had been built up in the Canadian paper industry, and that the new mills have become the most dangerous competitors in our own markets. A case in point is the International Paper, which built mills in Arkansas and Oklahoma, where production this year is in excess of 300,000 tons; which means that much less for our own markets.

A department of forestry like the one suggested in Bill C-82 is just what is required to control Canada's forest management, as provided in section 6 (1) (a) of Bill C-82, and I quote:

(1) The Minister

(a) shall provide for the conduct of research relating to the protection, management and utilization of the forest resources of Canada and the better utilization of forest products, and may establish and maintain laboratories and other necessary facilities for such purposes;

Section 6, subsection (b) paragraph (1) of Bill C-82 mentions that the new department,

—may undertake, promote or recommend measures for the encouragement of public co-operation in the protection and wise use of the forest resources of Canada;

I shall single out only two words in that paragraph, and explain their significance; they are: "protection" and "wise use".

Protection consists in safeguarding our national wealth. Canadian forests have been transmitted to us in a natural or wild state and, in order to protect them against destructive agents, they must be treated according to the standards established by science, by good forest management which in practice, means systematic exploitation and, while improving productivity, proper thinning. Systematic thinning alone will guarantee the perpetuation of that natural wealth. The woodsman and the logging operator must help nature in its protective activity.

The only way to protect the forests against intense droughts is to cut timber systematically so as to leave a cover density of 75 to 90 per cent.

To protect forests against too prolonged dampness, the only efficient way is to cut clearings where the combined action of sun and wind will draw out the excess humidity from the soil.

With regard to the rapid transformation of forest residues into humus to promote bacterial action in the soil, the only way of obtaining the ideal site favouring such chemical transformation of the various soil elements is to resort to scientific cutting.

To avoid an over abundance of stump shoots or the growth of seedlings in a surface unit, only scientific cutting and clearing can control the agents needed for such growth. Even from an entomological point of view, a great many losses could be avoided by applying such a system.

As a matter of fact, this will at the same time eliminate losses due to the rotting of the red heart of the fir or, for instance, to the diebark of leaf trees that would otherwise be too suddenly exposed to different sunlight conditions. Finally, how many insect breeding grounds would be destroyed right at the root through the effect of scientific cutting on atmospheric agents for the purpose of silvics, not to mention the greater resistance of the various species of trees through a rejuvenation of residual stands.

I need not point out that under such advanced dampness control by systematic forest development, the dangers of fire causes would be restricted to a minimum. Therefore the word "protection", in Bill C-82, would alone justify the need and opportunity for such a department.

Bill C-82 also contains the phrase "wise use" of Canadian forest resources. This is no less important. For when carrying out systematic timber cutting, the cuttings must also be mixed (more particularly for us in eastern Canada with our comparatively smaller sized trees) that is, cutting down of sawing timber and pulp wood should take place at the same time, marking logs of diameter of more than eight inches at the small end for use as lumber and logs with a smaller cross cut for use as pulp wood.

Economic surveys have shown that the depression in the small saw milling industry (in the province of Quebec alone, in the last 16 years, about 700 small saw mills went bankrupt) is due to the fact that saw mill operators have used logs of smaller dimensions than the ones just mentioned. Not only were they marketing lumber of lower quality, at consequently much lower prices, but the sawing cost of which was prohibitively high as the diameter of the logs was smaller.

If we now relate those practical findings to the results of research obtained by the Forest Product Laboratories of Canada, we find the same cause of bankruptcy in that industry, i.e. the prohibitive cost of sawing. In the review *Canada Lumberman* of April 1960, page 46, the Forest Products Laboratories of Canada published a diagram showing the