



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

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.

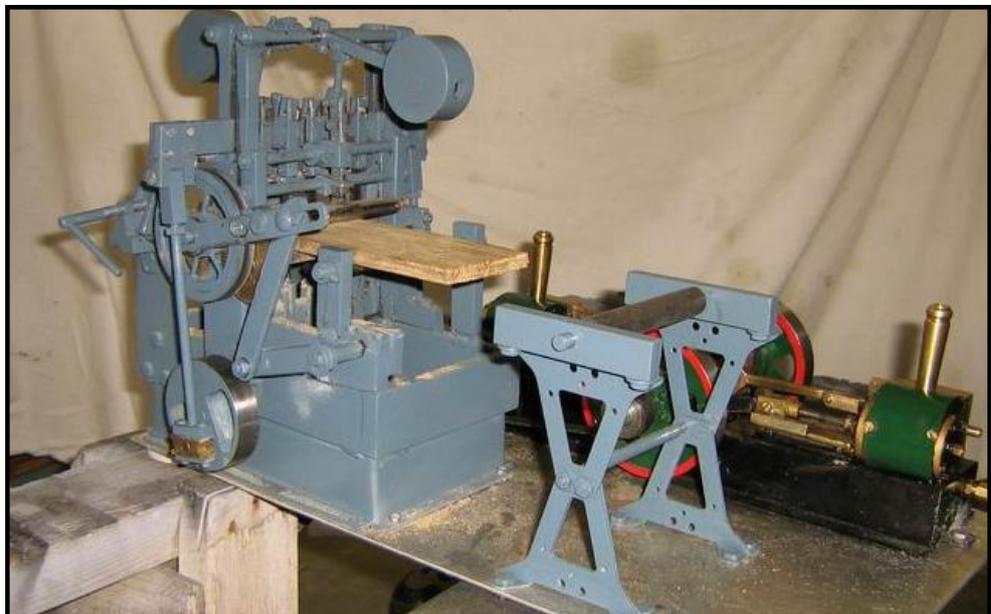
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22b Haydon St,
Palmerston North

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This Months Featured Model



REPORT on the May Meeting.

The Manawatu Mail Centre visit - this, despite the very inclement weather attracted a good number of members, partners and friends who appeared well entertained by the guides and the equipment being used. Sorting 33,000 items of mail per hour was impressive, and the number of trucks coming and going as the mail came in, got sorted and went out again was a bit of an eye-opener. When the machinery got up to full speed, the letters were just white blurs in the black transporter belts, and it was made very clear to us to keep well clear as blood would make it difficult for the machine to read the addresses !! Cameras were not allowed so no pictures to go with this report. The Centre sorts for Taranaki and Hawkes Bay, Wanganui as well as the Manawatu, hence all the activity and the need for shift work. The Manawatu sorting of local mail divided it up into 430 different locations so not surprising that sometimes mail goes astray - in fact our guide said that human error was the most likely reason for this to occur. When the Centre building was built, where did the spoil from the excavations go ?? Into the embankments for the Marriner Railway extensions - a little bit of history for you.

Chris Morton

FOR SALE

Frames, axles, wheels and cylinder castings for 'Tich'.

Castings and plans for a 'Sensitive Drill Press' as described in 'Model Engineer' \$40

Eccentrics, straps and links for a Stuart Turner No 4 steam engine.

A small horizontal boiler 50mm diameter by 150mm long. Meths fired, Smithies type. No boiler certificate.

Parts of a very old railway engine, meths fired, oscillating cylinders, Three and five-eighths gauge.

Contact Graham Hall 06 344 2495

June Club Night

This will be held in the Hearing Association Rooms, Church Street, Palmerston North at 7.30pm on the 24th June.

Richard Lockett is going to give us a talk on Milling Machines and their correct method of use. ie; setting up procedures used to ensure accuracy. Squaring the head, aligning the vice, setting a datum, edge location, centring round stock.

Bring along a selection from your current project.

COMING EVENTS

Mid Week Run at Marriner Reserve Railway

22nd June between 10.00 am and 2 pm

27th July between 10.00 am and 2 pm

Please contact Doug Chambers beforehand.

Track running at Marriner Reserve Railway

July 6th from 1pm to 3pm

July 20th from 1pm to 3pm

Open Weekends

.HAWKES BAY Model Engineers 3rd - 4th July

THIS MONTH'S FEATURED MODEL.

