1925

Cost Finding in the Leather Glove Industry

Miller, Franklin, Basset & Company

National Glove and Mitten Manufacturers' Association

COST FINDING IN THE LEATHER GLOVE INDUSTRY

MILLER FRANKLIN BASSETT & COMPANY

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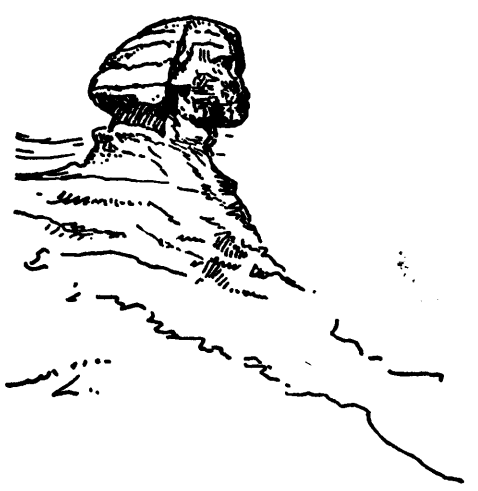
A REPORT PREPARED FOR

THE NATIONAL GLOVE AND MITTEN MANUFACTURERS' ASSOCIATION



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COMPILED BY

MILLER · FRANKLIN · BASSET
AND COMPANY

AUDITORS, COST ACCOUNTANTS AND INDUSTRIAL STATISTICIANS ENGINEERS

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NEW YORK

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PREFACE

In the course of a tour conducted by members of our staff to glove manufacturing plants in Chicago, Milwaukee, Gloversville and Johnstown, we were frequently asked to be very detailed in our description of some single phase of cost-finding which was of particular interest to the manufacturer being visited.

Every plant differs physically and every plant has cost problems peculiar to itself. We have already drawn upon ourselves the criticism of our editors for having prepared a too lengthy report. Too much detail is apt to obscure the deservedly salient features.

Therefore, if the necessity of reducing the report in size has brought about the elimination of answers to questions which were asked, we hope you will feel at liberty to repeat the question and receive an individual reply.

Miller, Franklin, Basset and Company

A real knowledge of costs and the possession of informative cost and administrative reports are essential to every business. Proper cost and administrative reports fulfill many functions, the two principal of which are to set selling prices and to give the knowledge necessary to make possible a thorough control of operations.

The fundamental requirements of a good cost system are accuracy within sensible bounds, and simplicity. More money must not be spent in installing and maintaining a cost system than will be returned from the use of that system.

Costs must be so developed that after being used to set selling prices, a manufacturer may feel that—unless abnormal changes have occurred in the prices paid for his material or labor, or unless other operating conditions have altered—the profit at the year's end will agree with his expectations. If differences have occurred, his cost system must be such that he will be able to locate them, and determine their cause.

Many large businesses have been built around some industrial leader whose abnormally good business sense has enabled his enterprise to prosper greatly even without cost methods. These successes are frequently used as an argument against the installation of a cost system. These exceptional businesses are, however, but few in number, nor is their continued prosperity reasonably assured. They are apt to suffer heavily if the intuitive sense of the experienced leader is lost through disability or death.

CHAPTER ONE

THE PRINCIPLES OF UNIFORM COSTS

In presenting this report upon uniform cost methods for the Glove Industry, we have three principal considerations in mind. First, that accurate costs are a necessity; second, that there is a definite advantage to be gained in the use of uniform methods, and, third, that these methods should achieve, not only simplicity in their use, but also adequacy in their scope.

From our investigation and knowledge of the glove industry as a whole, we fully appreciate the marked difference in size and volume of business done between the larger and smaller of your manufacturers. We wish, therefore, in the very beginning, to dispel from the mind of the small producer the thought that the methods recommended in this report have been planned for "the big fellow." Experience with many other associations has brought to our attention, time and again, the fact that the small manufacturer has a tendency to excuse himself from the consideration of cost methods and principles, chiefly because of his relative size.

Necessity of Accurate Costs

Every manufacturer goes into business with the intention of making a profit, and those who remain must of necessity make a profit. In other words, no manufacturing enterprise can justify itself over a period of years unless it can return to its owners sufficient profit to warrant their investment in what may be called an uncertain undertaking.

Profit as a whole is a very complex subject with which to deal. Under normal conditions it is made up of many parts, arising from as many different sources, some of which may, in themselves, be losses in order that the business as a whole shall produce a profit. In your own—the glove—industry, there are, three major divisions from which gains or losses may be secured. First, in the purchasing of raw materials; second, in the converting of raw materials into the finished product; and third, in selling the finished product. Each division, under proper treatment, is a science in itself. Naturally we found, in our investigation, some glove manufacturers who succeeded primarily through clever buying, others who relied particularly upon economical manufacturing methods, and still others who placed great emphasis upon the art of selling. In the final analysis, however, every manufacturer large or small, who intends to maintain his position in the glove industry must give due consideration to all three sources of profit.

In former days, accounting was essentially a matter of recording receipts and disbursements, and the consideration of the various factors which produce either a profit or a loss was attempted only at inventory time and whenever selling prices had to be set. Obviously, the conclusions reached were drawn rather from personal observation than from proven statistics. Unfortunately too much of this old practice still exists in the glove industry, as is shown by the variation in prices set upon a given article.

To offset unintelligent competition, modern business requires that a complete understanding of the financial and operating conditions be known much more frequently than has heretofore been considered necessary. To secure this result, cost accounting has taken its place beside general accounting in filling a no less important function.

Healthy competition is an important factor in stimulating the progress of any industry. It is only the unintelligent and unwarranted competition which is so disastrous to producer and consumer alike. The manufacturer who indulges in unintelligent competition does so invariably through ignorance of his costs.

In the beginning, cost systems were employed only as an indicator in setting selling prices. Since that time successful manufacturers have discovered that cost figures can be employed, if properly developed, not only as a guide in setting selling prices, but

also, to a great extent, in effecting buying and manufacturing economies.

The personal observation of the executive, the factory superintendent, the foreman, and the worker has been the means by which many advancements have heretofore been made in the glove industry. We do not wish to depreciate such effort, but many instances have arisen, and many more will arise, where the tell-tale finger of accurate costs points inexorably to specific inefficiencies in existing methods in a fashion which can not be duplicated by mere observation.

It is true that the small manufacturer has, through unaided observation, a better opportunity to retain a personal contact with his business as a whole than has his larger competitor. On the other hand, the small manufacturer as the principal—if not the sole executive—must perform many functions, and is, therefore, very liable to overlook important deficiencies, through the very mass of detail he must handle. We might cite a hundred cases in our experience with the wearing apparel industry as a whole, where the owner did all of his own buying and selling and at the same time directly supervised the various cutting and making operations. Of the hundred, those who gave due consideration to recording their cost of producing, employing simple though effective methods, have in the large majority of cases, weathered the test of time. Many have grown out of the small class. Those who remained content with primitive accounting figures have generally lost step, and too frequently faded into oblivion. Unfortunately, the coming and going of these unscientific manufacturers has not taken place without hardship to the industry as a whole and in this the glove industry is no exception. Through ignorance many have not only eliminated themselves, but they have also created a false impression among the trade by discrediting legitimate manufacturing costs.

While the small "transient" manufacturer has had a good deal to do with creating false standards some of the larger producers are not blameless. Poor reasoning, again founded upon inaccurate or inadequate costs, has caused many a ridiculous quotation, the effect of which in the end must be borne alike by its creator and his competitors. Carried to its logical conclusion, there is no reason why, if one manufacturer elects to sell a certain standard type of glove, at what in reality is a sacrifice, on the theory that he can make up a certain deficit on this standard glove by selling other styles at a large margin of profit, that his competitor will not decide to sell, also at a sacrifice, a glove similar in quality to one of those expected by the first manufacturer to return a handsome profit. All other things being equal, the law of supply and demand immediately steps in and both producers suffer as the result of their unintelligent competition, providing another potent example of the colossal waste of effort, time and money in industry.

Contrasted with this is the intelligent competition, where each manufacturer, knowing his costs, is able, through shrewd buying or through more economical manufacturing and selling, to earn a profit. Obviously his reward, in increased volume and greater profit is altogether justified.

Advantage of Uniformity

A great deal has been accomplished during the last few years in securing standardization within different lines of industry; standardization of type of product, of quality, of machines, of methods, of trade practices, and of a great many other factors which tend to eliminate waste. Of these accounting is not an exception.

Of the two types of accounting—general and cost accounting—the former undoubtedly has taken the lead in its advance toward uniformity. There are several obvious reasons. General accounting is an older science and has not recently been passing through such a marked state of development; another reason is the effect of the various state and federal tax laws; and still another, the growing tendency on the part of bankers and credit men in their demand for uniform and comparable statements from those seeking loans or credit.

The field for accomplishment is even wider in cost accounting. Lack of progress has been due partly to less pressure being exerted from the outside, and partly to a general lack of understanding among manufacturers as to the possibilities of uniform methods. Obviously, uniform methods can not be prescribed alike for all lines of industry. The fundamental principles upon which cost accounting is based remain the same, but each general type of manufacturing must be treated individually. This uniformity within an industry is what your association proposes to secure in the glove industry. Other associations have made the same attempt and have been successful.

Before naming the specific advantages of uniformity, let us first consider what happens when the manufacturer avoids uniformity and applies his own individual theory to cost accounting.

A, B and C are glove manufacturers. Each, we will assume for the sake of simplicity, does the same volume of business during the year, uses the same amount of material (leather, etc.), spends the same amount of money for labor and expense, and produces at least two styles of glove in common—one a low-priced number, and one a high-priced number. The activity of each in dollars for a year is as follows:

Materials Used	$220,000.00
Productive Labor	80,000.00
Manufacturing Expenses	20,000.00
Selling Expenses	50,000.00
Total Cost	$370,000.00
Net Sales	400,000.00
Trading Profit	$ 30,000.00

Again we will assume the same material and productive labor cost per dozen for each of the two supposed gloves in the three plants;

	Glove No. 1	Glove No. 2
Materials	$8.20	$24.00
Productive Labor	5.00	6.60

The real difference between Companies A, B and C is the fashion in which they figure their expense cost. "A", for example, has decided that the best method is to apply manufacturing expense on the basis of a percent. to productive labor, and selling expense on a percent. to sales; "B" figures that manufacturing expense should be applied to the cost of a glove on the basis of the percent. of expense to the sum of material and productive labor. "A" and "B" are, however, of the same mind so far as selling expense is concerned. Turning to "C" we find that he believes his best interest served when he applies both manufacturing and selling expense on the basis of a percent to sales, or the selling price.

Putting these different methods into practice, let us see what is the result. First we will examine the profit as shown by A, B and C, assuming that the trade calls for a price of $18.00 per dozen for Glove No. 1 and $42.00 per dozen for Glove No. 2.

FIRST EXAMPLE

	Glove No. 1			Glove No. 2		
	A	B	C	A	B	C
Material Cost	$ 8.20	$ 8.20	$ 8.20	$24.00	$24.00	$24.00
Productive Labor	5.00	5.00	5.00	6.60	6.60	6.60
Manufacturing Expense	1.25	.88	.90	1.65	2.04	2.10
Total Manufacturing Cost	$14.45	$14.08	$14.10	$32.25	$32.64	$32.70
Selling Expense	2.25	2.25	2.25	5.25	5.25	5.25
Total Cost Sold	$16.70	$16.33	$16.35	$37.50	$37.89	$37.95
Selling Price	18.00	18.00	18.00	42.00	42.00	42.00
Profit	$ 1.30	$ 1.67	$1.65	$ 4.50	$ 4.11	$ 4.05
Percent of Profit	7.2%	9.3%	9.2%	10.7%	9.8%	9.6%

From our original illustration of the year's activity, it is easy to see how the three men developed the various percentages neces-

sary to their computations. "A's" manufacturing expense is 25% of the productive labor, found by dividing $20,000.00 by $80,000.00; "B's" is 6⅔% of the material and productive labor, found by dividing $20,000.00 by $220,000.00 plus $80,000.00; while "C's" is 5% of the selling price and is found by dividing $20,000.00 by $400,000.00. A's, B's and C's selling expense is 12½% of the selling price found by dividing $50,000.00 by $400,000.00.

The figures used in the above example are, of course, imaginary, although well within reason. The methods illustrated are real, having been found to exist in the glove industry at the present time. It is an obvious fact that all three can not be correct in view of the different profit shown. Of the four elements, we have purposely eliminated any possible variance in three—material, productive labor and selling expense, in order that there can be no question as to the cause for the final results. In the case of glove No. 1, "A's" manufacturing overhead is apparently greater than either "B's" or "C's", while in the case of glove No. 2 the reverse is true. The reason for this, as we have seen, is because both "B" and "C" allow the overhead to be directly influenced by the material costs. They both admit that their method may not be right, but they reason that the higher-priced glove is able to stand a greater proportion of the overhead, because, as they say, the trade demands a price of $18.00 for No. 1 and at the same time is willing to pay $42.00 for No. 2.

