NZFMM MAGAZINE

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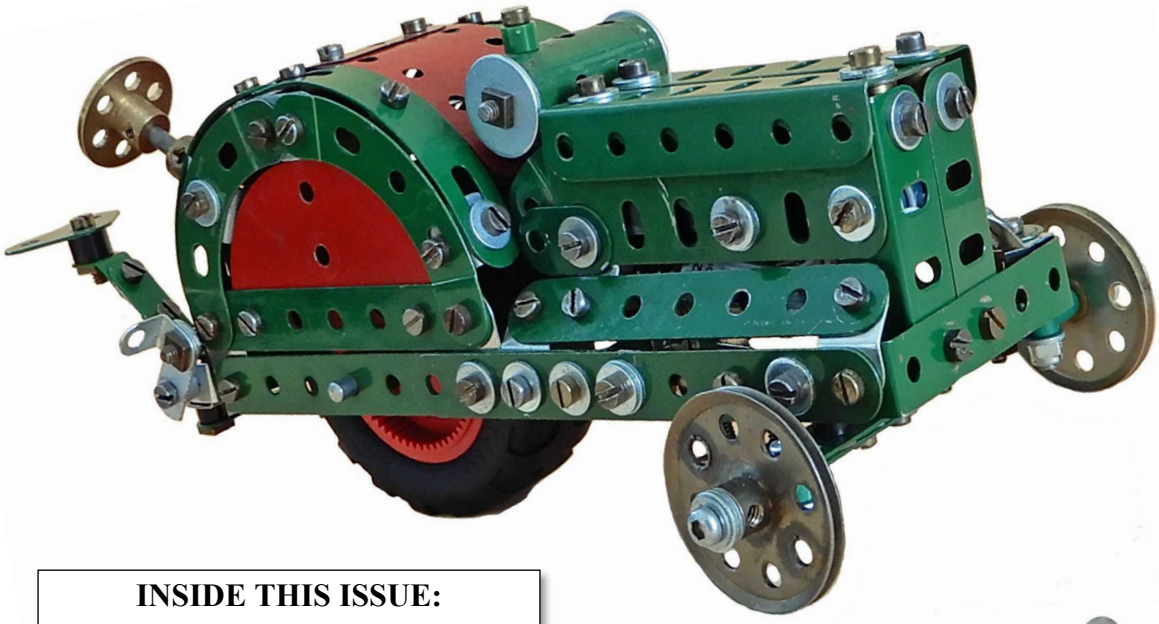

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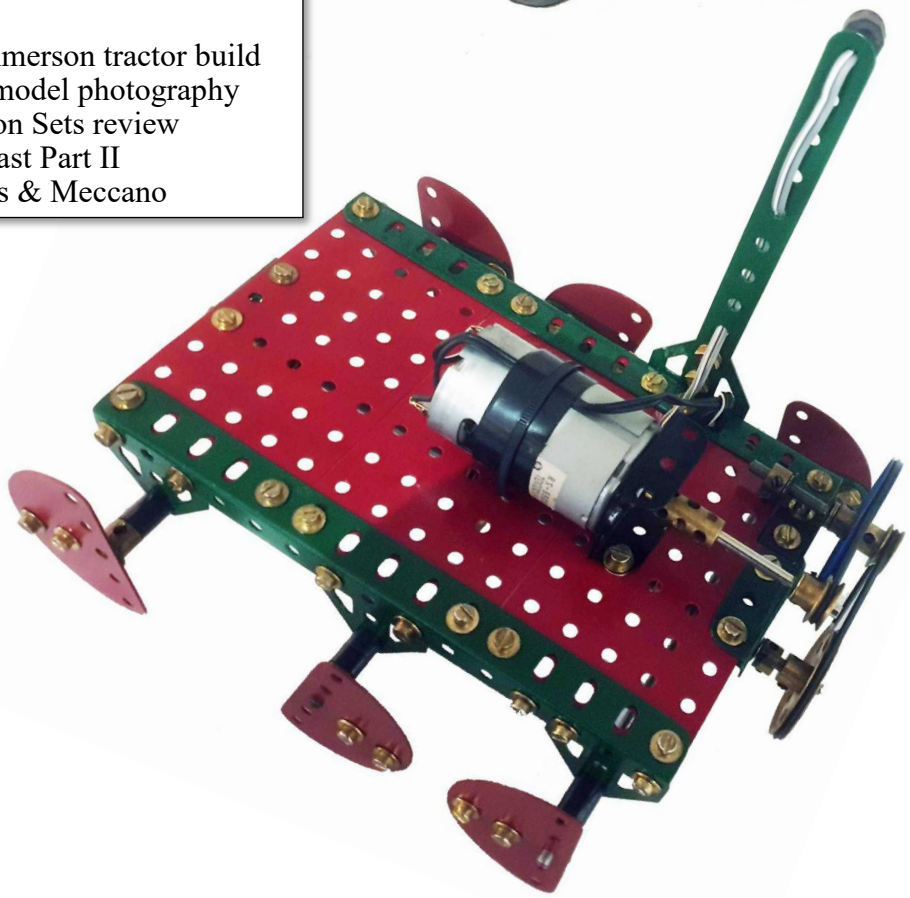

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From the Editor

Tēnā koa, fellow Meccanomen.

The Chinese invocation—"May you live in interesting times" has never been more apt. From silent invisible enemies hammering relentlessly at our borders to more obvious ones in high office overseas, to have developed a siege mentality is a completely understandable response. But it takes more than a few portents of Armageddon to upset a true Meccanoman. Witness the members of the Wellington Meccano Club who conducted virtual meetings within cyberspace during lockdown, exchanging emails of their latest and greatest creations. Rumours of massive alterations and improvements to various Meccano Rooms abound, although it is difficult to know how much credence to give them, without as Iago put it, 'ocular proof'. I do wonder what St Frank would have made of it all.

It has meant however a paucity of club news for this issue, with reports from Christchurch and Wellington only. **David Littlefair** (*CMC*) stepped up with a detailed account of his beautifully detailed bus builds, while our regular contributors**, Bruce Geange** and **Bruce Durdle** are here for you to enjoy, ably assisted by **David Glenday.**

Hopefully life will be a little more like normal from now on, giving you plenty of opportunity to work on those models for the Easter Convention in Waikanae in **March 2021**.
Best wishes
Richard

CONTENTS

Of Buses and Other Things

By David Littlefair
CMC

My last article was published in the February 2018 issue where I finished by saying watch this space!! So I thought it is now about time to give an update on where I am at with my latest models. The lock-down period was great for model making!! The Dodgems mentioned in the last article are still a work in progress in that I have now purchased enough of part 236 flanged plate to cover the roof area as well as the floor area. These now need to be stripped back to the base metal so that a much better contact is made with the dodgem cars to power the motor inside them.

I also finished both the double decker bus models mentioned in the article. One is based on model plan 10.5 and is the old London Routemaster bus and this was completed in red and green colours. (*Fig 1*) I was lucky to have the assistance of a fellow CMC member who had abundant quantities of red plates 188 and 190 to make up the seats. I adapted the plan to make it open top but was not happy with the chassis format and so did dismantle this model with a view to rebuilding the chassis but have not got around to that so far.

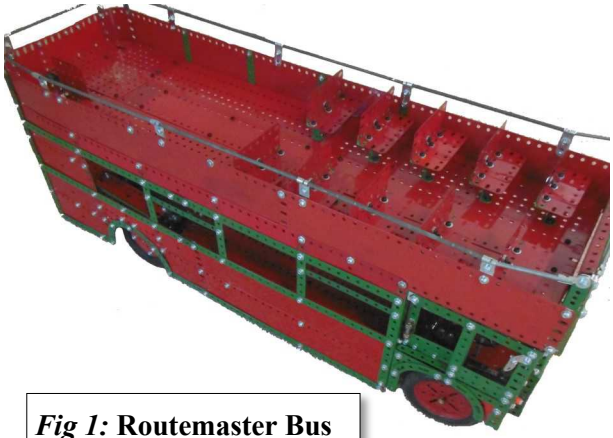


Fig 1: **Routemaster Bus**

The other bus is based on model plan 63 and is a Daimler Fleetline using zinc and yellow parts and this was also made into an open top bus. I have made the top deck detachable and so when removed the downstairs inside detail can be seen. (F*igs 2 & 3.)* This is both a large and heavy model which puts a strain on the front and back axles but does steer quite well. There is a differential on the rear axle but otherwise no gearbox or motor.

More recently I have made a single decker bus with blue and yellow parts and this is based on a model plan published in the January and April 1979 Meccano Magazine of a Leyland National bus. (*Fig 4 overleaf)* It is one of the longest models I have made at just over a metre and I have made the seating areas in sections so they can be taken out and the main body is also detachable. It has working steering and again a differential but no gearbox.

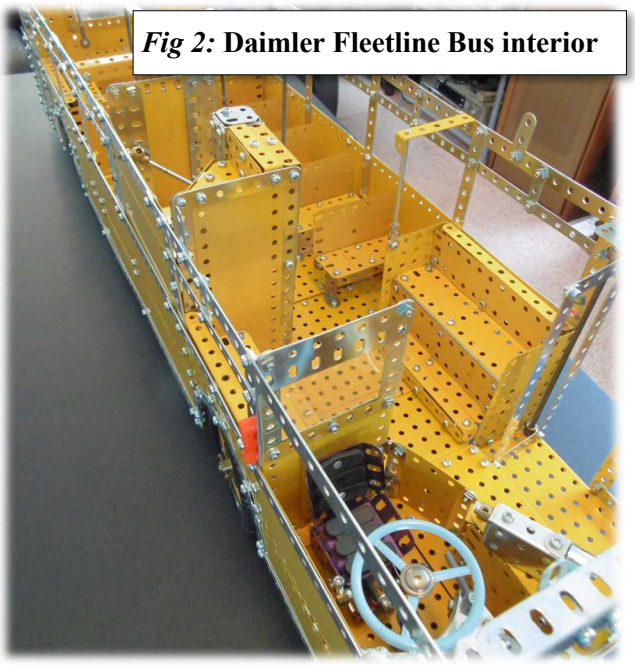


Fig 2: **Daimler Fleetline Bus interior**

Fig 3: **Daimler Fleetline Bus**

The caravan I made from Model Plan 216 is now complemented by the car also included in that plan which was designed by Alex Barker. I have made further models based on the published plans of Alex and am grateful to him for sharing his passion. I tend to initially follow his plan and then amend as I think fit. The caravan has a separate roof panel which can be lifted off to show the detailed interior and the car has opening bonnet, boot and doors plus motor and gearbox. The body can also be separated from the chassis.

Fig 4: **Leyland National Bus**

Following on the above theme I decided to make a model of my own car and caravan in approximately 1/10th scale. The car is a Ford Territory and the caravan a UK made Bailey Senator Wyoming twin axle. *(Fig 5*) Again I have used zinc, blue and yellow for the colours. I am pleased with the final version of the caravan which also has a detachable roof which can be taken off to show the interior. There are 34 hinges used as all overhead and outside lockers open as do the cooker drawer, fridge door and the bed lifts up. The shower is made using white parts and the cassette toilet can be emptied from the outside too. The caravan has a working handbrake to the front set of wheels. A moveable jockey wheel and also working steadies on all four corners which move up and down on a screwed rod. The Territory has steering and opening bonnet, tailgate and all four doors, another 12 hinges.

