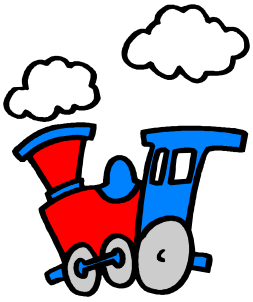
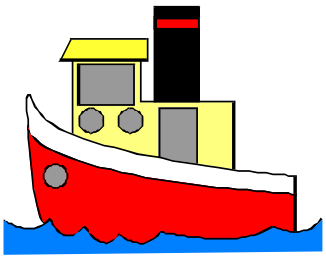


Wheels and Floats



Newsletter No. 341 April/May 2015

TAURANGA MODEL MARINE AND ENGINEERING CLUB

The Secretary
P.O. Box 15589,
Tauranga 3112
Palmerville Station Phone 07 578 7293

Rail Track Memorial Park
Open to Public weather permitting.
Sundays 10.00am to 4.00pm
Website: www.tmmec.org.nz

NOTICE OF MEETING

The next general meeting will be on
Tuesday 5th May at 7pm
At Palmerville Station

Next Committee Meeting May 14th at 7pm.

Patron:	**Noel Pope**	
President:	**Peter Jones**	**(07) 543 2528**
Vice President:	**Bruce Harvey**	**(07) 548 0804**
Secretary:	**Bruce Harvey**	**(07) 548 0804**
Treasurer	**Owen Bennett**	**(07) 544 9807**
Co Treasurer	**Clive Goodley**	**(07) 572 2959**
Editor:	**Clive Goodley**	**(07) 572 2959**
	goodley@clear.net.nz	

Committee:	**Warren Belk, Shane Marshall, John Stent, Bruce Mckerras Peter Lindsay. John Nicol. Owen Bennett.**
Boiler Committee:	**Peter Jones, Paul Newton, Bob Batchelor. Bruce McKerras**
Safety Committee	**Warren Karlsson, Bruce Harvey J. Nicol. Malcolm George, P. Lindsay**

Conveners:

Workshop:	**Malcolm George, John Nicol**
Track:	**Bruce Harvey**
Marine:	**Warren Belk, Ken Fox**
Librarian:	**John Nicol**
Rolling Stock:	**Clive Goodley**
Small Metals Store:	**Owen Bennett**
Website by:	**Murray De Lues**
Driver Training	**Clive Goodley**

Operators April/May

19-04-15	**B. McKerras**
26-04-15	**N. Bush**
03-05-15	**R. Salisbury**
10-05-15	**O. Bennett**
17-05-15	**E. Evans**
24-05-15	**B. Fitzpatrick**
31-05-15	**C. Goodley**
07-06-15	**B. harvey**

Presidents Points

Greetings members.

Those of us that have been around a while remember Steve James and the work he did in founding the Thames Miniature Railway many years ago. For Family reasons Steve and Alison moved to Tauranga and he became involved with our club. This was a great asset to us as a club, Steve in his quiet way became involved and assisted in what we do. On many occasions he was asked to become involved with the administration of our club or become an operator but always refused, I guess he just wanted to enjoy the hobby. Steve's experience and knowledge in things electrical resulted in a lot of models of New Zealand prototypes being built in 5" and 7.25" gauge. Some I remember were NZR, DI Ec and Ew class locomotives which he built, played with, sold and then moved onto the next project. The last project he was working on before he passed away was two electric locomotives that were to have a German Railway basic profile, obviously to be sold to finance the next project. Sadly Steve passed away at a stage where

the frames and bogies had been completed, a lot of the electronic components had been purchased to see the project through.

After much discussion our club recognized the opportunity to purchase these models to be part of our locomotive fleet. They were stored in our club rooms for a few years until member Peter Wiseley put his hand up and said “I will complete them”. Peter was a relatively new member to our club at that time, but after taking up his membership has completed a Simplex and is well on the way to finish a Phantom and put in long hours building the Viaduct for our new track and track laying with Eddie Evans. When he started the Steve James Electrics we didn’t see much of him, we approved his budget and left him to it. That was about 10 months ago and now we have two electric locomotives finished below budget which are a hit with our regular customers and our drivers. Naming the locomotive became a subject of debate, but Peter sorted that by calling one “Kiwi Rail” and the other “Silver Fern”. They both look great, and are a pleasure to drive. The only down side is that Peter is moving to Hamilton, **bugger !!!** We joined him for a fare well get together at the place where I know very well he gets his inspiration, his water hole. Thank you Peter for seeing a project through, Hamilton is gaining something we will be losing but we know you will be back, all the best to you and the family.

At the time of Peter’s departure it was suggested that we invite Alison James and family to meet him and take a ride on the train, which they did and were really thrilled to see the project that Steve had started is now through to fruition.

This year is moving on and our next major event will be the National Convention in January 2016. Registration forms have gone out to all MEANZ registered Clubs and on our Web Site and all clubs will be aware of the Les Moore Challenge Trophy, a LBSC fire engine which will be a challenge for the participating clubs, it’s going to be a hoot. Some of the older members like me who have been involved in our hobby for a number of years will know about the Les Moore challenge, but few will know about Les himself and some of the early foundation members who made the club what it is today, I intend to put that right.
I have been advised by some quarters that there is some dissatisfaction about our railway operating fail safe braking policy. I wrote a description a few newsletters back about how the system works, it was a written description and as we all know people learn from written, spoken, or by activity, there is another and that is experience. If you cannot understand what has been described so far I am happy to assist, give me a call, 07 543 2528, or 027 352 4006. My wife feeds me at 6.30pm and I go to bed at 9.30pm, hopefully.
One problem was that the drawing of the system was left out of that particular Wheels and Floats issue due to technical reasons. However our editor has assured me it will be included in this issue, this will help with those who need the visual.
Our club will make sure that everyone who comes to the National Model Engineering Convention in Tauranga and brings a locomotive, which might include ride cars, will be able to run trains hauling passengers, tell your friends.
The 2015 AGM date has been set for Saturday the 16th of May at 2.00pm following the operators meeting at mid-day. Please do your best to attend, all positions for committee are open. At our last committee meeting I put a notice of motion forward that member Clive Goodley be made a life member of our club, the notice which is attached to our notice board includes the reasons why and will be voted on at our AGM. Our rules allow 6 life members per hundred, we currently have 3 life members so if you can think of someone who you consider should be nominated for this highest honour of our club, talk to one of our committee members. Happy modelling. Peter Jones.

