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The KNACK *of* MANAGEMENT

*Third—
Managing the Men*

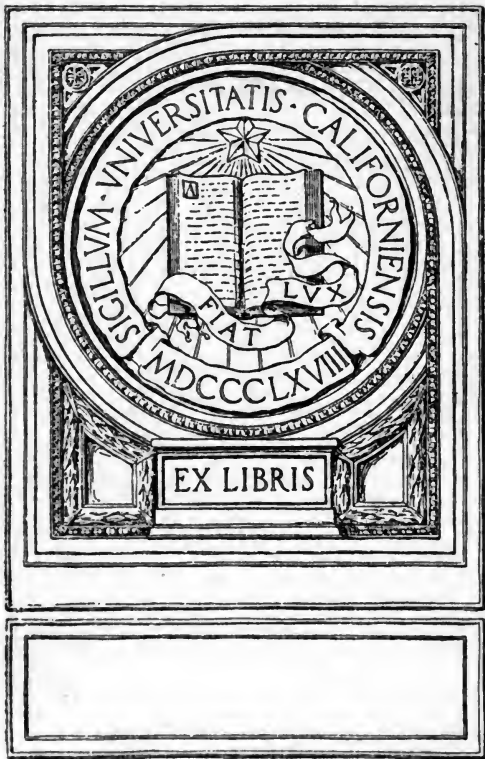


A. W. SHAW COMPANY

CHICAGO NEW YORK

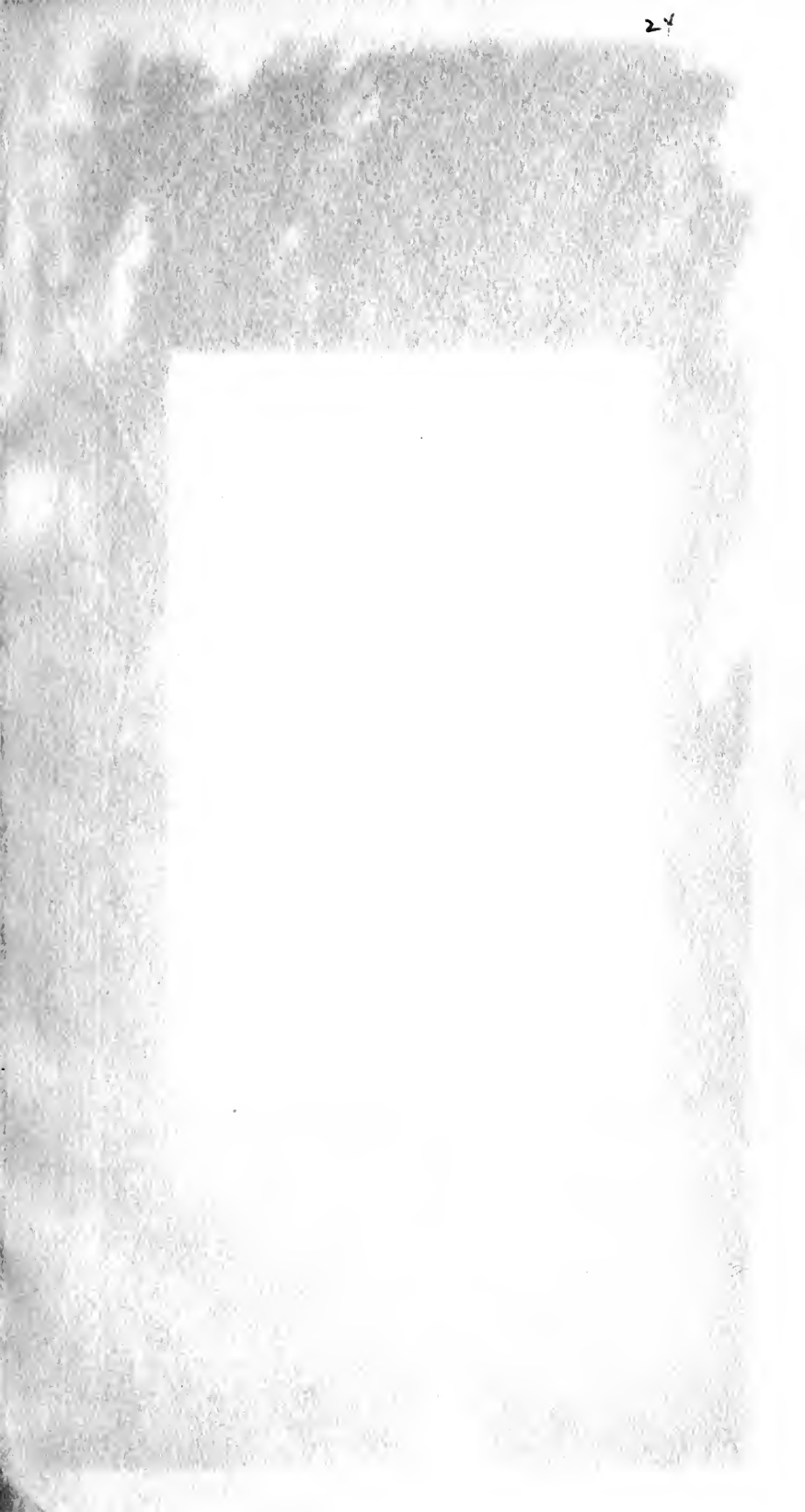
LONDON

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MANAGING THE MEN

GETTING THE MEN BEHIND
NEW IDEAS AND
MANAGEMENT PLANS

HOW FACTORY EXECUTIVES
CHARGE SPOILED WORK, LEARN
MEN'S EARNING POWER, FIX WAGES
AND AWARD INCREASED PAY

MAKING THE FORCE
GET IN ON TIME,
READ THE RULES AND
PULL TOGETHER



A. W. SHAW COMPANY
CHICAGO NEW YORK
LONDON

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UNDER THE TITLE "HOW TO HANDLE WORKMEN"

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AMERICAN

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WORK TO SCHEDULE

WHEN a belt parts, every-
thing on the line stops short
—men and machines lie by for
the trouble crew.

When a foreman fails to come
through with his work, the whole
shop lets down—the pull ahead
and the push of material coming
in slacken and tangle.

Only team-play can safe-
guard the weak spots in your
factory schedule. *Have* your
foremen get together, and they
will learn to check up, trade
help and patch the schedule be-
fore a break ties up production.

Show your workmen that the
Schedule is the Business. *Make*
promptness a game.

Make the work pull evenly
from stock bin to shipping plat-
form, and you will cut idle
buildings, machines and men
from your pay roll.

GETTING SHOP CO-OPERATION

BESIDE the road over the hill to the south of a large Ohio manufacturing company's plant wound a long line of shipping boxes, each box labeled and flagged. At night a sixteen candlepower lamp twinkled above each case. A big signboard pointed at the row of boxes. It read: "This is an average single day's shipment from this factory. If this line represented an average year's shipment, it would extend to Atlanta, Georgia."

That single exhibit sold one idea to the visiting salesmen during a convention. Expressed in a paragraph of type, it would have been read, perhaps, and remembered. But driven home in this graphic way, not only was the idea remembered; that one plan sold an idea.

General managers know the value of this approach to a selling situation. They know that if a salesman is to sell he must himself be sold. Few apply this principle in the production end of the business.

Why should a concern decide that next week the factory hours shall be reduced by six and the pay envelopes proportionately, and then

post the announcement in three lines of typewriter type in the shop? Can't workmen be sold?

In Massachusetts there's a president of a cable factory who never makes a change in factory policy until he has explained that change from the top of a barrel in the area-way between the buildings. He sells his plan to his workmen—a so-called unintelligent group of workmen. Over in Scotland a concern puts in a bonus system of payments, a premium plan that the management believes has mutual benefit. It is hard to make the men, intelligent machinists, understand the bookkeeping of their wages. So the factory manager gets out a little paper-bound book explaining how the system works and illustrating the principles with examples from shop practice. He sells his men the bonus system.

In many cases, the efficiency engineer is looked upon by the workmen as an enemy to labor, and, in a few instances, this opinion is also shared by the factory manager. Why? Because neither of them have been sold.

They have not been made to realize the value of higher wages and larger profits that are made possible through the elimination of wastes and unnecessary physical effort—mutual benefits to both.

Managers all over the country are taking a new point of view on work. They are saying, "Is the way we've always done it, the best way?" But, convinced themselves that it isn't, too often they forget that their workmen are apt to be just as biased. They "strong-arm" foremen and department heads, when they might sell them. An efficiency engineer may leave the factory by the front door, while the old abuses come trooping in the back door.

What the general manager gives to his salesmen, the president his workmen, any manager may give to his problem of handling employees.

For if you really sell anything to anyone, customer, salesman or workman, you wrap it in satisfaction—a kickless, worryless carton.

A rubber goods mill in the west hired a young man to introduce efficiency methods. At once he ran against the opposition of the foremen and superintendents. They were not interested in efficiency; they had not been sold efficiency. So the first thing he did was to get them interested. He posted newspaper clippings of Brandeis' speeches and of railroad managers' policies; he showed them books and articles on the subjects that he was interested in; he got the foremen to take magazines home and read how other factories had adopted such and such methods with success; he posted up pictures of engineers whose names were mentioned in the papers—Taylor, Emerson, Gantt, and so on; he tried to bring the foremen and heads of departments into closer personal relation with these men. And he sold them; he sold them the efficiency idea in the right way; he got them just as enthusiastic as he was in his new work.

In the practical operation of a plant many questions come up which do not match with theory, and in some plants conditions may arise where, on account of the grade of workmen, these ideas may not seem applicable. Yet, from observation in many lines of work, it seems almost certain that appeal to the better motives of even the lowest grade of workman will arouse in him an interest in his work.

II

THE WHITE COLLAR MAN IN THE FACTORY

A FIVE hundred dollar job went into the scrap heap because of friction between draftsmen and foremen. Lack of harmony between office men—draftsmen, clerks, timekeepers and inspectors—and workmen causes mistakes and petty losses.

