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# NOTES

ON

# KARRI FORESTS

Made during

A MINISTERIAL TOUR OF INSPECTION

In January-February, 1917.

By C. E. LANE-POOLE,

Conservator of Forests.

PERTH.

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These Notes have been reprinted from the "West Australian," to which paper the matter was contributed, by interview, after the Ministerial Tour.

It is hoped that they may be of service to delegates to the Inter-State Forest Conference, during their inspection of some of the country traversed.

C. E. LANE-POOLE,

Conservator of Forests.

Perth, November, 1917.

# THE TIMBER COUNTRY.

MINISTERIAL INSPECTION.

CONSERVATOR OF FORESTS' REPORT.

## THE MANJIMUP ROAD AND No. 1 STATE SAWMILL.

Yesterday the Conservator of Forests (Mr. C. E. Lane-Poole) made the first of what promises to be an interesting series of statements descriptive of his recent tour through the forests of the South-West, in company with a party headed by the Minister for Woods and Forests (Mr. R. T. Robinson): The Conservator said:—

“We started out for the South from Bridgetown along the Manjimup road. At first the forests of jarrah we passed through were poor, containing little or no large timber; through some accident of soil or aspect, they consisted mainly of pole wood. Seeing the ever-increasing demands for telegraph poles, these forests are of special value. At present the telegraph poles are coming from the best of the jarrah timber areas, and this spells disaster, for it means that our future mill logs are being taken out as poles now. The problem of supplying the Commonwealth Telegraph authorities with poles without depleting our forests is one that may be solved by setting aside areas such as are to be seen on the Manjimup road, solely for pole cutting. Evidence of the

### BAD EFFECTS OF BUSH FIRES

on jarrah timber was to be seen on all sides. The young saplings showed kinks and twists at 9 or 10 feet from the ground. These are caused by the fires burning off the leading shoots when the tree is four or five years old. Since the bush fires go through the country every four or five years it is only in very exceptional cases that the young tree escapes. As we journeyed on, the jarrah improved, and the work of the hewer began to be noticed. For some years past an area on each side of the railway line has been

used to supply hewn sleepers for export. The boles of the trees were long and straight, and we rapidly left the pole forest behind and came into good second-class country.

"On arrival at Manjimup we were met by Mr. Dean, the manager of No. 1 State sawmill, who took us by his locomotive to the mill. On this journey we came upon the first karri trees, but unfortunately most of them had been ringbarked. It appears that a few years back an attempt was made to settle this part of the country, and many thousand acres of glorious karri, running up to 60 and 100 loads to the acre, were ringbarked. The settlement did not come, and to-day the forest is re-covering the country; young karri trees are taking a firm hold once more. It will, however, be a long time before these are fit for the mill, and from a settler's standpoint the general conditions of the country are worse now than they were originally. Nothing is so depressing as the sight of acres of what was once marketable karri

#### STANDING WHITE AND DEAD.

It was only a short time after the ringbarking was effected that the mill was erected, and all this timber might have come to the saw. As it is we had to travel some distance before we came to the mill and the live timber. After lunch we went over the mill, Mr. Dean explaining the various saws and the machinery and the methods of dealing with the sawn timber and the waste. Mr. Robinson was much struck by the very wide spans supporting the roof of the mill; these are entirely of jarrah. It is argued in Perth that jarrah is unsuitable for a beam over a long unsupported span, and that oregon must be used, but here not only were jarrah beams 50 feet long and without support except at the walls, but they actually carried driving wheels and other machinery used for the saw work. Julius's tables show clearly enough what splendid timbers we have in jarrah and karri, but a visit to a mill where one may see for himself what strength there is in our timbers constitutes a lesson that remains indelibly fixed in the mind. A visit was made to the powellising plant, which consisted of three vats, each holding nine trucks of 120 sleepers each. The powellising at present is being carried out at Big Brook, so that this plant has not been used for some time. The mill itself was not running, this being the holiday time, and the staff was busily engaged in going over the whole plant and effecting the necessary repairs. In this connection it was interesting to note that Mr. Dean had discovered in the common local pipeclay a most durable mortar for his fire bricks. We passed on to the stocks of timber, which consist mainly of jarrah, all of it orders which have been completed, but for which there is no ship to take them away.

