April 2016
No 421

THE GENERATOR

Newsletter of THE PALMERSTON NORTH MODEL ENGINEERING CLUB INC
Managers of the **"MARRINER RESERVE RAILWAY"**
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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 difficult. We may even offer you a cuppa.

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
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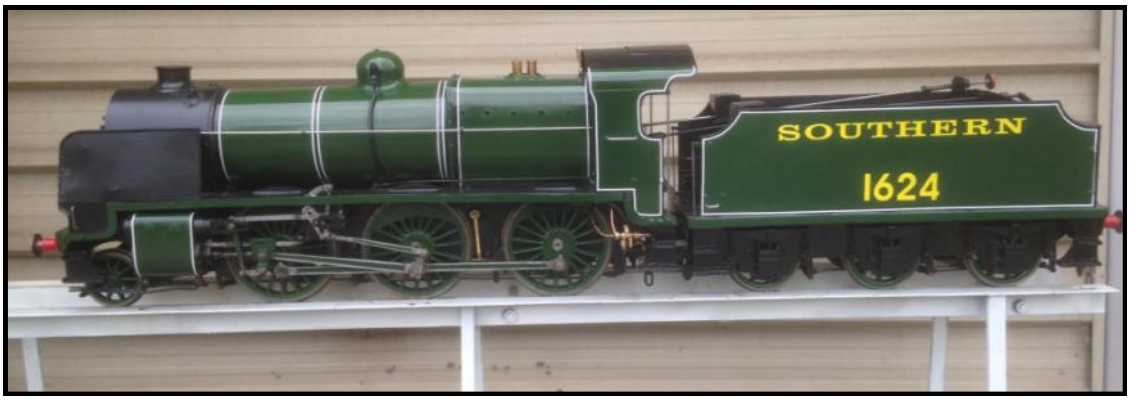
Place stamp here

This Months Featured Model



Report on the March Meeting.

The members attending the meeting held at Merv George's workshop anticipated something a little different and they were not disappointed. Merv's business, Jenquip Engineering has been going since 1997 and started off making Pasture Meters, a device for measuring grass growth enabling farmers to better manage their farms. More recently they have been developing Lavender Harvesters which has led into the design of Harvesters for twelve different herbs. The Harvesters have been exported worldwide. The staff consists of Merv, plus two fitter turners one of whom is Richard Lockett.
When you consider that they do the design work, development and testing, manufacturing, plus sales and dispatch it shows what a tight bunch they are. A lot of the components for the Harvesters are bought off the shelf but they have to be adapted to suit. A small gearbox is made 'in house'.
Merv led us through the various lathes explaining what each one did and then did the same with the three milling machines.
There was a guillotine, an English Wheel, a folder, a hydraulic press, a large fly press and an arbour press. Welding Equipment and band saws, all the equipment they need for the various operations they need to do.
If you go to the rose gardens in Hamilton, do take notice of the nicely manicured hedges. Merv supplied them with the special hedge cutter that is required to do the job.
A very interesting evening,
Thanks Very Much Merv.

April AGM Club Night

7:30pm, Thursday 28 April 2016
Hearing Association Rooms
Church Street, Palmerston North

Please attend and if you feel that you would like to offer yourself for a position on the Committee, then let a member of the executive know.

For Sale

A Burnard six inch diameter, four jaw chuck. Modified to suit a Myford lathe. In good condition from the late Don Dudley's workshop. Price $90

Plans for Lathe: (Myford presumably)

- Taper Turning attachment for lathe - 3 sheets
- Sawing & Filing attachment
- Boring & Facing Head attachment - two separate plans
- Micrometer Boring Head
- Tailstock Turret
- Collet Set
- Screw Cutting Gearbox - 2 sheets
- Combination Milling & dividing attachment
- Thomas Style Dividing Head modified

Plans for Steam Engines:

- Steam Fire Engine - 2 sheets model about 16" long and 6" wide
- Hercules Steam Crane - base 9"x3½", height about 9½"
- M.E. Beam Engine
- Double Tangye Type Mill Engine
- Diagonal Paddle Engines - 2 sheets bore ¾" stroke 1½"
- Model Aero Engine - Mate 2cc Diesel
- Compensating Gear & Hind Wheels -
- Allchin ME Traction Engine (sheet 4 only)

The plans are available after a small donation is made to Don' wife.