We will concede, for the time being, that the stage has been set so far as selling prices are concerned. "A" agrees to that, as the example shows. We know from experience, however, that sub-conciously "B" and "C" wish to show approximately the same percentage of profit on all styles and have, therefore "arranged" their methods accordingly. "A", on the other hand, prefers to set forth the facts as he believes they actually exist, realizing that in order to make the assumed profit of $30,000.00, the two styles must on the average, be sold in a certain proportion.

Let us carry the illustration still further. Assuming all three manufacturers propose to disregard trade demands and quote prices that will apparently net them a flat 10% profit.

SECOND EXAMPLE

	Glove No. 1			Glove No. 2		
	A	B	C	A	B	C
Material Cost	$ 8.20	$ 8.20	$ 8.20	$24.00	$24.00	$24.00
Productive Labor	5.00	5.00	5.00	6.60	6.60	6.60
Manufacturing Expense	1.25	.88	.91	1.65	2.04	2.11
Total Manufacturing Cost	$14.45	$14.08	$14.11	$32.25	$32.64	$32.71
Selling Expense	2.34	2.30	2.27	5.17	5.25	5.27
Total Cost Sold	$16.79	$16.38	$16.38	$37.42	$37.89	$37.98
Profit	1.86	1.82	1.82	4.16	4.21	4.22
Selling Price	$18.65	$18.20	$18.20	$41.60	$42.10	$42.20
Percent. of Profit	10%	10%	10%	10%	10%	10%

Again their appears the same sort of a discrepancy between the three methods. "A" is forced to quote a higher price than "B" or "C" on glove No. 1, and at the same time is able to under sell them on No. 2. Of course if each producer offers the same degree of service and quality, every wise customer will divide his purchases accordingly, giving to "A" all orders for No. 2 and to either "B" or "C" all orders for No. 1. Where this is done, all three companies secure the less profitable business and the assumed $30,000.00 profit does not materialize for any of them.

We will not attempt to justify any one method at this point, leaving that for another chapter. What we wish to point out emphactically is that all three methods can be arithmetically correct, each arriving at different results from the same original premises. Through sheer lack of uniformity, each manufacturer is lead to varying conclusions, where obviously there should be one correct conclusion or method.

It may be well to concede a "customer's market" for the present, but no point is gained by adding to his advantage in selective buying, simply because of the manufacturers' confusion upon the subject of costs and fair selling prices.

Having noted a few disadvantages resulting from a lack of uniformity, let us consider some of the advantages gained by uniform methods. Later on we will refer to the particular points of uniformity which should be adopted by the glove industry.

First—From an association point of view, uniformity—

1. Encourages frank discussion of cost methods, exchange of new ideas, and development of new methods.
2. Presents an opportunity for intelligent comparison of cost data.

Second—From the individual glove manufacturer's point of view, uniformity—

1. Eliminates unintelligent competition.
2. Precludes the tendency to use cumbersome and impractical cost methods.
3. Places the small and the large glove manufacturer upon the same level so far as cost information is concerned.
4. Resolves the component parts of a glove cost into their proper relationship one with another, thus preventing the omission of important details.
5. Stresses the importance of uniform principles and methods, but allows plenty of individuality so far as details are concerned.

Uniform Principles and Methods

In order to secure the advantages of uniformity, there are certain fundamental principles which must be recognized and certain methods which should be put into operation by the various glove manufacturers. Briefly enumerated, they are:

The Four Elements and What They Include

1st. That the cost system must be founded upon standard costs, predetermined for the various styles at the beginning of the selling season, and that, as the season progresses, these standards shall be matched against the actual cost in order to determine the shrewdness shown in purchasing, and the efficiency of manufacturing and selling. Contrasted with this system is the so-called "Order lot" method which is impossible of practical adaptation to the glove industry, either uniformally or in individual cases. The "Order lot" method fallaciously presupposes that it is feasible to determine the exact amount of material, labor and expense used in each lot of gloves produced.

2nd. That there are four major parts to every glove cost:

(*a*) A material cost
(*b*) A direct or productive labor cost
(*c*) A manufacturing expense or overhead cost
(*d*) A distributing or selling expense cost

3rd. That the material element embraces the cost of all material items appearing in the finished glove as boxed, such as leather, fabrics, linings, sewing thread, labels, tapes, stays, bindings, hems, loops, clasps, buttons, bands, boxes, etc.

4th. That the direct or productive labor element includes the labor cost of all operations necessary in the fabrication of the glove from the initial cutting operation to the final boxing. Day work operations (such as inspection and examination) must be considered in the same fashion as the regular piece work operations. The necessity of this will be considered in detail in a subsequent chapter dealing with the analysis of direct labor.

5th. That the manufacturing expense or overhead includes:

(*a*) All administrative and office salaries, supplies and expense pertaining to manufacturing.

(*b*) All factory indirect or non-productive labor, such as supervisor, foreman, mechanics, fireman, electricians, janitors, sweepers, teaching new operators, allowance to learners (over and above regular piece rates), etc.

(*c*) All factory supplies and expense, such as fuel, needles, repair parts; general repairs, charges to buildings, machinery

and equipment; water, purchased power and light; depreciation, taxes and insurance on machinery and equipment; depreciation, taxes and insurance or rent on buildings (the latter being used in lieu of the former whenever the space occupied is rented instead of being owned); freight, express, and cartage on incoming material and supplies, etc., etc.

(Note: Extraordinary transportation charges on imported materials, including duties are properly a part of the material cost.)

6th. That distributing or selling expense includes:

(*a*) All administrative and office salaries, supplies and expense pertaining to selling.

(*b*) All shipping salaries, supplies and expense such as shipping wages, shooks, cases, cartons, nails, wrapping paper, twine, freight, express and cartage on out-bound products.

(*c*) Commissions, advertising, cost of samples, cost of repairing or reconditioning gloves not attributable to faulty manufacture, etc.

Methods of Application

7th. That so far as the application of leather costs are concerned, due recognition must be given the varying per foot values (unit or cost) obtained from a given skin or hide. In other words, since two or more grades or qualities of gloves may be cut from the same skin, the leather costs as applied to each must reflect the relative market values for the different qualities,

8th. That all direct or productive labor shall be applied to the final glove cost on the dozen basis.

9th. That the manufacturing expense or overhead shall be applied to the final glove cost as a ratio or percentage of the direct labor.

10th. That the selling expense shall be applied to the final glove cost in two parts; (*a*) shipping or distributing expense, on a cost per dozen basis, and (*b*) general selling expense (selling, administrative, commissions, advertising, etc.) as a ratio or percentage of the selling price. Admittedly this method of applying general selling expense is not altogether scientific from a cost standpoint. it is, however, undoubtedly the best method for easy uniform adoption. We will discuss the subject of selling cost at length in a later chapter.

Comparison of Actual and Standard Costs

11th. That periodically, preferably each month, an analysis be made of the actual cost of production, and comparison made with the standard or predetermined cost for the same production. We will merely state, at this point, of what the analysis and comparison shall consist, leaving the detail of how it is to be secured for a later explanation.

(*a*) For material—a knowledge of the actual and standard costs of the major items of material used. The difference between the actual and standard will constitute a gain or loss in material usage. The actual and standard costs of the minor items such as thread, boxes, buttons, clasps, etc., must eventually be found and the difference calculated, but owing to their lesser importance, the calculations need not be made oftener than once or twice a year, usually at inventory time.

(*b*) For direct labor—a knowledge of the actual and standard costs for the production secured. Ordinarily it is sufficient to develop these costs in total for the three general classifications; cutting, making and finishing. If notable differences appear in any one of the three, a further analysis by individual operations will disclose the losers.

(*c*) For manufacturing expense—a knowledge of the actual and standard costs for the production secured.

Costs Must Tie in with the General Books of Accounting

12th. That the cost system shall be tied into the books of accounting, in order that there shall be no important omissions. While it is possible to operate a cost system separate and apart from the accounting system, we have yet to see a case where it has been done with unqualified success. In not binding the costs to the general accounts, the opportunities for omission are greatly multiplied. The common conception is that to tie the costs to the general books requires a good deal of added clerical effort. On the contrary, it actually takes but a very short time at the end of each period. So true is this that even the smallest manufacturers have found it practical as well as immeasurably safer to do so.

The twelve points just enumerated prescribe the basis upon which correct uniform costs may be most simply developed and the all important check between standard and actual costs secured. The twelve points should be uniformly adopted by each member of your association, both large or small.

There are two more points which may be uniformly adopted to advantage, but we have hesitated to include them with the rest for fear that the smaller glove manufacturers, producing a large number of styles, might, taking exception to their supposed intricacy, be led to assume that the rest of the points were equally difficult to accomplish. They are:

13th. That a cost of gloves sold and shipped, based on standard manufacturing cost prices, be devloped each period—preferably each month. This is done by analyzing the daily shipments to secure a record of the total dozen shipped of each style, and at the end of the period by multiplying the total quantity for each style by its proper standard cost. Some prefer to price and extend, at cost, each invoice billed, in order that the gross profit or loss may be found against each customer. This last we seldom advocate.

14th. That a regular "Balance Sheet" and "Profit and Loss Statement" be developed at the end of each period. Provided a cost of goods shipped is found, it is an easy matter to secure the two financial statements. Otherwise they can only be secured at inventory time.

In order to give the detailed explanation of the necessary methods which are to follow more realism, we have built an imaginary concern called the Standard Glove Manufacturing Company. The activity of this company and the cost records maintained will be illustrated in the succeeding chapters. It is our purpose, as stated in the beginning, to illustrate methods which are simple to operate and at the same time sufficiently complete to gain the necessary results. It is, of course, impossible in a short report of this kind to describe every step in the installation of the methods, or to explain every turn in their operation. Assuming that it were possible, the mere fact that so many unimportant side issues would have to be considered might cause confusion in the readers' consideration of the main points. The ultimate success of any cost system demands that the details be worked out according to individual needs and tastes.

The forms illustrated in connection with our imaginary glove manufacturer are taken from those in actual satisfactory operation in your own industry. Their practical operation has, therefore, already been established.

FORM No 3

STOCK CARD

MAX 40000
MIN 5000

ARTICLE Clasps #172 R.S.

RECEIPTS				ISSUES			BAL. ON HAND			ISSUES			BAL. ON HAND		
DATE	QUANT.	PRICE	AMOUNT	DATE	QUANT	AMOUNT	QUANT	PRICE	AMOUNT	DATE	QUANT	AMOUNT	QUANT	PRICE	AMOUNT
1/5	25000	11.25	281 25	1925 1/1			5000	11.25	56 25						
				1/5	2000	22 50	28000	"	315 00						

3

FORM No 2

LEATHER LOT RECORD

LOT No 1245 LEATHER DESCRIPTION Cape #1 PURCH'D FROM United Tanners Co

DATE	RECEIVED No SKINS	RECEIVED No FEET	PRICE	AMOUNT	MONTH	BAL. ON HAND FEET	No OF FEET USED	FEET ALLOWED	ACTUAL COST	STANDARD COST	GAIN OR LOSS
12/16	5842	35075	.29	10171 75	JAN	16290	18785	18898	5447 65	5533 90	+546 25
					FEB.						
					MAR.						
	FRGHT				APR.						
	INSUR				MAY						
					JUNE						
	GROSS COST	35075	.29	10171 75	JULY						
	CREDITS				AUG						
					SEPT						
	SALES				OCT						
					NOV						
					DEC						
	NET COST				TOTAL						

PRODUCTION

STYLE No	100		101		102		103		104	
PRODUCTION	FEET	DOZ	FEET	DOZ	FEET	DOZ	FEET	DOZ	FEET	DOZ
JAN	2075	75	3725	125	6135	206	4475	150	2375	74
FEB										
MAR										
APR										
MAY										
JUNE										
JULY										
AUG										
SEPT										
OCT										
NOV										
DEC										
TOTAL										
VALUE PER FT / PER DOZ / FT ALLOWED / VAL ALLOW	$.25	28ft	$.29	30ft	$.32	30ft	$.35	30ft	$.35	32ft
STYLE No										
JAN										
FEB										
MAR										
APR										
MAY										
JUNE										
JULY										
AUG										
SEPT										
OCT										
NOV										
DEC										
TOTAL										
VALUE PER FT / PER DOZ / FT ALLOWED / VAL ALLOW										

2

FORM No 1

CUTTING RECORD

CUTTER'S NAME John Smith CHECK No 1076 DATE Jan. 10th 1915

DATE STARTED 1/5/25 DATE FINISHED 1/15/25 TOTAL DOZEN CUT 19

DATE	LEATHER DRAWN FROM STOCK: LOT No	SKINS	KIND	FEET	LEATHER CREDITS: SKINS	FEET	ACTUAL LEATHER USED: FEET	PRICE	AMOUNT
	1245	36	CAPE #1	575	3	17	558	.29	16182
	TOTALS						558		16182

CUT ORDER No	LOT No	STYLE No	FEET USED	DOZEN CUT BY SIZES: 7	7½	7½	7½	8	8½	8½	8½	9	9½	10	10½	11	TOTAL	STANDARD LEATHER USED: PER DOZ.	TOTAL FEET	VALUE PER FT.	AMOUNT
SIZES																					
789	1245	100	167			½	1	1	2		1	1½					6	28	168	.25	4200
"	"	101	207				½	1½	2	1	2	1					7	30	210	.29	6090
790	"	102	91				½	1½	1	1½	1½						3	30	90	.32	2880
"	"	103	61					½	1	1½							2	30	60	.35	2100
"	"	104	32						1								1	32	32	.35	1120
	TOTALS		558														19		560		16390
																	NET GAIN		2		208
																	NET LOSS				

REMARKS

1

CHAPTER TWO

ANALYSIS OF MATERIAL COSTS

It has been said, and not in jest, that a glove manufacturer can either make or break himself in his cutting room. Realizing this to be altogether true, it behooves every member of the glove industry to pay close attention to his principal material costs. Fortunately, we have found that the manufacturers in your industry are all agreed upon the importance of material costs. Naturally some have put their ideas into practice with a greater degree of enthusiasm than others.

