

A traditional wage differential exists between the job of the drill-press operator shown above and the lathe operator shown on facing page. Will an incentive plan disrupt this wage relationship?

“AN incentive is a carrot held before the donkey’s nose.” So runs the definition in Mark Spade’s humorous description of modern business methods, “How to Run a Bassoon Factory.” Unflattering though the analogy is to business management and to the working man, there is much to be learned from the comparison of this age-old application of the incentive principle with its modern counterpart, wage incentives in industry.

So far as is known, the use of carrots as bait for the donkey has neither universally nor permanently solved all of the knotty problems in the relationship between the driver and the cart’s prime mover, although the device may have served usefully on many occasions. Likewise, wage incentives have been used with success under proper circumstances, but they have not proved to be a panacea for industrial ills. There is little reason to believe that the widespread and immediate application of wage incentives to the complex problems of production and industrial relations in wartime will increase factory output by 30 per cent to 100 per cent as certain spokesmen of management, labor, and government have claimed. No one would deny that the need for rapid production is pressing, and that the possibilities for improvement exist. The question is: Will wage incentives as they are likely to be applied today, increase war production?

The widespread use of wage incentives is being advocated by management representatives, seeking the same low costs and high rates of output in war plants that have been achieved through the judicious use of incentives in stable, peacetime industries. Unions see in incentive-wage plans a chance to increase employee earnings in spite of “wage freeze” restrictions. Government production men join in on the chorus by advocating a modified, innocuous type of incentive plan for which there is yet little proof of effectiveness. All groups are currently emphasizing the “win the war” possibilities of incentives.

#### ENGINEERS DEVELOPED PLANS

Students of management in America have been tinkering with wage-incentive plans since 1880 when the Ameri-

# Wage Incentives

## WILL THEY INCREASE WAR PRODUCTION?

By VICTOR VEYSEY

can Society of Mechanical Engineers devoted considerable attention to the effects of wages on the output of machine operators. Although a group of engineers pioneered in the development of wage-incentive plans, the subsequent application of the plans has proved to be a problem involving many intangible elements of industrial relations. The idea of buying extra work through a wage incentive appears to be disarmingly simple; the application of the incentive in a practical industrial situation has proved to be full of pitfalls. As we shall see in the following discussion, the use of incentives in war plants will require much preparation before success can be attained.

The action desired from a wage incentive in industry is increased effort by the workman resulting in a high rate of production. There are innumerable neatly packaged plans or formulas through which the compensation of the individual is adjusted according to his production, in order to encourage and reward his effort and ability. These plans range from the simple, direct proposition of piece work, whereby the worker is paid so many cents for each unit completed, to the highly complex empirical plans which rely on intricate tables and charts for the determination of the compensation for a given rate of work. All of these plans are incentives designed to induce the worker to produce more in a given length of time; in certain applications, however, many of these plans have had exactly the opposite effect, have deterred men from working rapidly, have produced endless grievances, and have resulted in work stoppages until the “incentive” was removed.

The application of the incentive principle in industry is much broader than the adoption of a plan; it involves consideration of the immediate and the long-run effects on the employer-employee relations of installing an incentive plan under given conditions in the shop, or of following the alternative, payment on a straight hourly rate.

#### TIME RATE OR INCENTIVE?

There are at least four important reasons why an incentive-wage plan may produce disappointing results as compared with an hourly-rate-wage plan:

1. The desire of a man to work rapidly is heavily influenced by his feelings toward his job, his supervisor, and his company. Morale is not necessarily purchased with an incentive plan.
2. The incentive effect of extra compensation for extra work is small at the present time because money cannot be translated into an electric refrigerator, a new car, or a new home.
3. A well-designed and properly-administered program based on hourly- or day-rate wages contains many elements of incentive.

4. An incentive-wage plan, applied without knowledge of what is a fair rate of production, will result in inequalities in wage rates which may disrupt production.

Let us examine each of these considerations:

*First*, is extra money the most important incentive? There are many incentives which may affect the activities of any working man. Certain incentives center in the wage structure; others have little relationship to compensation. One man works hard because he likes his work; another because hard work is an escape from a distressing home problem. One man wants the security of cold coin in his pocket; another wants the power of advancement and authority. At the initial meeting of a class in wage incentives conducted recently for a group of union officials, one of the members introduced his wife and baby boy, explaining, "This is my incentive plan." Certainly a strong incentive is the offer of secure employment with fair treatment both now and after the war.

The Western Electric Company in its celebrated "Hawthorne Experiments" discovered that a man's feelings toward his work, his supervisor, and his fellow employees have a great effect on his production. It was discovered that if a man felt that his job was "right," that supervision was fair, and that his ability and achievement were recognized, he would automatically work rapidly without being aware at any time of the fast pace. This effect was so strong that it outran the influence of an incentive plan of long standing. Men and women will work rapidly if their adjustment to their job is right, but the money of an incentive plan will not buy extra effort unless their basic job relations are acceptable.

