

the "first-class" and "second-class" man is not accurately defined.

The Chairman. You have a wrong concept of what is running in my mind, and I want to set you right. What is in my mind is this, that neither an employer nor any other man has a right to determine arbitrarily how much physical exertion shall constitute a day's work for a workman. That that is a matter that if determined at all by anyone else than the workman involved, shall be determined between all his associates collectively and the employer for whom he works, and that it should not be arbitrarily determined by his employer, notwithstanding the great change of mind that the employer undergoes by virtue of having introduced scientific management.

Mr. Taylor. My understanding is then, Mr. Chairman, that you believe that even under scientific management collective bargaining or the principles of collective bargaining should apply. I am not at all prepared to say that you are not right, I have not the slightest objection, and never have had to collective bargaining, but I merely say that under the principles of scientific management that necessity has never come before me. The workmen have the same sort of freedom and they have just the same opportunity, to enter into every experiment which is made in establishing what constitutes a fair day's work, that the management have. The making of joint experiments (the workmen and management cooperating together) has been universal in scientific management, or practically universal, and the results have been satisfactory to both sides. I wish to emphasize the fact that until results of these experiments are satisfactory to both sides, scientific management does not exist. This is indispensable—that the results of this accurate study (and this accurate study to replace the old rule-of-thumb judgment is one of the essential features of scientific management), whether this study be made by one man or twenty—that the results must be satisfactory to both sides is absolutely indispensable.

Mr. Tilson. Do you believe generally with Gen. Crozier that you would not be in favor of attempting to apply scientific management to any shop without the cooperation of the employers and the employees?

Mr. Taylor. I certainly do. Never would I believe in applying scientific management unless it was thoroughly agreeable to both sides.

Mr. Tilson. And unless it worked satisfactorily to both sides, you would be in favor of abolishing it?

Mr. Taylor. I certainly would be every time. The principles of scientific management must rest upon justice to both sides, and it is not scientific management until both sides are satisfied and happy.

The Chairman. Would that satisfaction be expressed by the men collectively, or would it be individual after all the power of the management has been brought to bear on the individual?

Mr. Taylor. I do not care which way it is expressed. I have tried to explain that up to now that matter of collective bargaining has never come before me; that we have always been ready to consider any protest, whether made by one man, five men, or twenty men. If any man or any set of men, under scientific management, come with a protest, it is always received and would be accorded just as much attention and as much consideration as if 400 men came.

Mr. Tilson. That is, you would receive one man in an establishment if he came, or you would receive all en masse—if all the men interested in the establishment should come to you?

Mr. Taylor. Absolutely.

Mr. Tilson. Or a committee representing all came to you?

Mr. Taylor. Why, certainly.

The Chairman. Is that principle used now under scientific management?

Mr. Taylor. So far as I know. I never heard of anything else. Mind you, if you refer to having a committee from a union coming to bargain, or present a kick, I have never had that thing happen under scientific management, because the men are perfectly free to come themselves at any time. I think that is the reason for it. I have never had any objection to any one presenting any protest against what seemed an injustice or making any suggestion for an improvement.

Do not understand for a minute, Mr. Chairman, that I am opposed to trade unions. You

have never heard me say that, and no one has heard me say it. I am in favor of them. They have done a great amount of good in this country and in England; I am heartily in favor of those elements of trade unions which are good, and I am equally opposed to those elements of trade unions which are bad; and they have bad elements just as they have good. Now, the things that constitute the bad elements in trade unions I tried to point out in my direct testimony. I believe that the unions are controlled and misguided in a few respects by leaders who simply lack education; they lack a knowledge of some of the vital facts. One of the worst principles of the trade unions, as they are taught by the leaders of the unions (I believe that the leaders are misguided; I do not think they are dishonest) is that it is to their interest to deliberately, purposely work slow instead of working fast with the object of restricting output. It is this deliberate restriction of output that has already done the great harm in England and that is doing most of the harm that the unions are doing in this country. High wages are not doing any harm; I favor even higher wages than the unions do. Short hours are not a bad thing; I believe in short hours. I believe in almost all the things the trade unions do; but restriction of output, never! That is the thing fatal to their own best interests that they are now doing.

The Chairman. What trade unionist, prominent or otherwise, have you ever heard express an opinion in opposition to increased production if the increased production was not brought about by increased energy expended on the part of the workmen?

Mr. Taylor. Now, Mr. Chairman, I do not know of a single labor leader that is not advocating restricted output among his men; not a single one.

The Chairman. Can you name one who has advocated restriction of output or who is opposing increased output except where the increased output is brought about by an increased expenditure of energy on the part of the workmen?

Mr. Taylor. Well, I should say that it would take a little more energy for a plumber to make three wiped joints or four wiped joints a day

than for him to make two, surely. The plumbers' union restricts a plumber to three wiped joints a day. I am not a plumber, but I'll be damned if I can't wipe five joints a day, and no trouble at all. Of course, it takes more trouble to do four than three wiped joints. But what I mean to say is that when the plumbers' union restricts a plumber to three wiped joints a day and insists that one or two helpers shall always go along, whether they are needed or not, that union is restricting the output per man. If you quibble about it (I am not talking about you personally, Mr. Chairman; I am using the word impersonally; I would not for the world say that you quibble).

The Chairman. That is all right; I presume I can stand it as well as the other fellow it was intended for.

Mr. Taylor. I do not mean to say that you have quibbled for a moment, and, on the contrary, I want to thank you for the most considerate treatment I have had from you ever since these hearings began.

The Chairman. I am going to ask you at this time again, Mr. Taylor, what special necessity or economic necessity is there to increase production by virtue of the expenditure of increased energy on the part of the workmen from that which existed prior to the introduction of this system?

Mr. Taylor. There is the economic necessity that the whole world is now, just as it always has been, suffering from underproduction. Underproduction is responsible mainly for low wages; it is responsible for the fact that the poorer people of this world have just so much fewer things to live on (that they have poorer food to eat; pay higher prices for their rents; can buy fewer clothes to wear than they ought to have; in other words, that they lack what I have defined in my direct testimony as true riches); the fact that the poorer people lack in many cases the necessities, and in all cases the luxuries of life which they ought to have, is a justification for the fact that an increase of output is needed now just as much as it always has been, because absolutely the only way that these necessities and luxuries can be brought into the world is through an increase in output. Now, as I pointed out in my direct testimony,