

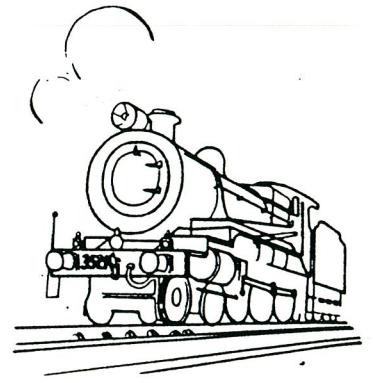
Alles
Sydney Live Steam Locomotive Society

Anthony Road, West Ryde, N.S.W.

NewsLetter
Correspondence.
The Editor,
P.O. Box 124,
West Ryde. 2114.
N.S.W.

'Newsletter'

Vol. 19 No. 1.



February 1991.

Editorial

To start the Newsletter for 1991 I would like to make a request for articles to be published so that the Newsletter will be both worthwhile and interesting. Items do not have to be great essays, just a few notes and details can always be put together to make interesting reading. I hope I have your support.

John Lyons Editor.

The Pedestrian Bridge.

The last of the footings were poured last Saturday and the form work will be tidied up by the time this Newsletter is out. Work is continuing with the drilling of the steel components, the drilling jigs have proved to be very satisfactory. One of the longitudinals will be assembled soon as a trial before the components are sent away for galvanising.

February Meeting.

Lawn mowers. Considerable discussion took place re. the merits of both ride on and self propelled mowers. Demonstrations will be arranged soon so that the relative features of each type can be seen at the grounds under actual working conditions.

Drink Refrigerator. In order to make a huge saving on our electrical account a time clock has been fitted to work the fridge from 8am. Friday till 6pm. Saturday. This will keep the drinks cold for when they are needed but members should note that perishable items must go into the freezer which runs all the time.

Convention. Salisbury S.A. will be the venue for the 1991 Easter Convention. Application forms should be available soon from the Secretary.

Private Railway Visit. It is hoped to have a day at John Green's property soon after Easter, more details when available.

The Evolution of the Cylinder Bore.

by G.W.Bott, April 1931 Engineer Surveyors Association.

The construction of a cylinder bore dated back over 150 years, when James Watt (1736-1819) built a bore of 18 inch diameter, but found it so difficult with the crude means at his disposal that he complained that "at the worst place the long diameter exceeded the short by $\frac{3}{8}$ of an inch."

Watt struggled for ten years, under all sorts of discouragements, for, though he knew his engine was correct in principal, he could not make one that would work, because he had no way of boring a full sized cylinder straight or round; some of his best efforts resulting in a cylinder as much as $\frac{3}{8}$ " out of round, with the inevitable result that his piston would either stick or leak so badly as to be ineffective.

The best boring machine available at the time was a long, slender shaft driven from one end and carrying a heavy cutter-head at the other, where it was free to go wherever the vagaries of the cylinder might lead it. John Smeaton (1724-92), who examined and reported on the work, declared that "neither men nor tools existed that

Cylinder Bore cont.

could fabricate a mechanism so delicate to do such a work."

However, as time went on, improvements began to show themselves, till, by 1775, Wilkinson built a boring machine which, afterwards, effectively bored an engine for Watt and several for Matthew Boulton (1728-1809), but it is only necessary to compare the bores of the time of Watt with those of today to realise the immense amount of time, mental effort and money that had been expended in the interval to enable us to build today a cylinder bore with a tolerance of 0.0005 inches (+ or -)

After describing many of the older machines and dealing with the factors relating to them, the lecturer went on to differentiate between the various modern methods of enlarging cylinder bores, such as grinding, reaming, peening, lapping, broaching, burnishing and honing, all of which are supplementary to the boring tool.

HONING may be properly called a phase of grinding with a wide wheel, and did not begin to be regarded as a real manufacturing possibility until late in 1925. The use of the wide wheel overcomes the tendency to dig into the metal and leave hollows, which were first thought to be the effects of chattering. The long honing abrasive sticks, however, bridge over these low spots, as the hone is simultaneously rotated and reciprocated, until the hard spots are cut down to the level of the hollows, after which the whole surface is reduced at the same rate, the hard spots being cut down to the depth to which the soft spots are cut. Thus the honing process leaves the cylinder walls round and parallel, free from taper, and smooth in proportion to the fineness of the abrasive used.

Defects existing in present day standards of finish of mechanical components can be determined by an electric calibrator, which can be made to act through the mechanism of an amplifier and recorded on a loud speaker or millivoltmeter, but, he said, it is useless to specify to close limits of accuracy unless these measurements are taken actually across basically plane surfaces. Size control and its effects on the costs of production, as well as the length of useful life, was discussed, and, in conclusion, it was decided that all methods that were earlier enumerated are only supplementary to the BORING tool, which process is still the dominant factor.

Railway Preservation on the Nth. Coast ? ?

Country member Trevor Collett sent some information last year about the Dorrigo Railway Museum. It seems that problems have been caused by the failure of the Museum to become incorporated as a Co-Op., or limited company. Another group " Friends of the Glenreagh -Dorrigo branch line" of which Trevor is a member are trying to get the whole matter sorted out with the Museum management unfortunately with the State Supreme Court as the referee. The collection at Dorrigo is not under cover and the heavy rain is taking its toll. While the locomotives are black oiled the wooden rolling stock is showing the effect of the elements, Trevor reckons some of them will be dangerous to stand beside in short time. There are also disagreements about ownership of the collection and the actual membership of the Museum. Even the S.R.A. wants things sorted out as they will not finalise a lease on the branch line till the museum is incorporated.

For the sake of the preservation scene it is to be hoped that the problems will soon be sorted out and progress will be made to get the collection secure and running.

Duty Roster.

Mar. '91. A.Mackellar, V.Sciicluna, P.Ferguson, E.Holmes, J.Stevens, D.Price, K.Sewell.
Apr. '91. M.Haynes, M.McAulay, N.Sorrenson, J.Sorrenson, B.Courtenay, W.Hamilton.
May. '91. J.L.Hurst, J.Davies, R.Lee, P.Shiels, J.Lyons, P.Lyons, P.Brotchie.
Jun. '91. B.Hurst, B.Tulloch, A.Eyre, J.Hyde, B.Rawlinson, G.Esdaile, A.Austin.

Gate Roster.

March. B.Rawlinson, April. D.Price, May. T.Arney, June. W.Allison.

New Locomotives.

Next Newsletter will contain details of two new 5" gauge locomotives, one is a magnificent 4-4-0 American style loco by Alan Mackellar while the other, which should be a real workhorse is a W.A.G.R. " V " class 2-8-2 loco in 1-7/16 " scale.