With greater experience and added efficiency in execution, all three developments will add to the value of the timber, and, indeed, have already commenced to do so as far as the Australian market is concerned, so that ultimately both the profit margin and the stumpage value may be still further increased.

69. The three creosoting plants at Rotorua, Hanmer, and Conical Hill were in operation throughout the year. The total production of creosoted products was as follows: 81,029 posts and strainers (66,082 cubic feet) 4,576 poles (21,768 cubic feet), and 14,361 cubic feet of miscellaneous sawn timber. Good progress has been made in the marketing of creosoted timber, total sales amounting to 50,294 posts and strainers (48,822 cubic feet), 1,815 poles (10,296 cubic feet) and 1,456 cubic feet of sawn timber. In addition to these sales 8,745 posts and strainers, 1,508 poles, and 6,765 cubic feet of sawn timber were used by the Department; 153,287 gallons of creosote were used in the treatment of this produce. Manufactured in New Zealand, this creosote is required to conform to a British Standard Specification: a large number of samples were analysed to ensure that such was the case. So that supplies of fully-seasoned timber will be available when required for creosoting, it is necessary to have in the seasoning-yards approximately a year's requirement in progressive stages of drying. Thus, 98,810 posts and strainers (94,011 cubic feet) and 6,040 poles (25,971 cubic feet) were in process of seasoning at the end of the year. (This information is scheduled in Appendix IX.)

North Island requirements were supplied from the Rotorua plant, where 62,647 fencing-posts, 1,045 poles, and 12,086 cubic feet of miscellaneous sawn timber were creosoted; in the South Island the Hanmer plant creosoted 9,386 posts and 2,318 poles, and the Conical Hill plant 8,996 posts, 1,213 poles, and 2,060 cubic feet of sawn timber. The demand for creosoted fencing-posts from Rotorua has increased appreciably, 45,563 posts having been sold, while in the South Island the demand for creosoted poles has been stronger than that for posts. No difficulty was experienced in securing markets for all the poles that could be produced at the three plants, the largest order being from the New Zealand Railways for 18 feet to 24 feet creosoted larch poles.

The wider use of creosoted timber continues to be developed, the outstanding item constructed during the year being a pontoon built of 1,200 cubic feet of prefabricated creosoted insignis pine. Considerable quantities of creosoted sawn timber for such miscellaneous purposes as culverts, bridges, wind-towers, &c., have been supplied, in addition to increasing numbers of posts and poles. Steps have been taken to ensure that larger numbers of creosoted poles will become available to supply authorities, who normally obtain their pole requirements from Australia. Specifications for the creosoted treatment of posts and poles have been drawn up and no produce is sold which does not conform to these standards.

Section D.—Equipment and Operating Technique in the Forest Industries.

70. War conditions have curtailed the purchase of modern equipment for both logging and milling operations. Import restrictions, rising prices, and delay in obtaining deliveries have all been deterrent factors. Nevertheless, tractor logging continues to grow apace, and steam haulers are being further replaced by Diesel-engined machines. As in roading-work, the highest-powered tractors appear the most economical.

Other than the installation of the log-gang saws in the Waipa Mill, elsewhere referred to, no developments of major significance have occurred. Kiln-drying facilities, however, continue to expand. In addition to the four-kiln unit established at the Waipa sawmill, a two-kiln unit was installed at Ashburton, whilst at Christchurch a new kiln was added to an existing two-kiln unit. The general technique of operation has now advanced to a point where unsatisfactory drying is relatively small, and the increasing confidence of users in kiln-conditioned timber is likely to result in many more installations within the near future. A number of new plants have been established for the dipping of green timber to minimize sapstain and of seasoned timber to minimize fungal and insect attack.

Two important forest industrial developments ancillary to sawmilling have occurred during the year. The first is the establishment at Auckland of a new modern plywood factory, which is expected to come into early production. With