

SECOND DAY—Wednesday, 18th July, 1923.

Afternoon Session.

(Paper by Chief Inspector McCoy.)

THE CONTROL OF TIMBER INSPECTION.

From a Timber Inspector's point of view the papers that have been read are pleasing, because the protection of the leading shoot from insects, fire, and the bending effect of large felled tree tops and limbs of growing banksia will lead to straight-hearted trees.

One of the most serious faults in jarrah logs is the bendy heart which is a source of worry to the splitter, sawmiller, and timber inspector. A jarrah log would give a high percentage of wrought timber if its heart was straight.

Western Australia.

Standard Specification for Sleepers.

It shall be of good, sound, strong timber, free from heart-wood, dry rot, knot holes; to be cut square; out of winding and straight except that hewn sleepers may have camber to extent of half an inch.

Sleepers shall not be cut on full quarter and shall be cut with an allowance of a quarter of an inch in width and one-eighth of an inch in thickness to allow for shrinkage and no further allowances shall be made.

But will allow slight variations in cutting, sound gum veins, gum pockets up to 6in. x $\frac{3}{8}$ in; surface sunshakes, and shakes up to 6in., a few pin holes, but not in groups; sap or wane not to exceed two inches on either face and not to come under rail seat; sound and firm knots up to 2in. in diameter.

Length specified shall be subject to a variation of one inch either way.

When a contract is made for timber supplies, the Forester should be supplied with a copy of the specification and particulars of the structure the timber is required for. Upon receipt of this information he should request his assistants to inspect the timber in accordance with his instructions.

As contractors keep timber in stock for long periods, portion of it deteriorates. Buyers should put a clause in the specification stating that they will not accept timber unless it is passed after the date the contract is signed.

A Forester should see that his assistants' work is consistent, and that all the timber they pass is properly branded. Watch carefully and advise the Conservator when unpassed timber is consigned to the same boat as passed timber, also when deteriorated passed timber is consigned to the same boat as recently passed timber, and when rejected timber is loaded for shipment, mentioning the truck number, consignee, port, size of timber, and approximate quantity in each truck.

Timber for joinery purposes should be kept up to the letter of the specification.

Railway sleepers should be passed on the lines of the specification which states that they must be clear of sapwood under the rail seat, knot holes, and may vary slightly in size.

In my opinion a sleeper having an inch of sap wane on each corner under the rail seat is of average quality and superior to one sawn from the inner heart-

wood of a big log. A little sapwood on both the top corners is an indication that the sleeper is cut from the good part of the log. Although a heartwood sleeper does not show sapwane and looks nice when protected in a large stack, it may have been cut from a cross-grained, over-matured, snaky-hearted log.

Knot holes in hewn sleepers.—A sleeper having sound knot holes in it up to 2in. diameter, more than 8in. from the rail seat, without other serious faults is average quality. Sometimes it is superior to the average because the wood around the knot is exceptionally good and prevents the spike from splitting the sleeper. I have examined thousands of sleepers used in our local railway and have not found one where a knot hole 2in. in diameter has reduced the life of a hewn sleeper.

Inspectors should carefully examine the grain more than 1in. from the knot hole in a sawn sleeper. If an Inspector is satisfied with a sleeper with a knot hole in it he should brand the wood beside the knot hole. Sawn sleepers should be cut about $\frac{1}{4}$ in. full in the width and $\frac{1}{8}$ in. full in thickness.

Variation in size.—Hewn sleepers should be cut reasonably parallel and fairly rectangular except that it is better for the bottom to be wider than the top because the bottom shrinks more than the top before it is used, that is, the inner heartwood of a log shrinks more than the sapwood and outer heartwood.

10in. x 5in. hewn sleepers should be allowed to vary from 10in. x 5in. to 10 $\frac{3}{4}$ in. x 5 $\frac{1}{2}$ in. providing they are cut with one side parallel to the other, that is, they must not be cut like pointers, but one sleeper may be larger than another.

9in. x 4 $\frac{1}{2}$ in. sleepers for local railways should be accepted up to 10in. x 5in.

Pinholes.—Sound edged pinholes is a fault, decayed edges on pinholes is a serious fault, and sleepers badly riddled with pinholes should not be accepted.