"Having inspected the mill and yard, we travelled out by the locomotive along the tramline to the fallers' camp. On the road

we passed through two miles of karri timber, splendid long poled giants, and we were surprised to hear that the mill was only cutting jarrah, so that this big area of heavily timbered country, close to the mill was not being worked. The two mills at Big Brook and the one at Jarnadup are cutting karri, and the market for this timber is so poor that there is not room for another mill to work it. The necessity of

#### GETTING KARRI ON THE EUROPEAN MARKET

is here well exemplified; such a valuable super-structural timber should find a ready market in the old world now that hardwoods are so scarce, and it only requires a capable Timber Trade Commissioner to put this timber permanently on the European market. At the bush landing at the end of the line stood the whims which are used to cart the logs from the stump to the rail. Those who have not seen these big whims can have little idea of their size; the wheels of some are 9ft. in diameter and they are made with tuart naves and tuart or karri spokes and tuart felloes. It takes a steam hammer to deal with their broad tyres. It is a pity that the work of hauling is not going forward, for the sight of the teams of horses drawing the big logs slung in the whims is a marvellous one. The teams are guided and controlled solely by word of mouth."

## FROM WILGARRUP TO BIG BROOK.

Continuing his description of the forests visited by the Ministerial party on its recent tour, the Conservator of Forests (Mr. C. E. Lane-Poole) states:—

“The morning of January 5 saw the party off Jarnadup. We were met by Mr. Lyall, manager of the Wilgarrup Timber Co. His mill has been closed down since April 24, 1915; the timber stocks which consisted entirely of karri, were inspected. The war, which has almost brought the timber industry to a standstill, has also taught the millers a lesson regarding karri. This timber was wont to be regarded as useless, because if it was block-stacked for two years or so in the damp south-west country, it was attacked by a rot fungus, which rapidly

### CONVERTED THE WOOD TO PUNK.

“The saw millers had been used to dealing with jarrah, a timber which is remarkably durable, and stands a good deal of bad treatment. It took a man from New Zealand, who had been used to the easily rotted pines of that country, to show the timber men of Western Australia how to look after sawn karri. All the karri at Jarnadup and Big Brook has now been strip-stacked, that is to say, strips of lin. laths have been laid between the timber so that a current of air passes around them, and they become seasoned and sound, and are not attacked by the fungus rot. Before leaving this point I want to make it quite clear that the fact that a timber is not durable does not therefore prove it to be useless. There are, indeed, very few timbers in the world which are durable in the ground, and the great majority of timbers used for construction work are perfectly useless in the ground. Western Australia would have appeared to have tested her timbers as fence posts, and a timber that would not make a post was regarded as a useless timber. Karri has suffered by having such a durable cousin in jarrah growing alongside it. A use can be found for every timber, and karri cannot be beaten for general superstructural work. The Wilgarrup Co. have quite a quantity of karri flooring, and Mr. Lyall was able to show us this stuff laid down in the Jarnadup hospital floor. It had stood up wonderfully well, and made an excellent floor. I had expected it to work up a great deal more roughly than it did.

“The Jarnadup mill has perhaps some of the longest karri stringers and beams of any mill in Western Australia, and here

again, as I mentioned in my notes on Manjimup, is a practical lesson in the use of our local hardwoods for strong structural purposes. Leaving the mill by locomotive we inspected the saw milling permit area. Some very heavy hauling is necessary along the line, in spite of the fact that the grades are broken as much as possible by zig-zags. The mill is cutting nothing but karri, and some very fine specimens of the tree were to be seen. The frenzied settlement of a few years back alienated a good deal of karri country, and the settlers were able to dispose of the timber to Mr. Lyall. Judging by the state of most of the farms in the vicinity the owners would now seem to be waiting for the next crop of karri to come on.

