicate for the superintendent, the triplicate for the department foreman, and describe fully the goods to be furnished thereon, when wanted, and whether for stock or for a shipping order. If for stock, the order shows what account is to be charged; if for a shipping order, the number thereof. When work is started, each part is plainly marked by the "layer-out," with the order number in white paint; this shows all workmen the order on which they are working.

The one uncertainty which is always pre-

sent in a manufacturing business, where each order should show its cost, is the "labor." While this system in this regard subdivides the labor as accurately as possible without time clerks, there is still to be explained why orders for some article will vary when built a week apart.

All workmen report their own time on cards, which are daily checked by department foremen. For instance, a man works on several different orders in a day. For each order a time card must be furnished, and show order number, hours worked, and the operation or kind of work performed. The total hours on all cards for any one man show his day's work in hours.

All time cards are sent daily to the office, where they are entered in the pay-roll book by the departments, so that production by departments can be ascertained. After each man's time is on the pay-roll book, the time cards are referred to the cost department, where the cards are re-sorted as to orders and entered by order number and process on a pay-roll analysis sheet, which is distinct and separate from the pay-roll book. The analysis sheets and the pay-roll are balanced each week and must agree.

All materials are in charge of a storekeeper, who furnishes them on proper requisition signed by the superintendent of the department foreman. These requisitions are sent to the cost department daily, where they are handled as follows:

First: Sorted as to kinds of material.

Second: Priced (carrying the cost on to the requisition and crediting proper material account on the cost department books).

Third: Re-sorted as to order number and filed to await the receipt of completed production order.

When a production order is reported as complete, any requisitions accompanying it are priced and attached with all filed requisitions. The total value of material thereon is entered on the original "pro" order, becoming a debit to the "pro" order account and a credit to the material used. The order is then held for labor.

After the pay-roll analysis sheets have been balanced, as heretofore mentioned, each production, shipping or standing order account is charged with its proportionate labor and the general ledger credited by the entering of the labor cost, thus showing the flat cost thereon, and in addition, for statistical reasons these production orders are charged with their respective percentage of operating and maintenance, distribution and general charges.

The non-productive materials are handled on standing orders in the same method as production orders, and these are balanced monthly to proper expense account.

At the close of the month the cost accountant charges the various sales accounts on the general ledger with the cost value of the sales for the month. Thus the gross profit of each department is shown and a perfect balance maintained between the general and cost ledgers.

Briefly stated, some of the many advantages in connection with cost department, are that it has perfect check:—

1. On shipping department; no goods can be shipped without detection.
2. On production; cannot make ten articles on an order calling for eight, or vice versa.
3. On pay-roll; cannot be "padded" in any manner whatever.

4. On storekeeper; any shortages must be explained.

5. On all purchases; all goods received must be reported by storekeeper without his having any knowledge of amount or quantity ordered.

6. In case of loss by fire complete and correct damages could be quickly ascertained.

Now, officers and directors should know each month the results thereof, and so a balance is taken from the general ledger as of the last working day of each month, and these balances are properly assorted into a statement book, which consists of a

### BALANCE SHEET.

#### DEBITS:

The assets of the company in classified accounts.

Balance.

#### CREDITS:

The liabilities in classified accounts.  
Book profit or loss.

Balance.

### MANUFACTURING STATEMENT.

#### DEBITS:

In freights.

To profit and loss account.

Balance.

#### CREDITS:

Sales accounts (by name).

(The obtaining of these credit balances is explained in the foregoing).

Less allowances.

Balance.

### PROFIT AND LOSS STATEMENT.

#### DEBITS:

Operating and maintenance (includes such accounts).

Distribution (such as), branch offices, outfreight, travelling agents, cash discount, advertising, travelling expenses, cartage, commissions, general charges (such as), interest and discount, exchange, office expense, salary, telephone and telegraph, light, law, books, postage and stationery, balance. Insurance expired, taxes, water, expenses,—department, fuel, engineer, firemen, general. Repairs—Machinery, tools, patterns, air tools.

#### CREDITS:

Balance from manufacturing statement.  
Cash discounts.

Rents.

"Book" profit "red."

"Book" or loss "black."

Balance.

In conclusion, all corners which interfere with the expeditious obtaining of reliable, accurate results are cut. All books are original entry, column ruled, loose-leaf where advantageous, and the sales book records and invoices are completed in one operation.

At the close of each fiscal year (December 31) an inventory, complete, in every way, is taken. Cost ledger and inventory balances are adjusted, reserves written off, machinery, tool, fixture and supply accounts corrected, depreciation considered, all books closed, balances brought down, and, as of January 1, a new correct start for another year is made.—American Industries.