Rot.—Rot is a serious fault and should not be accepted, except a little in past or present sapwood.

Heart.—Sleepers cut from large logs should be free of heart, but when cut from small under-mature logs a little heart is not a serious fault.

Pops.—Pops are serious faults because a "poppy" sleeper does not hold the dog-spike well.

Ringshakes.—Ringshakes are serious defects. Some of the sleepers with ringshakes fall to pieces.

Wane.—A little wane is not a serious fault unless it comes under the rail on a neat cut sleeper.

Inside wane.—Up to an inch of this extending 18in. each side of the rail seat is not a serious defect.

Wind.—If a sleeper is cut full and if for a railway, and not for a wood-blocked town tramway, a little wind should be allowed, say up to half-an-inch. Sawn sleepers are not windy, when green, but they twist after being sawn unless they are well protected.

Accumulation of uninspected sleepers.—Although it is wrong to pass timber other than long clear of heart beams and sleepers until it is being trucked for shipment, large quantities of uninspected sleepers

ould not be allowed to accumulate or a hitch may occur when there is a rush of shipping.

Timber should not be passed unless it is beside a metal line on which Government trucks may run under permit from the Railway Commissioner.

Workmanship.—Although a sleeper roughly hewn is as good as one smoothly hewn, hewers should be encouraged to cut their sleepers true and smooth. Engineers desire well-hewn sleepers and, other things being equal, will buy from the country that supplies the ones most smoothly cut.

Beams free from heartwood.—These are superior to heart in beams and a little sapwood on two corners is a good sign.

Beams—Heart in.—These should be cut from small logs and are all the better if they have a little sapwood on each corner at the crown end. Care should be taken to see that they are not popped, sprung, partly broken, plugged, or have a rotten heart. Beams should not be roughly hewn. As the cost of them is high there is no excuse to slum them.

Boards cut from Eucalypt Trees.—Flooring boards should be cut on the back to keep the spring on the flat instead of on the edge. The same applies to parallel, rusticated, and feather-edged weatherboards.

If boards are cut on the quarter the gum following the slack concentric ring will eventually fall out and the floor will have daylight showing through it.

Boards cut from oak or banksia are best cut on the quarter. Boards cut for flooring that has to be dressed should be $\frac{1}{8}$ in. full in thickness and $\frac{1}{4}$ in. full in width.

Building scantlings may be cut the neat size, and if they are cut on the back, so much the better, because the spring is on the flat. When timber is bendy on the edge the thickness of the plaster on the wall is uneven as the studs and joints have to be cut to straighten them.

Piles.—Seasoned piles are better than green ones for jetty and wharf work because green ones split after being charred and let the teredo in. The teredo determines the life of a jetty and a wharf pile.

Piles that are tough are better than those that are free, and a pile with short kinks is easier to drive than one with an even sweep. Knot holes up to $2\frac{1}{2}$ in. diameter in piles is not a serious defect, as the teredo finds it difficult to bore around them. When a pile is accepted with a knot hole in it, the wood near the hole should be branded. As banks advance up to 90 per cent. on the inspection return signed by the forester, inspector, and contractor's agent, it is essential that our head office should be consulted before timber is re-passed.

Sawn or hewn timber should always be sapwood side up if on top of a stack, and contractors should have the top pieces turned sapwood up when they are passed, and later on when some of the pieces are removed the remaining top pieces should be turned sapwood up.

Fence droppers.—These should be straight grained and strong, otherwise they snap when the wire is strained.

Specifications.—Although specifications vary, and those from some countries are more strict than those from other countries for sleepers, all countries should be supplied with the same class of timber for a similar class of work. I notice that countries that issue a strict specification for sleepers accept the same class of sleeper as those that issue a less strict specification. The pass should be regulated according to the structure or section of the structure the timber is for. For instance, a 3in. x 3in. truck scantling

should be far superior to a 3in. x 3in. housing scantling, although generally they are supplied under a similar specification.

Inspection Certificates.—When timber is shipped the shipper applies to the Conservator of Forests for a certificate that the timber is passed and branded by officers of this department. Foresters will see that it is a serious matter if unpassed or undersized timber is included in the shipment, because oversea buyers pay up to 100 per cent. on the receipt by their bank of this certificate, together with the bill of lading.

