

(three hours) times his hourly rate, whatever that may be.

As the earnings are based on the time taken plus half of the time saved, the cost per piece is greater than on a piece work plan, based on the task time plus a 33 1/3 per cent incentive, for all performances between the premium time set and the task time. At task time it is the same as piece work, then as the time becomes less the cost per piece lessens. This is not the case with the piece work or Gantt plans; in these the cost and the earning per piece remain the same, regardless of how quickly the work is done, and therefore it offers a greater incentive to the worker and allows him the full benefit of his efforts.

The foregoing is only a brief description of what, I think, are the four best financial incentive wage-payment plans; namely, Taylor's differential piece work; a single rate or flat piece work, giving a task time or a production per hour; Gantt's task and fixed bonus, and Halsey's premium plan. This brief description is sufficient to call them to mind, for so much has already been written about them that it can be taken for granted that they are comparatively well understood.

During my career I have had practical experience with a great many different kinds of wage-payment plans, and have come to the conclusion that the four just referred to give as good a list from which to choose, as can be found. In this connection a situation may come up where special conditions have to be met, but then it is an easy matter to modify the plan chosen from this list to meet it.

Personally, I prefer a straight piece work plan to any other; it is more concise and conveys to the worker's mind a definite earning, and as the time of performance decreases the earning per hour increases in direct proportion, which is no more than justice to the worker. Also the matter of figuring the earning for the payroll is a simple calculation, and with the knowledge of the basis for the piece rate (the base rate), it can readily be determined whether the worker has performed in task time and, therefore, earned at least the amount expected; and by keeping up this standard one can be more assured of a contented employee. In addition it is a plan that is more generally understood by the large majority of workers.

Of the piece work plans described, the Taylor differential is the most exacting. The other piece work plan offers an excellent substitute and would probably

have fewer objectors. Nevertheless, of all the plans that have been devised, the Taylor differential is the most scientific and efficient, for it brings out the best in both the worker and the management. The Gantt task and fixed bonus becomes a piece work plan when the task is equaled or bettered, but is not so simple to handle as piece work. If it is desirable to guarantee a day rate it can be done as easily with piece work as with the Gantt bonus plan. However, the Gantt plan is an exceedingly good one.

The Halsey premium plan is entirely different from any of the others. The mere fact that the premium time set is so much greater than the task or standard time of performance, offers an opportunity for some extra earnings, with considerable less effort, and in this way would serve in a measure as a training school for beginners under incentive methods. However, I do not feel that such a step is necessary with respect to the more efficient incentive plans, such as piece work, the Gantt bonus plan and the day wage plan. With the proper precautions and consideration for the workers taken into account, there need be no difficulty in introducing the more efficient plans from the start. Nevertheless, there is a place where no other plan serves a better purpose, and that is under conditions where it will require an indeterminate amount of time to establish an adequate production control, and it is considered advisable to start some kind of an incentive plan; but then it should be thoroughly understood that conditions are not standard, and that as units are standardized, correction will be made in every thing that has any bearing on it. So in course of time a change can be made to the more efficient wage-payment plans. There should be no objection to this change as far as the workers are concerned, if they thoroughly understand these other plans, for they would realize the great opportunity of a higher earning per hour in performances less than the task time.

Always in the introduction of any incentive plan, consideration must be given to an adequate production control. This implies in general a standardization of the equipment and of the methods of planning, scheduling, moving material, and issuing work to the workers, which is nothing more than assuring a plentiful supply of smooth flowing work throughout the department. It is equally important to acquaint everyone who will be in any way affected with the purposes and nature of the plan, and win cooperation. With a smooth flow of work for, and the time for the performance of work determined by time study, or by

some means equally as accurate, and made known; with information concerning what the extra earnings would be if performed in standard time; and with assistance available during performance in the way of instructions and competent foremanship; then objections and hostility, if any, will practically disappear.

The merits and demerits of the many different wage-payment plans have appeared in print many times, and usually each writer has some particular existing plan that he defends against all others, or attempts to show the merits of a plan that he has invented himself. However, above all things what is wanted is a simple plan, involving a definite amount of work in a given amount of time and, when it is accomplished, a substantial reward. It should be one readily understood by the worker and simple in its computation as to what has been earned. And, in order to obtain *high wages, low labor costs, and lasting industrial harmony* under any plan, constant intelligent supervision is necessary, and consideration must be given such matters as assisting the worker who finds difficulty in performing within the time set, reconsidering times that have been set, which in actual operation seem to be inaccurate and unfair, and many other things that may come up during the course of a day's work. With these matters properly supervised, a high standard of production can be maintained.

Whatever the particular wage system, the employer must manifest good faith in the maintenance of rates. One of the great evils of the past has been arbitrary cutting of piece rates. The employer cannot guarantee the permanence of base rates, for these are subject to varying business conditions. But the time allowances for the performance of tasks should be determined by

such precise time-study analysis and proven by such rigid production try-outs that these can be guaranteed. One concern printed the following guarantee on the workmen's rate cards:

The Company guarantees that the Base Rate will not be changed as long as there is no Radical change in the Business and Industrial Conditions, and Guarantees that the Time Allowance will not be changed as long as the method described on the Instruction Card is in effect.

There are instances where incentive plans and a department for its control have been developed in plants to a high point of efficiency, and continued on this plane for a number of years. In such instances production has been increased many fold, labor costs materially reduced, and wages increased, with a consequence of harmonious industrial relationship. There has usually, however, been no opportunity for the detail comparison of new conditions with old conditions, for the reason that the older conditions did not furnish adequate and comparable records. It has been possible usually only to show that unit costs have been decreased.

Sometimes, after such a rate-fixing department has been developed, general conditions have brought about a change in organization—a change in management, or a frantic desire to reduce expenses, or some other influence. The experienced rate-fixing head may have been promoted without a competent understudy having been trained, or he may have been called elsewhere and the supervision left to some clerk. For a time the good results have continued, but eventually, without the most competent supervision, the rate-fixing department has deteriorated and conditions returned to what they were before the establishment of such a department.

THE psychological effect of extreme specialization is an interesting study also from the point of view of productivity itself. The Taylor System certainly errs in considering only the individual productivity of a given worker at a given moment. The productive capacity of industry in general depends indeed on other factors; notably the stability of the working force, which is obviously influenced by the amount of satisfaction which the workers derive from their work. This has been given serious attention by the Dennison Manufacturing Company of Framingham, Mass.: . . . "The essential feature of our method of 'efficiency' is the importance which we attach to the psychological element. For instance, we consider it important that the worker see his finished product. Consequently, in many instances we avoid extreme division of labor, even when it appears at first glance that the productivity of an individual worker might on that account not be so high. We are disposed

if necessary to accept the higher unit cost of a given operation, even to the extent of twenty-five or thirty per cent, if that enables us to avoid an excessive rapidity of operation. We believe it gives better returns in the long run, for it conserves the worker's interest in his work, ultimately increases his professional skill, and above all inspires him to remain in our employ. The last factor enables us to avoid the very considerable expense which results from changes of personnel." . . . Apropos of the cost of changes in working personnel, it has been computed that each time a commercial house or bank in New York replaces an employee, there is suffered on the average a positive loss of \$100. This is obviously a genuine economic waste which has to be borne by the consumer.

(Translated from "Au Pays du Taylorisme," by Henri de Man, published by Le Peuple, 35 Rue des Sables, Brussels, Belgium.)