Whenever a clash between the man with the jumper and the white collar man, has been adjusted with mutual satisfaction, there is a point in handling men demonstrated to the benefit of every other factory manager.

A factory manager in a Michigan town developed a production system for keeping track of the work going through the shop. He needed a man to follow the details and picked from the shop men a youngster who seemed to him to have the qualifications.

Now that factory manager had worked in the shop. He knew that when the shop man changed his jumper for a soft shirt and came to the office, instinctively the men raised a stone wall between themselves and their former shop-mate. They felt that they were on different sides of the fence. And, to carry

out the figure, unless the new production clerk recognized his position and provided a few gates in the fence, he could never carry on his work satisfactorily.

Here was the setting for a great deal of friction under the average conditions, for the office force is too often "on the outs" with the shop crew. So the factory manager watched his new man. The first time the production clerk went down into the assembling room the manager found an errand with the foreman in that department.

The new man might have assumed authority at once—he might have started to give orders. Instead of saying, "What sort of help are you fellows giving me on this job?" he asked jokingly of the foreman, "You fellows must be trying to get me in wrong, right away; the first holdup I get is on my old job."

With the ice broken, the first tangle was straightened out and the new clerk and the shop crew from that time on worked together like a well trained team.

The new production clerk adopted the method of many a good salesman, make friends with your prospect first, then sell him. He followed one plan which is effective in handling men. If you want to get the best work out of a man, you must take his viewpoint on the job and work with him.

Of course, there are as many ways of handling men as there are men. But a great deal of the friction which now exists between men in the office and men in the shop would disappear if the men in the positions of responsibility would get the other's viewpoint on the job.

One day during the noon hour, at a fixture factory, standing on a box in the factory yard,

the president of the concern was talking to the men grouped about him. And their faces, as they listened, showed their interest and respect.

This talk was an annual affair. Each year, on the day preceding the distribution of a bonus, the president talked with the men about the year's work. The bonus was a percentage of the net profits. Each man received a proportion of this percentage based upon his steadiness, his reliability, his attention to business and his average wage.

Now a bonus system seems to work out well in some factories. In others it fails to accomplish its primary purpose of making men want to work and work faithfully. The success of the plan in this factory was due primarily to the personality of the president. His methods adopted by lesser men of authority would help reduce the friction between working force and clerks.

One of the reasons why the president held the good will of the men came out on the following day. I was talking with the foreman in one of the departments and the president came through the factory.

A laborer was pushing a heavy reel of wire down an aisle in the factory. It was just about all he could do to move the reel without assistance so that when he came to an uneven spot in the floor, the reel stuck obstinately. The president was close behind. He was dressed as the president of a company would be dressed, but he did not call another man to help the laborer. Without a word he stopped by the reel, dug his heels in the floor and pushed with the workman. If there is a knack in handling men, the essentials of this twist in personality were here apparent.

"I've seen him jump into a tank and give a lift to the men when they wore rubber boots," said the foreman voluntarily.

Every one knows, the difficulty of the piece work system is that it has a tendency to limit the output of the shop after a certain point has been reached, because any man with an ordinary piece-work price on a job could make much more than what the management considers a fair day's wage if he exerted himself. And unless, as in some shops, there is a yearly contract not to cut piece-work prices, the tendency in any factory is to cut prices when it is found that men make more than a definite sum on their work. For this reason workmen are always careful to limit their output. As they put it, "not to kill the job."

Failure to realize this attitude of workmen toward a job has brought more than one cost clerk into difficulty in figuring how to set a piece-work price on a job.

Then there is the workman's attitude toward the men he works with. If a foreman hires men he may well consider the plan of the owner of a foundry in a mid-western city. Himself an old-time molder, he knows the men's viewpoint and has them help select good men.

Whenever a man asks for a job, the manager goes out into the shop and consults the foreman. "Ever know Horstmyer?" "What do you think of him?" "Anybody in the shop live near him?" So he asks his questions and finds out his workmen's opinion of the applicant. If they do not like the newcomer, the foundry man never hires him. "For," he says, "unless men will work together in the shop, there's no use in hiring them. When they all know each other, the crew is cheerful."

Diplomacy often moves a load when lack of

tact creates only friction. Men order when they ought to explain; they keep their hands clean, instead of holding up one end of the job themselves.

*Why One Inspector Always Loses the Train
He Ought to Be Able to Make*

Two inspectors travel about the country. One is always in hot water in the plants he visits. The other not only gets out his work on time but secures the co-operation of the men. They work with him, not against him.

Yet a study of their methods makes the reason for the one's failure evident. When the tactless one arrives on the scene he issues orders. "Got the machine ready? I want to get out of here by noon. Hurry it up."

The second man begins by making friends. He goes to the factory in the morning on a testing job that usually takes a half day. He wants to get the 10:30 train. The case is explained, and in answer to his question, "Can I get that train?" the reply is, "Sure you can."

Inspector No. 1, although he makes the rounds of the different factories periodically, knows few of the workmen by their first names. The second man knows all the workmen by their shop-handles.

The first man never thinks of taking off his coat and handling one end of a testing machine himself. The second man, although he does not always do it, sometimes takes a hand in the work and directs while he works.

• And the results are evident enough. There is a saying that the undiplomatic inspector gets more things put over on him than any other man in the crew, not on account of dishonesty on the part of the men he works with

but simply because he arouses their antagonism instead of their co-operation.

Perhaps the test of right relation between the man in the office and the man in the shop comes when the former is the cause for the latter's loss of his job. Unless the white collar man handles the situation right he will never hold the right relation to the other men.

A man in charge of testing work discovered that one of the men in the factory was trying to cheat him. For some unknown reason, the workman had a grudge against the inspector which he couldn't get over.

The inspector tried to get on a friendly basis with the man. He tried to make him see that it was to his personal advantage to give the outsider a square deal. But he couldn't get under the man's skin.

*The Man Who Couldn't See Both Sides—
How He was Handled*

So he set a little trap and caught the offender. Then he told him frankly that what he had found out was sufficient to have the man discharged, but he wanted him to feel that they could work together right on the job and then if the man would come half way the inspector would forget the dishonesty.

But the man continued his surly attitude and tried the same trick again. Again the inspector talked with the man and told him that as he had said in the first place he would speak to the superintendent about his work.

When he went to the superintendent and told him what the man had done, the head of the plant wanted to discharge the test man at once. But the inspector knew that the man had a family and that while his wages were not high that was all the more reason why he

needed them. He told the superintendent that as a personal favor he would prefer the man not to be discharged but transferred.

This request was granted but the secret leaked out among the men and they at once saw that the inspector was not an enemy, but a friend. After that incident there was no question but what the inspector always received a square deal.

How a Common Subject Keeps Men Interested

Often the conditions of work make for or against a "friction loss" relation between office force and shop men. Some common experience or common work smooths out wrinkles in routine. The star pitcher of one factory baseball team is a white collar man on working days and the man with the mit is a foundry molder. Team spirit in this shop is nearly as strong as that in college.

This point of view on the question is illustrated by the relation of the band men in one big company. Some of the men and officers in this concern three years ago formed a company band.

Members of the band are made up of men from the various shops and also from the offices of the company. They meet twice a week for practice and once a week, on Thursdays, give a concert. Three of the monthly concerts are held in the shops, each one being given at a different place. The fourth concert is given in the lounging room of the club house building during the time the office and engineering forces are having their luncheon.

The band for the most part is self-supporting and once each year gives a public concert in one of the theaters of the city in order to raise

money for any necessary purpose.

At each concert held in the shops, from one thousand to four thousand employees gather together and as they come from all the departments, the men have an opportunity to get well acquainted. And the band made up of men from the shops and offices has promoted general good feeling.

Similar in idea to the band is the bowling tournament held every winter in one manufacturing town. One team was captained by a shop foreman, another by a chief draftsman, a third by a husky production clerk, and any existing grouch vanished in the game.

Whether the personality of the men in charge of work or factory conditions are responsible for lost motion and friction between office force and working crew, the loss is obvious. And once the right viewpoint is taken, once some attention is paid to making conditions right, the differences vanish.

It is a question of handling men and of pointing out to others the executive viewpoint.

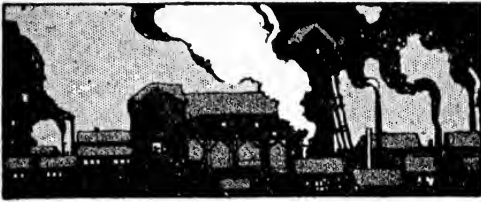
As one manager has said, "Some men have that within them which always spurs them on; others need artificial initiative, outside encouragement.

"Some men extend themselves under stern discipline; some respond only to a gentle rein.

"Some men need driving; some coaxing. Some need the spur; some the sugar lump. Some men do their best with work piled shoulder-high; some must have it given them a piece at a time.

"Some men thrive on discouragement; some cannot work without cheerfulness."

Study men—the men over you, under you, around you. Study them and learn how to get from each the most that is in him.



SQUARE THE PAY ROLL

THE more wages you can pay the more your business will prosper—but they must be honest wages, paid only for value received. They must be your investment in men, and each dollar must pay you its dividend.

No investment is safer than fair wages paid to good workmen—but the scant wage buys scant service.

Pay your men for their bigger output and they will earn still more. Square your pay roll with value received—and you will keep your investment growing.

Know your men—weigh their value. Challenge the employee who is working down to his pay envelope. Give more to the man behind your profits, and he will give more in ambition, in efficiency, in loyalty to you.

III

SETTLING FOR SPOILED WORK

EVERY factory would run more smoothly if the question "who pays for spoiled work" could be answered to everyone's satisfaction. The best of workmen make mistakes; it doesn't pay to discharge a good man for spoiling a piece of work; it costs too much to find and train another. On the other hand if you retain his services and charge him for the work spoiled, he becomes discontented and less efficient.

