



Newsletter of **THE PALMERSTON NORTH MODEL ENGINEERING CLUB INC**

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November
2012
No 384

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TRACK RUNNING

This is held on the FIRST and THIRD Sunday of each month, from 1 pm to 4 pm Summer and 1 pm to 3 pm during the Winter. All club members are welcome to attend and help out with loco coaling, watering and passenger marshalling - none of the tasks being at all

Visiting club members are always welcome at the track, at the monthly meeting, or if just visiting and wishing to make contact with members, please phone one of the above office bearers.

Sender:- PNMEC
22b Haydon St,
Palmerston North

Place
stamp
here

T H E G E N E R A T O R

This Months Featured Model



Report on the October Meeting.

Bruce Geange reported that he and **Richard Lockett** had attended Hawke's Bay's 50th Anniversary. Bruce and Monty George had gone to see the Faraday Centre on the Saturday morning and Bruce had steamed his Burrell traction engine on the Sunday. The added attractions of the boating lake and a Gypsy Fair added to the interest.

Bruce Geange, Richard Lockett, Robert Edwards and Chris Morton attended the New Plymouth 60th Anniversary over Labour Weekend. While there Bruce was able to inspect the workings of the Town Clock.

On the table was a wide variety of 'Bits and Pieces'.

Richard Lockett led off with details of making a new piston out of graphite for his hot air engine. To his disgust it still doesn't go. Odd, the first one he made to the same design has run but the second will not.

Robert Edwards has recently overhauled a small stationary steam plant. Methylated spirit or tablet fired boiler driving an oscillating engine. This one was a Brimo made in Dunedin and sold by Brian Moss of Auckland between 1960-70.

Fred Kent had been given an old transformer that he used to power a small electric iron. The iron was used to warm plastic sheeting to cover a model aeroplane wing but unfortunately the method did not work as desired.

Warick Leslie had the nearly finished cab of his 'railtruck'. It is based on a 1925 Relay. Doors are hinged and the windscreen wiper works.

Fin Mason was up in Auckland to see the Mosquito's first flight and was able to see the Auckland Model Engineer's Exhibition. Fin says that he corresponds with a man in the North of England who has built a couple of excavators, a Caterpillar and a Leibheir. His friend is now busy making a model of a Ruston Bucyrus RB 10 dragline.

Doug Chambers had the bar frames for the American 4-4-0 in 7¼" gauge he and Bob Owen are completing; Bob of course is the

owner. The locomotive is a genuine American as the plans were produced by Railroad Supplies in California. The very first of the 4-4-0s had plate frames but they were very prone to cracking due to the very uneven track. The tracks were laid on the Prairie and as ballast had to be brought from a very long distance, the rails tended to move after every rainfall. The bar frames were able to flex and that prevented the cracking. The alignment of axles, cylinders and valve gear would suffer but train speeds were very slow so the alignment didn't cause too many problems. The bogie tender has been completed and is awaiting suitable weather for painting.

November Club Night

6:00pm Drinks - 7:00pm Dinner
Thursday 22 November 2012

Tasty Restaurant \$24 per head as you enter
Corner Main & Albert Streets,
Palmerston North
Contact Cynthia - 06 354 7100

COMING EVENTS

Track running at Marriner Reserve Railway

December	2 nd	from 1pm to 4pm
December	16 th	from 1pm to 4pm
January	6 th	from 1pm to 4pm

Open Weekends

E.B.o.P. MEs Miniature Railway
10th Anniversary Run 15th -16th December.

Cambridge-Rotorua Live Steamers
Grand Opening 1st -2nd December

Palmerston North Model Engineers
'Locomotion 2013' 2nd-3rd March

January Meeting. The Presidents BBQ will be held at Cynthia Cooper's home at 119 Ruapehu Drive, Palmerston North starting at 6pm on Thursday 24th January 2013. All family members welcome. Please bring whatever you would like to cook for yourselves plus a salad or desert to share.

The closing date for the next issue of The Generator is Friday 11th January 2013

We have received an email from Brian Wiffin who showed us his Lyre Clock at the September Meeting.

“On returning home after the September Meeting, I pulled the clock to pieces, re-machined the great wheel by a few thou, reassembled it, adjusted the pendulum and now I can tell you that it now runs for seven days and is keeping perfect time.”

“Yippeeeee!!!” Regards Brian Wiffin.

The Les Moore Trophy

The competition at Christchurch's Canmod 2014 will arise from the land of the Bungy Cord. This requires a device to travel on the raised track -2.5", 3.5" or 5" gauge powered only by a supplied 300mm length of bungy cord. PNME members are asked to start thinking of what sort of device might be competitive.