COMING EVENTS

Track running at Marriner Reserve Railway

May 1st from 1pm to 3pm
May 15th from 1pm to 3pm

Open Weekends

Hawkes Bay Model Engineers
Open Weekend has been cancelled until the 7¼" gauge upgrade is completed.

The closing date for the May issue of The Generator is Friday 29th April

THIS MONTH'S FEATURED MODEL

By Doug Chambers

This locomotive is the second one I built. The first was a 'Simplex' which was a 'freelance' design and for my second I wanted a prototypical engine. I started it in 1982 and completed it in 1985. It went pretty well at first but from time to time the lubricator pump would cease pumping and the first indication of this was squeaking from the cylinders and piston valves. The engine developed a lot of 'blow-by' and the good performance gradually faded.
I left the engine to concentrate on further locomotives and for the last twenty years it has sat on a bookcase in our lounge. It was painted in a light olive green, a colour I came to detest, and it gradually collected dust. I recently bought two books on the Southern 'U' class locomotives. I found that the 'U' class engines built or overhauled in Eastleigh Workshops were painted in an attractive dark olive green and that by 1954 all the two cylinder 'U' class engines had received the larger diameter chimneys that the three cylinder 'U' class engines had from new. This meant that I could now fit a proper draughting arrangement in the smoke box.
Shortly before Christmas the 'U' class was moved out to the workshop and work started. The cylinders were removed and taken to Engine Reconditioners to have the cylinder and piston valve bores honed on their Sunnen Hone. New pistons, piston valve bobbins and rings were made and the cylinders replaced on the chassis. Next the Walschaerts valve gear was set correctly, one thing that I had not got quite right the first time. My fault. The safety valves were changed to 'pop' type and the chimney was replaced with one modelled on the three cylinder locomotive chimney fitted to the two cylinder 'U' class engines in 1954. A proper draughting arrangement was made and the blast nozzle open up to 9/32". A new lubricator to the late Jim Ewins design was made and fitted. The locomotive was repainted in dark olive green and lined out. After a hydraulic test and an accumulation test, a new boiler certificate was issued and the 'U' class was ready for a trial run. It steamed well, the exhaust note was good and it had a lively performance. There are a few more little jobs to attend to, a leaking cylinder drain and a red lined gauge glass to be fitted and then the 'U' class will be ready for regular running.

LETTER FROM ENGLAND

By Stan Compton

It has been my concern for years that a tradesman is described as an engineer in this country; this means that bright young people never consider studying for an engineering degree. They are unaware of the satisfaction that can be gained from being involved in the construction of something like 'The Falkirk Wheel'. A concrete structure that lifts canal barges up to a higher level speedily, instead of using traditional locks. This is the first one to be constructed in the world and it was designed in this country.
I asked a bright young man, about to start in university, if he could tell me the name of an engineer. I got a blank look, he had never heard of Brunel or Telford. Even in my elementary school we learnt about James Watt who observed, as a boy, that the pressure of boiling water will lift the lid off a kettle. I recall a High School teacher remarking "He has no brains; we will make him a tradesman". The teacher had no idea of the requirements to be a good tradesman in any subject. Another term used is "Good with his hands" in other words he is thick!!

Recently I read about a sad case where someone had installed a horizontal moving gate which blocked traffic off a public road and gave access to a property. Car drivers had to feed a coin into the controller to gain access and the gate would close automatically afterwards.
A three year old child, who lived locally, found it was fun to run back and forth in front of the moving gate as it closed. Unfortunately the installer of the moving gate never checked that it could be stopped with hand pressure as applies on railway carriages. The child misjudged the speed of the closing gate and was crushed. When the police arrived they had to smash the controller to relieve the pressure on the poor child's body who had sadly died. I gather that the gate had been only installed a day or two.