"While we rely upon our foremen to keep the amount of spoiled work as low as possible," says F. C. Everitt, "we have found it helpful to keep a general record of bad material returned to the foundry from our iron assembly shops. We keep track of this in two ways: clerically, by means of a daily report of scrap and defective parts returned; mechanically, by two boxes labeled respectively 'scrap' and 'discount.'

"Scrap and discount boxes are located in every iron department. The scrap box is for all castings that are broken in the shop by the men or rendered useless from other causes. The discount box is for castings found defec-

tive under closer inspection than is given in the foundry cleaning department.

“These two boxes are emptied every day and the contents sent to the foundry department for credit. We receive credit for scrap iron at scrap price, and for the discount we receive credit at the same price charged by the foundry.

“A sheet (Form 1) for defective goods returned is made out daily in triplicate, and when the goods are delivered to the foundry the three copies are signed. The foundry retains the second copy, and the original is returned to the mounting shop office. The third copy, written on a tissue sheet, is kept in the

NO. 190		REPORT		DATE _____ 191__	
DEFECTIVE GOODS RETURNED					
TO _____					
FROM MOUNTING SHOP					
QUANTITY	DESCRIPTION	PRICE		TOTAL	
_____ FOREMAN					

FORM 1: All defective castings delivered under Form 2 are charged back against the foundry on this blank. Credit is given for whatever castings or scrap are returned

casting clerk’s book. The next day the mounting shop is given credit (Form 2) for the goods received. This sheet is called a delivery sheet. Every piece of casting delivered to the shops is entered on this form each day, and all the columns are filled out. When all the charges have been written on these sheets, the amount is totaled, and the credit is entered on the same delivery sheet in accordance with

the defective goods slip of the previous day. These slips are totaled, and the difference between the amount delivered and the defective goods is the net charge made against the shop.

“Goods returned to the foundry for scrap or discount are itemized in both cases so that it is an easy matter to know what articles are passing through this routine daily. The original delivery sheet is checked by the casting clerk when it is received; then it is passed to the shop cost clerk, who checks the charges. After this it goes to the department head for the final O. K., and is passed on to the main office. Here the head accountant credits the foundry for the net amount charged. The second copy is held by the shop; the third copy is held by the foundry. This daily routine has been in operation for about three years.

“The discount castings are set aside by the

DELIVERY NO.		IRON FOUNDRY						DATE _____ 191	
CLEANING SHOP								CASTINGS DELIVERED TO _____	
O. O. NO.	B. O. NO.	NO. ORDERED	PAT. NO.	ARTICLE	NO. DELIVERED	WEIGHT	PIECE PRICE	AMOUNT.	
TOTAL									
THIS SHEET MUST ACCOMPANY EACH DELIVERY OF CASTINGS									
RECEIVED BY _____									

FORM 2: This delivery sheet is used to check the filling of all orders for castings made on the iron foundry. In keeping track of spoiled work, the foreman thus traces back imperfect castings to their source

cleaning shop foreman, and when the previous day's cast is counted, these discount castings are charged against the molder who made them. In other words if a molder makes twenty-five pieces and two come back from as-

sembling, defective, after they have been passed by the cleaning room inspector, these two castings are charged against him and he receives pay for but twenty-three. From the daily reports we know the amount of discount

MOLDER'S AND HELPER'S CHARGE-BACK RECORD											
NAME _____											
DEDUCTIONS FROM _____						TO _____ ISL _____					
DATE MOLDED	PIECES REJECTED	ARTICLE	PIECES IN MOLO	PIECES SPOILED BY GRINDER	IN EVEN FIGURES		MOLDING LABOR COST	HELPER'S LABOR COST	CORE LABOR COST	GROSS WGT. PER MOLO LBS.	TOTAL WEIGHT LBS.
					CASTINGS DEBIT	MOLDS REJECTED					
TOTALS											
FIXED FOUNDRY CHARGES ON TOTAL WEIGHT REJECTED							C PER 100 LB.				
2% SHRINKAGE ON TOTAL WEIGHT REJECTED					LBS.	PER LB.					
TOTAL CORE LABOR COST TOTAL											
TOTAL MISCELLANEOUS FOUNDRY EXPENSES											
MOLDER'S CHARGE-BACK OF MISCELLANEOUS EXPENSES											
TOTAL MOLDING LABOR COST											
MOLDER'S TOTAL REDUCTION											
HELPER'S CHARGE-BACK OF MISCELLANEOUS EXPENSES											
TOTAL HELPERS LABOR COST											
HELPER'S TOTAL REDUCTION											
REMARKS _____											
SIGNED _____											

FORM 3: On this blank, molders and helpers are charged with defective work received from them by the machine shops. All the deductions against one man are made on a separate sheet

and scrap returned to the foundry from the shops. It is not excessive, but we take particular pains to examine the scrap; and if the parts broken show evidence of carelessness, the attention of the foreman is called to this fact.

“This simple means enables us to keep the losses at a very low figure.”

“In our brass shop,” says Frederick C. Shafer, “all piece workers pay us for the work they spoil. Of course, the total loss for the spoiled work is not covered in this repayment for spoiled pieces; but, to my mind, this method serves as a check upon carelessness.

“Our day workers are not charged for spoiled work. But all the scraps from jobs are collected daily and separated into lots identified as defective in casting or in molding. This enables us to keep a check on day workers also, for if they spoil a great deal of work it comes

automatically to the attention of the inspector, who reports the facts to the foreman and to me. The men knowing that this is done, are more careful than they would be otherwise.

“In the foundry we have a method for handling spoiled work which has proved out. The molders are paid altogether on a piece-work basis, and when they spoil work, they are charged back with all the items shown on the accompanying sheet (Form 3). Of course, in charging back these items we are very careful that the spoiled work is wholly the molder’s fault. The sheet is made out weekly and is placed in the man’s pay envelope so that he has definite information as to just the amount of work he has completed.”

“In the making of shoes,” says R. A. Ralph, “much automatic machinery is involved, and one of the greatest factors in the expense for spoiled work comes about in the filing and ordering of small machine parts.

“We have worked out a simple storage system that has reduced the cost of machinery findings about fifteen per cent and has reduced the amount of money invested in repair parts about thirty-three per cent.

How Record is Kept of All Repair Parts Used and Spoiled

“The general method of storing parts is in a series of small boxes with half of the front cut away. Each box contains the parts for one machine, and it frequently takes several boxes to hold all the repair parts. On a label pasted on the front of each box is written the name of the machine and the catalog numbers of the parts. Each separate part is filed in a stout envelope properly marked.

“Since supplies are dealt out by the store-

keeper only on requisition signed by the foreman of the department, it is a simple matter to keep track of the repair parts used. The requisition slips are entered in a system of looseleaf books, and each operator has a page in the book. By this means a record of comparative cost of parts used by each one or a group of operators is readily obtained. This record is kept in periods of four weeks, which is the cost period for the entire factory. At the end of that time the quantity of work produced by each operator is ascertained from the production records, and the cost of the merchandise findings and machine parts by hundreds of cases is then ascertained. Individual records are checked by the superintendent and the cost man, and it is a simple matter to discover which operators are using an excessive number of repair parts or merchandise supplies.

“Each operator returns the worn and broken parts when he requisitions new parts, and we keep a graphic record of these broken parts by means of a set of the same boxes which are used for filing the new pieces.”

Whether you decide to use a system of bonuses, a merit bulletin board, leave the care of spoiled work on your foreman or adopt a system of fines, diplomacy will smooth the road to a minimum of spoiled work. Before dispensing with a man's services for spoiling work, consider if it will be more expensive to train another man or to bear the cost of his mistakes. Choose the method that gears up shop efficiency.

IV

WHEN TO GIVE A MAN A RAISE

I GET reports from two departments," said the manager of a large watch company, "to enable me to apportion the pay roll to best advantage—from the cost department and from the general timekeeper, who is also the pay roll clerk. From the cost department come analyses of labor costs on work; from the general timekeeper, an analysis of the time clock records and the general pay roll totals.

"The reports which come to me from the cost department are based upon the detailed reports which they get from the timekeeping offices.

"A card (Form 4) planned for piece workers and the ticket for time workers are identical except that they are relatively white and buff colored, as are all the piece and time work records. These forms are made out by the time-keeper when a job is given out and are retained by him until the job is finished.

"All operatives turn in their time on slips like and similar to Form 6. From these slips the cost department makes up the time worker's semi-pay period report (Form 5).

"From these records two other reports are

made out daily, and every two weeks, to suit the length of the pay period.

“The daily report (Form 7) is a departmental report of individual employees’ earnings. The classified labor report (Form 8) is an analysis of the labor cost on orders and is checked each day in the cost department from the white piece-work ticket. The balance from the previous day is carried forward in each daily report so that the last sheet of the classified labor report of the pay period indicates the total pay of the piece workers to date. Upon this sheet the total time of the day workers in the department is included.

“In addition to these two daily reports, each department timekeeper gets out two reports

TIME WORKER'S SEMI-PAY PERIOD REPORT									
ORDER NUMBER		TIME	DISTRIBUTION OF TIME BY DAYS AND ORDERS						
ORDER NUMBER	FROM								
	TO								
ORDER NUMBER	FROM								
	TO								
ORDER NUMBER	FROM								
	TO								
DAILY TIME TOTALS									
DATES									
REPORT OF TIME FROM	CHECKED WITH TIME CLOCK BY	TOTALS	TIME	C.	AMOUNT	C.			
		THIS REPORT							
EMPLOYEE NO.	DEPARTMENT	PREVIOUS REPORTS							
		TO DATE							
NAME		HOUR RATE	DEDUCTIONS						
		PAYMENT							

REPORT ONE ORDER ONLY ON A COUPON. GIVING ALL THE INFORMATION REQUIRED. BUT DO NOT EXTEND "TIME" AND "AMOUNT"									
ORDER NO.	GRADE	SIZE	TIME	AMOUNT					
OPERATION		QUANTITY							
ORDER NO.	GRADE	SIZE	TIME	AMOUNT					
ORDER NO.	LETTER	PART NAME							
PART NO.	GRADE	SIZE CASE	DEPT.	EMP. NO.					
DATE COM.	DATE FINISH	TIME OUT	TIME WORK	TIME RATE					
TIME COM.	TIME FINISH	PIECE WORK	TOTAL TIME	ACTUAL TIME					
QUAR. OEL.	QUAR. ACPT.	OPER. NO.	P. W. RATE	COST					
MACH. NO.	OPERATION								
DEPT. CLERK.	EXT. GR.	LISTED							
LABOR TICKET									

FORMS 4, 5, 6: In front at the right is Form 4 used by the timekeeper as the basis of all his reports. Form 5 at the left, a semi-pay period report on each man’s earning power is made out from the remaining coupon (Form 6) which is one variety of the several similar work tickets used by different departments

at the end of each pay period—an individual day-work record (Form 9) and an individual piece-work record (Form 10). These reports are merely summaries of the cards (Form 4) filed behind operatives’ numbers in the time-

keeper's office, and from these pay period reports the pay roll is made out.

