

The Generator

Issue 443
April 2018



Palmerston Model Engineering Club
www.pnmec.org.nz - pnmec@trains.net.nz

Managers of the Marriner Reserve Railway - Marriner Street - Palmerston North
PO Box 4132 - Manawatu Mail Centre - Palmerston North 4442

What's on this month and in the future
PNMEC Club [Calendar](#)

Track running at
Marriner Reserve Railway

May 6 th	1pm - 3pm
May 20 th	1pm - 3pm
June 3 rd	1pm - 3pm
June 17 th	1pm - 3pm

The Palmerston North Model Engineering Club
Annual General Meeting is to be held at 7.30pm on 26 April 2018.
at the Hearing Association Rooms, 435 Church St, Palmerston North.

Followed by Bits and Pieces and a short talk by Cynthia Cooper.

The Officers of the PNMEC

PRESIDENT	Robert Edwards	(06) 280-3057	pnmec-president@trains.net.nz
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COMMITTEE	John Tweedie	(06) 358-0150	
	Cynthia Cooper	(06) 354-7100	
	David Bell	(06) 329-0969	
	Chris Morton	(06) 323 8001	



A Small Personalised Tool Kit

by Cynthia Cooper

I was a bicycle rider for most of my life, until I developed arthritis in my spine and could no longer continue. I have only recently given away my bicycle. I have always done the majority of my own maintenance. Towards this end early on I put together a small set of bicycle repair tools that I carried with me.

Over time this idea grew and I added items that would be useful in different kinds of small scale emergencies. It is in a small cloth bag just 19cm wide x 10cm high x 3cm deep. I keep it in my handbag. If need be, I can easily transfer it to my checked luggage when I fly. I refer to it as my "soft-sided toolbox".

Here is what it currently contains.

Pen knife with miniature, Knife, Scissors and File.

Pin light torch.

Screwdrivers x2.

Long nose pliers.

X-Acto knife.

Small metal tape measure.

Cloth tape measure.

Small spirit level, 5cm x 3cm x 1cm. *This is an amazing useful item.*

Nail scissors.

Metal nail file. *Being metal I can use it for either filing my nails or for filing other things.*

Nail clippers.

Large safety pin. *Useful for digging things out of small crevices.*

Smaller safety pins of various sizes. *I constantly have to replace these after helping people.*

Needle threader.

Metal hair clip. *Another useful item for digging into small spaces.*

Wire twist ties of various lengths.

Plastic twist-ties.

Plastic magnifying glass. *You have to recognise useful things when you come across them. This came from a Christmas Cracker.*

I have recently added a small protractor.

All told, there are over two dozen tools taking up a very small amount of space. These gadgets can only be used for lightweight repairs, so I also have a standard toolbox which I take with me when I am on the road. However, for day to day living I can recommend this kind of small tool kit to everyone.

Letter from England

By Stan Compton

A Welsh model engineer is Hevin Jones from Harlech. We learnt to sing "Men of Harlech" when I was a school boy. Children in our area do not sing these days and worship pop singers who can only perform with a microphone.

He is a prolific modeller in wood and metal. He finds the latter difficult to work but sticks at it building an "Allchin" to 1½" scale. A fire engine and other items besides a complex array of model wheelwright projects including a stagecoach, forgive me, my memory fails me but with his wife they travel a lot to display his workmanship. He told me he had been making 10 B.A. nuts out of square-bar, not easy. I suggested sheering a strip of mild steel, make a simple jig to drill and tap at equal spaces, shear them off and file a bevel on each corner. I have done this before. I shall look forward to meeting him and his wife when they visit us next.

I met a man recently whose Father had been in the Royal Navy in WWII as a radar technician on board H.M.S. Indefatigable and found that the aerial was unusable due to the heat exhausting from one of the ships funnels!

How times change, I heard from a club member with a small foundry that young men have no interest in learning the trade as a moulder. Yes, it is a grubby atmosphere to work in but it is a job. Many boys have difficulty at school, but can work with their hands and get left out because they can't go to University and end up as a misfit.

When I used to teach students workshop practice as an addition to their degree, they made something in metal. They found a great satisfaction to produce a shiny finish onto a rough casting that they had helped to produce by watching how the moulder worked skilfully with a tadweld. He cut grooves in the damp sand for the hot molten metal to fill the cavities made by the wooden pattern. An ancient craft now dying. "I don't want my son doing such work in grubby overalls."
Is the cry of the parents.

I recall being told about an intermediates schoolboy who would be waiting outside the door into the handicraft room and his heart could be seen beating in anticipation of the only thing in school worth doing. Many school teachers cannot understand this. I can recall struggling with maths simply because our teacher found it all so simple. It is a pity that so few men want to take up model engineering and build from scratch no matter whether a simple or complex project, much satisfaction can be gained.

