

# The MICROMETER

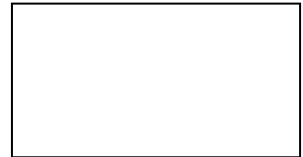
THE AUCKLAND SOCIETY OF MODEL ENGINEERS INCORPORATED  
Peterson Rd Reserve, Panmure, Auckland  
PO Box 14570, Panmure, Auckland 1741, NEW ZEALAND  
Club House Telephone (9) 570 5286  
Club Web Site [www.asme.org.nz](http://www.asme.org.nz)

**Number 542**  
**December 2009**



<b>President</b>	Grant Anderson	576 8330
	E-mail address	president@asme.org.nz
<b>Secretary</b>	David Russell	446 0957
	E-mail address	info@asme.org.nz
<b>Editor</b>	Dave Russell	446 0957
	E-mail address	editor@asme.org.nz

REGISTERED NEW ZEALAND PUBLICATION

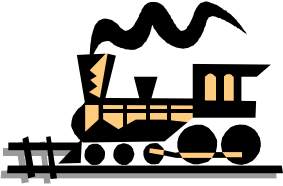


**Thanks to Paul Farquhar for  
Taking the photographs at the  
Jubilee Dinner. You can go and  
View them online at...**

**<http://sluapp.dyndns.org/asme>**



**Cirrus Mk1 Model Aero Engine**



# Train Roster

Date	Electric	Electric	Steam	Steam	Station	Station	Station	Extra Guard
6-Dec-09	T Robinson	J W-Buys	<u>A Gasteen</u>		K Ryan*	A Shirley	R Stratton	
13-Dec-09	P Woodford	J Yearn	<u>M Jack</u>		R Street*	T Taylor	A Watson	K Toyoda
20-Dec-09	D Black	D Booth	<u>B Piggott</u>		I Ashley*	P Boyes	G Briggs	
27-Dec-09	----- Xmas / New Year Break - No Roster in Operation - Voluntary -----							
3-Jan-10	----- Xmas / New Year Break - No Roster in Operation - Voluntary -----							
10-Jan-10	B Cotton	R Craig	<u>A Pritchard</u>		J Burnett*	R Copeland	R Crook	
17-Jan-10	T Crake	P Eaton	<u>D Russell</u>		R Brown*	B Currie	P Cunningham	J Cunningham
24-Jan-10	M Granger	J Harrison	<u>G Wills</u>		G Dickey	A Foster*	D Hamp	P Dowdeswell
31-Jan-10	D Housley	J McManus	<u>G Anderson</u>		R Hannah	G Healy	M Hollis*	I Hansen
7-Feb-10	M Plant	T Robinson	<u>G Bell</u>		P Jones	G Kemp	J Lankow	
14-Feb-10	J W-Buys	P Woodford	<u>L Farquhar</u>		T Lawrence	D Leybourne	W Lord*	
am 21-Feb-10	J Yearn	D Black	<u>A Gasteen</u>		I Lyons	H Martin*	S Meikle	
pm 21-Feb-10	D Booth	A Cotton	<u>M Jack</u>		A Murley	G Murray*	E North	
28-Feb-10	R Craig	T Crake	<u>B Piggott</u>		J Olsen*	W Parker	G Quayle	

**NOTE: There are two rosters for the Panmure Basin Festival Day on the 21st Feb 2010**  
**Morning shift is 10:00am through 1:00pm, Afternoon shift as usual 1:00pm through 4:00pm.**

**Bold and Underlined** name – is the designated **Train Controller**, i.e. the person in overall control of all operations for the day. If you are the **Train Controller** you should phone around the others rostered for that day to make sure they remember to turn up.

**Bold with Asterisked\*** name – is the designated **Stationmaster**, i.e. the person responsible for activities in the station area for the day. The Stationmaster is also responsible to account for the day's takings. **Please Note**, there is no expiry period or date on train ride tickets previously sold.