“After the reports go to the cost depart-

DAILY DEPARTMENTAL REPORT OF INDIVIDUAL EMPLOYEES EARNINGS											
EMP. NO.			DAILY TOTAL			EMP. NO.			DAILY TOTAL		
0						0					
1						1					
2						2					
3						3					
4						4					
5						5					
6						6					
3						3					
4						4					
5						5					
6						6					
7						7					
8						8					
9						9					
FOOT INGS						FOOT INGS					
TOTAL PIECE WK.						PIECE WORK, REPORT OF					
TOTAL TIME WK						DEPT.					
TOTAL						FOR 191					
TOTAL COMPARED WITH REPORT OF CLASSIFIED COSTS AND FOUND TO AGREE						BY _____					

FORM 7: Daily this report of individual earnings goes to the cost department as a check on labor costs. The numerals 0 to 9 are repeated down the side. Upon prefixing the other numerals of an employee's number, the clerk has his list complete and in order

ment, they are sent to the pay-roll department. The day-work time record is there checked with the clock record by the pay-roll clerk, who is also the timekeeper of the clock records.

“A very interesting analysis and one which I have found valuable is the report (Form 11) of the employee's piece-work averages. This report is assembled in the cost department from the individual piece-work earnings cards. This piece-work average sheet is a

detailed record of the work done by each piece-work operative and enables me to get some idea of the average daily earnings of each oper-

DAILY DEPARTMENTAL REPORT OF CLASSIFIED LABOR COSTS							
CLASS NOS.	SIZE OR GRADE	DAILY TOTAL	ENTERED BY	CLASS NOS.	SIZE OR GRADE	DAILY TOTAL	ENTERED BY
0	16-18				16-18		
	0				18		
	290				DEPT.		
	292				TRANS.		
	294				JOB		
	FOOT INGS				BING		
	PIECE WORK				FOOT INGS		
TOTAL					PIECE WORK REPORT OF		
TOTAL	TIME WORK				DEPARTMENT		
TOTAL	LABOR				FOR		191

FORM 8: Work done day by day by individual operatives occupies the columns at the top of this blank. Below is analysis of these figures

ative, so that in case it is necessary to set a day rate on piece workers on account of the way in which the work is going through the

INDIVIDUAL EARNINGS RECORD						TIME WORK											
OPERATION NAME, NO. AND P.W. RATE	EARN G PER HR. AT P.W. PRICE	QUAN LOST	QUANTITY ACCEPTED	TIME HRB. MIN.	ORDER NUMBER	COST	DISTRIBUTION OF TIME BY DAYS										
							HRB. MIN.	HRB. MIN.	HRB. MIN.	HRB. MIN.	HRB. MIN.	HRB. MIN.	HRB. MIN.	HRB. MIN.			
OPER. NO.																	
RATE																	
OPER. NO.																	
RATE																	
OVER TIME		TIME		REPORT FOR PAY PERIOD ENDING			SHEET NO.		OVER TIME								
DAY FROM	TO	TIME	RATE	EMP. NO.	DEPARTMENT	OTHER T.W. SHEETS	DAY FROM	TO	TIME	P.W. SHEETS							

FORM 9: This form is designed to show whether piece work is being done economically. Earnings are distributed at the right for daily comparison. At the bottom are the individual's net earnings, piece work and day work for the current period, as well as the piece work to be paid for

factory, we can make use of this report and can get the average amount of money paid the piece worker for the pay period.

“If it is found that an employee would have

made a great deal more money doing the job piece work, it is apparent that the day worker is not doing all that he can on the job.

INDIVIDUAL PIECE WORK EARNINGS RECORD										
OPERATION NAME, NUMBER AND RATE PER HUNDRED		EARN INCS PER HOUR	QUAN PER HOUR	QUAN LOST	QUAN ACCEPTED	TIME HRS MIN.	ORDER NUMBER	DISTRIBUTION OF EARNINGS BY DAYS		
OPERATION NO.										
RATE								TOTAL COST \$		
OPERATION NO.										
RATE								TOTAL COST \$		
OPERATION NO.										
RATE								TOTAL COST \$		
OPERATION NO.										
RATE								TOTAL COST \$		
OPERATION NO.										
RATE								TOTAL COST \$		
ACTUAL TIME THIS PERIOD	C HOUR	TIME E	EARN C	REPORT FOR PAY	PERIOD ENDING	SHEET NO.		OTHER P. W. SHEETS	Y. W. SHEETS	
PIECE WR	K RATE	PAID FOR	K INCS K	EMP. NO.				P. W. TIME FORWARDED TO NEXT PERIOD		
TIME WR				NAME	DEPARTMENT			P. W. TIME FROM LAST PERIOD TO BE PAID FOR		
TOTAL								P. W. TIME OF THIS PERIOD TO BE PAID FOR		
DEDUCTIONS								TOTAL PIECE WORK TIME TO BE PAID FOR.		
PAYMENT										

FORM 10: This report is similar to the individual time-work earnings record, except that it is made out in terms of time work. From this form a very close supervision can be kept on all day workers

“The sheet of average earnings per hour (Form 12) gives the averages on the individ-

PIECE WORK AVERAGE												
TIME		AMT.	AVER.	TIME	AMT.	AVER.	TIME	AMT.	AVER.	TIME	AMT.	AVER.

FORM 11: The top spaces on this form are for operatives’ numbers. The spaces at the left are for pay period dates. In the columns are entered the total time, total pieces and the worker’s average output per hour

ual operations, whether day work or piece work, but figured at piece-work rates.

“At the end of each pay period or when planning for next year’s business, it is often inter-

AVERAGE EARNINGS PER HOUR																		FROM _____ 191__	TO _____ 191__	DEPARTMENT _____
PART NAME _____										SIZE _____								GRADE _____		
CATA- LOG NO.	OPER- ATION NO.	OPERATION	RATE PER HR.	PAY ENDING			PAY ENDING			PAY ENDING			PAY ENDING			GENERAL AVER- AGES	OPER- ATION NO.			
				NUM- BER	AV. EARN- INGS PER HOUR	EX- PERI- ENCE	EMP. NUM- BER	AV. EARN- INGS PER HOUR	EX- PERI- ENCE	EMP. NUM- BER	AV. EARN- INGS PER HOUR	EX- PERI- ENCE	EMP. NUM- BER	AV. EARN- INGS PER HOUR	EX- PERI- ENCE					

FORM 12: On this sheet are the average earnings per hour of the operatives on individual operations on day or piece work, all figured at piece-work rates. From this the average cost of pieces is also easily obtained

esting to find out just how much various employees earn in the pay period and per hour.

RECORD ON TIME WORKERS, SHOWING EARNINGS AT PIECE-WORK PRICES.						
PAY ENDING	HRS. WORKED	RATE PER HR.	AMOUNT PAID	AMT. EARNED	HOURS NO RECORD	MEMORANDUM
NAME _____	NO. _____					
RECORD FROM _____	TO _____					

FORM 13: The wages the time workers would have made had they been working by the piece can be shown on this form. This information is a check on both classes of workers

A series of card reports (Form 12) makes it a simple matter to compare the earning power of employees in any group.

“The fourth report which comes to me from

the cost department (Form 5) is the analysis of individual time-workers wages.

“Another equally interesting report is the analysis of time-workers’ earnings (Form 13). This is made out from the daily time-work tickets and forms a record of just what the time worker would have earned if he had been doing the individual job by piece-work at piece-work prices.

When I Give a Man a Raise

“By the system of analysis I have described the earnings of each employee whether a day worker or piece worker are kept as a separate record. This record shows me comparatively the total number of hours that each employee works during each pay period and the amount of money paid that employee. A piece worker’s record is kept in the form of average earnings per hour.

“This plan fixes an employee’s earning capacity. It shows in dollars and cents which employees are most valuable—which are entitled to a raise.

“On time workers a record is kept by hours of work and money paid. These figures are compared with the piece-workers’ earnings during the pay period at piece-work prices, or if they are doing some work on which it is not possible to put a piece-work rate, the number of hours they have been employed at this class of labor is shown.

“These totals are carried from time to time so that I am able to determine at a glance whether this employee is earning less than the amount paid him or more than his rate per hour. When the time comes for a change in pay I know absolutely whether the employee is actually entitled to an increase.”



SHAPING MEN TO YOUR PLAN

WHAT your shop blacksmith does in shaping his iron is to work not against, but with the habits of the metal. Never does he hammer it cold. It goes first to the forge, until, tinged with the glow which marks it as plastic, he fashions it easily.

So the shrewd foreman handles and shapes his workers to the task, the plan and the spirit of the shop.

He works with, not against their habits. It is only the trouble maker whom he breaks. Behind tardiness, discontent, carelessness, he finds the reason. He learns the grain and fiber of his men.

Sagely, he fires the enthusiasm of his helpers. And then, at the right instant, he shapes them easily out of their old habits into line with the swing, the purpose and the rhythm of his plan.

