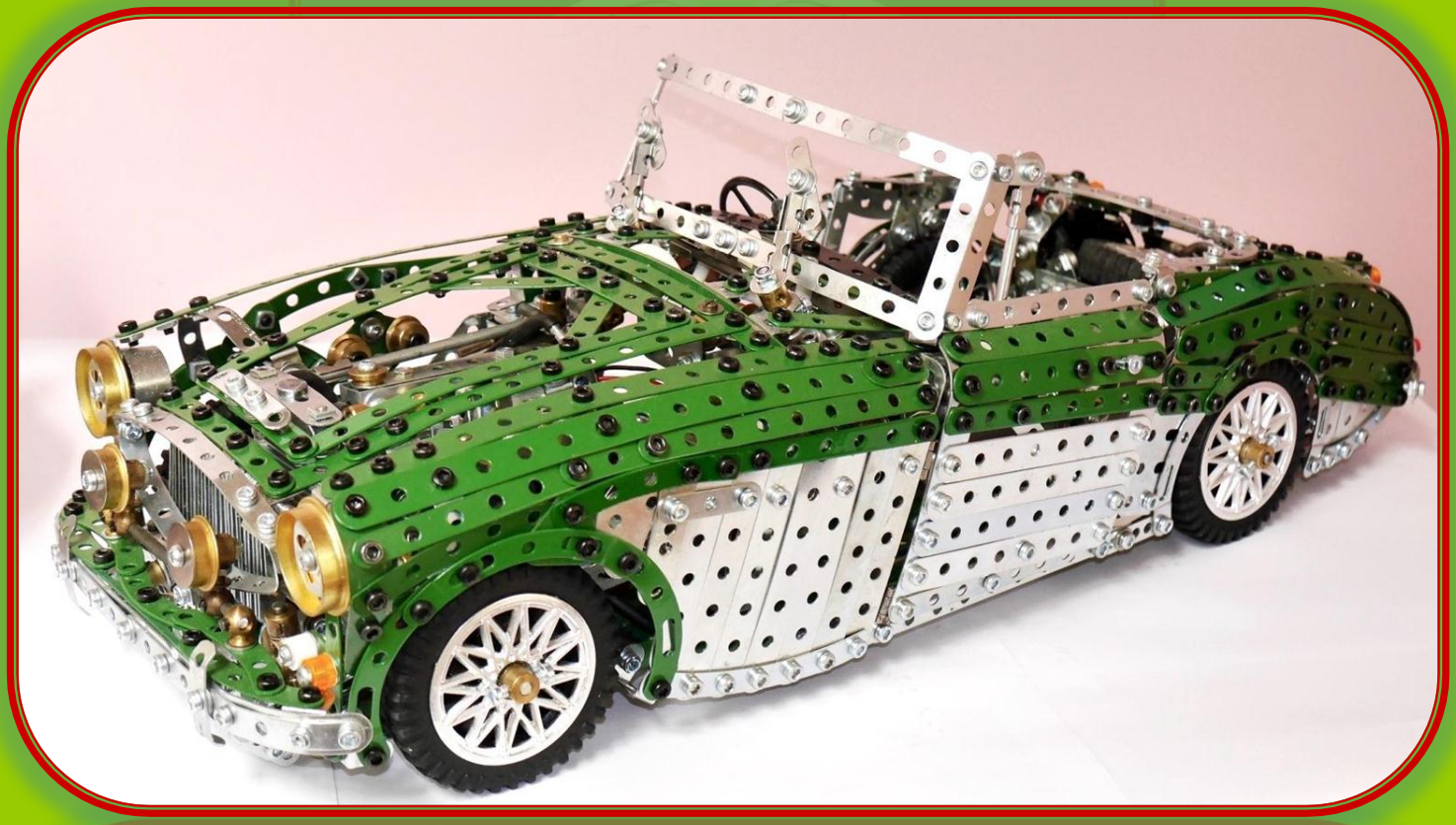
The Sheffield Meccano Guild



Journal No. 127, October 2016

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Your SMG committee members are:

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The SMG Journal needs your support!

We welcome your reviews, news, reports, comments, building instructions, model descriptions, views, sales & wants, pictures (film or digital) or anything regarding SMG activities and Meccano in general; you will receive as much or as little support as you require. Submissions are welcomed as e-mail, scan, CD, memory stick (returned), Internet link, typed or by any other recognised form of human communication, even prehistoric pen & paper through the post.

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Editorial 127

Hello all and welcome to the 127th edition of your favourite Meccano club publication - we hope! This Editorial has to be short due to the whopping Contents list below. Circumstances have dictated that John Learman's 'Tyres' series has had a hiccup so the next instalment should instead be included in SMGJ128. Luckily, plenty of readied material was on standby so has been called into service; most was quite short so this edition has a broad range of articles, many from authors who may have forgotten about them! An item by your Ed is also seeing the light of day after being kept in reserve for over two years. Unfortunately, tributes to departed Meccanomen have become a regular feature and it is our unhappy responsibility to announce the loss of our great friend, Frank Singleton. *Rob Mitchell*

Contents

On the cover

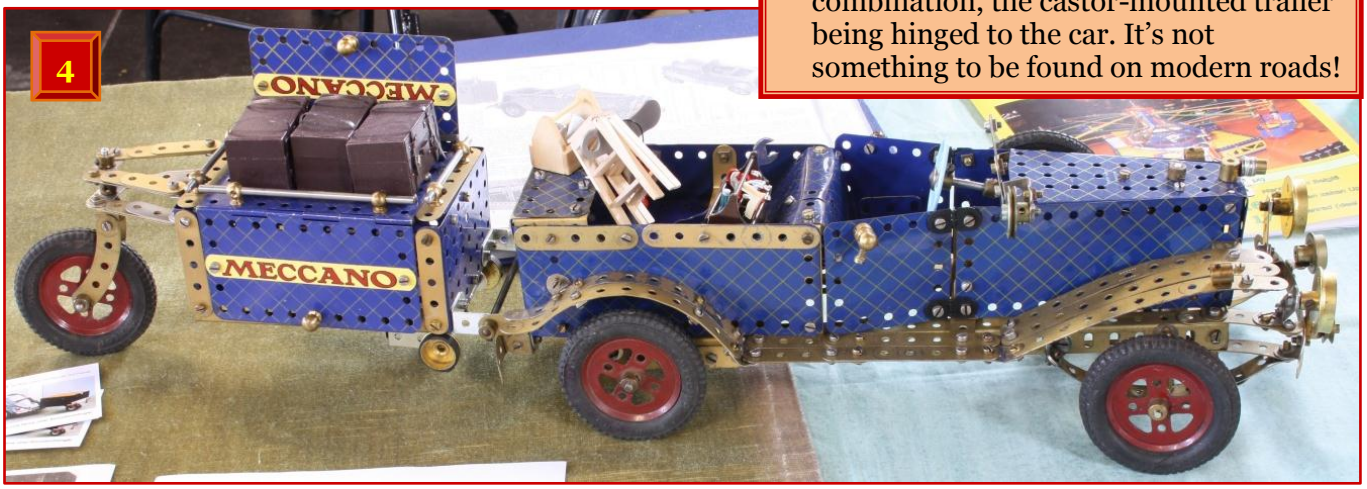
For those who attended Skegex this year, the model pictured on page 1 should look familiar - Les Megget's 1:7.5 scale Austin-Healey 3000. Les has generously allowed the SMG to present the article he originally prepared for the NZFMM Magazine but with a major change; his Fig. 1 has been promoted to the front cover. Luckily, the resultant gap was soon plugged by a picture from a different vantage point by Ken Ratcliff. Your Ed is convinced that their joint munificence explains why this SMG caper is so rewarding and if other clubs, Meccano-based or otherwise, can draw on such freely-given effort - and, according to a well-known member, have half as much fun as the SMG - then they will do very well.

CAM Take II

A further Calais photo selection

1. **Christophe Dondeyne's** eighth-scale and fully-equipped Mercedes 'Unimog'.
2. Komatsu grader by **Claude Dupre**; the front wheels were on bearings to allow steering.

3. **Jean Marie Jacquel's** Australian-built sleek GAF Nomad N22 aircraft looks to be built from a couple of low-numbered sets from the 1990s.
4. From The Netherlands was **Robert van Tellingen** with this bizarre blue & gold combination, the castor-mounted trailer being hinged to the car. It's not something to be found on modern roads!



The Gellerat Steamroller

Another unusual model from *Cherry's Model Engines* then designed, built, described and photographed by Ken Ashton

Introduction

This is the third in a series of models inspired by the superb engineering creations of Cherry Hill as featured in *Cherry's Model Engines* written by David Carpenter and published by Robert Hale Limited. This steamroller was patented in France in 1881 and is unusual in that the two one-piece rollers are supported on one side in suspension units which can be moved along the chassis rails to allow steering. The cylinders on each side of the boiler are inclined at 45° and provide drive to a central reversible crankshaft. This, in turn, is geared to two shafts which allow a chain drive to each roller via, in my model, constant velocity joints. The model carries its own battery, a Yuasa NP2-12V and is driven by a 60 rpm motor from Mike Rhoades. General views are shown in Figs. 1 & 2. Any reference to left or right is looking from the front of the steamroller.

Chassis and footplate

The chassis is 18½" long and 6½" wide. Its left side comprises an 18½" Angle Girder extended downwards by a 12½" and two 3" Flat Girders (Fig. 2). The right side, from the front, is made up from a 1½" Angle Girder extended downwards by a 7½" Flat Girder connected to a central 5½" Angle Girder extended downwards by a 3½" Flat Girder and another 7½" Flat Girder bolted to a 1½" Angle Girder at the rear (Fig. 1). Each of the 7½" Flat Girders are bolstered by two 7½" Strips. The sides are connected, front and back, by a 6½" angle girder carrying a 5½" Flat Girder bolted to another 5½" Flat Girder. The angle girder is also bolted to an up-turned 6½" girder bracket which carries the lights represented by four-hole couplings with ½" Pulleys.

The footplate is supported on two compound girder brackets made up, from the rear, by a 7½" girder bracket attached to a 9½" Flat Girder bolted to a 2½" girder bracket at the front. This arrangement is bolted to a 1" Angle Girder one hole up from the rear and to a centrally fixed 5½" Angle Girder which also carries a 1" Corner Bracket at the front. The footplate consists of, from the rear, two 5½" x 3½" Flat Plates and a 5½" x 1½" flat plate (Fig. 3). Two Rods are positioned in the slotted holes, third & twelfth from the back and held in place by Collars to support the battery. A 5½" Flat Girder is fixed across the back of the footplate and held in place by a bolt in a ½" square collar fixed to the rear Flat Plate. This is to allow easy access for battery charging.

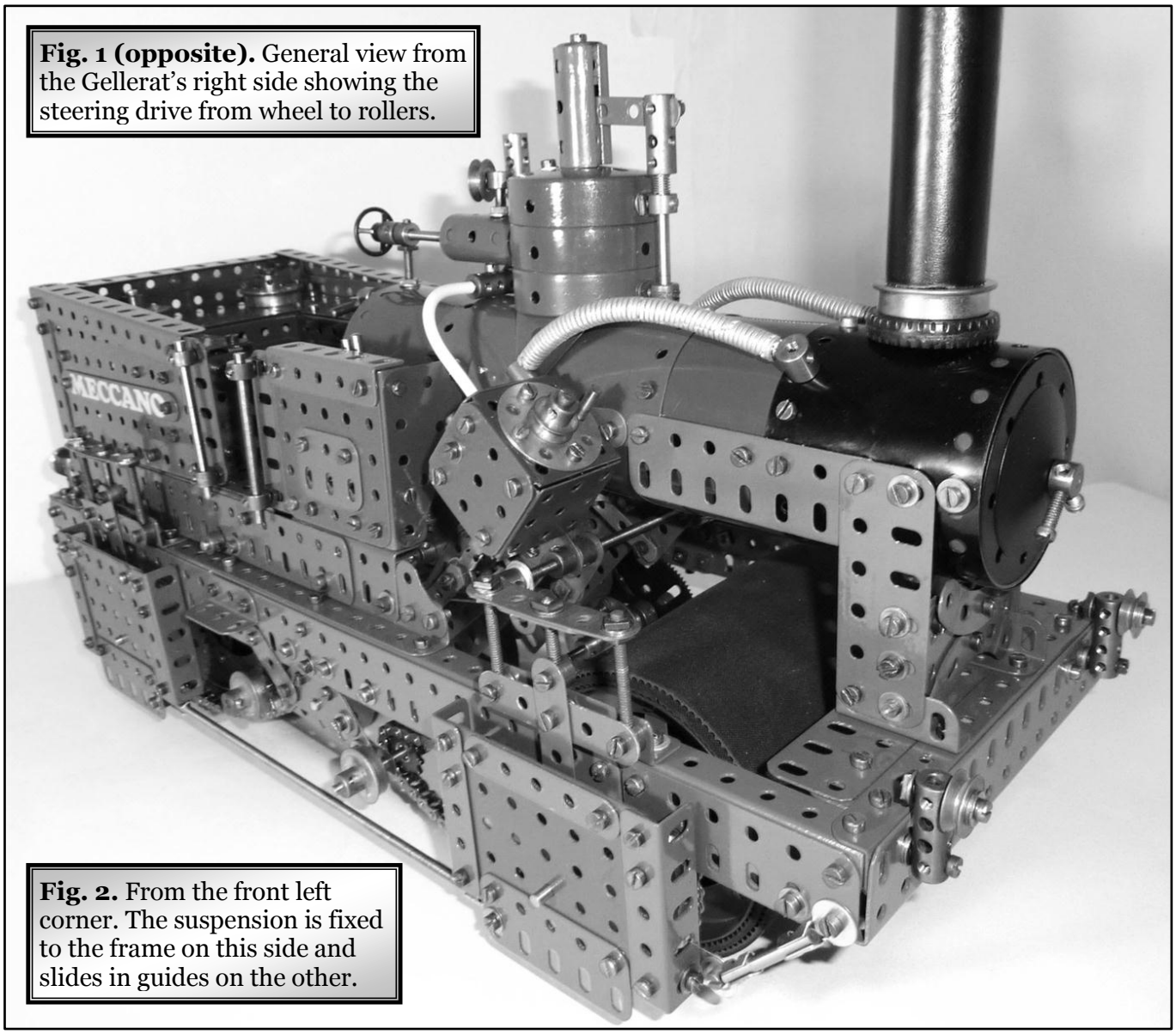


Fig. 1 (opposite). General view from the Gellerat's right side showing the steering drive from wheel to rollers.

Fig. 2. From the front left corner. The suspension is fixed to the frame on this side and slides in guides on the other.

Boiler and cylinders

The boiler is 2½" in diameter and 10½" long. It comprises overlapping curved 4½" x 2½" Flexible Plates formed around 2½" circular girders front and rear. The front is filled with a Face Plate and a Conical Disc with two bolts in a four-hole Collar (Fig. 2). Each side of the firebox comprises a 2" Flat Girder bolted to a 1" Angle Girder fixed to the front of the footplate (Fig. 3). In front of the Flat Girders, 2½" x 1½" flat plates extend downwards and are connected at the front by a 2½" x 1½" Flanged Plate with a 2½" Stepped Curved Strip (Fig. 4). The firebox rear comprises a Semicircular Plate and a 2½" x 1½" plate with representations of the water gauge and firebox door (Fig. 3).

The boiler is supported at the front by two 3" Flat Girders connected by a 2½" Flat Girder bolted to 1" Angle Girders, the Flat Girder carrying two 2½" Stepped Curved Strips. The 3" Flat Girders are bolted to two 1½" Angle Girders and to two 3½" Flat Girders bolted to the boiler centreline (Fig. 2). The chimney is fixed on a long rod through the boiler, held in place by Collars, and carrying a Threaded Coupling at the top into which is bolted a long Bolt through the upper 1⅛" Flanged Wheel. The steam dome is made up of three Boiler Ends on a Rod passing through the boiler with a Sleeve Piece and two Chimney Adaptors held in place by a bolt in a Threaded Coupling on the top end of the Rod. A short Rod held in two Collars carries a Strip Coupling with a 1½" Narrow Strip locating in the slot. A further Sleeve Piece with two Chimney Adaptors is bolted to the middle Boiler End and carries the pressure gauge and whistle and is extended back by a Rod fixed in a Collar on a long Bolt at the top of the firebox. The regulator control is provided by the small handwheel (Figs. 1 & 2). The boiler is completed with a Coupling bolted underneath the regulator to accept the steam pipes and two Threaded Bosses at the back of the smokebox to accommodate the exhaust pipes.

Cylinders are each bolted to an Obtuse Corner Bracket attached to the boiler side immediately behind the 3½" Flat Girder (Fig. 2). The cylinder

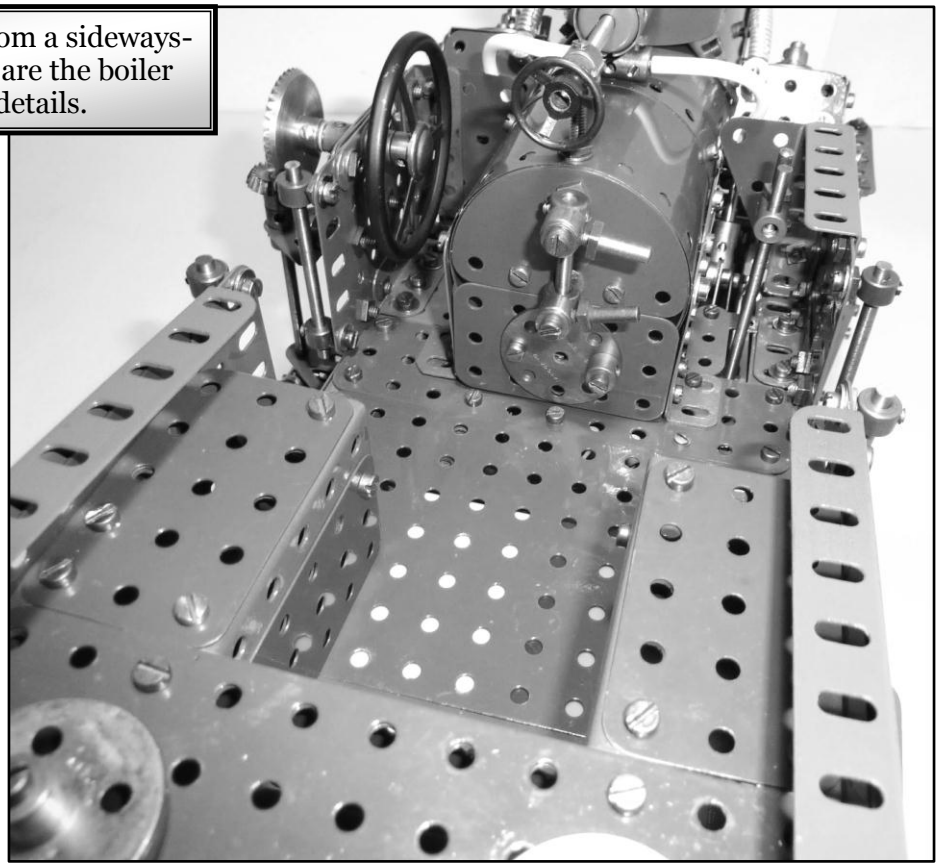


Fig. 3. Oddly, the steering is from a sideways-mounted wheel. Also seen here are the boiler and firebox fittings and tender details.

ends and bottom are provided by three 1½" x 1½" Flanged Plates connected by a side made from a 1½" x 1½" Flat Plate. A Wheel Disc and ½" Pulley is bolted to one end and, on the other, a Wheel Disc and, internally, a Double Bent Strip as a journal for the piston rod. The Obtuse Corner Bracket is extended downwards by a Fishplate and the cylinder top is a 1½" x 1½" Flat Plate with two Threaded Bosses and held in place on a ½" square collar fixed to the side plate. Steam and exhaust pipes are fitted accordingly.

Motor drive and crankshaft

The motor is bolted to a 1½" Angle Girder beneath the 5½" x 1½" flat plate and Chain drives the crankshaft via two 18t Sprockets (Fig. 4). Crankshaft journals are provided on each side by a framework of a 1½" Corner Bracket with two 2" Strips attached, each bolted to a 3½" Narrow Strip. The framework is further supported by a 1½" Strip bolted to the sideframe (Figs. 2 & 4). The crankshaft carries a Triple Eccentric and two Single Eccentrics at each side with, on the right, a 25t Pinion and in the centre a Flywheel. The crankshaft also carries two 5½" Flat Girders lock-nutted to the Fishplates on the cylinder chests. The Triple Eccentrics carry a 3" Narrow Strip lock-nutted to a Rod & Strip Connector carrying the piston rod (Fig. 4). The Single Eccentrics each carry a 3" Narrow Strip. The outer one is lock-nutted to the bottom hole of a 1½" Slotted Narrow Strip whilst the inner one carries a long Bolt pointing inwards through the top hole. The slotted strip locates in a Strip Coupling and can both slide and pivot on a long Grub Screw. The Strip Coupling is fixed to a Rod which passes completely through the inner holes of the Wheel Discs on the cylinder chest. Each long Bolt carries a long collar and is fixed to a 2" Narrow Strip with two Nuts. The Narrow Strips are lock-nutted to two Cranks on a Rod which is journalled in two 1" Corner Brackets, held in place by Collars, and carrying a short crank.