In discussing the most important material element—leather—first, we find two essential factors to be considered; the yield of gloves from the skins, and the allocation of values to the different grades of gloves obtainable from a single kind and grade of leather. A glove manufacturer must prepare his cost standards and his selling prices long before the leather is cut or the gloves sold, and in many cases, even before the leather is purchased. Therefore, not only must his preliminary calculation be made with care, but also the actual cutting throughout the season must be watched with the same degree of vigilance. If the footage and values applied to the style are too great, the glove will not sell. On the other hand, if the footage and values are too small, the original cost of the leather will not be absorbed by the selling price. There is a further complication in the allocation of values to the different grades of gloves, for if these are not in the proper proportion, the sales will not permit the full usage of the leather; consequently the active number must be withdrawn from the line, or the inactive numbers sold at a loss.

We will not attempt in this report to discuss any scientific method of arriving at the required number of feet per dozen, for after all, it is primarily a matter of experimentation in new designs and of experience on old patterns. The allocation of values to different grades of gloves from a given grade of leather is also essentially a matter of experience with market values, and the price at which they will sell from a leather cost standpoint. It is our purpose, here, to discuss the necessary measures which must be taken in order to properly account for the material used.

For purposes of illustration, we will bring into action for the first time our imaginary concern, the Standard Glove Company, which normally does a business of 35,000 dozen per year. Of course, from a dress glove standpoint, the Standard would be a large company, while as a work glove concern it would be comparatively small. Let us again caution the very small manufacturer against laying aside our illustration as applicable only to his large competitors. He may not care to accumulate his statistics as frequently as will the big fellow, but he must go through the same general computation.

We find that the Standard Glove Company has made or is preparing to make the following material purchases for the season:

Leather—		
Cape	450,000 feet, average price, 30c.	$135,000.00
Moca	300,000 feet. average price, 53c.	159,000.00
Buck	150,000 feet, average price, 50c.	75,000.00
Miscellaneous	150,000 feet, average price, 30c.	48,000.00
Linings—		
Fur for 500 dozen		$ 6,000.00
Cotton for 1,000 dozen		4,250.00
Fleece		800.00
Thread—		
Silk and Cotton		$ 17,500.00
Trimmings—		
Fastners for 35,000 dozen		9,800.00
Stays, Straps and Binders		1,800.00
Other Small Trimmings		750.00
Boxes—		
Boxes, 48,000, average price, 10c.		$ 4,800.00

Having started the season's activity, we naturally turn first to the accounting for the leather used.

There are two angles from which we will view the production of the cutting department. One is the results of the cutter as an individual. He is given a certain number of skins, and cutting orders for a certain number of dozen, split into styles and sizes. The skins have been sorted and "taxed," and a prescribed footage and leather value per dozen has been placed against each style. What has he accomplished in filling the orders? Has he used more or less leather than was allowed, and is the total assigned value more or less than the original cost?

The other angle takes into consideration the lot of leather as a whole. A certain number of skins, totaling a given footage, were purchased for a certain amount. As the cutting of the lot progresses, we wish to know whether the leather is meeting expectations in footage yield and in values produced, and finally, we want to know the net result. Probably the Standard Glove Company's executive passes through his cutting room many times every week, knows his cutters individually by their first name, and has discussed the merits or faults of each lot of leather. The fact that this executive—like a good many others—is very intimately connected with the actual operations, does not influence him toward the desirability, or even the necessity, of keeping accurate records. First hand impressions play an important part in every business. The value of impressions, however, is limited, and every executive can verify, elaborate, and correct his impressions by the use of actual statistics.

Form 1 indicates the result of John Smith's cutting on lot No. 1245 during the week of January 5th. For "Leather," the record shows the date, lot number, number of skins, kind of leather, and number of feet drawn from stock; the number of skins and total feet returned after cutting; and the total feet actually used, the original cost price per foot and the total actual amount. For "Production," the record shows the cutting order numbers, lot number, style number, feet used against each style, dozen cut by size, total dozen cut, number of feet allowed per dozen, total feet allowed, standard value per foot, and the total standard amount. From these two kinds of information, for leather and for production, we are immediately able to calculate the net gain or loss in yield both in footage and value. We, therefore, have the whole story about John Smith as a cutter, and the leather with which he had to deal.

Of course, the exact means by which the information is gathered must be adapted to the individuals needs. Some will want the Cutting Record to cover only one cutting order, while others will want it to represent the cutter's activity for a week, as we have shown, provided he is working on a certain lot of leather throughout. Some will want the report made out in the cutting room, whereas others will prefer to do it in the office by taking the information from a returned copy of the cutting order. For this reason, we have avoided giving an illustrated cutting order form. No one form is equally adaptable to every situation. A cutting order must show the style number, the dozens required by size and whatever other information is necessary to insure proper cutting. In some cases, three copies are originally issued, one to remain in the cutting department, one to travel along with the order through the making and finishing departments and one to be returned to the office upon completion of the cutting. Either the first or third copy will provide the data needed in preparing the Cutting Report.

There appears to be a uniform need for a traveler tag for each bundle of one or two dozen pairs of gloves. This tag should be attached in the cutting room and remain with the bundle until final inspection, in order that the quantity originally started shall be properly accounted for throughout the route of the processing. The tag must show the style, order and bundle numbers together with the quantity and sizes in the bundle, as general information. In detail there are many variations. Some manufacturers require

that the record of thread, marking, hems, lining and fasteners be given on the tag. In dress gloves particularly, it is often desirable to record the names or check numbers of the operators performing the different operations in order to trace the responsibility for imperfections. Others combine the "traveler" or identification tag with a piece work coupon so that, as the bundle progresses, the operators may tear off the coupon, as a record of work done.

Form Number 2 indicates the progress or activity of the lot of leather as a whole together with the final net result. The Leather Lot Record, as it is called, is divided into three sections. The section shown in the upper left hand corner provides space for posting the original cost of the lot, including the date of receipt, the number of skins, the number of feet, the price per foot, and the total leather amount. There is also space for posting freight, express, and insurance charges, if it be the practice to include such amounts as a part of the gross cost of the leather. The illustration given indicates the gross cost to be $10,171.75 for 5,842 skins, or 35,075 feet at $.29 per foot.

Opportunity is also given for posting credits or allowances received from the tanner and for the sale of skins out of the lot, so that a final net cost can be found. Assuming that such credits are received after the cutting has been started and a cost per foot is necessary for computing the total actual cost for any given month, the gross cost per foot will be used. If the credits subsequently put through and posted to the Lot Record affect this gross cost per foot, a proper adjustment must be made at the time.

The second section of Form 2, appearing as the lower half of the sheet, provides space for registering the total feet used and the dozen cut against each style produced each month. This information is summarized from the Cutting Record (Form 1). For January 1925, the summary is as follows, of which John Smith's Cutting Record for the week ending January 10th is a part:

Style	Lot	Feet Used	Dozen Cut
100	1245	2,075	75
101	1245	3,725	125
102	1245	6,135	206
103	1245	4,475	150
104	1245	2,375	74
Totals . .		18,785	630

Each style, as we know, has a standard value per foot and a standard number of feet per dozen which is also shown in this section in order that the total feet allowed and the total value allowed or standard cost may be computed and posted as the lot is finished. This provides for the necessary check between actual and standard footage and value consumption for each style—an all important factor in determining the proper standard leather costs for subsequent periods.

The third section, shown at the upper right corner, indicates the progress of the lot, month by month, until it has been entirely cut. The postings are computed as follows:

1st. Number of feet used—Sum of the feet used for the individual styles registered in the "Production Section"; or, as shown above, 18,785 feet for January.

2nd. Balance on Hand in Feet—Balance on hand at the beginning of the month less number of feet used; or as shown, 35,075, less 18,785, equals 16,290 feet.

3rd. Number of Feet Allowed—Sum of the feet allowed for each style, which is found by multiplying the dozen cut by the feet allowed per dozen; for January—

Style	Dozen Cut	Feet per Dozen	Total Feet Allowed
100	75	28	2,100
101	125	30	3,750
102	206	30	6,180
103	150	30	4,500
104	74	32	2,368
			18,898

4th. Actual Cost—Number of feet used times the actual price per foot, or as shown

18,785 feet at 29c. per foot equals $5,447.65

5th. Standard Cost—Sum of the Standard Cost for each style, which is found either by multiplying the total feet allowed by the standard value per foot, or by multiplying the dozen cut by the standard cost per dozen. We have chosen the latter method to illustrate the January total:

Style	Dozen Cut	Standard Cost per Dozen		Total Standard Cost
100	75	(28 ft. x 25c.) or	$ 7.00 equals	$ 525.00
101	125	(30 ft. x 29c.) or	8.70 equals	1,087.50
102	206	(30 ft. x 32c.) or	9.60 equals	1,977.60
103	150	(30 ft. x 35c.) or	10.50 equals	1,575.00
104	74	(32 ft. x 35c.) or	11.20 equals	828.80
		Total		$5,993.90

6th. Gain or Loss—Difference between the Actual Cost and the Standard Cost. If the latter exceeds the former the difference is a gain, and if the former exceeds the latter, the difference is a loss.

For January—	
Standard Cost	$5,993.90
Actual Cost	5,447.65
Difference (Gain) . .	$ 546.25

Since the greatest opportunity for variation between actual and standard costs occurs in the leather consumption, this lot record becomes a very important factor in obtaining material control. Not only does the record show the current monthly variations from a cost accounting point of view, but it also serves as a check on the quality of leather purchased.

Form 2 may also be used to good advantage for the more expensive linings, such as fur where variations may amount to a considerable sum of money.

As illustrated in an earlier section of this chapter, the materials for the Standard Glove Company are divided into five divisions; leather, linings, thread, trimmings and boxes. We have, up to this point discussed only the leather division.

While the accounting for the various other material items need not be carried to such detail as in the leather costs, standards both as to quantity and price must be determined for each item required by the different styles produced. Having developed these standards at the beginning of each season, and having applied them to the final cost of each style, it becomes necessary to compute the difference between the total actual and the total standard cost for the number of dozen produced during a given period, On first thought, this appears, at best, to be a formidable task. Upon the method used, however, depends the ease with which the result may be obtained. We might say that this computation was desirable instead of necessary, but if we are to tie cost and accounting systems together and if we are to provide ourselves with the necessary data for setting standards each season, then it is distinctly necessary.

We will divide our discussion of the best methods into two parts, to respectively cover actual and standard costs.

1. *Finding the actual material consumption:*

The degree of accuracy and the frequency with which the actual material consumption may be found depends entirely upon the effectiveness of the material stores control employed. Complete control requires that a record be maintained for each item of material in the stockroom, showing the receipts, the issues and the balance on hand at all times. Form 3 illustrates an ordinary design of a stock card, beginning with a balance on hand January 1st, and showing a single receipt and issue, and the resultant balance. There are so many ways in which the stock card record may be operated that we will not attempt to discuss them. The principal point to be considered is accuracy.