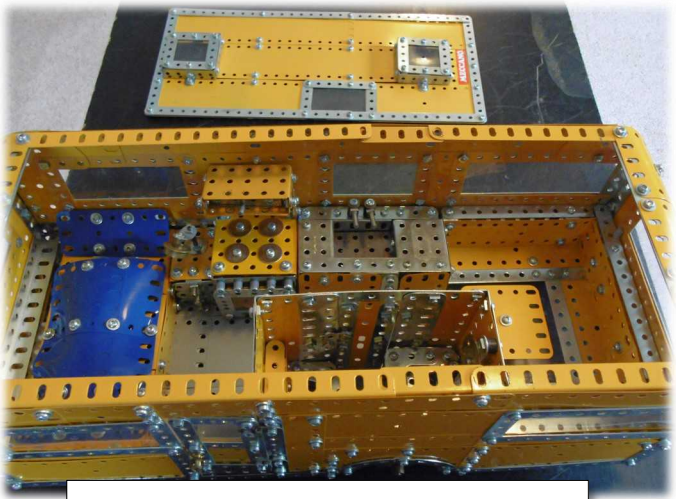


Fig 5: **Baily Senator Wyoming caravan.**

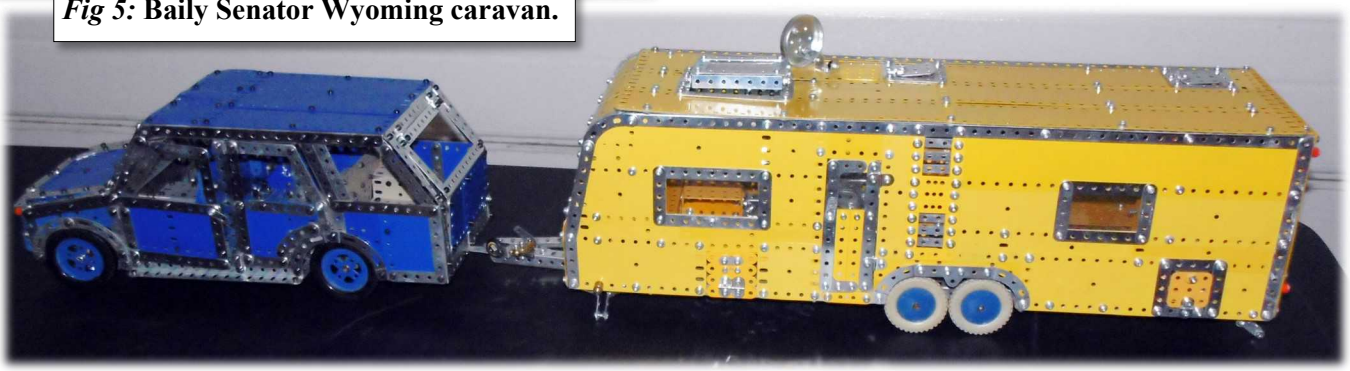
I am currently working on another Alex Barker plan number 242 which is a mobile home based on an old converted coach. My favoured yellow and zinc again for the parts and these days I tend to try and have matching shades of yellow wherever possible. It is not quite finished as far as the interior is concerned but looking pretty good so far.

Finally I am also in the middle of making the Simon Snorkel fire engine based on model plan 150 from June 2004. This time I am using zinc and red parts of course. The basic model is completed but the mechanism to raise the platform is still a work in progress. The plan uses strong string to raise the booms but I am not sure about this method.

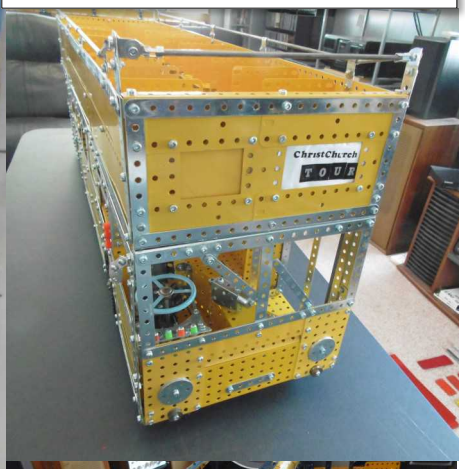
Readers may recall I have some Meccano and Bayko models on display at the Toy Collector museum in Christchurch. Well this has now moved to bigger premises at 36 Manchester Street and is now called **The New Zealand Museum of Toys and Collectibles**. It reopened on the 13th July and my models are still there on display along with the addition of the yellow double decker open top bus and the original car and caravan. Over the past few years I have also taken a keen interest in Lego models and in particular the larger Creator Expert and Technic ones. There is a large Lego City display which includes a working fairground and a football pitch. The latter are all my models along with many vehicles and buildings which have lighting in them and on display in a darkened area. The museum is now open 7 days a week and well worth a visit next time you are in Christchurch.

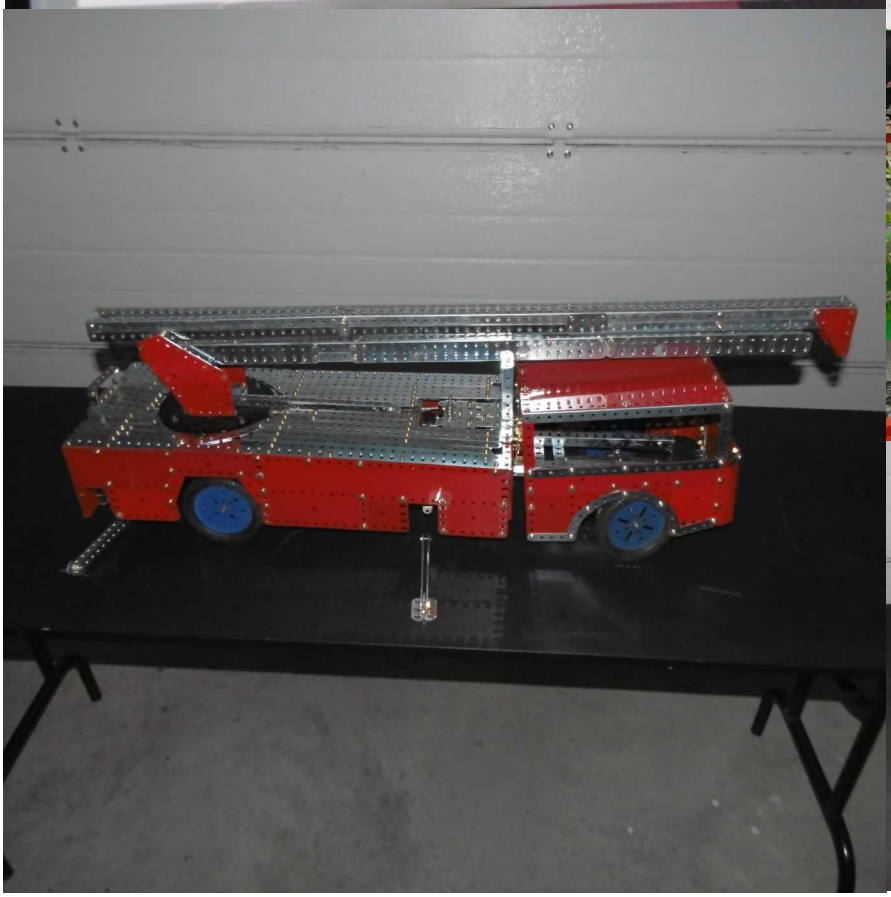
Until the next time, happy modelling.

David Littlefair
Christchurch Meccano Club



Left: NZ Museum of Toys & Collectables display of Bayko
Other: Various items on display including those by **David Littlefair, CMC**





David Glenday continues his West Coast Odyssey

Our recent travels have taken us back through the Haast Pass. It is interesting to note that this road linking our West Coast to Central Otago was only completed in 1966, and fully sealed in 1995. The road continues to be a challenge to engineers and maintenance crews with the high rainfall, flooding and slips.

In the last article we looked at Waimangaroa and the Coal mines of the Denniston Plateau. I refer to readers to https://omausettlerslodge.com/learn-history-of-coal-mining-in-new-zealand-at-denniston and in particular to the **NZ Archives/National Film Unit Pictorial Parade No. 195 (1967) *"After 90 Years"*.** This shows the overhead cable system at work. Refer also to http://www.denniston.org.nz/about.htm

Until the 1950's the coal from the mine faces was brought to the head of the incline and sorting areas by narrow rail. The track was hand built over difficult terrain and required constant maintenance. Prior to WW2 consent was given to construct an overhead cable system that would be a more efficient method of bringing the coal across the plateau by buckets, and in line with overseas practice, and the ropeway commenced in 1952. The MM's of Jan/Feb 1930 describe a sophisticated model of this system.

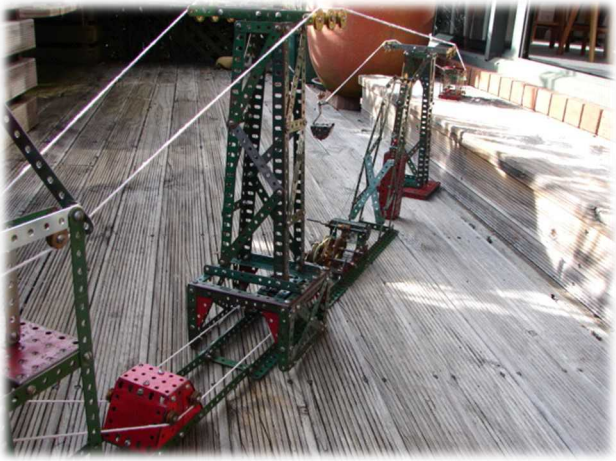


Fig 1: **Denniston Incline cable tensioner**

My simple model imitates the system at Denniston and incorporates the cable tensioner with balance weight. The remains of the tensioning system can be seen at Denniston and one of the towers remains near the public car park.

The coal was poured into wagons waiting to go down the incline and onto Westport.

Fig 1: **Detail of cable tensioner system**

The coal mining areas of the West Coast and the Denniston plateau have many historic and nostalgic items of machinery and transport on display that will inspire Meccano men and women. A visit is certainly recommended.

David Glenday

THE NATIONAL TRANSPORT AND TOY MUSEUM WANAKA

My wife and I recently enjoyed travelling in Central Otago, including a visit to the Transport and Toy Museum outside Wanaka on the Luggate highway. Readers may be familiar with the Museum adjacent to the Wanaka Airfield.

The Museum caters to 'boys' of all ages and genders! The late **Mr Gerald Rhodes** created this impressive collection of vehicles, planes, and toys.

[*see:* https://nttmuseumwanaka.co.nz/about-museum/]

The collection of vehicles is vast and one needs days if not weeks to look at everything in detail. English cars from our boyhoods nestle under aeroplane wings and huge American cars appear alongside Russian MIG jets and lines of obsolete Fire Engines and machinery.

The Toy Museum is in a shed sharing old cars and motorbikes, but not always well lit, nor classified. So you wander past cabinets of toys of every description finding Dinky's amongst various model cars, and Hornby clockwork trains sitting sadly in cabinets near the public toilets !

Meccano gets probably the best treatment, in a well lit section, sharing space with Lego, but the full height cabinets house various Meccano parts, collections, and impressive models of all colour periods. Talking to the daughter of the late Mr Rhodes, and now Manager, I learned that **Neil Pluck** had a major role with the displays.

Accordingly Neil comments as follows:-

It all started about 15 years ago I repainted some parts I had at home and made 2 blue and gold models. A friend of mine was going to Christchurch swap meet and asked if I had anything for him to sell. I gave him the two models to sell.

Gerald Rhodes (Owner Wanaka Museum) went to the swap meet and brought the 2 models I had made. He said they had some Meccano they need to be made up into a model display. I phoned the museum and had a talk to Gerald's son and daughter who both run the museum. I arranged a trip to Wanaka and with some models in hand to show them.

We discussed what the museum wanted for a display and came home with a car full of boxes of Meccano. After many weeks sorting Meccano I started building models. The models they wanted were a block setting crane (from the cover of Meccano instruction manual), a big Ferris wheel (just over 2 m tall) and a copy of my Ka NZR Loco

And I have kept building since. I have almost another car load of models to take down to Wanaka,

Every few years I would take a car load of models to Wanaka and add to the display. A couple of members from the Christchurch Meccano club wanted to make a model so I gave them some parts and they made a model each which are now on display.

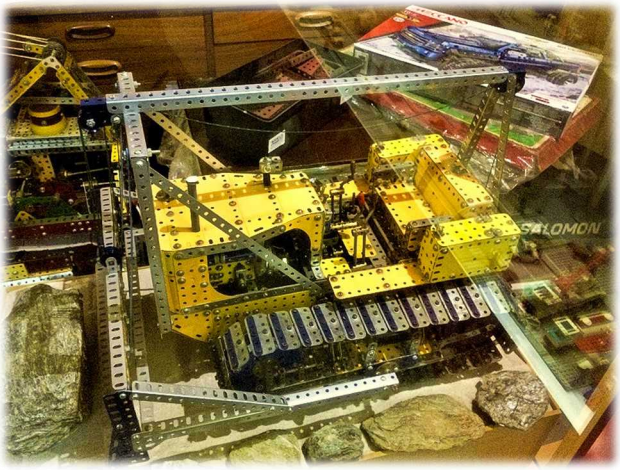
About 80% of the models on display I have made over the years. The Blue and Gold Queen Mary suffered a bit in the Christchurch earth quakes so I had to do repairs before it went to Wanaka. (see page 26 for bigger photo.)

- Neil Pluck. -

A visit to the museum is of course recommended both for the vehicles and the toys. But be advised to allow plenty of time to browse and reminisce. If you think family members may not appreciate, then Wanaka itself may appeal to them, but a visit to the toy shop by the reception may be sufficient enticement !