“Early that afternoon we left by car for the Channybearup River. Arrived at the bridge, we found six saddle horses, which had been kindly supplied by Mr. Dean, and so leaving the road we made our way to Karri Hill. The history of Karri Hill is most interesting. It was the spot chosen by Mr. De Courcey Lefroy to start his pioneer cattle station; it was then known as Yarkernup. Here he cleared and ploughed some 23 acres of land, and built a home. In 1875 the place was purchased by Mr. Giblets since when no man had cultivated or in any way cared for the area. To-day there stands a fine crop of karri all over the ground and the measurement taken of it showed that there are—25 trees ranging from 4ft. 9in. girth to 6ft. 8½in. girth, 29 trees ranging from 3ft. 8in. girth to 4ft. 8in. girth, 25 trees ranging from 2ft. 8in. girth to 3ft. 5in. girth, 52 trees ranging from 1ft. 11in. girth to 2ft. 7½in. girth, 30 trees ranging from 1ft. 5in. girth to 1ft. 10in. girth, 40 trees ranging from 1ft. girth to 1ft. 4in. girth. The total cubic contents per acre was 5,031 cubic feet. An examination of sections cut from a number of the trees showed that their age was between 30 and 42 years. Taking it at 40 years, the mean annual acre increment, that is to say, the average amount of timber which has grown annually on one acre works out at 126 cubic feet per annum. These figures are interesting, for they show that the growth of karri is remarkably quick, and even unaided by the forester it will in a very short space regenerate itself and

— 1875  
Regeneration

### RE-ESTABLISH THE FOREST CONDITIONS

destroyed by man. If karri will grow to this size unaided in 40 years, there is little doubt that with proper silvicultural treatment that it will reach maturity at an early age which may be put somewhere around 80 years. I am not acquainted with a hardwood outside Australia which regenerates itself so well and which matures so early. Compare this to the growth of the best oak woods of the South of France, which reach a diameter of 2ft. 6in. and which take 150 years to do it. The trees on a sample area have been carefully

labelled, and it is intended to remeasure them at intervals to ascertain the varying rate of growth from now on.

"There was plenty of evidence of the damage caused by fires, many young trees had been burnt and killed and many of the younger ones had received permanent injury to the lower part of their trunks. Leaving Karri Hill and led by Mr. H. S. Brockman, whose knowledge of the whole of this country is remarkably fine, we made our way along the edge of the karri forest, crossed Boggy Gully, and so on to Big Brook, a distance of about 10 miles through the forests. Owing to the dense and almost impenetrable growth of karri thicket, a leguminous scrub which grows to a height of 10 or 15 ft., and has a pretty flower, it was necessary to skirt the karri country proper and keep to the jarrah ridges. Every now and then, however, we came upon splendid areas of karri standing like pillars in some great cathedral. Before we reached the Big Brook Road, the forest picture was spoilt by the sight of a large block of ring-barked karri. It was a very old selection, and therefore, unlike the Government ring-barked areas near Manjimup, which I mentioned in my last notes, there was perhaps more excuse for this vandalism. The settler would seem to be doing little or nothing with the bulk of the land, however, and he might just as well have left the timber alone, for the present condition of the regrowth is worse than the virgin forest from a farming point of view. Arrived at Big Brook, which is officially called Pemberton, we were comfortably lodged in one of the well-built cottages of the milling village."



## THE BIG BROOK DISTRICT.

Continuing his interesting series of reports relating to the recent visit of the Minister for Mines (Mr. Robinson) to the timber areas, the Conservator of Forests (Mr. Lane-Poole), in the following article deals with the inspection of the Big Brook district:—

On January 6 the Ministerial party, leaving the milling village of Pemberton, rode over the area of country that No. 2 and 3 State sawmills have cut over during the past three years. Before describing the condition of this cut out country it will be well to say something about the mills and their output. No. 2 and No. 3 State sawmills are both situated on the same site at Pemberton. These two mills have each a capacity of 50 loads per day, that is to say, when both are working full time they will turn out 60,000 superficial feet of sawn timber every day, and to supply this, logs measuring a total of 180,000 superficial feet must be felled daily.