Provided a stock record is maintained, the actual consumption may be determined each month, simply by going over the

Form No. 4

DESIGNED BY MILLER, FRANKLIN, BASSETT & CO. NEW YORK

Report Of Material Consumption. Leather

FORM 1908

STYLE	Month Standard Cost Per Dozen	January 1925 Dozen Cut	Amount	February 1925 Dozen Cut	Amount	March 1925 Dozen Cut	Amount	April 1925 Dozen Cut	Amount
100	7 00	75	$ 52500						
101	8 70	125	108750						
102	9 60	206	197760						
103	10 50	150	157500						
104	11 20	74	82880						
ETC									
ETC									
ETC									
ETC									
ETC									

4

Total Consumption;Standard	2875	$3809375	
" " -Actual	2875	3718590	
Net Gain		90785	
" Loss			

Form No. 5

Record Of Material Consumption - Linings

STYLE	Month Standard Cost Per Dozen	January 1925 Dozen Cut	Amount	February 1925 Dozen Cut	Amount	March Dozen Cut
125	11 75	25	$ 29375			
264	4 50	12	5400			
375	5 25	54	28350			
ETC						
ETC						
ETC						
ETC						
ETC						

5

Total Consumption-Standard	125	$ 75325	
" " -Actual	125	72560	
Net Gain		2775	
" Loss			

Form No. 7

Record Of Material Consumption. Boxes

STYLE	Month Standard Cost Per Dozen	January 1925 Dozen Finished	Amount	February 1925 Dozen Finished	Amount	March Dozen Finished
100	10	75	$ 750			
101	10	135	1350			
102	10	195	1950			
103	10	160	1600			
104	11	80	880			
ETC						
ETC						
ETC						
ETC						
ETC						

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Total Consumption-Standard	2725	$ 28540	
" " -Actual	2725	29850	
Net Gain			
" Loss		1310	

Form No. 6

Record Of Material Consumption. Trimmings and Thread

STYLE	Month Standard Cost Per Dozen	January 1925 Dozen Made	Amount	February 1925 Dozen Made	Amount	March 1925 Dozen Made	Amount
TRIMMINGS:							
100	25	70	$ 1750				
101	30	130	3900				
102	33	202	6666				
103	28	146	4088				
104	35	75	1925				
ETC							
ETC							
ETC							
ETC							
ETC							

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Total Consumption-Standard	2750	$ 1237 50	
" " -Actual	2750	1185 75	
Net Gain		51 75	
" Loss			
THREAD:			
All Styles Total Consumption-Standard $.50	2750	$ 1375 00	
" " -Actual	2750	1307 50	
Net Gain		67 50	
" Loss			

cards and making an adding machine list of the amount issued. We do not, of course, recommend that an attempt be made to secure the actual consumption of thread, trimmings and boxes against each style, nor do we believe it practical to issue the exact quantity required for such items as are ordinarily given out in packages of one hundred, a gross, or in some similar fashion. It is sufficient to know the quantity actually withdrawn from the stock room.

The preceding shows what may be done in recording the actual material consumption if a stores system is in operation. There are many glove manufacturers who already carry thread and trimmings under control, but who find it impractical to use the same method for boxes. In such cases, the actual usage may be found by taking an inventory each month, which, if the boxes are arranged conveniently, and in easily counted units, is not difficult.

Again there are a few manufacturers who find, or who are convinced that the size and variety of their sundry materials do not permit any sort of stores accounting. Where that is the case, they will necessarily wait until the regular annual or semi-annual physical inventory is taken to develop the actual usage. This does not, however, preclude the necessity of developing the difference between actual and standard figures even though it be infrequently done. By no other method can you be sure of the accuracy of the standards used in the final costs. That being the case, caution will dictate that the standards be set high enough to allow for possible fluctuations until practice produces clerical accuracy.

We will assume that the Standard Glove Company finds it possible to operate a stores control and that the actual material consumption for the month of January is as follows:

Leather	$37,185.90
Linings	725.50
Thread	1,307.50
Trimmings	1,185.75
Boxes	298.50

The leather and fur linings are fully covered by lot records, so that the usage is easily found by taking an adding machine list of the "actual cost" for the month from the various lot sheets.

2. *Finding the standard material consumption:*

As we have stated, the basis of all stores and material consumption is found in the predetermined style costs per dozen so that the total standard usage for each classification of material is essentially a matter of multiplying the dozens produced by the standard costs per dozen.

Taking style 102, of the Standard Glove Company as an example, we find the following material standards:

Leather per dozen—30 feet at 32c. equals		$9.60
Linings per dozen—none		
Thread per dozen—estimated		.50
Trimmings per dozen:		
Tape and Stays	.05	
Clasps	.28	
Total Trimmings		.33
Boxes per dozen		.10

We have developed a Record of Material Consumption for leather, linings, thread, trimmings, and boxes as represented by Forms 4, 5, 6 and 7. Each record is developed in the same fashion, using the same form throughout. In each case, the first column gives the list of style numbers affected; the second column indicates the standard cost per dozen (such as given in the example for style 102); the third column shows the actual dozens produced (taken from production records); and the fourth column indicates the total standard cost amount per dozen, multiplied by the number of dozen. Columns three and four, five and six, seven and eight, etc., show the necessary data for each month separately, the style numbers and the standard cost per dozen remaining the same.

At the bottom of each material consumption record, space is provided to show the total standard and actual consumption, and the net gain or loss, the total actual consumption being found as previously explained. The illustrations for January for the Standard Glove Company are as follows:

Class	Form	Total Standard Consumption	Total Actual Consumption	Net Gain	Net Loss
Leather	4	$38,093.75	$37,185.90	$907.85	.....
Linings	5	753.25	725.50	27.75	.....
Thread	6	1,375.00	1,307.50	67.50	.....
Trimmings	6	1,237.50	1,185.75	51.75	.....
Boxes	7	285.40	298.50	.....	$13.10

In employing production figures for the various material consumption records, we have chosen the dozens cut for leather and linings, dozens made for thread and trimmings, and dozens finished for boxes.

There can be no doubt as to the accuracy of dozens cut for leather and linings.

The use of "dozens made" for thread and trimmings depends for its accuracy upon the fluctuation of the "work in process" inventory from month to month in the making department, for, of course, we are assuming that the various quantities drawn from the stockrooms each month are actually used on the dozens reported made. We refer to this condition because part of the resulting variations, may in certain instances, be attributable to it. Experience shows, however, that the possible error is very slight except in very exceptional cases, where production is being built up from a very low ebb within a given period. Were we to use a week instead of a month as a period, there might be some cause for attempting to use production reported from the various operations.

The use of "dozens finished" for boxes may be considered correct unless the boxes are issued to the finishing departments in very large quantities, in which case an inventory of empty boxes must be made in the department.

Briefly summarizing our discussion of the analysis of material we find:

1st. The Cutting Record providing the necessary data by which to check the various cutters, the styles and dozen cut, and the number of feet actually used (Form 1).

2nd. The Lot Record providing the necessary data relative to the lot as a whole, the total dozens cut and feet used against each style, and the actual cost of leather used in dollars and cents. (Form 2).

3rd. The Stock Card Record showing the receipts, issues, and balance on hand both in quantity and amount for the various items of material under stores control (Form 3).

4th. The Record of Material Consumption (Forms 4, 5, 6 and 7), providing a simple method of developing the total standard material consumption for leather, linings, thread, trimmings and boxes for each period, and at the same time showing the total actual usage together with the net gain or loss.

No attempt is made in these consumption records to apply the actual cost against each style in order that the net gain or loss may be developed for each. The consumption of the major items, such as leather and fur linings, may be traced directly upon the lot records. The important point is to know that there is a variation between actual and standard. The magnitude of the variation will determine whether further investigation is necessary. If so, it may be confined to the particular items justifying investigation.

Form No. 8

Record Of — Standard Direct Cutting Labor

STYLE	Month — Standard Cost Per Dozen	January 1925 — Dozen Cut	January 1925 — Amount	February 1925 — Dozen Cut	February 1925 — Amount	March — Dozen Cut
100	1 80	75	$ 13500			
101	1 95	1 25	24375			
102	215	206	44290			
103	2 50	150	37500			
104	2 75	74	20350			
ETC						
ETC						
ETC						
ETC						
ETC						

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Form No. 10

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Report Of — Standard Direct Finishing Labor

STYLE	Month — Standard Cost Per Dozen	January 1925 — Dozen Finished	January 1925 — Amount	February 1925 — Dozen Finished	February 1925 — Amount	March 1925 — Dozen Finished	March 1925 — Amount	April 1925 — Dozen Finished	April 1925 — Amount
100	48	75	$ 3600						
101	58	135	7830						
102	56	195	10920						
103	65	160	10400						
104	70	80	5600						
ETC									
ETC									
ETC									
ETC									
ETC									
Total Standard Direct Finishing Labor		2725	$ 109520						

10

Form No. 9

Record Of — Standard Direct Making Labor

STYLE	Month — Standard Cost Per Dozen	January 1925 — Dozen Made	January 1925 — Amount	February 1925 — Dozen Made	February 1925 — Amount	March — Dozen Made
100	2 90	70	$ 203 00			
101	3 15	130	409 50			
102	3 22	202	650 44			
103	3 75	146	547 50			
104	4 20	75	315 00			
ETC						
ETC						
ETC						
ETC						
ETC						
Total Standard Direct Making Labor		2750	$ 8952 50			

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Total Standard Direct Cutting Labor		2875	$ 485060		

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CHAPTER THREE

ANALYSIS OF DIRECT LABOR COSTS

The recording of direct labor costs in the glove industry is comparatively simple, being based almost entirely upon the known cost to produce one dozen. The theory and practice of actual standards, and the variation between the two as applied to the material costs, is equally applicable to direct labor.

We will define the term "direct labor." It is the labor, the cost of which may be applied directly to the product. It is often called productive labor. Either term will do, except that the one we have chosen is susceptible to a broader and more inclusive definition. Direct Labor should include the cost of all operations which may be recognized in the finished product. Not only is this important from the point of uniformity in cost finding, but it is also very desirable in properly controlling labor costs. Some manufacturers are inclined to apply directly, only the piece work operations, allowing the remaining labor costs to be included with the overhead expense. This is poor practice.

Setting standard direct labor costs per dozen requires little effort insofar as piece work operations are concerned. Obviously the piece work rates are the standard costs. The difficulty arises in developing standards for the non-piece work operations. This must be approached in the same general fashion as if such operations were to be placed on a piece work basis, except that the standards set must represent fair average conditions, and ignore the extra incentive inherent in piece rates. Such operations will usually include cutting, inspecting, examining, etc. Not infrequently we find certain styles which are so seldom produced that piece rates have not been set even on the regular "making" operations. These likewise require the establishment of standards.

Turning to the Standard Glove Company's labor rates, style 102 embraces the following illustrative standards:

CUTTING DEPARTMENT	Piece Work	Day Work	Total for the Department
Cutting . . . . per dozen		$1.85	
Press, Trim and Size " "		.30	$2.15
MAKING DEPARPMENT:			
Pointing . . . . per dozen	$ .73		
Making . . . . " "	2.15		
Binding . . . . " "	.17		
Hemming . . . . " "	.17		3.22
FINISHING DEPARTMENT:			
Laying off . . . . " "	.18		
Clasping . . . . " "	.08		
Band, Sort, Size, Inspect and Box . " "		.30	.56
Total Direct Labor Standard Cost per Dozen . . .			$5.93

Actual direct labor consumption for each period is obtained directly from the payroll summary. We will not attempt to prescribe a form or method for accumulating the actual labor costs, the requirements of your different members being altogether too diversified. Uniformity is achieved in properly classifying direct and indirect labor and in accumulating the total costs by department, or by operation for each period.

Standard direct labor consumption, like standard materials, is found by multiplying the dozen produced by the standard unit costs set. Forms 8, 9 and 10 illustrate the standard direct labor for the Standard Glove Company, in January, Form 8 being for the cutting department, Form 9 the making, and Form 10 the finishing department. Taking style 102 as an example, we find:

Department	Form No.	Dozens Produced	Standard Cost per Dozen	Standard Amount
Cutting	8	206	$2.15	$442.90
Making	9	202	3.22	650.44
Finishing . . .	10	195	.56	109.20

The standard costs per dozen are, of course, those appearing above as illustrative operation standards.

Taking the total direct labor for all styles, the standards from Forms 8, 9 and 10, and the actual from the payroll summary (not illustrated), we find:

	Standard Amount	Actual Amount	Gain	Loss
Cutting Department .	$4,850.60	$4,825.90	$24.70	
Making Department .	8,952.50	9,046.25		$93.75
Finishing Department .	1,095.20	1,215.65		120.45
Totals	$14,898.30	$15,087.80	$24.70	$214.20
Net Loss				$189.50

As in the material analysis, we have the final variations between standard and actual cost totals by classification, that is, by cutting, making and finishing. Whenever any one of the variations become excessive, the exact cause may be found by studying each detail.