I include some photographs taken with my iPhone.

David Glenday



A selection of items in the Wanaka National Transport and Toy Museum that have been built by **Neil Pluck**.

REMINDER: ONLY 231 Building Days to The Easter 2021 Convention !

Report of the Christchurch Meccano Club for August 2020.

Well, here we are with a bit of a catch-up. I missed the May Magazine because I thought mistakenly that there would be no issue due to the Corona lock-down.

I first have to pass on some sad news; our club member **Joffre Marshall** died suddenly on 15 July. Joffre will be remembered as a valued, kind and always gentlemanly member of the Club. His fine-engineering skills were highly valued by all and he was a faithful contributor to all our exhibitions. Also, **David Lang** had a mild stroke. Fortunately it happened at his doctor's surgery, so the quick intervention there helped to mitigate the severity. He is now recovering at home.

Due to fortuitous timing of the lock-down, the Club has missed only two meetings. The February and March meetings were used for planning of the intended exhibition at Easter in Ashburton. In vain, as it turned out. There was a good selection of models with themes of locomotive and open model respectively. After the enforced break we returned to meetings with nearly full attendance and a new project to plan. The Christchurch Arts Centre is rather short of money, so **Mike Howse** suggested an exhibition in the Great Hall with proceeds going to the Arts Centre. This was explored during June, with the vote to proceed with this held at the July meeting. The exhibition will be held on Labour Weekend at the Great Hall. Setup will be Friday with exhibition days on Saturday, Sunday and Monday. So, if you are at a loose end that weekend, feel free to come and visit (with or without models). The meetings again had a good selection of models on display.

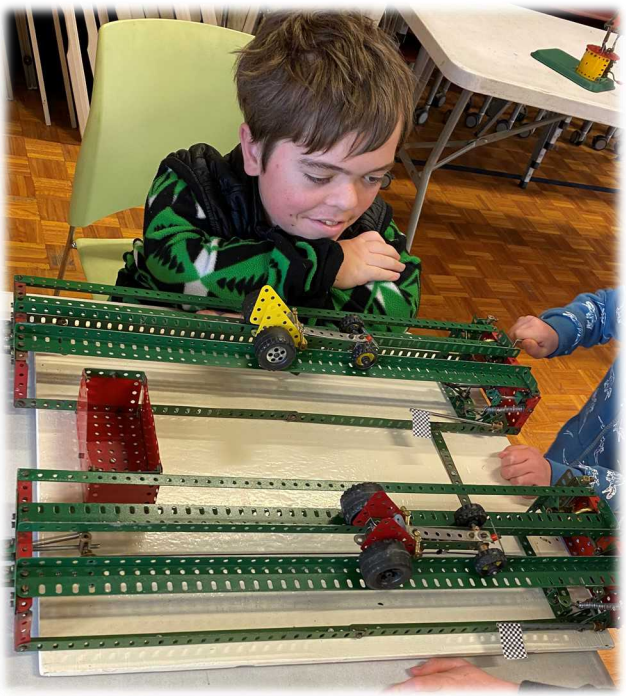
In other news we are delighted to inform you that the Christchurch Toy Museum (the toycollector.co.nz) has re-opened in much larger premises. Club member **David Littlefair** is active in Meccano, Bayko and Lego. He has lent a large number of his models and Lego-layouts to the museum. The highlight is a set of lit models in a short, darkened tunnel. These models create a great effect.

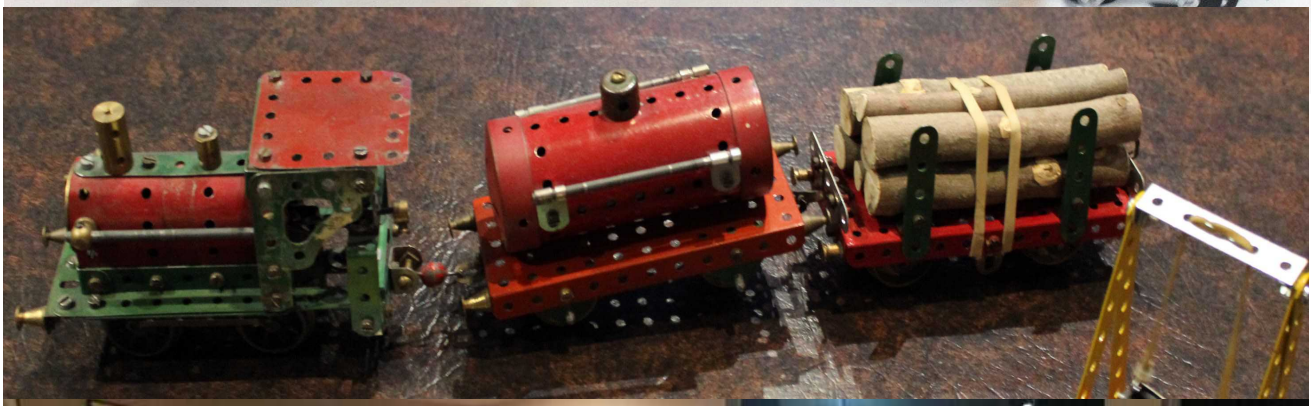
You will have noticed that our President (usually address as "His Meccanofull Highness") has been selling a quantity of general Meccano parts. These are from the collection of **Cameron McFarlane**, who has had to move into a Care Home after a heart attack prior to the Covid lock-down. Because Robert has to move into a one-bedroom unit I am now selling most of his Knex collection on Trademe (trading name "Gassel"). Robert will however keep a few of his bigger models to add colour to our future exhibitions.

The writer was invited to hold a mini-show at the local primary school as part of holiday activities. This was done 17 July. With help of **Nathan** and **Alex Lang**, who independently managed the Temse Crane and drag-racing set respectively the morning was a great success with great participation by the children, as every model had a "please touch" label.

In closing, we are planning our attendance for next year's convention (Covid permitting). So we look forward to seeing you all there.

Roland Jaspers





Top left: "The Joywalker" by **David Lang**
Top right: Sewing machine by **Kevin Downie**
Upper: LNER 'Flying Scotsman' by **William Storer**
Middle: Train Set by **Thomas Woermann**
Bottom: Christchurch Meccano Club meeting

PHOTOGRAPHING MECCANO MODELS

These days it is all too easy to whip out your phone and snap a collection of images of your latest creation. While the phone cameras are becoming increasingly sophisticated many people ignore the basic rules of model and small object photography. It seems silly to spend long hours constructing a masterpiece then selling yourself short in portraying it to the world.

These tips are presented as a help to obtaining the best quality pictures that you can. Although they are aimed primarily at smart phones they apply equally to SLRs and digital cameras in general.

LIGHTS: If there can be said to be a single most important thing then it has to be light. There is absolutely no substitute for good lighting, and by far and away the best is natural sunlight. The man-made version is a cheap and nasty imitation. Although our eyes and brain can compensate for the inadequacies of artificial light the camera sensor cannot. It will render the picture in abnormal hues giving your pristine red part 197 a Trump-like orange tinge. If you *have* to use artificial light;

- Avoid incandescent bulbs.
- Use more than one light source to avoid casting hard shadows.
- Illuminate the area of interest as well as the model, where possible.

CAMERA: Regardless of whether it is an iPhone or an SLR most of us use the default camera settings. Usually these are optimised for portraiture, and are not likely to bring out the best in a Meccano model. Incorrect focus, movement blur and aperture mis-settings can be avoided by using the manual settings.

- Focus on the model itself, not the surroundings. Most phones allow you to focus on a specific spot by pressing the screen at that point and holding for a few seconds before exposing.
- Hold the camera rock steady, preferably against some solid object if you can't use a tripod or other mounting.
- Use the volume button to expose.
- Use manual settings to adjust sensitivity and aperture. Remember that the depth of focus can be reduced by widening the aperture, thus emphasising a particular feature of the model.

ACTION: Set the scene.

- If your shot is of the model in isolation do it against a plain background, not a patterned tablecloth. Ideally it should curve up behind the subject so that later post-processing is made easier. Lighter is better.
- Try unusual camera angles. The vast majority of photographs are taken looking down on the model at 30 degrees. Crouch down to tabletop level or rotate the model into other positions to show fine detail clearly..
- Pose the model in a way that reflects its purpose.
- Build a diorama that reflects the nature of the model, even just one other associated object or perhaps a figurine can work wonders in livening up the scene.
- Get closer. Fine detail is easily lost so a *really* close-up shot is essential if you are describing something intricate.

POST-PROCESSING - aka Photoshoping. Some familiarity with the basics of this are an enormous help in turning an average shot into a stunner. Even the Photo app that comes with Windows provides some useful tools, such as:

- Cropping - reduce the area of interest to just the model.
- Brightness - remember that photos tend to be darker in the printed version than on your screen.
- Contrast - softer images tend to display as more realistic.
- Special effects - use these sparingly. Sometimes monochrome or sepia can be dramatic in the right setting, but generally it's better to stick to the more basic post-processing settings.

Richard Feltham
MWT

The Wellington Meccano Club

Minutes

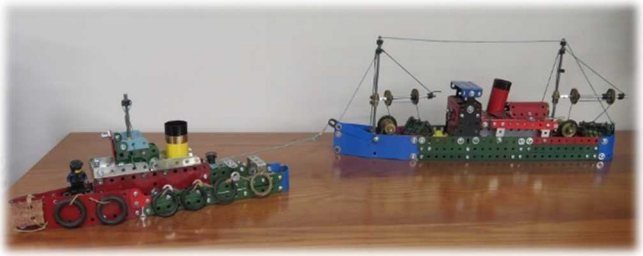
Reporter – **Max George**

Meeting Date: Friday 3rd July 2020 at 7:30pm at Lou's place, Paraparaumu.

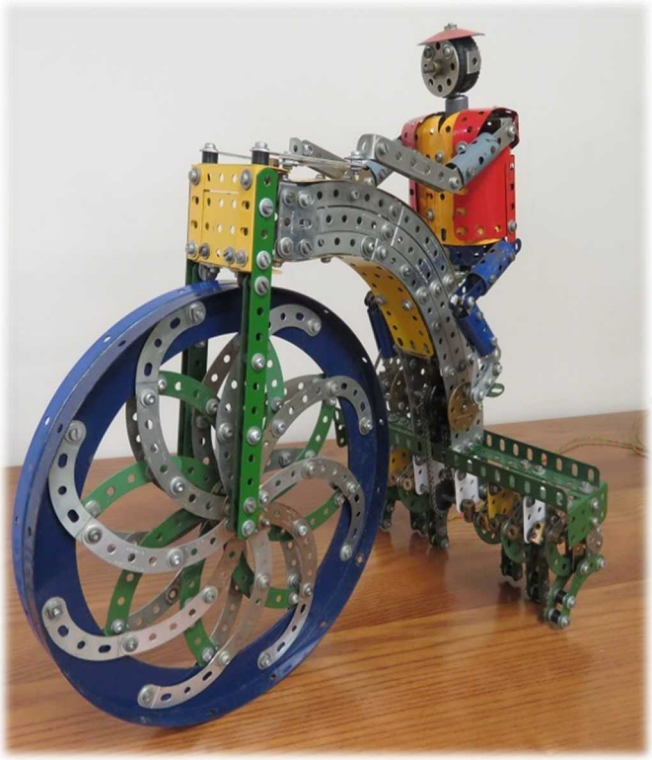
Model Building:

The theme for the meeting was something your wife would like to use.

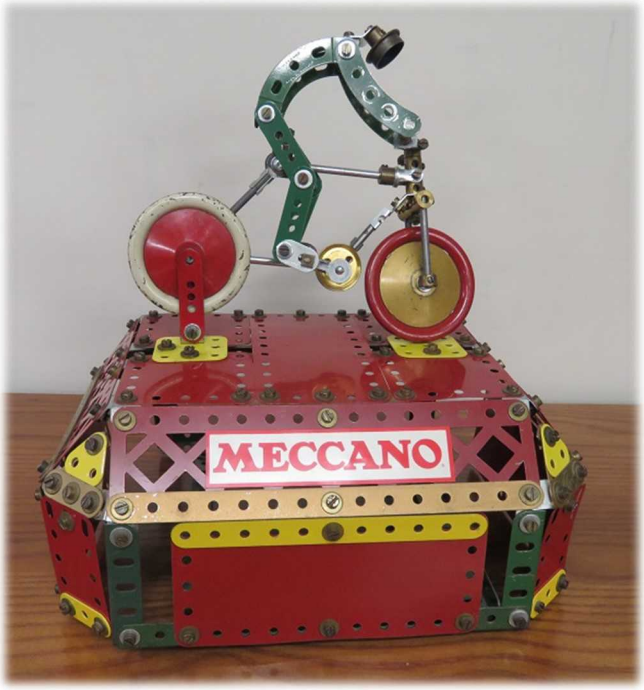
Brian Petersen: Brought along his tugboat from the previous meeting but this time it was tugging a Liner. They were very realistic models.