Leaving this, we rode across a patch of virgin karri which lay between two of the timber tramlines. Here the undergrowth stood above the horses and was in places up to 15ft. high. There were several species represented of which perhaps the "Hazel" was most common. "Banjine," which yields a fine strong bass fibre, was seen here and there, and "Karri Thicket," with its smilax-like leaf, was plentiful. There were numerous other shrubs as well, all of which appeared to have aboriginal names known by Mr. H. S. Brockman. These undergrowths are the most

### VALUABLE AID TO THE FORESTS.

They it is that supply the bulk of the soft leaves which make up the humus. The karri leaf, like all eucalypt leaves, makes but poor mould, but like the oak in the old country that has the hornbeam and the beach to make the humus, karri has its "hazel" and "thicket." There are also a number of climbers, some of which we were told were good stock feed; they were more numerous in the early days, but the over-stocking had resulted in their being eaten out and the cattle had taken to zamia and now got rickets. Passing on and out of this oasis of virgin forest, we entered a further small cut-out area. This was of particular interest, as the number of loads of timber taken off seven acres amounted to no less than 600, that is to say, 360,000 superficial feet. Alienation of country carrying so heavy a crop of timber would seem impossible, and yet large areas exactly similar to this have been alienated and the timber destroyed on them.

We returned to Big Brook through a narrow belt of jarrah and red gum timber. The contrast between the giant karri and the apparently dwarf jarrah was remarkable, and yet the jarrah here was pretty good. Mr. Dean pointed out to us a number of clean, straight-boled red gums and explained that he had been experimenting in sawing this species, and had met with success, having recovered no less than 50 per cent. from one tree. Red gum timber when free of gum veins is a most beautiful and a very strong wood. There would seem to be a region of gum-free red gums in this part of the country. This somewhat bears out a theory I have held for some time, viz., that the gum veins are partly, if not entirely, caused by fires. In the karri country the fires only come along at very rare intervals, and it is thus possible for a red gum to escape scorching, a thing which cannot occur further north, where the fires come through every few years. The colour of red gum timber approximates very closely to Austrian, American, or Japanese oak, for which when made up into furniture in a style which his Excellency the Governor-General at a meeting of architects in Melbourne, described aptly as "public house gothic," finds a ready sale in Perth. Given enough gum-free red gum, it should be possible to keep out the alien oak and at the same time supply the people of the metropolis with a better timber. I fear, however, that we shall have to label it oak.

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## THE LOWER WARREN.

Continuing his interesting series of articles dealing with the recent visit of the Minister for Mines (Mr. R. T. Robinson) to the timber country, the Conservator of Forests, in the fourth article, deals with the problems of the Lower Warren as follows:—

Starting from Big Brook, the Minister for Mines and party made their way by motor car to the Lower Warren, where stands the picturesque old homestead established in the early days by Mr. Edward Brockman, and where Mr. William Brockman now lives. I should like very much to dilate on the beauties of this place and to describe its wonderful old fruit trees and the charming and historical house. Here is growing what is generally believed to be the largest pear tree in the world, a magnificent tree, which in a good year is covered with fruit from top to bottom. It is necessary, however, to push on towards the coast, and I must reluctantly leave the description of this beautiful place. We had some difficulty in crossing the Warren bridge, which was in so bad a state of repair as to be dangerous for all traffic. Several stringers had rotted in the middle, and the decking had been broken in places. However, with the aid of some slabs of timber, the gap was successfully bridged. The river here is a splendid sight, fringed as it is by Cedars, while in the background stands

### THE GREAT KARRI FOREST.

The Cedar tree is closely related to the Peppermint, and it yields a fine ash-like timber. Another tree that is to be found in the karri country is the swamp oak or casuarina. The specific name of this species is not known, but it is a true casuarina, and is easily recognised on account of the very corky nature of its bark. A firm in Melbourne to whom a few pounds of this was sent were much struck by the possibilities of the bark for packing and insulation purposes. Thanks to the co-operation of the State Saw Mills Department, a ton of the bark has now been despatched to Melbourne that it may be tested on a commercial scale. For some miles further the road lay through mixed jarrah and red gum forests; owing to the nature of the karri country proper the road engineers always try as far as possible to lay out their roads in mixed timber country. Through the red gum every now and again a glimpse was caught of the karri timber, and finally the road opened into the finest forest picture I have yet seen in Western Australia. As far as the eye could see on either side, stood rank upon rank of tall blue white Karri stems towering up so high that one had to crane his neck to see their characteristic and rather light crowns 250 feet and more above the

ground. The cleanliness, straightness, and evenness of the boles and the almost total absence of small timber gave it the appearance of a well ordered hardwood forest in the old country, though no forest in the old world could boast of such majestically giant trees. The ground was densely covered with thicket hazel and the other undergrowths which make up the karri forest and all these were a vivid green colour.