Suspension units

On the left side, the dummy leaf spring arrangements, front and rear, are bolted to 2½" Angle Girders bolted to the sideframe (Fig. 2). Each comprises a 2½" Strip spaced by two thin collars from the Angle Girder and a 2½" Strip extending downwards with another thin collar in its top hole. The three thin collars carry Screwed Rods which locate a 2½" and 1½" Strip as the leaf spring. On the right side, the sliding spring arrangements, front and rear, are made up from two 2½" Strips spaced apart by three thin collars with two 3" Strips positioned centrally (Fig. 1). A Collar in the top holes of the 3" Strips, along with the outer two thin collars, carry Screwed Rods supporting the dummy leaf spring. Four 2" Narrow Strips drop either side of the chassis rail and a 2½" and an outer 3" Strip is supported on lock-nutted long Bolts which carry ½" Pulleys (Fig. 4). A Wheel Disc is bolted to the outer 3" Strip whilst the inner one carries the spider of a Swivel Bearing bolted tightly.

Traction drive and rollers

A 25t Pinion on the crankshaft drives two 95t Gears on shafts journalled in the end holes of the 3½" Narrow Strips (Fig. 4). The Gears are fixed to a Socket Coupling which has a Bush Wheel locked in the other socket. These are loose on the shafts and are sprung against a fixed Bush Wheel with a ½" Pulley with Tyre in between. Compression Springs act between the Gears and the 3½" Narrow Strip. The shafts are held in place by Collars and also carry an 11t roller sprocket and outside the frame a ¾" Flanged Wheel. On the left side, the wheel covers are provided by a 3½" x 2½" flat plate with two 2½" Angle Girders, a 2½"

Strip and a 2½" Flat Girder (Fig. 2). These are bolted to the sideframe spaced by long collars and hide 1½" Corner Brackets bolted to the sideframe which provides the inner journal for a short Rod carrying a 37t roller sprocket (Fig. 4). The short Rod also carries a constant-velocity (CV) joint and axle which locates loosely in the Swivel Bearing. The outer covers carry Rod & Strip Connectors with Rods connecting them together and to the sideframes (Fig. 2).

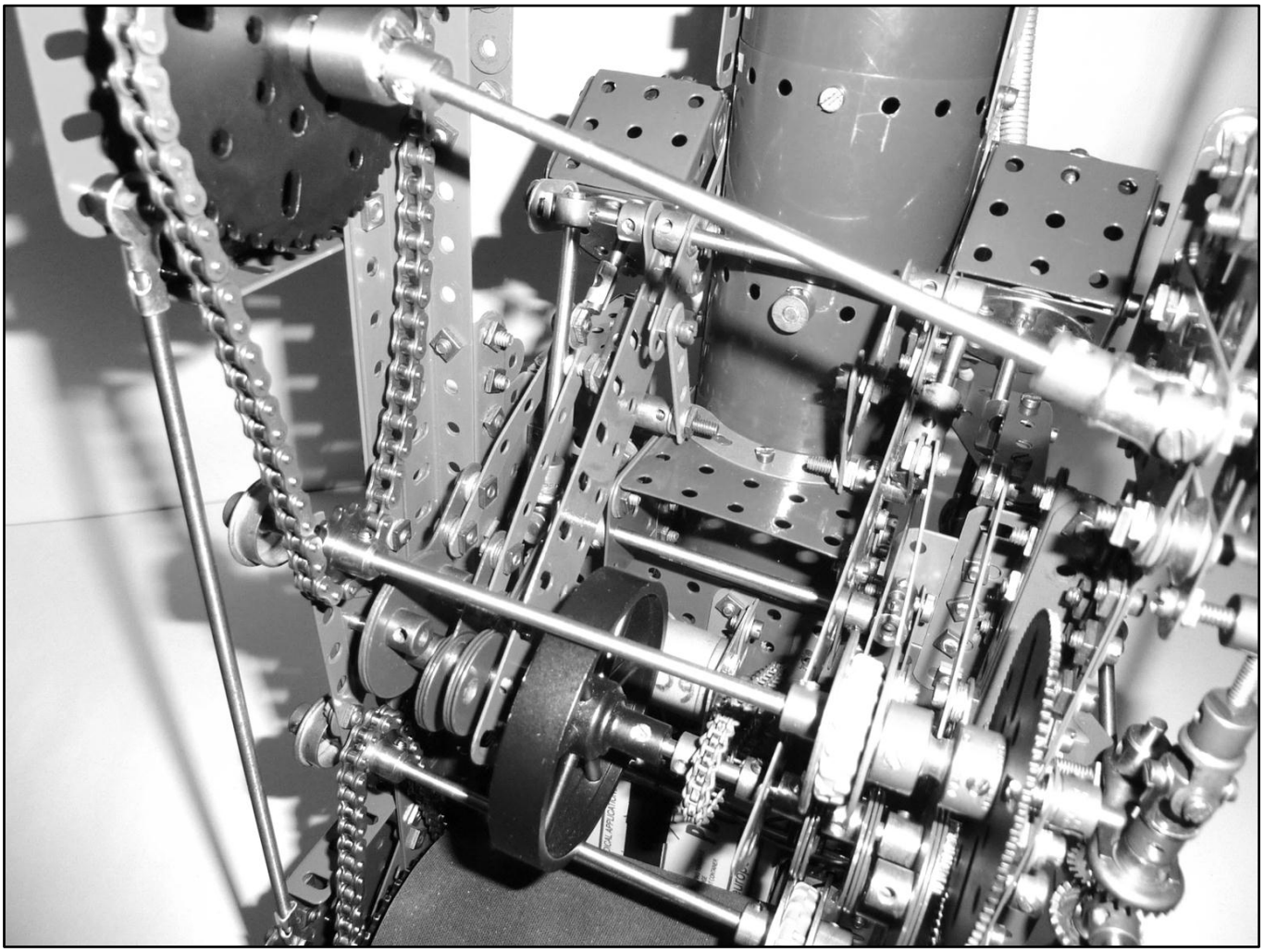
The rollers are made up of four rubber-covered 3½" circular girders with 3½" and 1½" Narrow Strips spokes on the outer circular girders bolted to two Bush Wheels fastened to the axle. The rollers are positioned on the axles, the CV joint is then affixed to the axle and then the short Rod can be pushed through into the other half of the CV joint before fixing the 37t sprocket.

Tender and motor control

The tender rear is made up from two 3" Angle Girders and a 5½" x 2½" Flat Plate, a 5½" Strip and a 4½" Angle Girder. Sides comprise a 5½" x 2½" Flat Plate attached to a 3½" Angle Girder bolted to the footplate with a sloping 5½" Angle Girder and a 2½" Flat Girder at the front (Fig. 1). Inside, a top 5½" x 2½" Flat Plate and two 2½" x 1½" flat plates are supported on 3½" Angle Girders bolted to the sides. The tank inner is made from a 3½" girder bracket attached to a 2½" x 1½" flat plate at the rear and two 2½" girder brackets each with a 2½" x 1½" flat plate make up the sides (Fig. 3). The fronts are made from a Girder Bracket and a 2" Flat Girder. Two 1⅛" Flanged Wheels provide the filler caps.

Alongside the firebox on the left side, a 2½" x 2½" Flat Plate has two 2½" Angle Girders and a 2½" Flat Girder and is bolted to the footplate with a 1½" Angle Girder (Fig. 3). A 2½" x 1½" Triangular Flexible Plate completes the front. The floor comprises a 1½" Strip bolted to a 1½" Narrow Strip, leaving a gap for the reversing lever. The other side is similarly built but without the top 2½" Angle Girder. The floor in this area is a 1½" Flat Girder. On both sides, handrails are Rods in Collars on Bolt shanks in the Flat Girders. The reversing lever is attached to a four-hole

Fig. 4. The steam engine and drives from below; boiler barrel and the machine's front end are upper centre and steering gear lower right. The moving front axle, without its roller, lies diagonally and receives a heavy-duty chain drive via a CV joint. Its other end runs free in a Swivel Bearing at the sliding axlebox. The motor is just visible behind the flywheel.



coupling bolted to a Rod held by Collars passing through the smokebox bottom (Fig. 4). The coupling also carries a pivoted Small Fork Piece with Rod extending forwards to a Collar which pivots on the shank of a bolt attached to the short crank. This provides the link movement on motor reversal. On the firebox's other side, a Coupling carries a 3" Narrow Strip on a Pivot Bolt. The Narrow Strip passes back under the footplate to a DPDT switch fixed to a 1½" Angle Girder bolted beneath the footplate. The Narrow Strip operates the switch by its position between two Collars on a hollowed-out rod glued to the switch lever.

Steering

A 2½" Steering Wheel is journalled in two Double Arm Cranks bolted to the 2½" x 2½" Flat Plate (Fig. 3). The steering shaft carries a 42t bevel gear driving a 21t bevel on a vertical shaft supported by two Trunnions, one bolted to the sideframe and the upper one spaced from the Flat Plate (Fig. 1). The shaft carries a loose Coupling, a 25t Pinion and extends through another loose Coupling held in place by a Collar. The 25t Pinion engages two 25t Contrates on short Rods, each with a Universal Coupling. Each of these carries a Screwed Rod tightly fastened by Nuts on either side of the boss (Fig. 4). The Contrates are held in mesh by two selector forks fixed to short Rods in the upper Coupling. This Coupling is prevented from rotating by two ½" Bolts screwed into the inner facing holes and bears against the flange of the Trunnion. The Screwed Rods pass through Threaded Bosses loose on long Bolt shanks fitted to each 3" Strip on the sliding suspension units (Fig. 1).

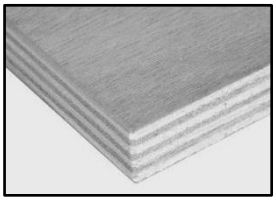
Construction notes

At last, a relatively lightweight model! The replacement of cranks by eccentrics is engineering nonsense but, since they are hidden from view in this model, it greatly simplified construction and does not affect its realistic operation. The selector forks and roller chain (the latter not necessary - perfectly serviceable with Meccano Chain) were supplied by Frank & Patricia at Meccano and Compatible Parts. The CV joints were supplied by Stuart Borrill. The model worked well at Laughton in April 2015 although the number of steering wheel turns lock-to-lock was never fully tested! I really enjoyed the design and build of this model - one of my favourites.

Ken Ashton

The Illustrated Meccanoman's Dictionary: P

Plug tap to Political correctness



Plug tap. A thread-forming **tap** for cutting almost to the bottom of a **blind hole,** right. Also known as a bottoming tap.

Plunger. A retractable rod engaging in a hole for locating purposes.

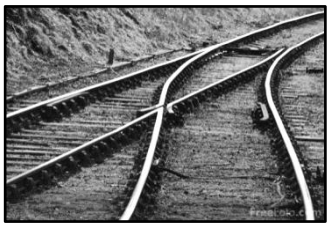
Plywood. A **laminated** type of sheet **wood**, right. Was used for some of the sillier parts in the short-lived '**Crazy Inventors**' sets and for making the **No. 10 Set** cabinets.

PMG. Pennine Meccano **Guild**, the now defunct Huddersfield-based club.

Pneumatics. Pressurised air-based power transmission driven by a compressor.

Pocket Meccano. A very small set from the 1970s with about 70 parts which included the **Nuts & Bolts**.

Pocket Spanner. PtNo. 34c. An economical combination of **Spanner** and **Screwdriver**. Became obsolete for decades then reintroduced for the **Pocket Meccano** set.



Point. (1) A distinct site in space, on a plane or along a line. (2) A railway turn-out or switch, right.

Pointer. PtNo. 156. An obsolete and nice to have part, right. The original production has an off-centre **boss** which isn't quite enough to return it to vertical. Clock builders like 'em for the **seconds** hand.

Poisson's ratio. Pull hard on something within its **elastic limit** and it contracts transversely and elongates longitudinally. Divide the contraction (negative) by the extension and to yield the ratio, denoted by Greek lower case nu, 'ν'; $\nu = (-\varepsilon_{trans})/(\varepsilon_{longitudinal})$. See also **stress** and **strain**.

Polarise. To make sure it will fit one way only, like a **plug** in a **socket**.

Polarity. Positive and **negative**. Make sure they are the right way round as some electrical items are polarity-sensitive. For **DC** power.

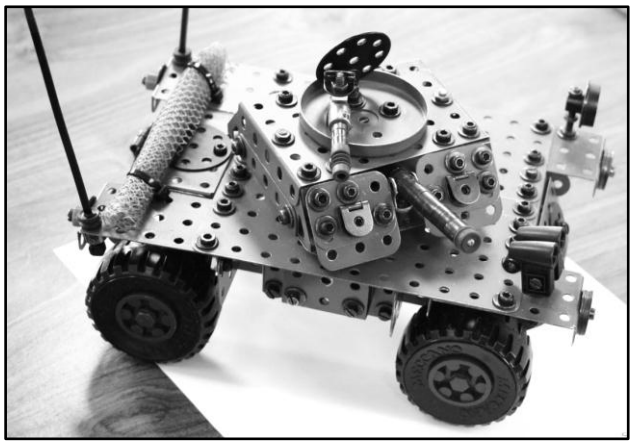
Political correctness. Similar to **newspeak** and thankfully rare in **Meccanoland**. *RM*

Frank Singleton, 1947-2016

Tree Singleton telephoned in early August with news that no-one wanted to hear; her husband Frank had died and we have lost another well-known Meccanoman. He had been a long-standing member of the Sheffield MG and our fellow clubs and, in our case, the association spanned over thirty years through thick and thin. Not having Frank and Tree at a meeting was a rare occurrence and he would announce his arrival with a pseudo-toff "Heeello!"

After initial employment in banking, Frank settled into an IT career with the Grimsby fish-processing industries. He suffered a stroke in 1991 which robbed him of the full use of his right arm; with it went his perfect handwriting and your writer recalls a letter venting his frustration in that regard. Apart from some infrequent and understandable irritation at what he had lost, he would never be heard to complain about his lot and his wry sense of humour was undented. That situation prevailed until early April when there was a first inkling that something wasn't quite right; had again been invited to act as a Laughton reporter which was declined due to "medical matters". Apart from that, he was his usual self. Actually, that's not wholly true as he requested a square metre of space which was a lot for an enthusiast committed to small models - we once joked that he didn't have any 24½" Angle Girders! It wasn't long after when he revealed that he had been diagnosed with inoperable liver cancer. We met again at Oxton in May where he and Tree were remarkably sanguine about the situation.

Frank proved to have been remarkably camera-shy as a rummage through pictures from recent meetings turned up nothing suitable. **Hellmuth Kohler**, however, soon rode to the rescue; he can be busy at events with a camera and takes 'people' pictures in particular. He pictured Frank taking an interest in a model at Laughton and it will have almost certainly been someone else's work. Below is a typical model from Frank; an enlarged rebuild of the Army Multikit Armoured Scout Car from April 2014.



Aged 69, Frank died on 27th July after being cared for at St Andrew's Hospice in Grimsby. His funeral was a thoughtful affair on 11th August at Grimsby Crematorium where the SMG and NMMG were represented to pay their respects to 'our Frank'. At the subsequent get-together and in defiance of healthy eating advice, one of Frank's favourites - bread & dripping - was served; pure class...

In Frank we have lost a devotee of small models, an admirer of the work of others, one of the most modest builders you could wish to encounter and a generous spirit. If you wonder why the SMG subscription is so low then all those auction lots donated by Frank have played their part. There will be an empty front seat at future business meetings where its previous occupant was always primed for the occasional remark guaranteed to bring your Committee to a halt, normally with a smirk. He authored an entertaining piece about his Meccano revival which appeared in SMGJ108. Other interests included Lincolnshire folk music and he was a demon question setter for his local pub quiz league. Although never employed in the UK steel industry, Frank was an uncanny source of rumours days before they hit the internal grapevine, many later turning out to be true.

Our sincere sympathies are of course offered to Tree. Your Editor also keenly feels Frank's death as he was more than a Meccano enthusiast and a long-term SMG supporter; he was also a pal. He will be truly missed and on behalf of the SMG, 'bye Frank.

RM

Austin-Healey 3000 Mk 3 - the Mini Version

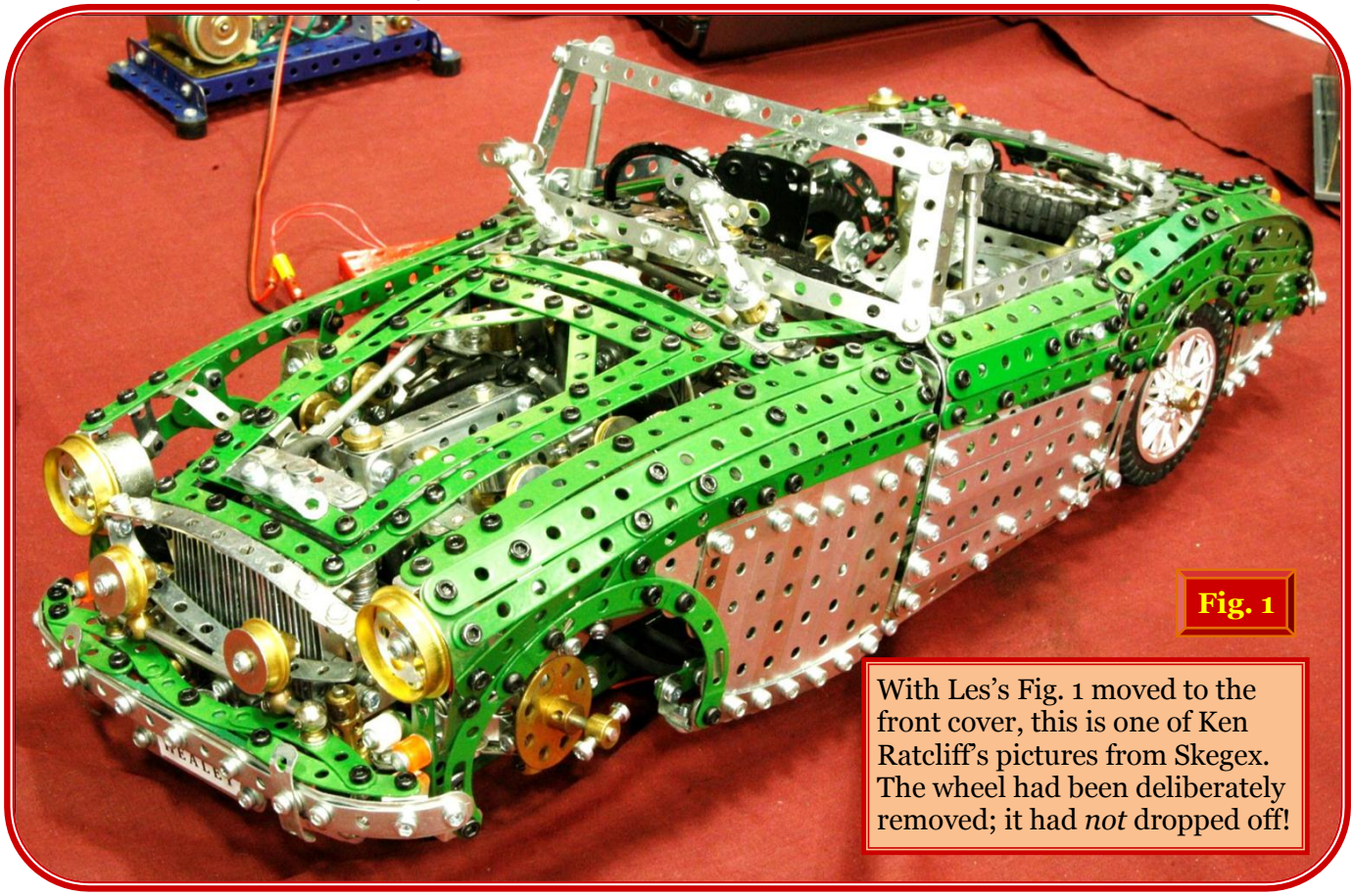


Fig. 1

With Les's Fig. 1 moved to the front cover, this is one of Ken Ratcliff's pictures from Skegex. The wheel had been deliberately removed; it had *not* dropped off!

Following on from his acclaimed one-fifth scale model, Les Megget has built another to a reduced - and more portable - scale.

I described my larger version of this sports car in the February 2014 issue of the New Zealand Federation of Meccano Modellers Magazine (Vol. 38, No. 1 then in SMGJ120 for June 2014) and it was the intention to take that to the annual Meccano exhibition in Skegness in 2015. However, it weighed far too much to be my hand luggage and our plans for the UK trip were delayed one year. Thus this smaller version (about 1:7.5 scale) evolved over the last year. I started with the 3" diameter tyres from Frizinghall Models in Bradford which fit 2" Pulleys. As the prototype rims are 15" diameter you can see where the 1:7.5 came from. Once this had been set I went about designing the gearbox which had to be four-speed & reverse and as close to prototypical length as possible - about six holes.