## Club Calendar December 2009

- December 1<sup>st</sup> General Meeting, Graeme Murray will present some photos of a factory in China that makes CNC machinery. The second half of David Black's video about flying boats on the Waitemata Harbour
- December 8<sup>th</sup> Committee Meeting
- December 15<sup>th</sup> Workshop Night this month at Mike Jacks, 5 Matangi Rd, Mt Wellington

## Presidents Report

The first duty I wish to do as your new President, on behalf of all the membership, is to record a firm vote of thanks to Gary Farquhar for stepping up to the important challenge of being our president in the Club's 50<sup>th</sup> Jubilee year and for leading the Club through a very successful time, with particular emphasis on the Jubilee Exhibition and the celebratory Dinner held for the members. While a message of thanks was passed by acclamation at the AGM held on 3 November, it should be recorded that Gary put in a tremendous effort to see the year through notwithstanding a job change which was anything but of assistance in allowing Gary the extra time required to undertake the additional workload associated with the Jubilee arrangements as well as that of the normal president's role.

Moving on to the year ahead, I thank those members who have made themselves available to be on committees for the year – willing workers are most important to the smooth running of the Club. As you will note from the front of this Micrometer, we have one member (Dave Russell) who volunteered (in the absence of any nomination) to do two duties (Secretary and Editor) on the main committee. This is a big ask for one person to undertake two such demanding tasks for the Club and therefore I would very much like to hear from anyone who would take over one of those roles - please give me a call.

An update was given by Past President Gary at the AGM on the status of the lease with Auckland City Council, detailing the significant change from that which he correctly recorded at the time the Presidents Annual Report was written in mid October. Fundamentally, as a result of approaches to Transpower by David Black on behalf of the Club, Transpower have now agreed to provide a 5+5+5 year lease to Auckland City Council; accordingly

Council have offered to provide ASME with a new lease, sublease and license for a similar term commencing 31 October 2009. This was approved by the Council's Tamaki Community Board at its meeting on 27 October and the matter is subject to ratification at the Council Committee Meeting on 11<sup>th</sup> November. (*Editors note, I have since had confirmation from Auckland City that our lease has been approved as detailed above and will take effect from 1 Nov 09, 5+5+5. The documents are currently being prepared by the ACC legal department*). This change of attitude by Transpower (many thanks to David's efforts) is of course a huge relief for us all and should secure ASME's tenure at the site for many years to come. Coinciding with the December monthly meeting, a special general meeting will be held to consider a motion intended to authorise the Committee to finalise the new lease and sublease as set out above.

We are currently looking for members who can fill the entertainment slot at monthly Club meetings. Maybe you have an interesting engineering subject to cover or related story to tell, or know of someone who could make an interesting informative presentation to the membership. As you know, normally this slot fills 20 to 40 minutes, depending on the other business and the bits and pieces, but can be varied to suit. Please call me if you can offer some assistance here, as I would like to see speaker details mapped out for some months ahead if possible.

The Committee has resolved to return the Grant of \$5000 received from the Lion Foundation as the original purpose for the Grant was altered and we then could not fulfil the very strict audit requirements for the use of the Grant. It should be noted that these funds had not been included in the preliminary result already announced for the 50<sup>th</sup> Jubilee.

As was mentioned in last month's Micrometer, the ASME Bereavement Scheme was discussed at the November meeting. Comments made have been considered by the Committee and other than a footnote recommending that members seek their own legal advice before completing the forms and a change to the wording in the area where it is to be signed to make it consistent with the rest of the form, they remain as previously advertised. It is therefore proposed that a motion be put to the December meeting for the adoption by the Club of this scheme.

The Committee is now considering the mechanism for the award of the Frank Roberts Cup and intends to make a decision on the recipient at its December meeting. This will enable the Cup to be presented (for the best overall Bits & Pieces in 2009) at the February meeting.

Well that's all for now, happy model engineering.....

### ***Grant Anderson***

**Notice of Special General Meeting** to be held on Tuesday 1<sup>st</sup> December 2009 for purpose of authoring the completion of new leases / subleases with ACC.