V

GETTING EMPLOYEES TO WORK ON TIME

A STRAIGHT backed bench at the main entrance of a western clothing factory is the focus of the company's system of getting men to work on time. It is a pillory for the tardy. Its effectiveness may be judged by the fact that it is rarely occupied, though a thousand or more employees file past the door-man every morning.

This "mourner's bench" is not for the accidental offender. The company, which puts quality of product above every other consideration in dealing with its tailors and machine operators, is liberal in its policies and allows an occasional "late" as a concession to uncertain transportation. Let an employee push this privilege beyond one or two reasonably brief lapses in any fortnight, however, or trail in half an hour late any morning, and he encounters the ordeal of the mourner's bench.

The door man makes note of his name and department and sends him to the pillory. "Mr. Brown, the manager, wants to see you" he is told and news of his detention is 'phoned to the front office. Waiting for Mr. Brown to appear, he is given time to examine his

conscience and cast up his accounts with the organization and with his job. The only idle man in the building, his discomfort is increased by the fact that his seat is at a cross-roads of factory travel and he is subjected to the scrutiny of every executive and employee passing, all of whom understand the reason for his detention.

Before Mr. Brown appears (after an hour's interval, perhaps) the tardy man has had the virtue of punctuality bitten so deeply into his soul that he hardly needs the manager's attention. He gets it nevertheless. He learns what promptness means to the business and why the house must insist upon it. And when the manager finishes with him, he hurries away to his desk or machine with a new, fixed idea—never to cross the dead line of the company's forbearance again. The house records, made up from department time rolls, show very few cases where the bench has claimed a man a second time.

This is backing up the time clock with psychology. It is one of many methods by which tardiness is eliminated among skilled or semi-skilled workers whose good will and co-operation it is essential to retain. For a company employing a large force, the money loss due to "lates" or slow starting may sometimes transform a small net profit into a deficit.

The problem, therefore, is to enforce such discipline or bring such influences to bear on employees that they will "beat the whistle" to their benches or desks and get a flying start—without antagonizing them.

No hard and fast rules can be laid down for effecting this, since the temper of organizations, environment and conditions are never twice the same. In determining how to handle

the problem, the character and temperament of employees—whether men or women; skilled or untrained; salaried, piece workers or paid by the hour—together with working conditions and the labor market, are all factors to be taken into consideration.

The regulations accepted and obeyed in one store or factory might empty another of all its workers. “Docking” for time lost, fines and penalties ranging up to suspension or absolute discharge, are no doubt necessary in many industries and imperative in dealing with certain classes of men. As workers grade up in skill and intelligence and the demands made by the work increase, however, employers generally concede that tact and even generosity are required to hold employees “in line” and insure the best results in service and quality of output.

Encouraging Punctuality by a System of Rewards

Encouragement of punctuality by a system of rewards is a further step which many houses have taken. One large corporation with more than a thousand office employees deducts nothing from pay envelopes for occasional tardiness, but keeps a careful record of “lates” as well as the total number of hours put in by each employee. Twice a year, when the lists of those recommended for promotions or increases in salary are submitted to the management, a statement from the timekeeper accompanies each record showing the punctuality average of the man and the total of his overtime for the year.

If a man has an undue number of lates and is also a “whistle-quitter,” even unusual ability will not earn him advancement. If, on the

contrary, his record shows much overtime and his department head admits that the extra hours were necessary, an occasional lapse at the time clock does not count against him.

The house's policy on this point of discipline and reward is known to every member of the force; as a consequence neither clerks, messengers nor section heads are willing to jeopardize a possible "raise" by tardiness or unwillingness to "clean up" the day's work.

Offering Small Daily Premiums for Promptness

Promotions cannot reach down to every private in the industrial army. To interest all employees and secure prompt attendance some companies pay small cash premiums—some as low as two cents—for each day's perfect record at the door. Another phase of the premium idea in successful operation is the basing of vacations on the employee's record at the timekeeper's. A clean record for a month gives each worker a certain credit of vacation time on full pay. The schedule contemplates an occasional slip, but the man or woman who is reasonably punctual and shows the right attitude is able to earn two weeks' free time on salary during the dog days.

Fining Employees for Late Arrival

Fines remain, however, the commonest means of enforcing promptness. They vary from virtual discharge to a day's "lay off" for common laborers who come late to their work—the practice of certain large companies in industrial centers where a supply of unskilled workers is never lacking. If a laborer is not in his place at the time fixed a call is sent down to the gate, a brass check is issued to the like-

liest candidate and the incident is closed unless the missing man has been employed some time and the foreman recalls him as efficient. In that case he loses only the day and is restored next morning.

“Docking” Wages Proportionate to the Tardiness

From this blunt policy the system of fines ranges up to carefully graded penalties for the better classes of employees. One manufacturing house with six factories in America and Europe “docks” its mechanics a quarter-hour’s pay for being three minutes late, half an hour if the tardiness runs up to ten minutes, and a full hour if he is thirty minutes behind time. For all its severity, this may be considered a typical code among large organizations which make no special effort to cultivate warm personal relations with their men. Other houses content themselves with deducting the time lost and inflicting a small additional fine. In many stores and factories the flat fine alone is used, except in flagrant cases, for a few minutes lost; it usually is no more than five cents.

Confiscating an Employee’s Pass Card When Late

Somewhat similar is the method employed in an eastern garment factory where the workers’ entrance is closed the instant the whistle blows. Tardy comers have to pass through the office entrance where their numbered pass cards are taken up and turned over to the time-keepers and foremen before restoration to the men.

Instead of time clocks some companies with heavy pay rolls provide individual tickets which are punched at the door. The ticket is

divided into squares, each representing an interval of five minutes and beginning fifteen minutes before the starting hour. Not a few plants use time stamps, each employee being supplied with a new card every day on which he is compelled to keep a complete record of his movements in and out of the shop or department all day long.

Holding Employees by Daily Work Cards

Another system which requires no time clock is that devised by F. W. Taylor for the plant of a large link belt manufacturer and other large establishments. At each shop entrance are racks containing a numbered compartment for the individual job or layout card for each mechanic or handy man employed. When the seven o'clock whistle blows the timekeepers lock the racks. Tardy men are compelled to report at the shop office and sign a slip before they can get their work cards. Thus the arrival of each man is checked and his work assigned in a single operation. If a man completes his job the same day he turns in his card and gets a new one immediately, otherwise he turns it in at night and finds a continuation card for the same job in his rack the next morning.

Taking Up Identification Cards of Tardy Employees

As an additional check on the arrival and movements of workers one company, with a pay roll of 100,000, stations a uniformed guard at each of its work entrances. After the whistle blows the guards take up the numbered identification card of each man or woman who enters. These are passed through the time-office to the foremen and returned to the own-

ers. Employees register on time clocks before starting work, even when they are late, the double checking system making it impossible for them to get their fellow workers to ring in for them. In addition each foreman has an exact report of the time of arrival of those under him.

Making Workmen Record Time of Starting Work

Getting men down to work on time has its important corollary—inducing them to start production the instant the whistle blows and to keep it up as long as the wheels revolve.

This interval between the moment of reporting and the actual commencement of work becomes a matter of tremendous importance where the force is large. To prevent wastes of time in changing clothes, loafing in wash-rooms, or finishing the “morning pipe,” many companies place their time clocks between the lockers and the shops, so that employees must change and be ready for work before “punching.” This method seems to be the only way in which a certain percentage of every large force can be kept from “sponging” the time required to change at starting and stopping. Yet many employers find that such close regulations of workers’ movements influence their attitude towards the house and the quality of their product. They allow more latitude, therefore, depending on the supervision of executives to prevent abuses rather than mechanical prods, particularly in the case of skilled operatives.

“We believe in letting a man finish his pipe after the whistle blows,” explains the superintendent of a steel plant. “It is the rule of our shops that a man may finish his smoke if his

pipe is lit, but he must not fill up again. We have satisfied ourselves that we can't keep skilled mechanics contented and loyal if we restrict them too much. There are so many ways in which discontented machinists can get square with the house that the only safe policy is to follow the golden rule."

Automatic Recorders of a Machine's Work

Recent developments in devices for preventing tardiness and loafing after starting include automatic recording instruments to be connected with each machine. These record both starts and stops on a ribbon in the foreman's or superintendent's office. When a machinist starts his tool or machine, an electric contact is formed and the office is advised automatically that that particular machine is working. When the material begins to be processed a second contact is formed in the nature of the record changes and the office knows that the man is not only working but is actually producing.

The moral effect if these various checks on men—like time clocks and other devices for recording their movements and activities—is said to be considerable. It is as though an invisible eye were always upon them. As one experienced manager puts it: "They beat conscience or good will all hollow. Some men haven't either and others let what they have slumber. But your automatic recorder is always on the job."

VI

MAKING WORKMEN READ FACTORY RULES

RULES are posted with the expectation that men will read them—and remember. Curiosity may lead a workman to watch for new rules, but the application he makes of them is another question.

Different factory managers use a variety of means to force their rules home, as bulletin boards, form letters, booklets and signs. Many factory managers have definite ideas on the subject of getting rules obeyed.

“We have found the shorter and more concise the rules can be made, the less there is for the men to remember, and the more sure they are of paying attention to them,” says the general superintendent of a transmission machinery company.

“We arrange to have each man sign the rules in the back of the pamphlet when he goes to work. Each one is given a copy. Rules are printed on large type posters and posted up in the various departments. Continued violation subjects a man to discharge. In each department are bulletin boards on which general matters pertaining to the department are posted; at the entrance to the factory is a gen-

eral bulletin board for posting matters of general interest in the factory. Foremen go over with their men, when they first go to work, general subjects pertaining to the work and the company's way of doing business."

Rules must necessarily be brief, but interesting; written in a way that will appeal to each workman and be remembered by him. The fewer instructions set down the better; shop spirit and the personality of foremen must be relied upon to tone up a factory. Stereotyped forms detract from the impression of rules on employees. Notices posted in conspicuous places and on various sizes of cardboard attract attention, particularly if changed often.