By Ian Stephens

For some time now I have been thinking of building a model of a vertical multi-bladed saw. These saws were known as Deal Frame saws in the lower part of the North Island. In the far north Of the North Island they were called Cant Saws.

I needed a look at a full-sized example to copy. I found a Deal Frame Saw in the Taihape Museum and some time ago I saw a very large one in the Kauri museum at Matakohe, in Northland. I was able to get in touch with Michael Lawton of the Kauri Museum and explained to him that I wanted to make a model of a vertical multi-bladed saw and could he send me

The closing date for the next issue of The Generator is Friday 9th July

some photos of one.

The photos he sent were fantastic and gave all the details I needed. The model took some months to construct and I had to condense the saw to a five blade saw as the steam engine I had was not up to driving the fifteen saw blades.

Although some of the parts on the model are different to the one depicted in the photos, the principles are the same.

After completing the Cant Saw model, I decided to try it out and see if it would operate as it was meant to. I put a piece of timber in, and the saw worked very well. I have demonstrated it to quite a few people and they were all amazed.

My greatest thanks go to the staff of the Matakoho Museum, especially Michael Lawton who gave every assistance to me and without their help the project might not have gone ahead.

LETTER FROM ENGLAND

By Stan Compton

Well, here I am back to the cold weather in the Old Country after a short visit down under. The weather was great, it was nice to be collected and taken to Marriner Reserve and find everything so neat and tidy.

So nice to meet old friends and new members, so sorry I was unable to visit men I knew years ago. I had a phone call from Robert Edwards who I knew at Massey, he and Terry Jowett are building a pair of NZR 'F' class locomotives in 7 ¼" gauge. Someone complemented me on building my 'turret clock'. I told him that although I had to make the gear-cutting equipment, besides the right angle drive and gearing to drive the external clock-face, it was less than the work of building a 'Simplex' in 5" gauge. One of our Hereford men started on a 2 -6 -0 tender loco in 7 ¼" gauge, I told him that it would take double the time to build the same engine in 5" gauge. It was his first attempt and he would not believe me, five years later and he is still working on it!!

Thank you for the compliments on my monthly contribution to the 'Generator'. I will keep going as long as Doug finds room for it.

We took a trip back to Auckland on the 'Overlander', this is the third time we have made this journey. Such a pity the old rolling stock gives such a rough ride but it is still worthwhile.

Our son-in-law in Auckland took us to Glenbrook Vintage Railway, what a great job has been done there, our train engine was NZR Ww 644 looking as good as new. The old rolling stock had been restored to a high standard as well.

A pity I missed visiting 'MOTAT' and the AMEE at Panmure Basin. I can't hire a car, or borrow one at my age.

Incidentally I was asked to obtain some works plates for a 5" gauge quarry 'Hunslet' and I have a spare pair should anyone need them, contact me through Doug Chambers.

Back home again I am involved with modifications to the loading area of our elevated track at Hereford. Age is catching up on me and I want someone to take over. On checking over the club's 'Sweet Pea' I found the lubricator, LBSC type, was full of condensate. This seemed odd so I stripped out the springs and balls in the base of the pump and found the stainless steel balls had been wrongly assembled. It was a wonder that the pump worked at all with no operating check valves in the lubricating line to the steam inlet pipes!!

One of our Hereford members organised a trip to the Manchester Museum of Science and Industry and this was well worth the visit. Time was limited, from the railway station called 'Piccadilly' we took a train on the 'Metro', this entailed finding change to feed the ticket machine. Our destination is called 'G Mech', then five minutes walk, plus the use of a lift to the Museum.

So much to see, first we went into the 'Power Hall', full of magnificent steam engines in this building built 1855 to transfer fresh produce from rail to road.

Imagine how many horse-drawn carts were needed to handle 500,000 tons of Jersey potatoes in 1912 !! Engines of all sorts, from the only existing 'Ferranti' steam powered generator to a 3 foot 6 inch gauge Beyer Garratt locomotive that ran in South Africa until 1972.

Outside in steam was a replica 0 -2 -2 'Planet' locomotive, many of the children visiting were enjoying rides in the open wagons.