"That the Committee be authorised to negotiate with ACC and if thought fit, enter into a new lease and sublease of the existing grounds at Peterson Rd Reserve for a 5 year term (together with up to two rights of renewal) as from 31 October 2009"

**Proposed adoption of the Bereavement Scheme** "That the Club adopt the Bereavement Scheme in the form contained in the November 2009 issue of the newsletter, with the addition of the words at the foot of page 1 reading 'ASME recommends that members seek independent legal advice prior to completing this request'. Also that where the form is to be signed, the words "wife/nominated person" be altered to "Trustee/Executor" and in place of the line below that commencing "If a nominated person, please state relationship (if any)" make provision for the contact details of the Trustee/Executor to be added."

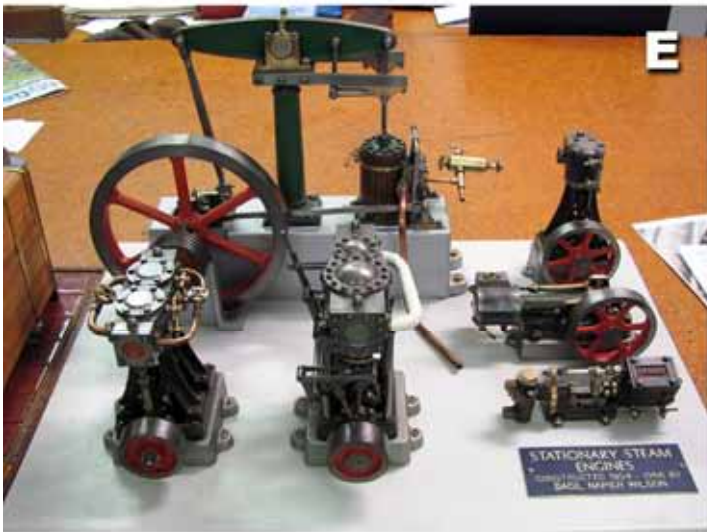
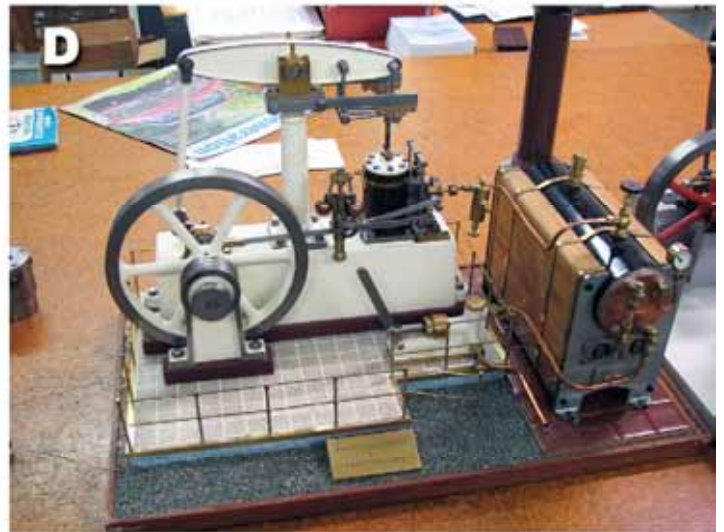
NB: These amendments include those contributed at the General Meeting on 3 November and at the Committee Meeting of 10 November 2009.

## **Bits & Pieces, General meeting 3<sup>rd</sup> November 2009**

**Photo A** - Murray Lane had an ELFIN .25 diesel model aero engine that he had originally bought at an auction. It was in quite a badly bent and mangled state when he acquired it. Murray has tried to machine up a new cylinder barrel but after a couple of failed attempts has straightened up the original. The problem lies with trying to machine the cooling fins when the grooves are only .025" using a sharpened up hacksaw blade as a parting type tool (see bottom item photo B).

**Photo B** - Murray also brought in a couple of very old lathe chucks from his Drummond lathe, he has been restoring them and has had to machine off the "hammer marks", they were of a 2 jaw style.