Recently I read about an officer in a prisoner of war camp in WWI who made a model of a touring car of that era. With a minimum of tools and materials he built an excellent model.

One of the New Plymouth members was a prisoner of WWII who also built a stationary steam engine and boiler from any metal he could find. These used to be kept in the clubroom years ago.

Any one of you will know what the "Woolmark" is; well on the outside wall of the Wool Building at Massey University is a bronze casting of the Woolmark. During my time working there I was contracted to make the pattern to have a casting made at a local foundry. An interesting job to scale up each section and cut the plywood with a band saw, finishing off with a taper on the edges of each section. This is to allow the pattern to be lifted out of the sand in the moulding-box and leave a smooth finish.

My mistake was to use the same ten millimetre plywood for the baseboard. This made the finished casting weigh over fifty kilograms. Five millimetre would have saved weight.



Garrett Undertype 6 ton Steam Waggon Model

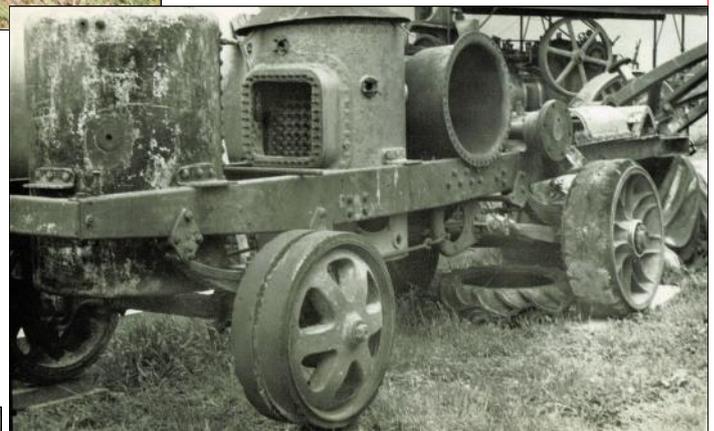
The idea for this model was dreamed up during a Steam Rally held at Tokomaru Steam Museum in the early 1970s that I was involved with. Here I discovered the chassis of

in the oven when the lady went out one evening. Chain sprockets were shrunk onto the brake drums on the rear wheels. Axles were constructed along with springs, steering and engine mountings. Each rear wheel has two sets of brake shoes fitted, hand brake and foot brake operated from the cab. A boiler was made with the intention to build a live steam model but many years later this idea was abandoned. The original chassis length I used didn't look right so a section was chopped off and the end refitted to match the dimensions in the sales book.

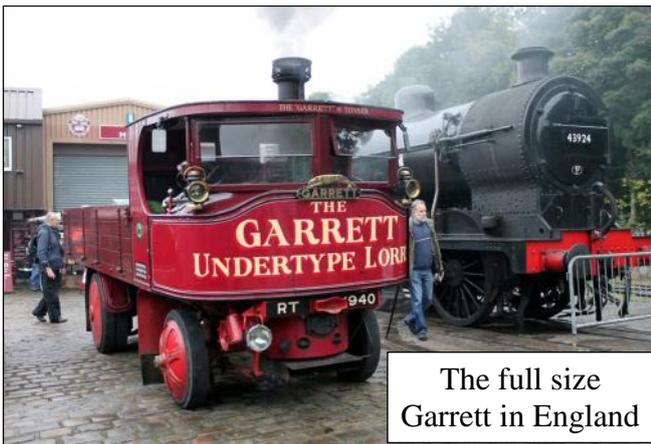


The completed model

a mid 1920s Garrett waggon in amongst other items lying around. This was thought about for a while and then over a couple of weekends I measured the chassis, making sketches and taking lots of photos. The scale of the model was decided to be $1\frac{1}{2}$ inches = 1 foot. An early sales book lent to me was photocopied and had valuable information in it.

