April 2014
No 399

# THE GENERATOR

**Newsletter of THE PALMERSTON NORTH MODEL ENGINEERING CLUB INC**
Managers of the **"MARRINER RESERVE RAILWAY"**
Please address all correspondence to **:- 22b Haydon St, Palmerston North 4414**

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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.

**Ian Stephens** Showed us a model of a vintage car he has made in brass. It has opening doors, glass in the front and rear windows and Ian's wife Betty is most impressed with the model.

**John Tweedie** had an old aluminium centrifuge. When new it was spun up to 50000 rpm but due to the material deteriating over the years it would be no longer wise to use it again.

**Merv George** had been having trouble stamping letters on to the nameplates of machinery that his company Jenquip manufactures. He had no trouble stamping the letters but getting them in line and evenly spaced was a problem. He has made a neat little jig to hold the letter punches so that they are even spaced and in line.

**Graeme Hall** is making a model of a 'Snow' tandem double acting internal combustion engine. These engines were being built around 1910 and they were used for pumping natural gas over long distances at high pressure 1500 psi. They ran at 120rpm and produced around 600hp.

**Murray Bold** had some parts made on the 3D printer he has recently bought. He had problems with the machine when a plastic gear shed a few teeth, but after the two gears were replaced and further experimenting he now has the machine running as it should.

A large proportion of the **'Buy, Sell or Exchange'** part of the evening seemed to consist of books.
As usual there was a fair volume of chatter over the cup of tea and biscuit as ideas and helpful hints were passed on.

The Treasurer and President reported on the Locomotion 2014 event. The President thanked all members and wives who had assisted in many ways over the weekend. He also made special mention of the continuing efforts of the Thursday morning club who do an outstanding job of seeing that the Marriner Reserve Railway and grounds are always presented tidy and clean. This led Ian Stephens to comment that for the first time he and Betty had attended a Locomotion event and they were very impressed with what has been achieved over the years and that all the club members should be very proud of the great asset we have.

## AGM and Club Night

**This Month is the AGM.**
**You will need to vote for the**

**"Members of the Incoming Committee and Executive"**

**also the**

**"Clubman of the Year"**

**7:30pm, Thursday 24 April 2014**
**Hearing Association Rooms**
**Church Street, Palmerston North**

If you feel you would like to be part of the Committee please let them know as new members always have fresh ideas and can bring a different perspective to points of view.

## COMING EVENTS

### Track running at Marriner Reserve Railway

May 4th from 1pm to 3pm
May 18th from 1pm to 3pm

### Open Weekends

None have been advised.

### Written before Model Engineers but very true.

Man is a tool using animal. Weak in himself and of small stature, he stands on the basis of some half a square foot, has to straddle out his legs lest the very winds supplant him. Never the less he can use tools, can devise tools; with these the granite mountain melts into light dust before him; seas are his smooth highway, winds and fire his unwearying steeds.
No where do you find him without tools. Without tools he is nothing; with tools he is all.

Thomas Carlyle 1795-1881

The closing date for the next issue of The Generator is Friday 16th May

## THIS MONTH'S FEATURED MODEL

By Laurie Gudsell

This months Featured Model is a one eighth scale dog racing sled for Huskies and Malamutes. Other breeds can also be used. The wood used is birch and all the joints are lashed together, possibly with seal skin cords. The sled must be flexible as the 'Musher' uses his weight to warp the sledges frame to assist steering.

A bag is kept on the sledge so an injured dog can be carried in it.

New sleds are made of carbon fiber and cost around $8000, but you can still buy the traditional birch sleds.

In New Zealand the sledges are pulled by two to eight dog teams as they suit the conditions here. In Canada or Alaska conditions are a lot different. The races can be up to 1300 kilometers long and the teams can have up to eighteen dogs and the sleds are much larger.

## LETTER from ENGLAND

By Stan Compton

Have you ever wondered why the British Royal Navy sent so many ships to the Arctic regions in a quest to find the North-West Passage to the Orient and its fabled riches? A substantial reward had been offered to encourage the attempt, no one then could realise that one day 'Global Warming' would melt the ice that defeated so many brave men.