It may appear to some, particularly those who operate almost entirely on a piece rate basis, that the development of variations is hardly necessary. We have never, however, found a plant where knowledge of labor variations has not paid many times for the effort expended. There is a tendency to reason that in piece work there should be no difference between standard and actual costs, but invariably there is for one reason or another. Although it may be small, the added security of knowing the variation is well worth the effort. Take, for instance, the general practice of having certain making operations performed by outside operators. Invariably there is a difference between the rates for home and factory operations. It is often assumed that the difference compensates for the expense of transferring the work to and from the home. This assumption requires constant verification. It is often not justified by the facts. We have found several instances where the entire labor and cost structure is based on a "point" system, wherein a standard number of minutes or hours are set for each operation. The operators are then paid on the number of standard hours and minutes with a graduated scale of hourly rates depending upon the efficiency of the individual. The purpose, and admitted tendency is, of course, to reduce labor costs, but the actual cost per dozen for any one operation varies from day to day. In such instances, there is all the more reason for developing variation data, not only for pure cost purposes, but even more for measuring the results of such wage payment systems.

We found some glove manufacturers using only the highest possible cost per dozen, in lieu of computing the variations. While this may be a safe procedure, not only is it very unsatisfactory in a largely competitive market, but it also defeats, from a cost finding standpoint, the main purpose of the wage incentive, which is to lower costs.

Page

SAMPLE OF

Form No. 14

FORM 150-A

EXPENSE ANALY

OTHER EXPENSE Charges	FOR MONTH OF January NORMAL	ACTUAL	PI
Net Sales	80,000 00	29,400 25	
ADMINISTRATIVE EXPENSE:			
Share of Executives	975 00	975 00	
Directors' Fees	25 00		
Legal Expense	50 00	55 00	
Printing, Postage, etc.	10 00	5 00	
Professional Services	100 00	125 00	
Donations	25 00		
Miscellaneous Expense	15 00	5 50	
TOTAL ADMINISTRATIVE EXPENSE	1,200 00	1,165 50	
Percent of Expense to Net Sales	2 %		
OTHER CHARGES:			
Interest on Borrowed Money	400 00	157 50	
Percent of Interest to Net Sales	0.5%	0.54%	
Discount on Sales	1,600 00	565 40	
Percent of Discount to Net Sales	2 %	1.9%	
Reserve for Bad Debts	400 00	147 00	
Percent of Reserve to Net Sales	0.5%	0.5%	
Loss Due To:			
Imperfect Merchandise Made	160 00	85 50	
Percent of Imperfect Merchandise to Net Sales	0.2%	0.3%	
OTHER DATA:			
Discount Taken on Purchases	800 00	750 75	
Percent of Discount to Net Sales	1 %	2.5%	
Gross Sales	81,750 00	29,831 25	
Returns	1,635 00	396 60	
Allowances	115 00	34 40	
Percent of Returns to Gross Sales	2 %	1.33%	
Percent of Allowances to Gross Sales	0.14%	0.11%	

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SAMPLE OF

FORM 150-A

EXPENSE ANALYSIS

YEAR 1925

	MANUFACTURING EXPENSE	FOR MONTH OF January NORMAL 4 weeks	ACTUAL	PERIOD TO DATE	FOR MONTH OF February NORMAL 5 weeks	ACTUAL	PERIOD TO DATE
1	Share of Executives	$ 500 00	$ 500 00		$ 500 00		
2	Share of Office Payroll	300 00	292 75		375 00		
3	Foremen (3)	700 00	700 00		875 00		
4	Assistants (1)	96 00	94 25		120 00		
5	Chauffeur (1)	150 00	156 50		187 50		
6	Machinist (1)	84 00	86 50		105 00		
7	Watchman and Janitor (2)	136 00	134 75		170 00		
8	Learners' Expense	50 00			62 50		
9	Teaching Expense	40 00			50 00		
10	Office Supplies and Expense	10 00	6 80		12 50		
11	Stationery and Printing	30 00	37 50		37 50		
12	Telephone and Telegraph	20 00	26 50		25 00		
13	Postage	5 00	5 70		6 25		
14	Employment Advertising	10 00			12 50		
15	Freight and Express Inward	18 00	24 50		22 50		
16	Auto Supplies and Expenses	20 00	58 25		25 00		
17	Heat	120 00	192 75		150 00		
18	Purchased Power	50 00	48 25		62 50		
19	Purchased Light	30 00	41 50		37 50		
20	Repair Parts, Needles and Dies	124 00	222 50		155 00		
21	General Repairs to Buildings	25 00	20 60		31 25		
22	" " " Equipment	20 00	128 70		25 00		
23	Miscellaneous Factory Supplies	25 00	45 20		31 25		
24	" " Expense	15 00	14 50		18 75		
	TOTAL DIRECT EXPENSE	2.578 00	2.839 00		3.097 50		
25	Share of Depreciation	313 20	313 20		391 50		
26	" " Insurance	76 00	76 00		95 00		
27	" " Taxes	140 60	140 60		175 75		
	TOTAL MANUFACTURING EXPENSE	3,107 80	3,368 80		3.759 75		
	DIRECT LABOR:						
	Cutting	4.920 00	4.825 90		6.150 00		
	Making	9.290 00	9.046 25		11.612 50		
	Finishing	1.330 00	1.215 65		1.662 50		
	TOTAL DIRECT LABOR	15.540 00	15.087 80		19.425 00		
	Percent of Manufacturing Expense to Direct Labor	20 %	22.3%		20		

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SAMPLE OF

Form No. 12

EXPENSE ANALYSIS

YEAR

VARIATIONS; GAIN OR LOSS IN MANUFACTURING EXPENSE AND DIRECT LABOR	FOR MONTH OF January NORMAL	ACTUAL	PERIOD TO DATE	FOR MONTH OF NORMAL	ACTU
MANUFACTURING EXPENSE:	$2,979 66	$3,368 80	$ 389 14		
DIRECT LABOR:					
Cutting	4,850 60	4,825 90			
Making	8,952 50	9,046 25			
Finishing	1,095 20	1,215 65			
TOTAL DIRECT LABOR	14,898 30	15,087 80	189 50		
Percent of Manufacturing Expense to Direct Labor	20%	22.3%			

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SAMPLE OF

Form No. 13

FORM 150-A

EXPENSE ANALYSIS

YEAR 1925

SELLING EXPENSE	FOR MONTH OF January NORMAL	ACTUAL	PERIOD TO DATE	FOR MONTH OF February NORMAL	ACTUAL	PERIOD TO DATE
Share of Executives	$1.250 00	$1.250 00				
Share of Office Payroll	695 00	578 50				
Office Supplies and Expense	30 00	25 00				
Stationery and Printing	55 00	75 00				
Telephone and Telegraph	65 00	55 25				
Postage	35 00	42 50				
Advertising	835 00	850 00				
Samples	100 00	150 00				
Travel Expense	75 00	56 25				
Credit and Collection Expense	50 00	28 70				
Dues and Subscriptions	25 00	20 00				
Miscellaneous Supplies	20 00	15 60				
" Expense	15 00	10 70				
TOTAL GENERAL SELLING EXPENSE	3.200 00	3.157 50				
Salesmen's Salaries and Commissions	6.400 00	2.278 50				
Total Net Sales	80,000 00	29,400 25				
% General Expense to Net Sales	4 %	10.74%				
% Salaries and Commissions to Net Sales	8 %	7.75%				
SHIPPING EXPENSE:-						
Shipping Labor	210 00	160 00				
Freight and Express (Out)	75 00	27 50				
Parcel Post	40 00	25 00				
Cartage	25 00	8 80				
Packing Material	60 00	23 50				
TOTAL SHIPPING EXPENSE	410 00	344 80				
TOTAL DOZEN SHIPPED	2,925 00	1,075 00				
Shipping Expense Cost Per Dozen	.140	.321				

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Due to speed used in assembling this report an error was made in stamping form 15 on this page. It should have been stamped 13 and is so referred to in both index and comments.

CHAPTER FOUR

ANALYSIS OF EXPENSE COSTS

In our discussion of expense, we will treat the analysis of manufacturing, selling and other expense charges in the order named.

Manufacturing Expense

Of the three major elements of manufacturing cost, we have already discussed two—material and direct labor. The remaining element, known as manufacturing, or overhead expense, includes all indirect labor and expense charges necessary to the operation of the plant up to the point of packing and shipping. Some prefer to include packing and shipping as part of manufacturing, on the theory that the goods are not beyond the jurisdiction of the manufacturing organization until placed in the post office or railroad car. This, to a certain extent, is true; yet we may easily reason that the shipping department receives practically of all its instruction from the selling organization, and the extent and cost of the packing and shipping cost is dictated by the Sales Department.

We have considered shipping as part of the selling expense for two other reasons: First; because some of the glove manufacturers sell to retailers and others to jobbers. Therefore the shipping costs are not at all uniform. Secondly; it is very desirable to be able to use the manufacturing costs just as they appear on the final cost sheet for inventory valuation purposes. A shipping cost added to the regular processing cost does not enhance the value of the glove while still in stock.

Manufacturing expense as a major element of cost must in turn be divided into three or four sub-elements, such as, indirect or non-productive labor, direct expense purchases, deferred or supply inventory charges, and the fixed charges such as depreciation, taxes and insurance. We are submitting a manufacturing expense analysis (Form 11) for illustrative purposes.

In practice, we ordinarily find it necessary to further divide the analysis into several departments, in order to secure the overhead within each separate factory jurisdiction. Usually there is a group of contributing departments, such as the Boiler, and Power department, Maintenance department, Trucking department, etc., each of which is separately accumulated and distributed. Then there is a productive group consisting of the producing departments, each of which is applied as a separate cost unit. Not only are the various segregations required for cost purposes, but also for the control of expenses incurred by each departmental head. In the larger factories in the glove industry, we would at least divide the productive group into Cutting, Making, and Finishing Departments just as we have divided the analysis of labor. However, we have recognized the existence of many small glove factories and for the sake of simplicity all manufacturing departments have been combined into one in our illustration shown as Form 11. We are not greatly sacrificing accuracy in this case by the combination, for each department, if separated, would require the same basis of application; that is, the percent. of expense to direct labor. If, however, a glove manufacturer, as some do, operates his own tannery, or his box shop, then a segregation of productive departments or businesses would be necessary, for a single cost unit would not give accurate costs.

Referring to Form 11 in detail, the first column indicates the item or expense number, and column two the description of each expense. We have taken a fair assortment for illustrative purposes, though some manufacturers will undoubtedly wish to show a classification in greater detail. Column three presents the standard or normal amounts set against each item for a period of four weeks. Just as standards have been set for material and direct labor, so must the overhead be investigated and standard allowances be developed for the overhead expense of a standard production. By many this development is known as "budgeting." Each item must be considered separately, to determine the amount to be spent in order to produce the standard or normal quantity of gloves. To merely go back over past records and take the average for a similar period is not sufficient. Admittedly there are some indefinite items of expense which must be developed, but a standard must not be established without first finding out the propriety of the past average. Such items might easily contain abnormal or subnormal charges which should have no place in a future standard. Standards are yard sticks by which the efficiency of future operations will be measured.

Column four gives the actual amounts incurred in January by the Standard Glove Company. Column five provides space for the actual "period to date" amounts (the total from the beginning of the fiscal period to the end of the current month). Column six indicates the four week standards raised to a five week period. In the case of "Share of Executive," the four and five week amounts are the same because they are paid regularly on a calendar month basis.

Examples of the subdivision of manufacturing expense referred to in a preceding paragraph are as follows:

1. Indirect Labor—Items 1 to 9, inclusive
2. Direct Purchases—Items 10 to 16 and 18 to 24, inclusive
3. Deferred or Inventory Supply charges—Item 17
4. Fixed Charges—Items 25 to 27, inclusive

It will be seen that we have included in manufacturing expense several of the items not infrequently found classified as administrative expense, such as executive and office salaries, office supplies and expenses, etc. Our contention is that there are only two essential primary divisions of any business—manufacturing and selling, and that unless the expense charge is of a purely financial nature, it should be allocated directly to one or the other, or prorated between the two.

The "Total Direct Expense" (the sum of Items 1 to 24, inclusive) embraces those charges over which the management may exert a direct control as contrasted to the fixed charges (Items 25 to 27), which must be sustained whether the factory is active or idle. In developing the charges for depreciation, insurance and taxes the following illustrative steps were taken by the Standard Glove Company:

1—*Depreciation:*

Value of Building—December 31, 1924—Form 20		$103,880.00
Annual Rate of Depreciation		2%
Annual Building Depreciation ($103,880.00 x 2%)		2,077.60
Value of Machinery and Equipment and Furniture and Fixtures as of December 31, 1924		20,000.00
Annual Depreciation Rate		10%
Annual Machinery and Equipment, and Furniture and Fixtures Depreciation		2,000.00
Total Annual Depreciation		4,077.60

Depreciation for a 4 week period—4/52 or 1/13 of $4,077.60, which is $313.20 (as shown for Item 25). Depreciation for a 5 week period 5/52 of $4,077.60, which equals $391.50 as shown.