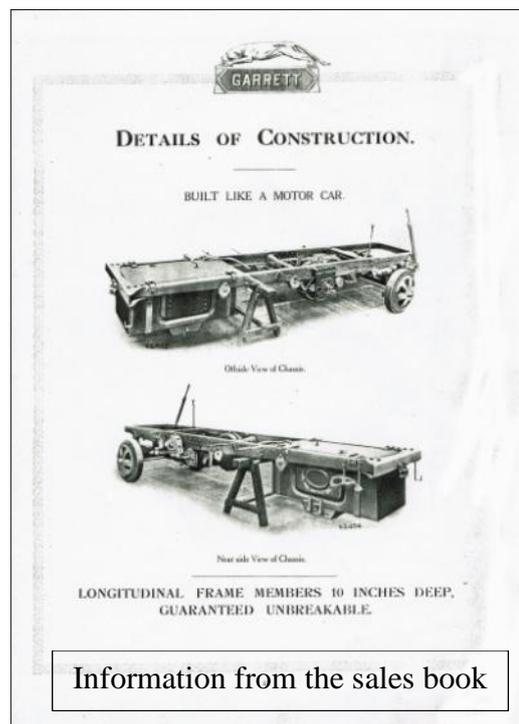


Garrett Waggon Chassis sitting at Tokomaru



The full size Garrett in England

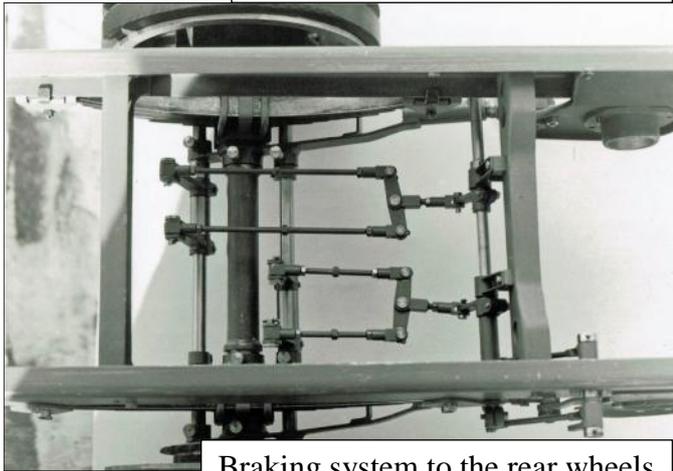
A chassis was eventually built as per the original. There are no castings on the model with components all being fabricated. There were twenty-seven parts to each rear wheel plus bearings and tyres. The wheels were set up in jigs and welded. Aluminium moulds were made and clamped around the wheels after being filled with raw rubber and cured



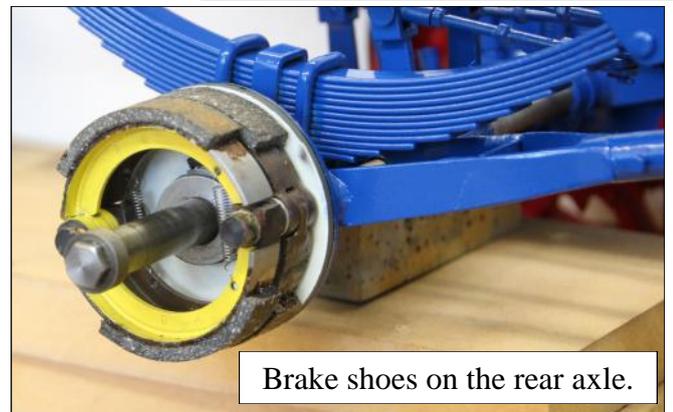
Information from the sales book



Moulds made for the fitting of rubber tyres



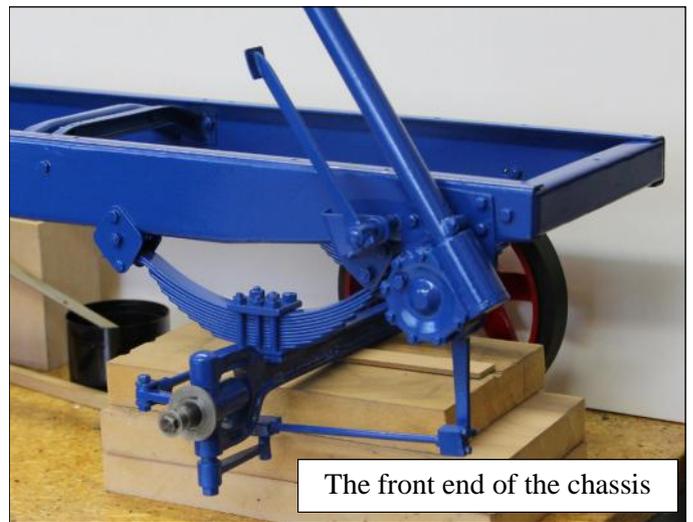
Braking system to the rear wheels



Brake shoes on the rear axle.

Many years later while at a function in New Plymouth I was handed original side and top elevation drawings of the model I was building which is very much appreciated. Sections of the drawings were blown up to the scale I was working in and then some disasters were found. Over a period of time these were corrected. The cab floor made and fitted along with the front cowling and windscreen. A replica boiler with fittings sits in the cab.