MONTH'S FEATURED MODEL

By Doug Chambers

I have had a number of Stuart Turner engines sent up to me from a friend in Christchurch for completion. This is the most recent one. It is a Stuart Turner No 9 which is a very solid and robust looking horizontal engine. An attempt had been made by the original owner to machine the components, but unfortunately he had made a lot of errors. All that my friend had been able to acquire were the basic castings and the crankshaft. The original owner had managed to get the main bearings bored offset to one another and when he fitted the crankshaft it 'nipped up' and would not turn. He then turned down the crankshaft until it could be turned. I made new bearings and fitted a new mainshaft to the crankshaft. As the following were all missing they had to be made, piston, piston rings, piston rod, piston rod gland, connecting rod, big end bearings, guide bars, valve, valve spindle, eccentric, eccentric strap, and to improve the look of the engine I made a set of little brass oil cups. A hydrostatic lubricator and main stop valve were also fitted. The valve ports were as cast and were not perfect but I felt that the engine would run well enough as they were. I was quite right; the engine ticked over on compressed air starting at 40 psi and as it ran in a little and the oil soaked into the glands it finished up still going on rather less than 10psi.

A very satisfying model to make and for a short time before dispatching it to Christchurch, it looked very good sitting on our TV cabinet.

LETTER FROM ENGLAND

By Stan Compton

Some years ago while working at the Hereford tracksite, I was approached by a man in his forties. He explained that he had inherited a 3½" gauge 'Lord Nelson' locomotive that needed a boiler test. On examination the engine appeared to be well made. The boiler was riveted and soft soldered as was the norm years ago. Even so it may be accepted using the discretion of the boiler inspector.

To help in his quest I located a ¼" Whitworth box spanner which he needed to remove the safety valves, thinking that we may have a potential new member here.

A few years later the man returned on a free, no charge day, and asked if I remembered his 'Lord Nelson' locomotive. I said "Yes I do; now how about joining our group so you can learn about running steam locomotives." His answer could not commit himself; this makes me wonder if he only wants to sell the engine. Of interest also, years ago I had a 'Greenly' designed 'Halton Tank' locomotive boiler to test. This large 4-6-4 engine had a riveted and soft soldered boiler. It had been built in the 'fifties', one of a pair built by the Common Brothers, both professional builders. Excellent work, not a weep from the boiler and still giving good service.

A Hereford member took me to visit a town he lived near in his younger days 'Hungerford' in a racehorse breeding area. Properties there are expensive, so were all the items on sale in the bazaar on the main street. This had been a hardware shop years ago, now a collection of antique shops under one roof. A collection of 'top-hats' at about \$1600 each, many restored clocks so there is still a demand for quality. We spent two hours there, such a variety of goods, even a long thin pointing-trowel for \$12. I found a nice silver locket for \$18. Across the road a shop specialised in antique brass hinges, locks etc. but in the yard outside were old surplus cast-iron mail boxes ex Post Offices, an anvil \$600, ornamental fencing at \$200 a metre. In a glass case inside was a copper oil-can about 50mm long priced at \$500. I just could not believe this or the little tomahawk with a leather holster made for a

gamekeeper I think, priced at \$800.

On another day out I found a model of a dinghy, complete with oars and a 'Seagull' outboard motor. The model was about one metre long on a stand and fitted with a glass top as a coffee-table priced at \$700.!!

I have an old friend who always exhibits at the Bristol Exhibition; his 'Bristol Radial' aircraft engine is superb. Last year he had the chassis for a 1938 'Mercedes' racing car on display and was working on the engine and gearbox, what a challenge.!!! This year he is not a well man; he can't use his left arm or drive a car so all modelling has ceased. Life can be so cruel, there seems to be no logic to see an active man who can now no longer work.

I often visit our local clock repairer, incidentally he is also a member of Hereford M.E.S. and his latest model is a 'Metropolitan' electric locomotive named 'Sarah Siddons'. With a motor drive to each axle this 5" gauge engine runs for hours hauling adults on our elevated track which has a 1- 60 grade.

One day he had an old horizontal steam engine on his bench. The flywheel about 100mm in diameter had a brass rim formed from a flat strip with a riveted joint. The copper boiler needed some repairs. The piston valve cylinder was fabricated; the engine was very old and had been bought at an auction sale. The owner did not expect to pay for repairs and would put it back into an auction sale to make a small profit.!!!!

John Arrowsmith, who reports on steam functions for 'Engineering in Miniature', told me he asked a school-boy if he could tell him the name of an engineer. The boy's reply was 'Kevin Webster'. I had no idea who he could be until John told me it was the name of an actor who is a mechanic in 'Coronation Street', the TV serial.!!!!

I also know a young man aged about twenty taking business studies; his father is a practical man yet his son could not name an engineer, he had never heard of I. K. Brunel who the Birmingham University is named after.

As a schoolboy I can recall being taught about James Watt utilising the power of steam to produce useful work.

Hawke's Bay Model Engineering Society 50th Anniversary

Arriving at Anderson Park in Napier on Saturday morning Monty George and I collected our registrations and had morning tea. In the registration pack was a book about the first fifty years of the club. After morning tea the two of us went to the Faraday Centre Museum in Napier and spent an enjoyable time there looking at the exhibits. On arrival the place looked shut, Monty tried the doors and the place was open. Ray Firman demonstrated some exhibits for us and the first one was a set of brass bells that were hit with a rubber hammer and a tune could be played.