We saw a programme on TV recently about life raising sheep on a high country farm in Yorkshire, run by a couple having eight children. They all had jobs to do as you would expect. The boy who collected the eggs explained that he could smell through the shell if an egg was bad!! A nine year old boy was a self taught mechanic who maintained the tractor, and he was shown fitting a new silencer to the exhaust. Dad is no good at these jobs he explained, he

takes a big hammer to everything. I hope the boy gets a chance to learn under instruction as he seems to be a natural mechanic. His mother was a model in the clothing trade but is a natural out with her dog rounding up the sheep. In that part of the country it is usual for the sheep to stay with the farm when it changes hands as they know all of the land having been born there.

Reading Doug's experiences driving a crawler tractor powered by a Perkins P6 diesel engine brought back memories of my youth working in the transport department of J Lucas Ltd.
I was sent out with a fitter on a breakdown of a Commer truck that was fitted with the same type of Perkins P6 diesel engine. It was wartime and the driver had delivered his load of aircraft gun turrets and was returning home when the engine seized solid. After removing the cylinder head one of the valves was found squashed flat on top of the piston looking like a coiled snake.
We had a spare valve but not the stick with the sucker on it to grind the new valve in so I was sent back to the local garage to borrow one.
The owner of the garage was very helpful and as it was getting late I was told to return the tool through his letter box on the way home. It was dark by the time the repair was completed and we had a long trip to make driving home in the works van in the 'black-out'. I did return the tool as requested, but how trusting was the owner, those were the days of long ago.

We have a programme on TV where goods are brought in for valuation by experts; on display was an enamel sign such as was displayed outside garages years ago. They were used to advertise anything and this one depicted the front view of a racing car from the late twenties, similar to a 'Bugatti'. The slim front wheels had a pronounced outward camber, the name 'Power' at the top was the brand of petrol being advertised. I recalled seeing these signs as a boy and now I hear that one was sold recently for ten thousand pounds!!!!

Hereford City Council provided some of the funding to build the new boat pond. I spend the running days supervising visitors with children crossing the ground level track and watching for children riding the 7¼" gauge track dragging their feet on the grass, fun to a child but dangerous if the foot catches on an obstruction. Adults are a problem, they often do not sit on the seat in the sit-inside trolley, but perch themselves up on the sides of the body to turn around and chat to a passenger behind them having no idea that this could easily cause a derailment.
I can see the boat pond from my position on the crossing and I envy those men who finish boating and can sit down to read their Sunday newspaper. I am also waiting for the wild Canada geese to find our new boat pond!!!

The Southern 'U' class locomotives

By Doug Chambers

The 'U' class 2-6-0 tender engines evolved from the 'K' class or 'River' class 2-6-4 tank engines. The 'River' class tanks were an express passenger tank engine and the first entered service in 1917. A further twenty had followed by 1926 but unfortunately four rolled off the rails and the last incurring loss of life. Maunsell, the Southern Region's chief engineer was unfairly castigated by the press and the Southern Railways Board. This criticism was abruptly halted when Sir Nigel Gresley arranged for a 'River' class to be extensively tested on LNER tracks where it performed at high speed around curves without problems. The fault was found to be in the poor state of the Southern Railways tracks. As it was going to take a long time to get the tracks into good order, the 'River' class tanks were converted to 2-6-0 tender engines and re-classed as 'U's. In 1927 orders were placed for a further 19 engines and in 1931 ten more were built at Ashford Works. One of the original 'River' class tanks was built having three cylinders. It was also converted to a 2-6-0 tender engine and classified 'U1'. A further twenty 'U1' class were built at Eastleigh Works in 1931.
At the time the 'River' class was being designed Harry Holcroft was working as Maunsell's junior and he was given a free hand with the valve gear design. It was Walschaerts gear but in an unusual step, when the engine was running forward the die block was in the upper quadrant of the expansion link. This arrangement gives a square appearance to the gear and a slightly

better series of valve events but any wear on the pins and bushes upsets the valve timing. However the two-cylinder 'U' class engines' valve gear remained unchanged during their working life.