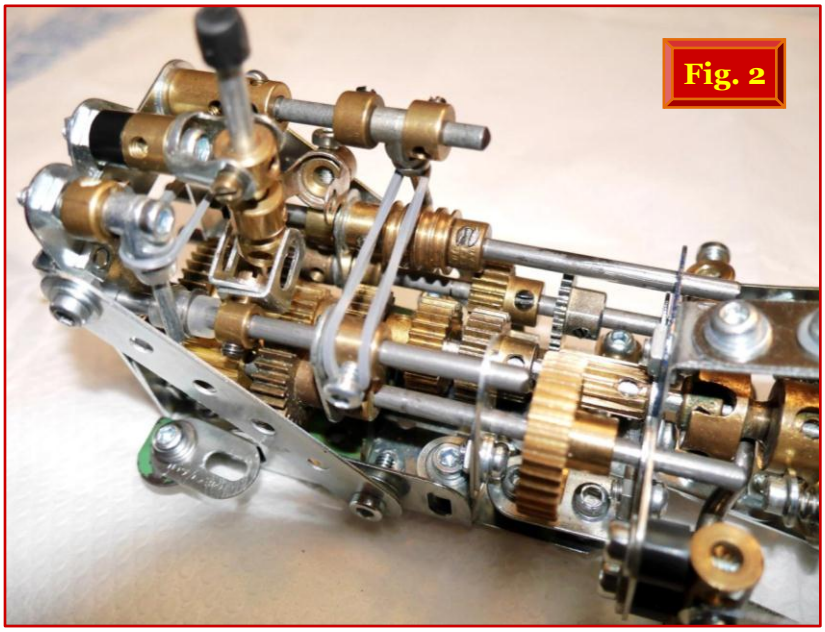


Fig. 2

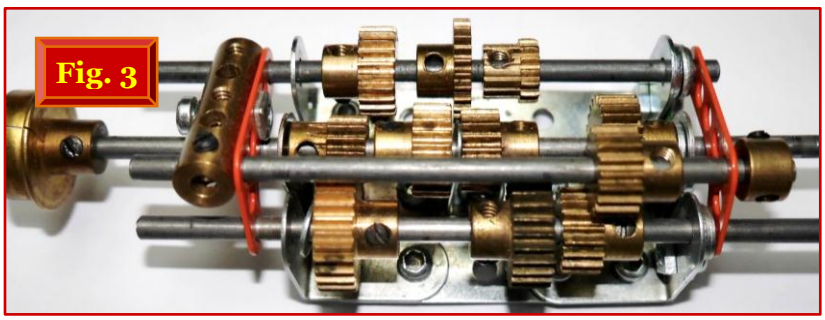
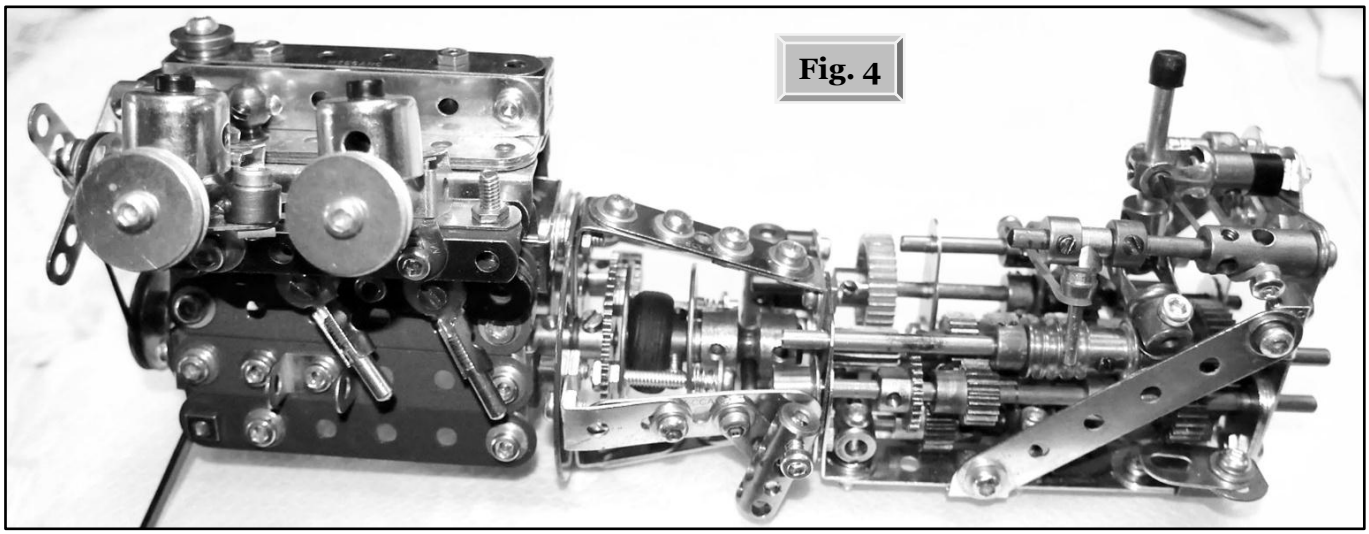


Fig. 3



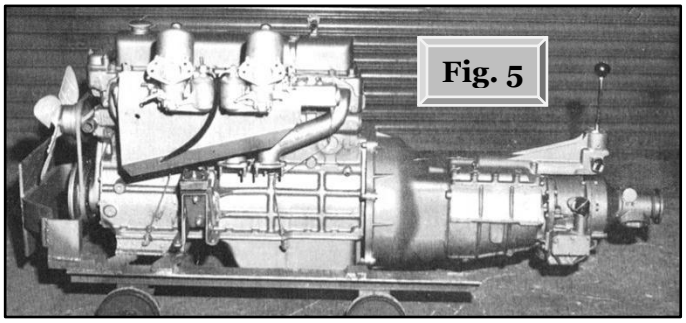
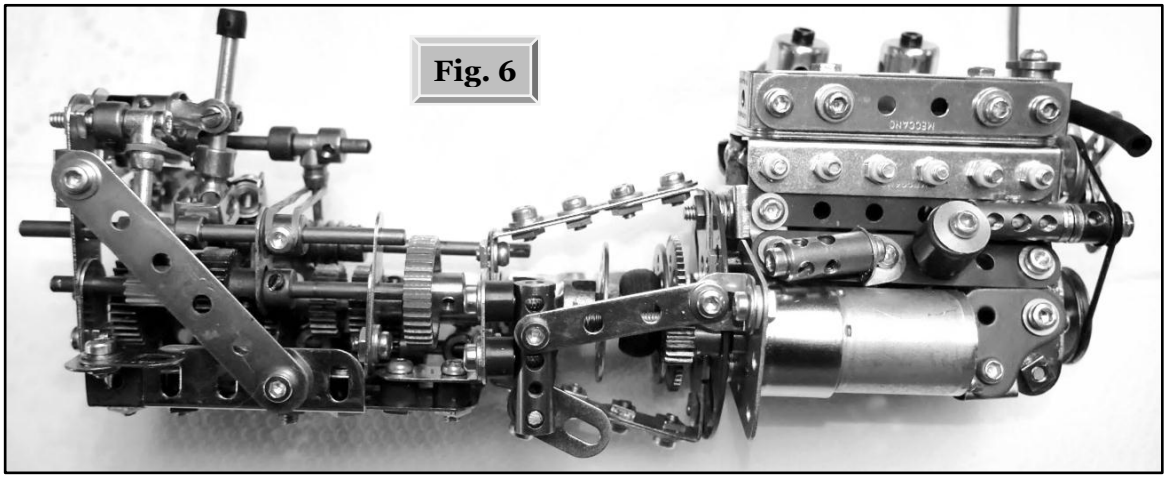


Fig. 1. A general view of the whole model and an interesting comparison with its bigger brother.
Fig. 2. Selector rods, detents and gear stick when mounted above the gearbox.
Fig. 3. This rebuilt 'box was an inch shorter.
Fig. 4. The united engine, clutch and gearbox; an oil sump was still to be fitted.
Fig. 5. The real thing; note the overdrive unit on rear end (right).
Fig. 6. The model's engine, clutch and gearbox from the RHS showing the 6V geared motor representing the starter. The short crank at the clutch's end is the clutch release lever.

The seven-hole long gearbox is shown in Fig. 2. This was based on a design by an English modeller I found on the Internet but as usual I changed a good deal. It has an 'H' gear selection pattern with reverse on the same leg as top - not quite prototypical but close. The ratios are: first 6.41:1, second 2.53:1, third 1:1 and fourth 1:1.73 so fourth is an overdrive ratio which isn't far off the actual gearbox with overdrive activated. Since then, I've built a more compact four-speed & reverse 'box which is only five holes long (Fig. 3) but it would require a major rebuild to fit it into the chassis and the ratios aren't as widely spaced.

Engine and transmission

I used one of Stan Baker's largest motors for the motive power masquerading as the starter motor which is a little out of scale but difficult to see in the finished model. The compact clutch is one of Alan Wenbourne's as described in the *Runnymede Meccano Guild Magazine* and *CQ*. Fig. 4 shows the engine, clutch & gearbox and, for comparison, from the real car in Fig. 5 (scanned from *The Big Healeys* by Graham Robson). The engine is a little short, the clutch and gearbox a bit long but the final overall length isn't too bad. Fig. 6 is the engine etc from the right-hand side showing a Collar representing the generator with two seven-hole, ¼"-spaced Narrow Strips for the fan and a Threaded Coupling for the oil filter. The distributor between the generator and oil filter is a plastic cylinder from the *Tintin* series with a brass cap. The six spark plug leads have yet to be fitted.



Chassis

The chassis frame is made from two 12½" Angle Girders for each side rail with an end extension of 3½" Angle Girders but not quite as deep. The

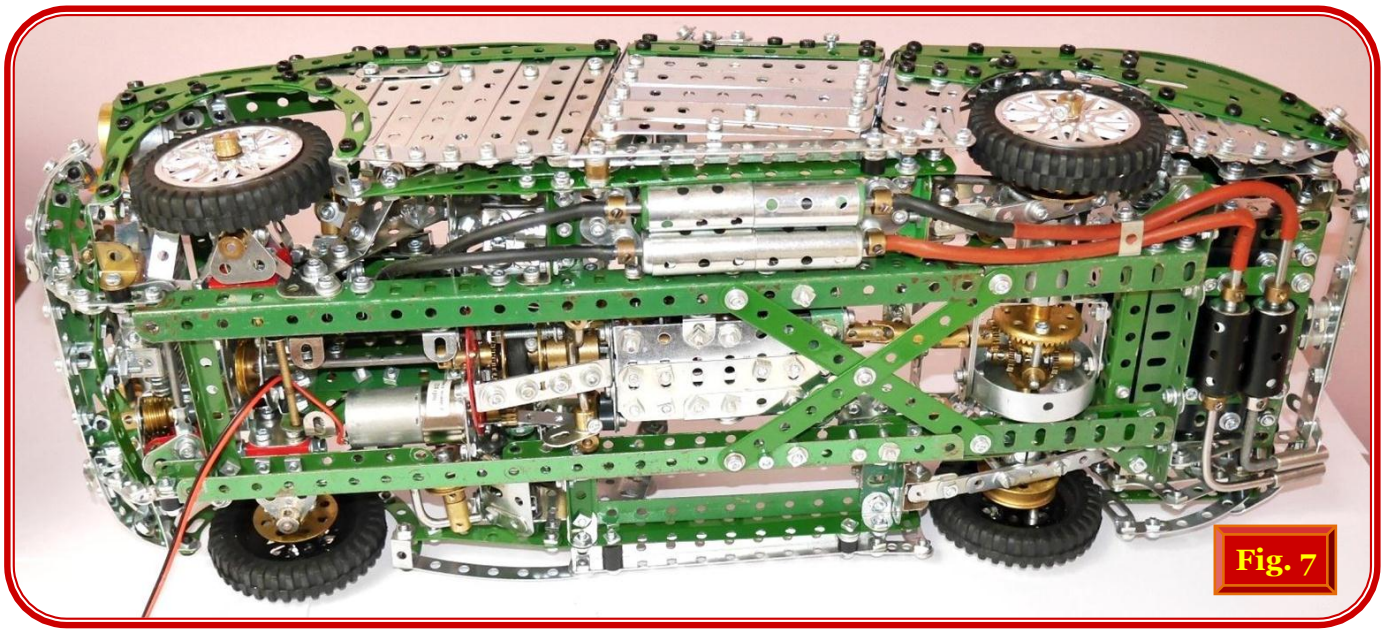


Fig. 7

car's underside is shown in Fig. 7. Also visible is the narrow-width differential which uses narrow-faced 15t Pinions in an effort to reduce the width to a minimum. Short, 1"-long universal joints fit well in the restricted space available.

Suspension

Fig. 8 shows the front suspension double wishbone set-up. A non-Meccano spring is inserted between the bottom 1" Triangular Plate and a similar part under the Coupling 'shock absorber' bolted to the suspension box fixed to the chassis rail.

Rear suspension uses multiple Narrow Strips as the leaf springs in such a way that the rear axle lies *above* the chassis rails. The lever-arm Armstrong shock absorbers are represented by vertical Couplings with Obtuse Narrow Reversed Angle Bracket links to the rear axle (Fig. 10). Anti-tramp rods are fitted as per the real car.

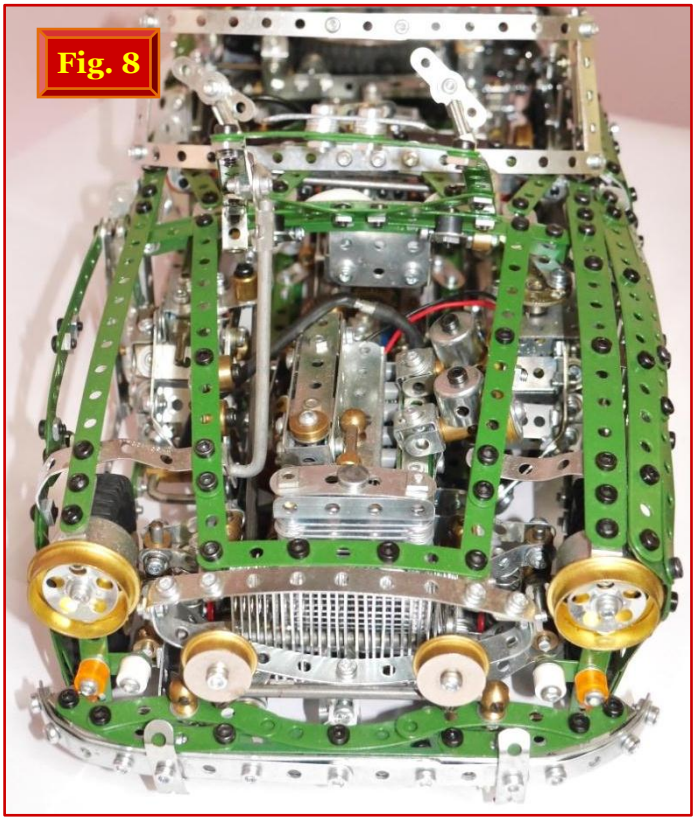


Fig. 8

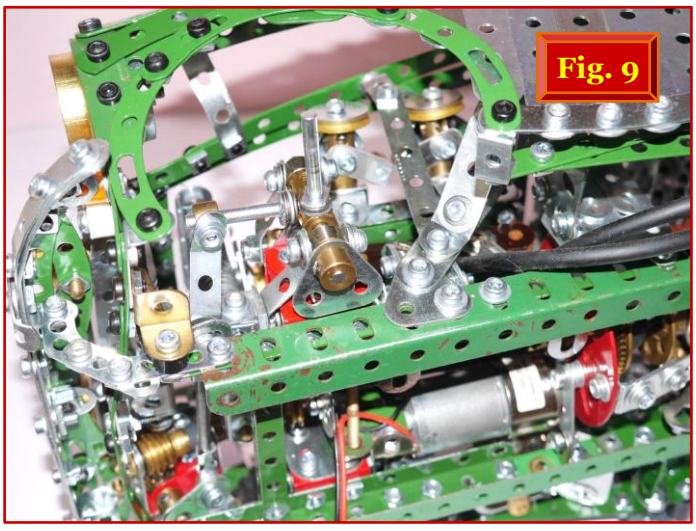


Fig. 9

Bodywork

Panels are reproduced on the left side only so viewers can see the car's internal workings. Green strips, both Narrow and standard, were used above the swage line with zinc strips below. Note the non-standard Ashok 4" strips used on the left-hand door skin. The bonnet and boot lid are in frame form and Fig. 11 shows the boot open with the spare wheel sitting on top of the black petrol tank. The black cube to the right of the tank represents the battery, placed there in the prototype to assist in approximately equal front and rear weight balance. Making the complex curved bodywork look right was difficult and took several attempts before I was satisfied.

Internal fittings

Fig. 12 shows the car's interior with the dashboard with main gauges, rev counter and speedo, the ½" Pulleys, stuck to the 'veneered' dash. Windscreen

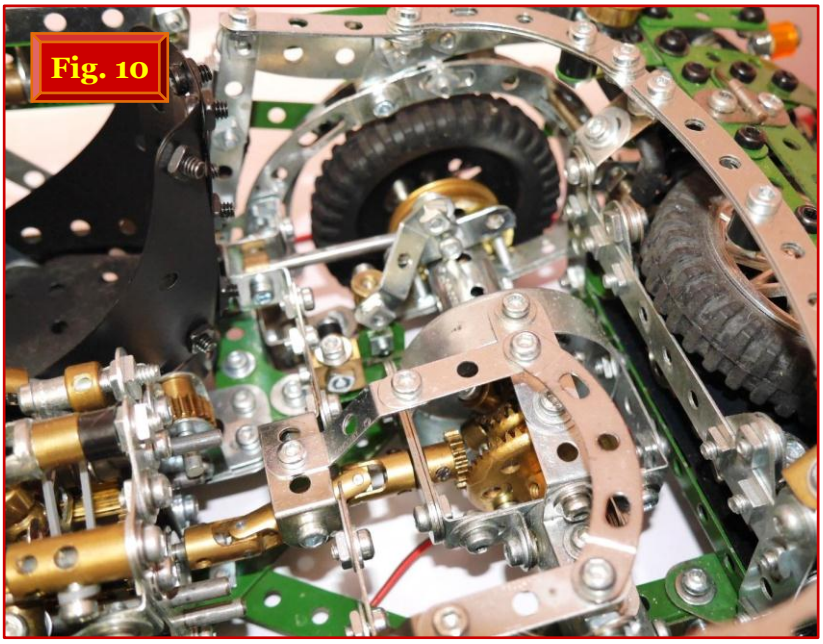


Fig. 10

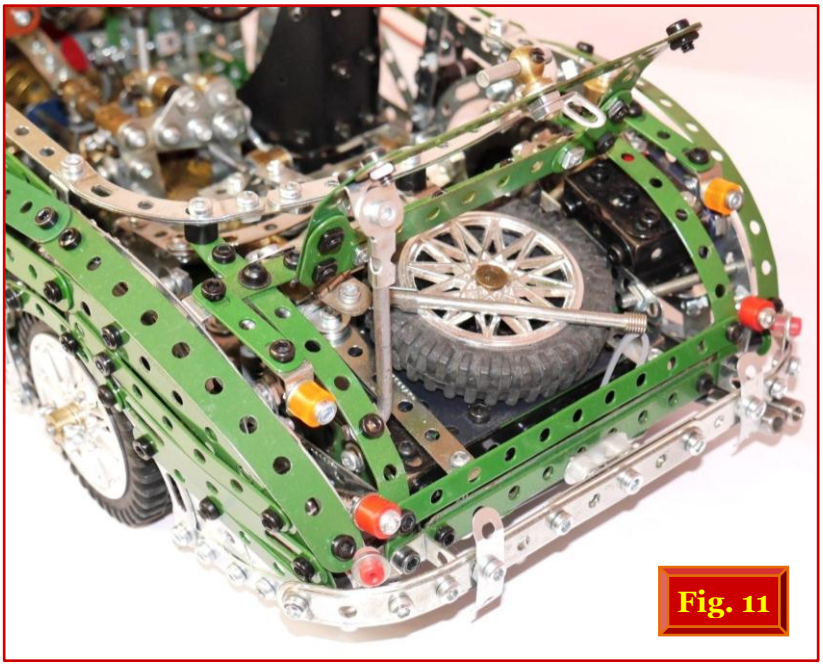


Fig. 11

Fig. 7. The Healey's underside showing chassis, differential and convoluted exhaust system. The engine's oil sump has not been fitted!

Fig. 8. Front of the car with skeletal bonnet raised. The windscreen wipers needed adjustment so that they lie flat when at rest.

Fig. 9. Front nearside suspension with the road wheel and brake disc (a Bush Wheel) removed. A shortened worm in the steering box can be seen at the lower left.

Fig. 10. The differential and rear axle showing the right-hand anti-tramp rod and lever-arm shock absorber. The frame over the diff is for the occasional rear seats; only one seat pan is shown.

Fig. 11. Partial skeletal construction means the boot lid doesn't have to be lifted to show the spare wheel.

Fig. 12. The model's dashboard with several instruments represented.