At the other end of the building stood the 1923 600 H.P. Fullagar Oil Engine with generator. After the 1931 earthquake this engine supplied power for lighting at Nelson Park where displaced families were camped. Back to Anderson Park for lunch with the trains busy giving rides to the waiting passengers and the model boats cruising on the lake.



The Generator

The Gipsy Fair operators were selling their goods and a 26 note hand operated organ was sounding out the tunes. Richard Lockett joined us and then after lunch the engines were unloaded and made ready for steaming on Sunday. The afternoon went very quickly and the traction engines were put in storage for the night. That evening about sixty people sat down to a dinner held in the club rooms. The meal was good combined with plenty of talking going on. After the meal the trains were running giving rides and the old WWII generator and search light were operating in spite of the rain. Sunday morning was fine with a cool wind. Steam was raised in the traction engines and the walkways around the park were tested with a few stops for photos and a look at activities.

Dave is learning the ropes under the tutorship of Ian Tibbles gaining steam experience. His duties included, Cleaning, Oiling and Firing.



A McLaren Traction Engine from the Museum visited the Society during the day. There was more running after lunch for a while before the fires were dropped and the engines were cleaned and loaded onto their trailers.



After afternoon tea I left for home having had an enjoyable weekend.
Thank you Hawke's Bay Model Engineering Society.
Bruce Geange

Member "Dave Sullivan" had a week down at "Shanty Town" on the West Coast recently.

Central Pacific No 173

By Doug Chambers and Bob Owen
Some time ago Bob approached me asking if he bought a part built model locomotive, would I complete it for him? Bob lives in Masterton and on fine days is found out in the country loading a Cresco topdressing aircraft. On wet windy days he is in his little workshop repairing clocks and watches. Bob's wife Irene passed away just after Easter this year and Bob felt that he needed a new challenge to distract him.

He realised that a watchmakers lathe was not going to be much use in completing the 7¼" gauge American 4-4-0 locomotive that he had bought on 'Trade Me' from a deceased estate in the Christchurch area. This type of locomotive is not one of my favourite designs but Bob and I came to an agreement and work is now well underway.

One of the most interesting parts of building a model locomotive is researching the history of the prototype.

The locomotive was built by J.A. Norris of Lancaster, Pennsylvania in 1864 having been ordered by the Western Pacific. However the ten engines were taken over by the Central Pacific after Western Pacific was taken over by CP. in 1868. On the 14th November 1869 C.P. 173 crashed head on into C.P. 177 in a bad passenger train accident. In 1872 it was rebuilt in the Sacramento workshops under the direction of Andrew Jackson Stevens. However when it left the 'shops' in November 1872 it was as the class leader of a new class of American 4-4-0. Twelve further locomotives of this class were built and one survives, it is one of Virginia and Truckee's engines, No 18 named the 'Dayton'. It is displayed at the Railway Museum at Promontory, Utah. C.P. 173 spent most of its working life in service on Oakland suburban trains. It carried the name 'Sonora' through its working life. C.P. 173 was scrapped in 1909.

An interesting fact found in a book on the American 4-4-0s and their boilers was that in the late 1850s the boilers of up to 140psi were built to a safety factor of only 2½. The boiler plate was ¼" thick. Between 1850 and 1870 **TWENTY** boilers a year exploded and in 1868 twenty-three boilers were recorded to have exploded. The builders should not be held responsible. The designers were allowed to use a safety factor of 2½ as there was no State regulation at that time. Wastage of the boiler plates, scale build up due to the dubious water quality in many places and lax cleaning out and inspection all contributed to these failures.

Back to the Model.

This is a genuine American model, the plans are supplied by 'Railroad Supplies Ltd' of California, USA.

The tender was about 60% complete. The gauge the wheels were set to rather suited 7

1/8" gauge rather than 7¼" gauge. That has been corrected. The driver was intended to have a seat made on the tender. Here a problem was raised, the tender tank material was supposed to be .040" thou but the tank had been made of .024" thou far too thin to support a driver. It warped and buckled as I completed the soldering. However I had already decided that the driver would ride on a 4 wheel driving truck. The controls will be extended to the rear of the tender. The tender is now completed and awaits some hot weather this summer when the painting will be done.

The axleboxes and axles had been made but the fit of the axleboxes was not too good. Usual practice is to bolt the frames together and machine the horns together to eliminate errors. I found that this had not been done so it was a case of starting from scratch, machining the horns and making new axleboxes.

Having got the work previously done up to scratch, I am now setting about making my own mistakes starting with the Stephenson's valve gear.

The driving wheels will be cast locally and fitted with mild tensile steel tyres. These will be shrunk on.

The cylinders will be machined from flo-cast iron thus avoiding chill spots, porosity and having to machine through the sand embedded in a cast product.

The photos show progress to date.



As this is the last
"The Generator"
for the year we wish you a
Merry Christmas and a **Happy New Year.**