

THIS ISSUE COVERS TWO MONTHS I LIKE A BREAK TOO

NEXT ISSUE WILL BE FEBRUARY 2018

MERRY
CHRISTMAS



The President and Committee of the
club wish you the best for the
Christmas and New Year season

CLUB NOTICES

Committee Meeting — Wednesday, December 13th @ 2 pm.
3rd Sunday Running — December 17th, 2017, January 21st 2018.
Mid-week Workdays — Mostly Every Wednesday.

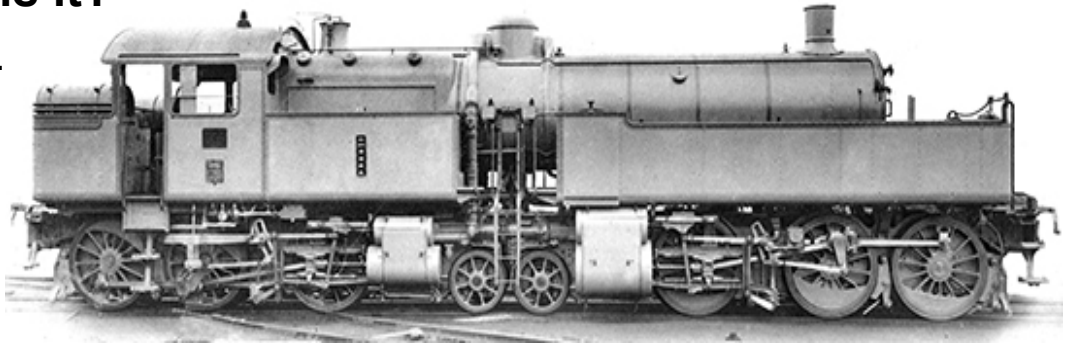
Extra Running Days This Month:

SEE INSIDE

THESE WORK IN WITH
MUSEUM "LIVE" DAYS AND OTHER
EVENTS

QUIZ — What is it?

For answer see Page 4.



EVERY ONE SEEMS TO BE IN SUCH A HURRY TO SCREAM "RACISM" THESE DAYS

A customer asked: "in what aisle could I find the Irish sausages?"

The assistant asks, "Are ... you Irish?"

The guy, clearly offended, says, "Yes I am, but let me ask you something ...

If I had asked for Italian sausage, would you ask me if I was Italian?

Or if I had asked for German Bratwurst, would you ask me if I was German?

Or if I had asked for a kosher hot dog, would you ask me if I was Jewish?

Or if I had asked for a Taco, would you ask me if I was Mexican?

Or if I had asked for Polish sausage, would you ask if I was Polish?

The assistant says, "No, I probably wouldn't have".

The guy says, "Well then, just because I asked for Irish sausage, why did you ask me if I'm Irish".

The assistant replied: "Because you're in Bunnings".

WELCOME TO NEW MEMBER:

A warm welcome to new member Peter Hendricks. He has a lawnmowing business in Whangarei and he is a self-starter. He has kindly made his truck available to us now on a couple of occasions.

Growing old ain't so bad — so many don't have the privilege.

All is perspective. To a worm, digging the ground is more relaxing than fishing.

Only real friends visit on hot days when they know you don't have air conditioning.

LIST OF MAIN CLUB OFFICERS

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WEDNESDAY WORKDAYS:

By The Editor



Tony has installed another motor on the lathe after the old one turned up its toes. The "new" motor is a little noisy but ...

Colin was busy making up the expansion joints for installation down the straight to the goods shed. This particular piece of "straight" is undergoing a long overdue upgrade with the installation of a retaining wall on the "big railway" side. Two cubic metres of fill and one cubic metre of ballast have been purchased for this operation, but judging by the look of it more will be required.

The line has also been straightened.

GPS units have been acquired for fitting to our locomotives and are in the process of being installed.

The relaying of the inner track around the mountain has been finished and really looks good (high speed curves and all that). Lloyd has given the club several round stepping stones to install at the station to try and alleviate the loose shingle problem.

We have had some difficulty in locating small quantities of steam oil. It is easy to get by the 40-gallon drum, but where would we ever use that amount, however we did locate some from much closer to home. This oil has now arrived and guess what? The freight cost more than the price of the oil.

The locomotive John has gifted to the club is apparently responding well to some TLC and the renewal of some of the workings. So who knows ... it may be back on site sooner than we thought.

The aforementioned straight to the tunnel is still having work done on it and an expansion joint about half way along has been re-done and the roadbed has been raised in places.