**Photo C** - A set of Stuart Turner Double 10 castings and parts for sale by Bill Parker, Bill also has sets of reversing gear castings for the same engine.



**Photo D** - A rather nice Stuart Turner Beam Engine belonging to MOTAT and under repair by Murray Lane. The engine display is set out like an engine room with boiler and pumps etc. Unfortunately when it was sent out from England the packaging was not much good so it had been damaged.



**Photo E** - A number of Stuart Turner Engines displayed together and built by the late Basil Wilson. They were made by Basil during the 50's when he was working for John Chambers. Murray Lane related how Basil had convinced the company to become the NZ agent for Stuart Turner and he became known as the "Stuart Turner Man".

**Photo F** - One of Mike Jack's commercial jobs where a set of crosshead slide bars for a 5" gauge Britannia. The bars are made from mild steel, case hardened and then ground to final size.

**Photo G** - Martin Plant brought along a couple of locomotive wheel patterns cast from aluminium. Here is a story of modern computer wizardry being used by model engineers, the CAD drawings for the castings were drawn in NZ, then sent to England where the file was used to make some resin patterns in a prototyping process that casts the resin parts direct from the CAD file (the red items in the picture at the top of the photo), these are then used as a pattern to make the aluminium patterns that were shipped back to NZ for Martin to use as patterns for cast iron castings.

**Photo H** - Grant Anderson has a problem with his Emco Maximat Mentor 10 lathe, it is very noisy in the gearbox and Grant has tracked this down to being a flogged out keyway on the layshaft pulley, should be a lot quieter when fixed.

**Photo I** - Peter Woodford is fast becoming known as the 2 stroke destructor at the club, he seems to have a problem with the pistons in particular, this one is from a water cooled 250cc Suzuki that used to make 48 horsepower at 10,500 rpm. Peter said how the 14mm gudgeon pin was the weak spot in the engine and caused a lot of problems, apparently the works teams used to modify the engines and increase the gudgeon to 15mm at great expense, this solved the problem

*Dave Russell*

## The Latest in Engineering

Extracts from *The Model Engineer and Electrician* of November 25, 1909

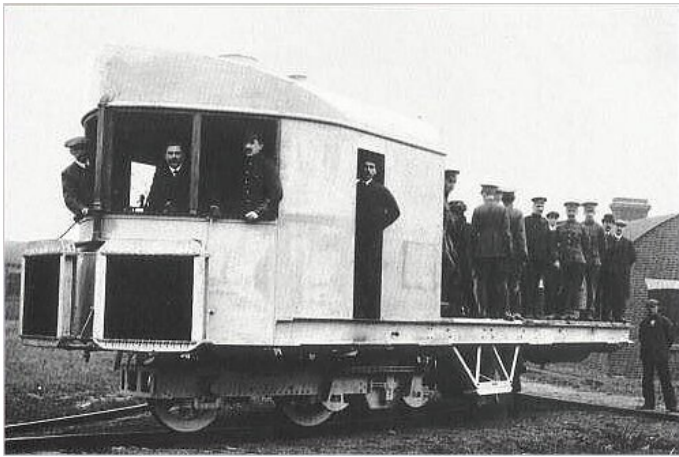
### Mr. Louis Brennan's Full-size Mono-rail

At Gillingham, Kent, on November 10<sup>th</sup>, Mr. Louis Brennan, of torpedo fame, gave a unique and most interesting demonstration, showing the marvellous working of his first full-size mono-rail -- the machine which, as its name implies, runs along on a single track. The car shown in the accompanying photographs is 40 ft. long, 10 ft. wide, and 13 ft. high to the top of the cab. It weighs 22 tons, and is capable of taking a load of from 10 to 15 tons. The maximum gradient it can climb with its present horse-power is 1 in 13.