Bryan Jones: An ex-member of our club who is now with MWT organised his return home from work to join us at our meeting and brought along his Spider Bike that was displayed at the Inglewood Convention last Easter.



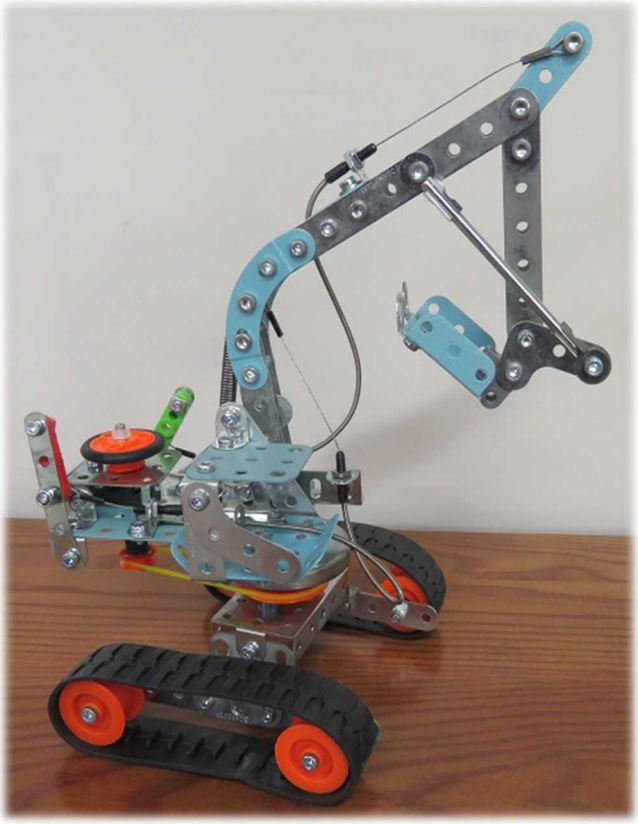
Lou Nichols: Has started making cyclists for a peloton and so far has one cyclist ready to race. This was built from a pre WWII magazine and the cyclist was not easy to build.

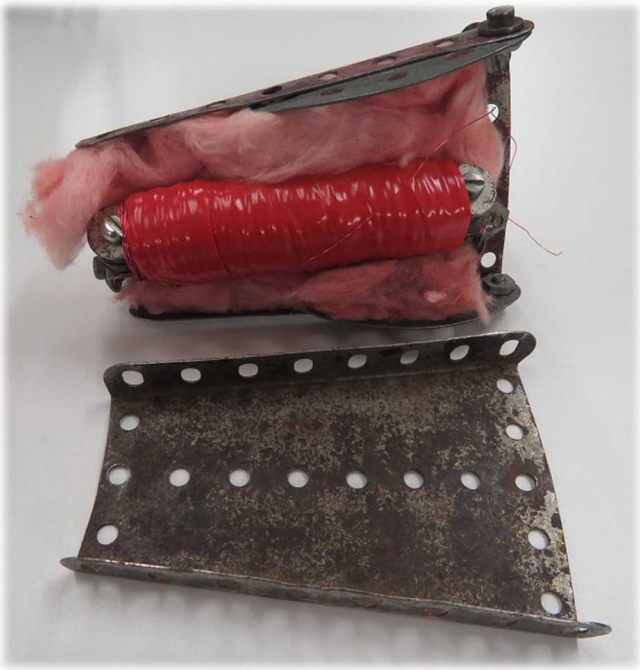


Max George: Brought along a couple of models built by members of his U3A Meccano building group that meets at his place twice a month for a couple of hours to build models. Most of the models are from sets Max has.

Truck from the Evolution Series 7200. It took quite a while to build and unfortunately was hampered by some parts missing.

Crane from the Multi Models 15 Model set 6515 and has been the most popular model built by the U3A members.

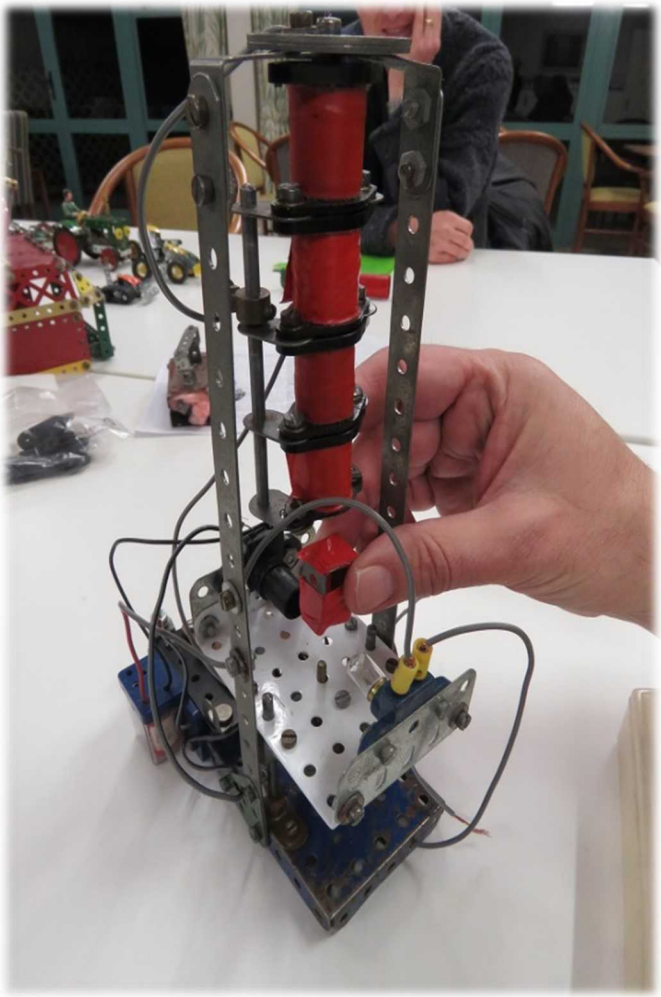




Paul Roberts: Made a Smoothing Iron from a 1920 manual as the model his wife would use. He wound the coil himself and then wired it up to a 12v supply and after ½ hour it had heated up to 2°. The original model used iron wire but Paul used copper wire instead.

Now that Paul has returned to building models, he is working on a suspended piece of Meccano that should vibrate up and down. The idea is for the magnets to pull up the piece of Meccano but as it rises up above the light beam it is 'connected' and the circuit to the magnets broken letting the piece of Meccano drop but this then causes the light beam to be broken and the magnets brought back into play. Due to this the piece of Meccano should vibrate up and down near where the light beam shines.

Above left : U3A set 6515 Crane
Middle left :Inner workings of Paul's Smoothing Iron.
Bottom left: Smoothing Iron exterior
Below: His optical Meccano oscillator

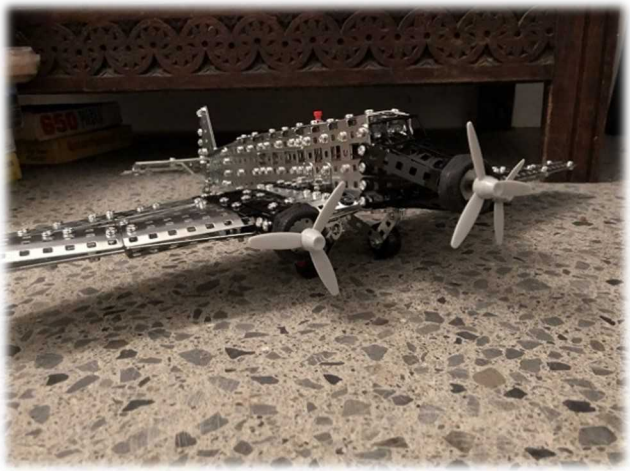


Reg Barlow: Has been busy building a very realistic Pirate Ship. *(see overleaf)*

Keeping with his nautical theme Reg has also made a Tugboat.

And to keep with the theme of the meeting he made a Deck Chair his wife would like and 2 smaller Deck Chairs for grandchildren.

Robert Vale: Unfortunately couldn't make the meeting. However he did make this model recently, not quite Meccano, it's a modern German equivalent called "*Tronico Spiel + Technik*" which uses parts with square holes (but round bolts). The model is a reasonable scale model of a Junkers Ju52 airliner and it was quite a tricky build, particularly towards the end. Just over 900 parts.



The photo below is of the real one from https://commons.wikimedia.org/wiki/File:Ju52_D-AQUI_front%2Bbelly.jp

Ross Quayle: Unfortunately couldn't make the meeting but sent an email with his Deck Chair being a model his wife would like to use.

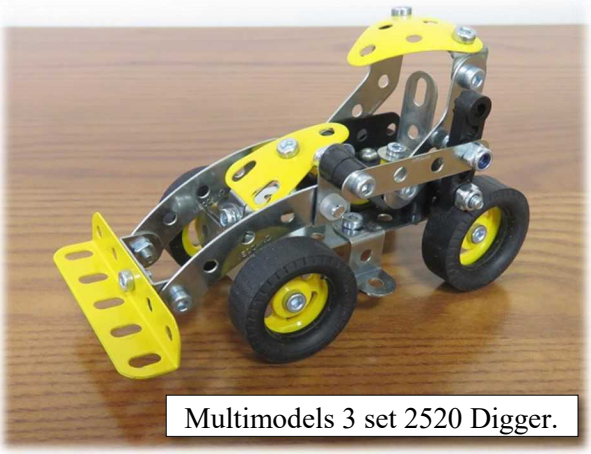
McCormick Tractor and mower

Fordson Tractor and plough.

Stephen Westmoreland: Steven brought along two tractors that he has built from Bruce Geange's book. They are superb little models and well built by Steven.

Maxi Kit 0708B Excavator

Engineering set 18208



Multimodels 3 set 2520 Digger.

He also brought along these two other small models.

Trevor Green: Trevor had made an excavator from the new Engineering set 18208. Oh dear, what has become of metal Meccano!

Next Meeting: Will be on **7th August** at Stan Baker's place in Lower Hutt. Theme for next meeting is something with a motor.

2021 CONVENTION UPDATE

VENUE: Waikanae Memorial Hall
7 Pehi Kupa Street
Waikanae

DATES: Friday 19th March - set up and members only day. AGM
Saturday 20th Public admission
Sunday 21st Public admission

REGISTRATIONS: These are in the pipeline and will be included in the November Issue.

1916 EMMERSON FARM TRACTOR

By
Bruce Geange MWT

These tractors had one large driving wheel at the rear that was offset to one side and fully covered with the front axle also offset. One of these was on display at a Vintage Machinery weekend that I was involved with where photos were taken (*fig* 1).

Fig 1

The main frame (*figs* 2, *3 & 4 opposite page*) consists of a $2^1/_2$" x $^1/_2$" Double Angle Strip with a $4^1/_2$" Strip Bolted either side, with the right side having an Obtuse Angle Bracket in between and an Angle Bracket on the left. The second hole on the left has an Angle Bracket facing out with hole four having a second Angle Bracket. The right side second hole has an Angle Bracket facing in with hole three another Angle Bracket by the slotted hole and spaced with a Washer facing the rear. Hole five has a third Angle Bracket fixed by the slotted hole facing the front with two washers under the bolt head.

These strips are extended with a second $4^1/_2$" Strip either side lapped four holes and fixed to the inside. Hole seven on the right side from the rear has a Fish plate with hole eight an Obtuse Angle Bracket. In hole nine a second $2^1/_2$" x $^1/_2$" Double Angle Strip and all bolts here having Washers under the heads on the right side. On the left side there will be a Fish-plate in hole seven and a 1" Corner Bracket on the outside bolted to hole eight and nine with the double angle strip.

Bolt a 1" Flat Girder by the slotted holes to the angle bracket and line the top hole with the corner bracket. The rear end of the strips has a $2^1/_2$" x $^1/_2$" Double Angle Strip with Fishplates in between facing up. To the end of the DAS from the right bolt an Angle Bracket by the round hole, Washer and a Narrow Angle Bracket with a $2^1/_2$"Angle Girder by the round holes. The fourth hole has a second Angle Bracket with a Washer and a Nut and Bolt in hole five. To the narrow angle bracket bolt a 1" Narrow Strip spaced with a Mini Plastic Spacer with a second Narrow Angle Bracket at the other end.

