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Robert W. Higgins

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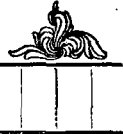
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**A New Idea
In Time Recording
And Its Advantages
In Cost Accounting**





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WE ARE SENDING YOU HERewith AN ARTICLE WRITTEN BY MR. ROBERT W. HIGGINS ON COST ACCOUNTING IN FACTORIES WHICH WE BELIEVE WILL INTEREST YOU.

MR. HIGGINS' OBSERVATIONS ARE BASED UPON NINE YEARS ACTUAL EXPERIENCE IN HANDLING COSTS IN A FACTORY EMPLOYING SEVERAL THOUSAND PERSONS.

DURING THE LAST TWO YEARS OF THAT TIME, HE USED CALCULAGRAPHS FOR RECORDING THE ACTUAL WORKING TIME OF OPERATIVES AND HIS REMARKS CONCERNING THAT MACHINE ARE NOT, THEREFORE, ENTIRELY THEORETICAL.

WE HEARTILY ENDORSE MR. HIGGINS' VIEWS ON THE PROPER DISTRIBUTION OF THE "FACTORY BURDEN" OR "EXPENSE ACCOUNT."

THE USE OF THE ANNUNCIATOR IN CONNECTION WITH CALCULAGRAPHS WOULD DOUBTLESS WORK TO ADVANTAGE IN MANY INDUSTRIES, THOUGH IT MIGHT NOT BE PRACTICABLE IN EVERY CASE.

CALCULAGRAPH COMPANY,
9-11-13 MAIDEN LANE,
NEW YORK CITY.

A New Idea in Time Recording
and its Advantages in
Cost Accounting

BY

ROBERT W. HIGGINS

For nine years in charge of the costs, prices and estimates for The Gorham Company,
manufacturers of Silverware, Providence, R. I.



A New Idea in Time Recording and its Advantages in Cost Accounting.

BY ROBERT W. HIGGINS.

THE past decade has witnessed important advances in many lines but possibly none has shown more rapid evolution than the science of Cost Accounting. Proprietors and managers have long wanted exact knowledge of the cost of their output and realized the advantage of such information, but even to-day a large majority will admit that they do not know their costs.

Many self-styled "expert cost accountants" have played on this condition of affairs, reaped a harvest for themselves and their employers, and left their clients in a worse state of confusion, than they were before, on the subject of cost, therefore, in order to appreciate a decided advance in the method of locating direct labor, a knowledge of why the cost accountant wants this information so accurately and what he can do with it, is desirable.

Cost is divided into the three classes, material, labor and expense.

Thanks to the storekeeper system, with card indexes and loose leaf books, the problem of taking care of the cost of material is well advanced and easily understood. Material is tangible and "stays put" while labor cost is of a more elusive nature.

Mr. Reader—you are probably a man of more than average education—now, how much elapsed time from, say, seventeen minutes past seven to twenty-two minutes

of eleven? Yes, you can do it but we venture you had to give it some thought and you are not now any too sure you are right. Very likely you are not.

This is the kind of problem which confronts the workman in your shop when you expect HIM to keep account of his time. He did not, probably, have as long a course in arithmetic as you, but you expect him to perform these calculations and make his totals agree with the number of hours you pay him for. Perhaps he succeeds in making his totals balance the first time. If he doesn't he manipulates the items until they do, and it is obvious that you cannot rely on the record; that under the best of conditions you are paying too high a price for a very poor grade of clerical work. You can be sure your employee does this calculating on your time, and not on his.

The expense and particularly the inaccuracy of this and similar methods are the points to be emphasized, because the direct labor time and cost form the base upon which you should carry your shop expense or factory burden.

The question of what comprises, or what should be included in, factory burden is a favorite topic of argument and discussion among cost accountants and near-cost accountants and is answered only by finding out the purpose of ascertaining cost.

If the purpose is to arrive at a figure at which goods could be sold without loss and above which they would yield a profit it is necessary to include every expense item on the books. Prominent auditors and certified accountants have argued and will argue against including many items which the well-informed cost accountant includes in this load, and a few examples may not be amiss.

Insurance: Your bookkeeper may inform you that insurance is simply a gamble between your directors and the Insurance Co. on the probability of the business sustaining a loss by fire, and has no bearing on the cost of manufacture.

Rent: The writer of this article has a letter over the signature of a New York Certified Accountant calling his attention to the fact (?) that rent, being an obligation of capital, must not be included in the factory burden. Salaries of Officers are frequently objected to for the same reason.

Depreciation: Since it has become the practice of accountants to carry plant and equipment at substantially original cost and write off depreciation as a reserve from the profits after the books are closed, it is difficult to get them to agree on depreciation as part of factory burden.

In answer to all of the above, imagine yourself as a cost accountant saying to a hard-headed manager, "That lot of goods cost \$67.53; but, remember, you must allow something to take care of Insurance, Rent, Depreciation and your own salary before you begin to make a profit."

As a word of explanation, I wish to say that selling expenses are a thing apart from manufacturing expenses. They should be averaged against the selling price and added by percentage after factory cost has been obtained.

This factory burden is properly divisible for practical purposes into two parts, which may be distinguished by the terms, Department expense and General expense.

In Department expense belong those items which are capable of influence by the foreman or overseer of a department. This expense, which may be made up monthly, includes indirect labor, supplies and all repairs which can be identified as belonging to his specific de-

partment and is sensitive to the condition of business and fluctuates accordingly as the department is worked to its full capacity or is only partially employed.