The machine is balanced on the gyroscopic system, and is worked with a pair of gyroscopic wheels, each weighing 1½ tons, and 3 ft. 6 ins. diameter, running at a speed of 2,000 r.p.m. in a partial vacuum. Mr. Brennan hurriedly gave this preliminary demonstration as he had received notice that German infringers of his patent were to give a demonstration in Berlin on the afternoon of the same day, and he naturally desired that he should be first in the field. The demonstration was most successful in every respect.

A description of Mr. Brennan's experiment with a small model of this car appeared in THE MODEL ENGINEER for May 23, 1907.



### **Mechanics Made Easy.**

Meccano, Ltd., 274, West Derby Road, Liverpool, are continually adding to the already large variety of models which can be made up from sets of "Meccano" outfits. The manual of instructions before us contains particulars of how to build up over sixty different models, the latest of which, needless to observe, is an aeroplane. This is built up from a No. 6 outfit. We note the strips contained in the boxed outfits are now nickel plated, and this adds considerably to the appearance of made-up models. The illustration herewith shows a transporter bridge made with outfit No. 5 or No. 4 and No. 4a.

### **Motor-Cycle Notes by "Phoenix" - Is Pedalling Gear Necessary?**

I am sometimes asked why so many motor cycles, apart from the lightweights, are fitted with pedalling gear. This, say the critics, is a relic of push cycle practice, and should have no place on any motor cycle except those of very low power. I entirely disagree with this view. Pedals form an almost indispensable adjunct for starting purposes, except where handle starting is provided, and they also enable the rider to help the engine on occasions when a little such assistance often proves valuable.

In cold weather there is often some difficulty in getting the engine warmed up prior to a start being made, and the pedalling gear method is most decidedly more advantageous than either the dangerous one of pulling the engine over compression by hand, by means of the back wheel, or the fatiguing one of the running the machine up and down on the road until the engine can be induced to fire. In many little ways the pedals come in useful on the road. When speed has been very much reduced in traffic, for instance, slight pedalling will often provide just what is wanted in getting the engine going again without stopping, and it often saves what would otherwise be inevitable-i.e., knocking of the engine and dismounting of the rider. The pedalling gear requires little or no attention, and a means of varying the position of the rider's feet is afforded by its presence. With handle-started machines, wide continuous footboards are a great comfort, but unless this method of starting is afforded, I for one do not see how the pedal principle can be improved upon.

*Brian Cotton*

## **Around the Clubs, reviewed by Alan Emerson**

### **Conrod, Otago Model Engineering Society, Sept and Oct 09.**

Lots of good Club news, all the sections seem to be doing well. Club outing from Dunedin to Palmerston on the Otago Excursion Train. Write up on the history of a76, a small 0-4-0 loco built in 1873 and worked all it's life around that area. The Great Little Train Show a great success attended by huge crowds. One member visits Casledare Miniature Railway in Perth, some great photos of the action there. Among other things they have a fire train and insist on full footware. Another member visited the Kalgoorlie mine. The aerial photo shows just how big it all is.

### **Boilers, Rotorua October 09.**

Story and pictures of Tagus and Tamar in 71/4" gauge. The repair of a toolmakers milling machine that ended up with a new splined shaft being made.

Open Weekend 12-13 Dec 10 AM to 4PM. Poster on the Clubhouse notice board.

### **Nelson Society of Model Engineers.**

Reminder about the Convention next year and copies of registration forms. Plus details on info available on the internet.

### **Model Torque, Hawke's Bay, Sept 09.**

Club running seems to be going well apart from the odd loco problems and the odd vandalism

### **Blast Pipe, Hutt Valley and Maidstone ME Societies, Oct 09.**

Mostly good weather for track running even to having problems with track expansion in hot sun. Photos of the track and of viaducts on the NIMT. Talk on the new maps being produced and a visit to a Creative Bronze casting foundry.

**Northern Views, Whangarei, Oct 09.**

Club News and a very good article on Henry Ford's war effort.

**Durban Society of Model Engineers, Nov 09.**

Club news with some problems that sound familiar. Interesting treatise on how fast does electricity move through wire?

