

working-up of mine timbers from short bolts of various eucalypts, and its economies for both purposes are under further study.

The purpose of the incising-machine has been to secure deep penetration of creosote in the heartwood of insignis pine, which is quite resistant to ready absorption of the preservative. The machine has proved capable of giving the desired results, and will be used for the incising of sufficient railway sleepers to lay down service-test tracks several miles in length. The incising is done by sharpened steel lugs projecting from a roller which feeds the timber lengthwise through the machine.

The establishment of a saw-doctor's training school fully equipped for the instruction of operatives in both State and private employment, including returned servicemen desirous of acquiring proficiency in this difficult and, to the timber industry, essential art, gives promise of the permanent removal of past disabilities occasioned by shortages of such skill. An expert instructor is in charge of the school, and he has already under tuition a full complement of trainees. The opportunity is also offered of refresher courses for those in industry whose employers are agreeable to make the necessary arrangements.

59. *Transportation*.—In all, twenty-two slightly used vehicles released from the Army Department were purchased by the Service to replace completely worn out units. Of this number, sixteen were placed in the Rotorua region, two in Canterbury, and four in Southland. In addition, three two-berth Army ambulances, fully equipped, were purchased and stationed one each at Kaingaroa, Te Whaiti, and National Park for the purpose of providing immediate transportation in case of accident and sickness among forest and sawmill workers and their dependants.

Three new tractors were purchased and have been placed in operation at Te Whaiti and Waipa. Four Freuhauf heavy-duty logging trailers were put into operation at Waipa. Their introduction has greatly facilitated the supply of logs necessary to maintain the increased output of timber at the Waipa Mill, the equipment having handled loads up to 18 tons without damage to either vehicles or roads.

The increased transportation of timber between the Waipa Mill and the railway-station at Rotorua has been effectively handled by a fleet of six detachable semi-trailers and only one powered vehicle. With these a shuttle service is operated by taking a loaded semi-trailer from the mill to the railway-station, returning with an empty trailer, and picking up another loaded one at the mill. A continuous delivery of approximately 30,000 board feet per day is maintained by this system and is indicative of the economy that could be obtained by its use wherever possible in the industry.

60. *Communications*.—Nine miles of new telephone-line were erected, bringing the total in use to 398 miles. Two miles of earth circuit were converted to metallic. The radio communications system at Kaingaroa Forest functioned satisfactorily, except that the aerial at the new regional headquarters in Rotorua will require shifting to a new site if best receiving and transmitting results are to be attained. By means of portable sets, reconnoitring officers and fire-fighting personnel engaged in the Taupo-Wairakei locality were able to maintain direct contact with Kaingaroa Forest headquarters and arrange for the supply of such equipment and men as were required to bring the large outbreak there under control. It is proposed to further develop the radio network by equipping major lookout stations and installing the necessary equipment to allow of radio communication with the aircraft patrol which is to be provided next fire season.

61. *Village Planning*.—The greatly increased production required from the Whakarewarewa State Forest for war purposes rendered imperative the immediate provision of extra accommodation for married workers in the vicinity of the Waipa Mill, and this has been met by the construction of ten temporary dwellings formed by joining up standard hutments and providing verandas, kitchens, and bathrooms, and other amenities. These dwellings will be replaced by more substantial types as soon as conditions permit. In the meantime they have secured to the mill the services of a number of operatives who could not otherwise have accepted employment.

Surveys have been made and areas selected for establishing forest communities at Te Whaiti, Reporoa, and Waiotapu, and the Green Lake, as well as in Rotorua itself, in order to meet the most urgent needs for accommodation of Forest Service personnel required there.

CHAPTER VIII.—EXTRACTION AND COMMERCIAL DEVELOPMENT

62. *State Forest Block Sales and Permits*.—Timber appraisals numbered 131 (130) covering 115,025,000 board feet (101,460,000 board feet), of which 32 (42) comprising 25,155,000 board feet (23,009,400 board feet) were carried out on behalf of other Departments. Forest reconnaissance was carried out over 3,240 acres (15,700 acres) affecting 24,307,000 board feet (67,000,000 board feet). No Head Office check appraisals were made, but in each conservancy various check appraisals were carried out by the Conservator or Senior Ranger.

The increased wartime demand for forest-produce continued. The volume sold in board feet was 86,200,900 (74,710,000), the chief species being rimu and miro 73,172,400 board feet, kahikatea 3,875,600 board feet, matai 2,303,600 board feet, totara 1,074,300 board feet, beech 3,536,100 board feet, tawa 831,000 board feet, and other species 1,407,900 board feet at a value of £116,177 10s. (£103,413).

The quantity of sawn timber produced from State forest and Warden areas was 106,711,400 board feet (111,190,000 board feet), miscellaneous indigenous-forest produce cut under permit comprised 217,111 posts and stakes, 5,048 stays, 14,658 strainers, 113,793 battens, 773 poles, 10,860 rail and tram sleepers, 10,690 house and pole blocks, 120,637 pieces of mining timber, and 635½ cords of firewood. The produce cut from exotic forests included 30,000 pieces of mining timber (13,960).