Making the employee sign an agreement to read and obey the rules is the plan of a box factory superintendent.

TROUBLE does not arise from employees not reading signs and notices. In case of an accident it is necessary to make such proof. Curiosity prompts them to leave their work for that purpose as soon as the opportunity presents itself after a new sign is posted. The trouble lies in proving that they have read them previous to breaking them.

"I had one case where a man was injured while engaged in a foolish undertaking, not in connection with his work. He was warned not to do it, and admitted in conversation that he expected to be punished by discharge had I caught him at it. Yet he sued the company and was given a verdict for damages, having perjured himself as to not having received the very instructions which had been repeatedly given him. I could not prove that he had read the rules. Now a new

employee signs up for receipt of the book of instructions and by the same signature says he can read and write, and agrees to read and follow instructions.”



The secretary of an engineering company advocates personal contact, as a factor in getting rules obeyed.

JUST analyze the fate of stereotyped rules. They are generally framed and hung in a more or less conspicuous place. At the end of the first week they are covered with dust; during the next week the glass is accidentally broken. In a few days more the rules are unreadable.

“The ordinary mechanic pays little or no attention to rules or bulletins. Why should he? What is there to attract a faithful workman to a set of dirty rules, and why should he be wasting his own and the firm’s time in trying to read them?”

“If it is necessary to make any changes in the existing shop practice, call the entire force together and have the general manager address the men. If a large number are employed, call the foremen to the main office; and they, in turn, can explain the new conditions to their men. The moral effect of a two or three minute address by the manager will have more weight and will produce better results than any set of rules ever framed and hung in a shop. It is the personal contact that counts.

“I firmly believe in the integrity and honesty of the average mechanic. He is intelligent, anxious to advance, and if the policy of the company is to treat the men fairly, he will work in the interest of the company. Such men require no list of rules. Of course, there

are exceptions, but I am convinced that in nine out of ten shops, printed rules are of little use.”



A factory signal system executive makes the rules interesting and he also urges the rule-breaker to form new habits.

WRITE your rules to be interesting to factory employees. If it is a general rule of importance, mimeograph copies are made of it and attached to the pay check, in addition to being posted on the general bulletin board. If a department rule, a mimeograph copy is given each employee, and it is posted in the department.

“I find a very efficient method is to have the offender talk with the factory manager. In case of a repetition of carelessness, I usually have a nice talk with him. I believe that no man has reached a point where he is beyond the assistance of other people. People who are careless are usually so from education, and carelessness will explain ninety per cent of the reasons for breaking rules.

“I have had instances in a large company where it was necessary for me to talk to three or four men during one day, although not every day. I try to get the foreman to assist the offender—to try to show him where it is to his interest to do as other people do. He will learn more and earn more and feel better with himself by doing as other people do. If you feel that you have taken one offender and made him better than he ever was before, you have accomplished a great deal more than discharging the man and helping him along the downward path. The farther down he gets, the more he rails against capital and the employer; he really becomes a menace to the

industries. On the other hand, if, by careful assistance, he is made a better man, he soon becomes conscious of the fact that steady employment is better than being shifted from factory to factory, and he begins to appreciate why his employment is steady. He becomes a loyal assistant.

“I have been connected in the past seventeen years with three companies. Following out this rule, I believe, has been a good investment, actually paying a dividend aside from any real human feeling that one man should have for another.

“Regardless of how simple the labor performed by a workman, the man who stays by the job all the time should certainly be able to perform the operation quicker and in a more efficient manner than if continual changes are being made. If the expense of educating new men all the time was taken into consideration, I am certain it is a better paying investment to educate and assist in the education of every workman and be lenient with the average offender.”



Holding the foreman responsible for rule enforcement among his men is the method of a machine screw company official.

WE HAVE found having foremen take up the question of broken rules with the offending workmen in a quiet way, is much more effective than any other scheme we have devised. So far as possible the foreman is as easy as he can be in enforcing any shop rules we have posted. We do not look for Sunday-school behavior, nor do we expect it. Our plant is so small that we still take the man-to-man grip on discipline. We employ an average of one hundred and sixty hands, which

number can be handled by personal attention much easier than in any other way.”



Carrying rules on the back of time cards and forms has worked out for the vice-president of a repeating arms factory.

WE HAVE sets of rules for different departments. Our rules as to ringing of time clocks, keeping of time records and department are practically the same throughout the shop. Special rules have to be made to cover peculiar conditions in some departments.

“These rules are printed on the back of the cards used for assigning clock numbers to the employees and are given to the workman when he is first employed.

“Special rules of a temporary nature are brought to the employee’s attention by posting such rules on a bulletin board. Copies of these rules are also sent to the foremen, and they are instructed to bring the matter to the attention of the individual workmen.

“Penalties for infraction of the rules have to be of all kinds, from discharge to money penalties or loss of time, as in the instance of failure to properly observe the time clock regulations.

“Our rules are general, and we believe the fewer we put in force the more harmonious will be our relations with the help.”



The manager of a textile plant finds that it pays to investigate the causes behind infractions.

AS FOR penalties, foremen deal with the employees without specified penalties. Although they understand each other pretty thoroughly as regards how far the employee may go, we always try to look into every case and have not been able to make a

hard and fast rule to cover this phase of the subject. For example, one of our operatives was late for a number of mornings. We took occasion to inquire into the matter and found that she was the oldest of a large family of eight or nine children and that the father was worthless and the mother in the hospital. This girl herself was only a little over twenty. It is needless to say that instead of penalizing her, we did all we could to help her."



United States Navy expert gets discipline and greater efficiency by enlisting the influence of his foremen in the enforcing of rules.

I HAVE no method of fining workmen except by suspending them, and I have not been able to standardize infractions of rules well enough to standardize penalties. I have, therefore, to consider each case of itself and impose a penalty which in my judgment seems proper. For infractions of a grave nature, men are discharged. For less grave offenses, I impose suspensions from one to six days in duration, thus depriving the man of a certain amount of pay.

"I have two methods of acquainting workmen with general factory policies and methods. I reach them through the foremen (as we have a foremen's meeting every morning at ten o'clock), and if I have any matter of general policy to talk about I discuss it as fully as need be, and they are instructed to pass the talk along through their leading men to the force. That is practically the only general method that we have of reaching the men. It is not satisfactory, but it answers the present requirements, as we have such a fluctuating force and such a small supervisory force that we do not feel that we can do much better

than at present. However, I have made a standing order that I am accessible in my office each day during the luncheon period and I get a great many calls from men with grievances or with a desire to ask questions, and I seldom let them go without a few words touching in a persuasive way on some of my general policies.

“From my experience and observation, I believe that so long as the men working for you believe in you and have confidence in you, they will accept anything you say and do as O. K., and that if they have not confidence in you, you can tell them about your policies at the greatest length without convincing them and without accomplishing the end that you are aiming at.”



Works manager of a large plow company situated in the west sells his rules to workmen by mail order methods.

ONE OF the most convenient methods, I believe, for distributing permanent information through the works is by means of circular letters. Certain of these letters go only to foremen and inspectors, while others of a more general nature are distributed monthly to all the men. Still others are posted on bulletin boards for the general information of all employees. We have a number of mailing lists and certain letters are sent out to one list or another according to the subject matter dealt with. I have made up a loose-leaf binder with a suitable cover and in it are kept all the active letters. My idea is to have a more or less elastic body of rules and regulations for the guidance of foremen, clerks, inspectors, and others in authority. New instructions are first issued on a circular letter the same size

as the printed book so that a copy may be inserted in it later on for future reference.”



By posting rules over the foreman's signature, a watch company superintendent makes him responsible.

OUR general rules are hung in a prominent place in each department, generally near the department office. It is sometimes found necessary for a foreman to post a special notice over his own signature to meet some condition existing in his own room. Infringements of rules are rare and are ordinarily dealt with by the foreman. Our classes of operatives are of such intelligence and purpose that very little discipline is needed.

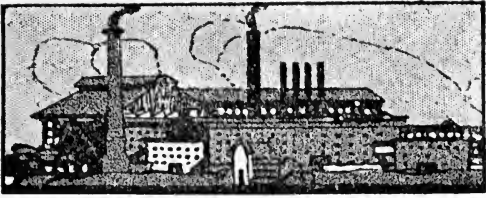
“Our department foremen have an association of their own, and hold frequent meetings, at which factory conditions and needs are discussed. And our president occasionally calls them together for special instruction.”



That breaking the same rule twice means certain discharge has been established as the master rule in a large typewriter factory.

ALL SPECIAL rules are posted on bulletin boards by the main entrance of each floor. Any special rule that is to be emphasized is usually taken up with each foreman among our thirty odd departments. Many of our workmen's forms, such as time cards, factory orders, goods receivable sheets, and so on, have certain rules thereon. We have also large cards throughout the plant covering rules for sanitation. Copies of the state laws governing employment of female employees and minors are also posted in our plant.

“Any employee breaking a rule is cautioned and if the same rule is broken again by him or her, dismissal follows.”



TEAM WORK

BEHIND the team play of chief and men, horses and engines, which fights down a stubborn fire, are months of drill, which teach every man to count on his mates. Behind the will of the crew, the record of the engine house is at stake.

Get into the shop which stands for output and you will find the same team spirit—something to fight and something to fight for; a force built up by patient drill; foremen and a chief who stand with their men.

Build your team on its leaders. Get your foremen into touch and into line. Then help them to shape up the ranks.

Set a record and a reward to fight for. Season your men with training—with trust in one another—and the whole force will show team work.

VII

WINNING DEPARTMENT INTEREST

INTER-departmental interest is most easily promoted by having your foremen and if possible your workmen meet at frequent intervals. The experience of other factory executives will suggest how to arrange these meetings for your men.

“Walking through the factory some time ago,” says A. B. Russell, “I was particularly impressed by the fact that the foremen of the several departments had little opportunity to become acquainted with each other personally. Neither did they have a chance to secure ideas, one from another, as to methods of manufacture, unless time was devoted to this purpose which ought to be spent upon the floor of the factory among the men, or unless the foremen chanced to have some common interest outside of business hours. With these thoughts in mind, it seemed to me that a means ought to be found to bring the men together socially and at the same time effect an interchange of manufacturing ideas.