The 3rd Sunday running for November was very nearly a washout. It rained quite heavily in the morning and fined up for the afternoon when the loadings were quite good despite the earlier inclement weather.

Rankin has been very busy experimenting with new types of grates for his "Q". After several near misses at perfection his latest one appears to be doing the job. But according to him there is still room for improvement. All this has arisen by him experimenting using the Welsh coal that has arrived here as a replacement for the long-used "char" which is now no longer available.

Other clubs around the country are having problems with their fires since "char" ceased to exist. They too have been experimenting as well. Also there are now briquettes coming out of Indonesia and made from coconut shells available at some of the bigger hardware stores.

Rankin is taking his loco down to Nelson for the National Convention in early January and doing a "Tiki Tour" at the same time.



THE SILLY SEASON IS STILL UPON US!!

Bookings are still coming in for festive season functions to be held at our railway.

If you can help out with the manning of things for the following events please ring Rodney White on

09 436 1185

The dates are:—

December 2:- (Saturday) NZ Refinery Co Picnic 10 am to 2 pm (steam required).

December 3:- (Sunday) E. Sanders 10.45 am to 11.45 am.

December 8:- (Friday) Hora Hora Playcentre.

December 15:- (Friday) P & R Playschool 5.30 pm to 7.30 pm.

December 16:- (Saturday) Northpower 10.30 am to 1 pm.

ANSWER TO QUIZ ON PAGE 2:

De Bousquet Locomotive

The du Bousquet locomotive was an unusual design of articulated steam locomotive invented by French locomotive designer Gaston du Bousquet. The design was a tank locomotive, carrying all its fuel and water on board the locomotive proper, and a compound locomotive. The boiler and superstructure were supported upon two swivelling trucks, in a manner similar to a Meyer locomotive.

The design largely overcame the problems the Meyer design had with poor sealing on the steam-pipe flexible joints by having the rear truck, bearing the high-pressure cylinders, mounted on a bearing that permitted only rotation and not any other axes of flexibility. The steam connection, mounted in the centre of this, could seal much more easily since it did not have to allow so much freedom of movement. The front truck, with the low-pressure cylinders, allowed some degree of tilt as well as rotation, and had steam connections from the rear truck with swivelling and telescoping joints to allow freedom of movement.

Also unlike the Meyer, the front set of water tanks were mounted to the moving truck and moved relative to the boiler, somewhat reminiscent of a Garratt locomotive. The tanks above the rear truck, and the rear-mounted fuel bunker, were attached to the boiler and superstructure.

The du Bousquet design had an unusual wheel arrangement; both trucks had six driving wheels and two carrying wheels supporting the cylinders. Unlike many other articulated designs, these carrying wheels were toward the centre of the locomotive, as were the cylinders. This arrangement is expressed in the French classification as 031+130, in the Whyte notation as 0-6-2+2-6-0T, or in the UIC classification as (C'1)(1'C)t.

The du Bousquet design of locomotive saw most success in France, with three railway systems ordering the type; the Chemins de Fer du Nord, the Chemins de Fer de l'Est, and the Syndicat des Ceinture (the Outer (Grande Ceinture) and Inner Circle (Petite Ceinture) lines of Paris).

The Nord was the first to own the type, appropriately since du Bousquet was their Chief of Motive Power. They constructed 48 units, numbered **6.121 to 6.168**, which were painted chocolate brown like all the Nord's compounds and assigned to the Le Bourget and Hirson depots. They worked heavy coal trains. In 1921, however, 34 of the 48 locomotives were transferred to the Grande Ceinture, where they worked until 1935, when the closure of many of the Ceinture lines rendered them surplus. All but one passed to the SNCF in 1938 who renumbered them **2-031+130.TA.1 to 47**. They were slowly replaced by the SNCF 151.TQ class, but the last du Bousquet was not withdrawn until 1952.

The Est built 13 du Bousquet locomotives at their Épernay Works between 1910 and 1911. Numbered **6101 to 6113**, these were identical to the Nord locomotives, being constructed from the same plans. All of them were transferred to the Syndicat des Ceinture in 1921, and when the *Syndicat* was dissolved in 1934 they were leased to the Nord. Eventually they became SNCF **2-031+132.TB.1 to 12**.