When a pass has been given there are generally a number of rejects beside the stack passed. Unless the stacks are on skids, say, 15in. or more high, these rejects should be stacked 6ft. clear of passed sleepers before the next pass is given.

Mr. SHARP said there was one thing Mr. McCoy forgot to mention. He thought we could get over the difficulty by having a brand made and putting it on the end of the sleepers, and thereby each sleeper would be branded. If you put a blue stripe across the stack a lot might be taken away and the blue stripe would be gone.

Mr. KESSELL said when a stack of sleepers was inspected and paid for by the Railway Department, they were sometimes left for long periods. The Railway Department, if they touched that stack, generally moved it as a whole and, once the paint was put there, no more sleepers should be added to that stack. It indicated to the Railway Department that this was a complete unit stack of sleepers that had been passed and paid for.

Mr. SHARP said that did not obtain in the Collie District. There might be 3,000 or 4,000 sleepers passed one week and the blue stripe put on them. Next week you would find half the stack gone, while the other half would be left for months.

Mr. SMITH suggested that the W.A.G.R. should issue a brand with a number on, the same as our export hammers—the number of each forester or inspector, as the case might be—and brand the sleeper with the W.A. Government brand.

Mr. KESSELL said he would undertake to discuss with the Comptroller of Stores, Midland Junction, the views put forward, and see just how he regarded them, and if they could come to some arrangement that was satisfactory to all parties, they would do so.

There was another point, the Premier had been convinced by the Commissioner of Railways that the life of sleepers could be increased 50 per cent. by seasoning, and that satisfactory seasoning could be obtained in two years. He did not know whether that coincided with the observations of officers in different parts of the country.

Mr. DONOVAN said he thought that if a sleeper had about two or three years' seasoning it would last half as long again as an unseasoned one.

Mr. KESSELL said there had been considerable discussion among railway authorities as to whether the sleepers should be adzed or bored before being stacked.

Mr. MCCOY said if sleepers were adzed and bored before stacking, especially sawn sleepers, they would wind after they had been stacked, some of them to the extent of $\frac{3}{4}$ in.

Mr. KESSELL said of course in this country we used sleepers to a very high specification, and consequently the importance of such defect might be unduly magnified.

Mr. SMITH said while in France he took particular notice of the sleepers in the lines there. He thought they were billets. Some of the sleepers that

were in those lines were worse than the billets cut here. We had got a specification here now for our own Government Railways which seemed to him to be absurd. The sleeper that was put in had to be practically perfect. He did not see why this was necessary, seeing other countries could run trains a great deal heavier than ours and at a faster rate. The Chief Inspector said during his remarks that he considered a sleeper with 1-inch wane under the rail to be perfectly good, as it would give half an inch. He was quite in accord with that. He thought in many trees we were working off in the bush the inside sleeper might look perfectly good, and to all intents and purposes it was, but if you took that sleeper in your hands and dropped it down over a rail it would break. It was brittle and the wood was over-matured. He would like to get very definite information on that point from all the officers concerned, especially the old cutters, as to whether it would not be better to have sleepers with more wane than inside sleepers. We got some trees that were young that would be fast-growing timber, and the wood was perfectly good; then, again, we got an old matured tree and, although the sleeper was squared up, it was rotten and fit for nothing.

Mr. DONOVAN said that on the Jarrahwood line, between Wonnerup and the old line, when that line was laid about 50 years ago, they put down 8-inch to 9-inch saplings, with just a rail seat on top of them, and it was only within the last six or seven years that the last of them had been taken out of the line.

Mr. WESTON said that for the first 15 years there was scarcely a sleeper needed to be replaced on the Canning Jarrah line, built a matter of 33 years ago, although they were built of billets split out of the nicest young trees that the men could get hold of along the line, and there was scarcely a sleeper replaced till the Government took the line over about 15 years later. Even then some sleepers were left in the line until 1916. A couple of years ago the ganger said that even those were then in fairly good condition. Mr. Weston thought that the timber growing on the sand plains would last ever so much longer than timber which appeared to be more matured growing in the hills.