**Wheels and Floats, Tauranga, Oct09.**

A good read, a train and bridge from Spain a page of bits and pieces and some steam engines and bits for sale. Then some funnies and a list of all the locos built.

**Thames Small Gauge Railway.**

Archive image of the Shotover claim. Robin and Helen Park with their Honorary Life Membership Certificates. Wooden body trolleys being upgraded to steel bodies, the costs being covered by sponsors and advertising. Nutkin in for an overhaul. Bart Cooper's reflections on why he joined the Thames Small Gauge Railway.

**Blowdown, Kapiti, Spring 09.**

Club news includes plans to extend the track. Great story of Jack the Baboon the signal man's assistant. A Meanz update and several photos including some of Motat.

**Engine Booster, Los Angeles, Sept 09.**

Much work in progress for the Halloween Run. A lot of good reading and coloured photos.

**Steamers and Dreamers, Manukau Live Steamers, Aug/Sept 09.**

Article on Mike Orange's new Phantom's first run. A new 2 sided clock for the station and all about galvanic corrosion.

**The Narrow Gauge, Adelaide, Oct/Nov/Dec 09.**

A number of successful runs despite variable weather. Teflon piston rings. Single line running and a model signal box.

**Southern Rails'n Sails, Invercargill, Oct/Nov 09.**

Good Club news and pictures, including a German firm that makes all sorts of steam models. [www.wilesco.de](http://www.wilesco.de)

**Mailship, Scale Model Marine Modellers Inc, Sept 09.**

Good Club news and some photos from the 1990`s. Some Steam engines and accessories for sale.

**Big Wheel News, Victoria, Sept/Oct 09.**

Good write up and photos on rebuilding the raised track. All about BA nuts and bolts.

*Alan E*

**Recollections of a misspent youth by Bob Fosberry, Part 2**

Later when winter came upon us it was my first job each day to light the pot-belly stove which was our entire heating system. Having got the fire alight I had to open all the doors so any smoke dispersed quickly and, I could only shut them again when the fire was drawing well and any smoke had dispersed. If the old chap came into the workshop with any smoke about he would cough for the rest of the day. On one occasion I complained of the cold and when the old fellow came back to the workshop after morning tea he gave in a jacket with the words "this is for you". I said thanks and hung it on the door (which was my locker) and went back to the job on the lathe. It soon became apparent that I was in bad odour as the old chap wasn't talking to me. After three days of this I asked his wife what the problem was and she told me that he was very upset with me because he had given me a jacket because of the cold and I had hung it on the door instead of wearing it. I suggested to her that she remind him that he had given me strict instructions never to wear anything with loose sleeves while working on the machines particularly the lathe, she said oh, and disappeared back into the pub. When he returned to the workshop a while later he was all chatty and friendly.

Being the new boy and the lowest of the low one tends to get all sorts of unpleasant pranks played on one, on this occasion I got even. The Tannery had an old vertical boiler of unknown origins which had reached the point where it required a major inspection. The local man removed all the cladding and we went along and removed all the fittings and cut out all the boiler tubes so that the inspector could get inside and give it the once over. It passed inspection and so we had to rebuild it. My job in the re-tubing operation was to stand in the boiler and guide the tubes that were poked in the holes at the top, out through the right hole at the bottom. The work went apace until I started to run out of space in the boiler and called out for them to pause long enough for me to get out of the boiler. I was ordered to stay where I was and continue guiding the tubes, this I did until I was backed up against the boiler wall and unable to move at all, at which point these two men came down off the top, grabbed a two pound hammer each and proceeded beat on the boiler plates knowing that I could not move even to cover my ears, the noise was deafening. When they had had enough fun they grabbed my legs and lifted till my feet were clear of the lip of the manhole and hauled me out backwards. Next job, expand all the tubes into place we did all the bottom ends first, then all but one of the top ends thus leaving a gap for air to escape so that the boiler could filled without an air pocket being present, this was necessary for the pressure test. When all else was ready the electric boiler feed pump was started with the local maintenance man standing by to switch off when water started to squirt out around the unexpanded tube, the boss and myself on top of the boiler ready to expand the last tube into place. Almost as soon as the pump was started someone called the maintenance man away, he yelled that he would be right back. He was as good as his word but he had just come back for the ladder we were using to get up and down from the boiler. Needless to say the boiler filled and water gushed out of the gap at too great a pressure to be able to work against it and there was no