“Our first attempt in the development of this idea seemed a success, but really was so only in a limited way. We engaged a small

hall and the services of a caterer; we invited the president of the company and we wore our good clothes. The president spoke at some length, those of us who were not overcome by the dignity of the occasion had more or less to say, but the foremen themselves were inclined to say very little, and, although we voted the meeting a great success, as we look back at it now we think it the least successful of our gatherings.

“We conduct our meetings now on a much simpler basis. Only the heads of departments and foremen are invited, and at the close of business on the appointed night, we sit down to a simple dinner, served in a more or less primitive manner by the woman who conducts a lunch room for our men in a house adjacent to the factory. The foremen come in their working clothes, there is nothing to make any one feel embarrassed, and no one hesitates to express his opinions freely regarding the subject under discussion.

“We have found it desirable to have some general subject assigned for discussion, as otherwise conversation is apt to lag or branch off to some topic which might better be left unmentioned.

“Our line of business is the manufacture of filing devices, library and office furniture, principally of quartered oak, hence the various subjects discussed have included ‘Kiln Drying of Oak,’ ‘Glue,’ ‘Veneers’ and other matters of a general nature as well as construction problems affecting only our own product.

“It is surprising to what extent those present take part in the discussion and what interest is shown by the men in the details of departments other than their own. Thus the foreman finisher learns things about construc-

tion which he never knew before and which, indirectly, are of benefit to him; the foreman of the lumber yard appreciates more fully the uses to which the lumber is put and can more intelligently handle his department with this in view; and the heads of the office departments, who are also at the meetings, get more closely in touch with the entire manufacturing proposition.

“As to the more direct and practical results, we find that many important points are brought out. For instance, in discussing the construction of our horizontal sections, it was found that the foremen were of the unanimous opinion that the type of joint which we were using was not as strong as was desirable. This joint had been in use for a long time and we had considered it the best possible construction for the purpose intended. An investigation followed the criticism of the foremen and showed the correctness of their position. The construction was changed in accordance with their recommendations.

“At a recent meeting, when the subject of ‘Veneers’ was taken up, the discussion proved extremely profitable, and, although we have long been using veneer for certain work, the discussion resulted in its adoption for two of the most important items of our product, where heretofore we had believed that only solid oak could be economically and satisfactorily used. But for the suggestions of the foremen and the development of their suggestions we should not have made what has proved to be a distinct improvement in certain of our goods.

“At an early meeting we discussed the method followed in putting hurry orders through the factory and relations of the gen-

eral office to the productive departments. It was found that on one hand the office did not have the proper appreciation of manufacturing conditions and, on the other hand, that the productive departments had misconstrued certain requirements of the office. A mutual understanding between the two departments having been effected, the office no longer urges shipping schedules at dates inconsistent with proper workmanship and the productive departments appreciate the attitude of the office and co-operate more intelligently towards the attainment of the desired results.

“Incidentally the adoption of the suggestions brought out at the meetings has shown the foremen that their ideas are appreciated and that future suggestions will receive proper consideration—a very desirable feature, for many foremen acquire the notion, for one reason or another, that their suggestions, regardless of merit, will receive scant consideration.

“An outgrowth of these semi-social meetings is the regular Monday morning meeting of the foremen in the superintendent’s office, where they gather for an hour and go over the various orders in process. Each foreman there schedules how long a time it will take to complete his work and when he can deliver it to the next department. The foreman of this department likewise schedules the time he requires, and thus is ascertained a very close shipping date, which the assistant superintendent reports to the general office, and thence to the sales office.

“The foremen make record of these schedules and use every effort to live up to them. Deviation from the schedule is immediately reported and a new shipping date established. In such a case the sales department is notified

and is able to advise the customer in advance that the delay will occur, rather than disappoint him at the time he expects the goods.

“The management was decidedly skeptical as to the success of these weekly meetings, but experience has proved the wisdom of them, and the old difficulty of side-tracking orders, one foreman blaming another, and the consequent delay in shipments have been overcome to a remarkable degree.

“We firmly believe that the closer in touch the foremen can come, one with another and with the management, and the more general knowledge regarding the whole manufacturing proposition each department head can acquire, the better results we will get, the less inter-departmental friction will ensue, and the more will the foremen look after the real interests of the company.”

Make your meetings informal, let your foremen feel at home and free to speak their minds. Get your president interested in the meetings; let him read a report of each meeting; but don't attempt to have him preside at them. The president of any firm will unconsciously dominate any meeting of his employees. You are after the ideas of your foremen; then keep the “boss” away and let them feel free to talk among themselves.

To prevent fruitless discussions on undesirable topics, announce at each meeting the subject to be discussed in the next.

“Our club,” says A. E. Oldham, “was organized some five years ago. All foremen and heads of departments are eligible to membership. At the present time we have twenty-eight members and hold meetings twice a month, from November to June and one meeting per month the balance of the year.

“Our meetings are very interesting, being largely of a social nature. We have here at the plant our own dining rooms, and the company provides dinner for all our meetings. Dinner is served at 5:30 P. M., after which we adjourn to the club room when we immediately hold a business session. The business session may be either long or short, as the occasion demands. We carry on our business meetings in a most approved manner. Our society is well organized with proper officers, president, vice-president, secretary and treasurer. We usually follow our business meetings with a debate on some popular subject, as, for instance, the debate held at our last meeting in October just prior to the elections, had for its subject the control and reform of the city’s street railway system.

“In this debate we had four members take part on each side, each member being allowed ten minutes, except the last speaker on the negative, who had five minutes extra for rebuttal. Following the debate, a vote is usually taken for general discussion, all of the members present taking part, if they wish. We do not always hold debates, of course. Sometimes our meetings take on some other form of amusement and sometimes we go in a body to some of the theaters.

“As a promoter of good-fellowship and a better understanding between the members the Foremen’s Club is certainly a practical success.”

Meetings of a formal nature may well conclude with something really worth while in the way of entertainment. Much interest is taken in debates on subjects of civic interest. Moving picture exhibits of topical interest, such as the process of manufacture in a similar line,

or the operation of new machinery which the plant is about to install, meet with approval. Even in the small plant, factory band concerts, vocal concerts, bowling and billiard matches, theater parties, and an endless chain of similar amusements can be used to cap a business meeting and show that the spirit of the management in promoting department interest is not altogether selfish.

“In our shop,” says an executive of an electrical manufacturing company, “a good deal of attention has been paid to getting the men interested in their work. The employees’ library contains over one hundred standard works on science, and arrangements have been made to procure sixty new books each month.

“This library is, therefore, a center for the informal meetings of foremen, and much good results. Moreover, ambitious employees can join classes under competent engineers, receiving theoretical and practical instruction in modern methods of manufacture.

“These activities focus, so to speak, in our foremen’s meetings, which gather once a week. Here, after a dinner provided by the company, topics of live interest pertaining to the shop are discussed.”

By providing carefully selected literature the career of the ambitious employee can be piloted along the very channels you desire.

The fact that you have a library and keep check on its users will bring to your notice all those who are especially promising workmen. The intelligent use of the library will be reflected in the work of the most progressive men. By the amount of theoretical knowledge a workman applies, you will distinguish him from the dreamer who reads everything and applies nothing.

“Meetings of officials, superintendents and foremen in our plant,” says an executive of an engine company, “are held in a spacious and well appointed club-house established by the company. The prime object for which this club-house was built and for which the club was formed, was to crystallize interest in the work of the company.

“The club, which has been unusually successful in the attainment of its object, has a large membership of men, whose interest, while common, would have no place for expression, elsewhere.

“For a nominal yearly fee, members receive all the benefits of the regulation club. Dinner and supper are served in the building and each table at the noon lunch hour has its circle of men whose interests bring them together.

“The co-operative spirit is further strengthened by receptions, entertainments and lecture courses of both popular and technical nature. Not only is the interest of officers and department managers, engineers, superintendents and shop foremen kept fresh, but the ‘esprit de corps’ of the graduate students in engineering is greatly strengthened.”

It really matters very little how you bring your foremen together, so long as you foster a spirit of co-operation and friendly competition. Whatever you do to encourage department interest is lost, unless it tends to make the men ready to help each other in their inter-departmental difficulties and makes each foreman determined to have his department stand at the top, in merit.

VIII

SHOWING EMPLOYEES HOW TO WORK

IT isn't the hammer at all; you simply don't know how to swing it." A skilled journeyman steam fitter offered this to a fellow workman who had smashed his left hand badly and had broken out cursing at the hammer while at work on a cold chiseling job. Less than a half hour's voluntary instruction on the part of the skilled man served to show the other a trick that would have saved him hours on similar jobs during the twenty years that he had followed the trade.

Go into any machine shop and you will see many a man working with a hammer, who does not know how to swing it—who, while he receives wages, is a certain loss because he is not as effective as he could be made to be, if trained properly.

Instructing the men who are already at work to do that work better and with less effort is, of course, one of the aims of the much discussed scientific form of management. But a manager doesn't have to be an efficiency enthusiast to appreciate the value of helping his men to hold their jobs and enabling them to progress.

An employee who can see that pains are being taken to instruct him naturally feels under some obligation to the shop or factory and will do better work and more of it. "Development" is the slogan, not "low costs." As one executive who is in sympathy with the training policy puts it, "If one-half the attention were given to properly training labor that is devoted towards bringing about cheaper production, 'low costs' would take care of themselves automatically.

In a certain large concern employing about six thousand hands, thirty per cent of the force changes each year. In another concern an almost unbelievable change of thirty per cent a month is stated to be a not uncommon occurrence. Here, however, only the monopolistic character of the business saves it from disaster. Why do the hands "stick" in the first case? Because they are trained in the shop practically and have every opportunity to secure better jobs as fast as they develop—because a record is kept of their efficiency and they know it, and because there is no limit to the height to which they can rise in the company's employ if they are capable.