Can you believe what you read

When I took over as Editor I stated that the newsletter would have a railway slant, as that is where my interests lie. At a book fair during Auckland Anniversary Weekend I bought two books by O.S. Nock, the eminent British authority on all things that roll on wheels on railway track, especially the iron horse, usually seen at the head of the train, but also sometimes at the back and even interspersed in the train as on the now defunct Fell Incline. The two books, ‘Railways at the turn of the Century, 1895-1905’ and ‘Railways at the Zenith of Steam, 1920-1940’, are each made up in two parts, photographs of engines in the front half and a brief write-up of each loco in the second part. The latter book features four NZ engines, the Ab, Wab, K, and J. I was surprised to read the caption under the J describing it as a 4-8-4, never mind, just a misprint. On turning to the second part of the book I went to the

referenced page for the NZ engines and there the heading read: "**New Zealand Government Railways:** The J Class Streamlined 4-8-4"; and so it seemed there were two misprints exactly the same or there was a touch of ignorance there. It gets worse, and I quote, "While the K class had very satisfactorily solved the problem of operation on the principal main lines, enhanced motive power was needed for the lines laid with rails weighing no more than 55lb. per yard. The success of the K class was such that the 4-8-4 wheel arrangement was becoming a favourite in New Zealand, so a light-weight version was designed, and a contract for 40 placed with North British Locomotive Company in 1939."

The rest of the description appeared correct, but I was struck by the comment that the wheel arrangement was due to the success of the K. The wheel arrangement depends on many things, and that of other designs, unless it is a technical breakthrough, is not likely to be one of them: type of rail, curvature of track, weight and distribution of weight of the engine and type of work the loco is designed to perform contribute to the wheel arrangement.

In the case of the K and J classes, the former has a two axle bogie truck to support the firebox, because it has a massive firebox, by NZ standards, with over 47sq ft of grate area. The 'heavy' rail for which it was designed was often only 80lb per yd, considered light by today's standards. The maximum axle load was only 14 tons, as against the 11½ tons of the J. With a firegrate area of only 39sq ft, even with its lighter axle load, the J needed only a single axle pony truck under the firebox to do the job. For the author to get it wrong and then come up with such a silly statement leads me to suspect it was written by some-one for him and he never proof read it.

I am aware of the mistake because I fired on J locos for many years, but what of the thousands of locos throughout the world that I have little or no knowledge, what I read I accept as being correct. The saying 'buyer beware' should apply to readers also, 'reader beware'. This article is 100% correct. Probably!

Photographed at Glenbrook, a variation on a trailer for a traction engine.

A guy and a girl meet at a bar. They get along so well that they decide to go to the girl's place. A few drinks later, the guy takes off his shirt and then washes his hands. He then takes off his trousers and again washes his hands.

The girl has been watching him and says: "You must be a dentist."

The guy, surprised, says: "Yes .... How did you figure that out?"

"Easy." she replies, "you keep washing your hands."

One thing leads to another and they make love.

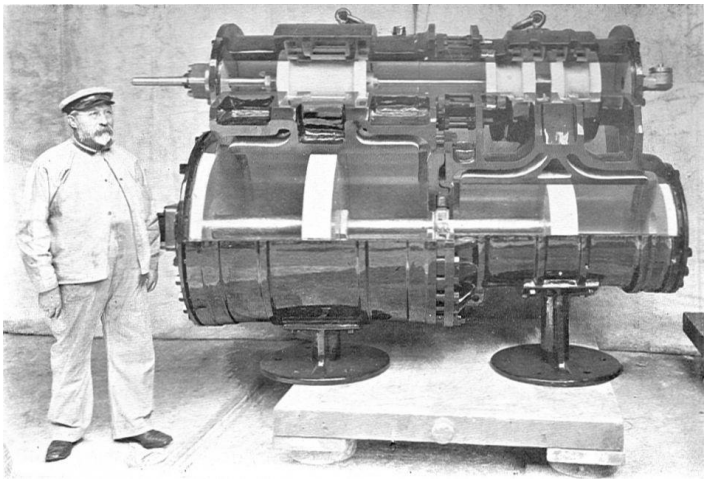
After it's over the girl says: "You must be a good dentist." The guy, now with an inflated ego, says: "Sure - I'm a good dentist. How did you figure that out?"

The girl replies:...."Didn't feel a thing."

Our two electric locos, Ron Salisbury giving Silver Fern a practice run. Kiwi Rail is identical in every way except the paint job.

At right Murray deLues explores the fun of driving a model traction engine.
At left Mike Treloar tests his new loco on track using the tender of Bruce McKerras's engine

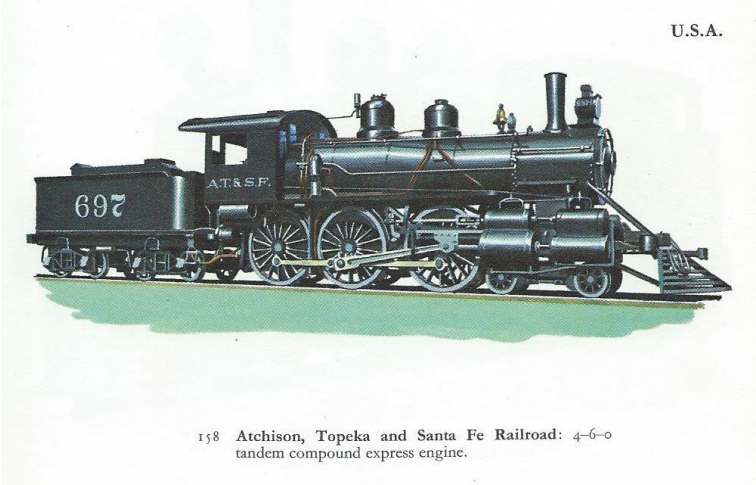
While perusing the aforementioned books I was intrigued by the picture and description of the locomotive pictured featured at right, next page. The Atchison Topeka & Santa Fe 4-6-0. I had never heard of Tandem Compound engines before, but it looks logical to me, however they were never widely adopted and so there must have been pitfalls. It must have saved a bit of valve gear.



A SET OF VAUCLAIN TANDEM COMPOUND CYLINDERS AND PISTON-VALVES FOR AN ATCHISON TOPEKA AND SANTA FÉ "DECAPOD"
Part of the cylinder walls and steam chest walls have been removed to show the arrangement of the ports.

