

may permit. This, in itself, is a very large order.

Nor should public agencies by any means monopolize the field of research in timber use. Many American industries have been leaders in research. There is every reason why our forest industries should, in their own behalf, take an active part in this phase of timber utilization, as a number of them have already done.

Any expansion in the efforts of public agencies will have but small effect except as it supplements what the forest industries and forest consumers of the country themselves undertake. Forest products research is like a voice crying in the wilderness unless some form of industrial organization is ready to take what it offers, try it out under commercial conditions, and then disseminate it through the trade. Personally, I would draw no hard and fast lines on where Government activities should stop in putting the results of research into practice through various forms of trade demonstration and education. I would go just as far in this direction as our resources will permit. But I am reminded of the retort made by a very keen Member of Congress, upon a request for appropriations for this purpose, who asked why it was necessary for the Federal Government to legislate brains into the forest industries of the country.

Whatever public agencies may be able to do in this direction, I believe that getting betterments into practice through commercial demonstration and trade education must be assumed

largely by the industries themselves. And this to-day is the crux of the problem. If what we already know could forthwith be universally applied, a tremendous gain in the conservation of our timber resources would be immediately effected. And the more we find out, the broader the horizon of research becomes, equally more important will it be that effective agencies exist for the prompt application of investigation results.

The fine response to the call for this conference issued by Secretary Wallace indicates that the forest industries and wood users of the United States are keenly alive to these questions. You have assembled here for a practical and definite purpose. The general facts as to our timber situation are thoroughly known to you. We have passed the stage of generalities and theoretical discussion. What we are here for is a plan of action. I trust that out of his conference will be evolved a program of specific jobs that should be undertaken in order to drive most directly upon the particular forms of timber waste which will most readily yield to organized effort. And as I view it, we need to plan also, for some permanent, well-financed agency that will act as a clearing house or steering committee, to guide the movement as a whole and bring together the particular industrial representatives, through project committees, or otherwise, who should deal with any given situation. If these two things can be done by the conference, it will stand as a milestone in forest conservation.

WASTE IN INDUSTRY AND METHODS OF COMBATING IT

By C. H. MacDOWELL

President, Armour Fertilizer Works

The individual, organization, or State holding or developing a natural resource should in the public interest be charged with the responsibility of proper administration. Natural resources, broadly, are of two classes: Those which when used are exhausted, such as coal, and those which can be reproduced in whole or in part, such as timber.

Waste in industry has two broad phases: Waste of material resources and waste of human effort.

Efficiency begins in the home; so does waste. The home attitude toward work and industry vitally influences the individual during his working years. Man is naturally

wasteful, especially with common property. "Easy come, easy go," is based on fact. Work is the real measure of value.

Workers vary in ability, capacity, judgment, thrift, ambitions, attitudes, age, and health; and their industry is controlled by these factors as well as by opportunity. So it is with collective effort exerted in corporate form. Efficiency fluctuates from time to time in men and in associations.

In the earlier days of our industries we were favored with a large supply of raw materials easily procured and cheaply transported. Fuel was plentiful and widely distributed. The great shortage was labor, and necessity