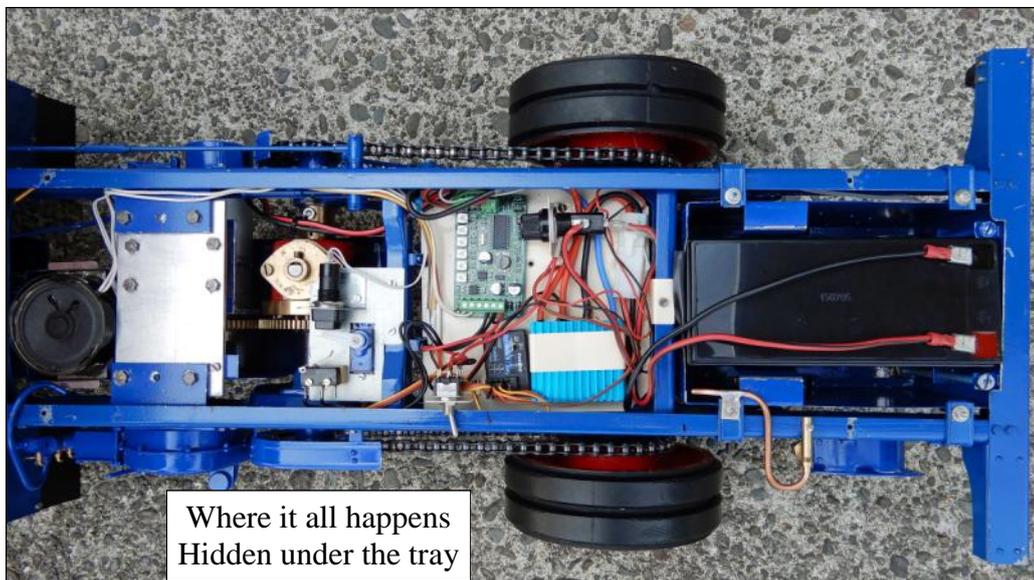
During the next few years a cab and deck were built mostly from old Rimu timber and cut to the sizes required. In the cab are the



The front end of the chassis

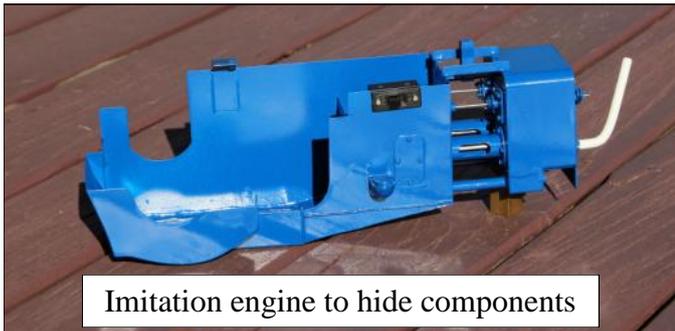
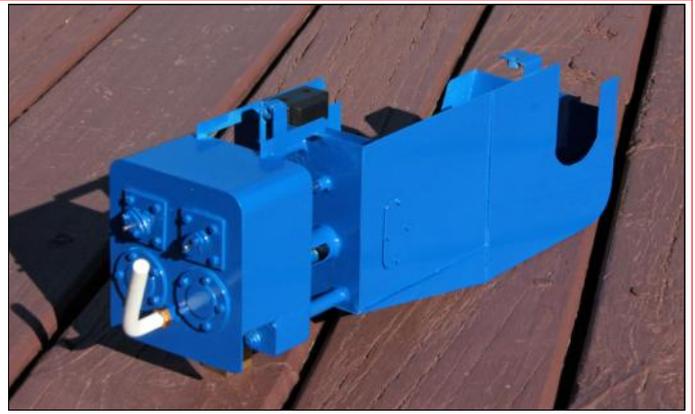
padded seats with storage underneath and a coal bunker. The water tank was built to hold a 12 volt battery to power the vehicle. The differential is from I believe a WW2 gun site very much modified with a gear wheel fixed

to the body and has chain sprockets fitted to the half shafts. An electric motor bolts between the frames with another gear wheel to drive the differential. 7mm chain provides the drive to the rear wheels. A replica steam engine and gearbox casing covers these components.



Where it all happens Hidden under the tray

The model is radio controlled with the normal functions plus a steam whistle and lights. Signage has been fitted to the front of the waggon with lining and the Garrett emblem on each side of the cab and the Lioness above the Garrett name at the front. The colour scheme is a blue chassis with a red body and wheels. There are a small number of these waggons left around the world and only one in operating order.



Imitation engine to hide components



Article supplied
and written by
Bruce Geange

Don't forget the AGM on 26 April this Month

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