

		MONTH OF August 1922											
	PRODUCTIVE	ADMINISTRATIVE		NON-PRODUCTIVE FACTORY						Total Non-Productive	Total Productive	Percent to Total	
		Executive	Clerical	Supervision	Clerical	Others	Idle Time	Overtime					
DIRECT													
Current Month	Wages	37,222.50		2,629.40	1,151.25	6,567.36	66.30	755.64	12,092.09	37,222.50	47.06		
	Hours	41,827.80		3,404.60	2,647.70	12,582.70	219.90	1,453.90	22,001.00	39,109.60	44.73		
Period to Date (Average)	Wages	20,000.00		3,604.89	303.63	5,170.10	44.61	174.10	11,608.89	29,231.63	29.00		
	Hours	21,321.54		4,917.10	2,210.40	10,127.80	117.38	215.17	15,590.35	26,947.63	25.38		
Period last Year (Average)	Wages	17,118.51		6,270.07	1,044.20	8,748.41	22.00	150.23	13,254.81	20,836.72	44.14		
	Hours	22,768.94		5,664.65	6,232.37	11,846.35	227.37	169.84	20,361.38	30,130.32	40.68		
INDIRECT													
Current Month	Wages	2,169.82		504.31	332.22	1,988.30	0.00	123.69	4,237.32	3,068.84	27.34		
	Hours	3,121.80		357.70	730.00	4,005.70	14.40	249.30	6,241.70	6,241.70	66.50		
Period to Date (Average)	Wages	1,360.70		331.72	307.50	1,289.00	0.00	39.22	2,667.52	1,875.53	17.10		
	Hours	2,027.35		337.75	450.50	4,160.75	6.77	73.15	5,239.32	5,239.32	58.22		
Period last Year (Average)	Wages	1,107.31		757.26	242.24	2,232.92	0.24	30.24	3,367.16	4,274.47	38.22		
	Hours	1,412.28		183.31	744.00	3,420.83	11.73	31.03	6,600.01	6,100.33	61.56		
GENERAL													
Current Month	Wages	2,760.00	317.30	1,241.40	1,365.34	2,024.49	5,237.50	4,621.23	7,000.79				
	Hours	1,335.00	552.00	372.00	1,446.50	4,412.50	2,200.00	6,447.40	6,133.40				
Period to Date (Average)	Wages	2,330.31	300.36	1,200.30	1,296.62	1,881.47	3,039.47	2,605.00	4,972.10				
	Hours	1,322.00	523.00	372.00	4,269.11	3,415.33	2,200.00	7,536.44	10,166.44				
Period last Year (Average)	Wages	1,707.51	2,708.10	416.72	1,441.00	1,042.50	1,032.01	3,354.30	4,317.21				
	Hours	1,368.00	1,160.00	372.00	4,210.00	3,652.50	2,276.10	8,446.00	11,022.10				
TOTAL													
Current Month	Wages	39,649.12	2,700.00	3,177.30	3,730.68	2,024.49	5,237.50	4,621.23	24,724.00	64,373.23	26.41		
	Hours	44,949.60	1,884.00	3,899.70	6,092.20	16,998.20	2,219.30	6,694.80	57,153.80	108,127.40	34.46		
Period to Date (Average)	Wages	22,420.24	1,330.00	2,000.30	2,593.24	3,762.94	3,039.47	2,605.00	14,267.30	36,687.54	24.47		
	Hours	26,349.89	1,335.00	2,000.30	7,021.00	13,575.00	2,200.00	7,536.44	36,938.74	63,888.58	26.44		
Period last Year (Average)	Wages	18,712.82	2,708.10	616.72	1,441.00	1,042.50	1,032.01	3,354.30	23,260.35	23,260.35	26.00		
	Hours	21,181.25	1,368.00	1,160.00	7,171.00	6,652.50	2,276.10	8,446.00	36,071.71	59,253.00	34.27		

Fig. 1. Form of Pay-Roll Analysis.

chargeable to the product as the case may be. Recently there has been the suggestion made (Denham) that we speak of them as chargeable and non-chargeable, and to my mind this is the truly simple and logical way of defining labor for cost purposes. Such a plan leaves to the words their most important and most obvious meaning, removing only that limitation (chargeable or non-chargeable) which cost accountants found it necessary to impose. Varying opinions as to the extent one could or should charge labor would in no wise effect, the question of the directness or indirectness of that labor.

From the standpoint of costs, it will be found that this method of analysis does not introduce any difficulties whatsoever. For example, a productive indirect worker, such as a toolmaker, may be charged directly to a job, such as the manufacture of a tool, and another toolmaker directly to an expense, such as tool repairs. Furthermore, it has the advantage that should there in any department be a class of productive direct workers, who, for one reason or another, cannot be allocated or directly charged to the work in process, it is nevertheless possible to show them in their correct classification on the analysis sheet.