*Second*, how strong is the incentive of money today? In normal times there is, for the working man, a real problem in making his wages stretch to cover some of the luxuries which he and his family desire. In wartime, most employable men and women have jobs paying good wages, with ample overtime. The problem is: What, beside war bonds and essentials, can they buy with their earnings? One of the principles of a sound incentive plan is that the reward should be closely associated with good performance. Today, the real reward must be postponed until after the war when consumers' goods are again available in quantity. This delay negates the incentive effect of added compensation. Most people enjoy the possession of goods much more than they do the accumulation of money which cannot be spent for 10 years.

*Third*, what financial incentive can be offered without an incentive-wage plan? We must not believe that because a certain group of plans for increasing production and lowering costs have been labeled "incentive-wage plans," the more standard hourly wage system does not offer incentive. Any properly-administered wage program offers certain and substantial financial reward for well-rounded achievement on the job. This is accomplished by providing a range of rates for each job so that the competent operator can be paid 20, 30, 50, or even 100 per cent more than the novice on the same job. The individual's hourly rate within this range is established by an appraisal of the employee's worth at regular intervals by his supervisors. Additional financial incentive for good work is provided through transfer of capable employees to more difficult and more important work which, in a well-administered wage system, carries increased compensation. Proper administration will assure that superior performance on the job is rewarded by regular merit increases and by advancement to better

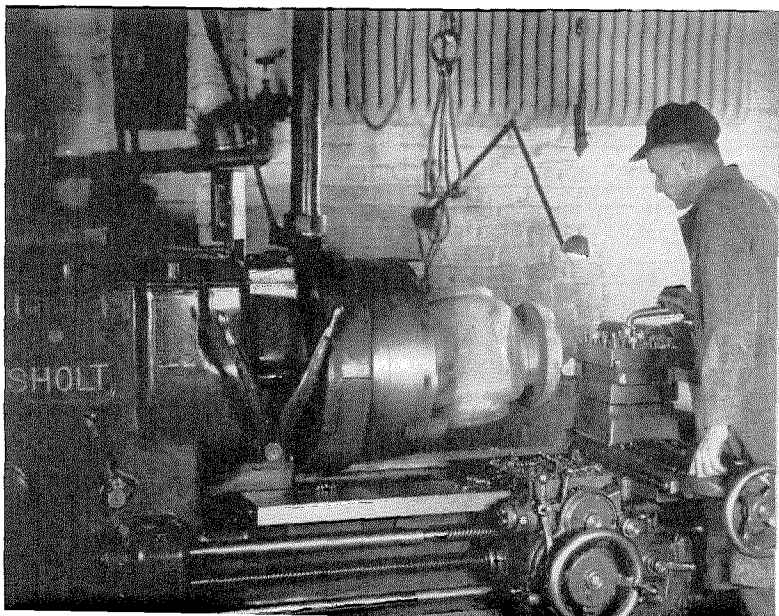
jobs for qualified men. This can readily be accomplished in wartime when the pressure of work and the shortage of men cause the employer to greet with shouts of joy and offers of more money any demonstration of ability on the part of an employee.

A sound wage policy calls for financial incentive for all-round performance above standard. This is in contrast to the wage-incentive plans which hang their offer of more money on a single phase of the work, speed of production, with the consequent tendency to neglect quality, careful use of material, proper maintenance and utilization of tools, safety, flow of work, and other essential factors of the job. In most jobs well-rounded attention to all phases of the work is necessary to achieve maximum production. If the operator is coaxed, for example, to neglect quality by placing a money reward on quantity, supervision must be prepared to balance the scale on that job by controlling more carefully than ever the quality of output, and the other de-emphasized phases. Today, supervision is poorly prepared to assume added functions. Wage incentives will mean that management's job is made more, rather than less, complex. Wage incentives can never serve as a substitute for good management, and they can seldom succeed in the absence of good management.

*Fourth*, will wage incentives disrupt the wage structure? This consideration is particularly significant in plants producing war materials. A consideration of some of the major tests of a justifiable wage structure will reveal that the unsound application of a wage-incentive plan may do violence to the principle of fair wages, a prime essential of good industrial relations. What are the tests by which management and employees, organized or unorganized, may judge the fairness of a wage structure? The following are suggested as a partial list of comparisons:

1. How do the rates paid for various jobs within a company compare with the skill, responsibility, physical and mental application, and working conditions of the job? Are rates internally consistent with the requirements of the job?
2. How do rates paid by the company compare with those paid for the same work by other companies in the industry or area?
3. How do earnings compare with the social needs of the employee to maintain or attain a desirable standard of living?
4. How do wages compare with the ability of the company to pay, in view of its competitive position?

