

From the foregoing it will be seen that our supplies of milling-timbers are less than has generally been estimated, that they are being rapidly used up, and that great care and economy must be exercised in the management of our remaining forests.

TIMBERS FORMERLY REJECTED NOW USED.

In the past failure to recognize their values has been responsible for some timbers of the very highest qualities being wasted. As an instance of this kohekohe and pukatea may be quoted. The former is related to and closely resembles Spanish mahogany, and if now obtainable would be worth as much as that valuable timber. Pukatea formerly existed in considerable quantity in swampy areas in many parts of the North Island, but now only odd trees are found in mixed forests; its timber closely resembles the valuable "yellow poplar" of the southern United States.

Of timbers formerly rejected or only slightly used for milling purposes, but now coming into use, may be mentioned taraire, tawa, and the native beeches (generally called "birches"). Taraire is only a small tree, but north of Auckland it is to be found in considerable quantity. When dressed it bears considerable resemblance to oak, and for many purposes may well take the place of that timber. With the enhanced price of white-pine and its increasing scarcity there is already a growing demand for tawa timber for various purposes in which durability is of no great moment. It may be stated that it is being used most satisfactorily for the strong packing-cases in which kauri-gum is being exported. The silver-beech, though not durable in the ground, is very suitable for furniture, and is now being largely used for this purpose. There is a growing market for this timber in Australia, and it is gratifying to find from the return supplied by the Government Statistician that there were 5,710,000 ft. of beech timbers put through the mills for the year ending 31st March, 1916. The amount milled this year is not obtainable, but beech timber has this year been noticed in different kinds of packing-cases, for which purposes they had not been used previously.

IMPROVED METHODS OF MEASURING TIMBER IN THE FOREST.

Owing to the presence of the valuable kauri in the forests of the Auckland District, an accurate method of measuring the standing milling-timbers has for some years been practised there; in some of the other districts, however, the method of measuring was so crude that the results obtained were merely approximations. Though the lesser values of the forests in those districts may scarcely as yet warrant the adoption of the Auckland method of measuring the timber, a modification of this method will in the future be adopted. Also, where possible, in places where the royalty-on-the-output system prevails, it is proposed to abandon that system, as experience has proved that such a system results in timber being wasted both in the bush and in the mill and a loss of royalty to the State. It may be stated that the Auckland system of measuring the standing timber costs only 1d. per 100 superficial feet in that district.

INCREASE IN THE USE AND CONSUMPTION OF TIMBER.

In spite of the use of many substitutes, statistics show that the world's *per capita* consumption of wood is fast increasing. Though the war has caused a set-back in private building, it has made large demands on European forests, for huge amounts of timber had to be found by the various belligerent nations for the construction of military works. Previous to the war the use of timber for pulping purposes was increasing rapidly. Some of the materials now made from wood-pulp are artificial silk and other clothing fabrics, floor-rugs, twine, and pots for holding such soft material as honey, cream, &c. So many articles are now being made from wood-pulp that a European paper has declared that "to be without wood is almost as bad as being without bread." The consumption of gasoline and other derivatives of petroleum is increasing with great rapidity. Sir Boverton Redwood, the highest authority in the world on petroleum, has said that at the present rate of consumption the world's available supplies of this material will be exhausted in twenty-five years' time. It seems, therefore, that the prices of gasoline, petrol, &c., are never again likely to be as low as they were before the war. The result will be that some cheaper material will be sought for, and the one most likely to be used is wood-alcohol, which has been termed by Professor V. Lewes "the one illimitable fuel." The Forest Products Laboratory of the United States has recently discovered a method of producing wood-alcohol at a much-reduced cost, and it is now certain that the use of this material for motor purposes will increase rapidly.

The revival of wooden-ship building provides another use for wood. The large schooners now being built in America will require an average of about 1,250,000 superficial feet each; and as several hundred ships are proposed to be built, it is evident that a large amount of timber will be used. In Europe the restoration of buildings that have been destroyed in the war will make a heavy drain on both the forests of Europe and America. The foregoing matters are referred to in order to dispel the opinions that some may hold as the result of assertions that wood is becoming of less consequence owing to the use of substitutes.

NEW ENTERPRISES.

It is satisfactory to find that some of the milling companies are embarking on new enterprises in connection with the utilization of their forests. Messrs. Ellis and Burnand have installed at their mill at Manunui machinery for manufacturing the now much-used three-ply. The same firm are also erecting a plant for rapidly seasoning timber by the most recent method—viz., enclosure in a chamber of hot air heavily charged with vapour.

The Marlborough Timber Company, who have acquired a large area of milling forest in Southland, are going to use the Lidgerwood overhead skidder for the transport of logs; by this system they will be able to work the bush more fully and at a cheaper rate than is generally the case with ground tram-lines and hawlers.