General expense, which will include all other expense items, varies very much more slowly in a going business and will remain so nearly constant as to require observation not oftener than semi-annually, except in unusual periods of growth or depression.

Department and General expense are frequently the cause of the trouble in costs systems which do not succeed in showing cost. All the expense is not always clearly recognized and more often improperly charged. Except for comparatively small items, storehouse room, interest and insurance there is nothing about manufacturing materials which partake in, or cause, those items which go to make up factory burden or shop expense, therefore it is right that this burden should be carried by the direct productive labor, and it is not true nor equitable that this burden should be located by percentage.

The correct method of locating this burden is by a rate of cents per hour on each hour of productive labor. Of course there are businesses and departments where the rate of wages for direct labor is so nearly uniform that percentage is equitable, but this is not often the case.

This point is so often questioned that perhaps an illustration will not be out of place: Let us suppose that we have in a department a boy at six cents per hour and a man at sixty cents per hour. The rate of factory burden by percentage we will say figures 60% of the cost of direct labor. When the boy had worked ten hours on a job you would allow thirty-six cents for load; when the man had worked ten hours you would figure \$3.60 for the load although the man did not participate in the items which go

to make up factory burden a bit more than the boy—that is, the man required no more floor-space, light, heat supplies or superintendence (probably not so much superintendence) than the boy.

Now, by the cents per hour basis your expense will have figured, say thirty cents per hour and this is applied to every direct labor hour of both the man and the boy. The percentage basis results in unfairly handicapping a high priced, rapid and skilful workman in the favor of less competent help. If your shop was filled full of slow and partly competent people your factory burden would be no less than it is when filled with the greatest producers in your line of business, but in the last case you have a greatly increased production without any increase in factory burden. A man who can do double the work is worth more than double the pay because of the saving in factory burden.

If the above points are granted it becomes apparent that accuracy in locating direct labor hours is essential to accurate knowledge of cost as well as to accurate knowledge of the value of the individual employee.

The writer is familiar with processes and businesses where the load is very properly distributed against the unit of production and also with the very necessary practice of identifying and figuring the load on expensive and important machinery, but the scope of this article precludes any extended review of these features.

The difference between the labor cost which is directly located against your production and the total of your pay roll is apt to be much larger than you believe; moreover, the direct productive labor hour being the correct base of the cost structure, it is evident that errors in this base will be magnified in the completed cost figuring.

The Calculagraph with its ability to record elapsed time is a decided advance over systems which require time to be calculated mentally but heretofore has been subject like all other time recording machines, to the objection that it was necessary for the workman to come to the machine every time he completed a job and started a new one. This, in a department where a man had previously had his work brought to him or where the man had several jobs in hand at once, led to confusion and disorder by giving him an excuse to walk up and down the room, where previously he had no reason for leaving his seat; also, in a large department this walking back and forth ten or a dozen times a day consumed considerable time.

The new idea is to install an annunciator system having a numbered push button at the seat or machine of every operative, which will operate a signal on the annunciator. The operation of the system being, that as John Doe, number forty-seven, completes his job or changes to another for any reason, he simply pushes the button at his hand. The cost keeper at the annunciator, seeing number forty-seven signal, takes the card representing the job on which number forty-seven is working (which is filed numerically under number forty-seven) and passes it through the Calculagraph completing the record of elapsed time on the job. He then immediately starts a blank job ticket on the machine for this same man. When several of these new tickets have accumulated, or at regular intervals, they are taken by a boy directly to the operative who rang up and the title and number of the job or operation is checked or written on the card and the card returned to the cost keeper and filed in regular numerical sequence according to the operative's number, until the

operative by again pushing his button indicates the completion of his job.

This system has many advantages in addition to accuracy in recording labor time.

The clerical work is taken entirely out of the hands of the men and placed on strictly clerical people.

The annunciator can be placed outside of the work-room where the operator will not be subject to any disturbing noise or influence and the work of operating can be done by a girl.

“Hurry jobs” can be indicated on the Calculagraph cards when started and the attention of the foreman or interested person called to them immediately when completed.

The cost keeper can figure the cost of the labor on a job or operation while the subject is still fresh and the reason for unusual or excessive cost can be investigated at once.

The annunciator can be locked by a time clock for a minute or two after the starting hour and note taken of workmen not in their place on time.

An electric bell signal rung by the same clock could be the signal to the men of the locking of the machine and the same signal would indicate closing time and insure the men being in their places for the full period.

With this system it becomes practicable to get direct labor costs in polishing rooms and on operations which from their nature make it inconvenient or impossible for the employee to even attempt clerical labor. Also it provides for classes of labor which do not have the education or intelligence necessary to keep a record of their own time.

It is possible to connect with important machines so that their starting and stopping are indicated on the an-

nunciator, making the basis for calculation of machine costs and machine loading.

It is not contended that this system is a cure-all or that its adoption is all that is necessary to successful cost accounting, but I am convinced that its value will be immediately apparent to many cost accountants and factory managers.

No one realizes the fine line which separates profits and losses, management and mismanagement, so clearly as the capable cost accountant, and the facts which he ascertains are frequently so far from what the management has guessed as to be startling.

The cost of such a system is not prohibitive and while the cost will vary in different localities, it will probably average not far from eighty-five to ninety cents per man for departments or factories of one hundred or more men, exclusive of the Calculagraph machine.