Fig. 13. Interior of a real Mk 3 Austin-Healey 3000. The steering wheel and upper rear-view mirror are not the original fittings.

wipers are powered by a mini 6V geared motor and I have yet to fit their mini-switch on the dashboard. The dash of the real Mk. 3 Healey 3000 is shown in Fig. 13 and I hope you can see some resemblance to the model. The model just needs a central console over the gearbox hump but that would hide the gearbox. I've also managed to squeeze

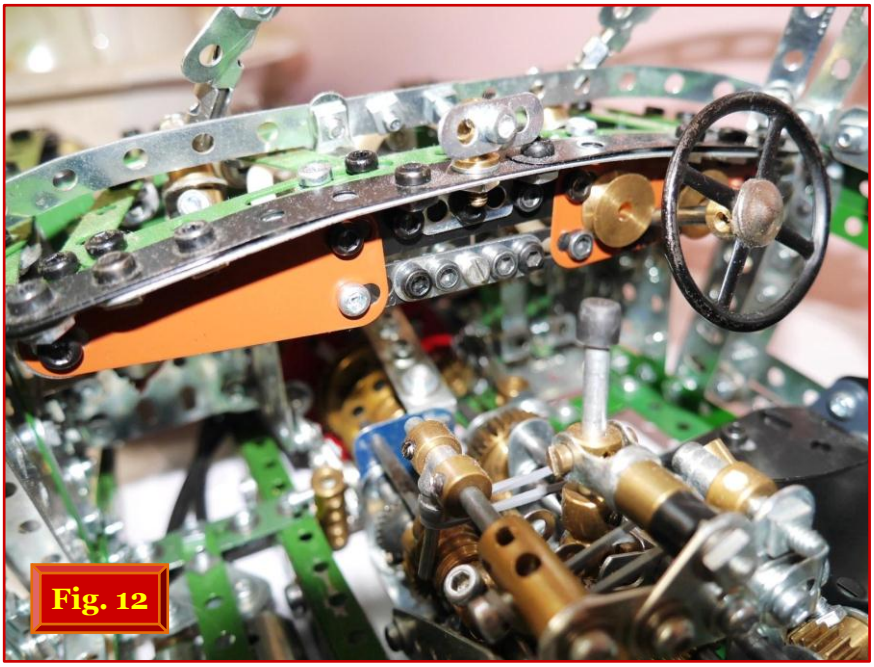


Fig. 12

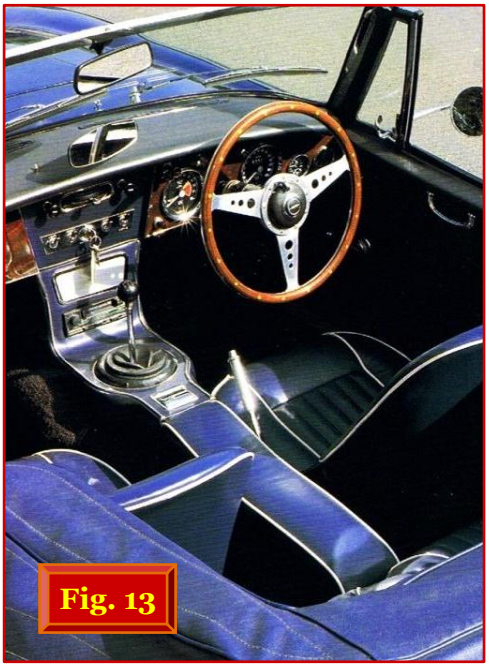
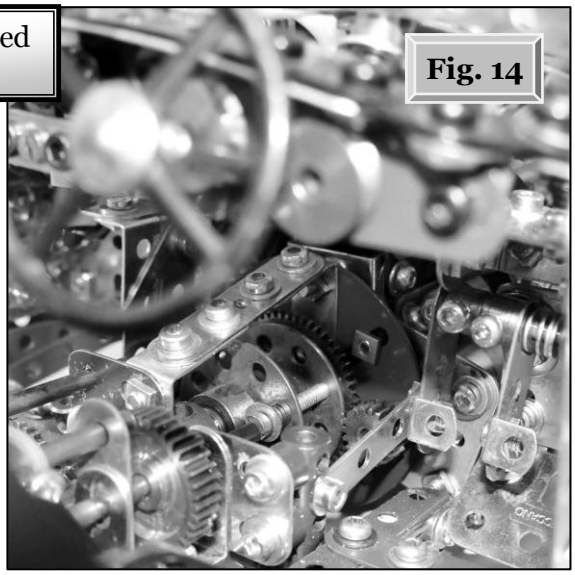


Fig. 13

Fig. 14. Driver's controls and some instruments. The humped cover over the clutch and gearbox has not been modelled.



the clutch and brake pedals into this model. The wire-wheel trims are from the 'Mechanical Workshop' set and, with their bosses sawn off, fit perfectly over a 2" Pulley boss.

Weighing 6.4 kg (14 lb) plus packing in a plastic toolbox, the model scraped through the airline's hand-luggage allowance to be seen at Skegex in July 2016.

Les Megget

A Very Powerful Vehicle Brake

An internal brake with real bite from Ken Ashton

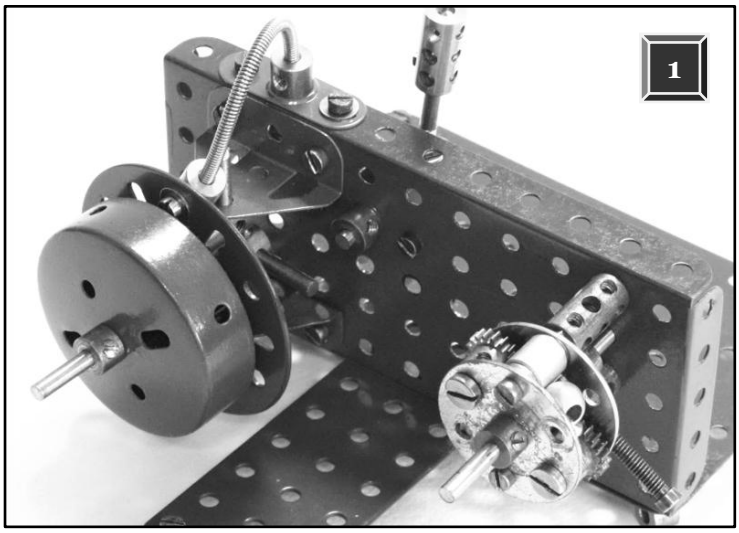
Two short Threaded Couplings support the kingpin which carries a Short Coupling with steering arm to provide Ackermann steering geometry. A six-hole Bush Wheel is spaced from the six-hole unbossed face plate, the long Bolts screwed into the Threaded Couplings. The Bush Wheel is fixed to the stub axle which also locates within the Short Coupling. A loose 20t Pinion on the stub axle is spaced from the Bush Wheel so that a Handrail Support can be *partially* screwed into its boss and has a Bowden cable attached with the cable support, a Threaded Boss, bolted to the face plate. Two Handrail Supports, as brake shoes, are firmly screwed into narrow-faced 19t Pinions on two Pivot Bolts journalled in the Bush Wheel and face plate. These brake shoes are arranged (meshed) to act equally in opposition (hence the 20t Pinion) to engage the drum, a Boiler End loose-lined with a rubber strip.

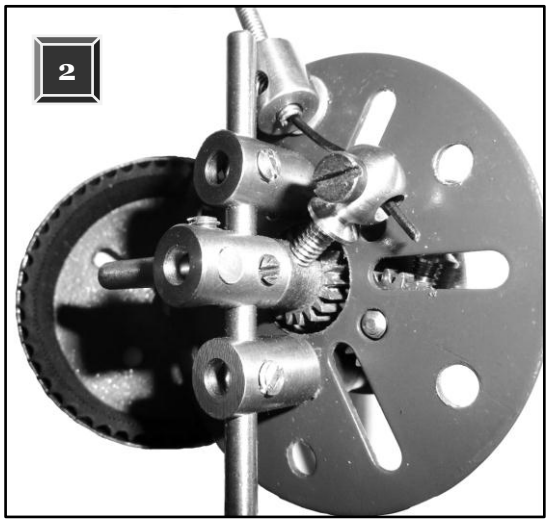
The brake has leading-trailing properties and as shown would be correct for a left front wheel. For the other side the shoes can be pivoted in the other two free holes for the opposite direction of rotation. The brake is also suitable for non-steered wheels and its main advantage is that it does not rely on ultra-tight Grub Screws for brake efficiency.

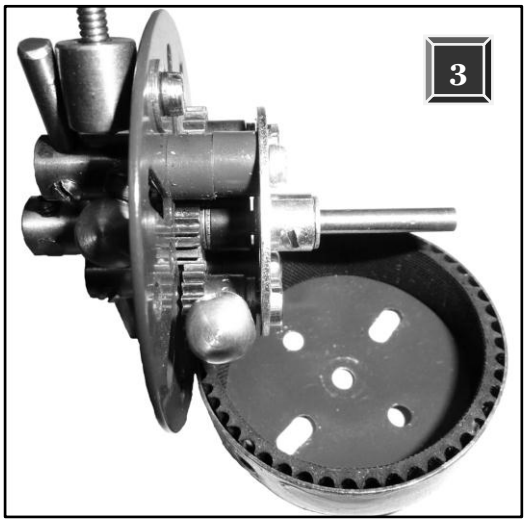
Ken Ashton

1. Two demonstration versions of the brake. These were an eye-opener at Laughton such was their effectiveness.
2. Incoming Bowden cable enters the Handrail Support in the 20t Pinion.
3. One half of the simple Pinion train ends in the Handrail Support 'brake shoe'.

Photos: 1 by Rob, 2 & 3 by Ken







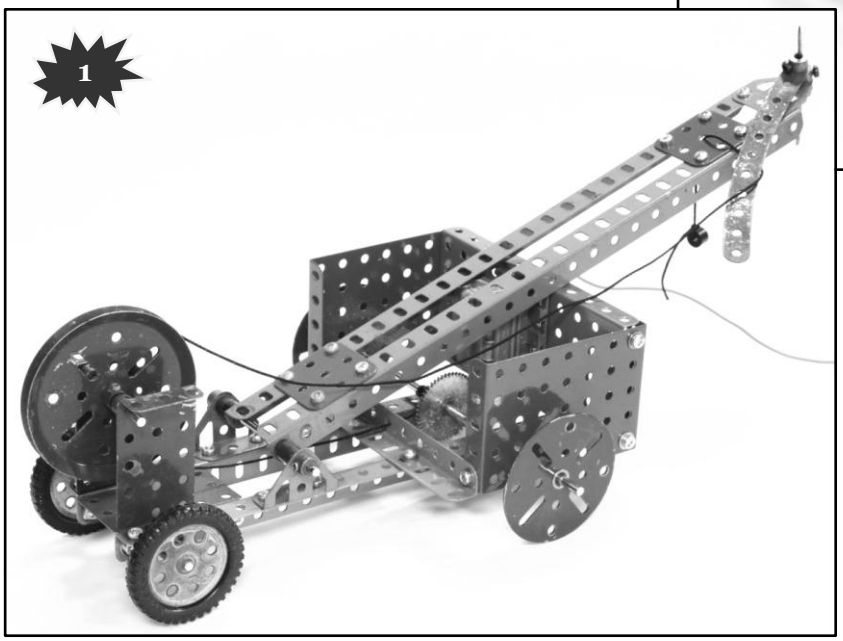
How They Did It in 2016

Our April donkey-stabbers attempt to explain their contraptions and themselves!

1: *Chariot of Wire*
Built by Paul Furness

Built in red & green, *Chariot of Wire* had to be made quickly. It was powered by an electric motor and had a cord attached to the driving axle; the cord tightened as the vehicle advanced to the donkey and after passing around a 3" Pulley, it raised an arm, hopefully to the correct height.

A chassis was made from two 9½" and a 5½" Angle Girder and the body from a 5½" x 2½" plus two 3½" x 2½" Flanged Plates; the arm was a pair

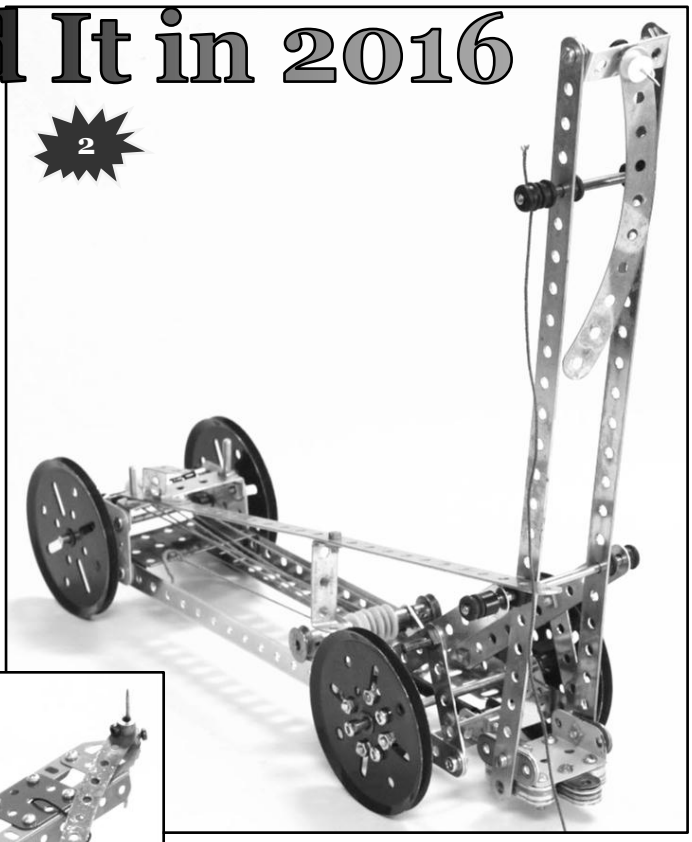


of 12½" Angle Girders. Face Plates made the rear wheels and 1½" Pulleys with Tyres the front. *CoW* worked perfectly about seven times on the kitchen floor but during the actual competition run, a brass Gear decided to completely wreck the plastic Worm after a few inches - end of story!

Paul Furness

2: *Gerry Springer*
Built by John Rodgers

Gerry was based on one of my entries for last year (2015), *Spring is in The Air*. It retained the same chassis and drive, i.e. a six-sheave pulley system with a Tension Spring as the load and the drive shaft as a winch. The Spring was stretched by winding the cord around the drive shaft. Mounted at the front was an arm made from a pair of 12½" Strips with a weight slung between the second holes and a 1½" x ½" Double Angle Strip mounted between the 25th holes that carried the pin and tail.



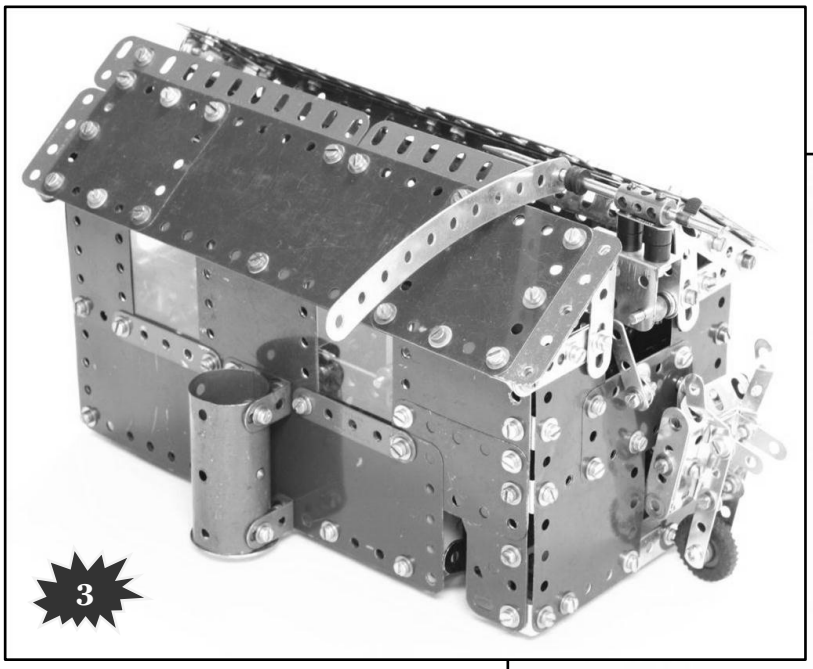
This assembly was pivoted on a shaft through the eighth holes. A combination of a 12½" Strip, a 1½" x ½" Double Angle Strip and a 1" Double Bracket was mounted loosely along the arm and the chassis to hold the arm in the lowered position. This assembly acted as a very sensitive 'hair trigger' when *Gerry* hit the board with the donkey, releasing the arm which swung up so that the pin stuck into the board. The trigger needed to be so sensitive because it took a surprising amount of effort to overcome the friction created by the weight of the arm.

Prior to taking *Gerry* to the meeting, both my entries were tested multiple times and worked without malfunctioning but my three attempts at obtaining a hit on the donkey were all failures. The trigger mechanism fell off before *Gerry* had travelled more than a foot beyond the start line. Why this happened I do not know because *Gerry* worked perfectly when I re-tested it at home!

John Rodgers

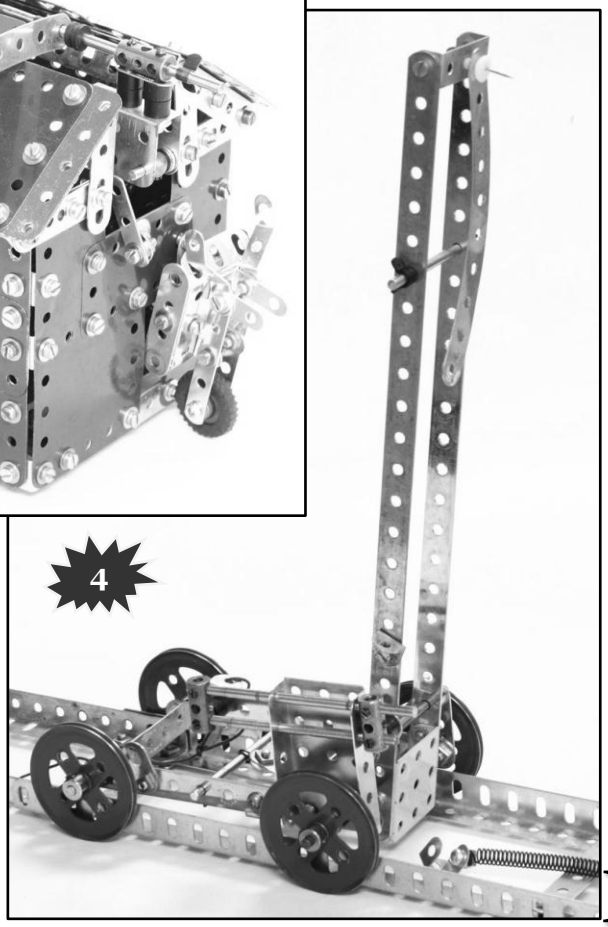
3: *Jabba the Shedd*
Built by Rob Mitchell

If you have seen some of the *Star Wars* films, you will be familiar with the huge slug-like character *Jabba the Hutt* which inspired the name for this one where 'Jabba' = 'Jabber' and it had to look like a garden hutt er, shed. *Shedd* was the most complex (and heaviest) Mitchell entry with



all-wheel drive from the No. 1 Clockwork Motor at the back of an over-engineered frame, hefty parallelogram linkage raised by a Tension Spring then the shed-shaped casing. It needed a slot along the roof ridge for the spring-loaded arm to pass when released in a similar manner to *Stabitha*. As no self-respecting garden shed is complete without a water butt (a Cylinder) and, following an idea from Chris Shute, it needed a wheelbarrow hanging on a wall. One was soon rustled up and was ideal to cover a gap in the plating for the winding shaft.

Rob Mitchell



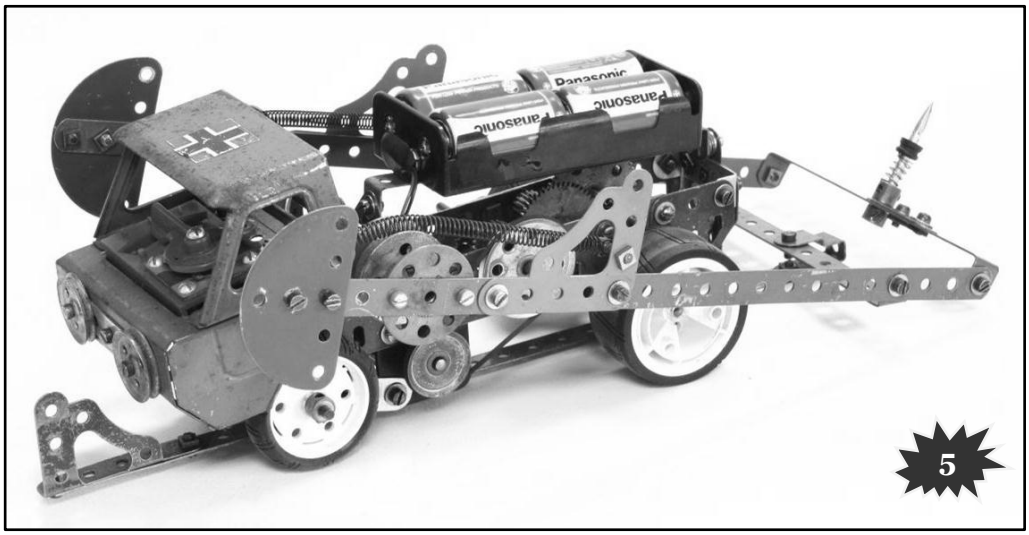
4: *Kick Up the Ass*
Built by John Rodgers

Like *Gerry*, this was based on one of last year's entries, *Soupa Hero* and retained the chassis but I replaced the structure that carried the can with an arm similar to *Gerry's*. The power to raise the arm was provided by a Tension Spring and a piston was used to release the arm. The long track was also retained but the launching spring was only extended by about 2" to give enough energy to propel the vehicle to the target and activate the piston. Contrary to this it needed a large effort to release the arm and if it hit the board too hard the vehicle rebounded and the pin would not stick in the board. The solution was again to have a 'hair trigger' with the stroke of the piston being very short and delicately balanced.