In addition to the Nord and Est locomotives reassigned to the Ceintures, that system also acquired 38 du Bousquet locomotives directly, 32 of them from the Societe des Batignolles and six constructed by Societe anonyme John Cockerill. These locomotives were somewhat more powerful than those of the Nord and the Est, especially after they were upgraded to superheat in the 1920s. These locomotives were transferred to the Chemin de fer de l'Etat in 1934, and to the SNCF in 1938. The SNCF renumbered them **3-031+130.TA.1 to 36**; all were withdrawn by 1949.

The type saw limited success outside France, being confined to China and Spain.

A batch were built for the Peking-Hankow Railway in China; they were almost identical to the French locomotives, and were built by the Belgian company Forges Usines et Fonderies Haine-Saint-Pierre.

Ten locomotives were built for the Andalusian Railways to the Spanish 5ft 6in (1676 mm) gauge by SA Usines Métallurgiques du Hainaut. Six survived after the founding of RENFE, but were withdrawn by 1947.

TRUCKS, (BOGIES) OR WHATEVER YOU LIKE TO CALL THEM

Late last year Rankin and I had some discussion about tramway trucks and the possibility that a scaled down version/design might somehow be able to be incorporated in building some trucks for use under the proposed increase in our rolling stock numbers.

I suggested to him that perhaps we should take a trip to Auckland and have a good look at some that were being overhauled at the moment in the workshop of the Western Springs Tramway (WST). This event unfortunately didn't happen. Maybe soon!!

As most of you know that until I came north I was heavily involved at MOTAT in the restoration of several trams in their fleet. This involved the working on and completely rebuilding the trucks from under these vehicles.

Any truck that has been overhauled in the WST workshop emerges as good as new, and we have had compliments for this. Every bush is replaced with new components, worn eyes in brake rods are built up and bored to correct size, tyres re-profiled. The only thing that is not touched is the electric motor save perhaps a new pinion on the motor shaft or some brushes. Wheel bearings, unless obviously noisy, are also not touched. The motor suspension bearings which are usually stuffed are also replaced. When I say stuffed I mean that any with $\frac{3}{8}$ "+ slop would be looked at.

Toward the end of the tramway systems in New Zealand (and the rest of the world for that matter) the maintenance of the rolling stock was kept to a very basic minimum and when groups like us became their new owners we only managed to get a few years running out of them before they started to give big trouble. The really worn ones were quite often dismantled and the best of the other parts were put away for future use. In the case of WST the fact that we had three Wellington "Fiducia" class of tram (including NZ's last tram) and the Wellington Tramway Museum (WTM) had five made the sharing of parts a good thing. WST did not dismantle any but WTM did.

A classic example of running into the ground were the two Lisbon trams that are now in the railway workshop in the lower area of the museum. Very early on I was asked how to remove the motor pinions which were very worn down. I told the guys working on the trucks that a gear puller would be required to take the pinion off the motor shaft. In my days with WST I had removed several using (sometimes) a 60-ton stubby hydraulic ram to shift them. Going down to the shed to have a look at

things, everything looked normal but I had that feeling that it wasn't, so I had one of the guys take the nut off the end of the motor shaft and the pinion just fell off. That surely wasn't supposed to happen. But between the pinion and the shaft there was a shim made out of an old baked bean tin where a rough slot had been cut out to allow for the key to go on]. But I digress.

The Wellington tramway vehicles were all running on trucks with cast steel frames, either the original Brill maximum traction type or locally (Dunedin) cast ones and Auckland's original trams had a mixture of English Brush Electric trucks or trucks fabricated in their own workshops. Six or so of the later ones (1938) had English EMB trucks. These were apparently diverted to Auckland when things were heating up in Europe.

I don't know what was under the other systems in the country. But some of the small systems kept their original trucks to the end.

Some overseas firms built complete trams for other systems and some only built trucks for on-selling to other tramway body builders or tramway systems building their own cars.

Some of these truck makers were: C. J. Brill, Brush, Malley & Taunton, EMB, Vickers, Peckham, McGuire, Baldwin and quite a few others.

But there were a lot of tramway systems that fabricated their own. Melbourne was one of these that decided to produce their own trucks with the introduction of their "W" class of tram in the 1920's.