2—*Insurance:*

Value of Buildings as of December 31, 1924, Form 20		$103,880.00
Value of Machinery and Equipment		19,250.00
Value of Furniture and Fixtures		750.00
Value of Inventories		105,820.00
Total Valuation Insurable		$229,700.00
Estimated Fire Insurance Rate $.20 per $100.00		
Estimated Annual Fire Insurance—2297 x $.20		459.40
Estimated Annual Payroll, Boiler, etc., Insurance		100.00
Estimated Annual Auto Insurance		75.00
Estimated Annual Stock in Transit Insurance		25.00
Estimated Annual Compensation Insurance		328.60
Estimated Annual Total Insurance		$ 988.00

Insurance for a 4 week period—4/52 or 1/13 of $988.00 equals $76.00 (as shown in Item 26). Insurance for a 5 week period—5/52 of $988.00 equals $95.00 as shown.

3—*Taxes:*

Total Assessed Valuation for Personal property and Real Estate	$100,000.00
Estimated Yearly Tax Rate; 15 mills to the $1.00	
Estimated Yearly Tax ($100,000.00 x .015) equals	1,500.00
Estimated State and other Taxes (not including Federal or State Income Taxes)	327.80
Total Estimated Yearly Tax	$ 1,827.80

Tax for a 4 week period; 4/52 or 1/13 of $1,827.80 equals $140.60 (as shown in Item 27).
Tax for a 5 week period; 5/52 of $1,827.80 which equals $175.75, as shown.

The "Total Manufacturing Expense" is the sum of the total direct expense and the fixed charges. In the illustration it amounts to:

Standard for 4 weeks	$3,107.80
Actual for January	3,368.80
Standard for 5 weeks	3,759.75

The direct labor totals appearing below the total manufacturing expense, have already been referred to in the preceding chapter. They appear on Form 11 in order that the basis of the manufacturing expense application (the percent. of expense to direct labor) may be calculated. The computation is as follows:

> Standard Percent. of Manufacturing Expense to Direct Labor equals $3,107.80 divided by $15,540,00 or 20%. Likewise $3,759.75 (the standard for the 5 week period) divided by $19,425.00, equals approximately 20%. We will, therefore use 20% as the standard in all cases. The Actual Percent. of Manufacturing Expense to Direct Labor for January is $3,368.80 divided by $15,078.80 or 22.3%.

The use of a percentage of manufacturing expense to direct labor as the basis of overhead expense application to all glove costs, has, as its foundation, the conviction that the overhead expense bears a direct ratio to direct labor. We might discourse at great length why this basis is adopted by us in the glove industry, by discussing each item individually. We are not doing so because we know the majority opinion of those in your industry who are conversant with advanced cost methods, to be in agreement with us. Of course there are a few very minor exceptions which for practical purposes may be disregarded entirely. All other methods must be eliminated, because of their pronounced inconsistencies and lack of logic when their use is attempted.

Form 12 illustrates the method by which the monthly variations in expense are recorded. The actual amounts for January for the Standard Glove Company, have been brought forward from Form 11 (total expense $3,368.80 and total direct labor $15,087.80) The normal or standard direct labor based on January production has been taken from Forms 8, 9 and 10. The total of this actual labor, as shown, is $14,898.30. The total normal or standard expense for any month is 20% of the standard direct labor for that month. In January $14,898.30 is multiplied by 20%.

January variations of the Standard Glove Company are:

	Standard	Actual	Gain	Loss
Manufacturing Expense.	$2,979.66	$3,368.80	.....	$389.14
Direct Labor	14,898.30	15,087.80	.....	189.50

We must continually bear in mind that the $3,107.80 appearing on Form 11 is the standard manufacturing expense total for a 4 week standard production, or for a standard $15,540.00 direct labor cost, whereas $2,979.66 is the standard manufacturing expense total for January's actual production or January's standard $14,898.30 direct labor cost.

Selling Expense

Taken as a whole, selling costs, illustrated by Form 13, include general selling expense, salesmen's salaries and commissions, and shipping expense. The process of analysis and the development of standards, follows very closely the method outlined for manufacturing expense. The basis for application to the final cost of each style is obviously different. Shipping Expense has been properly reduced to an expense cost per dozen, while for the purpose of simplicity, General Selling Expense has been related to net sales or to the selling price of a style in the form of a percentage. Compensation to the salesman, if in the form of a commission must, obviously, be applied as a percentage to the selling price.

A much more advanced and correct method of analyzing selling expense is to first develop a cost per "call" for all direct selling effort and a cost per "order" for all inside clerical work, such as the handling and billing of orders. Secondly, develop a profit or loss upon each customer, taking into consideration the calls made and the orders handled. Of course, if the salesman is paid a straight commission, this cost must be applied according to the value of the orders billed to the customer.

The standard and actual rates for January illustrated for the Standard Glove Company are:—

	Standard	Actual for January
Percent. of General Selling Expense to Net Sales	4%	10.74%
Percent of Commission to Net Sales	8%	7.75%
Shipping Expense Cost per Dozen	$.14	$.321

Form 14 illustrates the analysis of administrative expense, and the other charges, such as interest on borrowed money, discount on sales, reserve for bad debts, etc. For comparative purpose and for use in the final costs, standards have been set for each.

The "other data" given at the bottom of Form 14 has been shown purely as interesting comparative statistics.

FORM Nº 15A

A FINAL COST SHEET

DESCRIPTION Mens Prick Seam-Cape Unlined. STYLE Nº 102
POINT Double Draw End Spear DATE Jan. 1st 25
FASTENER 1 H P F LINING

DIRECT LABOR OPERATIONS	COST PER DOZEN	DESCRIPTION OF MATERIAL	QUANTITY PER DOZEN	PRICE PER UNIT	COST PER DOZEN
CUTTING DEPT:-	1 85	LEATHER	30 FT	.32	9 60
CUTTING		" FOR PALMS			
CUTTING LININGS		CUFFS			
CUFFS		CUFFLINING			
" LININGS		GLOVE "			
TILBURY		TILBURY			
STRAPS		STRAPS			
PRESS TRIM & SIZE	30	SILK FOR BACKS			
TOTAL CUTTING LABOR	2 15	FOURCHETTES			
MAKING DEPT:-		LININGS			
SEWING TAPE & STAYS		FABRIC FOR BACKS			
POINTING	73	" " GTLT CUFFS			
FITTING FOR PROVE		STIFFENING			
CLOSING PROVE		KNIT LINING			
MAKING	1 80	FLEESE LINING			
	35	FUR LINING			
SEWING TOGATHER ON OVERSEAM		SEWING THREAD			50
FITTING & CLOSING INSEAM		LABELS			
BINDING	17	RUBBER			
HEMMING	17	TAPE & STAYS			05
		BINDINGS & HEMS			
MAKING LININGS		SIDE LOOPS			
INSERTING LININGS		CLASPS			28
SEWING ON TILBURY		BUTTONS			
MAKING STRAPS		BOXES			11
HAND WORK					
		TOTAL MAT'L COST			10 54
		TOTAL DIR. LABOR COST			5 33
MAKING BUTTON HOLES		TOTAL MFG. EXPENSE - 20% TO D. LAB			1 19
SEWING ON BUTTONS					
RUBBERING		TOTAL MANUFACTURING COST			17 66
		PACKING & SHIPPING PER DOZ.			14
TOTAL MAKING LABOR	3 22	GEN. SELLING EXPENSE 4 %			96
FINISHING DEPT:-		COMMISSIONS 8 %			1 92
TURNING		ADMINISTRATIVE EXPENSE 2 %			48
LAYING OFF	18	ALLOWANCE FOR INTEREST 0.5 %			12
EXAMINING		DISCOUNT 2.0 %			48
CLASPING	08	IMPERFECTS 0.2 %			05
BANDING	30	OTHER ALLOWANCE %			
SORT, SIZE, INSPECT & BOX		TOTAL COST SOLD 90.9 %			21 81
TOTAL FINISHING LABOR	56	SELLING PRICE 100.0 %			24 00
TOTAL DIRECT LABOR	5 33	ESTIMATED PROFIT 9 1/9 %			2 19

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FORM Nº 15C

C FINAL COST SHEET

...IPTION Mens Rip Proof Buck-Hand Sewed Welt STYLE Nº 302
Spear Point Double Draw DATE Jan 1st 25
...NER 1-H.P.F LINING

...ECT LABOR ...ERATIONS	COST PER DOZEN	DESCRIPTION OF MATERIAL	QUANTITY PER DOZEN	PRICE PER UNIT	COST PER DOZEN
...NG DEPT:-	2 10	LEATHER	30 FT	.53	15 90
...TING		" FOR PALMS			
...TING & LINING		CUFFS			
" CUFFS		CUFF LINING			
" " LININGS		GLOVE "			
TILBURY		TILBURY			
STRAPS		STRAPS			
...ESS. TRIM & SIZE	30	SILK FOR BACKS			
...IAL CUTTING LABOR	2 40	FOURCHETTES			
...AKING DEPT:-		LININGS			
SEWING TAPE & STAYS	73	FABRIC FOR BACKS			
POINTING		" " GTLT CUFFS			
FITTING FOR PROVE		STIFFENING			
CLOSING PROVE	2 25	KNIT LININGS			
MAKING - Rip Proof		FLEESE LININGS			50
		FUR LININGS			
SEWING TOGATHER ON OVERSEAM		SEWING THREAD			
FITTING & CLOSING INSEAM	17	LABELS			05
BINDING	50	RUBBER			
HEMMING - Hand Sewed		TAPE & STAYS			28
		BINDINGS & HEMS			
MAKING LININGS		SIDE LOOPS			
INSERTING LININGS		CLASPS			11
SEWING ON TILBURY		BUTTONS			
MAKING STRAPS	06	BOXES			
HAND WORK - Trim Welt					
		TOTAL MAT'L COST			16 84
		TOTAL DIR. LABOR COST			7 04
MAKING BUTTON HOLES		TOTAL MFG. EXPENSE - 20% TO D. LAB			1 41
SEWING ON BUTTONS					
RUBBERING		TOTAL MANUFACTURING COST			25 29
		PACKING & SHIPPING PER DOZ.			14
TOTAL MAKING LABOR	3 71	GEN. SELLING EXPENSE 4.7 %			1 38
FINISHING DEPT:-		COMMISSIONS 8. %			2 76
TURNING	20	ADMINISTRATIVE EXPENSE 2.7 %			69
LAYING OFF	35	ALLOWANCE FOR INTREST 0.5 %			18
EXAMINING	08	DISCOUNT 2. %			69
CLASPING	30	IMPERFECTS 0.2 %			07
BANDING		OTHER ALLOWANCE 90.4 %			37 20
SORT. SIZE. INSPECT & BOX.	93	TOTAL COST SOLD 100. %			34 50
TOTAL FINISHING LABOR	7 04	SELLING PRICE 9.6 %			3 30
TOTAL DIRECT LABOR		ESTIMATED PROFIT			

FORM Nº 15B

B FINAL COST SHEET

...DESCRIPTION Mens Prick Seam Meca-Unlined STYLE Nº 202
...POINT Triple Draw DATE Jan 1st 25
...FASTENER 1 H P F LINING

...DIRECT LABOR OPERATIONS	COST PER DOZEN	DESCRIPTION OF MATERIAL	QUANTITY PER DOZEN	PRICE PER UNIT	COST PER DOZEN
...TTING DEPT:-	2 05	LEATHER	30 FT	.55	16 50
...TTING		" FOR PALMS			
...TING LININGS		CUFFS			
... CUFFS		CUFF LINING			
" LININGS		GLOVE "			
TILBURY		TILBURY			
STRAPS		STRAPS			
...TRIM & SIZE	30	SILK FOR BACKS			
CUTTING LABOR	2 35	FOURCHETTES			
...NG DEPT:-		LININGS			
...G TAPE & STAYS	16	FABRIC FOR BACKS			
...NG	21	" " GTLT CUFFS			
... FOR PROVE		STIFFENING			
... & PROVE		KNIT LININGS			
...	1 90	FLEESE LINING			
		FUR LINING			
					50
GATHER ON OVERSEAM		SEWING THREAD			
CLOSING INSEAM		LABELS			
	17	RUBBER			05
	17	TAPE & STAYS			
		BINDINGS & HEMS			
...INGS		SIDE LOOPS			28
LININGS		CLASPS			
TILBURY		BUTTONS			
...APS		BOXES			10
		TOTAL MAT'L COST			17 43
		TOTAL DIR. LABOR COST			5 89
		TOTAL MFG. EXPENSE - 20% TO D. LAB.			1 18
...N HOLES					
...TTONS		TOTAL MANUFACTURING COST			24 50
		PACKING & SHIPPING PER DOZ.			14
LABOR	2 61	GEN. SELLING EXPENSE 4. %			1 34
...T:-		COMMISSIONS 8. %			2 68
		ADMINISTRATIVE EXPENSE 2. %			67
	20	ALLOWANCE FOR INTEREST 0.5 %			17
	35	DISCOUNT 2.0 %			67
	08	IMPERFECTS 0.2 %			07
	30	OTHER ALLOWANCE %			
...T & BOX		TOTAL COST SOLD 90.3 %			30 24
...G LABOR	93	SELLING PRICE 100 %			33 50
...TAL DIRECT LABOR	5 87	ESTIMATED PROFIT 9.7 %			3 26

CHAPTER FIVE

THE FINAL COSTS

We have taken three styles from the Standard Glove Company's line to illustrate the method of accumulating final costs.