Tandem Compound Engines

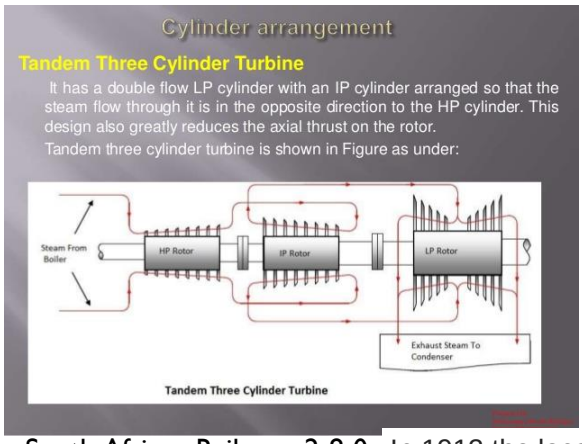
Cutaway view of the cylinders (low pressure on left, high pressure on right) and valves (above) on a tandem compound engine



The tandem compound first appeared on the Erie Railroad in 1867. Like the Vauclain compound, a tandem compound has each pair of high- and low-pressure cylinders driving a common crosshead, connecting rod and crank; but unlike the Vauclain compound, the cylinders are mounted fore and aft of each other. The rear wall of the forward cylinder is usually the forward wall of the rear cylinder. The piston rod of the rear cylinder is connected to the crosshead in the usual way, but the forward cylinder may have its piston rod, or rods, in either of two forms: either the piston rod of the rear cylinder is extended forwards to also carry the forward piston; or if the forward cylinder be the low-pressure cylinder (and thus larger in diameter than the high-pressure cylinder behind), it may have two long piston rods which pass above and below, or to either side, of the high-pressure cylinder in order to reach the common crosshead.[8]

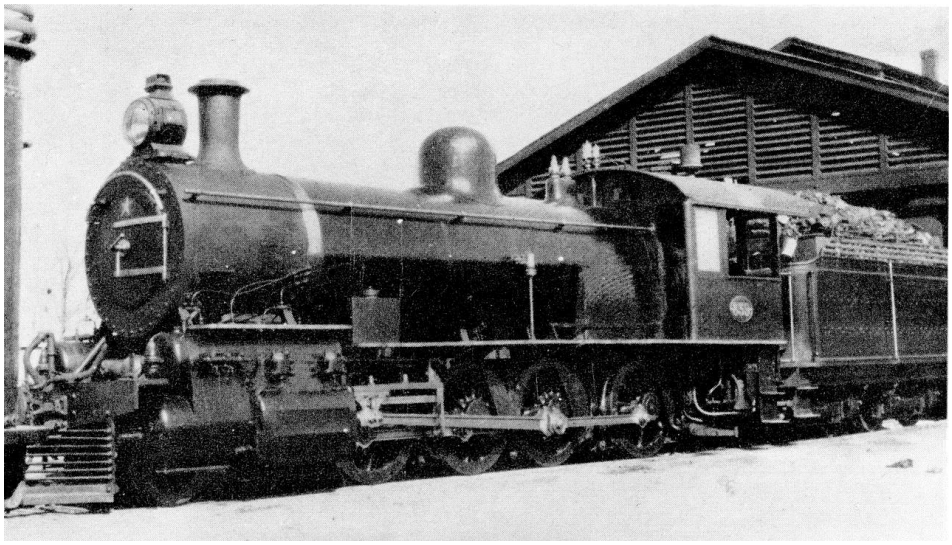
In Great Britain, there were three tandem compounds. The first was No. 224 of the North British Railway which was built in 1871 as a 4-4-0 simple-expansion locomotive, being the pioneer of the 224 Class; it was converted to a tandem compound in 1885, but reverted to simple in 1887. As a compound, the high-pressure cylinders were 13 inches (330 mm) diameter, placed in front of the low-pressure cylinders, which were 20 in (510 mm) diameter; the common stroke was 24 in (610 mm). The other two were both 2-4-0s on the Great Western Railway (GWR) – No. 7, built in February 1886 for the standard gauge, and No. 8 built in May 1886 for the broad gauge. No. 7 had high-pressure cylinders 15 in (380 mm) diameter, low-pressure 23 in (580 mm). The cylinders of No. 8 were slightly smaller: high-pressure 14 in (360 mm), low-pressure 22 in (560 mm). In both GWR locomotives, the low-pressure cylinders were in front, and the stroke was 21 in (530 mm). No. 7 ceased work in 1887, being dismantled in 1890; No. 8 never entered regular service, failing when on trial - it was partially dismantled in 1892. Both loco's were renewed in 1894 as standard gauge simple-expansion 4-4-0s.

Tandem compound engine. Atchison Topeka & Santa Fe Railway 2-10-2



South African Railways 2-8-0. In 1912 the locomotive was classified as Class Experimental 3 and renumbered

to 909 on the SAR. It was never modified and remained in service as a tandem compound until it was sold to the Transvaal and Natal Collieries in 1920.

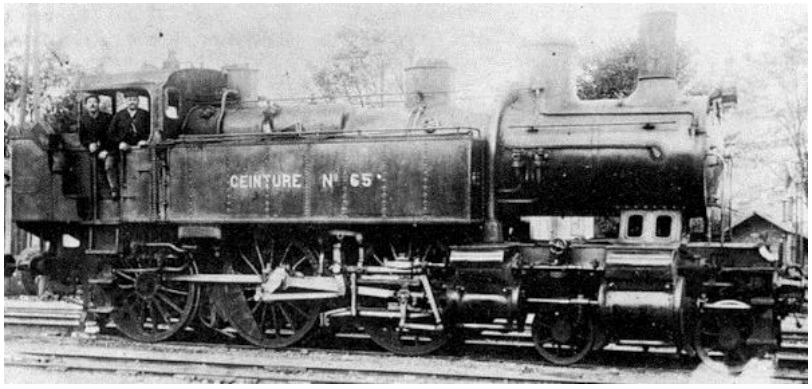


An extraordinarily handsome man decided he had the responsibility to marry the perfect woman so they could produce beautiful children beyond compare. With that as his mission he began searching for the perfect woman. Shortly thereafter he met a farmer who had three stunning, gorgeous daughters that positively took his breath away, and so he explained his mission to the farmer, asking for permission to marry one of them. The farmer simply replied, 'Ay! They're lookin' to get married, and so you came to the right place. Look 'em over and pick the one you want laddie.'
The man dated the first daughter. The next day the farmer asked for the man's opinion. 'Well,' said the man, 'she's just a weeeeee bit, not that you can hardly notice...pigeon-toed.' The farmer nodded and suggested the man date one of the other girls; so the man went out with the second daughter. The next day, the farmer again asked how things went. 'Well,' the man replied, 'she's just a weeeeee bit, not that you can hardly tell....cross-eyed..'
The farmer nodded and suggested he date the third girl to see if things might be better, and so he did. The next morning the man rushed in exclaiming, 'She's perfect, just perfect. She's the one I want to marry', and so they were wed right away. Months later the baby was born. When the man visited the nursery he was horrified: the baby was the ugliest, most pathetic human you can imagine. He rushed to his father-in-law asking how such a thing could happen considering the beauty of the parents.
'Well laddie,' explained the farmer, 'She was just a weeeeee bit, not that you could hardly tell, pregnant when you met her