The drawbar consists of two seven hole Narrow Strips bolted to the angle brackets and spaced with Mini Plastic Spacers. The seat is made up using two 1" x $^1/_2$" Narrow Obtuse Angle Brackets bolted together with a 1" Corner Bracket at one end spaced with a Plastic Spacer. Bolt this to the outside hole on the angle girder.

A No 1, 100 rpm Stan Baker motor with a Fishplate fixed to it is bolted to hole two on the DAS from the

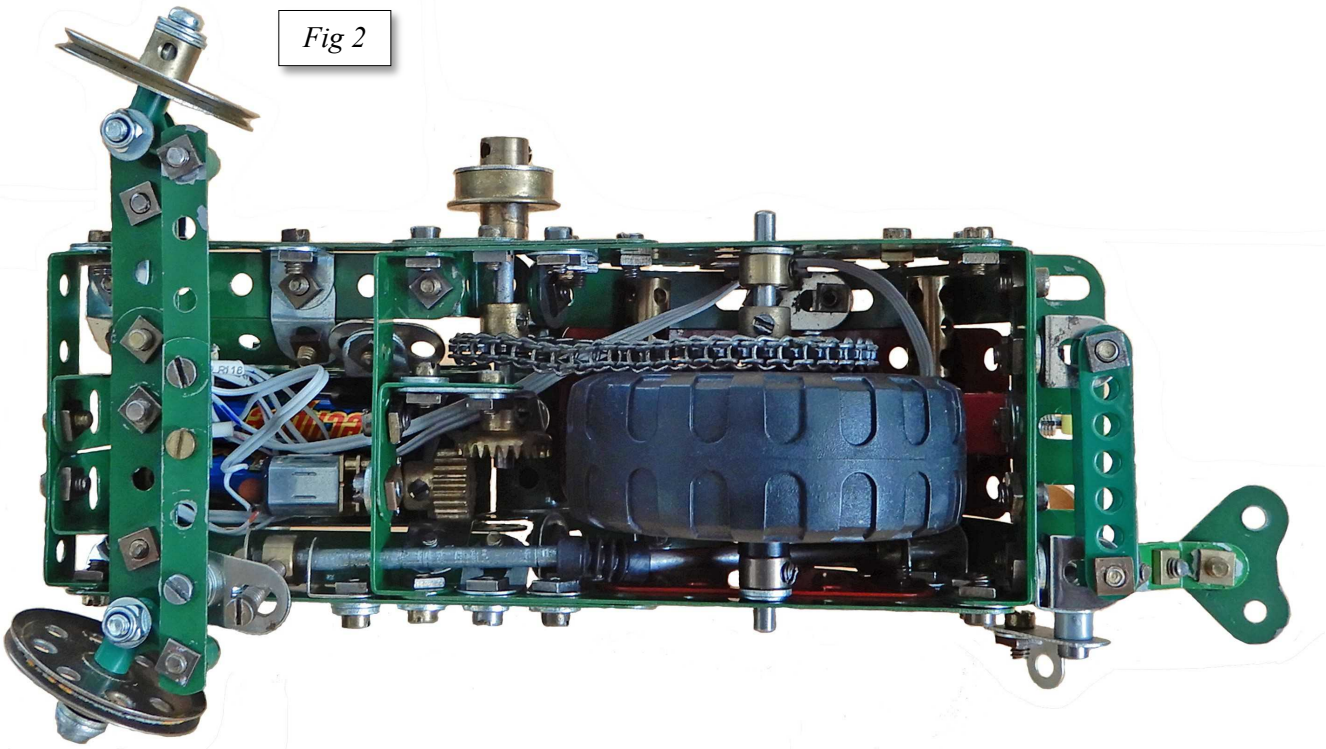


Fig 2

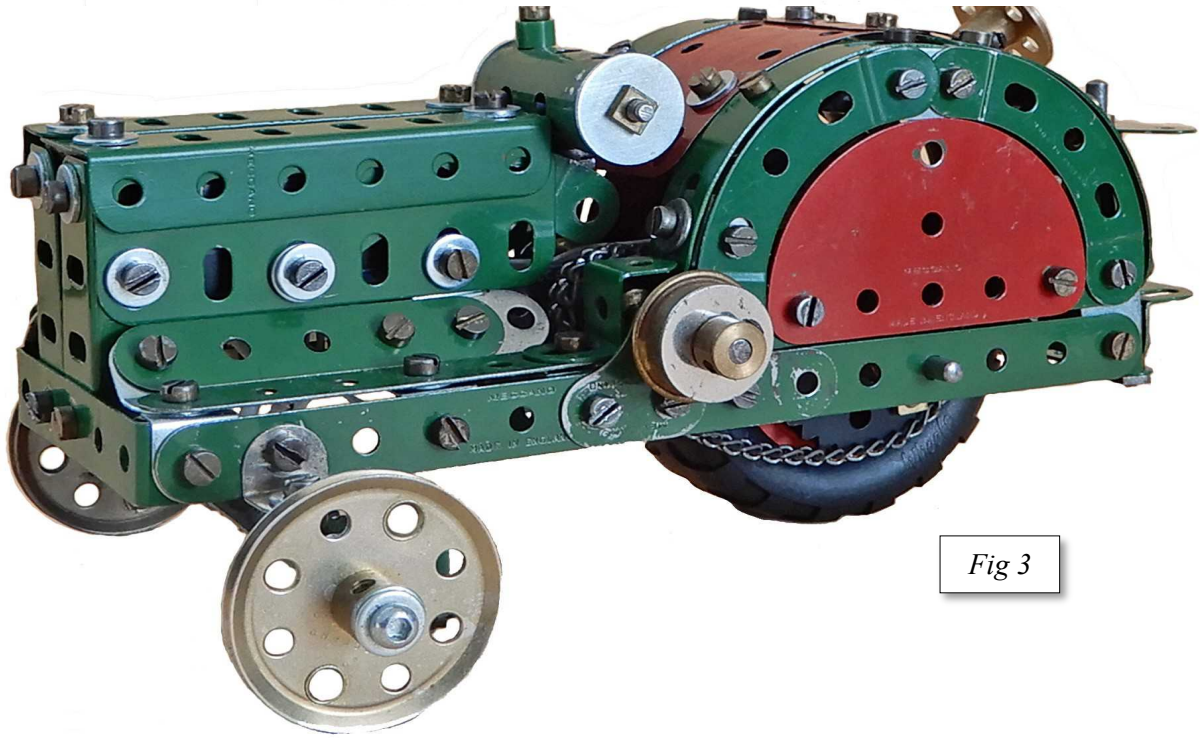


Fig 3

right side with a 1" Angle Bracket on the other side (*fig* 5 *overleaf*). The motor has a 19 tooth Pinion fitted. A $2^1/_2$" Axle Rod fits through the corner bracket and the flat girder and has on it from the outside a Collar, $^3/_4$" Washer, $^3/_4$" Flanged Wheel $^3/_4$" Sprocket and a $^3/_4$" Contrate Wheel. Bolt a $3^1/_2$" Strip to the obtuse angle brackets on the right side with another Obtuse Angle Bracket bolted at hole six facing up. Two 2" Angle Girders represent the radiator and are bolted at the front by the slotted hole with two Threaded Bosses at the top to secure the bonnet.

The left side has a 3" Strip fixed to the angle brackets with Obtuse Angle Brackets facing up and have a $2^1/_2$"Strip secured and extended with a Fishplate at the rear and another Obtuse Angle Bracket. Bolt a Reverse Angle Bracket by the slotted hole on the end hole of the 3" strip. $3^1/_2$" Flat Girders make the bonnet sides and fixed as shown with a $2^1/_2$" Curved

Strip Stepped bolted in hole three from the front facing down at the rear.

The front axle (*fig* 4) consists of two $2^1/_2$"Strips overlapped two holes and bolted together. Each end has a Steering Arm secured with a 15mm Pivot Bolt, Washer and Nylock Nut. The tie rod has two $2^1/_2$" Narrow Strips overlapped two holes and bolted together. With a $^1/_2$" Bolt place through the spare hole in the steering arm from the top and a nut below, next the tie rod and another Nut. Bolt a Fishplate in hole two from the right side spaced with three Washers. This assembly bolts to the angle brackets at the front as shown and spaced with Mini Plastic Spacers.

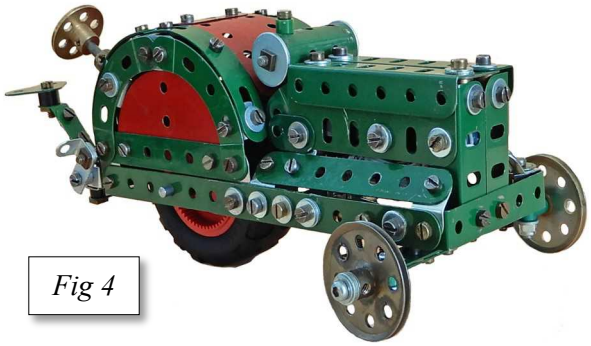


Fig 4

The rear wheel covers (*figs* 2, 3, 4 & 6) are made up from two Curved Strips Stepped bolted to the fishplates with a $3^1/_2$" Strip across the base with the rear fishplates having a $2^1/_2$" x $^1/_2$" Double Angle Strip facing the rear. The curved strips are overlapped and joined at the top with a Fishplate. The gap is filled in with a Semi Circular Plate. On the right side of the rear curved strip bolt a $^1/_2$" x $^1/_2$" Double Bracket and an Angle Bracket in the second hole on the front curved strip by the round hole. A second Angle Bracket bolts to the left side in the same place. The top is constructed from two Formed Slotted Strips with one bolted to the angle bracket and the other to the DB at the rear. These join at the top with a Fishplate with one end having a Washer spacing the fishplate. Repeat for the other side. At the rear add a Fishplate by the slotted hole next to the formed slotted strips and on the left the same with a Rod and Strip Connector spaced with a Mini Plastic Spacer. Add a 1" Axle Rod for the gear lever. The centre hole has a Fishplate fixed to the inside with the forward, off, reverse Switch fitted. Add two Couplings and a 1" Narrow Strip as shown. The gap is filled in with two $2^1/_2$" x $1^1/_2$" Flexible Plates curved to suit and bolted to the couplings. For the steering fit a $2^1/_2$" Axle Rod through the double angle strip and angle bracket with a Collar and rest against the second angle bracket. The other end has a Flexible Rod Connector fitted. Fit a $^3/_4$" Bolt through the fishplate and into the collar. A 4" Axle Rod with a 1" Bush Wheel and a Collar pass through the double bracket with another Collar to hold the axle in place and place into the flexible rod coupling.

A 3" Axle Rod used for the rear axle has from the right side a Washer, Collar. Two Plastic Spacers, Wide Wheel Hub Geared with Tyre, $1^1/_2$" Sprocket Wheel fitted with a $^5/_8$" Threaded Pin to drive the wheel, Collar and Washer. Fit a Chain between the two sprockets.

The bonnet (*fig* 7)has been constructed from two $3^1/_2$" Angle Girders joined by a $3^1/_2$" Flat Girder at the rear with a Fishplate fixed to the left side spaced with a Plastic Spacer and the other end a Sleeve Piece using a centre hole. A Mini Plastic Spacer represents the petrol filler cap. The outer ends are covered with $^3/_4$" Washers held with a 2" Screwed rod. This assembly bolts to the threaded bosses. For the battery holders I used two x two AAA holders fixed back to back and connected in series to give six volts (*fig* 8). After connecting all wires and fitting the bonnet the model will work.

BAG.

