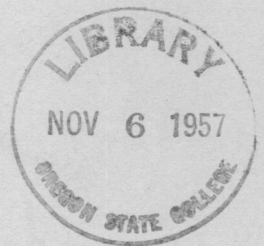


INCENTIVE WAGE PAYMENTS IN THE DOUGLAS FIR REGION



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PREFACE

The reasons for choosing this subject are: The experience I have had among loggers and knowing their desire to be paid for what they do, the noticeable inefficiencies in logging operations because there is no incentive on the part of the workmen, and the success of various bonus systems in manufacturing.

I received most of my information from the proceedings of Logging Congresses, and issues of the "Timberman."

INCENTIVE WAGE PAYMENTS IN THE DOUGLAS FIR REGION

Introduction

Fundamentally there are but two methods of paying men for their services. One is day wages, where a man is paid according to the time he spends, regardless of the amount of work he does. The other is the piece rate, where he is paid for the quantity produced, regardless of time spent. The bonus system is a combination between the two principles.

History

There is not much to be said about the history of incentive wage payments, except that back as early as 1870 in the woods of Maine the bosses realized that some sort of incentive increased output, so they offered a new mackinaw coat or a new pair of boots to each man on the top crew at the end of the season. The result was that every crew attempted to be the top crew.

Need of an Incentive Wage System

In the use of a bonus system, the reward of success

is large to both sides. To the employee it comes directly as increased earnings, to the employer it comes almost equally directly, for if under the stimulus of wages proportionate to effort the men increase their efficiency. The output of the camp is increased without cost for additional engines or skidders, enlargement of camps, extension of spurs or any increase in fixed expense. The cost of production is lowered and the profit per thousand board feet of logs is correspondingly increased. It is a stimulant to individual rewards without breaking down the men's safeguard of a recognized standard wage rate.

Labor which is sixty percent of the logging costs exclusive of stumpage is considered only thirty per cent efficient. One way of lowering this percentage of labor cost is to increase its percent of efficiency. This can be done to a great extent by the introduction of incentive wage payments or profit sharing systems.

PART I

Bonus Systems which has been used

There has been many striking examples brought out in the proceedings of different logging congresses, of bonus systems and their results, by men who have tried them.

From all available information, incentive bonus was first used in the woods about 1912.

At the Logging Congress of 1914, H. Syverson of the Mequally Logging Company, made a report in which he said, "The most important step towards gaining and retraining an efficient and intelligent crew, is the percentage system, bonus or profit sharing system." "Labor troubles would be unknown and the employer would have the satisfaction of having men that would have his interest at heart and that the work would go on as well in his absence as in his presence."

At that time the Portland Lumber Company were using the bonus system. They found that every man used his best efforts in getting out logs, and as far as known their camp held the record for yearly output. They found that if any dilatory tactics were in vogue among the crew they were reported to the foreman, as the men felt it to their interest to have the best men at different jobs, because of increased earnings.

One of the outstanding examples of what bonus systems or piece work would do, as reported by Mr. Syverson, was found in barking piling. His company got out quite a number of piling which they peeled in the woods, paying piling peelers three dollars per day. The men got the idea that they were only supposed to peel about so many feet per day and the rest of the time they loafed. When Mr. Syverson checked up he found that it cost two and one-quarter cents

per foot which was a very high figure at that time. He discontinued the practice of peeling in the woods and let a contract to a man, at eighty-five cents per hundred feet, to roll them out on a float and peel them after they were in the water. In addition to peeling them, the broken ends were squarred and the piling put in rafts. There was not a man in this service making less than \$3.25 per day, and some making as high as \$6.00 per day.

The method of paying bonus, on the yarding and loading end of the operation at that time was the base for any one month was figured in advance as follows:

By looking over the show for the coming month and comparing it with similar shows in the past, and examining the past records, the amount that could be logged, under the old system could be determined approximately.

The determined amount was used as a base. Up to this base the logging crew was paid the current wage. Then for every ten logs gotten above this base, the yarding crew consisting of one hook-tender, and two, sometimes three rigging men, one chaser, one rolling man, one loading and one yarding engineer; one swamper and one signal man, five dollars to be divided among them in the proportion that each individual wage bore to the total daily wage of the whole yarding crew.

No man was entitled to this bonus for any month

unless he had completed the months work and was still on the job on pay day of the following month.

The number of logs from each side was posted each night on a bulletin, so each night the men knew just how much bonus they had coming.

The loading at that time was done by train crews and they were paid on the same basis as the yarders from which they were hauling, with the exception of logs loaded on overtime, on which there was no bonus.

A man by the name of Ossian Anderson, presented a unique bonus system, which worked satisfactorily for a number of years, called a swedish profit sharing system.

For the sake of illustration, in the base setting method of this system, we will assume a one side crew of thirty men have made an average output for a month of one hundred logs per day at a wage cost of \$93.25 for each day, which is equal to \$.9325 per log. This gives us a base for our price setting when starting a profit sharing system and can be easily charged to a base per thousand when the average log is determined.