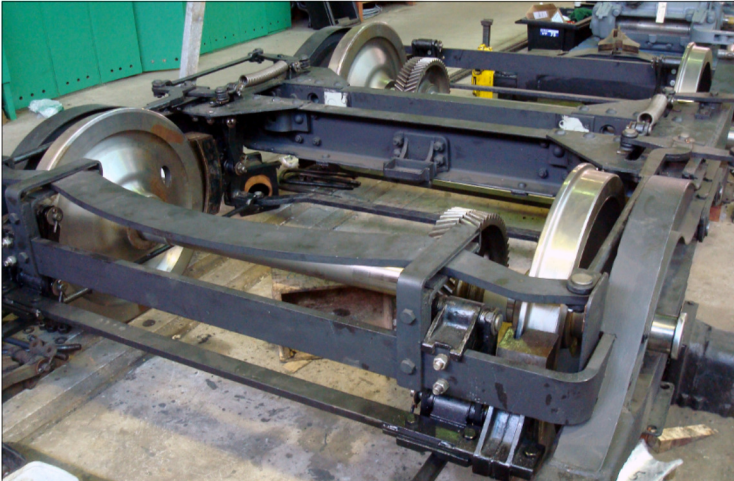
These trucks (1A or 1B) were constructed out of rivetted and bolted bar stock and had no longitudinal semi-elliptic springs only transverse semi-elliptic ones plus coils. (See picture).

Later versions (MMTB15) were even better and Brisbane tramways even copied these trucks because they were very smooth in operation and rode well. These riding qualities were (in my humble opinion) caused by longer semi-elliptic



springs under the axles as well as the usual transverse springs in the middle of the truck. No vertical coil springs. However there was a welded side frame of sorts that from side on looked like a very narrow I-beam. From side on they looked like the top half of a pair of spectacles.

Here are some pictures of the re-building of a MMTB No 15 truck in the WST workshops.



Top photo shows an over-all idea of what the frame looks like. Note the double helical pinion gears on the wheel axles. The flat bar with a radius on it is where the brake rods are attached to the bogie by a clevis and roller. This allows for the brakes to be applied on a curve.

The brake rods from a 10" Westinghouse brake cylinder are connected to the trucks at this point.

All bushes on the truck are reamed and replaced with new ones and the motor suspension bearings (very worn) were replaced entirely and line bored to suit that particular axle as not every axle is the same diameter.

Also notice that the tramway profile is a lot narrower than railway profile. Railway profile is approximately 3½" wide tread and about 2" depth of flange and tramway is 2½" x ⅝" deep flange.

Photos below: A closer view of a wheel and pinion set. The right one shows a newly overhauled 40 hp 550v DC motor. Each truck has two, giving the tram 4 x 40 hp motors. The wheels (on the left) are brand new one-piece castings made by the now defunct firm of A. and G. Price in Thames.

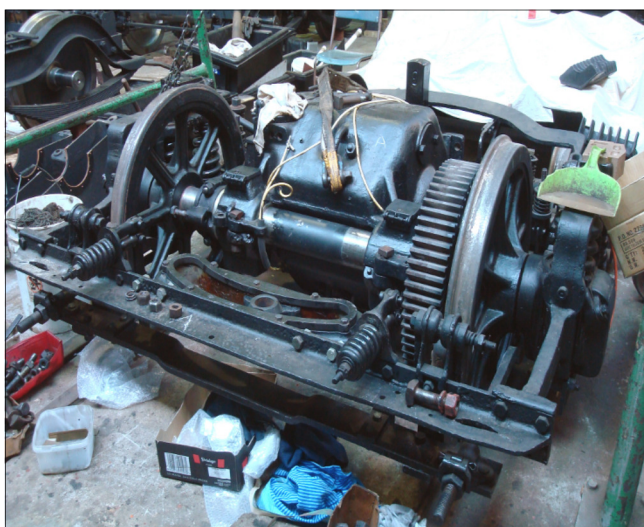
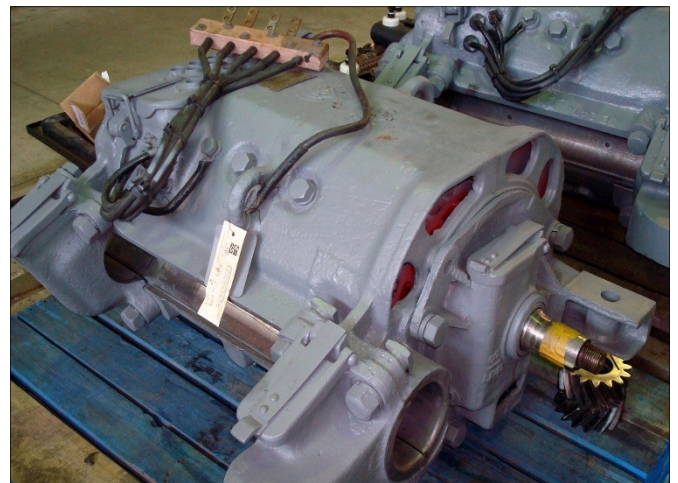
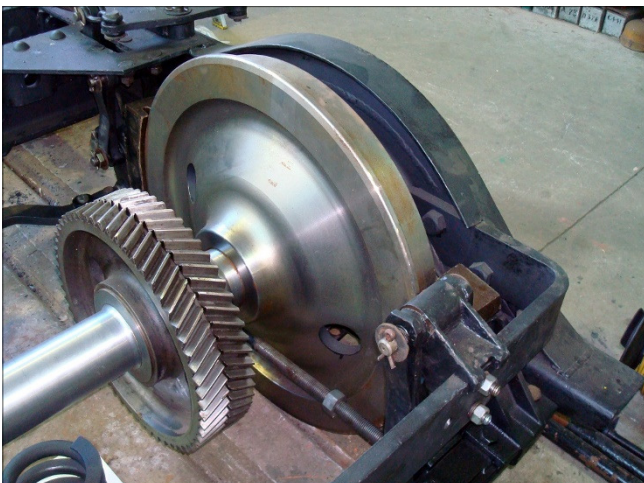