Fig 7

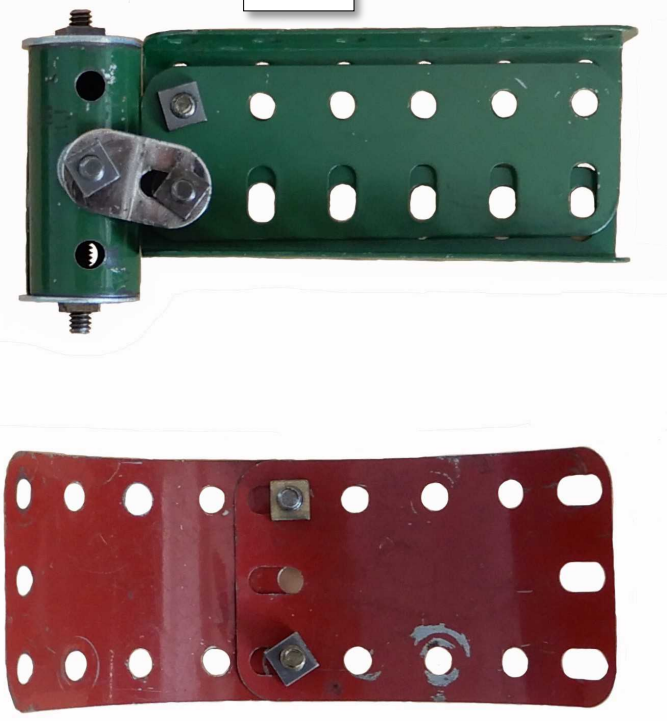


Fig 8

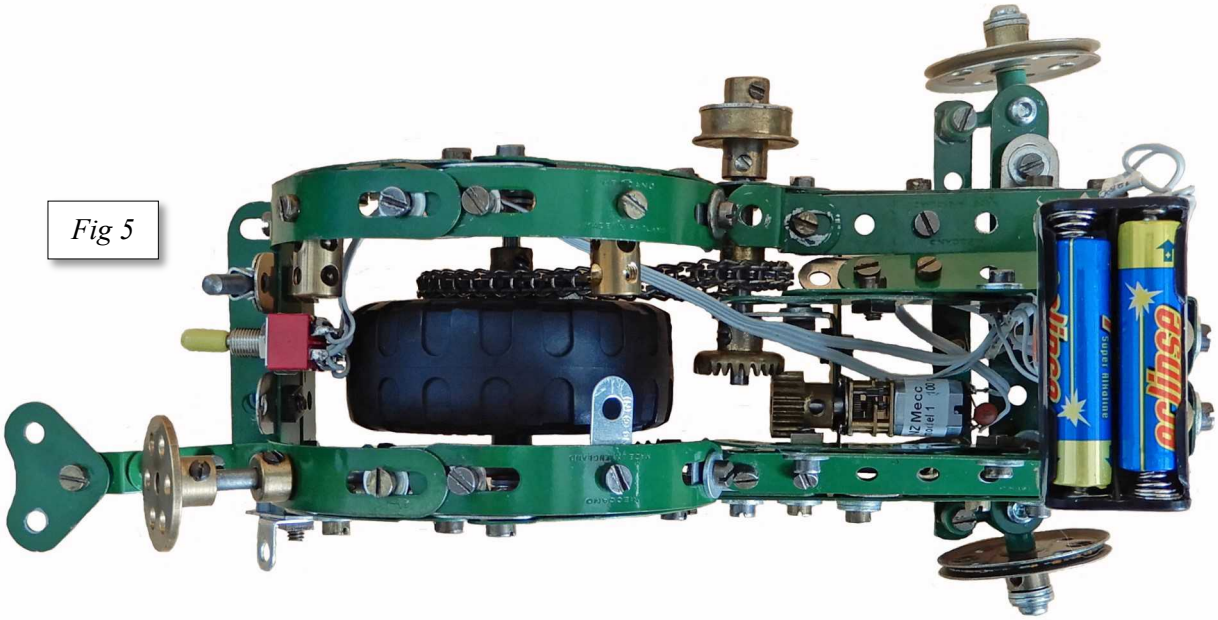


Fig 5

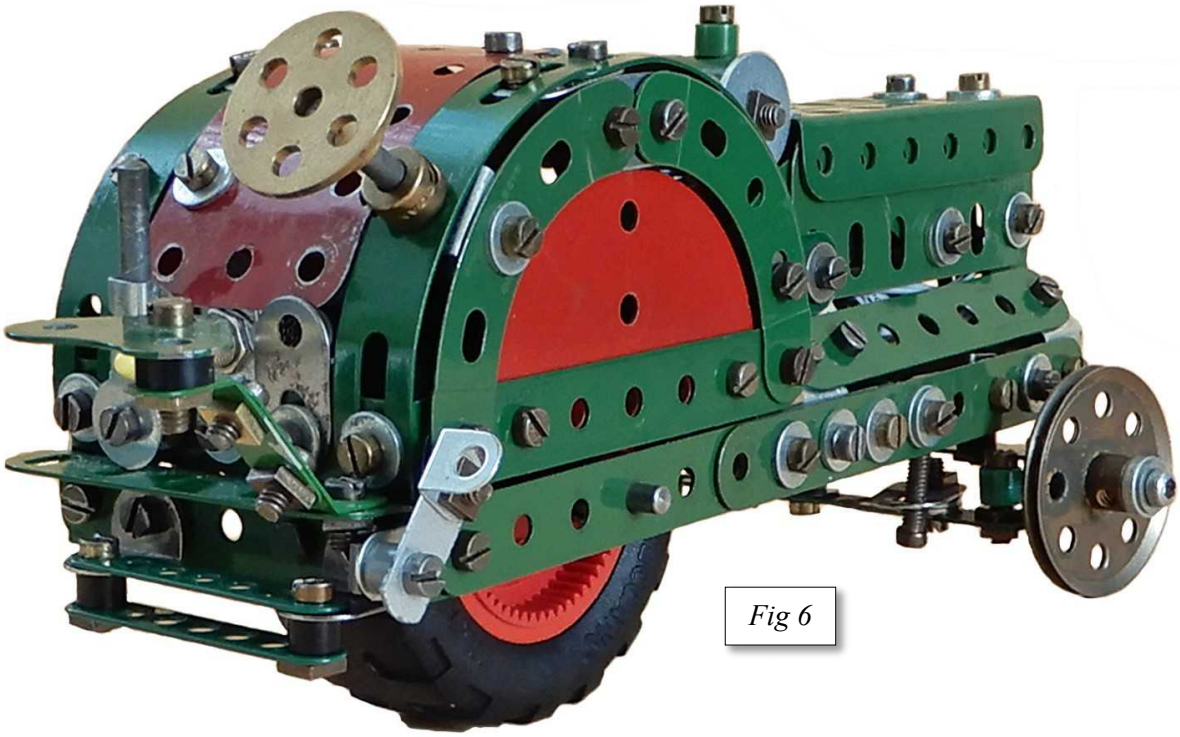
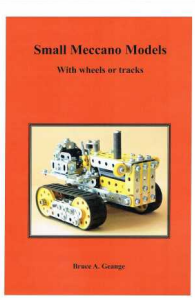


Fig 6

Small Meccano Models Collection

Bruce Geange's delightful miniature tractor models have featured prominently in the NZFMM magazine over the years. A bound collection of these articles can be obtained from the author for $20+p&p. Please contact Bruce directly at *a.b.geange@slingshot.co.nz* or write to 4 Winchester Street, Palmerston North, 4412.



MECCANO Vs REALITY

By

Richard Feltham MWT

The underlying philosophy of Frank Hornby's brain-child, that of uniform part dimensions allowing connection between any two arbitrary parts, has stood the test of time. This works brilliantly provided you do not wish to mesh with the real world in any significant way. This is difficult for two reasons.

The first one of Meccano being relentlessly imperial in a metric world is obvious, although happy coincidences do occur, like the mounting holes on this micro switch (*fig 1*). A deeper problem emerges when you try to engage with the digital world. Here the conflict is between fractions and decimals. Meccano is a system of equal descending fractional subdivisions; half, quarter, eighth and so on. Computers, which are the logical route to follow in powering and controlling your models, use binary, but switch to decimals when displaying numbers. This allows us poor numerically challenged humans to read them.

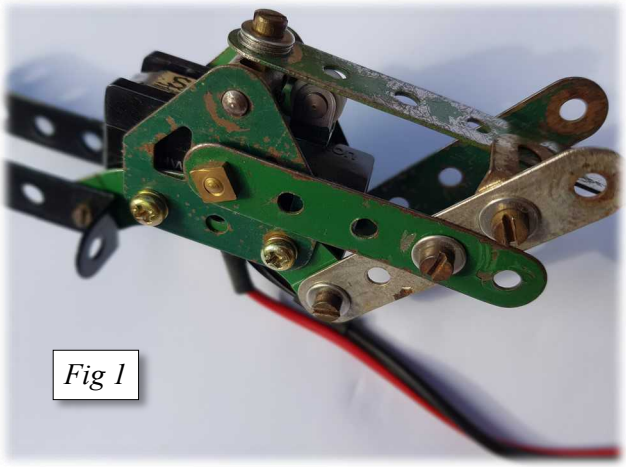


Fig 1

The most popular form is the 7 segment display (*fig 2),* although I, like many others, regret the demise of the nixie tube —it had real class. The 7 segment display is just separate LEDs that are illuminated in various combinations to mimic the numbers 0 to 9. Truth Table I lists these combinations. (*fig 3*) The asterisk signifies which segments are illuminated for each number. In electronic circuits this function is performed automatically by an integrated circuit chip. My challenge was to reproduce this conversion in Meccano.

I decided on optical interrupters (*fig 5*) rather than mechanical microswitches as the way to identify which segment should be lit up at any moment. Size, reliability and availability pretty much made that a no-brainer. An additional advantage is the lack of friction,

Fig 3		Numeral displayed									
		1	2	3	4	5	6	7	8	9	0
Segment lit	A		*	*				*	*	*	*
	B	*	*	*	*	*		*	*	*	*
	C	*		*	*	*	*	*	*	*	*
	D		*	*		*	*		*		*
	E		*				*		*		*
	F				*	*	*		*	*	*
	G		*	*	*	*	*		*	*	

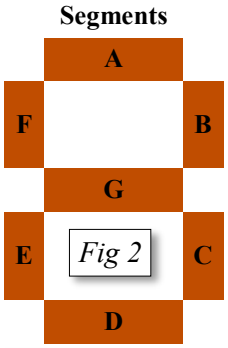


Fig 2

Fig 4

Fig 5

as in the best traditions of Heisenberg I did not want my observations to skew the data.

I needed a part that could be evenly divided by 10 to represent the numerals. But Meccano works in fractions, not tenths. Fortunately the circular girder, part 143, (*fig 4)* has sufficient slots so that I could fit ten 5½" strips equidistantly around the circumference. (*See fig 6)* Two concentric part 143s, together with ten strips formed the heart of my binary-to-seven-segment driver. My original idea was to then mount seven angle brackets along each strip, corresponding to the patterns shown in the truth table. This drum would revolve inside a cylinder formed by two larger 7½" circular strips, part 145. (*fig 6 opposite*)

Axles support the corresponding seven optical interrupters, such that as the inner drum rotates the correct combination of pulses go to energise the

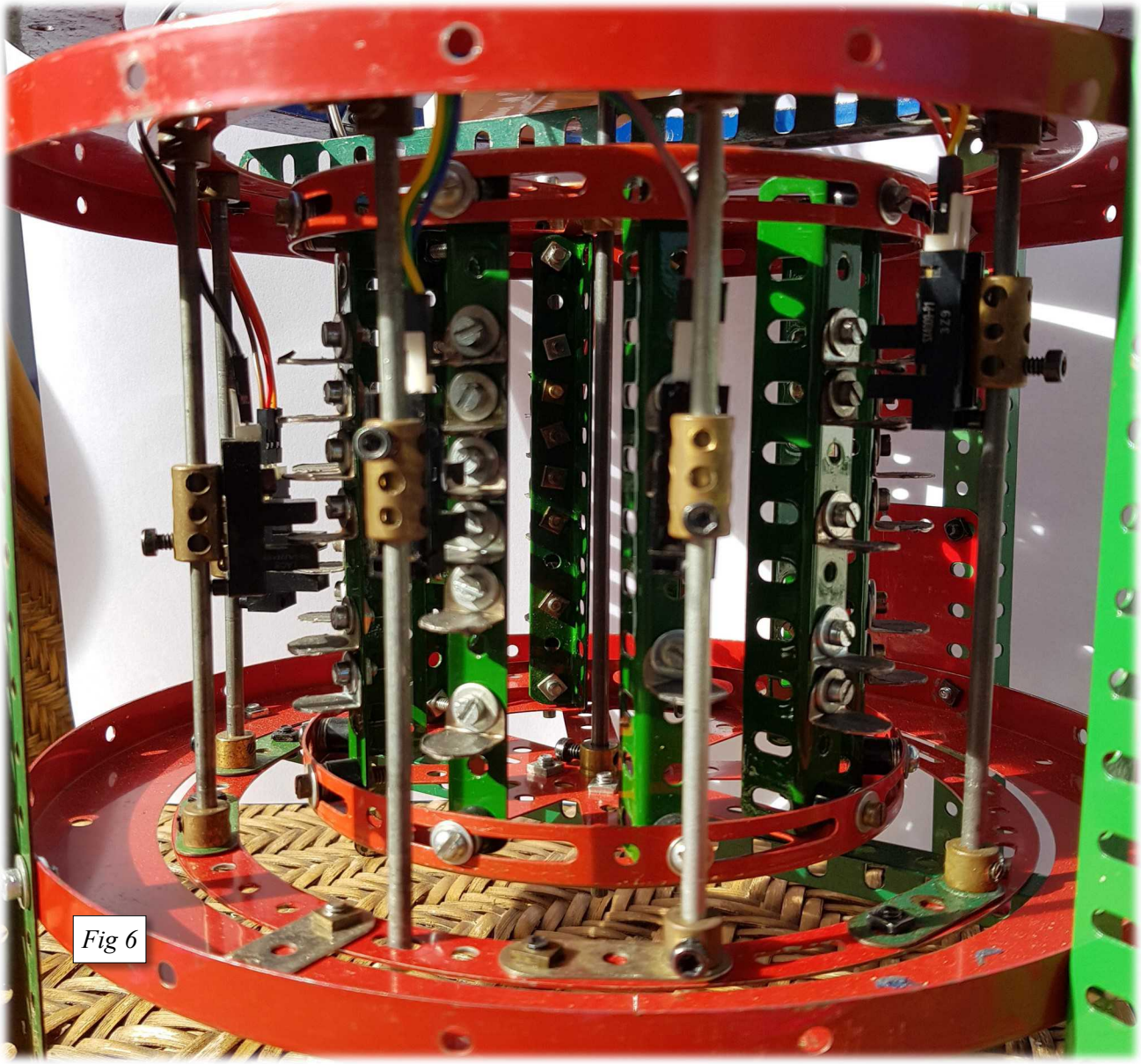


Fig 6

appropriate LEDS, thus displaying the digits in proper sequence.

