

RAILWAY SLEEPERS

by D.W.R. Stewart

With the construction of the new Standard Gauge line between Perth and Kalgoorlie, and three iron ore railways in the North, sleepers have been in the news over the past two years, and it is thought that some notes on their use would be of general interest.

1. Standard Gauge Line - Trans Australia.

This takes a standard gauge sleeper 8' x 9" x 4 $\frac{1}{2}$ " which is a size supplied to the Commonwealth for its standard gauge line over a long period of years. In this instance, however, a considerable section of the line must carry 3 rails to accommodate both Standard Gauge of 4'8 $\frac{1}{2}$ " and W.A. 3'6" gauge traffic. This means that the greater part of the sleeper is potential rail seat, and therefore a high quality is called for, superior to that normally supplied.

2. Mount Goldsworthy Line.

This line which was completed nearly 12 months ago, is also of Standard gauge, using 8' x 9" x 4 $\frac{1}{2}$ " sleepers. This line extends some 70 miles East from Port Hedland. The spacing of the sleepers is 27" centres, i.e., 2,348 sleepers per mile, or a total of 164,360 for the 70-mile line. During construction, it was decided to decrease the spacing to 25 $\frac{1}{2}$ " which required 2,484 sleepers per mile, or an additional 9,680 sleepers. It carries heavy ore trains to Port Hedland.

3. Hamersley Iron Line.

This line has a length of some 179 miles and is built to the Standard gauge of 4'8 $\frac{1}{2}$ ". Because of the very heavy axle loads which it is designed to carry, heavy sleepers 8' x 9" x 6" are used with the close spacing of 18" centres. That is 9" sleepers with 9" spaces between. This requires 3,520 sleepers per mile or a total of 630,000 sleepers. The axle load of 30 tons is said to be one of the heaviest loadings used on any railway in the world. Train loads of up to 12,000 tons will be carried at a speed of 45 miles per hour.

4. Mount Newman.

The Mount Newman proposals which have been suspended for some 12 months are now in the news again and will involve the construction of some 218 miles of line. It is not yet known what dimension of sleeper will be used or what spacing, but again, because of heavy axle loads, it is probable the sleepers will be 6" or more in thickness and a spacing of 20" centres has been suggested. This line will require some 900,000 sleepers.

Production of sleepers for the above lines meant a great increase in W.A.'s normal output of sleepers and it was stated at one time in the Press that these were some of the world's largest present railway construction projects.

It is interesting to compare railway construction activities in China where, according to an article in "Unasyuva" a vast amount of railway construction is taking place. China has some 21,000 miles of railway. It is constructing 1,250 miles per year. Its sleeper requirements are approximately 11,200 cubic feet per mile of line constructed, which compares with 10,560 cubic feet per mile for the Hamersley Iron Line. Service life is said to average only about 5 years; or 6 years if treated with Tung Oil. Termite damage is said to be severe. The annual timber requirements are set out as under: -

For new line - 1,240 miles.

For maintenance of line - 4,092 miles.

i.e., a total of 5,322 miles requiring approximately 1,200,000 loads of sleepers per year. This quantity is about $3\frac{1}{2}$ times the total annual production of the sawmilling industry in W.A.

"CHEMISTRY" OF WOMEN

"Thought to be a member of the human race, accepted at 120 lb. though known isotopes vary from 80lb. to 1,250 lb."

"Seldom found in natural state. Surface is usually coated with a solution of paint. Low boiling temperature and freezing point varies. Is highly explosive and dangerous except in qualified hands".

"Extremely active when in vicinity of opposite member of species. Chiefly ornamental, probably the most powerful seducing agent known".

"It is illegal to own more than one specimen although a certain amount of exchange is permissible".

From the "West Australian"