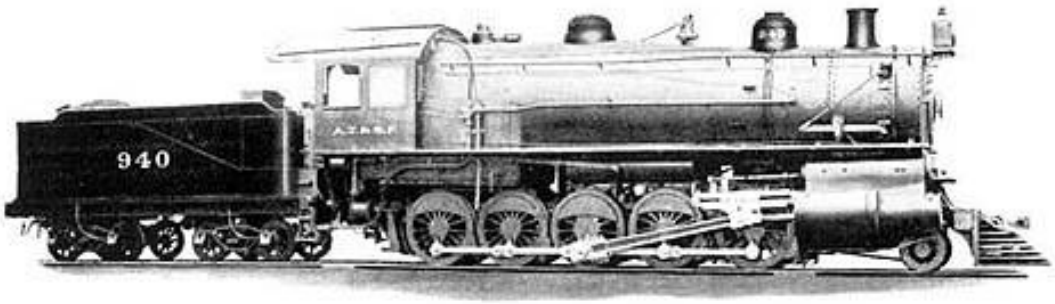
French Du Bousquet Tandem Compound'

USA. Northern Pacific Railway

French Du Bousquet Tandem Compound



USA Northern Pacific



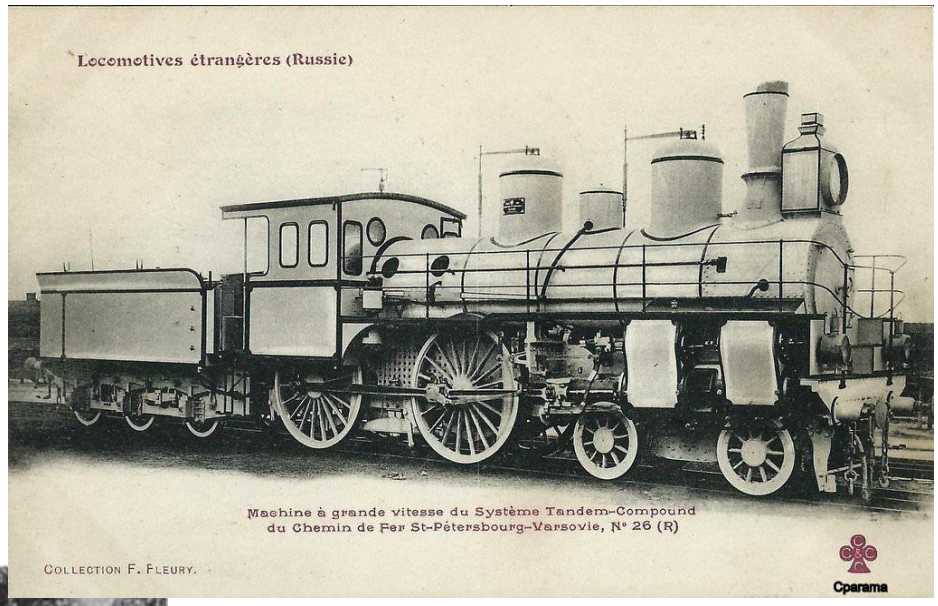
Tandem Compound Decapod Locomotive, 1902

Class 12-$\frac{2}{2}$-F-1 | Code Word, RECORVAN | Road No. 940

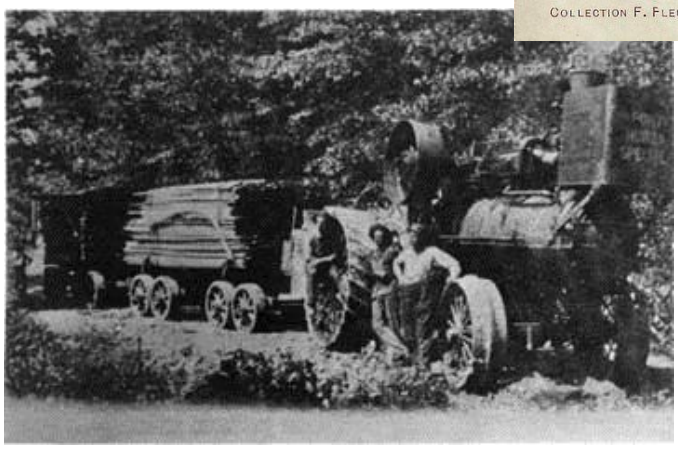
GENERAL DIMENSIONS

GAUGE	4′ 8½″
CYLINDERS	19″ and 32″ x 32″
Valve	Balanced Piston
BOILER—Type	Wagon Top
Material	Steel
Diameter	78¾″
Thickness of Sheets,	⅞″ and 15/16″
Working Pressure	225 lbs.
Fuel	Coal
Staying	Radial
FIREBOX—Material	Steel
Length	108″
Width	78′
Depth	front, 80″; back, 78″
Thickness of Sheets	sides, ⅜″ back, ⅜″; crown, ⅜″; tube, 9/16″
Water Space,	front, 4½″; sides, 4″; back, 4″
TUBES—Material	Iron
Wire Gauge	No. 11
Number, 463	Diameter, 2¼″
Length	19′ 0″
HEATING SURFACE-Firebox,	210.3 sq. ft.
Tubes	5155.8 sq. ft.
Firebrick Tubes	23.9 sq. ft.
Total	5390.0 sq. ft.
Grate Area	58.5 sq. ft.
DRIVING WHEELS—Diam. Outside	57″
Diameter of Center	50″
Journals	main, 11″ x 12″ others, 10″ x 12″
ENGINE TRUCK WHEELS—	
Diameter	29¼″
Journals	6½″ x 10½″
WHEEL BASE—Driving	20′ 4″
Rigid	20′ 4″
Total Engine	29′ 10″
Total Engine and Tender	59′ 6″
WEIGHT-On Driving Wheels,	237,800 lbs.
On Truck	30,000 lbs.
Total Engine	267,800 lbs.
Total Engine and Tender about	400,000 lbs.
TENDER—Number of Wheels	8
Diameter of Wheels	34¼″
Journals	5″ x 9″
TANK—Capacity,	7000 gals.
SERVICE—Freight.	
Radius of Curves, 16 degrees.	

