

still partly founded on guesswork. We will go to a workman and say, "Now, John, we have not yet made a complete, accurate time study of this job of yours. You understand you are going to be paid a premium on this job, although the task is based half on guess-work. We will be frank with you and tell you that we do not know enough to fix a proper task, but later on we will make a proper time study of this work, and then the task will be revised and made right." In a company which is just introducing the system there will be a thousand or more jobs put on task work in the course of a year where the time study has not developed sufficient information to fix rates that are absolutely just. While it is the intention of the management to go back and pick up every one of those jobs that have been half time studied and make a thorough time study of them and finally establish rates which are equitable, in many cases these jobs are lost sight of. When a workman strikes one of those snaps in which too large a time allowance was made there is a good deal of temptation for him to soldier. I can hardly blame the workman for not giving away a snap of that sort, altho we constantly have workmen coming to us and pointing out that too much time has been allowed on jobs of this sort. Workmen are just as honorable as the rest of the community.

Mr. Redfield. In your talks with the workmen what did you find was their chief objection to the introduction of scientific management?

Mr. Taylor. I think the chief real genuine objection to scientific management on the part of the employees in our arsenals and navy yards is the fear that if it is introduced it will break up the practice of soldiering and ultimately throw a lot of them out of work. They realize that it will largely increase the output per man, and that therefore a great number of their fellow-workmen will be thrown out of jobs. I think that this is a genuine fear on the part of the workmen in spite of the fact that the whole history of the introduction of scientific management shows that it has rarely resulted in throwing men out of work. I think that is the chief objection. But I think there is another cause for the recent protest from the men in Government employ against our system. I think that the objection on the part of the men in the

Watertown Arsenal, in which scientific management is being introduced, was largely brought about by the utterly unjustifiable and mean misrepresentation of scientific management which was embodied in the circular which was sent out by Mr. O'Connell, the head of the machinists' union, and of which I have a copy here, and which circular is already printed in a record of this hearing. Mr. O'Connell wrote a circular, which was sent to the members of the machinists' union all over this country, utterly misrepresenting every element of scientific management. Misrepresentation is a mild word. I would like to use a stronger one, but I do not care to burden the record with it. But misrepresentation is a mighty mild word for what Mr. O'Connell has written in his circular. Here is the circular printed in the National Labor Journal, Washington, D. C., January, 1912, and here are some of the expressions to which I want particularly to call attention, so as to dispose of these misrepresentations right here. The fourth item in Mr. O'Connell's description of scientific management reads as follows:

"Instead of collective bargaining, Mr. Taylor insists upon individual agreement, and any insistence on organized-labor methods will result in discharge. Wherever this system has been tried it has resulted either in labor trouble or failure to install the system, so it has destroyed the labor organization and reduced the men to virtual slavery, low wages, and has engendered such an air of suspicion among the men that each man regards every other man as a possible traitor or spy."

Now, Mr. Redfield, that statement is utterly and completely false, and I wish to refute in the most positive way the main statement there, namely, that it reduces the workman to low wages. In proof of that I want to present as a paper to be placed on this record a statement made on October 24, 1911, in which the names of all the employees of the Tabor Manufacturing Co., of Philadelphia, are recorded, who were working at that time in the shops of that company, and who had been working for one year or more in the employ of that company. This statement gives the name of the man, the original date of his employment, his first occupation, the price

at which he hired himself to that company when he first came, his present occupation, and his average wages earned per hour during the week just preceding the date of the report (the week previous to October 24), and the statement then gives the percentage of increase in the pay which each man has received since he first entered the employ of the company.

The Chairman. May I get this point, Mr. Taylor; if this shows the increase of pay to each workman while working at the same class of work?

Mr. Taylor. In some cases the men are now working at the same class of work as they did at first, but in most cases, as I have told you, the men who come under scientific management are taught how to do a better and higher class of work than they did before, and they are given a finer and higher class of work to do with the accompanying higher pay, and this refutes Mr. O'Connell's statement that wherever scientific management has been introduced it leads to "virtual slavery" and "lowering of wages." This statement shows that far from leading to anything resembling "slavery" and to "low wages," as stated by O'Connell, that the system has led to an average increase in the wages of every man in the shops, including even the colored men who just carry the material from place to place, of 73½ per cent. That is the difference in their wages from the time they came there and their present wages. Is this "virtual slavery" and "lower wages," as stated by O'Connell? I would like to have that table placed in the record.

The Chairman. Without objection, it will be inserted.

The Chairman. Would this table show that the wages of the machinists were 73½ per cent higher now than they were before the introduction of this system?

Mr. Taylor. It shows that for the average man in that establishment, if you take the price at which he was hired when he came there and his average earnings per hour during the week preceding October 26, that the average wage for all the men throughout the shops is 73½ per cent higher. For example, the first man on this list the percentage of increase of 158 per cent,

*The table is given on page 192.

for the second man 50 per cent, the third man 50 per cent, the fourth man 64 per cent, and the fifth man 207 per cent, and so on.

The Chairman. How do the wages of machinists here, for instance, 40 cents per hour and 37 cents per hour, 34 cents per hour, and 32 cents per hour compare with the prices paid for machinists in other establishments?

Mr. Taylor. I think that the wages are very materially higher in all cases. It aims to be at least 35 per cent higher than the same man doing the same work could get in any other establishment right around us.

The Chairman. This is 35 per cent higher than the wages generally paid for machinists in other shops around Philadelphia?

Mr. Taylor. Than that same man could get if he went right out of this shop and into another shop right around there in Philadelphia and worked at similar work. That is what the aim is.

Mr. Redfield. I will read you from this report of Mr. James O'Connell. He says:

"These jobs, namely, the speed boss, the gang boss, the inspector, are given as plums to machinists who are willing to act as pacemakers."

Is that statement correct?

Mr. Taylor. That statement is absolutely false. These men are chosen because they are fit to be teachers of other men, because they are kindly men as well as competent men, and want to help other men, not because they are pacemakers, to make the workmen do something that is disagreeable and that they do not want to do.

The Chairman. Would that not be true only under the ideal conditions of your system? Would it be true in all cases in its practical operations?

Mr. Taylor. There might, of course, be an occasional gang boss or speed boss who would be unjust toward his men, but the moment it was found out, that man would be called down and corrected. That thing would not be tolerated if the management knew it, nor would the workmen themselves tolerate it.

Mr. Redfield. In a factory, Mr. Taylor, who suffers the most from inefficiency?

Mr. Taylor. I should say they were both sufferers, but I should say that the company suf-