Style 102, appearing on Form 15A, illustrates a Men's Prick Seam Unlined Cape Glove.

Style 202 on Form 15B is a Men's Prick Seam Unlined Moca.

Style 302 on Form 15C is a Men's Rip Proof Buck with a Hand Sewed Welt.

The left half of the cost sheet provides space for registering the various standard direct labor operation costs, with sub-totals for three departments, and a final total at the bottom. As specified in the chapter on the Direct Labor Analysis, the standards set for style 102 appear in detail on Form 15A, the final total being $5.93.

The right half of the cost sheet is devoted to the details of material costs and an accumulation of the final costs. The material cost, totaling $10.54 for style 102, has been taken directly from the standard specifications listed in the chapter on Material Analysis.

From the line showing the total material cost, we will follow down the various items listed in their consecutive order:

1—Total Material Cost . . . . . per dozen $10.54

2—Total Direct Labor Cost . . . . . per dozen 5.93

3—Total Manufacturing Expense Cost (5.93 x 20%) per dozen 1.19
(20% being the normal or standard percent. of manufacturing expense to the direct labor. Form 11)

4—Total Manufacturing Cost per dozen (Sum of 1, 2 & 3) $17.66

The total manufacturing cost is the value at which each dozen of style 102 may be transferred from work in process to the finished stock. It represents the cost of the glove completely finished, examined and boxed.

5—Packing and Shipping Expense—per dozen . . . $.14
(Taken as the standard cost per dozen from Form 13)

6—General Selling Expense—per dozen ($24.00 x 4%) . .96

7—Commissions—per dozen $24.00 x 8%) 1.92
(4 and 8 percent. is the standard percent. of general selling expense and commission to the selling price as shown on Form 13).

8—Administrative Expense—per dozen ($24.00 x 2%) . .48

9—Allowance for Interest—per dozen $24.00 x ½%) . .12

10—Allowance for Discount—per dozen $24.00 x 2%) . .48

11—Allowance for Loss on Imperfects—per dozen (24.00 x 1/5%) 05
(Each percent. used is the standard percent. to the selling price as given on Form 14).

In providing separately for the several allowances at the end of the cost sheet, our purpose has been to eliminate from the total manufacturing cost any item which might not be properly used in valuing the goods on hand at inventory time. Some manufacturers like to include interest, particularly on invested capital, in the cost of manufacturing. We are quite willing to insert it as an allowance at the end of the cost sheet, as we have ½% for interest on borrowed money, as long as it does not affect the manufacturing cost. We believe, however, that interest on invested capital should be provided for in the addition for estimated profit.

Also, we believe the most uniform practice will be to provide for a loss on imperfect gloves as an allowance. This will leave all gloves in the finished stock account at a fair value. Not only is this good practice from a valuation standpoint, but furthermore, it provides for the proper disclosure of the real loss in dollars and cents each period as sustained.

12—Total Cost Sold per dozen $21.81
(The sum of items 4, 5, 6, 7, 8, 9, 10, 11 and 12)

13—Selling Price (Actual, per dozen) 24.00

14—Estimated Profit—per dozen $24.00 less $21.81) . . $ 2.19
If the Selling Price is taken as 100%, the total cost sold is $21.81 divided by $24.00 or 90.9%, and the estimated profit is $2.19 divided by $24.00 or 9.1%.

We have assumed that $24.00 is the actual selling price at which the market will purchase style 102. Let us further assume that we must compute a selling price which will develop a profit of —say—10%.

The known factors are:

1—Selling price equals 100%.

2—Manufacturing and Shipping Cost equals $17.66 plus $.14 or $17.80.

3—General Selling Expense, Commission, Administrative Expense, Profit, and Allowance for Interest, Discount, and Loss on Imperfects equals 26.7% (consisting of 4%; 8%; 2%; 10%; 5%; 2%; 2%;) of the selling price.

Therefore, in terms of percent. of the selling price, the manufacturing and shipping cost must equal 100% minus 26.7% or 73.3%; whereas if $17.80 equals 73.3% of the selling price, the selling price must equal $17.80 divided by .733 (73.3%) or $24.28 per dozen.

Form No. 17

DESIGNED BY MILLER, FRANKLIN, BASSET & CO NEW YORK

Record Of — Cost Of Goods Shipped — FORM 1300

STYLE	Month Standard Cost Per Dozen	January 1925 Dozen Shipped	January 1925 Amount	February 1925 Dozen Shipped	February 1925 Amount	March 1925 Dozen Shipped	March 1925 Amount	April 1925 Dozen Shipped	April 1925 Amount
100	18 20	40	$ 728 00						
101	19 50	65	1 267 50						
102	17 66	105	1 854 30						
103	24 50	85	2 082 50						
104	28 75	50	1 437 50						
ETC									
ETC									
ETC									
ETC									
ETC									
Totals		1 075	321 625 75						

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Form No. 18

DESIGNED BY MILLER, FRANKLIN, BASSET & CO NEW YORK

Record Of — Cost Of Goods Returned — FORM 1300

TO FINISHED STOCK STYLE	Month Standard Cost Per Dozen	January 1925 Dozen Returned	January 1925 Amount	February 1925 Dozen Returned	February 1925 Amount	March 1925 Dozen Returned	March 1925 Amount	April 1925 Dozen Returned	April 1925 Amount
275	22 50	5	$ 112 50						
504	28 20	4	112 80						
ETC									
Totals		15	$ 331 50						

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Form No. 16

Record Of — Cost Of Goods Transferred To Finished Stock

STYLE	Month Standard Cost Per Dozen	January 1925 Dozen Finished	January 1925 Amount	February 1925 Dozen Finished	February 1925 Amount	March 1925 Dozen Finished	March 1925 Amount
100	18 20	75	$ 136 5 00				
101	19 50	135	263 2 50				
102	17 66	195	344 3 70				
103	24 50	160	392 0 00				
104	28 75	80	230 0 00				
ETC							
ETC							
ETC							
ETC							
ETC							
Total From Work in Process		2725	$5451 075				
STYLE	Standard Loss Per Dozen	Dozen Imperfect					
1023	277	2	5 54				
ETC							
ETC							
Loss on Imperfect Merchandise			85 50				
Total to Finished Stock		2725	544 25 25				

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Due to speed used in assembling this report an error was made in stamping form 19 on this page. It should have been stamped 16 and is so referred to in both index and comments.

CHAPTER SIX

TYING THE COSTS INTO THE GENERAL BOOKS OF ACCOUNT

Of the twelve principles set forth in the first chapter as necessary in order to secure the principal advantages of a uniform cost system, the last one stated that the cost and accounting systems should be tied together. The methods and records already discussed provide the necessary information required to do this, with but two exceptions; the total cost of goods transferred from work in process to finished stock, and the total cost of goods shipped from finished stock. It is quite possible to eliminate the first of the two provided you will be satisfied with a combination of the value of work in process and finished stock in one account. It is, however, a fairly general practice to divide a business into the two parts—at least theoretically—of manufacturing and selling, with a dividing line in inventory values, between work in process and finished stock. There is a further good reason for this division in the fact that shipping is generally very irregular, finished stock at certain seasons is much larger than at others, and to know separately the value of in process and finished goods at the end of each month is a decided advantage.

Form 16 illustrates the Standard Glove Company's transfers from work in process for the month of January. The dozens finished of each style and placed in finished stock are multiplied by the standard manufacturing cost to secure the value to be credited to the process account. Style 102, as an example shows 195 dozen finished at a manufacturing cost of $17.66 per dozen (Form 15A.) The total is $3,443,70. The total cost of all styles transferred for the month is $54,510.75. Provision is also made on this record to develop the loss due to imperfect goods made, so that, as its transfer is made to finished stock, the value of imperfects will have been properly reduced. Taking style 102 again as an example, we will assume that the average selling price of imperfects is 25% below that of firsts, or $18.00 ($24.00 x 75%) We wish to place a value on the imperfects which will permit selling without further loss. Therefore, the regular cost of shipping—$.14; selling expense—4%; commission—8%; administrative expense—2%; allowance for interest and discount 2.5%; must all be provided for. The $18.00 sales price, minus 4%, plus 8%, plus 2%, plus 2.5%, and minus $.14, will give this desired value of $14.89.

Having developed the proper resale value as $14.89, the loss may be taken by deducting $14.89 from the original Manufactured Cost of $17.66—a loss of $2.77.

Forms 17 and 18 illustrate the cost of goods shipped and returned. The cost per dozen for each style is the standard manufacturing cost for firsts and the depreciated value for imperfects—the same, of course, as used in debiting finished stock. The total dozen shipped or returned for each style, as required by these two records, must be summarized from the sales records. The total cost of goods shipped for January appears as $21,625.75; the total value of returns as $331.50.

We are now ready to turn to the Standard Journal Entries, in order to understand the connecting link between the cost and general accounting systems. The actual figures shown for January may be easily traced to their source, a reference form number having been placed beside each amount. Below each entry is an explanation of the purpose.

STANDARD GLOVE COMPANY
STANDARD JOURNAL ENTRIES
For Month Ended January 31, 1925

Journal Entry No.	Taken from Form No.	Accounts	Debit	Credit
1		Manufacturing Expense	$ 2,187.30	
	11	Reserve for Depreciation		$ 313.20
	11	Insurance		76.00
	11	Taxes		140.60
	11	Coal		192.75
	11	Office Payroll		292.75
	11	Factory Payroll		1,172.00

The purpose of this entry is to charge manufacturing expense with a monthly portion of depreciation, insurance, taxes, coal and indirect or non-productive labor from the office and factory payroll. In short, to charge manufacturing expense with all amounts not charged directly through the purchase journal, cash book, etc.

2		Selling Expense	$ 888.50	
	11	Office Payroll		$ 578.50
	11	Factory Payroll		160.00
	11	Work in Process (Samples)		150.00

To charge selling expense with the monthly portion of indirect or non-productive labor and the cost of samples. Like entry No. 1, the debit shown provides for all charges not otherwise debited directly.

3		Work in Process	$14,898.30	
	12	Variations due to Direct Labor	189.50	
	12	Factory Payroll		$15,087.80

To debit Work in Process with the standard cost of direct labor consumed and to credit Payroll with the actual cost, the difference being either debited or credited to the Variations due to Direct Labor Account. If the difference is a loss, the amount is debited; if a gain it is credited. Realizing that all credits to Work in Process, as shown by Form 16, must be at standard manufacturing costs, it naturally follows that the debit should likewise be at standard costs. Of course, the process account may be debited at actual, but if so it must promptly be brought to standard by an additional journal entry. In other words, if an operation actually costs $1.05 and we know that as it is taken out of process along with many other operations, in the form of a total standard cost of goods to finished stock at $1.00, the difference, or $.05 must be charged off immediately to a variation account and may properly be considered as a manufacturing gain or loss.

4		Work in Process	$ 2,979.66	
	12	Variation due to Manufacturing Expense	389.14	
	12	Manufacturing Expense		$ 3,368.80

5		Work in Process	$38,093.75	
	4	Variation due to Material		$ 907.85
	4	Leather		37,185.90

6		Work in Process	$ 753.25	
	5	Variation due to Material		$ 27.75
	5	Linings		725.50

7		Work in Process	$ 1,375.00	
	6	Variation due to Material		$ 67.50
	6	Thread		1,307.50

8		Work in Process	$ 1,237.50	
	6	Variation due to Material		$ 51.75
	6	Trimmings		1,185.75

9		Work in Process	$ 285.40	
	7	Variation due to Material	13.10	
	7	Boxes		$ 298.50

Nos. 4, 5, 6, 7, 8 and 9—To debit Work in Process at Standard costs, and to credit Manufacturing Expense, Leather, Linings, Thread, Trimmings and Boxes with actual costs of consumption. The variations are treated in the same manner as described for entry No. 3.

