

**A METHOD OF  
DETERMINING COSTS IN A  
COTTON MILL, PP. 1-114**

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**HENRY W. NICHOLS**

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IN A

COTTON MILL

BY HENRY W. NICHOLS, A. B.

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## P R E F A C E

That there has been felt for some time the need of a work describing an accurate method of determining costs in a cotton mill, is very evident to anyone in touch with the textile field. It is a subject concerning which there is much misapprehension, the term cost finding being applied, in some cases, to the methods adopted when seeking a figure to use as a quotation on a new fabric the mill has been asked to quote upon. It is evidently not realized, in a case of this kind, that such a figure can be but an estimate, the person, no doubt, thinking that by some subtle means the mill can determine the cost to a nicety, regardless of the costs of any previously manufactured goods. Nothing could be further from the facts in the case. If a mill is to figure on a fabric that it has not previously manufactured, it must, of necessity, base its quotation on costs previously determined, although such costs may be for goods differing in construction from the ones on which it is to estimate. Such quotations must, in the nature of the case, be estimates only, and their degree of accuracy is in direct proportion to the accuracy with which the costs of goods previously manufactured have been determined.

The need, therefore, of an accurate method of determining costs is readily apparent, since not only are the cost figures of vital interest when considering goods already manufactured, but they become of equal, if not more, importance when using them on which to base quotations for new fabrics; if these previous costs are not correct, one cannot expect the new figures to be accurate. Indeed, one does not make too strong a statement by saying that a good method of ascertaining the cost of the manufactured product, is the best foundation on which to build the efficiency and economy of a mill.

It is well to consider here what this term "Good method" embraces, when applied to the cost figures of a cotton mill.

There can be no argument with the statement that a method, to be of any value, must first of all be accurate, although there may be considerable difference of opinion as to the methods to be adopted to obtain this accuracy, and also as to the degree of accuracy desired.

However, it would appear that a method of cost finding, to be accurate, should contain one main feature; namely, that all the cost of any one article shall fall on that article alone. This result, manifestly, cannot be obtained by any system of averages, no matter how ingeniously devised and carried out. Averages are simply what their name implies, no more, no less; and they cannot, under the best of conditions, give accurate information concerning any separate fabric, but can only treat the product as a whole. The writer was much interested in hearing described, some time ago, the method adopted in determining costs in a large department store: how the concern is divided into its separate departments and how each department, although it may be no more than a glove counter, or a handkerchief counter, is considered as a store in itself and has charged to it the proper amounts for rental, advertising, heating, lighting, and so on.

It may be a far cry from a department store to a cotton mill, and yet there is this analogy: a cost system in a cotton mill, to be accurate, should treat each style of goods being made, exactly as a department store treats its separate departments; and there should be fastened to each distinct style its proper amount of all manufacturing expense, no matter whether this expense be for labor, raw material, or any one of the numerous other items incidental to manufacturing.

In the second place, a cost system, to be of use, must not only be accurate but must also be so devised that it will be readily adaptable to the mill in which it is to be used. A manufacturing concern would not, ordinarily, consider a comparatively small additional outlay, if by so doing it could obtain accurately the manufacturing cost of each of its different products.



On the other hand, if to obtain this information means radical changes in its methods of operation, with consequent friction in its various departments and loss in production, the mill would naturally be very much inclined to consider that the benefits to be derived from knowing accurately the costs would hardly compensate them for the interference with their organization. For this reason, any method of cost accounting, to be of value to a cotton mill, should be handled from the office end almost entirely. There are methods under which considerable of the work falls upon the heads of the different manufacturing departments, but such work cannot rightly be considered a part of the duties of a department head. The two prime requisites of the manufacturing end are keeping up the production and keeping down the expense. Anything that tends to interfere with these two aims must be looked at askance.

In dealing with this subject of cost finding, the writer has endeavored to keep within the limits demanded by the above-mentioned requirements. To some, the methods advocated may seem tedious and involved; but in any such case it should be understood that a description, to be of value, must deal with the subject in considerable detail, and that the actual putting into practice of the method described is frequently a much shorter operation than would appear possible from reading a description of the same. A system such as here described, can be readily handled in a mill of average size by one person devoting only a portion of his time to it, and certainly the results would justify any such outlay.

The method of cost finding, illustrated in this work, must not be taken to fit all cases. No one method can do this, since conditions vary greatly with different mills. It has been the aim to illustrate the essential principles underlying an accurate cost system, and it is left to the reader to apply them in the manner most suitable to his own case. It cannot be too strongly advised that those having charge of such work have a good general knowledge of all departments of the mill, since only in such case can one intelligently size up the different situations constantly arising in a mill today, any one of which may alter the details of the work.

In this connection it is not out of place to state that the young men being turned out by the textile schools of the country are peculiarly adapted to such work. They are as a rule men of a good general education, and, having completed a course in a textile school, they are able to grasp the aim of such work and adapt it to the different conditions they meet with.

The figures dealt with in this book are based on the production for one week of fifty-four hours and not for a quarter, as would be the case in actual practice. For the purpose of illustration, this answers all requirements equally well, and at the same time gives the production and pay for a period more readily grasped by the reader.

While these figures for production and pay are of minor importance, the chief aim being to describe a cost system, yet the writer has endeavored, in all cases, to keep within the bounds prescribed by good mill practice.

HENRY W. NICHOLS.

New Bedford, Massachusetts, 1915.

# A Method of Determining Costs in a Cotton Mill

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## INTRODUCTORY

In establishing a method of cost finding in a cotton mill, it is first essential to divide the different departments, and also the different operations in each department, into what may be termed units, each separate unit to embrace only those machines that perform similar functions and through which the stock passes in practically the same manner.

Thus, all the machinery directly connected with the picking operation may be considered as a unit by itself. The same is true of the carding, also of the drawing, and so on, since in each of these cases the conditions of pay and running are practically the same. To cite an opposite case, in a mill operating both plain and fancy looms, it would not be correct to consider all the weaving as one unit since the conditions are not the same on both kinds of looms; a fixer does not have as many looms in his section if he is on fancies as is the case if he is on plain work; a fancy loom requires more supplies than a plain loom; and many other conditions will be found to vary in different mills. Consequently, in such cases, the plain looms must be considered as one unit by themselves, while the fancy looms should be considered another and distinct unit.

These different units will, of course, be found to vary with different mills, since mills differ widely in their organizations; consequently, no list can be given that will cover all circumstances. In case the reader has occasion at any time to make such a division of a mill, the only advice that can be