After the base is found, the men are given shares in proportion to their skill or responsibility as follows: The foreman is the best man, so give him one hundred shares, the hook-tender is next best paid, give him the next amount of shares and so on down the line to the whistle punk. When

the men are all classified as to shares, add up all the shares of the men working on this agreement, and when one days cut or output is determined, divide the total amount of shares into the total earnings, thus giving you the value of each and every share at the end of the day. To find the total earning of a man, multiply the value of the shares by the number of shares he holds. This system is adaptable to any industry, especially sawmills and logging camps. It gives the men interest in this work and every day they find where they can improve their work to make more money for themselves and their employer.

The Edward J. Rutledge Company of Clarke, Idaho, found that when labor was scarce, gypo logging was very successful. In their case it was nothing more than an incentive wage payment plan. Their plan was to pay the going wage to the men and divide a bonus evenly according to hours on the job. On this system a few of the best men went together and turned out as much work as a larger crew on a straight daily basis. Their only drawback was that all the good men worked to gypo, leaving the poor men on the day basis.

The Long Bell Lumber Company set an amazing example in 1929 of what a bonus system would do. They paid the basic wage up to twenty carloads of logs, after that

they gave the crew an hour overtime for every two cars they got over twenty. On one machine, which was exceptionally fast, and equipped to operate from two sides of the track at one time, they paid bonus after the thirtieth car. This was unfair to the other sides, but it certainly gave results on the fast machine. There were many days when as high as sixty cars were loaded.

This system is unsatisfactory because it is so easy for the loaders to load light, thus making the Company pay for loads they should not have. This was a remarkable example of what an incentive wage payment would do, but a poor system to use.

Busheling

One method of incentive wage payment that has proven successful and is quite popular throughout the Douglas Fir region, is busheling, that is, felling and bucking by the thousand board feet or by the square inch of cut. This method saves the operator from twenty-five to forty cents per thousand over the old daily wage system, and it allows the employee to make two or three times the money per day that he could under the straight daily basis. This system was first used about 1914, and has increased until now ninety per cent of the camps of Oregon and Washington use it.

A proof of its popularity with the employees is that in the old days bucking and felling was done by old men, who were too old to work on the rigging, but now it is mostly done by young men, who are some of the the best rigging men that were attracted to busheling by the opportunity of making big pay.

In one instance, an operator had three buckers to one set of fellers on the daily wage basis, when he inaugurated the bushel system he had to discontinue one buckers so as to keep the other two busy.

PART II

Bonus Plan

The foregoing systems with the exception of the bushel system have been discontinued because of the uncertain element in establishing them. The bushel system survived because there is a direct measure of the work done per man. The others failed because there was such a varied difference in yarding set-ups that it allowed too much unfairness to leak in. It was just a matter of human decision in setting basic rates.

Time Study and Job Analysis

To make a bonus plan satisfactory to both sides, a

measuring stick would have to be devised whereby the bonus rate for different set-ups could be made. To do this would necessitate the making of a time study and job analysis.

In making job studies some jobs could be standardized. That is, for example, there is a right and wrong way for handling chokers. The right way would be the easiest and fastest. This could be readily determined by an expert job analyst.