10		Finished Stock	$54,425.25	
	16	Loss due to Imperfect Merchandise	85.50	
	16	Work in Process		$54,510.75

To debit Finished Stock with the standard manufacturing cost of goods finished, imperfects being properly depreciated; and to debit Loss due to Imperfect Merchandise with the depreciation.

11		Cost of Sales	$21,625.75	
	17	Finished Stock		$21,625.75

To debit Cost of Sales with the standard manufacturing cost of goods shipped.

12	18	Finished Stock	$ 331.50	
	18	Work in Process		
		Cost of Sales		$ 331.50

To debit Work in Process and Finished Stock with the standard value of goods returned either to be reconditioned or to be placed in stock.

We refer to the above entries as being "standard" because, while the amounts will vary each month, their nature and purpose remains the same.

STANDARD GLOVE COMPANY

ILLUSTRATIVE TRIAL BALANCE AND GENERAL LEDGER TRANSACTIONS

For the Month Ending January 31st, 1925

ACCOUNTS	Trial Balance December 31st, 1924		Purchase Journal for Month of January, 1925		Cash Book, Sales Book and Regular Journal Entries		Standard Journal Entries		Trial Balance January 31st, 1925	
	Debit	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit	Credit
Cash	$ 50,000.00	$	$	$	$ 49,845.10 CR-JE2	$ 48,855.20 CD-J-4	$	$	$ 50,989.90	$
Petty Cash	500.00								500.00	
Accounts Receivable	65,150.00				29,400.25 SB	35,785.50 CR			58,764.75	
Notes Receivable	10,000.00								10,000.00	
Leather	25,450.00		27,860.25					37,185.90	16,124.35	
Linings	1,525.00		1,246.00					725.50	2,045.50	
Thread	985.00		1,525.00					1,307.50	1,202.50	
Trimmings	1,745.00		1,875.00					1,185.75	2,434.25	
Boxes	450.00		385.50					298.50	537.00	
Work in Process	18,175.00						59,622.86	54,660.75	23,137.11	
Finished Stock	57,065.50						54,756.75	21,625.75	90,196.50	
Coal	425.00		257.25					192.75	489.50	
Land	5,000.00								5,000.00	
Buildings	103,880.00								103,880.00	
Machinery and Equipment	19,250.00								19,250.00	
Furniture and Fixtures	750.00								750.00	
Prepaid Insurance	150.00		395.00					76.00	469.00	
Prepaid Interest	475.00				375.00 J-2	157.50 J-1			692.50	
Salesmen Drawing Account	1,500.00				1,600.00 J-4	2,278.50 J-3			821.50	
Accounts Payable		27,765.00		55,795.85	48,005.95 CD					35,554.90
Notes Payable		150,000.00				15,000.00 J-2				30,000.00
Accrued Taxes								140.60		140.60
Capital Stock		200,000.00								200,000.00
Surplus		72,035.50								72,035.50
Profit and Loss					304.50 J-1				304.50	
Office Payroll			871.25					871.25		
Factory Payroll			16,419.80					16,419.80		
Manufacturing Expense			1,181.50				2,187.30	3,368.80		
Selling Expense			2,613.80				888.50		3,502.30	
Administrative Expense			1,165.50						1,165.50	
Salesmen's Salaries and Commissions					2,278.50 J-3				2,278.50	
Cost of Sales							21,625.75	331.50	21,294.25	
Sales					431.00 SB	29,831.25 SB				29,400.25
Discount on Sales					565.40 CR				565.40	
Discount on Purchases						750.75 CD				750.75
Reserve for Income Taxes		12,500.00								12,500.00
Reserve for Depreciation		35,175.00						313.20		35,488.20
Reserve for Bad Debts						147.00 J-1				147.00
Variation due to Materials							13.10	1,054.85		1,041.75
Variation due to Direct Labor							189.50		189.50	
Variation due to Manufacturing Expense							389.14		389.14	
Loss due to Imperfect Merchandise Made							85.50		85.50	
	$ 362,475.50	$ 362,475.50	$ 55,795.85	$ 55,795.85	$ 132,805.70	$ 132,805.70	$ 139,758.40	$ 139.758.40	$ 417,058.95	$ 417.058.95

The Illustrative Trial Balance of the Standard Glove Company will show the various general ledger transactions or postings for the month of January.

Having listed the various accounts found in the ledger, the first two columns show the Trial Balance as of December 31, 1924, with the various debit and credit balances. The third and fourth columns give the various postings from the Purchase Journal to the ledger. The fifth and sixth columns give the various postings made directly from the Cash Book, Sales Book and regular Journal. Columns seven and eight are a recapitulation of the Standard Journal Entries. The debit to Work in Process ($59,622.86) as an example, is the sum of the individual debits appearing on Form 19, entries number 3, 4, 5, 6, 7, 8, 9 and 12. The total debit and credit for the standard journal entries is $139,-758.40. Finally, columns nine and ten give the Trial Balance as of January 31, 1925.

To illustrate, we will follow through the activity of one account,—

Leather:

Debit Balance December 31	$25,450.00	Column 1
Added by Purchases	27,860.25	Column 3
Total Debits	$53,310.25	
Credit by actual usage	37,185.90	Column 8
Trial Debit Balance January 31	$16,124.35	Column 9

With the information made available by the Trial Balance (and associated work sheet) we are now able to prepare for the Standard Glove Company, a Balance Sheet as of the end of January, and a Profit and Loss Account or Operating Statement for the month of January. These are the two most important financial reports in every business. The Profit and Loss Statement shows the amount and nature of the business income and of the various costs and expenses incurred to produce this income, while the Balance Sheet shows the amount of capital invested in the business, its character, its source, and the nature of the assets, liabilities and reserves.

The following is the—

STANDARD GLOVE COMPANY'S

PROFIT AND LOSS STATEMENT

(Frequently known as the "Statement of Operations")

For Month of January 1925

Takenfrom Form No.	ITEMS			
20	Gross Sales		$29,831.25	
20	Less Returns and Allowances		431.00	
	Net Sales			$29,400.25
20	Inventory of Work in Process, as of December 31, 1924		$18,175.00	
19	Additions: Leather		38,093.75	
19	Linings		753.25	
19	Thread		1,375.00	
19	Trimmings		1,237.50	
19	Boxes		285.40	
19	Direct Labor		14,898.30	
19	Manufacturing Expense		2,979.66	
	Total Inventory and Additions		$77,797.86	
19	Deductions: Transferred to Finished Stock	$54,425.25		
19	Samples to Selling Expense	150.00		
19	Loss on Imperfect Merchandise	85.50		
	Total Deductions		54,660.75	
20	Inventory—Work in Process—January 31, 1925		$23,137.11	
20	Inventory: Finished Stock, December 31, 1924		$57,065.50	
19	Additions: Transferred from Work in Process		54,425.25	
19	Returns		331.50	
	Total Inventory and Additions		$111,822.25	
20	Less: Inventory of Finished Stock, January 31, 1925		90,196.50	
19	Cost of Sales			21,625.75
	Gross Manufacturing Profit			$ 8,106.00
		Gain	Loss	
	Variations from Standards:			
19	In Leather	$ 907.85	$	
19	In Linings	27.75		
19	In Thread and Trimmings	119.25		
19	In Boxes		13.10	
19	In Direct Labor		189.50	
19	In Manufacturing Expense		389.14	
19	Loss due to Imperfect Merchandise		85.50	
	Totals and Resultant Variation	$ 1,054.85	$ 677.24	377.61
	Net Manufacturing Profit or Loss	$	$	$ 8,483.61
13	Selling Cost: Shipping Expense		344.80	
13	General Expense		3,157.50	
13	Commissions		2,278.50	5,780.80
	Trading Profit			$ 2,702.81
	Additions to Income:			
19	Discount on Purchases	750.75		
	Waste Sold	0.00		
	Miscellaneous Additions	0.00		
	Total Additions		$ 750.75	
	Deductions from Income:			
19	Discount on Sales	$ 565.40		
19	Interest	157.50		
19	Reserve for Bad Debts	147.00		
19	Administrative Expense	1,165.50		
	Total Deductions		2,035.40	
	Resulting Addition or Deduction			1,284.65
	NET PROFIT			$ 1,418.16

The following is the—

STANDARD GLOVE COMPANY'S

BALANCE SHEET

(Sometimes known as "Statement of Condition")

As of January 31, 1925

Assets			
Cash	$50,989.90		
Petty Cash	500.00		
Accounts Receivable	58,764.75		
Notes Receivable	10,000.00		
Total Current Assets		$120,254.65	
Leather	$16,124.35		
Linings	2,045.50		
Thread	1,202.50		
Trimmings	2,434.25		
Boxes	537.00		
Work in Process	23.137.11		
Finished Stock	90,196.50		
Coal	489.50		
Total Inventories		136,166.71	
Total Inventories and Current Assets			$256,421.36
Land		$ 5,000.00	
Buildings	$103,880.00		
Machinery and Equipment	19.250.00		
Furniture and Fixtures	750.00		
Total Depreciable Fixed Assets	$123,880.00		
Less Reserve for Depreciation	35,488.20		
Net Depreciable Fixed Assets		88,391.80	
Net Fixed Assets			93,391.80
Prepaid Insurance		$ 469.00	
Prepaid Interest		692.50	
Advances to Salesmen		821.50	
Total Prepaid Operating Expenses			1,983.00
TOTAL ASSETS			$351,796.16
Liabilities and Capital			
Accounts Payable		$35,554.90	
Notes Payable		30,000.00	
Accrued Taxes		140.60	
Total Current Liabilities			$65,695.50
Capital Stock		$200,000.00	
Surplus		72,035.50	
Total Capital and Surplus			272,035.50
Reserve for Income Taxes		$12,500.00	
Reserve for Bad Debts		147.00	
Total Reserves			12,647.00
Estimated Profit from first of year to date (See Profit and Loss Statement)			1,418.16
TOTAL LIABILITIES AND CAPITAL			$351,796.16

There appears no need for a detailed explanation of the two reports just shown. The manner in which each was developed is apparent from the forms previously introduced. The various amounts appearing on the Profit and Loss Statement have been prefixed by reference numbers indicating the forms from which each is taken. The Balance Sheet is made up entirely from the Trial Balance.

The one check between the two is in the net profit or loss amount. The Net Profit or Loss appearing in the Profit and Loss Statement must equal the difference between the Estimated Profit and Loss to Date at the end of the current month and the end of the preceding month.

We have stated that the Balance Sheet is taken directly from the trial balance each month and this is quite true if we were to formally close the general ledger each time. Since this is impractical, the Estimated Profit or Loss to Date must be found each month by figuratively charging and crediting the various income accounts to profit and loss in memorandum form, as shown below:

Additions to Income during January:		
Sales	$29,400.25 Credit	
Discount on Purchases	750.75 Credit	
Variation due to Materials	1,041.75 Credit	
Total Credits to Profit and Loss		$31,192.75
Deductions from Income:		
Cost of Sales	$21,294.25 Debit	
Selling Expense	3,502.30 Debit	
Administrative Expense	1,165.50 Debit	
Salesmen's Salaries and Commissions	2,278.50 Debit	
Discount on Sales	565.40 Debit	
Variation due to Direct Labor	189.50 Debit	
Variation due to Manufacturing Expense	389.14 Debit	
Loss due to Imperfect Merchandise	85.50 Debit	
Miscellaneous Debits to Profit and Loss	304.50 Debit	
Total Debits to Profit and Loss		$29,774.59
Credit Balance to Date (Profit)		$ 1,418.16

In the chapters we have presented you will have found the Standard Glove Company not only provided with costs covering its entire line, on which to establish selling prices, but it has also been told the real efficiency of its cutters, the history of each leather lot, the result of the Company's operations each month, and its condition at the end of each month. Moreover its expenditures have been placed on a budget basis and periodically you know if its people are wasteful or conservative in the use of leather, fur, trimmings, fasteners, etc. The day work labor cost is controlled, you get comparisons between your outside and inside labor costs, and the whereabouts of extravagance in the overhead expenses is immediately traceable by the easily procured comparative and percentage figures. Many other facts can be known by the student of the figures.

The possessor of such a system will really be in control of his business.

CONCLUSION

No matter what the length of a report or text book upon statistical methods, the reader generally carries away the impression that much detail work is involved. To fully describe any ordinary half dozen records now maintained by the average glove manufacturer, would involve as much explanation as has been offered in this report. What may appear to be a mass of detail is, in reality, only an attempt to describe a very few simple records very completely.

The best measure of the inherent simplicity of the system here presented is that the methods as described and herein illustrated involve the use of only six different forms.

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