In 1909 Harry Holcroft had been Churchward's junior at the GWR. He had produced drawings for conjugated valve gear to drive the valve on the centre cylinder on a three-cylinder engine but he was never able to use his design as GWR locomotives had either two or four cylinders. He now designed the conjugated gear for the three-cylindered 'River' class and the later 'U1s'. However by 1931 all the 'U1' class had been given a third set of Walschaerts gear to drive the centre cylinder and the conjugated gear was removed. Holcroft did however help Sir Nigel Gresley with his design of conjugated valve gear for use on his large LNER locomotives. The 'U' class locomotives had very few modifications during their working lives that continued till the end of steam in 1965. Smoke deflectors were the most obvious but there were other small changes. One engine was fitted with a feed water heater but the benefits were considered too small to justify fitting them to all the class and the one fitted with a feed water heater had it removed. One locomotive was fitted with oil-firing equipment but it too was removed and the engine reverted to coal-firing. Probably the biggest change was late in the locomotives working life when the cylinders became very worn. The original cylinders were replaced with a different type where the main steam pipe came out through the side of the smokebox and was fitted to the top of the cylinder block. At about this time a further problem started to show up. To keep the weight of the locomotive down, the frames had been made lighter than really desirable and cracking was becoming a problem. Some of the worst affected had their frames replaced.
The Martin Evans designed 5" gauge 'Jubilee' 2-6-4 tank of the LMS is related to Maunsell's 'River' class tank. In the late 1930s the Chief Engineer of the LMS was Stanier and he needed a design for a 2-6-4 express tank. Stanier contacted Maunsell, who had by then retired and asked if he could look over Maunsell's design for the 'River' tanks. Stanier's tank engines bear a considerable resemblance to the 'River' class and the Stanier Tanks had no troubles with stability thus proving that Maunsell's original design was sound.

In the Newsletters from other Clubs

Kapiti Miniature Railway Planning underway for a new carriage shed.

EBoP Model Engineers One of their members has a 5" gauge New South Wales 2-6-0 tender engine for sale. The prototypes were built by Baldwin.

Whangarei Model Engineers Interesting article on F.D. Roosevelt's Private Train.

Tauranga Model Engineers Are standardising their fleet of ride on cars. They are offering some of their older ride-on cars for sale.

Hawkes Bay Model Engineers. Progress continues with the laying of the 7 ¼" rail. The black swans have returned to the boating pond and are building a new nest. Not what members want as there are plans to dredge the pool and remove the growing expanse of water lilies.

Otago Model Engineers Festival Week is over and locomotives, tethered cars and boats were supported by the Vintage Machinery and Model Aero clubs. The club is now starting its 80th year.

Invercargill Model Engineers Have hosted three kindergarten 'Specials' and from the sound of it the drivers and assistants enjoyed the runs as much as the children. Something we have found at Marriner Reserve track in Palmerston North.

Marlborough Model Engineers Good progress being made with the extension to their raised track. The boating division a bit concerned by a leak in their pond.

Hamilton Model Engineers Starting to think about the work to be done before the 2020 Convention.

The Saga of Tr 38 - Part 5

By Neil Burn

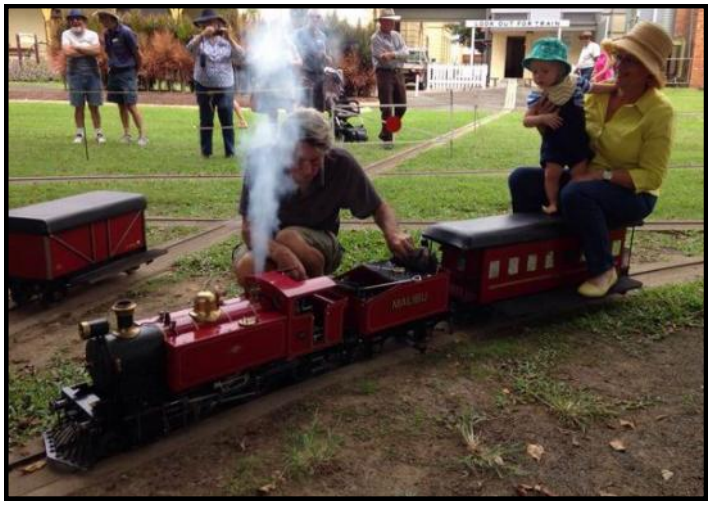
About this time the Nelson Club held an Open Weekend and one of the visitors arrived with a 5" gauge locomotive and a small driving trolley