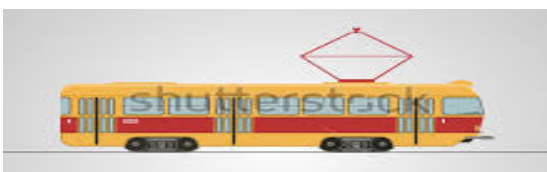
Photo on lower left shows a Brill 22E truck (also known as a Eureka truck). It has a cast steel frame and is of the Maximum Traction type.

It does not have a centre circular support pivot but the tram sits on brass guides that are positioned on top of the side frames and the square peg that protrudes above the motor distributes the weight of the car so that there is more weight on the driving wheels to give extra adhesion.

The slotted radius guide in front takes a solid steel round bar that is anchored to the tram body. Note also the big spur gears on the driving axle. Those big gears give the familiar tramcar whine when under power and the delightful gurgling sound when coasting.

Another feature of the motor used in this truck is that it has a split outer motor casing whereby the armature can be removed separately when over a pit. Once the armature is removed the field coils can also be treated in a like manner.

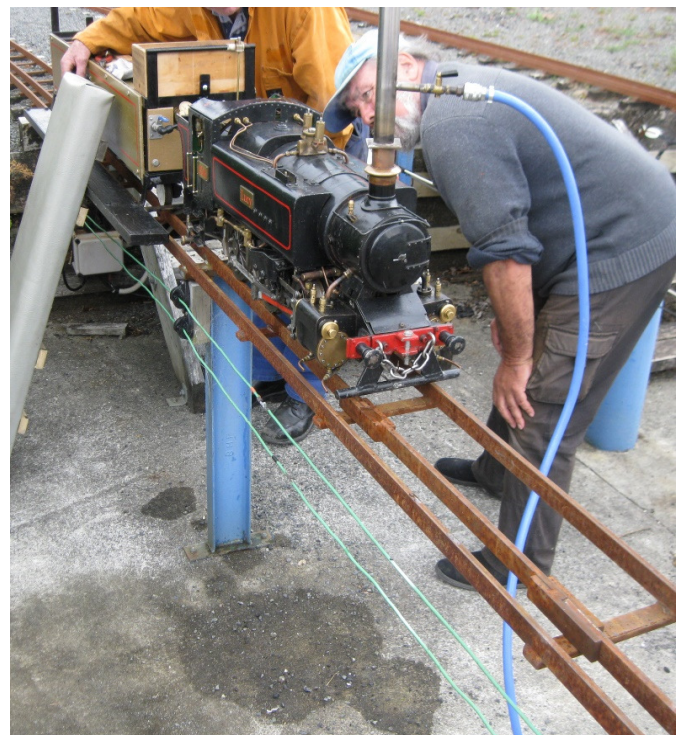
All these early trucks were built by blacksmiths and I think the accuracy of the equipment in those days left quite a lot to be desired.



GENERAL TRACKWORK PICTURES AROUND THE SITE



LUCY UNDERGOING A BOILER TEST



IF UNDELIVERED PLEASE RETURN TO:—

Whangarei Model Engineering Club Inc,
P.O. Box 10233, Te Mai, Whangarei 0143.