John Rodgers

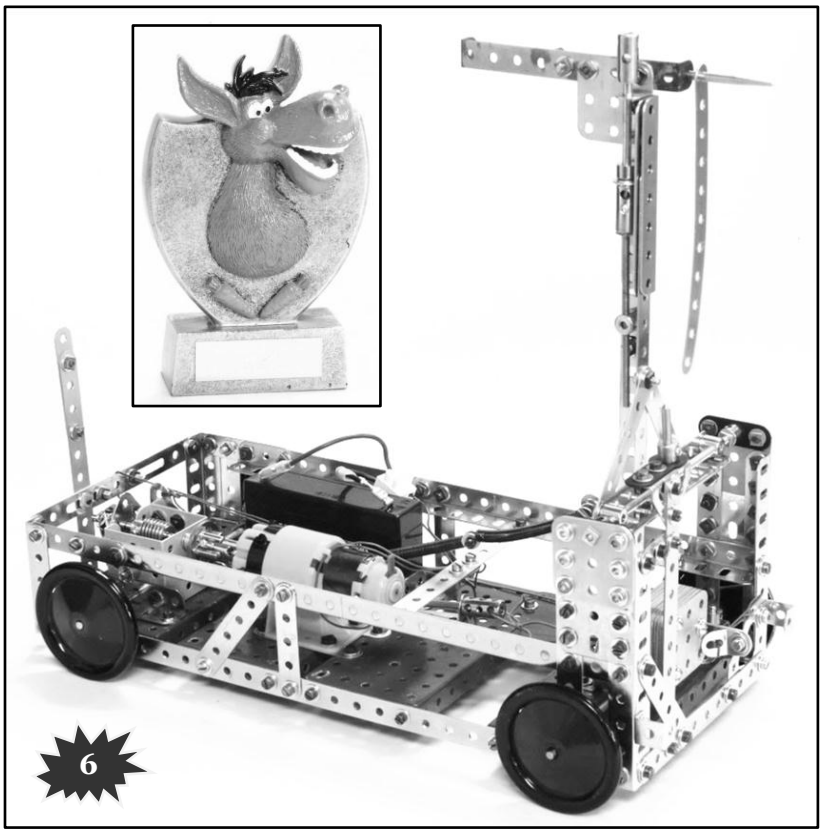
5: *Spike*
Built by Iain McKenzie

My 2016 entry followed my usual design-and-build procedure, namely dragging the previous year's entry out of its box and modifying it accordingly... As usual it was a last-minute rebuild so everything was quick and pretty simple. The Tension Spring drive was removed and MO Motor and Battery Box fitted. With no central space for a single rising arm, one each side was installed on a pivot behind the cab then joined with a cross piece at the back to mount the spike. I did consider a 5½" x 2½" Flanged Plate fitted with lots of spikes to improve the chances of a hit as the rules did not specify how many 'tails' applied per hit but decided not be arouse the wrath of the judges. Anyway, the arm was to be lifted by a counterweight on the other end of the twin 12½" Strips but it seemed a bit feeble so was augmented with a couple of those extra-long Tension Springs that I'm sure most of us have a stock from last



year. A damaged Axle Rod was turned into a short drift on the bench grinder and ended up being a little too sharp. A first test run ended up with it buried up to the hilt in the test cardboard box so nearly all the counterweight was removed to make it a little less violent. A simple sliding Strip running under the chassis released the spike on arrival at the donkey. It worked well other than not thinking to test if it ran in a straight line. If it had been a 'put the spectacles on the donkey' I'd have had a chance! It is now back in the box awaiting next year's challenge…

Iain McKenzie



6: *Spring Fever*
Built by John Wilson

The classic Meccanoman's lament springs to mind; "It ran perfectly at home". The Laughton gremlin struck and my entry did not run perfectly, by any means, when it mattered. It was clear early on that many entries were running off to the left, some to an alarming degree and mine did the same. Why? The only explanation I can come up with is that the table sloped very slightly to the left and all the machines with smooth metal wheel rims would curve off down the slope so for once tinplate Road Wheels were not suitable. Mea culpa! I came to Laughton with high hopes, having put some effort into an A-frame mast with two Threaded Bosses pivoting on a Screwed Rod for minimal play. The chassis was heavy, speed low, a very late mast release in case this altered the direction slightly and (I thought the trump card) there was an aperture back-sight and a pointed foresight (an Elektrikit Short Pivot) to give the same accuracy as a Lee Enfield 303 rifle - it didn't work…

John Wilson

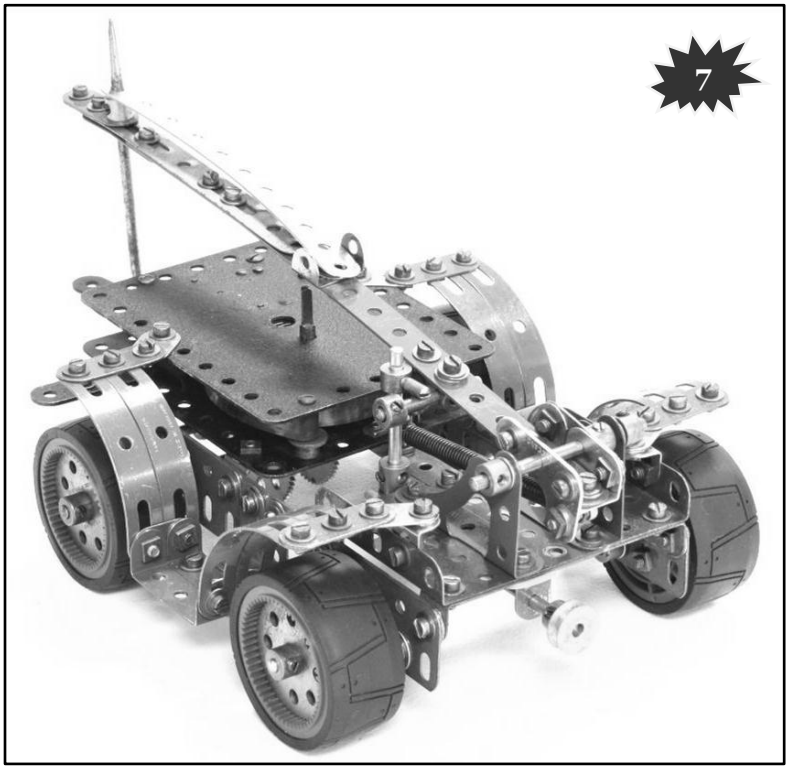
7: *Stabitha*
Built by Rob Mitchell

The first of three entries to be built to promote the contest and was deliberately simple with a Clockwork Motor, a wheel at each corner and a spring-loaded arm released from a lowered position when a rod was pushed back at the 'donkey board'. It used a Drift for the pin and to get right the 12½" height, a 5½" Slotted Strip was useful. *Stabitha* was equipped with wheel guards and running boards which were not necessary but added a bit of extra mass, therefore traction, to push back the arm release. The similarity of Russ Carr's *A Tall Tail* and Pete Turner's *Spike* to *Stabitha* suggested some Meccanoland espionage of the foulest type had happened!

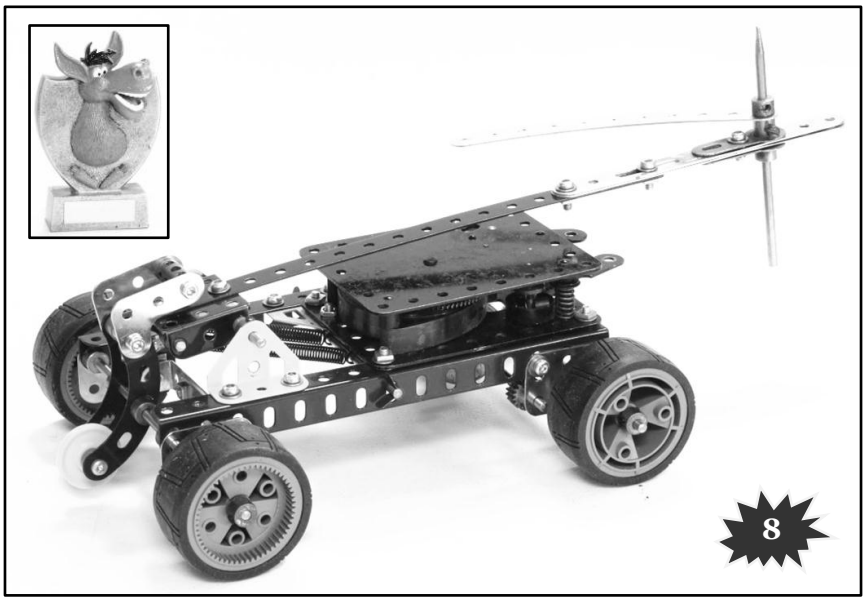
Rob Mitchell

8: *A Tall Tail*
Built by Russ Carr

My trusty No. 1 Clockwork Motor (winner of the Tug-of-War in 2009) was selected to power the machine as it seemed a lot less bother than batteries. Drive was taken from the output



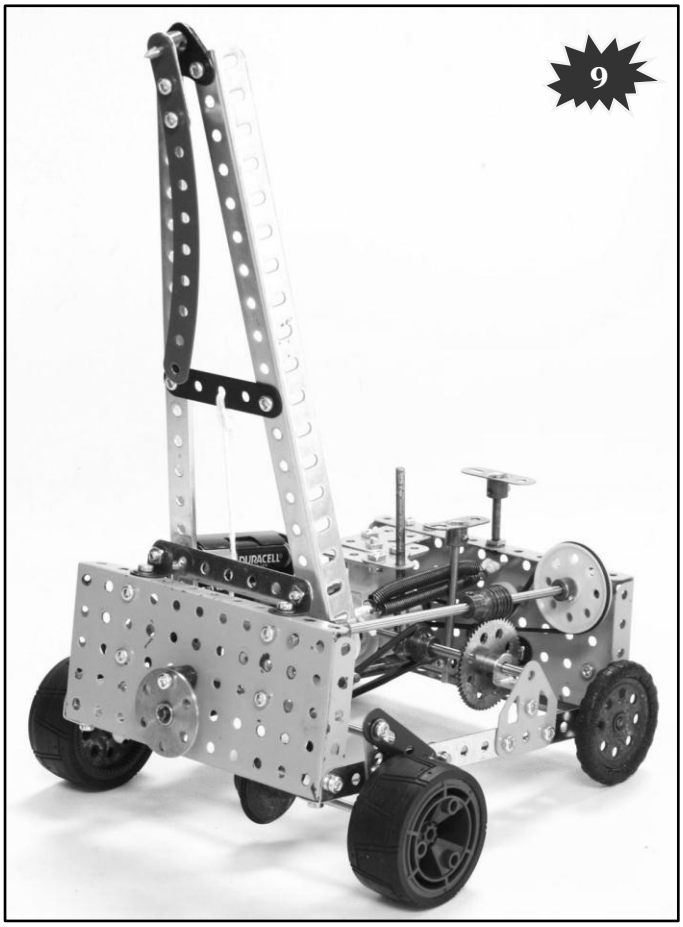
shaft via 19t to 50t Contrate and final 19:57 to the wheels. There was no need to extract every last morsel of torque for this competition, just a leisurely three runs along the table, all done on one winding. A pair of 7½" Angle Girders formed the chassis rails, one side offset by ½" making a build-friendly 3½" width. 1½" Flat Girders dropped the axle centres by one hole and a pair of Trunnions created a pivot point for the trebuchet. A pair of 2½" Stepped Curved Strips carried a skirting board-friendly plastic 1" Pulley and above, Plastic Spacers held the trebuchet down until impact. A counterweight prevented premature operation of the hair trigger arrangement. A recently-acquired 5½" Slotted Strip allowed fine adjustment of the tail-pin height. Low-profile Tyres on Geared Hubs ensured no skittering off course. I thought about adding a sight but the faff of doing multiple testing runs to align was too off-putting. As it turned out, *TT's* first run was a fluky 2 mm away from the bullseye and had I realised I would have retired immediately! My second & third runs proved the fluke.



Russ Carr

9: *Telford Flyer*
Built by Alan Lovett

My model consisted of two 5½" x 2½" Flanged Plates joined with two 7½" Angle Girders and was powered by a Crane Kit Motor driving the front height-adjustable wheels. There was a trip device to activate the spring-operated boom with the 'tail' when the model hit the 'wall'. The boom was set to the height of 12½". Unfortunately, the driver failed to set the model to hit the wall in the middle and consequently veered either to the left or right but the tail did hit the donkey at the correct height.

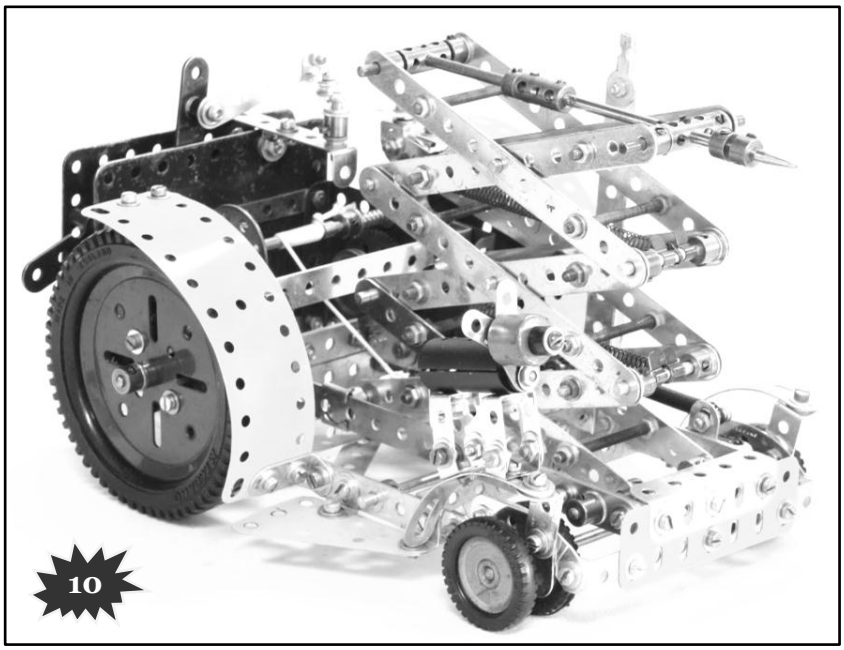


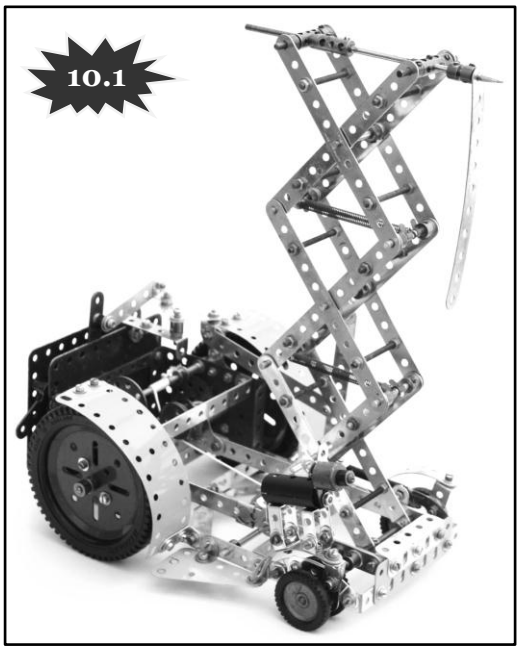
Alan Lovett

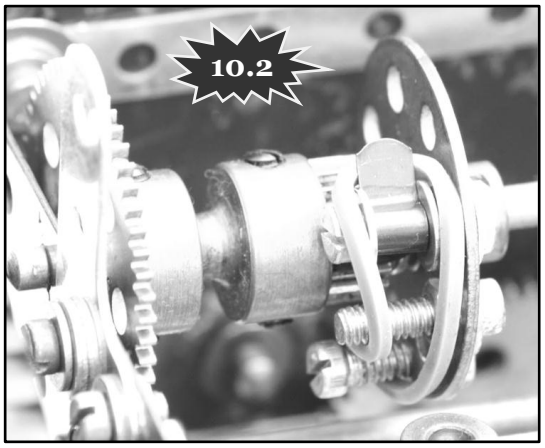
10: *Vlad the Impaler*
Built by Rob Mitchell

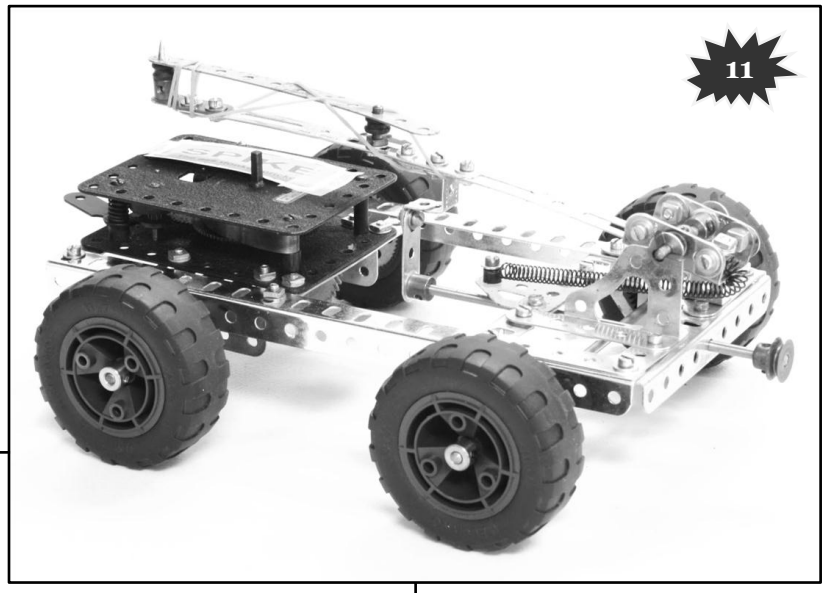
A second-built machine with the intention of gaining the required height without using a swinging arm (overleaf). It relied on a scissor-lift with two internal Tension Springs for extension as nylon cord was payed out by a winch and the stop, an accurately-place Collar on a sliding Rod at the top, gave the required 12½". Trundling was by a No. 2 Clockwork Motor driving 3" Pulleys with Tyres at the rear and a second drive to the winch via a small pawl & ratchet made from a Spring Clip and a 19t Pinion. As the scissors elevated, the Pinion was kept engaged with the Clip by the pull of the Tension Springs. When at the right height, the winch stopped due to deliberate rotational resistance from a Compression Spring so the light Clip-Pinion contact was overridden and the device free-wheeled. Lowering was by reversing the Motor which was quicker than rotating by fingertip. Front wheels were deliberately much smaller than the rear to make *Vlad* look even more of a lash-up and the front right mudguard carried a donkey based around a grey Sleeve Piece. *Vlad* wasn't entered on the day as the other two entries were sufficient.

