

The Chairman. The very fact that you specify "first-class" would indicate that in your mind you would have some other class than "first class."

Mr. Taylor. If you will allow me to define it I think I can make it clear.

The Chairman. You said a "first-class" workman can be taken care of under normal conditions. That is what you have already said. Now, the other class that is in your mind, other than "first class," how does your system propose to take care of them?

Mr. Taylor. Mr. Chairman, I cannot answer that question. I cannot answer any question relating to "first-class" workmen until you know my definition of that term, because I have used these words technically throughout my paper, and I am not willing to answer a question you put about "first-class" workmen with the assumption that my answer applies to all I have said in my book.

The Chairman. You yourself injected the term "first-class" by saying that you did not know of a condition in normal times when a "first-class" workman could not find employment.

Mr. Taylor. I do not think I used that term "first-class."

Mr. Redfield. Mr. Chairman, the witness has now four times, I think, said that until he is allowed to define what he means by "first-class" no answer can be given, because he means one thing by the words "first-class" and he thinks that you mean another thing.

The Chairman. My question has nothing whatever to do with the definition of the words "first-class." It has to do with the other class than "first-class," not with "first-class." A definition of "first-class" will in no manner contribute to a proper reply to my question, because I am not asking about "first-class," but the other than "first-class" workmen.

Mr. Taylor. I cannot describe the others until I have described what I mean by "first class."

Mr. Redfield. As I was saying when I was interrupted, the witness has stated that he cannot answer the question for the reason that the language that the chairman uses, namely, the words "first-class" do not mean the same

thing in the chairman's mind that they mean in the witness's mind, and he asks the privilege of defining what they do mean, so that the language shall be mutually intelligible. Now, it seems to me, and I think it is good law and entirely proper, that the witness ought to be permitted to define his meaning and then if, after his definition is made, there is any misunderstanding, we can proceed.

The Chairman. It seems to me, Mr. Redfield, that having said a "first-class" workman could be taken care of under normal conditions, it was perfectly proper for me to ask the question of how to take care of those who are not "first-class" workmen under scientific management, and that a reply to a question of that kind does not involve the necessity of defining what is "first-class."

Mr. Tilson. It seems to me, Mr. Chairman, that you are entirely in error, because the very term you are asking him to describe is described by negative words, including the words "first class," that is, not a "first-class" workman, but workmen other than "first-class." Therefore, in order to get at the other class, it seems to me not only improper, but if he means something else by the words "first-class" than you mean, it seems to me it would be very necessary for him to describe what "first class" is, so that you could get at the negative of that and know what to subtract from the sum total. If you want to know what is not "first-class," you ought to know what is "first-class," so that you would know what to subtract.

Mr. Taylor. Mr. Chairman, I want to assure you that I am not quibbling. Not for an instant am I quibbling; and if you will allow me to proceed with the definition, I think you will see that it is a matter of great importance, because I have used the words "first-class" throughout my book.

And I wish to say, Mr. Chairman, that both of these books were written to be presented to the American Society of Mechanical Engineers. I had that in view, both in writing the book on Shop Management and the Principles of Scientific Management.

Now, the American Society of Mechanical Engineers is perhaps the most rigid society in this country in insisting on conciseness in writ-

ing—in insisting on having what is to be presented to them placed in the fewest possible words, and this book on Shop Management has received no end of criticism from the members of the Society of Mechanical Engineers, because from their standpoint it was too verbose; yet in the original form in which I wrote this book it was three times as voluminous as it now is, and in my endeavor to make it sufficiently concise for acceptance by the society, I was compelled to omit definitions of words and of expressions which were important to a proper understanding of the book. And among the expressions which for this reason have not been properly defined are the words "first-class men." My other book, which is in the hands of your committee, "The Principles of Scientific Management," much more nearly expresses my exact views, because in this book I absolutely refused to make it so concise as to emasculate its meaning, and for this reason, although the society held this manuscript for a year and asked me again and again to condense it, they finally refused to publish it.

I have found that an illustration often furnishes the most convincing form of definition. I want therefore to define what I mean by the words "first class" through an illustration. To do so I am going to again use "horses" as an illustration, because every one of us knows a good deal about the capacity of horses, while there are very few people who have made a sufficient study of men to have the same kind of knowledge about men that we all have about horses. Now, if you have a stable, say, in the city of Washington, containing 300 or 400 horses, you will have in that stable a certain number of horses which are intended especially for hauling coal wagons. You will have a certain number of other horses intended especially to haul grocery wagons; you will have a certain number of trotting horses; a certain number of saddle horses—of pleasure horses, and of ponies in that stable.

Now, what I mean by a "first-class" horse to haul a coal wagon is something very simple and plain. We will all agree that a good, big dray horse is a "first-class" horse to haul a coal wagon (a horse, for instance, of the type of a Percheron). If, however, you live in a small town

and have a small stable of horses, in many cases you may not have enough dray horses in your stable to haul your coal wagons, and you will have to use grocery-wagon horses and grocery wagons to haul your coal in; and yet we all know that a grocery-wagon horse is not a "first-class" horse for hauling coal, and we all know that a grocery wagon is not a first-class wagon to carry coal in; but times come when we have to use a second-class horse and wagon, although we know that there is something better. It may be necessary even at times to haul coal with a trotting horse, and you may have to put your coal in a buggy under certain circumstances. But we all know that a trotting horse or a grocery horse is not a "first-class" horse for hauling coal. In the same way we know that a great big dray horse is not a "first-class" horse for hauling a grocery wagon, nor is a grocery-wagon horse first class for hauling a buggy, and so on, right down the line.

Now, what I mean by "first-class" men is set before you by what I mean by "first-class" horses. I mean that there are big powerful men suited to heavy work, just as dray horses are suited to the coal wagon, and I would not use a man who would be "first-class" for this heavy work to do light work for which he would be second-class, and which could be just as well done by a boy who is first class for this work, and vice versa.

What I want to make clear is that each type of man is "first-class" at some kind of work, and if you will hunt far enough you will find some kind of work that is especially suited to him. But if you insist, as some people in the community are insisting (to use the illustration of horses again), that a task—say, a load of coal—shall be made so light that a pony can haul it, then you are doing a fool thing, for you are substituting a second-class animal (or man) to do work which manifestly should be done by a "first-class" animal (or man). And that is what I mean by the term "first-class man."

Now, there is another kind of "second-class" horse. We all know him. Among the "first-class" big dray horses that are hauling coal wagons you will find a few of them that will balk, a few of them that can haul, but won't haul. You will find a few of these dray horses