I have just finished reading a book called 'The Man who ate his boots' by Antony Brandt. It is about John Franklin who was one of the first naval officers to attempt to discover a route to the East by going overland through northern Canada to look for a major river that would take them to the Arctic Ocean that was assumed to be ice-free.

Incidentally, it was Roald Amundson who first sailed through the North-West Passage in 1903-6.

In the seventeenth century the Pope decreed that the Atlantic Ocean should be divided between Spain, who got the western half and Portugal who got the eastern half. This meant that Britain had to find an alternative route to the East. Franklin's first attempt was a disaster; he had assumed that his team could live off the land with plentiful game and meat. Instead he found a barren wilderness and that when men are starving they will boil a piece of leather to eat.

Franklin was a portly man unsuited to overland travel and even with the help of the Hudson Bay Company officers and the voyagers of French-Canadian descent who manned the supply boats, the exploration failed due to starvation and many died on the return to civilisation.

What is of interest was a new venture to travel to the East via Baffin Bay undertaken by John Ross, nephew of James Clark Ross who discovered the Ross Ice Shelf in the Antarctic. John Ross was convinced that steam power was the answer to break through the ice. In 1829 he set out in a paddle wheel vessel called 'Victory' that was driven by a steam engine designed by Braithwate and Ericson, who had been involved in the 'Rainhill Trials'. Steam was in its infancy at sea and the vessel was useless, only capable of making two knots in the open sea so of course sails were needed as well. The boiler and cylinders off a railway locomotive were underpowered and having to operate a set of bellows as well as driving the paddles.

A whaling ship was hired to carry the supplies needed for the exploration but the crew gave up finding life in the Arctic too hard and the ship returned to England. The crew of the ill-fated 'Victory' removed the engine and boiler and left them on the land where they remain. It was four years before the remaining survivors were picked up and returned to England on another whaling ship. The crew of the 'Victory' had found a cache of canned food left by the crew of a ship called 'Fury' years before. Unfortunately the lead in the solder used to seal the cans poisoned some of the survivors. It had been the practice in that era to leave supplies of food and messages for ship-wrecked sailors or overland explorers.

John Franklin was determined to return to his original quest, this time in a very strong sailing vessel called 'Erebus', the same ship that had reached Antarctica and the mountain there is named after the ship. This expedition failed and various searchers went out looking for them over the next twenty-seven years. In July 1857 F. McClintoc set out on a vessel with auxillary steam power and he met Eskimos who had found the crushed wreck of Franklin's ship and they had taken silver plate and cutlery engraved with Franklin's name, proof at last of the failed expedition. McClintoc tactfully did not mention the sawn bones he found at the campsite, evidence of cannibalism.

Another man, John Rae set out later to confirm the failure of the expedition and he later honestly described all that he had found; he received no knighthood for his efforts unlike McClintoc who did.
One interesting example of coping with the ice that formed internally due to condensation, in those early sailing vessels used for exploration while 'wintering over' in the Arctic was the iron stove and pipes to form a chimney set up by a Lt Parry. The stove was set up low down in the vessel and the heat rising up ventilated the mess-decks.
The officers would provide slates to teach the illiterate in the crew to read and write, an effort that was greatly appreciated.

Recently I met a man who writes books on railway history and also builds double 'O' gauge locomotives using a Unimat Lathe. I was able to help him by grinding his tool-bits and I discovered what a clever design the early version of the Unimat is because the headstock can be moved on the rack and pinion principle. This feature he was using to form a radius on the base of a chimney which was mounted on the cross slide with the boring tool in the chuck.
A slow feed and a fast return, advance the cut and repeat slowly soon completed the job.
Of course this is the ideal way to drill a hole in a work piece mounted in the chuck with the drill in the tailstock chuck.
I was asked by a model engineer to cut a gear that engaged with the rack of 3mm pitch on the headstock barrel which can be clamped for normal use. This was for a similar lathe.
I expected to find a metric pitch for the ten teeth cut into a 12mm rod that was later fitted with a ball ended lever. My first attempt worked but I hope for a better result next time.
Today is 'New Years Eve'; our track-site was flooded over Christmas when a 'steam up' had been planned, winter is not the ideal time for this, our generation need corrective lenses and these get steamed up on a cold day.