Not all of these comparisons are of equal importance. At one time the discussion over wages may center in



the study of prevailing rates in the area; at another time the emphasis may be on the standard of living. But the first comparison, the internal consistency of the wage structure, is the test which is of great and continuous importance. Every employee easily judges the fairness of his treatment by comparing his rate with that of others doing similar work for the same company. The bulk of grievances in wage matters arises out of this comparison. There is no argument which will adequately defend the payment of widely differing amounts for similar work.

A wage structure is composed of many complex job-to-job differentials which arise out of long usage as a reflection of the relative contributions of the jobs to production. Furthermore, these wage differentials carry with them the mark of social status. A man's worth is, rightly or wrongly, commonly measured in terms of his earnings, and his self-esteem tends to follow this measure. These long-established differentials between jobs cannot be torn up by management without major repercussions in the relationship between management and labor, yet that is exactly what an incentive plan will produce if it is installed without a careful determination of a fair rate of production.

#### STANDARDS ARE IMPORTANT

Why is this standard or fair rate of production so important? Every wage-incentive plan must be based on some concept of a fair day's work. This means a normal rate of output which is fair to the employer and employee alike. Additional production over this level will be compensated for according to the particular incentive plan which is used. The heart of the incentive plan, then, is the standard. If the standard is set too high, even extreme effort and great skill will not enable a man to achieve standard performance; if the standard is set too low, incompetent men may receive incentive payments, and a capable man using real effort will send his earnings soaring to high levels. There is nothing inherently objectionable about uniform high-incentive earnings, indeed high earnings indicate the power to stimulate production which incentives possess. Workmen certainly do not object to high earnings, and management should not, for high-incentive earnings mean lower total unit costs because output is increased and overhead is consequently spread more thinly. Employees, however, do object, and rightly so, to the disruption of established and tested wage differentials through the operation of an incentive plan based on standards of uneven difficulty on the various jobs.

Suppose that we consider two jobs:

<i>Job</i>	<i>Rate</i>
1. Drill-press operator .....	\$.80 per hour
2. Lathe operator .....	1.20 per hour

The rates given are accepted by management and by employees as representing the proper relationship between the rates of pay, considering the work performed. If, on this structure, we install an incentive plan based on loose standards for drill-press work, and tight ones on the lathe work, we create a serious problem. The drill-press operator may increase his earnings so that he receives \$1.60 per hour, whereas the lathe operator may be unable to earn more than \$1.20. This situation, it will be agreed by unions, individual employees, and management, "just doesn't make sense." Yet that is exactly what happens to wages if standards are not accurately set and maintained.

The situation mentioned above is unstable; one of three things is likely to happen:

1. The lathe operators, individually or collectively, will bring pressure to have their standard rate of production relaxed so they can make good earnings to restore the original wage differentials. The drill-press operator's earnings will be used as a lever to pry the whole wage structure upwards.
2. Management may "cut the rate" on drill-press work to restore the traditional differential. This is always morale shattering, and if it happens to many employees the incentive plan will be branded a "speed-up system" under which a man works harder and gets nothing for it.
3. The drill-press operators, fearing management's action, may deliberately work slowly, thereby reducing their earnings and protecting their easy job standard by preserving the original wage differentials.

If these results take place, the incentive plan has brought new troubles to the shop—troubles of a type that causes bitter feelings, work stoppages, and a determination to discredit and eliminate the incentive plan. Production may well be reduced rather than increased.

The real trouble is not in the incentive plan, but in the unfair standards of production. Throughout the history of wage-incentive installations, those which have succeeded have been based on sound and fair standards, and failure has inevitably attended those with haphazard standards.

#### SETTING STANDARDS

Time- and motion-study men, since the time of Frederick W. Taylor, have worked with the problem of production standards with various degrees of success. Through the stop-watch and the motion-picture camera they have developed techniques which permit the setting of accurate standards, provided:

1. All conditions under which the work is performed are well planned and controlled. This means that supervision must have mastered the problems of training men in a uniform method of doing the work, supplying uniform materials at a constant pace so that the work is not interrupted, providing standard and uniform maintenance on machines and equipment, holding conditions of light, temperature and other environmental factors at a constant level.
2. Designs and methods of performing the work do not change so rapidly that the investment in careful setting of standards is too great to be economically justifiable.
3. Adequate time can be devoted to methods for improvement in advance of installing the incentive.
4. A thorough, competent, and fair job of standards setting is done by an impartial time-study man, uninfluenced by pressure to find a predetermined answer.
5. A well-selected work force is employed so that the range of skill and ability is not too wide on any job.

