The timber is of excellent quality and very even in the grain. In some places the white-pine is mixed with pukatea (*Laurelia novæ-Zealandiæ*), with a light undergrowth of Coprosmas of various kinds.

The annual output of the mill is about 2,000,000 superficial feet, much of which is shipped for Christchurch, a large proportion consisting of dressed flooring-boards. A large quantity is also exported to Queensland.

Messrs. Bagnall are large manufacturers of the Langstroth hive, for which the white-pine seems specially adapted.

The bush was worked in the most systematic manner, and with an absolute minimum of waste, every available stick being taken out. The tramways are excellent, and are laid with iron rails.

Extent of Kauri-forest.

Owing to the peculiar habit of the kauri in forming small clumps or patches scattered through mixed forest, and to its wide range of dimensions, it is not easy to form an accurate estimate of either the average return per acre or the total quantity of kauri-forest. If large areas are taken the acreage return will seem very small—for instance, a block of 30,000 acres is estimated to contain 100,000,000 superficial feet, an average of 3,333ft. only, while in another district 6,000 acres may yield 120,000,000ft. or 20,000ft. per acre. Patches varying from 40,000 to 70,000 superficial feet per acre are not uncommon. For good continuous kauri-forest 20,000 superficial feet per acre would be a rather low average, but much of the land classed as kauri-forest may have only one or two trees per acre, equivalent, say, from 3,000 to 5,000 superficial feet.

The following approximate estimate has been prepared at my request by Mr. S. P. Smith, Chief Surveyor, Auckland:—

In the hands of Government	36,470 acres
Owned by Europeans	58,200 ,,
Owned by Natives	43,800 ,,
Total	138,470 acres.

Mr. Smith states his belief that a considerable proportion of the kauri-forests still in the hands of Natives is subject to rights by Europeans to cut timber therefrom, and adds, "In making up this estimate I exclude forests in which the timber, as far as my knowledge goes, is scattered, and not likely to pay for working at present, and take only that which is fairly accessible." I believe Mr. Smith's estimate to be well within the mark, but shall have to return to the subject on a future page.

THE TIMBER-INDUSTRY IN AUCKLAND.

It is to be regretted that at present accurate statistics of the timber-trade in Auckland are not to be obtained. I am indebted to the Commissioner of Crown Lands in Auckland for a return compiled under his instructions, which states the annual output to be 112,000,000 superficial feet, and the number of men employed 8,000, which appears to be an over-estimate, possibly caused by gumdiggers being included. The return drawn up by the Registrar-General states the number of sawmills to be forty-three, of which eight are worked by water-power; the annual output is stated to be 48,631,206 superficial feet, and the number of persons employed 1,443 men and 35 women. These are very much below the proper numbers. I hope to present an approximate return with my final report on the Auckland District.

The total value of timber exported from Auckland is returned at £135,952, or more than five times as much as all the rest of the colony put together, a statement that shows the vast importance of the conservation of the kauri-forests in the interests of the Auckland settlers, as well as of the colony at large.

The large dimensions of the kauri increase the cost of bringing timber to the mill; and in many cases the difficulty is further increased by the broken character of the forest, which renders the construction of tramways almost impossible, so, that speaking in general terms, tramways, invariably used in the south, are rare in the north. The mill is usually erected on the banks of a creek or navigable river, so that the logs may be floated down. If the trees are growing on the banks of a stream, they are felled, cross-cut into suitable lengths, and the logs rolled into the water. When growing at some distance from water it is necessary to construct "rolling roads;" these are broad tracks from 30ft. to 40ft. wide, in which every advantage is taken of the natural incline of the surface, and from which all trees have to be removed, the stumps cut level with the surface, inequalities roughly levelled, and large holes filled up. The logs are forced along these roads by "timber-jacks" until they reach the water. In this way the logs are moved with great ease; the bushmen exhibit a great amount of dexterity in their work, and move the largest logs with a speed which surprises any one who witnesses it for the first time. In no other part of the colony is the jack used for moving timber to any extent—in fact, its use is but rarely required on account of the smaller dimensions of the logs—but I never saw it used with equal dexterity, or with a greater amount of intelligence in England. If the creek contains water of sufficient depth to float the logs, they are simply rafted to the booms at the mill, to be converted as fast as required. It often occurs that the creeks are too shallow to float the logs, so that they must either be conveyed by a tramway to the mill or to deep water, or must wait until a fresh occurs in the stream, unless driven by water stored at high levels by means of dams. The construction of these dams often involves a considerable amount of heavy work and a serious outlay; in some cases side dams are necessary to collect additional water in the small tributary creeks in order to procure a sufficient volume. When the dam is completed the logs are rolled into the creek, and on the streams being swollen