Mr. SMITH said, coming back to the durability of jarrah again, that while on classifying work in the karri country they told him that jarrah up here (Mundaring district) stood so much longer than the jarrah down there. He thought that was a mistaken idea. There was a stock fence along the Warren that had been up for 40 odd years, and he went to considerable trouble to get some of the posts out to see what they were like. Every time he crossed the fence he took out a post, and it was a considerable trouble. He was assured that the fence had been there 40 years. The timber was cut along the fence in mixed karri and jarrah bush, and it was still as good almost as the day it was put in there. He did not think jarrah would stand much longer than that, timber split up at, say, Mundaring or anywhere else.

Mr. HEBB said his experience was that it was only mature trees that would stand long.

Mr. McVICAR said, while they were on the durability of timber, he would like every district officer and every forester to bear in mind we have an Empire Exhibition coming on next year and the Department was on the look-out for any specimens for

our Durability Section of the exhibition. It would be necessary to send the information to the Department first and wait for instructions concerning the forwarding of specimens.

Mr. HILL asked, could Mr. McVicar define his requirements in any way?

Mr. McVICAR said fencing posts would be a very good exhibit. Nothing must be longer than about six feet. As regards piles and poles, etc., they would get them from the Harbours and Rivers. Any small specimens, easily handled, and which they had known data for, would be very acceptable.

Mr. KESSELL said there was one point in Mr. McCoy's paper he would like emphasised, *i.e.*, the question of reporting the trucking and sending away by rail of uninspected timber or rejected timber. We detected a certain amount up at Bunbury or Fremantle as it was going into ship's slings, but it was very difficult to deal with the matter then. If foresters or their assistants moving around the country would pay attention whenever opportunity occurred to timber being trucked, and if they saw anything that appeared to be irregular and would immediately notify Head Office with full particulars, it gave the Department time to deal with a case before the timber was actually at ships' slings.

Mr. PORT thought the practice of putting the blue crayon on the end of a condemned sleeper was not a very good one, as the crayon could easily be wiped or even cut off. He thought some other arrangement should be made to distinguish the condemned sleeper from the passed sleeper other than the blue crayon on the end.

Mr. TURNER asked would it be possible to have a condemned brand on the other end of the sleeper?

Mr. KESSELL said that matter was under consideration at the present time. It was suggested that some form of condemned brand be put on the other end of the sleeper hammer in place of the present broad arrow, and it was further suggested that it should be made in the form of a punch that could be used to obliterate the brands already on sleepers. This was an important matter. If re-inspection took place at another time it was absolutely essential that sleepers re-inspected and rejected should have the original brands obliterated. There had been cases where re-inspections had been carried out and certain sleepers rejected and the original brand had remained on the sleepers.

Mr. TURNER said the last hammers issued had no broad arrow on the end of them.

Mr. KESSELL said there were two alternative suggestions put forward. One was that there should be a cross put on the end, and the other that a brand should be made so that it formed a series of punctures. His objection to a cross was that it appeared so much like an X, and so many fallers' brands with X in them were issued.

Mr. SHARP said he would like to draw attention to the poor class of timber being supplied to brand this year. It was very difficult to put the full face of the hammer on it.

Mr. PORT said another fault with the branding hammer was the eye in the hammer was too small. In regard to the branding hammers that the fallers were issued with, he thought there should be some change made with them, because they were too small altogether. The numbers and figures were too small. They got complaints every day about the hammers that had been issued.

Mr. KESSELL asked was it a general opinion that the numbers and figures were too small?

Mr. MACKAY and Mr. CLIFFORD endorsed Mr. Port's statement of the necessity of issuing to fallers brands with larger numbers and figures, and branding hammers with larger eyes for sleeper branding.

Mr. KESSELL said the papers were on his table at present, so that a good job could be made of next year's brand. He took it, from Mr. Smith's interjection that there would be a decided objection to increasing the weight of the hammers in any way.

Mr. DONOVAN said the handles were too short.

Mr. SMITH said there was no objection to the weight being increased. It was a longer neck that was wanted. The full face of the brand had to go on each end of the sleeper, and as some sleepers were cut 2in. long and some 2in. short, it was a hard job to get the face on both ends when they were stacked.

Mr. TELFER said increasing the size of the hammer head and also adding a rejection brand at the other end would mean that the size of the shank of the hammer would have to be increased, and that would add considerably to the weight.

Mr. HEBB said he had all his hammers drawn out by the blacksmith. The shank then was no thicker than a man's finger.