To train men is to hold men and holding employees is economy—it is a cash drawer factor. The general manager of a large manufacturing concern says: "For every dollar paid a new employee for the first few weeks, we are out two dollars in the cost of breaking him in."

Here is a loss—a leak in the pay roll of from one and a half per cent up—that many business heads have never even thought of; a leakage all the more dangerous because it does not appear on the books—the most expert auditor will find no trace of it. Yet, it is shrinking the profits of every business to the

extent of from one and a half to fifteen per cent (in the extreme case) of the annual pay roll.

Go back into your accounting department and figure your own loss on the basis of last year's wage disbursements.

Of course a large part of this loss is due to material spoiled by poor workmanship. What does this mean in dollars and cents? Suppose that in a factory of a thousand hands twenty per cent or two hundred are not up to grade. If the average mechanic's wage scale is four dollars per day and each inefficient employee wastes about twenty per cent of his wages (some of them do far worse than this) then the loss per day is \$160 or \$48,800 for a year of three hundred and five days—money that you are throwing away and not realizing.

In the average manager's plant, his employees are doing their work under one of the following three conditions as far as training goes: First, the workman is left entirely upon his own resources. His only instruction comes by way of a "call-down" from the foreman when work is not up to the mark. He is told with a warning what not to do again. This is a negative method of instruction and only when the employee is properly constituted mentally will it be "instruction" at all. Rather more often it irritates without bettering the situation. The second condition is typified by the factory where the foreman may be a skilled mechanic with sufficient assistance to relieve him of the details so that a portion of his time can be given to showing his men "how." In this factory the management sanctions the giving of help by employees to their less skilled co-workers. This is sometimes altered to the extent of having

the sub-foreman responsible for the instruction work. Such schemes are worked out to a greater or less degree in a large number of plants. Third, in a few factories, generally the larger ones, another condition exists. There is a training department with an able instruction corps. This is not a make-shift department but a regularly established, well organized branch of the factory.

Looking at the first condition, is it any wonder that there are thousands of workmen who cannot hold a job—that the period of labor turn over in some factories is so short? Under these conditions there has never been a chance for the laborer to be properly started in any definite line of work.

Here is the source of the ever-increasing force of unskilled laborers, "floaters," and men out of work that crowd the employment offices of the American factories. And if the owners of these factories would take some means of imparting instruction, those owners would have an ever-efficient force, upon which to draw for vacancies to be properly and profitably filled.

"Even assuming that we have workmen who, as such, are doing their work fairly well, what reason is there," Chas. F. Park, director of Lowell Institute School for Industrial Foremen, asks, "to expect that these untrained workmen will ever exercise any initiative or that they can ever become leaders even in a small way? How can they ever progress even from the smaller things to the larger ones, or how can they ever become qualified for positions of responsibility such as foremen, superintendents or shop managers? To be sure many men have developed under these conditions, but not because their work gave them

proper training, but because they were naturally superior men. My appeal is for training that will develop the superior man. But I appreciate that there is also urgent need of industrial training for the great mass of ordinary workmen."

The backbone of any factory is its trained workmen, the men who know not only their trade, but the factory as well and who have the right spirit towards the business. Such men do not develop in a few days or weeks. They are the result of long years of service or else of training, more or less systematic in its nature. A study of many of the plans devised to effect this training seems to show that in assisting men to become thoroughly competent in their particular vocation practical instruction can be profitably given in the shop by skilled mechanics who are able to tell what they know.

The skilled mechanic thus qualified may be in the guise of a help-giving fellow workman, a foreman of one grade or another or an acknowledged instructor, depending upon the extent to which instruction is carried in that particular plant.

In connection with the second condition mentioned above, that is, where the workman is helped by the foreman, one manufacturer who handles his work differently in this respect in different branches tells us that in one department where men are employed, and where the work would be classed as skilled, the employees are divided into groups of about twenty-five. Each group is in charge of a sub-foreman. The sub-foreman inspects the quality of the operator's work and gives instructions where necessary.

Company instruction takes shape in plans

ranging all the way from classes of workmen who are taught subjects of indirect value in their work, such as English, spelling and arithmetic, to the careful and minute instructions covering every operation, which issue from the plan department of a factory running under the scientific management policy.

One manufacturer in the East who stands on middle ground in this question of instruction has an interesting method of showing his men—new and old—the one best way. He says, "We have a department where we instruct all employees in the best method of doing their own particular work, no matter whether they have been at this work six months or a dozen or more years."

As Mr. H. L. Gantt has pointed out, scientific management reduced to a broad table of classifications, resolves itself into the following program:

(A) Investigation by experts to ascertain where there is waste of any sort, whether in labor or material; the determination of best methods, and the adoption of these methods as standards.

(B) Development of a mechanism for carrying these standards into effect. Such a mechanism takes care of the assignment of tasks, the supplying of materials and tools to the workman, the furnishing of a teacher to interpret the instructions and show how they should be executed. This is generally called "planning department."

(C) Finding and training workers to follow these standardized methods.

(D) Providing for adequate compensation of the worker when he attains the standard of efficiency.

(E) Developing, among those successful

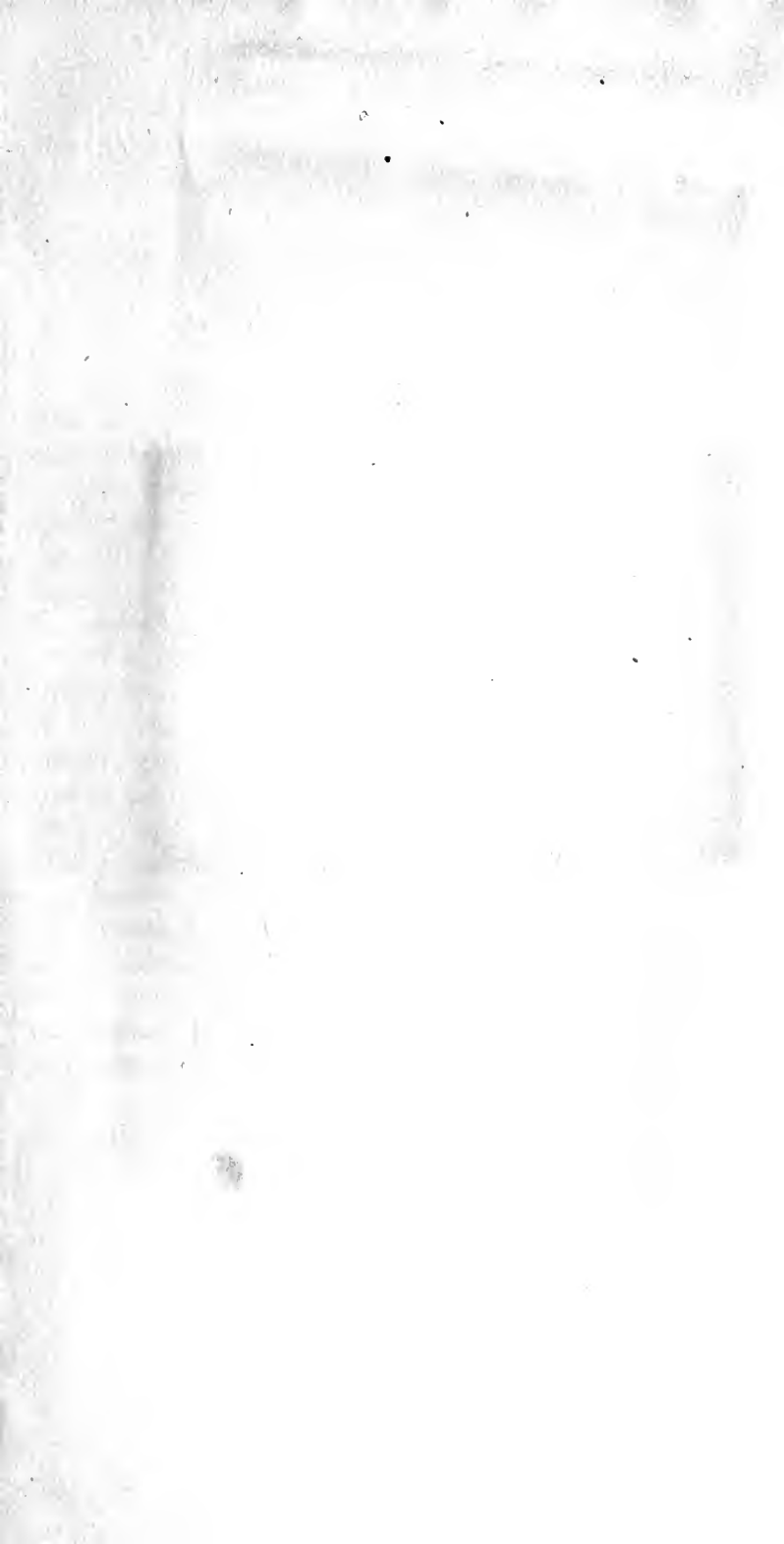
workers, a continual supply of skilled investigators and teachers to make the system self-perpetuating.

It is with the last part of the third step that this article deals—training the workers to follow the standardized methods of scientific management.

There is an instruction card supplied with each job which definitely states the task and the time allotted for the individual operations as well as for the total task. Each tool is selected—each movement is made—according to directions that appear on the instruction card. In fact, each detail of the operation is carefully covered by specific instructions.

The primary element in getting men up to standard is teaching. A long course of training is often necessary before even one man in the establishment will accomplish a given task regularly. The most skillful workman is seldom able to perform the task set, at the first trial. So an instructor must be at hand who is willing and competent to teach the workers, individually, how to follow the planning department's directions. All the efforts of this department and of the functional bosses center on making it possible and easy for workmen to perform a given operation, by a prescribed method, in an allotted time.

Scientific management recognizes the fact that training workers is as much a function of management, as is the providing of suitable materials and machinery. Increase in efficiency turns upon the handling of men.



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