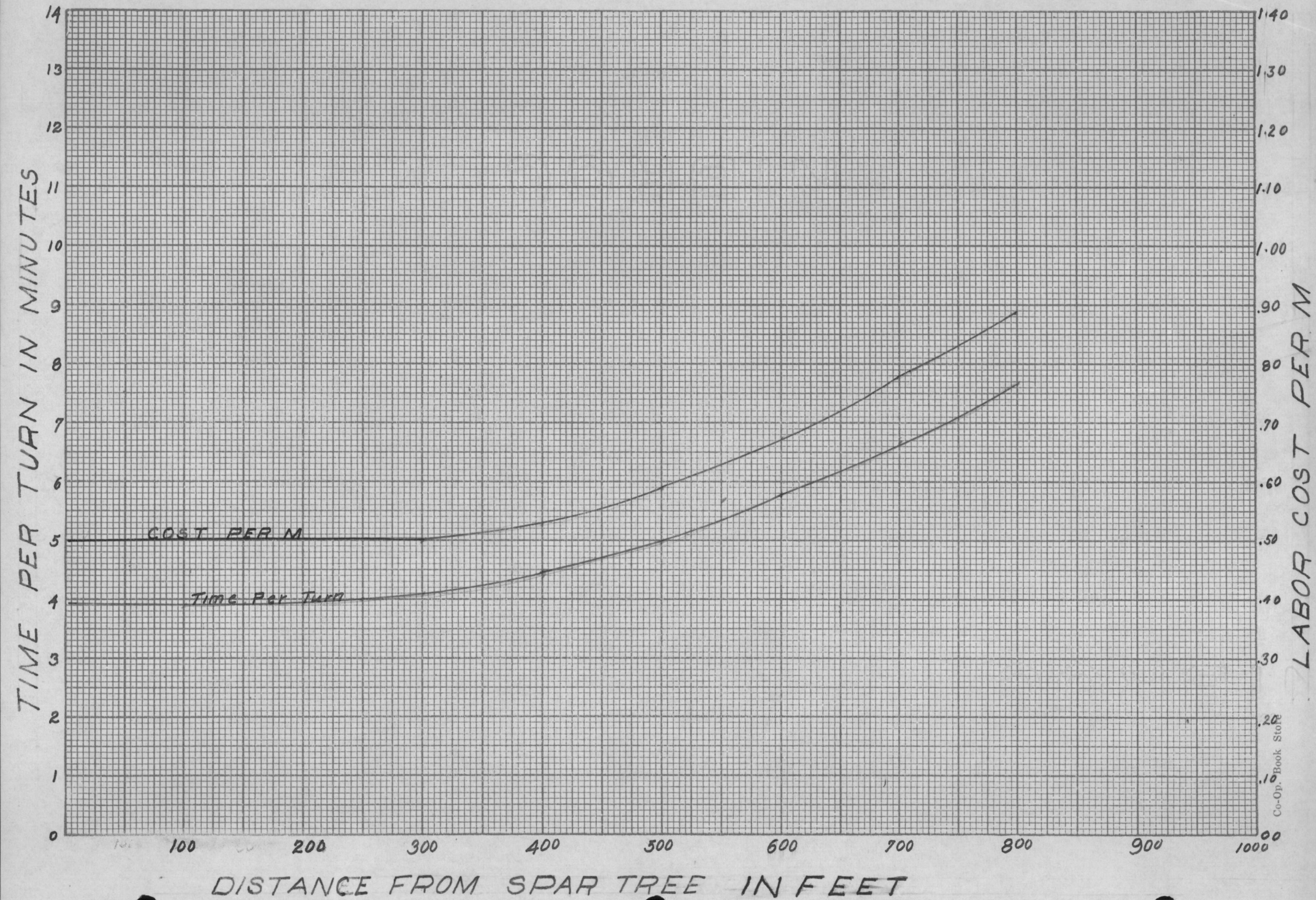
The Long Bell Lumber Company made an example of this last year. They made job studies on a few jobs and found that a landing chaser actually worked one hour and forty-five minutes per day. They found by paying the tong setters fifty cents per day more, they could discontinue this job, making a saving of three dollars and seventy-five cents per day, per side.

With a proper job study made, the next in line would be a time study.

Time studies are nothing more than a systematic collection of time information about an operation, showing what an operation is capable of producing.

These time measurements divide the operation into elements which can be compared with the elements of other operations, for the purpose of setting standard time for completing such elements.

Time studies are taken by experts, who use a stop watch



reading to hundredths of a minute, because some of these elements are very important because they are frequently repeated.

In addition to their value in setting bonus rates, the time studies may be used in checking efficiency of different machines and determining the most economical yarding distances.

For a bonus setting purpose, time studies would have to be made on the representative shows. They would first have to be graded as to topography. The slightly uphill or nearly level shows would be "A" grade, the steeper uphill hauls or medium steep downhill hauls with a few canyons in the shows would be "B" grade, and the very rugged, with steep uphill hauls would be graded as "C".

Curves should be plotted showing the distance from spar tree in feet, the time in minutes to make a trip, and the labor cost per thousand might be added but not essential, similar to the accompanying curve.

Base Setting

A payment of bonus should be for a month's run and not one day's output, for if paid according to the latter method the entire crew could work hard and efficiently for one day, bringing their earnings for that day far above the average daily earning, then be lax in their efforts

the balance of the week.

The result would be less output in logs per man for the week, but payment in wages would be more than an average daily wage, so such bonus systems should be paid on the general average per thousand board feet loaded out per month. The felling and bucking being paid each man by the amount he bucks per day with no basic daily wage.

By the use of the curve made from the time study it could be figured out how long it would require a setting or how many thousand should be gotten per day.

The average distance of haul would have to be obtained either from the engineers topographic logging plans, if they were accurate enough, or by measurement when the cutting lines are run. With this average obtained you could look on a curve and obtain the time it takes to haul that distance. Then obtain the average volume per log and by adding in allowable delays, the board feet that could be logged per day could be obtained quite closely. And thus by multiplying the volume per day by the number of working days, the volume per month could be obtained, making deductions of days spent in moving, rigging up or break down at the end of the month and paying bonus on the actual number of days spent in logging. This is, if there were

twenty-five working days in a month, the average volume that should be logged per day is multiplied by twenty-four to find the base above which bonus is paid for the month.

Conclusion

Bonus gives rise to efficiency of workmen, it will tend to eliminate the poorer workmen who are a detriment to a company. The remaining workmen will cooperate better for the purpose of making more money.

Alford says in his "Management Handbook", "The purpose of an incentive system is to increase the value of an employees services to both himself and his employer. Group bonuses are easier to install than individual bonuses."

Therefore, I conclude that it is possible to use a well worked out bonus system and that it is what loggers need to help reduce their expenses and put the industry on a paying basis.

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