The conditions called for above do not just happen; they are brought about by long and careful work on the part of management. These conditions obviously are most likely to exist in an industry where product design, equipment, methods, and volume of output are stable. But what are the conditions which exist today in war production? Our worst problems of production exist where companies are producing items of different design from their peacetime line, and where the contin-

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gencies of combat require frequent and drastic revisions of design. There is not time to standardize on methods, equipment, or work place layout. The flow of materials is uncertain, and substitutes must often be used. The work force consists of anyone who can be induced to work, ranging from highly skilled and experienced hands to complete newcomers and to incompetents. Supervision is inexperienced and badly overloaded. Under these circumstances, can any fair standard of output be set? The average war-production job simply will not hold still long enough to be carefully studied.

Industry has used two compromises to avoid the difficulty of inaccurate standards:

1. A very mild incentive prevents earnings from getting far out of line, even with defective standards. This is generally unsatisfactory because the incentive exerts little beneficial effect.
2. Individual standards are avoided by hanging the incentive on total output of the plant rather than on individual achievement. The incentive effect is doubtful because reward does not necessarily follow effort; the lazy workman is rewarded equally with the energetic and capable man.

### LABOR BOARD ATTITUDE

The National War Labor Board, in a recent decision, granted the Grumman Aircraft Engineering Corporation permission to use a plant-wide incentive plan, but included reservations as to the general adoption of such a plan. The Board recognized the underlying principles as untested but stated, "This is no reason for denying a trial of the plan. There is a possibility that in certain situations it may, without an increase in costs, result in an expanded production of urgently needed war materials from present facilities and presently employed manpower. It seems clear, however, that only under an unusual set of circumstances do the plant-wide or company-wide wage-incentive plans offer sufficient promise to invite experimentation with them. The Grumman plan cannot be used as a readymade model for extensive application. On the contrary, it has a highly limited application."

Pertinent to the issue are the 800 applications for approval of various types of wage-incentive plans received by the National War Labor Board and the Regional Boards since the issuance of Executive Order No. 9328 on April 8, 1943. Many of these applications have been only a means to provide "hidden wage increases" contrary to the national wage stabilization program; many of them have been based on a desire to attract additional manpower rather than to stabilize the existing facilities and manpower; and others have been honest attempts prescribed without fundamental knowledge of wage-incentive plans or have been haphazardly constructed. The Board, which must approve each new wage-incentive installation, is moving with caution in granting permission because it fears that great damage can be done with poorly conceived incentive plans.

Wage-incentive measures, in the contention of the Board, will not automatically result in a startling increase in production. The Board strongly urges management and unions not to approach the incentive wage question as a cure-all for the solution of production problems. The Grumman decision states, "Actually,

the fashioning of a wage-incentive plan adapted to the particular needs of any company is a major and a complex problem which requires the combined best efforts of specialists and of top executives. Its adoption is a major policy decision. It is not a casual undertaking. Even a properly designed plan may be likened to a highly specialized tool with a sharp cutting edge. Wielded by experts, it can be highly productive. On the other hand, it can cut off the fingers of the inexpert who attempts to use it. There is also a question of adopting any program to significant changes in operating conditions if the plan is to have a continuing influence on production. This must be anticipated at the time a plan is being developed. The determination to install an incentive wage-payment plan is not a light matter; it is a policy decision of the first magnitude."

### WAR PRODUCTION

What, then, is the place of wage incentives in the war production picture? There is real need for development of the incentive principle in industry, but not at the cost of disrupting the wage structure and jeopardizing good industrial relations. Incentives can be developed through a well-administered hourly wage structure, or through the proper use of non-financial incentives. Wage incentive plans are only to be used safely under conditions of careful standardization of the work, and when proper and fair standards of performance have been set. Installation of wage incentives in the absence of these conditions is likely to bring about serious trouble, interfere with production, and result in ultimate abandonment of the plan.

The use of wage incentives in many war plants will only increase the burden on supervision already overtaxed to the breaking point. The manager who adopts wage incentives in the hope that they will substitute for good supervision is likely to find that he has started more than he has finished. Wage incentives cannot succeed unless management has mastered its job.

Let us, then, put first things first. Improve methods, standardize designs and equipment, train employees, develop supervision, and master techniques of control. The possibilities for increasing production in these ways are enormous. After that, incentives can be profitably employed. The wise driver of the donkey mends the broken wheel of his cart before he uses the carrot incentive to produce action.

## Tomato Growing

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plants, and it is this process of translocation which has an optimal temperature of 65 degrees F.

Some further experiments clearly showed the essentiality of both sugar and darkness for growth. Tomato plants were placed in a dark-room. Thirty hours later they had stopped growing, but when their leaves were submerged in a 10 per cent sucrose solution, growth resumed in about 24 hours, and they reached a growth rate about twice that of plants grown normally in daylight.

### LETTUCE AND ORCHIDS

Not only tomatoes show the phenomenon of different optimal temperatures during day and night. Thus far most plants tried in the air-conditioned greenhouses need a fairly high day temperature and a cool night. Very