Mr. DONOVAN considered there should be lugs the same as on a carpenter's hammer.

Mr. KESSELL said, regarding the question of the inspector's number, he wanted it to be clearly understood in future that one number would be allocated to each person using an inspection hammer and that same number would run on from year to year. Foresters would be responsible for seeing that nobody but the man to whom the hammer was issued used that particular hammer. It was better to let a ship lie idle at Bunbury than to use another man's hammer. It was a very serious offence for any district officer either to allow anyone to use it with his knowledge, or to leave the hammer in such a position, while in his possession, that it might be used by anyone else, and if, for any reason, one man ceased to inspect, that number would remain out of circulation for a sufficiently long time that there should be no confusion as to who branded any sleepers with that particular number on.

Mr. MACKAY spoke of the folly of getting rid of our best timber at too great a rate. He said that we should shortly be importing timber from other countries at a higher cost, and he advocated an export duty. He thought the specifications should be greatly modified. He thought the timber companies should carry out their own inspections, although he was aware that the department derived revenue from this source. He deplored the fact that the late timber inspectors who were now doing ranging work were often unavailable for bush work owing to inspection of timber for shipping.

Mr. McCOY recalled that on one occasion 10,000 sleepers were sent away without inspection owing to an accumulation of stocks, when the assistant rangers were responsible for the work, owing to the fact that sawmillers did not turn sleepers when it suited the convenience of the department as is now done.

Mr. KESSELL said the policy was accepted of inspecting those sleepers, and it was a matter of the most efficient way of carrying it out. The fact that Mr. Mackay, for instance, had two inspectors in his district had only been occasioned by the fact that those inspectors had been employed by the depart-

ment, and whatever they were called they were carrying out the duties, they could all see reasons against the "sacking" of these men because there was a change-over of system. The men were employed and naturally expected to continue in employment, and it was a matter of training them in the wider duties. Still, he thought that question of policy might be allowed to pass.

Mr. TRAINOR said with regard to the waste of timber, he understood that, if a cutter was sending in a number of sleepers that were condemned, he would not be allowed to cut any further. At least, that was so years ago. He spoke with feeling because Mr. McCoy once threatened him and three others that if they did not alter in their use of the broad-axe they would not be permitted to continue.

Mr. McCOY said, with reference to the statement by the Conservator of Forests, Foresters Smith and Mackay, that half round sleepers were equal to other sleepers, they might be all right in France and some of those countries where they used Spruce, but in a Jarrah sleeper the sapwood was stronger than the heartwood, and caused the sleeper to split without any pressure by the rail on the dog-spike. He advocated the use of a sleeper midway between the squared sleeper and the half round sleeper. When round back sleepers were carted in from the forest and shipped, it made it a very expensive operation. They could save much by shaping them off before carting them.

He might say that timber inspection was better organised than it used to be prior to Mr. Lane-Poole's appointment, and the general inspection was more consistent.

Address by Head Forester, D. McVicar.

"CO-OPERATION IN FOREST WORK."

Mr. Chairman and Gentlemen.—At the opening of this Conference, Mr. Kessell stated that Mr. Lane-Poole, the late Conservator of Forests, had laid the foundation of the Forest Policy of the State. Now, I want just briefly to deal with the forests as they were prior to that, and with the work of the Forest Ranger, as he was then called. In those days the work of the Forest Ranger was to patrol the forests, timber inspection and land inspection. His work was practically a matter of the collection of revenue, to see that the timber was not unduly wasted either in the mill or by the hewer, and to inspect land that was applied for for selection purposes. Then we had no hewing permits in operation. A man got a license and he went into the bush, and all lands were Crown Lands and Crown Land was a harvest for the sleeper cutter. Mr. Lane-Poole quickly saw that that sort of thing could not obtain for any length of time, and the output of the forests be maintained. Some seven years ago come September, when our then Chief had had time to go through the forests and study the conditions, he called such a conference as we have to-day, but not such a large number of foresters were present. He then laid down his plans with reference to what he thought was the best method, not only of handling the forests, but of getting to know what our forests really contained. At that board the inception of the classification scheme of our forests was inaugurated. I think also at that

REFERENCE ONLY



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WESTERN AUSTRALIA.

REPORT of PROCEEDINGS
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