Above
Atchisan Topeka & Santa Fe 2-10-0



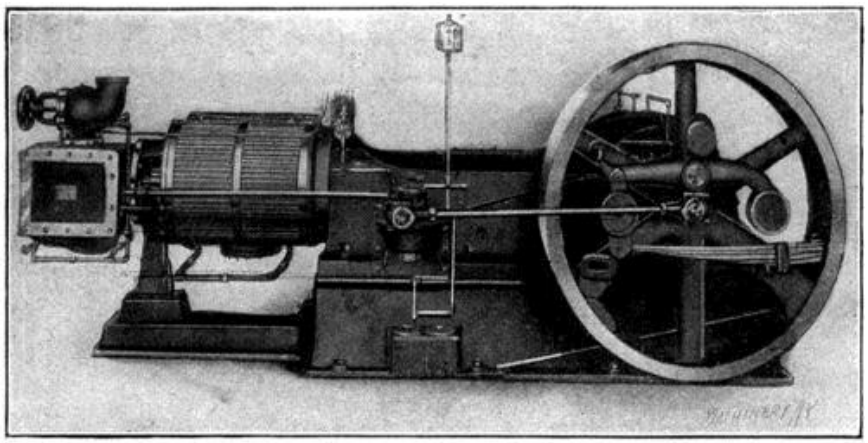
A mystery machine, but obviously a tandem compound.



Port Huron double tandem Woolf compound steam traction engine

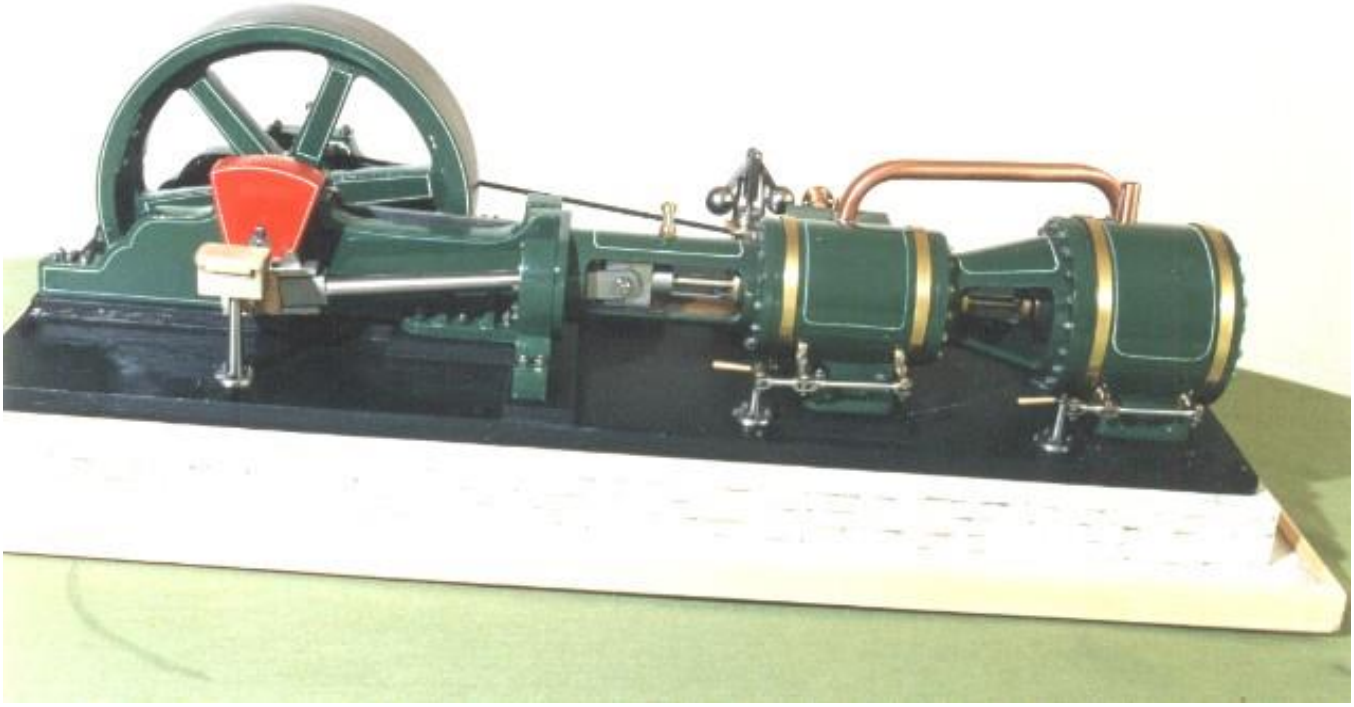
38-110 H Some men that worked around them called them a double 19 hp., and test house results showed they developed 110 hp. and perhaps could do more than this, so they could be rated as a 38-110 hp. engine. All three engines were steel geared for heavy traction work, and all

had the 32-100 hp. boiler with 54 two inch tubes nine feet long instead of the usual seven foot tubes. That made them a 'Longfellow' then. All had 4' crankshafts, crankpins and countershafts.



The Skinner Tandem Engine

In this design the cylinders are in line, the low-pressure cylinder in front of the high-pressure, as shown. There is only one piston rod, the high-pressure and low-pressure pistons being mounted on the same rod. The general appearance of an engine of this design is the same as a simple engine, except for the addition of the high-pressure cylinder. The governor is of the shaft type and operates by changing the cut-off in the high-pressure cylinder. The cut-off in the low pressure cylinder is adjusted by hand to divide the load equally between the two cylinders for the normal load which the engine is to carry.



The Tandem Compound Mill Engine became quite common in the late Victorian times and was still being used in the mid-20th Century.
This Model represents a typical Tandem Compound Mill Engine of this period and has been simplified especially for the model engineer.
We are offering the main castings separate to the machined cast base as some modellers

would prefer to use a wooden block with BMS bed plated and it keeps the price down. The cast machined base is for mounting on a wooden block.
Cylinder HP 1" LP 1 5/8" Bore x 1 1/2" Stroke - Flywheel 6" - Base 18 1/2" x 7"

As featured on the Front Cover of the Model Engineer No.3879 Vol 165 August 1990. Which was also the start of a series on the construction of this model.

Why women live longer than men

In the last newsletter was a photograph of a rider mower suspended from a crane to trim the top of a hedge. It should have had a caption .Why women live longer than men. Here is another one from the same source. Incidentally the mower photo is typical of the sort of stunt my oldest grandson would do. He has not tried it because he has never had access to a crane, thank goodness. At left the four
position electric plug socket is rest on two jandals. I assume it is 240 v. As that grandson is an electrician, I doubt he would try this stunt.