A big problem was the optical interrupters were too big for all seven to fit along a single 5½" axle. I got around this by reformatting the truth table so that each successive row was shifted one place to the right. This in turn meant the sensors could now form a helix around the drum, not a single vertical row, and had plenty of room to fit. The angle brackets themselves I covered with black matte paper to ensure the beam was broken reliably. (*Fig 7*)

Fig 7

The next step is to develop a model in which I can use it. An advantage of the opto-interrupters is that they can be used to drive any electronic circuit. Add a MOSFET transistor and you can control mains voltage devices, not just LEDS or Meccano level 12v motors.

Richard Feltham

MWT

Meccano Innovation Sets

A Review by

Bruce Durdle MWT

Several NZ retailers are offering a series identified as Meccano Innovation Sets or Inventor Sets. These were apparently introduced to New Zealand in July 2019 and there is virtually no information available – even Spinmaster's website doesn't mention them. So I thought that the best way to see what they are about was to make a small investment and add some to my collection.

There are 5 sets on offer in New Zealand:

- Set1 – Quick Builds (19604)
- Set 3 – Geared Machines (19601)
- Set 5 – Motorized Movers (19602)
- Set 7 – Advanced Machines (19603)
- Set 8 - Introduction to Robotics (19605)

(I'm not sure what happened to Sets 2, 4, or 6 – perhaps they'll come out of the woodwork in the fullness of time.)

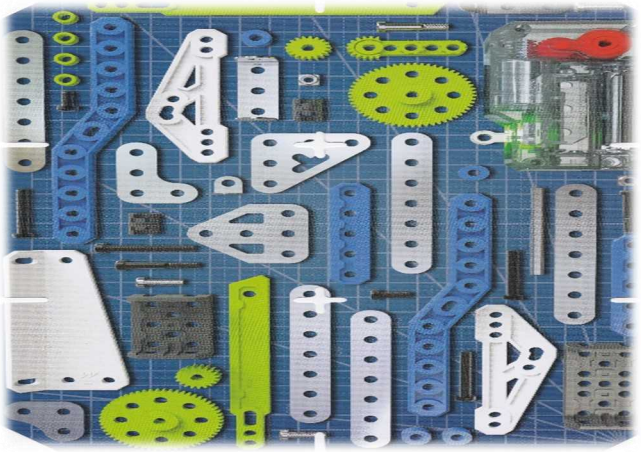
The range is graduated (a bit like the "good old days!" with Set 1 being a very basic introduction, and Set 8 allowing some quite advanced constructions.

What's in the sets?

The following is a quick summary of the individual sets, with some comments on each.

Set 1. Quick Builds 19604
This is a VERY basic set! It has "79 parts" according to the sales blurb, but 48 of these are nuts and bolts and the like, or tools. The set comes with four wheels and associated tyres. The manual is a single sheet with instruction to build a simple vehicle. Instructions are available on Youtube for other models.

Set 3. Geared Machines 19601
This set is a good introduction, with 188 parts. 136 are basic components or tools, with 52 structural elements or similar. There are three each of 37-tooth and 19-tooth gears, a rotor component with three arms and a matching



drive element with internal teeth, and some long structural elements that will allow a satisfyingly high tower to be built.
There is a manual with detailed instructions to build a hand-operated "wind turbine". Also supplied are "blueprints" which do not give detailed instructions, but show a few possibilities for other models. These include a scorpion, where pulling on the tail will make the pincers move in; a catapult; a reach extender where turning the three-armed rotor will open or close jaws at the other end of the structure; and a boxing kangaroo. There is also a sheet for a strange construction that looks like a horseless jockey – if built in conjunction with the motorised movers set, the jockey will rise and fall in the saddle. Step-by-step videos for some of these are available on Youtube.

Set 5. Motorized Movers 19602
Set 19602 has 194 parts, 135 of these being basic components or tools. The set includes a motor with self-contained batteries, and one each of 37-tooth and 19-tooth gears, but has no wheels (a rather strange omission).

Again, the manual contains detailed instructions for a single model, which is a self-propelling "grasshopper". Blueprints supplied with this model show a helicopter, another 4-legged walking thing, a radar scanner, an upright robot, a pterodactyl, a motorised version of the wind turbine from set 19601 (using additional components from this set), and a Ninja warrior equipped with rather aggressive looking blades. Again, instructions for some of these are available on Youtube.

Set 7. Advanced Machines 19603
With this set, we are getting into serious stuff. There are 419 parts, with 256 basic components or tools. The set includes a motor and separate battery box, the motor having an internal gearbox with axial drive and two transverse drive outputs. There is a range of gears supplied, including two 50-tooth contrate gears, two racks, a single 57-tooth spur gear, and six 19-tooth pinions. The structural elements are a mixture of metal and plastic, with most of the larger plastic pieces having provision to trap nuts.

Again, the manual has detailed instruction for a single model, a mobile crane. The motor is used to raise and

lower a hook. Blueprints include a simple cart with steering; a manually-operated fishing rod; another manual fork -lift type hoist assembly; a simple clamp; a drum player; and a butterfly. Detailed step-by-step video instructions for some of these are available via Youtube.

Set 8. Intro to Robotics 19605

There is a similar component count as for 19603, but the main interest in this set is the "smart" capability provided by special components. These include a servomotor and an infra-red sensor. A control module allows the motor and servo to be controlled via a Bluetooth link from a smartphone, using an app with some programming capability.

The detailed instructions cover construction of a motorised car, with the servo used for steering and the infra-red sensor allowing it to detect obstacles and, with suitable programming, avoid them. Other models are a couple of objects I'd call fly-swats, using the sensor to detect in-

coming objects and deal to them; a mobile phone holder; another mobile trap mechanism; a plane where the motor operated dependent on the height; and a dragon.

Parts include a selection of old-style metal items and fairly generic plastic parts. Tools are the now-common D499 spanner and a new (to me) Allen Key driver C995 with a Tee handle and key on one arm of the Tee.

Sets 5, 7, and 8 come in plastic boxes, and include partitions which can be used to subdivide them. The combination makes useful organisers - the compartments are big enough to let you rummage around to find those elusive small parts which always end up at the bottom. The partitions are also reasonably robust and are perforated to match the Meccano ½" pitch, so could be used as components in a model if desired.

With all except Set 1, there's also a hole punch which can be used to perforate materials such as cardboard with standard Meccano ½" spaced holes. This has a screw and bolt length gauge on the top. The corners of the punch are also designed to use on cardboard, to score it so it can be folded along a line. The idea of this is to allow miscellaneous shapes to be made from cardboard or other materials and added to models – one of the robot creations shown is a Ninja type with a pair of large swords made from cardboard, and wearing cardboard armour.

Compatibility

One of the main features of a developing series is that there has to be some sort of compatibility between the different levels. In these sets, the most disappointing aspect is that the motor supplied with 19602 is not compatible with those in the more advanced kits. Because the standard Meccano dimensions are retained, there are no problems in adding these sets to an existing collection and using them to build more advanced models.

One aspect I found interesting is that the smart controller module with 19605 can handle the servomotors found in the various generations of Meccanoid robot (and MAX). The motors in the Meccanoids are also compatible and can be controlled from the controller.

What can you make?

As I've stated in the comments above, each of the kits contains detailed instructions for a single model. However, others are given on-line via Youtube. Be warned – the originals are sped-up – so use the Settings on Youtube to slow them down again at the interesting bits. You might also like to keep a hand on the volume control as I found the music more than somewhat irritating.

I think that to start somebody from scratch with the basic set would be a little frustrating and probably turn off more children that it would attract. The Geared Machines set would be a reasonably good starting point and introduces some interesting mechanical concepts. The Geared Machines and Motorised Movers sets together would be a really good combination to start with.

I'm not sure about the adequacy and pre-testing on the models I've built. Like Gary in the May magazine, I found the instructions in the build for the motor steering didn't work – the interesting thing was that a more functional assembly was shown in the on-line video. Someone who is new to the game may again be frustrated by poor instructions and may need a fair amount of supervision or help to get any joy from the exercise.

If you've already got a reasonable amount of traditional Meccano, or know someone who has a Meccanoid but wants to do more interesting things than talk to it, the Robotic set may be a good choice. The programming/ Smart aspect adds another dimension and the infra-red sensor and servomotor give more options even with traditional mechanical systems.

PUZZLE No 4

Background: On a grey and gloomy afternoon the AGM of the WaikikamooKau Meccano Club was abuzz with scarcely controlled excitement. There were no fewer than **three** candidates standing for election to that most coveted of roles — President and Grand Inquisitor of the Club. Never before in the long, august history of the Club had this occurred. Normally the incumbent could safely assume lifelong tenure, unless he committed some hideous breach of the (mostly) unwritten Club Rules. In fact that is what had happened. When it became publicly known he had bought his granddaughter Lego for her birthday he was a dead man walking. Mutterings about 'plastic terrorism' were among the comments passed. So he had done the honourable thing and announced that he would not be seeking re-election; 'to spend more time with his family', as he put it.

The three hopefuls were arrayed behind the trestle table at the front of the meeting. They had each given a short but none-the-less incoherent account of their qualifications for the prestigious position. All were acutely aware that many previous occupants of high office within the club had gone on to a life of total obscurity. Now they faced penetrating questions from the members. Answers to such basic questions like ' What is the part number of a ½ inch single throw eccentric' had, as expected, not shown any way to differentiate them. Club members ramped up the difficulty, widening the scope of questioning.

"What was the middle name and birthday of Frank's second son?" asked a grizzled elderly man in the back row, well known for his outspoken intolerance of people who eschewed part 38. All candidates answered without hesitation, although one stumbled before correcting himself about the birthday. Meaningful glances were exchanged between members. Was the strain beginning to show? Sensing blood the members dug deep into their stores of Meccano related trivia in an attempt to elicit any weakness.

"What was the total value of Meccano sales in 1930?" queried the Treasurer. Not a problem for any of them.

By afternoon tea time it became apparent that there was nothing to definitively separate the candidates. Over lukewarm tea and soft gingernuts the Committee conferred. Time was growing short and desperate measures were called for.

"How about a duel?" suggested the Editor of the newsletter, always on the lookout for good copy.

"No, they'll bill us to clean the hall," responded the ever cost-conscious Treasurer. The Chairman looked thoughtful.

"I think I know a way. Leave it to me."

The meeting reconvened and the Chairman took the floor.

"It's clear we have three candidates of unparalleled quality. This leaves me with no choice but to invoke the 'Rite of Choosing' Whoever passes this ancient ritual will assume the office of President." Members nodded sagely at the undoubted wisdom of his decision. He continued. "As everybody knows the lore of Meccanomen dictates that only True Believers have the power to sense the colour of parts by touch alone. I therefore propose that each candidate will have a part pressed to their forehead and the first to correctly identify the colour of the part will be the winner. Incorrect answers will result in immediate elimination." Nods all around, except from the candidates who paled somewhat; this was now serious.