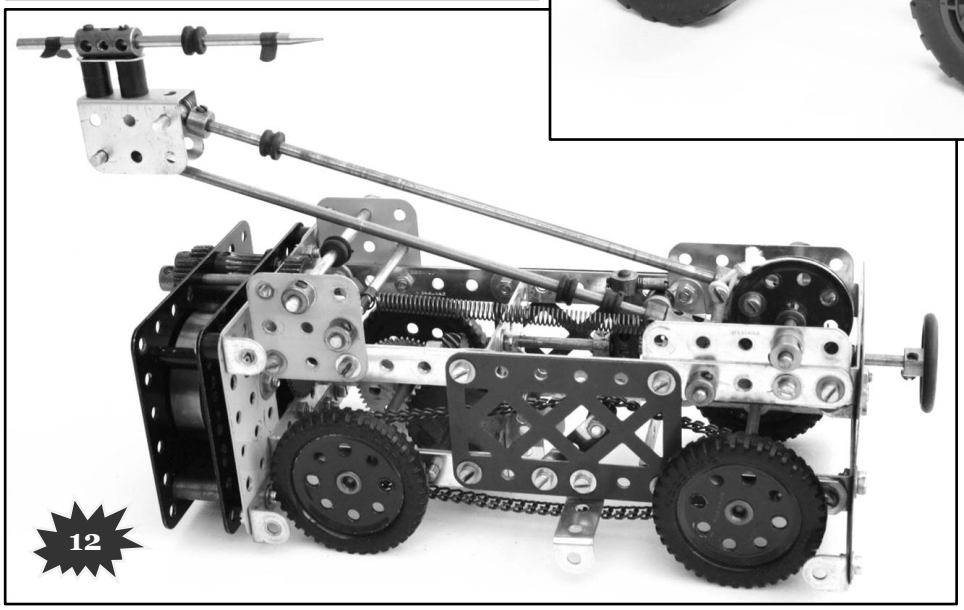
Rob Mitchell







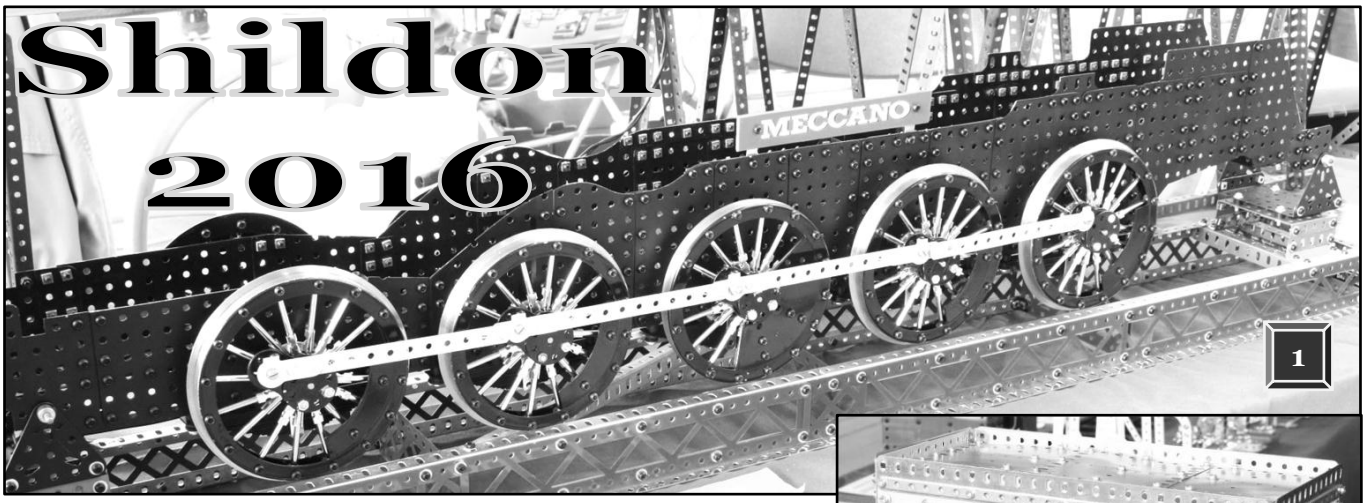


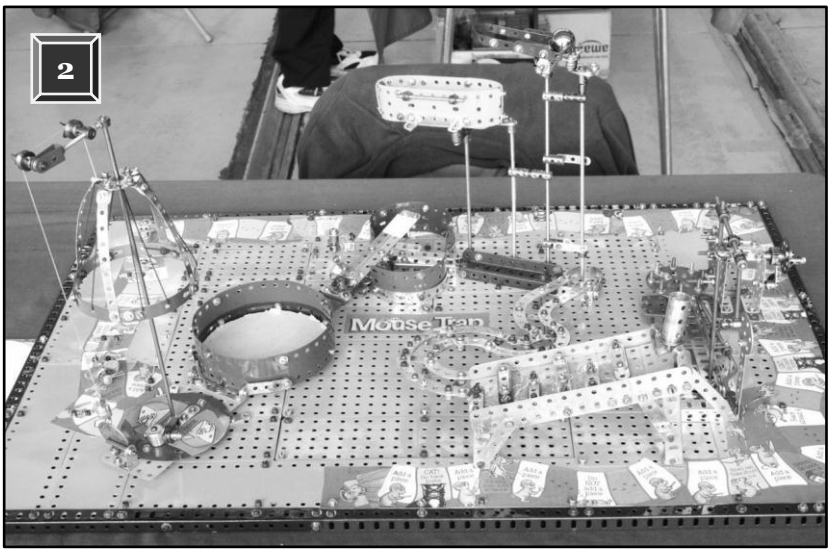


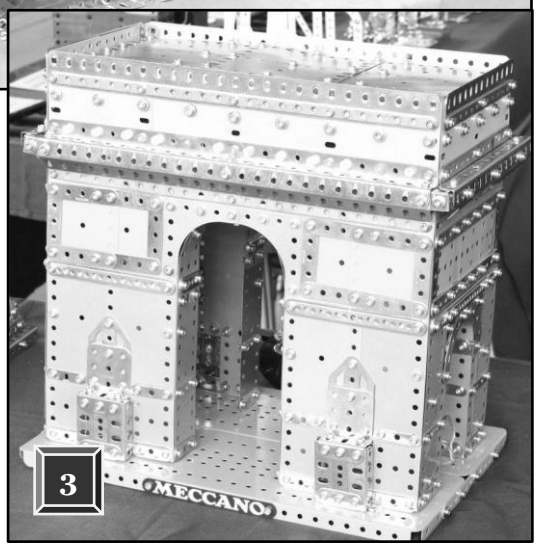
10.1 & **10.2** are two further pictures of Vlad: one shows the 'scissors' extended to impaling height and the other is the miniature pawl & ratchet. The incoming drive is the 57t Gear joined to a 19t Pinion by a Socket Coupling, the unit on the centre Axle Rod. Fixed to the Rod is a Bush Wheel and in adjacent holes is a ½" then two ⅜" Bolts. A Spring Clip, an M4 washer each side, is loose on the ½" Bolt and it will need to be selected to ensure it is free but stays put. Looped around a Clip 'wing' and the last ⅜" Bolt is a grey Driving Band, the centre ⅜" Bolt helping to keep the Band clear of the Pinion and setting the tension to keep the 'wing' in gentle contact with the Pinion teeth.

Picture **11** is of Pete Turner's *Spike* and the suspicious likeness to *Stabitha* (and *A Tall Tail*) is stark, even down to the chassis, Motor position and Flanged Brackets for the arm pivot! All that's missing appears to be the unnecessary accoutrements… For our more voyeuristic readers, we'll finish with a view of *Jabba the Shedd* without the hut, **12**, which better shows the parallelogram linkage, quivering Tension Spring and superfluous brick privy construction. RM

Shildon 2016







29th & 30th May; pics by the Ed

Knowing how to best lean on his NEMS-SMG-MSoS troops seems to be John Herdman's forte although it didn't need too much forced inclination to spend a couple of hours heading north in support of NEMS at their annual show at 'Locomotion'. There were plenty of Meccano models set among the preserved railwayana for the public and enthusiasts to appreciate; those chosen here are inclined to new models seen on the Sunday only. Our space was being labelled for Bank Holiday Monday's occupants as it was vacated - such efficiency! Further pictures, taken by John Witchard, can be viewed at:

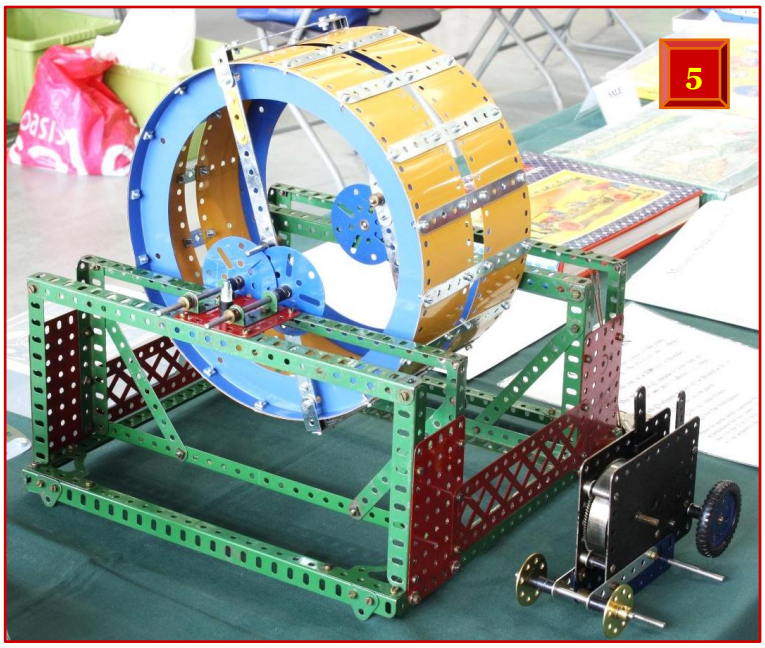
www.nems.club/events/shildon2016/page1

RM

1. Loco number 4! *Think big, build big* read the note accompanying the frames and wheels for **Bob Seaton's** BR 9F 2-10-0 on its maiden outing since he tightened its first Nut & Bolt.
2. This Meccano version of the well-known 'Mouse Trap Game' was built by **Brian Harper**. He and **Cathy** had to reset it a rather large number of times such was the demand to see it go...
3. **John Herdman** appears to have been inspired by the current 'Landmarks' sets to build his own version of the 'Arc de Triomphe' at least twice the size of the Spin Master offering.
4. **Joe Etheridge's** contribution was also sympathetic to the surroundings - a 'Buckerill' railway breakdown crane accompanied by a French-outline 4-6-2 locomotive.
5. Fresh from the Meccano Society of Scotland's annual contest of a clockwork hamster in a wheel was **Bert Hutchings'** entry. It was the focus of a 'Guess the number of turns' lottery which was won by a young visitor who enjoyed "My best ever day out!" when visiting Shildon.
6. Another 'Landmark' model on steroids from **John Herdman**; does anyone recognise it...?
7. Shildon wasn't all plain sailing for a worried-looking **Barry Richardson** who was having some crankshaft slippage problems with his steam engine - it was later bunged under the table!
8. One of NEMS's stalwarts with a reputation for unconventional subjects is **Brian Robinson**. He's pictured here with his screening plant where the grab crane loaded a hopper with a mix of rice and dried peas and after being fed to a rotary screen (a trommel), the rice was filtered out.


4


6
MECCANO
MECCANO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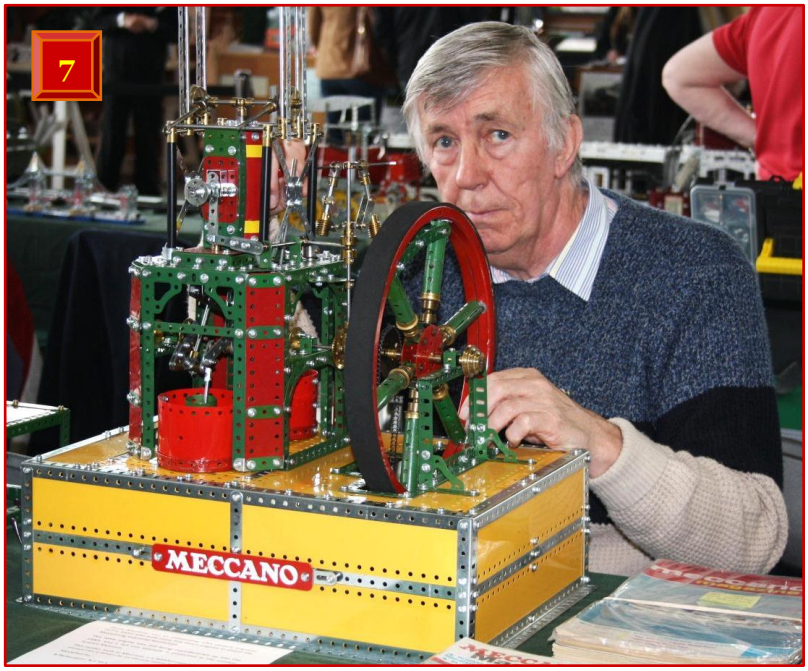
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8

Something for Nothing?

A look at perpetual motion machines, some built in Meccano

A crackpot industry

Devices that cannot possibly work have kept inventors busy in the barmy sphere of perpetual motion ever since humans experimented with machines. Attempts to advance existing absurd ideas and plenty of new ones appeared in the 19th Century; some even managed to be patented. Undeterred by the pointless attempts to violate nature by conjuring up energy from thin air, their creators have produced some attractive and maybe novel subjects for Meccano.

Perpetual motion machines attempt to infringe the Second and Third Laws of Thermodynamics i.e. run continuously without any external interference or energy input. Note the use of the word 'energy' here and not 'power'. Power is the rate at which a form of energy (heat, light, force, momentum etc) is converted to another form. In the metric system, it is measured by the Joule (J) whereas power is by the Watt (W) where 1W = 1 J/second so a 3.0 kW kettle converts 3000J of electricity to heat at a rate of 3000 J/s. A genuine mechanical perpetual motion machine will have to overcome its own frictional losses and other inefficiencies before it can produce a useful output to perform some useful work. Imagine that; a machine with no connection to the electricity grid (ergo no bills), no batteries, solar panels, an animal trotting in a giant hamster wheel, coal, oil or you turning a crank.

Early attempts

The initial endeavours at this particular 'holy grail' sucked in some respected scientists and engineers and reflected the technology of the time. Ancient examples are an overshot waterwheel driving a bucket chain or pump to return water back to the top (**Fig. 1** is based on Bhaskara's Wheel from 12th Century India and Leonardo da Vinci tried his hand at a version using an Archimedean screw) and a windmill running bellows blasting air at its own sails (that in **Fig. 2** was a scheme by Mark Anthony Zimara, 1460-1523). Other fluid-based efforts included siphons and/or capillary action to keep a header tank replenished and the celebrated 17th Century physicist Robert Boyle had a go, **Fig. 3**. Buoyancy in various fluids (water, mercury) was of interest with a continuous vertical chain of floats or squeezed sponges, the 'up' side running in a water column and the 'down' return side in air; sealing the water column base would be impossible. Compressing air in a manner not unlike a rotary engine was another dead-end.

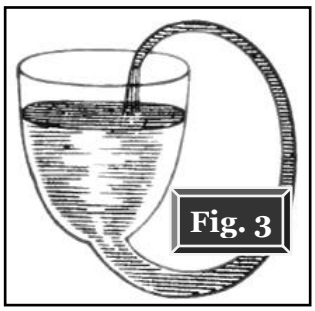


Fig. 3

Unsurprisingly, the curious properties of magnets, either stationary or moving, also attracted those determined to outwit physical laws. **Fig. 4** is the Taisnierus Lodestone Motor of 1570 (attributed to a John Wilkins) where the iron ball is drawn up the slope by the magnet, drops through the hole then returns to the bottom where it ascends again. The fact that the intensity of a magnetic field in air drops off very sharply with distance has been ignored. The later **Fig. 5** could be out of a *Tom & Jerry* cartoon and is as effective as grabbing your own hair and trying to pull yourself out of quicksand or siphoning water from a sinking boat.

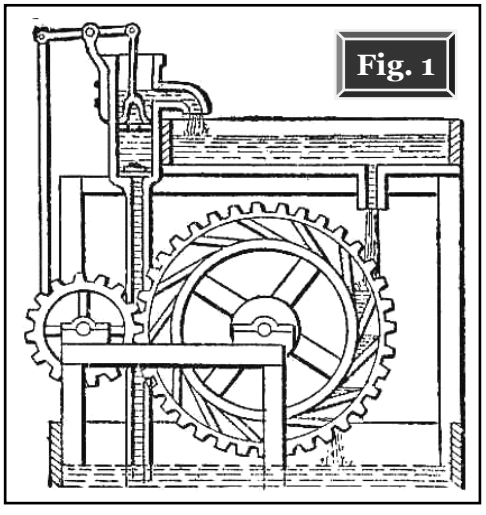


Fig. 1

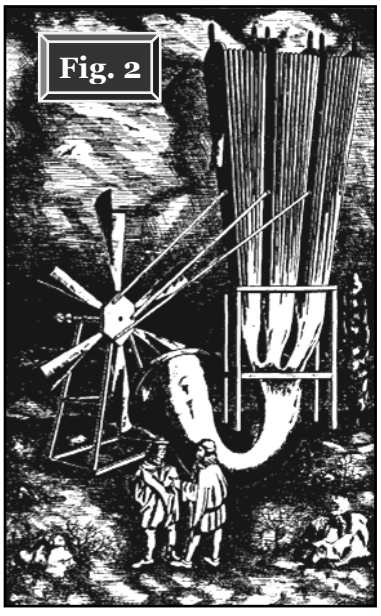


Fig. 2

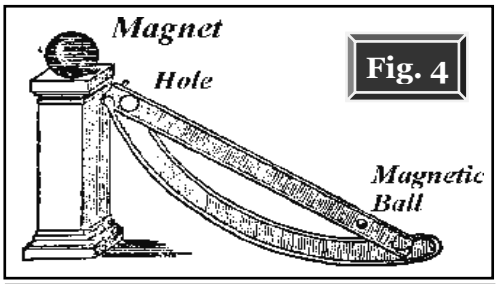


Fig. 4

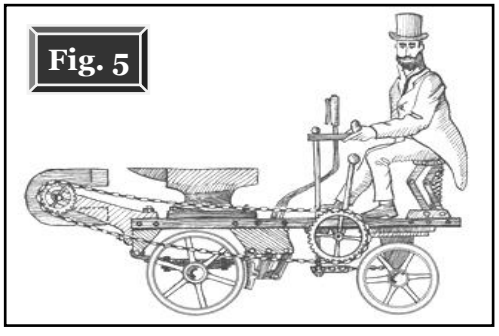
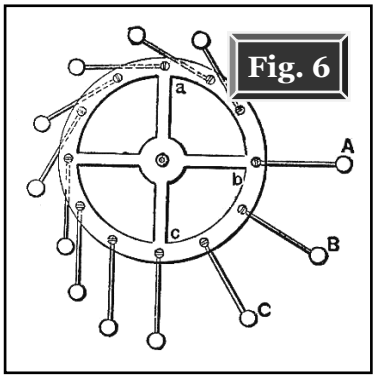
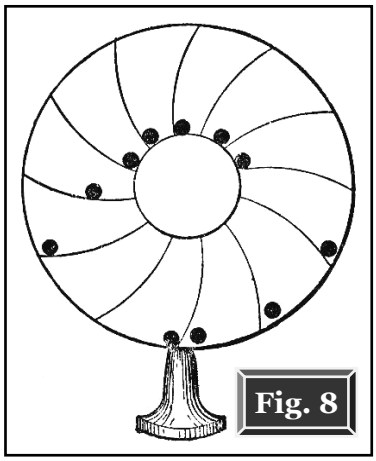
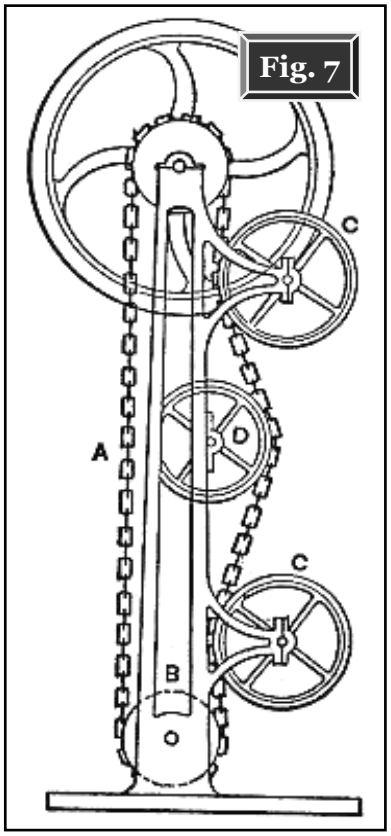
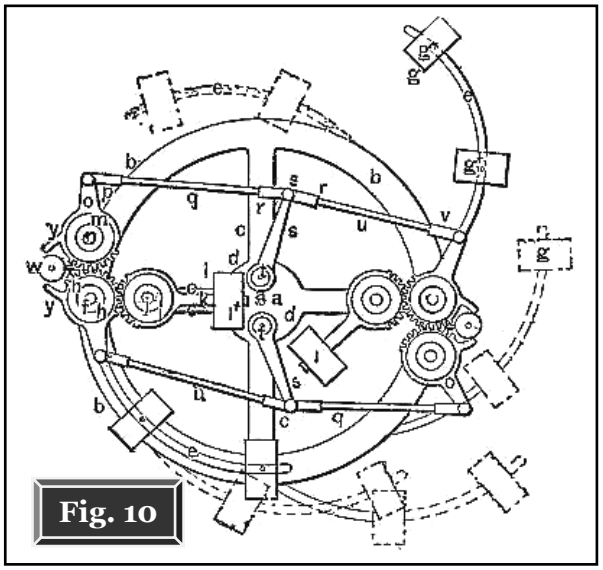


Fig. 5

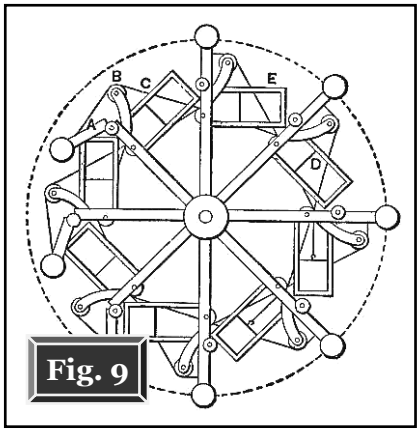








Gravity has been the favoured prime mover over the centuries and the sole driver for all-mechanical designs - the best types for Meccano! Many doomed machines were variants on a vertical or inclined wheel having a weight, ergo a force, continually applied on one side to effect a constant rotation. This force could be applied by pivoted or flexible arms carrying weights, **Fig. 6**, the idea being that when outstretched after toppling, they would exert a greater leverage to rotate the wheel - in the case of **Fig. 6**, clockwise. Unfortunately, there are more weights on the upwards side cancelling any meagre driving force! A similar system uses a spoked wheel, the spokes being hollow and containing sliding weights or balls; a further type tried dense fluids in sealed radially-disposed tubes. **Fig. 7** uses a chain; the longer therefore heavier length on the right side, however, has angled sections so fails to draw the vertical leg through the system. The accompanying text in a book (referenced later) wearily and cynically states *…and like the thousand and one others, was expected to go.*



Balls have been run in slots or over curves in the 'Marquis of Worcester Wheel', **Fig. 8** (with a missing 'ball'), the tendency being to introduce ever more and thinner chambers to aim for a smooth rotation and avoid the tendency to stop at a balance point. Weighted wheels became more complex with gears and/or linkages to help the steady transfer of mass from one side to another in a vain attempt to prevent equilibrium and the thing stopping. The added friction for perpetual motion to overcome seems to have been ignored.