The 'Castle' clock by John Wilding was designed to be built on a Unimat 3 lathe with a milling head attached. All the work was photographed and published in his book available from 'rite time publishing.com'. My version of this timepiece keeps very good time and is fitted with a one hour strike. A simple device that sounds just as the programme on TV changes.
There is a very good book called 'Grimthorpes Treatice on Clocks' by Lord Grimthorpe who is known for designing part of the 'Westminster Clock' better known as 'Big Ben', which of coarse is the hour bell, known the world over. It is quite a small book but it contains a wealth of information, such as finding that two long-case wall clocks, one each side of a brick wall, will get into 'beat' with both pendulums moving together. My two timepieces with one second pendulums will do this although one is mounted on the front brick wall and the other on the rear brick wall.

## DISSTON SAWS

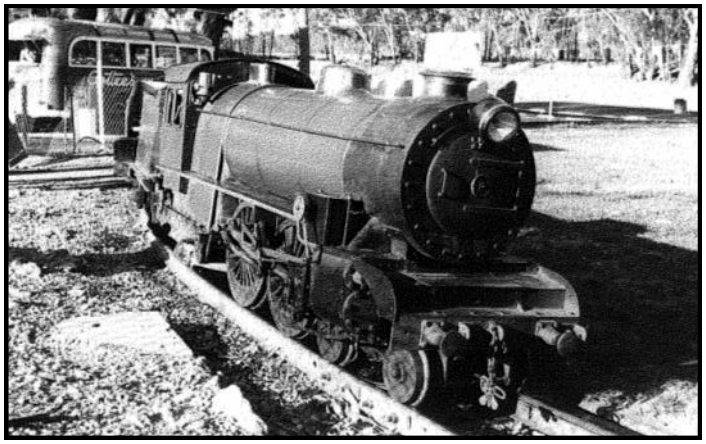
One of the best known makers of hand saws in the United States is Disston of Philadelphia. Henry Disston and his sister Marianna travelled to the USA with their father Thomas Disston. Thomas had invented a machine for making fine lace and a group of New York businessmen had agreed to finance him to begin production in America.
After only four days in America, Thomas died. Marianna was able to live with family friends and Henry took on an apprenticeship with a saw maker. His employer went bankrupt and Henry accepted tools and materials in lieu of pay.
Henry Disston now started making saws under his own name. Business was good and he bought land for a factory and later employed 8000 people.
Henry was a strictly principled Presbyterian and a benevolent capitalist. At a time when most workers in Philadelphia were living in back to back slums. Disstons employees were able to rent detached, state of the art homes with gardens from the company. Henry died in 1878, but the business continued in family ownership until the 1950s by which time the firm was the biggest maker of saws in the world with factories in the USA, Canada and Australia.

I have a RPM counter made by Henry Disston and Sons with a patent date March 28th 1905. A stop watch is needed to operate in conjunction

with the counter. Those who work with saws know that the rpm or more importantly the speed of the teeth cutting the wood is absolutely critical. This would be the reason that Disston's made their own rpm counter.
The one in the photo was offered for sale at last months 'Buy , Sell or Exchange Meeting.

# A Locomotive in Distress

By Doug Chambers



The above photo was taken in January 1970 at Echuca, Victoria, Australia. It shows a 7¼" gauge 'Atlantic' loco that was running on an oval circuit just beside the Murray River. My parents had come over to Melbourne for our wedding and I took them up to Echuca for the day so that they could have a ride on a steam powered 'side -wheeler' on the Murray River. Dad and I saw the locomotive which had been left unattended. After a few minutes a man came over and checked the gauge glass for water and was a bit concerned to find no sign of any water in the boiler and about 100psi on the pressure gauge. My father suggested that he 'drop' the fire' but he explained he was only keeping an eye on the engine while the owner was away having lunch. However, he was keen to get busy with the hand pump (against my father's advice) and after finding that it had a steel boiler we warned him of the dangers but he wasn't going to listen to a couple of Kiwis and carried on. Dad and I took steps (large ones) and headed for the riverboat. After an hour out on the river we returned and there was still nobody attending to the engine. There was only a few pounds pressure in the boiler and no water in the gauge glass. There was however a large puddle of water under the firebox and water flowing out of the smokebox. The smokebox door was unlatched and we swung it open and had a quick look, the front tubeplate which looked like a water fall with every tube leaking.
I have often wondered of the outcome, but to leave a boiler unattended like that --------