sign of the maintenance man or his ladder. The boss yelled at me to climb down the side of the boiler and switch the pump off, at 14 years I was able, at 65 years he was not. So I slowly and carefully climbed down, got some cotton waste and slowly and meticulously dried my hands so that it was safe for me to touch the electrical switch, by the time I got the pump switched off my boss was saturated and quite an unhappy chappy. The funny thing is, past that point he seemed to lose interest in practical jokes.

One of the chores I had to do was to chop kindling wood for the pub fires. The wood shed was adjacent the workshop, I had to chop wood, enough for a week as a last thing before knocking off Saturday lunchtime. One day for unknown reasons the boss decided to chop some wood. The first I knew of this was when the old man came into the workshop moaning about how blunt the chopper was. I got a long lecture on how dangerous blunt tools were, the lecture concluded with the instruction to sharpen the bl#/#dy chopper. I did as I was instructed; I took the chopper to the grinder, then to an oilstone, then to a finer oilstone and a finer oilstone. I didn't leave that chopper till it would shave the hairs off my forearm. The next day the boss decided to check to see if I had carried out his instructions. He never told me whether it was sharp enough or not. After chopping the top of his thumb clean off with it, he didn't seem in a very talkative mood. Bosses are funny animals.

In the early days I was quite often required to assist the Boss when he was turning, this assistance was mainly operating the "striking gear"\* , I would get the order "start un" or "stop un". Over the lathe there was a 240 volt lamp with a metal lampshade and, if I accidentally contacted said lampshade while holding the striking gear I would sustain an electric shock between my hand and arm (we were standing on an insulated platform) The old man refused to believe there was anything wrong with the fitting and when I offered to fix the problem, I was told to "keep your gory hands off the gory fitting. It transpired one day that we had a 20ft length of 2 1/2 dia. steel through the mandrel of the lathe about 4 ft of this had to be reduced in diameter. The old chap set the cut dropped the auto feed lever, sat on the lathe saddle and went for a ride, At the end of the cut he hopped off, racked the saddle back reset the cut, dropped the auto feed lever again and sat back on the saddle. At this point I took a firm grip of the offending lampshade (while standing on an insulated dais) and put four wet fingers on his elbow. The current flowed through me into his elbow and out through the seat of his pants. He screamed, leapt off the lathe saddle and started to swear. In a matter of seconds he brought the genealogy and morals of my whole family into question. Then as he stormed out of workshop he yelled "if you want to keep your job you'd better have that lamp fixed before I come back". Easy peasy.

\*For those too young to have encountered line-shafting

In the {good } old days there was only one motor/ engine in the workshop/factory which drove all the machines via Line-shafting and belts. This required a "fast" and a "loose" pulley on the Line-shaft for each machine. The "fast pulley was keyed to the Line-shaft and the loose pulley was free to rotate on the Line-shaft, so could not transmit power as the fast pulley did, these pulleys were mounted side by side. The "driven" machine or lay shaft had a double width pulley affixed to it. There was a mechanism for sliding the belt sideways from the fixed to the loose pulley or vise versa for each machine, this was called "the striking gear" and was used to start and stop each machine.

**Bob Foz**

## Classifieds

### For Sale

#### Clayton Steam Wagon in 2" scale

As displayed at the Jubilee exhibition, this fine model is the articulated version with riding trailer, 2 years old. Photos are available from owner.

\$6000, Contact Alan Emerson [alanemerson@xtra.co.nz](mailto:alanemerson@xtra.co.nz) or phone (09) 536 5543

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