The candidates sat on three chairs, facing each other, centred around the Chairman. A hush fell as members realised that they were witnessing a pivotal moment in Club history.

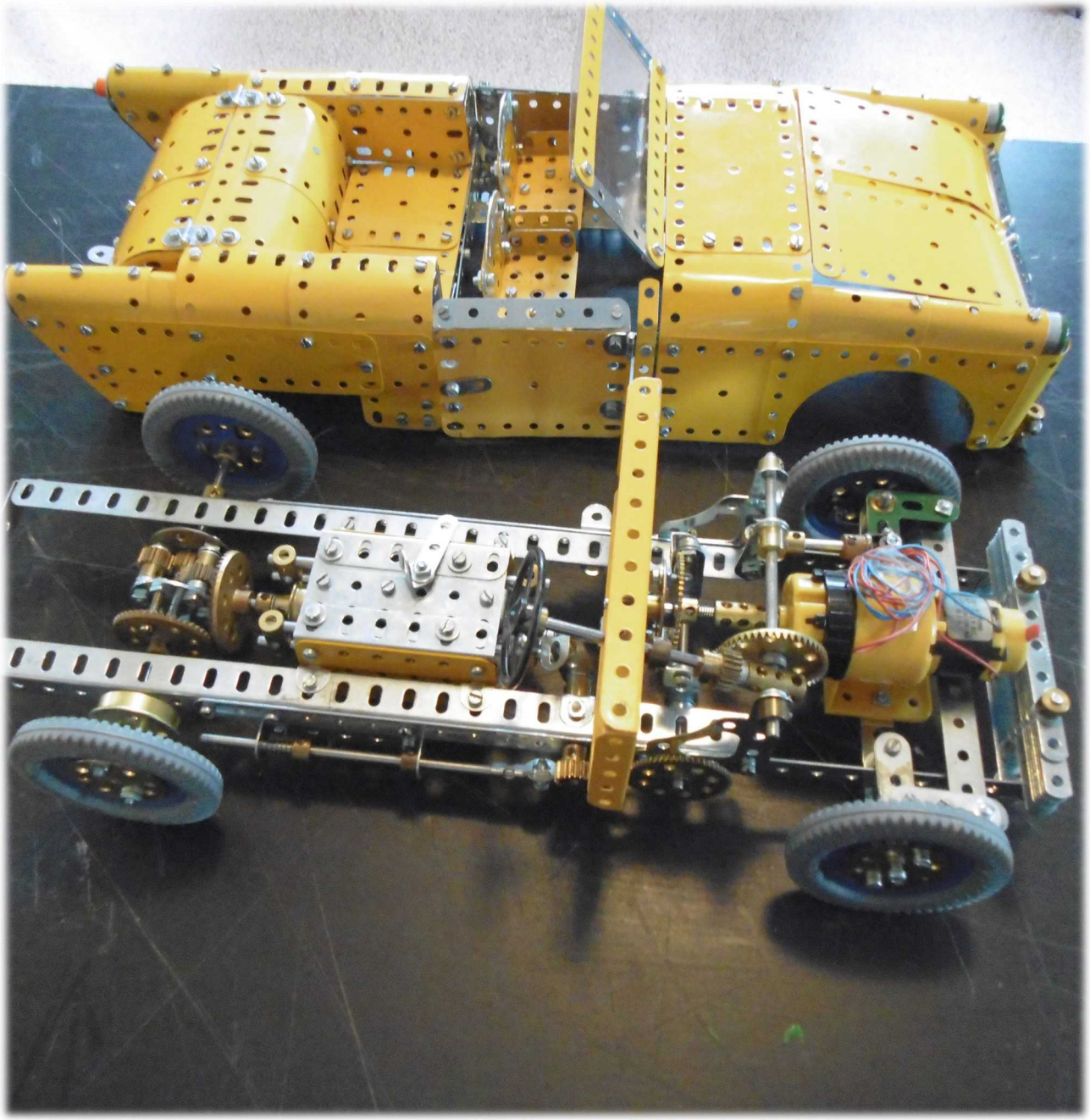
"Gentlemen, I have **six** part 126a in my hand, **three green**, **three red**. I will ask you to close your eyes while I place one against your forehead. You will continue to press it firmly on your skin with your left hand. When I give you the word, open your eyes. If you can see at least one other **green** part raise your **right** hand. When you have sensed the colour of your part, lower your hand. The first to answer correctly will become the President and Grand Inquisitor."

With that he placed a **green** flat trunnion on each of the three candidates, stood back and told them to open their eyes. All raised their right hands, then after a few seconds Dazza lowered his once more.

"Um, what colour is your part?" asked the Chairman.

"Green," said Dazza." The applause was thunderous. At that moment the sun broke through and a single shaft illuminated the scene. The Gods of Small Pieces of Metal with Holes in Them were appeased.

Question: How did Dazza know what colour his trunnion was?
Bonus questions: What are the answers to the three interview questions mentioned above?



Below: Stan Baker's Ship

Above and below: Christchurch Meccano Club models.

Rogues Gallery

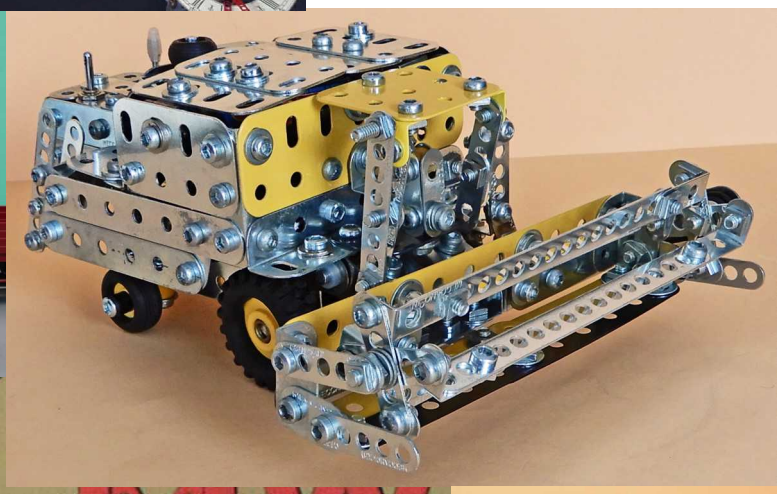
HELP!

Our hobby is about what talented and imaginative people can do. Usually the focus is on their creations so we sometimes see little of the person behind the spanner. If you have photos of your fellow Meccanomen, preferably showing them in their natural habitat, please share so that we can all enjoy their achievements

Left: Horologist Extraordinaire, **John Stark.**
(Photo courtesy of **John Burke** aka Johnny Meccano)

Middle: Small vehicles by Bruce

Below: **Bruce Geange** receives the coveted Golden Spanner for outstanding contributions to our hobby.



New Zealand Club Diary 2020

Auckland Meccano Guild

President: David Wall, Tel. (09) 426 1965
Secretary: Gary Higgins, Tel. (09) 832 4292
Meetings: Next meeting not yet confirmed

MWT Meccano Club

Chairman: Chris Morton, Tel. (06) 323 8001
Secretary: Robin Rye, Tel. (06) 764 8670
Meetings: Second Saturday of every second month, at 2pm. Next meeting: 8th August**,** at St. Luke's Church Hall, Corner Cornfoot and Manuka Streets, Castlecliff, Wanganui.

Wellington Meccano Club

President: Reg Barlow, Mob. 021 955 488
Secretary: Max George, Tel. (04) 232 4200
Contact: Lou Nichols, Tel. (04) 297 1515
Meetings: Begin 7:30pm on first Friday every second month.

Christchurch Meccano Club

President: Neil Pluck, Tel. (03) 382 0411
Secretary: Roland Jaspers, Tel. (03) 351 4389
Meetings: Start at 7:30pm on first Friday every month (except January) at Papanui RSA Club, 55 Bellevue Ave or No. 1 Harewood Road, Christchurch.

Greater Waikato Meccano Club

Contact: Graeme Wrightson, (Mob) 027 671 6004
Meetings: These are held on the first Saturday of every second month, except January. Most meetings are held in the Central Waikato area starting at 2 pm. Contact Graeme Wrightson on 027 671 6004, Matamata.

Other Meccano Contacts

Hamilton: Don McClelland, Tel. (07) 843 4198
Tauranga: Barry McKey, Tel. (07) 576-1623
Hawera: Daryl Anderson, Tel. (06) 278 7666
Napier: Trevor Adam, Tel. (06) 843 4837
Palmerston North: Bruce Geange, Tel. (06) 357 0566
Nelson: John Stark, Tel. (03) 545 1025

Articles, etc. for the November 2020 issue of NZFMM Magazine should be sent to Richard Feltham before the 20th October 2020. at: richard.feltham174@gmail.com

Back Numbers: NZFMM Magazines from April 2001 are available. Please contact Bruce Geange.

WANTED

Looking for Average to Good condition Super Highway and Crane multikits for building. Prefer posted or pickup from Waikato or Auckland Area.

Contact:
Kegan Wrightson
0220481447
s4ndv1p3r@icloud.com

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- 6 channel radio control systems with servos and speed controllers to suit the motor range.
- Parts fitted with miniature roller bearings.
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Contact Stan Baker nzmeccanoman@gmail.com
Phone +64 4 566 7150 Evenings or
+64 21 421 750 mobile

2021 Convention
Waikanae Memorial Hall
19th, 20th, 21st March

WHAT MECCANO DOES BEST — CRANES

(Incidentally, what is the collective noun for cranes?)

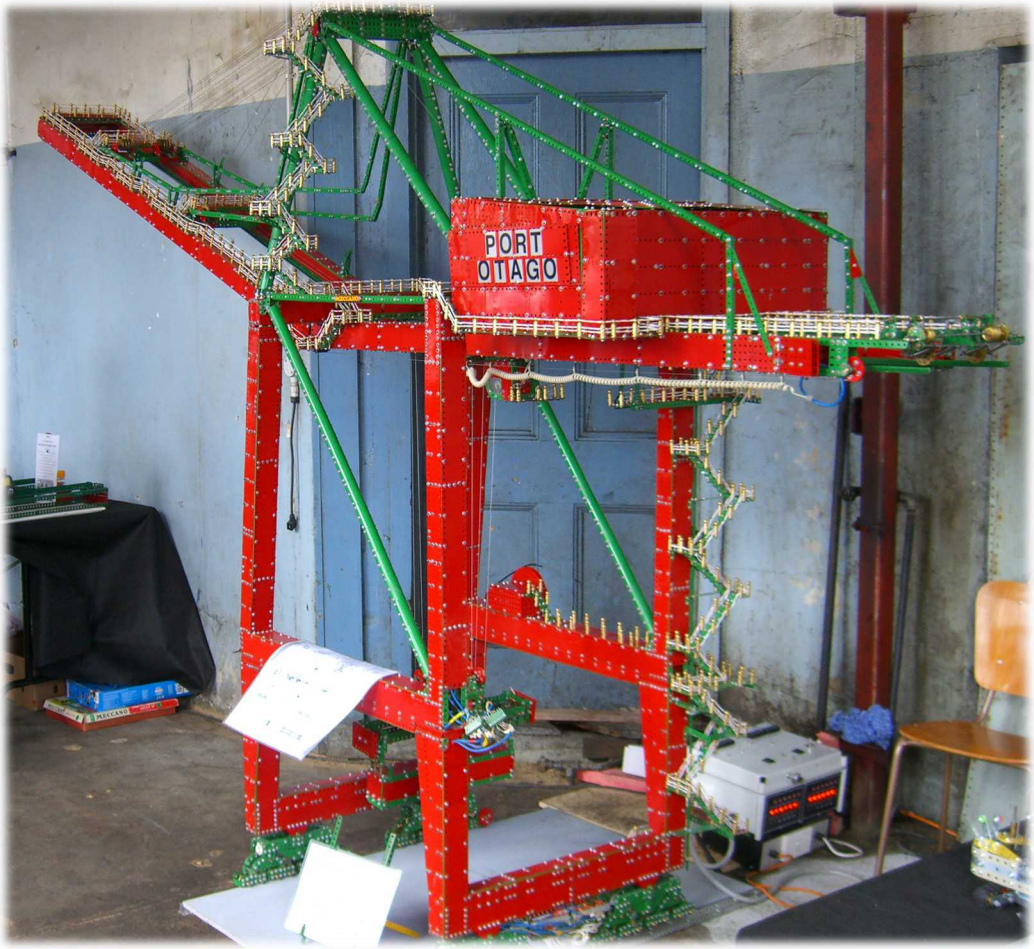

Photo thanks to **Reg Barlow** - *WMC*