From this forest, known as Dombakup, it was a rapid and rather unpleasant change to come out upon

#### THE SAND-PLAIN COUNTRY,

with its stunted gnarled jarrah and short-boled red gums. Curiously enough, it is this short stunted jarrah that yields the most durable fence posts of all. Old post and rail fences may be still seen in this neighbourhood; the posts as sound as possible, in spite of the fact that over half a century has elapsed since they were erected. We now took to horses, and riding through Colonel Vailles's farm and across the ford, we gained the right side of the Warren River once more, and reached the rich swamp lands, and the invading sand drifts. Some years back these swamp lands were reserved from alienation, the rich quality of the soil was appreciated, and it was doubtless hoped that with the development of this part of the country they would be drained and utilised just as the swamp lands of the Stirling Estate have been placed under intensive farming. Though reserved against alienation, they were not protected against the drifting sands which have been steadily marching landwards year after year, burying the land under hundreds of feet of white barren sand. To show how fast the ground travels, Colonel Vailles has been obliged to move his fence line back three times in the last six years. The old fences are covered up, and now his last erected fence, he informed us, was becoming covered, and he would have to move it back again. No obstacle is too big for the drifting sand to attack and cover up. At Borannup, near Karridale, may be seen whole karri trees engulfed up to their topmost branches. There is a perfectly authentic story of a farmer who got his wagon stuck on the edge of the Warren drift sands; he took his team home, intending to get back with more animals as soon as possible. Something detained him, and on his return three weeks later the waggon had been entirely covered up, and from that day to this he has not been able to recover it. The

#### PHENOMENON OF DRIFT SANDS

is common to many parts of the world. Both at Capetown and at Port Elizabeth, in South Africa, the drifts attained enormous dimensions before they were reclaimed. Victoria has suffered her share of this trouble, and the old world has not escaped; in fact, the

worst case of all is or was to be found in the Landes of Gascony. The scourge is past there, for the invasion was stopped many years back, and to-day what was once shifting sand is covered with a forest of pines. As this is the most famous of all the examples of drift sand reclamation, I will endeavour to describe the conditions there.

All along the coast of Gascony the sea is continually casting on to the shore fine silicious sand, the great gales that blow in from the Atlantic take up the sand and blow it landward, where it accumulates in a chain of hills, sometimes parallel with the shore and sometimes broken up and taking a line more or less at right angles to the prevailing wind. These hills are the sand dunes of Gascony, and are not in any way dissimilar from the sand dunes of the Lower Warren. They gradually rise step by step, the sand blowing over from one crest and forming a second and higher hill beyond the first, until some natural feature prevents further invasion or the farthest hill is built up to such a height that the sand will not blow over it. The stability of the dune is then established, and a vegetation of grasses, brooms, and shrubs takes root. This was the condition of affairs in the 18th century, but man with his stock and farming upset the balance. The cattle and goats grazed along the crest of the dune and broke it down; they ate up the herbage and the shrubs, and the stability of the dune was destroyed. Now behind the dune was rich agricultural country, and the sand dunes began to move landwards over the farms; whole villages were engulfed, churches were buried up to the top of their spires, and even the great city of Bordeaux was threatened. It was in 1787 that the danger to Bordeaux was discovered, and from that date on the fixation and reclamation of the sands was energetically carried out. To Bremon tier, chief engineer of roads and bridges of that time, is due the credit of the work. He realised that the first step was to arrest the sand at its inception, viz., at the sea shore. If no further sand blew in, the rest would be comparatively straightforward work. His method, and no better one has since been discovered, was to erect a sand dune along the coast line to such a height as to prevent the wind carrying the sand over. This he did with the aid of