The jigger has been overhauled and painted, note the side panels have been replaced

Boating News

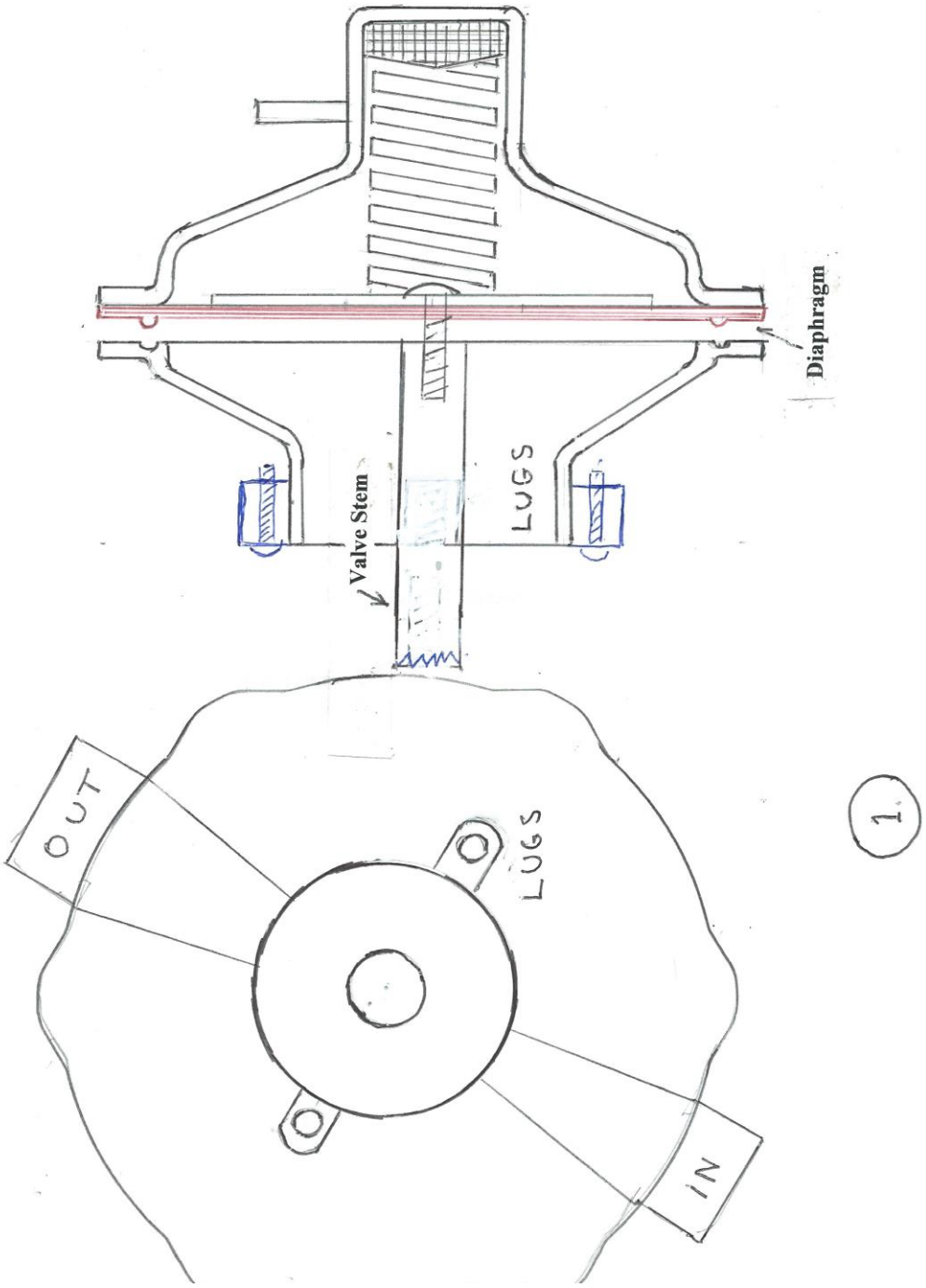
One Metre Sailing. Wednesday 8th April had a good fleet sailing with a shifty breeze. A glassy water surface made things confusing as to where the light breeze was coming from. Handicap starts enable the fleet to expand out and members to get a chance of leading. Gary Denniston has launched his new d5 and Gary Fitzgerald has a new v9 design. Both boats are beautifully made. We continue to enjoy sailing even though we get shifty conditions. Cheers Ken Fox

:

The Student who got 0% in his exams

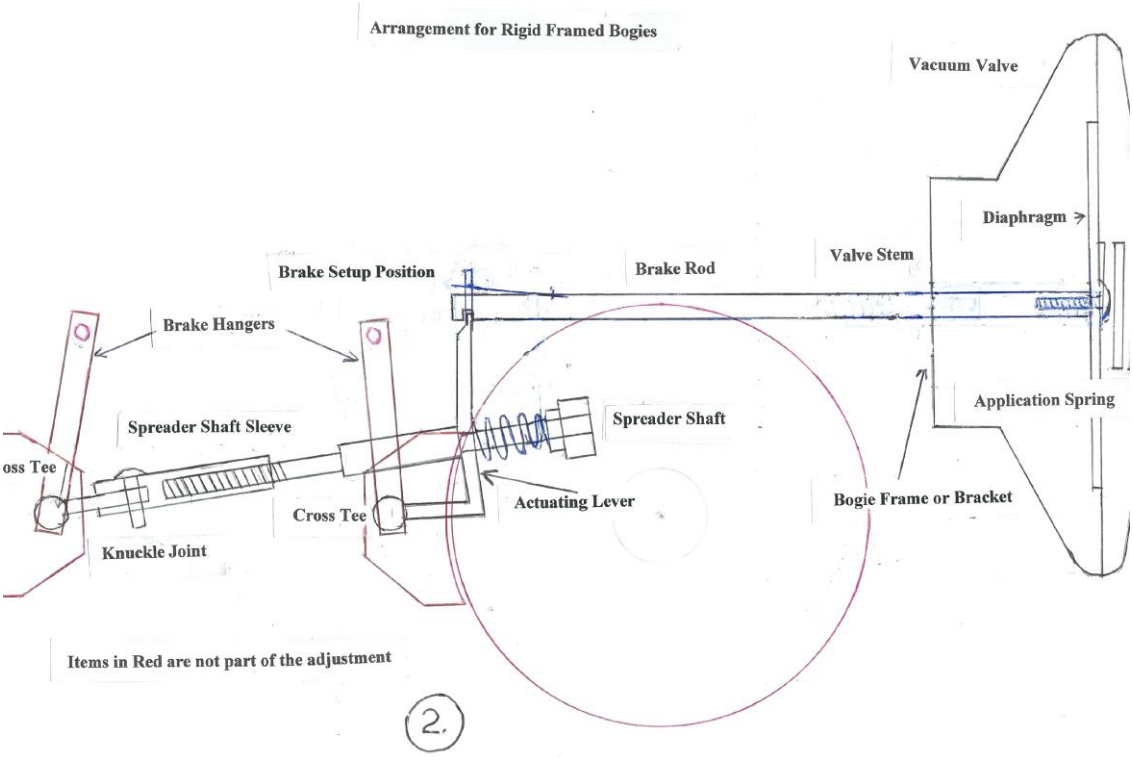
1. In which battle did Napoleon die? *his last battle*
Q2. Where was the Declaration of Independence signed? *at the bottom of the page*
Q3 River Ravi flows in which state? *liquid*
Q4. What is the main reason for divorce? *marriage*
Q5. What is the main reason for failure? *exams*
Q6. What can you never eat for breakfast? *Lunch & dinner*
Q7. What looks like half an apple? *The other half*
Q8. If you throw a red stone into the blue sea what will it become? *wet.*
Q9. How can a man go eight days without sleeping ? *No problem, he sleeps at night*
Q10. How can you lift an elephant with one hand? *You will never find an elephant that has only one hand*
Q11. If you had three apples and four oranges in one hand and four apples and three oranges in other hand, what would you have ? *Very large hands*
Q12. If it took eight men ten hours to build a wall, how long would it take four men to build it? *No time at all, the wall is already built*
Q13. How can you drop a raw egg onto a concrete floor without cracking it? *Any way you want, concrete floors are very hard to crack*