We missed seeing the world's first stored programme computer, but did get to the 'Air and Space' Hall where we saw the fifty year old replica of a 1909 Saunders tri-plane powered by a J.A.P. 8hp V twin engine. Looking down on the Shackleton which was based on the Lancaster bomber, from the gallery it looked massive yet small compared to a 747. There was a very tidy 'Dragon Rapide', a Mark v1 Spitfire and a Hurricane did look small but what a good job they did when flown into battle by the young pilots. Manchester obtained its wealth by processing raw cotton, we saw the whole process demonstrated by two young women who had worked in a cotton mill. So interesting to see the machinery running, but

how the workers put up with the racket created by the spinning frames I don't know, but it was their life until the work became uncompetitive.

While in Wellington my young granddaughter started to interview me with, "What do you not like, Grand-Dad?"

My answer should have been "How long have you got?"

Jim Garden

It is with sadness that we record the passing of long-time member Jim Garden.

Jim's deteriorating health resulted in him being unable to participate in Club activities for the past couple of years; prior to this however he regularly attended meetings where he gave freely of his vast knowledge of all aspects of prototype design and manufacturing engineering.

At the time of the formation of the Club and the construction of the initial rail layout, Jim used his considerable materials purchasing power to obtain rail steel at very good rates. Then for some time on Saturday mornings, production of wool presses at his factory was halted to enable the jigs and fixtures to be erected for the welding of sections of rail track.

Jim's early interest in model aircraft led eventually to service with the RNZAF as a flight engineer on Catalina's. This experience gave him an awareness of the benefits of hydraulic actuating systems, and a determination to apply this technology to appliances which hitherto had relied on combinations of cables and pulleys, leadscrews, and gear trains. The bench press was an early design which went into production. At about the same time the flooring jack was also produced. For compressing tongue and groove flooring timber, this unit attached itself to the joist by way of a camlock. Examples of both of these items are quickly snapped up on the rare occasions that they appear on the market.

Jim's next target was the (then) modern woolpress, fair bristling with all the above contrivances. As it happened, Jim had earlier purchased a Hudson bomber from the Government surplus disposal sales, clipped the wings outboard of the engines, and towed it back

to Palmerston North from Ohakea. This he considered would be a good source of materials and components for later experiments. He also purchased a Corsair, but that is another story. So the design of the world's first production hydraulically operated woolpress evolved. None of these designs could be produced from 'over the counter' components and thus Jim lifted his tech' drawing skills to mechanical draughting and advanced his knowledge of fluid mechanics and production engineering to a professional level. Whilst the prototype drew heavily on components from the Hudson, production units demanded purpose made pumps, valves, rams, etc. Indeed, the design of the device which split the flow from the pump to the rams to give equal extension, was patented by Jim. And so the Vanguard woolpress came in to being. Apart from stock plate, bar and tube, the only item bought in for production was the electric motor for driving the hydraulic pump. Again when rarely a Vanguard woolpress comes onto the market, it is quickly snapped up. Jim was aware that even the prototype was still earning its keep.

In withdrawing from the business Jim moved from part-time, to full-time modeller. Though he continued to build scale model aircraft, the flying tapered off. It was the mechanical aspect of model aircraft building that carried Jim into his next phase of modelling. He had built under-carriage retract mechanisms, propeller speed reduction units and petrol engines for the models, but now a change of direction. The Corliss valve industrial steam engine was almost followed by an early American steam loco, for which castings were purchased and frames cut out. However Jim was distracted by the publication of plans for the Cirrus, a four cylinder, air cooled, 4-stroke aero engine. Upon completion of this, Jim's passion for radial engines could no longer be contained and the Kinner design for a five cylinder, air cooled 4-stroke was selected for the next project. Although the engine was largely completed, ill health overtook Jim before assembly and test running could be carried out.

The Club has lost valuable supporter, a gifted mechanical engineering consultant and a good friend. Our sincere sympathy goes out to Joy and her family.

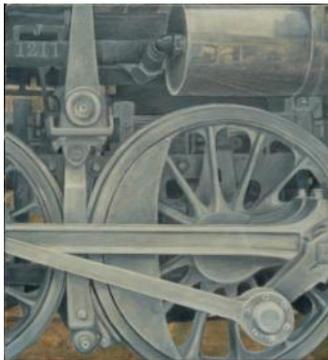
Finley Mason

RAEMON ROLFE 'RAILWAY SOUVENIRS'

'Railway Souvenirs' features new paintings and photographic works that form a visual record of landscape features and historical rolling stock, particularly steam locomotives, associated with the railways of the lower half of the North Island. Many research trips were made around the region to gather resources for the project and the artist's father, Bren Campbell, provided historical images from his archive, and expertise from his lifetime of experience.