#### PICKETS AND MARRAM GRASS.

He sank pickets into the sand, and as they were covered up raised them higher and higher. He fixed the dune thus made with Marram grass, a grass which has the extraordinary property of thriving in shifting sand and binding it. Once the "Dune Litorale" was established, he turned his attention to the vast area of sand lying between the dune and the limit of cultivation. The sand was still shifting, but as no further supplies were arriving its movement was

less marked. Here the reclamation work began, and this consisted of sowing a mixture of cluster pine seed and seed of Marram grass and other sand-loving plants, such as broom and heath, on the sand immediately behind the coastal dune, and covering this with branches of trees to prevent the seed being carried away with any shift of the sand and the wind. Through this thatch of branches came the pines and grasses and took a firm root, while the rotting branches gave humus to the bare sand. So, line by line, behind the coastal dune, grew up a forest of pines, and these forests have ever since been worked on an intensive system, and have yielded the bulk of the turpentine of Europe, as well as all the sleepers and a great part of the building timber of the south-west of France.

This short description of what was done in France on a large scale will show what are the steps to take to arrest drift sands, even on a small scale. Marram grass is the great ally of the forester, and after that the cluster pine. With the Marram we fix the sand, and with the cluster pine we reclaim it. In Cape Colony the Conservator of Forests (Mr. Hutchins) carried out the Bre-montier method, and fixed and reclaimed a large area of sand drifts, and behind the shelter of the pine belt are now established rich market gardens, which supply Cape Town with vegetables. An interesting point about the Cape reclamation work is that the common Western Australian black wattle was used in the place of broom, and it answered very well indeed as a sand binder. The Warren drift sands are

#### A VERY SERIOUS MENACE.

Mr. Castilla, some years back, drew attention to their steady march onwards. The farmers of the neighbourhood have been continually complaining of the way the rich swamps were being invaded. As we stood on one of the smallest of the sand patches, although the day was a comparatively calm one, the movement of sand blowing along the surface like a fine mist was clearly seen. The small hillocks of vegetation masking a patch of swamp land, soon to be engulfed, accentuated the barren immensity of snow white drift sands.

The climate and the sand drifts of the Warren country are almost identical with those of Gascony. The same long, dry summer, and the same gales of wind, and the same silicious sand (an analysis failed to find anything but the merest trace of lime). Here, as in Gascony, it should be possible to fix the sand and reclaim it, and convert those glaring wastes into profitable pine forests. A start was made last winter, and a Marram grass nursery was established, the plants having been obtained from Capel, where sand-drift conditions on a smaller scale existed, and have been practically arrested by this grass. It was a pleasure to

turn out back on this country and get back into the cool shade of the karri country, and so on to Big Brook.

The Conservator of Forests adds a correction to his references to the timber used in the construction of Manjimup mill. He writes:—"I was in error in saying that the timber used in Manjimup mill was jarrah. As a matter of fact, the principals are of karri, while the posts only are of jarrah. I am glad of the opportunity of correcting this, as it enables me once more to bring to the notice of architects and others the value of karri and jarrah for super-structural work. It is to be hoped that oregon will soon cease to be used where karri and jarrah are not only stronger but in every way more suitable."

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## FROM BIG BROOK TO NANNUP.

In the fifth of his series of interesting articles, dealing with the recent visit of the Minister for Mines (Mr. R. T. Robinson) to the timber country, the Conservator of Forests (Mr. Lane-Poole) states:—

