

in the log. It should not be scaled in relation to the grades to be manufactured from it, nor on the basis that only material calculated to produce certain grades of timber is merchantable. The solid-cubic-foot unit of measure is stable, and stands for all industries, whether sawmills, pulp and paper plants, tannin-extract plants, or any other form of activity using wood, and with this unit the individual judgment is not called into play as much as with the present system. Furthermore, selling and measuring timber at the source ensures cleaner and better utilization, for a premium is set on extravagant waste by virtue of this fact. It is simple, effective, direct, and fair to everybody. Each particular user, of course, would have to establish his own utilization factor; and to say that these users would have difficulty in establishing such factors would be a reflection on the knowledge of their plants and their efficiency. As well say the freezing-works manager should buy his sheep in units of dressed mutton because he is unable to figure the loss in dressing. It would be just as fair to the farmer as to the present log unit (Hoppus quarter-girth, or sawmill output). Practically all the large timber-producing countries of the world have adopted the solid cubic contents as a basis for timber-measurement—for instance, France, Germany, Norway, Sweden, India, South Africa, United States, &c.

7. *Fire Menace*.—In certain forest districts the fire menace is a serious one, and for that reason it should be stipulated in every timber contract that proper precautions are necessary on the part of the operator to minimize the fire danger resulting from his logging slash and debris. In addition, by virtue of the interest of both parties in the timber, an equal levy should be made for fire-protection expense, the Forest Service, of course, being responsible for the personnel, administration, &c. This forest-fire levy should be made also against all timber concessions made under existing legislation.

8. So that all timber cut on public forests may be traced through to its origin in cases of dispute in royalty payments, &c., a "timber marks" regulation should be incorporated. Under this regulation all timber cut from any one timber-sale, or from any one particular lease or license, would be stamped with a distinctive mark, and, of course, each mark would be registered at the time the sale was made.

9. Increased supervision over logging and milling operations will be found to be a most remunerative form of investment, and will yield very definite returns in immediate forest revenue.

10. Your investigator strongly recommends the introduction of a *system of licensed timber-measurement*, and it should be compulsory upon every purchaser of public timber who cuts more than 250,000 ft. per year to employ a properly licensed and certificated timber-scaler, which scaler will be entirely responsible for the measuring of all timber cut on timber-sales, and he will make his definite returns to the Forest Service, instead of under the old system where the proprietor submitted his sworn statement. The licensed-scaler system under proper supervision has always been found to be the best procedure. It would be necessary to appoint an Examining Board, by whom the prospective candidates would be examined and, if successful in passing the necessary tests, would be granted certificates and licenses to carry on as timber-measurers. Frequent inspections and check scales would be made of their work by an officer of the Forest Service, and if it was found that they were not carrying on as laid down by the Service their licenses would be revoked. In lieu of the employment of a licensed timber-scaler, an official scaler of the Forest Service might perform all necessary measuring at a stipulated fee.

11. *Perpetuation of Timber Rights*.—All timber concessions in vogue at the passage of a new forest law should be made renewable from year to year, and transferable in perpetuity as long as any merchantable timber remains on same, the areas are not required for settlement, and the other conditions, such as ground-rent, royalties, and regulations, are observed.

12. All timber concessions made under a new forest law, and all timber rights perpetuated as in paragraph No. 11, should be subject to the following rents, royalties, and other burdens:—

- (a.) Annual ground-rent of 1s. per acre.
- (b.) All timber cut to be subject to a royalty.
- (c.) All timber offered for sale to be subject, in addition to the royalty, to a bonus or premium, which would represent the competitive market value of that particular parcel of timber over and above the royalty.
- (d.) All timber land under license or sale to be assessed for fire protection on a per-acre basis.
- (e.) All expenses in connection with the surveying, appraisal, and advertising of each sale to be paid by the successful tenderer.

13. Provision for adequate penalties for non-observance of Timber-sale Regulations.

Review of Timber-sale Policy.

A brief review of the suggested timber-sale policy is as follows:—

1. The Forest Service to be the one Government agency solely responsible for the disposition and sale of all public timber.

2. All timber to be sold at public competition on an upset price per volume unit to the highest bidder, and by measurement in the round: 10 per cent. of total bid to be paid on acceptance, and balance as timber is cut.

3. Each proposed timber-sale to be properly cruised, estimated, and appraised, and surveyed or properly demarcated by this Forest Service before offering for sale.

4. All timber rights now in existence or granted in the future to be subject to ground-rent, royalty, fire-protection tax on a per-acre basis; and in the case of new sales the successful tenderer should pay the cost of surveying, appraisal, and advertising, as well as a premium representing the difference between the royalty and the competitive market value of the timber.