**Exhibition runs:
23 July – 17 August
Artist's reception July 24,
2.30pm
at
TAYLOR JENSEN FINE ARTS
33 George Street
Palmerston North**

Raemon Rolfe <sevenhills@paradise.net.nz>



INTRODUCING TTAFFY

By Doug Chambers

We have always been aware that Palmerston North is built on an old swamp, and the area that the Marriner Reserve Railway is built on is the site of a very swampy area filled with all sorts of fill, bricks, tar seal, boulders, clay and river metal. We realised that there was a very good chance that ground movement would affect the alignment of the track even though the rails are fixed to a concrete base. During the last few years the amount of movement has become more noticeable and the need for realigning the rails has become more urgent. Some of the worse sections have been dealt with by uplifting the rails and replacing the concrete trackbed. However much of the rest of the rail is in need of levelling where the rail has dropped or lifted from side to side. In some places the rails had suffered severe damage from P.N.C.C. tractors and trucks crossing the track in inappropriate places. Your editor remembered a device designed and made by Trevor Watt to correct similar faults on the old Maidstone raised track in Upper Hutt. Trevor was contacted and asked if we could have a copy of the drawings so the Palmerston North club could build one of their own. However Trevor offered to loan us T.T.A.F.F.Y. (Trevor's Track Aligning Fault Finding Yardstick). Trevor's offer was quickly accepted. TTAFFY has been re-gauged to 7 1/4". Doug and Richard have begun to learn to operate the device. Once you understand what TTAFFY is

telling you it is quite easy to shim the sleepers to achieve the level or super elevation that the track needs at that given point.

Our sleepers are welded to the rails and 'Dyna-bolted' to the concrete track bed. Under each sleeper is a piece of conveyor belt which is there simply to reduce the rail noise.

Trevor warned us to pick on a straight part of the track where we could learn how to operate TTAFFY as on a curve there is quite a lot happening with transitions and super elevation, and it is easy for the operators to confuse themselves.



TTAFFY consists of two axles about 1.2 metres apart. One axle is attached to a steel tube and the other is attached to a bar which slides up into the tube. Each end has a level mounted near the axle and in the middle is a pair of pointers about 500mm above the frame. Each pointer is attached indirectly to the front or rear axle. These pointers greatly exaggerate the deflection between the two axles and the graduations on them are helpful in deciding the

thickness of the shim required to level the track. There is also provision for a longitudinal level which can be used to indicate variations in a grade. What has surprised the operators of TTAFY is that sections of the track that appear to the eye to be near enough to 'spot on' have in fact quite large faults. It is evident that the human eye is not accurate enough to maintain the standard that is necessary to provide safe running conditions. It will take a few days of effort before we have worked right around the track, but during our last running day the improvement in ride over the section that had been levelled was very evident.

THAMES NARROW GAUGE RAILWAY OPEN WEEKEND

The weather forecast wasn't great for the weekend or even for Friday, but conditions were much better than we expected. Cynthia and I met up with Richard at our motel and we enjoyed a good evening meal at the Chinese smorgasbord. We were woken at 2 am by a thunderstorm; however, by Saturday morning it was fine and mild. A walk along the main street on the way to the railway allowed us to investigate the Saturday market. Cynthia found things to buy!



It was great to catch up with Grant and Donna Alexander. Grant brought his loco 24 up from Cambridge, and the present owner of his first ever locomotive – 'Nutkin' – had it there too. The name of Grant's original railway at Kapiti was called Squirrel Valley. I enjoyed seeing David Giles' 'Shay' again, and the NZR 'C' class loco. Richard spent the weekend driving his 'W'; it steamed as well as ever. We chatted to Mark Stack who had come up from Napier. Eric Burns was there with No 97. This loco was only on the track for two trips, but I was there to photograph it.



A bonus on Sunday was the static display of two model internal combustion engines made by Allan Foster of Auckland, a Commer diesel adapted to suit his own equipment and a V8 of his own design. Allan was there to answer any questions about the models and received compliments for his very impressive exhibit.



We were very grateful to the women of the local group for their efforts in the kitchen – baking, soup, 'pea, pie and pud' as well as dessert. It was worth having a good appetite.

Thanks, too, to the members of the club who made us so welcome for the weekend.

Chris Saunders