Ferguson's Wheel, **Fig. 9** is an example from 1770 with connected sliding and pivoting weights although it was actually intended to prove that perpetual motion was impossible. There is no hint that it or the others ever became more than ideas or sketches. A final example, **Fig. 10** is the most complicated of the lot, it using two weights on curved arms, gears with further weights, cranks and linkages and all on a rotating wheel. The *modus operandi* again appears to be increasing the weight radius when going down and tucking them close to the axle for the upwards trip.

That's enough about the real (ahem) things so let's see what came out of the Meccano den.

Meccano models

Building models destined to fail before the first two parts were bolted together certainly made a change from promising to work then never managing it at all. In each case, 'MPMM' means 'Meccano Perpetual Motion Machine'.

MPMM No. 1, **Fig. 11** uses a Ball running in the narrow slot between two Hub Discs precisely spaced by eight 1½" x ½" Double Angle Strips bolted outside the spokes. Attracted by the Elektrikit Magnet at lower right, the Ball (just visible near the Magnet's upper end) is supposed to be drawn away from the bottom, the Hub Discs becoming unbalanced then trying to rotate

Fig. 11

Fig. 12

clockwise and return it to the equilibrium position at the bottom. F S Mackintosh patented the thing in 1823, **Fig. 11a**; it was another stab at unlimited energy (not that a slightly offset, small steel ball will generate much turning effort) to bite the dust. The pawl & ratchet at the top, doubtless there to stop the

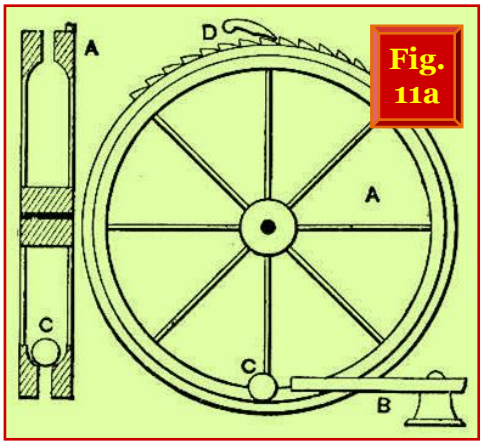


Fig. 11a

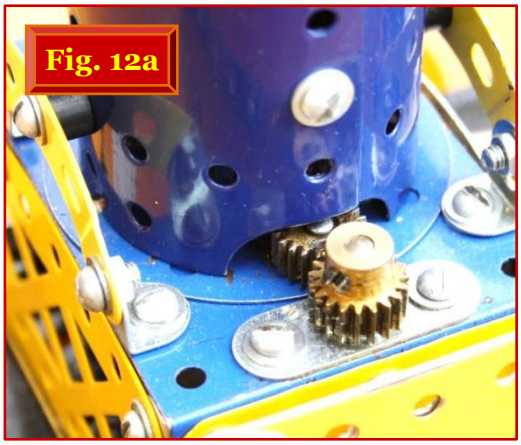


Fig. 12a

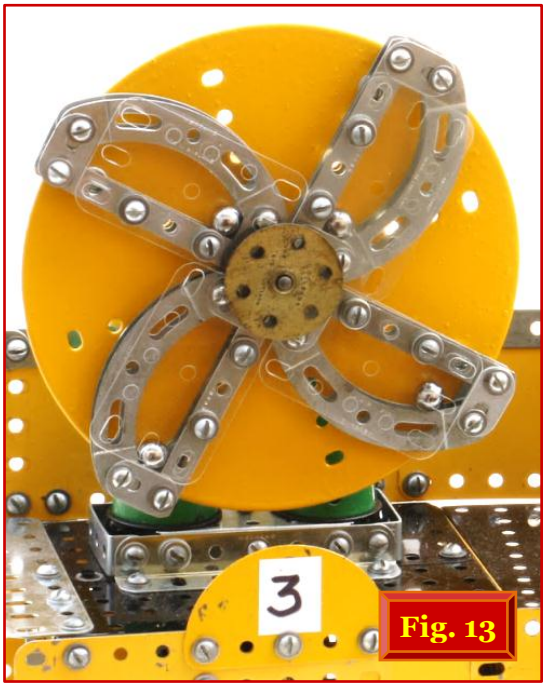


Fig. 13

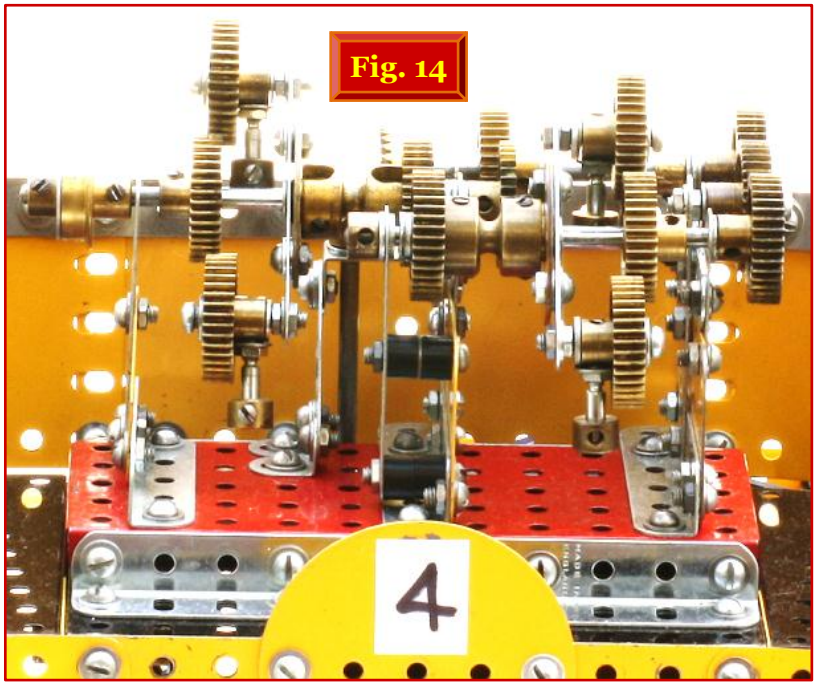


Fig. 14

wheel going back when the ball rolled behind bottom dead centre, was omitted from the model.

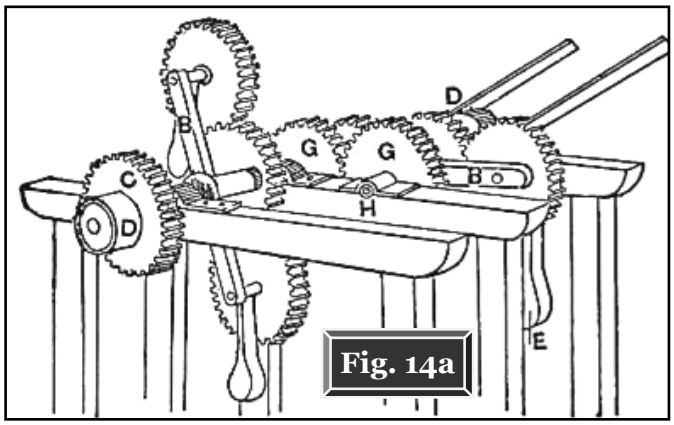


Fig. 14a

MPMM No. 2, **Fig. 12** is a rearranged version of the windmill & vertical bellows scheme of **Fig. 2**. This was fiddly to build due to wanting to get a surreptitious drive to the sails (an excuse to reach for the box containing Windmill Sails for the first time in years) then an oscillating drive back down to the 4" Sector Plate 'bellows', all contained inside at Boiler Shell. Four vertical 5" Screwed Rods connected by 1½" Strips at strategic points form the core, the drive coming in through the Boiler Shell's 'firehole' using an MME bossless 20t Pinion idler, a 19t Pinion pair halfway up to centralise the drive, then an 11t Pinion engaging a 25t Contrate on the horizontal shaft for the sails. The same shaft carries a Single Eccentric with a pushrod to the top, lightly-sprung Sector Plate. A leaky 'duct' from the 'bellows' leads upwards, turns to the sails and the 'air jet' expands through a Boiler End 'funnel'. Using the Screwed Rod tips, the windmill is finished off with a Face Plate, Wheel Flange, another Boiler End and a small 'flag' from a Rod & Strip Connector.

Fig. 12a shows the drive into the Boiler Shell. It enters by the boss-upwards 19t Pinion, the MME 20t idler running on a Threaded Pin secured to a Fishplate spaced off the Flanged Plate's underside.

MPMM No. 3, **Fig. 13** is a coarse four-segment variant on the 'Marquis Wheel' (**Fig. 8**) which rotates anticlockwise. As the captive Balls quickly roll to the straight rail ends when past horizontal, they rapidly apply maximum leverage and the resultant small pulses can be detected when it is slowly rotated by hand. The 3" Stepped Curved Strip rails mean the Ball moves back to the rotation axis soon after bottom dead centre. Nevertheless, I can confirm that; apart from settling, it is incapable of self-starting let alone running… Apparently, Leonardo da Vinci also became interested in this type of contraption.

MPMM No. 4, **Fig. 14** is a best interpretation of a small picture (**Fig. 14a**) and a brief description so it may not be correct. The inventor appears to have opted for the two weighted epicyclic gear pairs 'B' set at right-angles and reacting against each other; it is clear that any driving force will be due to the dangling masses 'E', represented on the model by Collars on Threaded Pins locked into the 38t Gear bosses. Casting expense to one side, there are *thirteen* 38t Gears in there although one had to be a ⅛" face for clearance purposes, it being rescued from a bashed-up example. The fairly open layout means the 'secret' drive from below isn't very secret, it rising in the background to a 25t Contrate behind the furthest Socket Coupling.

MPMM No. 5, Fig. 15 (overleaf) is from a curvy design attributed to an F G Woodward, **Fig. 15a**. It is clearly intended to generate an anticlockwise rotation of the annulus by its constantly trying to fall between the two rollers. As the pair of Circular Girders doesn't have the same cylindrical running surfaces as the ring, the model needed a couple of guides and being opposite-handed to **Fig. 15a**, rotates clockwise. *The only difficulty about it is that it will not work, though it looked plausible enough to the inventor* groans the book!

MPMM No. 6, Fig. 16 (also overleaf) is the generic side-weighted wheel as in **Fig. 6** and was actually the first perpetual motion machine in this series to be built. Pivoted arms are each a pair of ½" Pulleys on a 2½" Strip and a Right-Angle Rod & Strip Connector hinged to the reinforced Hub Disc on 1⅛" Bolts. A rubber '23c' Pulley forms a soft stop ready for when they tip over. A sturdy 'A' frame conceals the alleged belt drive from below then a 3:1 gear pair to the Hub Disc.

MPMM No. 7, Fig. 17 was actually the second contraption to be built and is the 'heavier downwards' chain seen in **Fig. 7**. There's plenty of friction to be overcome with its ten bearings so the thing was another non-starter. Never mind; it was an excuse to dig out a pair of rarely-used Girder Frames. The flywheel uses two rings of 3" Stepped Curved Strips with inclined 2" Narrow Strip spokes to a six-hole Bush Wheel hub; the bolts are tight in their holes so it pulls itself concentric and it may be of interest to builders of small steam and gas

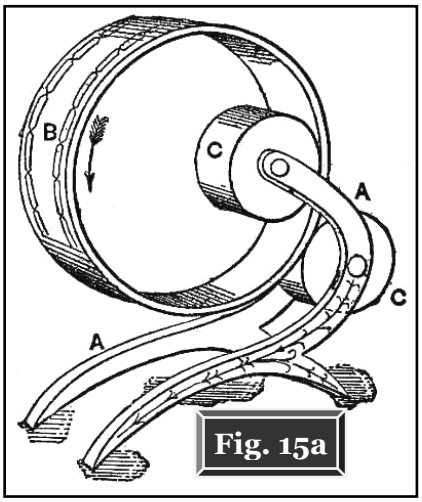
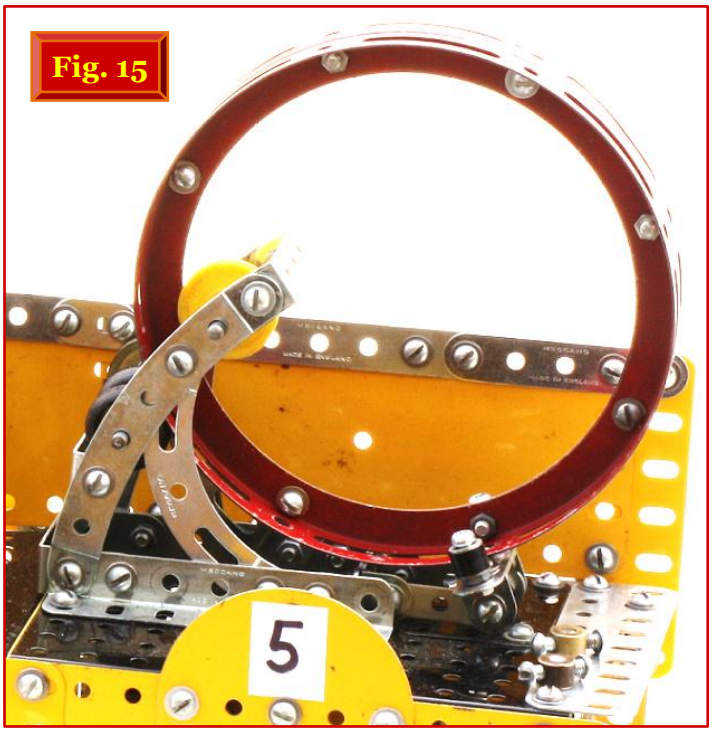
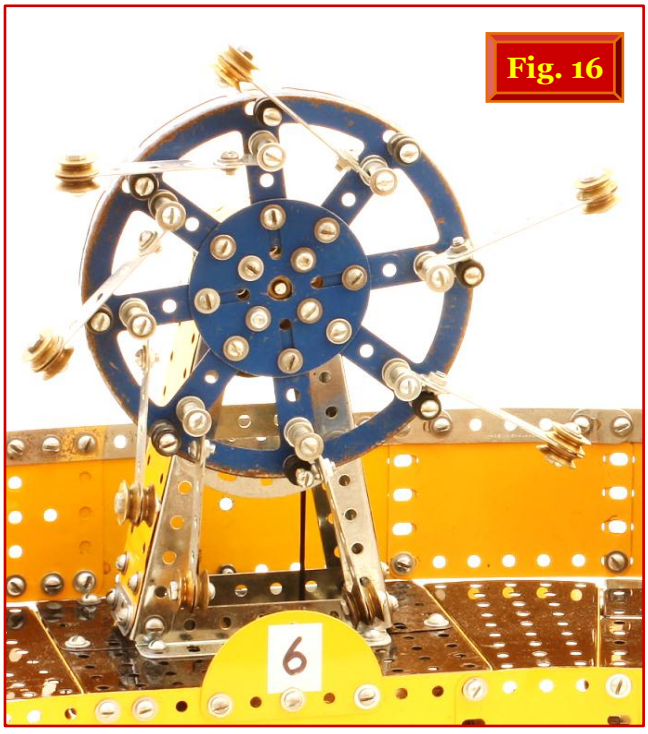


Fig. 15a



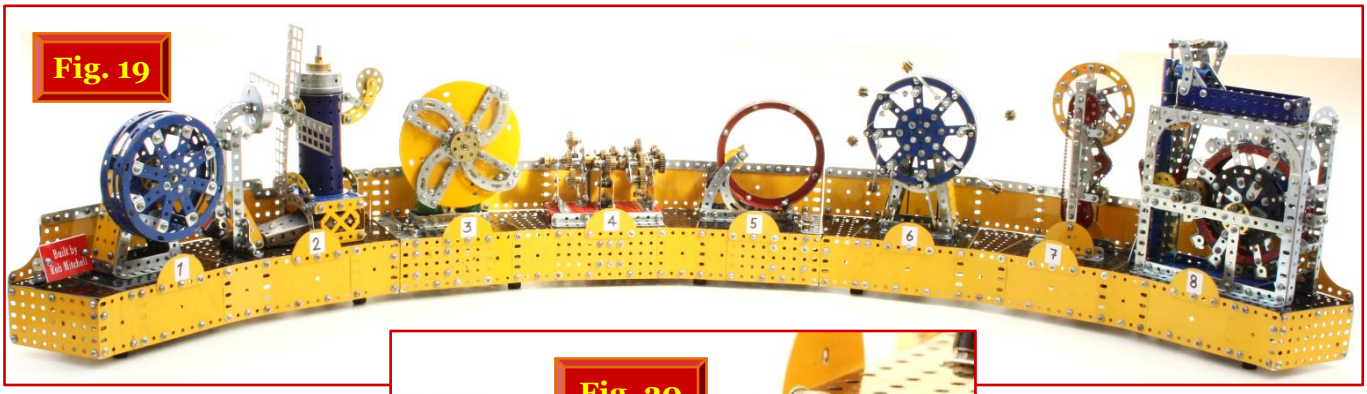


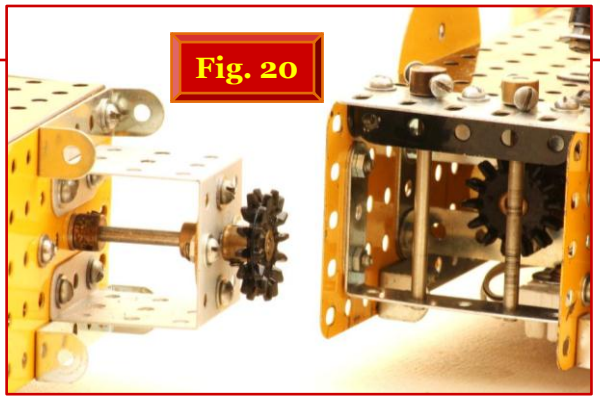
engines. The 1" Bush Wheels run better on the Chain's 'wrong side' than Sprockets and the purported incoming drive is to the upper 28t Sprocket shaft so the Chain wraps loosely around the bottom Sprocket as it would if the thing actually managed to work of its own accord.

MPMM No. 8, Fig. 18, is the centuries-old waterwheel lifting its own water supply and the largest of the eight perpetual motion machines. The waterwheel itself is a heavy object with sixteen buckets (each from a pair of ½" Reversed Angle Brackets and a 1" x ½" Double Angle Strip) around two Circular Girders. Pump drive is via a Gear Ring then a plastic 57t Gear idler to a Single Eccentric. Plumbing is always awkward in Meccano; a stack of Sleeve Pieces mimics the riser from sump to header tank. All the pipework etc is represented by blue parts.