There is one other matter to which I desire to call your attention. As matters now stand, serious discrepancies may be introduced for comparative purposes, depending on whether or not, for instance, one of us calls a millwright, under certain circumstances, produc-

tive and another calls him non-productive. The importance of the error lies in the fact that we get different results in the matter of our productive labor. Under the scheme proposed, however, the error is minimized, since while we may disagree as to productivity, we cannot but agree on the question of directness or indirectness, and we would both, therefore, keep him out of direct productive data.

The form of "Pay Roll Analysis" shown (Fig. 1) will serve to indicate one of the many varied ways in which information may be obtained by this system. It is to be understood that this is offered merely by way of illustration and that the figures given are fictitious. It may be made more comprehensive, or it may be greatly simplified depending on the requirements of the particular business. For example, instead of showing hours and wages alone, numbers of workers might also be included. Such headings as "Supervision" or "Other" might be still further divided for purposes of analysis. It might be condensed by putting "Clerical" and "Other" in one column, and it might merely show number of employees without any reference to wages or hours. Auxiliary sheets for purposes of more detailed consideration can easily be prepared by departments or under such suitable division as might be desired. From the form shown, however, it is apparent that very considerable information may be derived as to the relative wages paid to or hours worked by the

groups indicated. Not only may we test non-productive wages or hours against the grand total but we may also find what relation each division "Direct," "Indirect" and "General" bears to the total. Each manufacturer and each executive interested in "Pay Roll Analysis" can easily determine for himself what data he is particularly interested in and arrange to suit himself the form in which it is presented.

It will be observed that hours are credited to each division just as are wages or salaries. The purpose of this is to eliminate the likelihood of incorrect conclusions being drawn from insufficient data. For instance, if we were comparing a certain month with an earlier one, the former being a part time month and the latter a full time one, all other things being equal, the ratios obtained in each month would be identical, if our ratios were based on numbers of employees. As soon as we obtain these ratios on the hour basis, however, we find that there is a marked difference as between the two periods. Total earnings may also be misleading. Average earnings or wages are of value not only because the ratios resulting are fairly accurate and comparable but also because the actual values in themselves should give illuminating information.

The manner of arriving at the number of hours is a very simple one. All those working on clock cards are credited with the hours shown on the cards; all those on the weekly or monthly basis of pay and not working on clock cards are credited with the theoretical hours which they are supposed to work, no consideration being given to overtime or absences, unless in the latter case a deduction from pay is made.

That the principle of the scheme is in itself very simple, should be readily apparent. Once the definitions are understood, there need be no further concern as to the ability of the Pay Roll Department to properly analyze the pay roll, or any difficulty on the part of the executives in understanding the information presented. The use of the terms "Productive" and "Non-Productive" and "Direct" and "Indirect" are so easily comprehended that once we appreciate the method of their application and forget the manner in which they have been used by cost accountants, we can almost classify our labor without thought of definitions. Once you get the basic idea in your mind, you immediately visualize a certain group of workers when you hear the term "Direct Productive," and the same is true of "Indirect Productive" or any other group.

I am fully convinced that the only satisfactory solution of the problem of labor classification for pay roll analysis is upon what I might term vertical as well as

horizontal lines of demarcation. If we accept this theory, we have then only to finally determine the exact definitions for the various divisions, whether they be those proposed above or others. In any event we can and should achieve a common plane of understanding to our inestimable benefit and advantage.

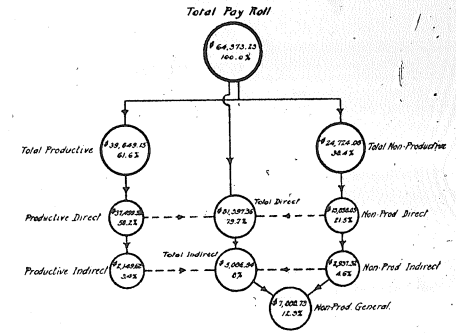


Fig. 2. Illustrative Chart.

DISCUSSION

Mr. C. F. Brown stated that it seemed to him that the problem could be divided into three distinct phases, as follows:

1. Is the present form of payroll analysis satisfactory, i. e., should the present definition of what is productive and what is non-productive be continued?
 2. Does the idea or general principle of method of payroll analysis submitted appeal to the members present as putting things in a clearer light than the ordinarily accepted terms?
 3. Question of definitions.
- Mr. E. F. Papworth of the Brown-Lipe-Chapin Company stated that he personally had long been dissatisfied with the terms "productive" and "non-productive," and "direct" and "indirect," as used by cost accountants, and felt that the terms "chargeable" and "non-chargeable" were preferable because they were ordinarily the determining factor between productive and non-productive labor in the cost installation. Mr. Papworth cited the instance of an inspector who has pieces coming to his bench for inspection and who is just as necessary to production as a machine operator, but that due to the large variety of parts which he may inspect, it is impossible to charge his time directly to any blue print or operation number, and that, therefore, there is no alternative to charging his time to expense in most cases.
- Mr. Papworth asked Mr. C. F. Brown, for the benefit of the assembly, to assume that his business was in a bad way financially due to business depression, necessitating the immediate cutting down of expenses, and to illustrate through his scheme of payroll analysis what class of workmen should first be dispensed with.