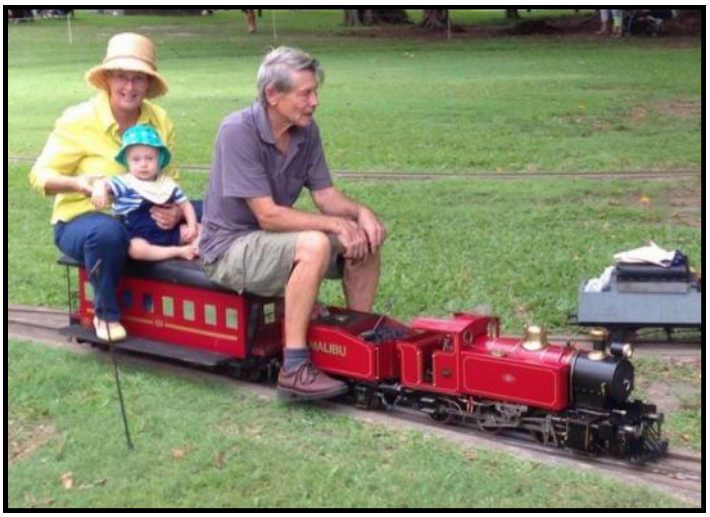
which impressed me. I took lots of photos and measurements and went home happy to begin building the trolley. A photo of it appeared in the last article, Part 4 in the February 'Generator'.
A decision was made to install a manual drum brake on the rear axle as the 'Tr' has no brakes.
At this time the Nelson Club had only a raised track but it catered for 7¼" gauge as well.
The chassis was made and a seat and back rest was fitted. There was room for a small tool tray at the front and so that was duly made and fitted.
Couplings and safety chains were made up and fitted and a pair of stirrups, with footrests, was made to suit the profile of Nelson's raised track.
A test run of the trolley proved satisfactory.
I wanted the driving trolley to be suitable for ground level operation so a removable up stand was made to fit between the seat bottom and the chassis. I fitted a chequer plate footrest under the chassis and this worked out OK so I was now able to play trains.

The Late Jim Curtis's 'Kuaka' back in Steam

From Jill Harvey

We have great news. Finally ran Dad's little steam train at Queens Park in Maryborough yesterday. It went quite well and got its new steam certificate. We eventually got on to a MELSA club member by the name of Phil Oldham (pictured driving the train). He fixed the train and drove it yesterday. It was quite coincidental that the day we ran the train was 11 years to the exact date (27 March) and Easter Sunday also, that Dad passed away.
It was very special in that respect and also that our daughter Tara and her son Harry (our only grandchild, and Dad's great grandchild) were visiting from Hong Kong for Harry's first birthday. So Harry and I got to ride on the train. Harry loved it.





Don't Forget

AGM 7:30pm on 28 April 2016
at the
Hearing Association Hall,
Church St
Palmerston North

After the AGM is over we will have a Bits and Pieces evening.
Bring along your current project

You can bring your cheque book and be one of the first to be a financial member for 2016-17

Model of the Flying Scotsman

Some years ago there were a series of magazines published that had parts included in each issue that enabled you to build a small model of the Flying Scotsman. Bob Owen has the complete set of magazines and all the components for the model. Some assembly has been done but Bob has decided to stick with clock repairs and so the 'Flying Scotsman' is offered for sale at a very realistic price.
Phone Bob on 06 377 7031 evenings only

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