VACUUM BRAKES ON RIDECARS I put the following drawings in a newsletter a few years ago but in view of the 2016 convention I have been asked to do so again. There has been vehement opposition to the concept from some quarters, such, that I suspect some may be doubtful about the cost or complications. I can assure those put off by those thoughts, that if either were a fact, it (this brake system) would be beyond me. If I can do it, anyone can, and if there is a cheaper way I would love to see it.



AJAX VALVE CONVERTED

Drawing 1 shows the halves of the Ajax valve separated, but what I have not shown is the centre of the open half bored out to 13mm, for a 12mm valve stem. If you use brass or non-rust steel for the valve stem, then a minimum tolerance hole can be made, otherwise allow for paint.
To make things neater the water orifices are cut off and on flexible bogies filled in (side frames not fixed to the bolster) bolt the brackets from the bolster to the valve there, instead of using the lugs as in the drawings.
Inside the body the water orifices bulge into the space the diaphragm needs, so either reduce them with an angle grinder or on a lathe. The valve stem can be any length. The screw removed from the diaphragm is Whitworth and too short, comes unscrewed after a while, go 6mm x 20mm both ends of the valve stem. It needs a washer about 30mm dia. at the back of the diaphragm. The screws in the lugs have the same problem and need to be bored out for 6mm machine screws.



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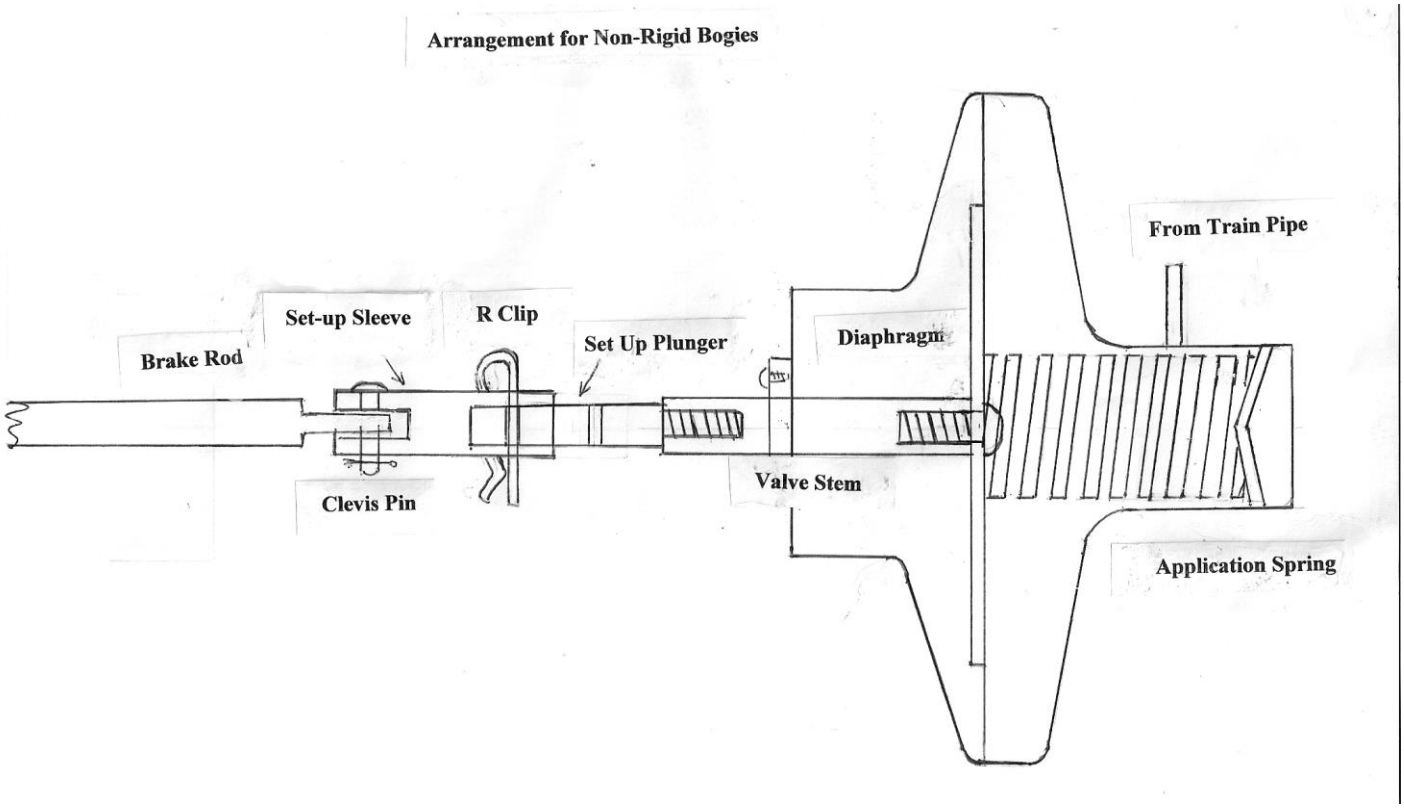
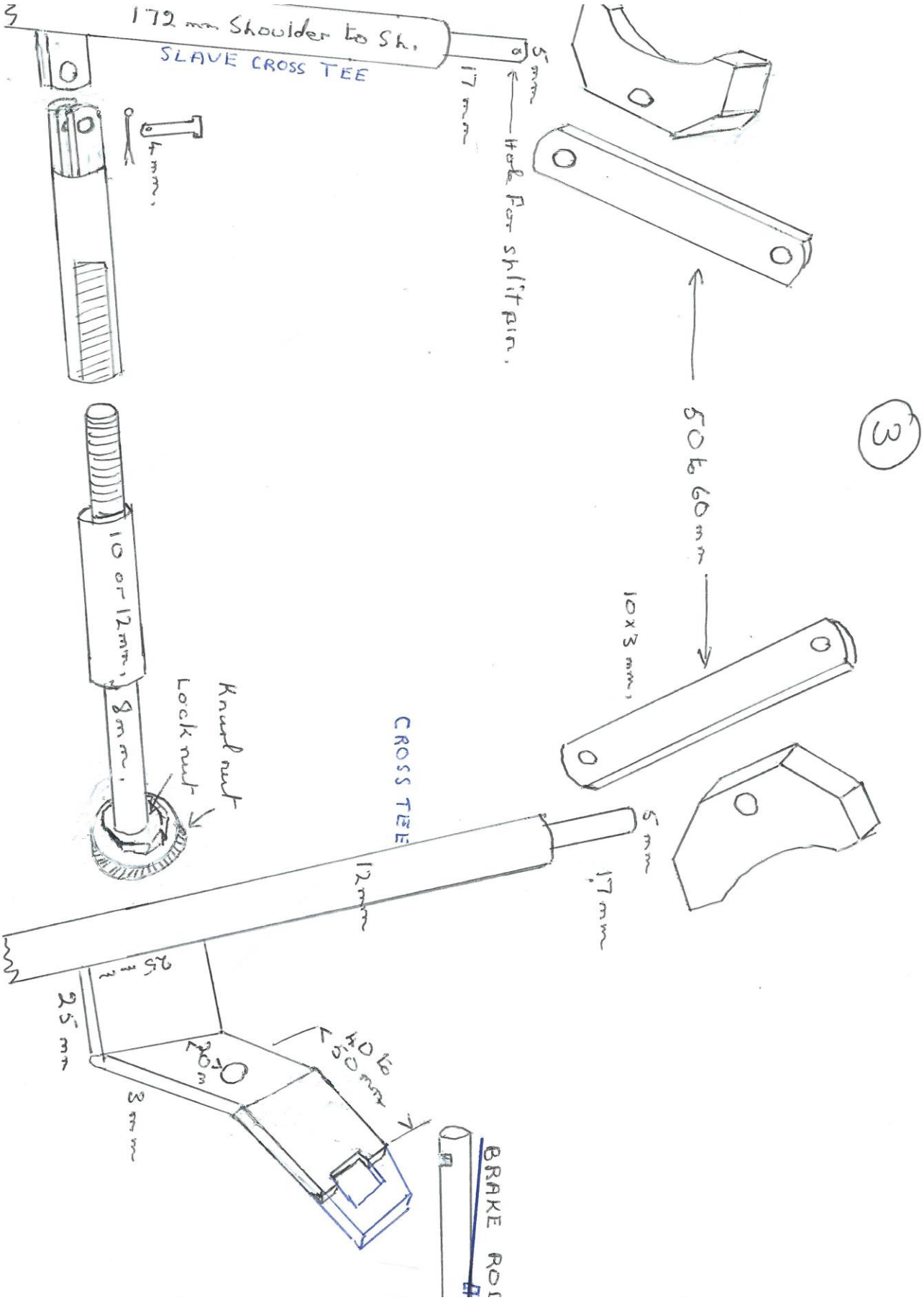
This arrangement below, is for the BV fixed to the body in a central position and an extended brake rod connects to the actuating lever