# Rail Track Damage in the UK

Recently Stan Compton sent me a cutting from a local newspaper. The article was about the damage to the rail track near Dawlish which saw the line to Devon and Cornwall severed.
At that point the track is very close to the sea and a violent storm washed away a protecting sea-wall and the surging tide swept away all the material from under the rails which were left hanging in mid-air. All this was on the 4th and 5th of February. To date over 5000 tons of concrete has been used to repair the sea-wall and the track has been re-laid. Re-opening of the track has been targeted for April 5th but there may be further problems as a huge crack has opened up in the sandstone cliffs above the track, near Teignmouth. This means that thousands of tons of material may have to be moved. It is possible that an old inland line may have to be reopened to provide back up in case of further problems on the coastal line.
One of the engineering team working on re-opening the line pointed out that he felt it was a privilege to be working on the line that had been created in 1846 by one of the greatest engineers of all time, Isambard Kingdom Brunel. His work has lasted 150 years and we hope that our repairs see it last another 150 years!!!

# A Nice Little Locomotive

By Doug Chambers

While living in Melbourne between 1968-1970, I came across a caravan park in Frankston that had an amusement park as part of the attraction. Around the amusement park ran a two foot six inch railway. The steam locomotive used to haul a semi-open carriage was an 1890 0-4-0 Decauville that had been owned by the Melbourne Gas works. The engine hauled thousands of picnickers around the ¾ mile long track around the lake and through the bush land on Sundays and public holidays.
I had got to know the owner, Jack Griffiths, and visited him on several occasions. One Sunday I took Robyn with me and the locomotive was in steam at the little station. The driver was a retired Vic Rail driver, well in his seventies, and Jack explained that under no circumstances would the elderly driver allow passengers on

the footplate. Jack said it was even hard for him to get a ride on the footplate. I said not to worry as we would be content to travel in the carriage. However after a little while the driver invited Robyn to join him on the footplate and he took care to show her the fire and other features of the little engine. With the carriage nearly full preparations were made for the train to depart with Robyn the new acting fireman. At the last moment the driver looked across at me and said "I suppose you had better come too".
As we left I looked back at Jack who had an astounded expression on his face. When we returned Jack was still surprised and said that he didn't think there was any chance of us getting a ride on the footplate. I suspect it was all due to Robyn and that if I had been on my own there would have been no invitation forthcoming.

# In the Newsletters from other Clubs

**Blastpipe Petone**
A report on Locomotion 2014 at Palmerston North and also a report on the Cross Creek Railway Society mini Train Festival. The resident H199 was joined by Dolgoch, Brynglas and the Fairlie and all were kept busy with drivers having to eat their lunch on the run.

**Whangarei Model Engineers**
Have been given about two hundred two by two tanalised sleepers by a local timber company.

**Manakau Live Steamers**
Dry pipe failures and why?

**Tauranga Model Engineers**
Tauranga Electrical Consumer Trust have granted the Tauranga Model Engineers their application for funding.

**Christchurch Model Engineers.**
Getting back to normal after hosting a successful Convention.

**Hawkes Bay Model Engineers**
Some of their members travelled down to Palmerston North for 'Locomotion 2014' and enjoyed their visit immensely.

**Otago Miniature Road and Rail Society**
A brief history of tethered car racing.
The speed record of 214mph was set in Australia in 2009. A photo of Jim Woods' very tidy boiler for his 'Isle of Man' 2-4-0 locomotive.

**Marlborough Model Engineers**
Ken McIntyre is making very good progress with his ¼ scale Gnome Rotary nine cylinder WW1 aircraft engine. He has been able to get information and technical advice from the people at Omaka who operate one of the full-size engines.

## A couple of pictures from CANMOD14

Murray Bold's old Phantom

Dave Giles Shay

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