“Before leaving Big Brook Mr. Dean, who, while Mr. Properjohn is on leave, is acting as manager of the No. 2 and 3 State sawmills, took the Minister and party over these mills. The men had only returned from their New Year holidays the night before, so that the work was not in full swing. However, we were able to see the fruit case factory, and to inspect the machinery, saw benches, the powellising plant, and the flooring board machining shop. As I have stated in my previous notes, the whole output of the mill is being utilised to supply fruit cases, and these are turned out in all sizes, and at a price that the fruitgrower can hardly complain about. The collapsible cases are of particular interest. The bottom, ends, and sides are so put together that they hinge down flat. The orchardist has only to open them up, which he does with the aid of an ingenious spreader, and the case is ready for the fruit. No nailing is required except for the top. The work on these cases is well finished, the wood is planed and rabbitted so that the complete article has an excellent appearance. The cheaper cases are made up in shooks and bound together with wire. The wiring is done by a machine—a great improvement on the hand work which necessitated driving nails into the shooks. The powellising plant next claimed our attention. It consists of six vats, that is to say, twice the size of the plant at No. 1 mill, and the boilers and mixing vat are proportionately bigger. Beyond the powellising plant we came to the flooring board machining shop. There is no doubt that karri makes a very good looking flooring board. The trouble that I expected to see, viz., that the timber left the planer with a rather rough surface, has been got over by putting the boards through a sand-papering machine, with the result that they have a very smooth and good surface. The powellising liquor gives them an even tone of colour also, which is an advantage in a timber that varies from a light to a dark red brown. Shrinkage will, I fear, be a cause of trouble. This is only to be expected in a timber which carries so high a percentage of moisture as karri, and the boards will require an additional seasoning before they are used. Some form of kiln



drying would simplify the matter greatly. Such kilns are in use in Sydney and in Melbourne, and have proved successful with powellised hardwoods, and such a difficult seasoning timber as Victorian mountain ash.

#### MR. MARTIN'S FURNITURE.

"Having inspected the mills we were invited by Mr. Martin (foreman of the case mill) to see the furniture he had made. It has been Mr. Martin's hobby to make use of every kind of timber he could find, turning them into all sorts of useful and decorative articles of furniture. A carved jarrah table was greatly admired, every inch of the top was covered with a wonderful and intricate design. Sheaoak, banksia, jam had all been used in different ways. Karri, which is generally regarded as a difficult cabinet wood, had been successfully utilised. Blackboy, too, was made up into a pedestal for holding flowers and into little boxes of all shapes and sizes. There were several deck chairs of a very comfortable design, the patent of the craftsman. One was made of jam, another of powellised karri. In a country possessing some of the most beautiful furniture woods that can be found, it is a tragic fact that nearly all the furniture one sees, whether in private houses or in Government offices, is made from imported and inferior timber. I think it is hardly realised how much the individual can help the great timber industry of the State by insisting, when he buys a chair or a table, that it be made of Western Australian timber. He will get a more durable, more beautiful, and in every way sounder article. I do not think that those who have purchased the imported bentwood chair since the outbreak of war can have realised that they are made in Austria. To come upon an enthusiast like Mr. Martin, who uses nothing but our local woods, was a great pleasure to me.

#### BIG BROOK TO NANNUP.

We parted with our hospitable host, Mr. Dean, and turning out of the Lower Warren Road, we made our way by car to Nannup. Not far from the turn-off is situated an area of karri forest, reserved as a national park. The timber here is of exceptional size and grandeur, and is regarded as second only to Dombakup forest, which I have already described. The history of the reserve is of particular interest, as it shows how little was thought of karri some years back. All class A reserves are dedicated to a certain object, and with this one the object was to preserve an area of karri in order that visitors in years to come might still be able to see what a karri tree looked like. It was supposed in those dark ages, when the forests of karri were regarded simply as an encumbrance to be cleared and destroyed to make room for settlement, that the million odd acres covered by this timber would

be denuded and farmed. This class A reserve, covering a paltry 3,000 acres, would then be a resort where the botanical curiosity called karri (*eucalyptus diversicolor*) might still be observed growing. A few miles further on we came to a beautiful gorge, where the Beedalup River falls in a series of cascades to the level below. The road has been cut out of the side of the hill, and the overhanging "hazel" and "karri thicket" brush the car as we go down, reminding one of the narrow Devonshire lanes. On the right the hillside drops precipitously into the gorge, and glimpses of the river rushing over the rocks may be seen every now and again. The country to the north has been reserved as a national park, but, sad to relate, the beauty of the scene is marred by the fact that to the south or left-hand side of the road a block of land has been alienated, and the ring-barked karri, white and dead, presents a sad contrast to the virgin timber and green undergrowth on the other side.