Brake Rigging



Drawing 2 hopefully gives an idea of how it works. The method of attaching the brake hangers to the side frames depends on the design of the side frames, but if the hanger is held on the stud by a split pin, then it is easy to dismantle. There is no set length for brake hangers, just whatever fits. The design of the actuating lever (3mm thick) is to keep it clear of the bolster and also gives a flatter angle of the spreader shaft, which can piece the hole at 90 degrees. The ratio of the hole at the top of the lever to the lower hole is 2 to 2 ½ times the distance of the lower hole to the angle at the bottom.
The weak spring on the spreader shaft is to stop any slop. The spring above the brake rod is only to stop the brake rod jumping out of position over points or rough track. Originally I used a piece of bicycle inner tube, but the model engineers complained, not professional looking. I have had one running without either and it stayed put, the natural position of the brake rod set at a couple of mm lower than the top hole of the actuating lever.
Brake blocks are 10 to 12mm thick. Any hard wood will do, kwila is readily available or puriri. Combined brake block and hanger has several disadvantages, it splinters in a derailment, dropping the brake rigging on the track and causing mayhem, and it is also harder to renew worn brakes.
The spreader shaft is about 100mm long but that will depend on the distance between tyres.

Drawing 3 is supposed to be an exploded view, it looks more like a bomb has exploded, never mind, you were warned. The horrible looking thing on the end of the spreader shaft is a supposed to be a knurled nut and a lock nut. The lug on the slave cross tee is parallel with it, (Horizontal). The hole in the actuating lever needs plenty of slack to prevent binding when the brakes are applied

Further to the vacuum brake instructions, we use copper pipe 4.9mm outside measurement and rubber hose 4mm inside measurement. The rubber hose can be bought from REPCO. I think I got the last lot of plastic caps to seal the end pipe on the trailing ridecar from Para Rubber. I hope it is all coming together for you. Some fittings on locos with vacuum are larger, but this has the disadvantage of allowing the leading ridecars to stay ‘Off’ when the train has parted or the vacuum is destroyed at the rear of the train owing to some mishap and the engine driver’s BV is still in release, as he is unaware of the situation. Even with the recommended size the leading ridecar brakes can stay on.

Operation of TMMEC Ridecar Brakes

The ‘Fail Safe’ brake system uses vacuum to release and hold the brakes off, and a spring to apply pressure to the brakes when the vacuum is destroyed, either by the Engine driver’s brake valve, or a break in the train vacuum pipe.

To set up the brakes for running, create a vacuum in the brake pipe, Remove the ‘R’ clip, and line up the hole in the sleeve with the hole in the plunger furthest from the brake valve. If there is too much slop at the brake blocks, the brake rod can be unscrewed a few turns in the knuckle to lengthen it and take up excess movement at the brake blocks.

To move with no vacuum, remove the ‘R’ clip and line up the hole in the sleeve with the hole in the plunger nearest the valve, insert the ‘R’ clip or just clip it to the valve bracket.
To set up with the direct valve stem system, create a vacuum in the brake pipe, push actuating lever towards the end of the stem until the stem’s notch clicks into place.
To release with no vacuum available, the solid valve stem is raised against the spring to release the notch in the valve stem from the actuating lever and the lever can then be moved towards the brake valve to release the brakes.

"Have you ever seen a twenty pound note all crumpled up?" asked the wife. "No," I said.
She gave me a sexy little smile, reached into her cleavage and pulled out a crumpled twenty pound note.
"Have you ever seen a fifty pound note all crumpled up?" she asked.
"No," I said.
She gave me another sexy little smile, reached into her knickers and pulled out a crumpled fifty pound note.
"Now," she said, "have you ever seen 30,000 pounds all crumpled up?"
"No," I said, intrigued.
"Well, go and take a quick look in the garage