Bringing them together and making them run

Time to come clean; none of these perpetual motion machines really works so they are driven by a central motor. Individual mechanical loads are not large but cumulative friction of all the rotating shafts sending the drive to each machine means a fair torque is needed. One substantial

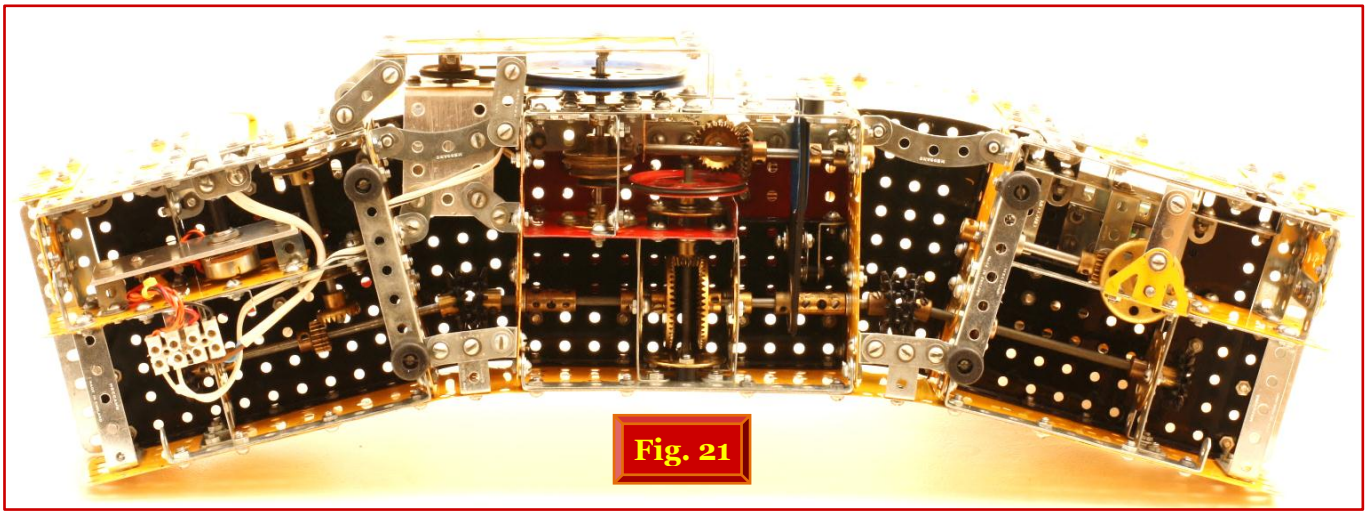




motor suffices and this is mounted near the centre of a three-section curved display stand based on alternating Sector Plates and end-on 5½" x 2½" Flanged Plates, **Fig. 19.** The primary drive to each machine is via Axles connected by several Multipurpose Gears beneath the Sector Plate angles, shown at a separated joint in **Fig. 20** and permanently meshed in **Fig. 21**, the centre section. **Fig. 20** also shows the two vertical rods which accurately pin the segments together as the Multipurposes need to be kept close to each other. The drive is then taken upwards by various means from under the Flanged Plates to give a reasonable running speed. Also seen in **Fig. 21** is the motor, two-stage belt drive (the second using the ¾" Cone Pulley groove) then two 48t Bevels engaging a common 16t Bevel. **Fig. 22** is under the perpetual motion machines 7 to 9. The 5½" x 2½" Flanged Plates also limited the size of each machine although the overshot waterwheel er, overshot. They are arranged to provide a mix of types and rotation directions which is why they are not in build order.

Sources

The primary acknowledgement has to go to our departed and non-crackpot pal **Frank Singleton**



who initiated this caper in late 2013 after kindly sending your writer some books about ancient machinery. Intended to help break the tedium of being housebound for months, construction gathered pace as personal flexibility improved. One of the books was *Curious Mechanical Movements* published by Lindsay Publications in 1986 as part of their 'Lost Technology Series', a reprint of Gardner D Hiscox's *Mechanical Appliances and Novelties of Construction* of 1927 published by Norman W Henley. The Internet version of that volume's entire chapter on perpetual motion (from where most of the non-Meccano pictures were lifted) can be found at:

www.todayinsci.com/Books/MechApp/chap23/page1.htm

Others are from a basic Internet search on perpetual motion machines and the Meccano photos were taken by your Ed. Thank you Frank.

Rob Mitchell

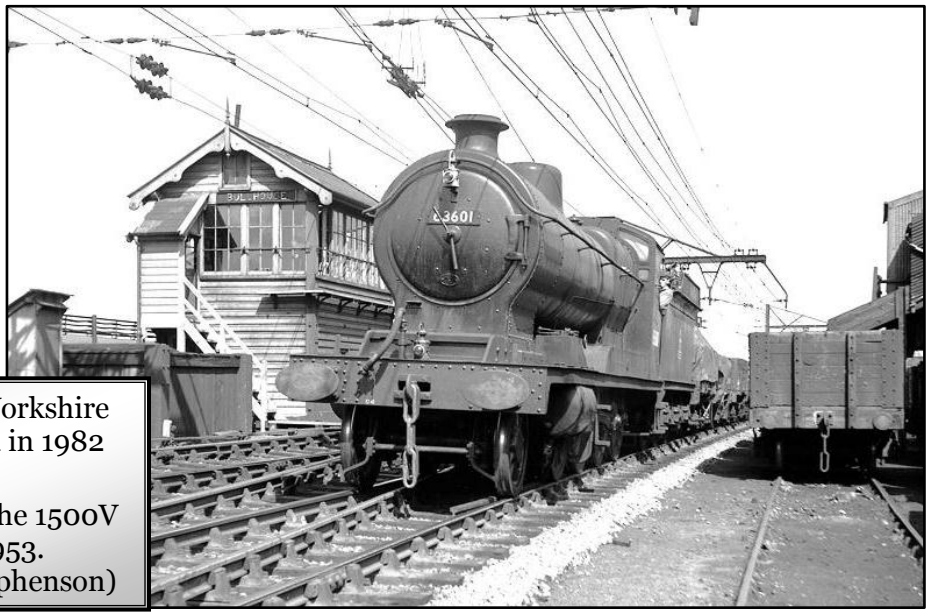
The Journey to the SMG at Laughton

Ken Ratcliff comes over all dewy-eyed twice per year

For me, the trip to SMG meetings at Laughton has a certain special significance since it invariably evokes scenes from my childhood. This applies particularly to the stretch through the Longdendale valley though the whole trip is attractive in its broader perspectives of the hills most of the way.

In the 1920s and early '30s, my mother used to hike there quite a bit and took part in the 'Mass Trespass' landowner-defying incursions into what are now taken for granted as the open country hills of Bleaklow and Kinder Scout. On these outings she and her pals developed a friendship which lasted for decades, well into my own lifetime, with a particular reservoir keeper and his family in the Longdendale valley. Eddie Davies and his wife Jessie looked after Torside Reservoir and as I was growing up in Oldham and subsequently Saddleworth we made frequent trips there, my Dad having a little 'Standard 8' car. The Davieses lived in a bungalow which is still there, beside the main road, just east of the Torside dam where the path to Crowden leaves the alignment of the road, which takes a bit of a loop.

Longdendale was, of course, the route of the Great Central Railway from Manchester to Sheffield (and on to Nottingham, Leicester and London) so, for a small boy like me, there was endless fascination in the trains just across on the other side of the water whether they were racing down from Woodhead or pounding up the hill. Most of the traffic was freight, in itself mainly coal (and returning empties) so progress up the hill was laborious and, from that bungalow, you had them in sight for a long time from their coming up from Hadfield past Valehouse to disappearing round the curve to Crowden. This was in LNER days (I am, after all, now an old codger) [Ed. Rubbish!] and those ex-GCR Robinson 2-8-0s and 4-6-0s made



↗ Preserved Leyland 'Tiger' in Yorkshire Traction's red & cream, pictured in 1982 by 'Blackmagic'.

➔ Ex-GCR 2-8-0 63601 under the 1500V DC wires at Bullhouse around 1953. (Kenneth Field-Rail Archive Stephenson)

quite a racket. I have a very vivid memory of staying over there one night when across the valley a goods train struggled up the hill with slow, heavy exhaust beats, which was in earshot for quite a number of minutes, taking ages as it got louder and louder and louder then slowly quieter until it rounded the curve at Crowden Station and moved on past Woodhead Reservoir toward the notoriously smoky tunnel. The 2-8-0s would mainly be O4s of which one has been preserved. The downhill trains seemed to be always clanking loudly, their coupling rods made of a particularly resonant alloy, especially if they were Gresley types.

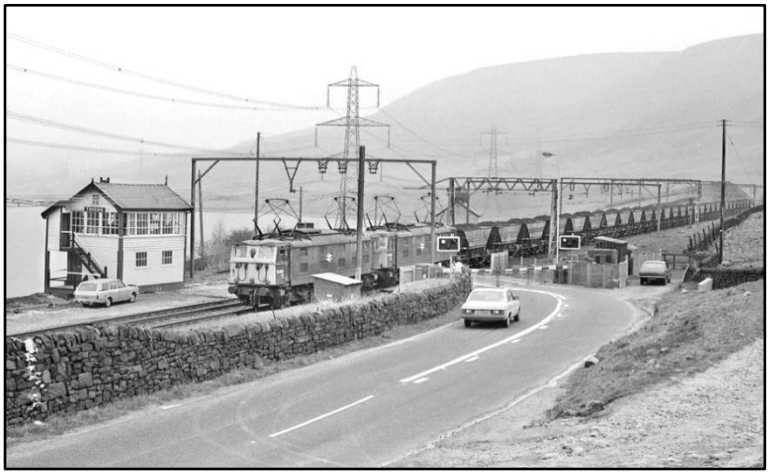
Although the main road is now extremely busy as it is the main crossing between Manchester and Sheffield, in those days it was generally quiet with few cars, the occasional bus and the lorries were not very big. Beyond Woodhead was a world unknown to me. It was thus quite a sight when the bus from Sheffield or Barnsley came along that road with the exotic legend 'Yorkshire Traction' on the side, in a dark red handsome livery and, if my memory serves me, a no-nonsense Leyland at that. Crowden was pronounced 'Croddin' and Tintwistle 'Tinsel' - perhaps locally they still are.

At the start of 1947 there was an unusual storm that froze the place up for weeks on end. My parents were quite concerned about the Davieses as the valley was bound to be snowed up. After some time we heard that the road had been partly reopened so we loaded the little car with provisions (my Dad was a grocer and my Mum had a little shop too) in spite of the rationing still in force and we set out via Ashton and Stalybridge. After Hollingworth and Tintwistle, the last towns going up the valley, the ride got really exciting for me as a six-year old boy. A single track had been ploughed out of the snow which towered up on each side to twice the height of the car. We reached the house without difficulty, apart from a few slides on the compressed snow, to a welcome as if we had saved their lives. Perhaps I was just impressionable but we were clearly among the first to get through - something hard to grasp nowadays if you are in a line of vehicles on the busy A628. Shortly after that the Davies family moved to the much larger house directly above the Torside dam and thus directly opposite the erstwhile Torside level crossing where the 'B' road from Glossop crossed the railway.

We carried on visiting them through the 1950s so it was still a treat to see the trains though the burly and noisy Robinson four-cylinder B7s were no longer there. It was good to see passenger trains in LNER teak finish (rarely as clean as hoped for) behind a green engine and, if you were lucky, an A3 pacific on the London expresses.

As a teenager, the mind turned from trainspotting to other things, even leaving Meccano behind for a few years when the trains were electrified, the trackbed now a cycleway and there is only the roar of endless road traffic - *sic transit gloria mundi*, indeed. However, the bungalow and the house beside the dam are still there and every time I come to Laughton, I am excited by that stretch of the valley. I was lucky. I remember green locos sweeping down at the head of a train of teak coaches and I recall the sledge-hammering, slow, everlasting exhaust beat of the big old Robinson engines dragging long trains up to Woodhead, no doubt knackering the fireman and bringing a smile to the coal owners and National Coal Board accountants as those engines ate tons of the black dusty stuff.

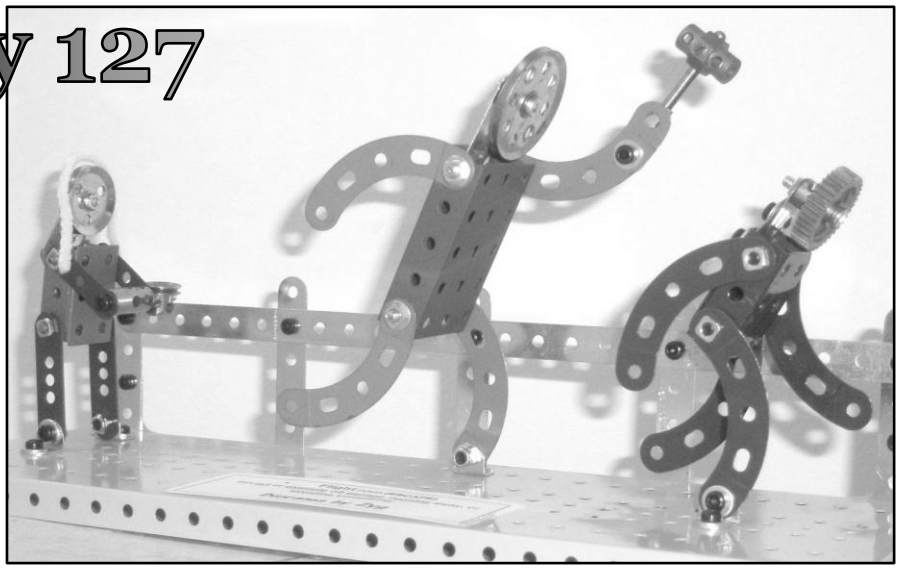
Ken Ratcliff



↑ Looking west from above the Woodhead tunnel portals; the GCR trackbed heads down Longdendale to Torside Reservoir and Ken's route to Laughton, the A628. (www.strangedayz.co.uk)

➔ Torside crossing, Longdendale in late 'Pennine Electric' days; May 1979. (www.davidheyscollection.com)

Miscellany 127



New members galore!

Let's have an SMG-style warm welcome to **Mike Adkins** (Somerset, UK), **Greg Clarke** (Essex, UK), **Mike Gray** (Lincolnshire, UK), **Chris Harris** (Lancashire, UK), **Zygmunt Kowalczyk** (North Yorkshire, UK) and **Alan G Partridge** (Vancouver, Canada).

Zyg (as he's known to his chums) took the SMG plunge at the June NEMS meeting at Bedale. Their meetings are sociable affairs and have a theme which in this instance was 'flight'. Naturally, many aircraft were built but Zyg's took the dictionary definition 'Flight *noun*...; (an act or example of) escape, running away or avoiding something' and built a diorama of a girl, a babe in her arms, watching her hammer-wielding Father sprint after the galloping boy who put her in the family way. It was the baby's face that prompted the model, Zyg using a ½" Pulley with the 'utility' pressed boss as the riveting looked like eyes and the axle hole the wailing orifice. Notwithstanding the modern subject matter, the four figures were on a par with the best to appear in Meccano Manuals during the pre-war period. Your Ed took his 'happy snapper' to Bedale rather than a decent camera so apologies for the lacklustre picture with shadows, above. The theme winner was correctly guessed as Zyg before it was announced so he had the honour of picking a theme for the next NEMS meeting, page 63.

15th October 2016

Put that date indelibly in your diary as it's not only an SMG day but also the dreaded Annual General Meeting. All of the current Committee members are happy to continue into 2017 *and almost all subscriptions will also fall due*. Should anyone else fancy replacing any of us then you are free to apply although please alert us beforehand; the same applies to any matters you may wish to raise.

126 feedback

Mick Burgess was one of the first to respond with identifying LMS 4-6-0s and to say *I think justified pages look much neater*; no-one else expressed an opinion. Mick was followed in rapid succession by **Philippe Baudeau** who enjoyed the coverage of his 'Shadoks et Gibis' model at Calais, **Brian Chaffer**, **Colin Hoare** (*a great read as always*), **Ken McDonald**, **Jean-François Nauroy** and **John Ozyer-Key**. The most expansive rejoinder was by **Bob Seaton**.

You appear to have excelled on our behalf yet again! I overheard a conversation at Bedale which placed our beloved Journal above CQ - but don't tell RJ! Not that I'm biased in any way but the photographic coverage of my humble footy game was magnificent (ta very much) - there were others noticed too including an apology to the day-tripping cows and the ageing MR 3F making an appearance at something approaching ten years of age!

In response to those accusations of shamelessly scraping those prewar Strip Plates... *Following the use (and abuse) that the footy game received at Skegex with attendant (positive) comments re improvements, the following actions have been effected... (1) Goalies can now 'slide' as well as pivot; (2) Control rods now supported by Flat Girders set at maximum height on slotted holes (thus preventing further acts of vandalism); (3) Player positions reconfigured to give one striker and two defenders per team. Net result (subject to practical trial) should be to make the game easier and more comprehensive to play, while making it harder to 'score'. So there!*

Cretia Denny sent a proper letter. *I haven't yet begun to reply to the many letters and cards that arrived in the wake of Michael's death as his last weeks and the ensuing planning of his funeral interrupted ongoing building disruption but yesterday came the latest SMGJ with your obituary and I had to make time to write. It's a lovely tribute. I think he would have been tickled by the table football game that's conveniently overleaf - such fun! I also liked the yellow 2CV from France. We had a succession of second-hand ones (left-hand drive) back in the seventies and I still miss them although not as much as the Volvo 240s, of which we have had many more. The last one (accurately described in your obit), having conveyed him on his last journey to church, pub*

and crematorium, has now pretty well shot its bolt. So, thank you for the magazine, very much appreciated. With very best wishes, Cretia D

From **John Learman**. *Yet again I'm greatly impressed with another of John Sinton's locos, this time the Austerity 2-8-0 that I used to see clanking along the line from Consett to the coast, front and back of a coal train as it slugged up the rise through the moors north of Stanley, Co Durham in the early 60s before the Co-Bos took over. I wholeheartedly agree with comments that it's nice to see a railway/Meccano crossover - very refreshing and massively welcome!*

Unbelievably, your Ed is in trouble again, this time with **Roger Thorpe** and, more worryingly as will be revealed, **Julie Cameron**. *Congratulations on another excellent issue. However I have a small problem: in your report for CAM at Calais you mention that two UK modellers exhibited models within the theme of crossing the channel. There was actually a third model (albeit modest) that was exhibited by my daughter Julie. She exhibited a channel swimmer with support craft. I would like to think that you missed it because it was overwhelmed by my stunning display of timepieces but I can't imagine that to be the case. Needless to say you are in big trouble when she next claps eyes on you at Skegness. You know that she is a black belt kick-boxer don't you! :-)* In a maybe futile attempt to avert a beating, Roger's picture of Julie's model made from the 'City' parts is shown above and thanks to a warning of his being a black belt in origami, your Ed seemed to escape the promised pummelling.

June & Malcolm Booker made the Editorial cheeks glow bright red. *Congratulations on a great magazine with beautiful presentation and photos. So sad about Michael; we have fond memories of our own trip to Skegex and all staying together*. Nobody would disagree with their sentiments about Michael but this moment is also good one to remind that your *SMGJ* is the result of a team effort and certainly not one person working in isolation.

From Meccanoland's undisputed gearing guru, **Alan Wenbourne**. *Many thanks to you and the team for another excellent issue. I was interested in Les Megget's comments about the non-Wenbourne gearbox with which I concur. At present I am unable to confirm that the image in question is from the Richard Payn stable but I do believe that is the case. I also believe that Richard's version was further developed by John Hornsby, reference Fig. 1* [below] *with shifter and range box. As I am sure you are aware there have been many similar looking gearboxes to this one that have appeared over the years. In case it should be of interest; my three-speed & reverse gear and pinion design which was published in the RMG's 'Gearboxes for beginners - part 1', was inspired by two types that appeared in MMs: June 1950 page 273 and May 1948, page 165. The former has ratios of 1:1, 2:1 & 3:1 with 3:1 reverse but top gear is indirect. The latter has close ratios of 0.667:1, 1:1 & 1.5:1 with 2:1 reverse. Top gear is not direct and all forward gears are obtained by combining an overdrive pair with an underdrive pair. My objectives were to design a simple three-speed & reverse 'box with integer ratios, logical sequencing and direct drive top gear without*

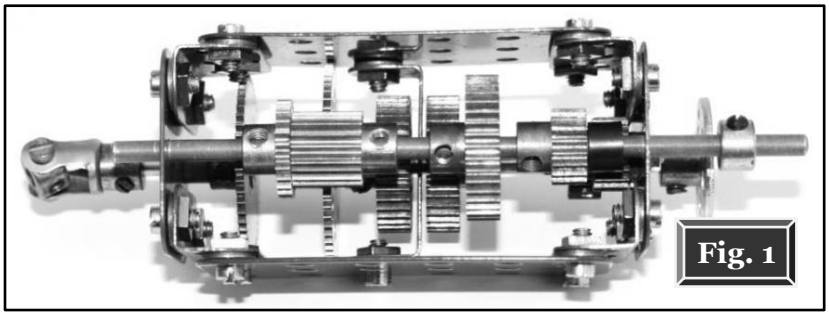


Fig. 1

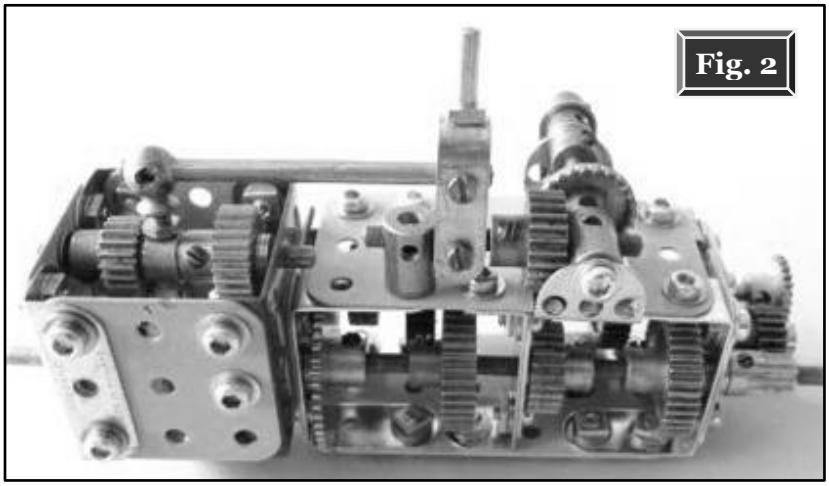


Fig. 2

over-under drive conditions. I also proposed a detented sequential shifter mechanism hence the box shown in Figs. 2 & 3.

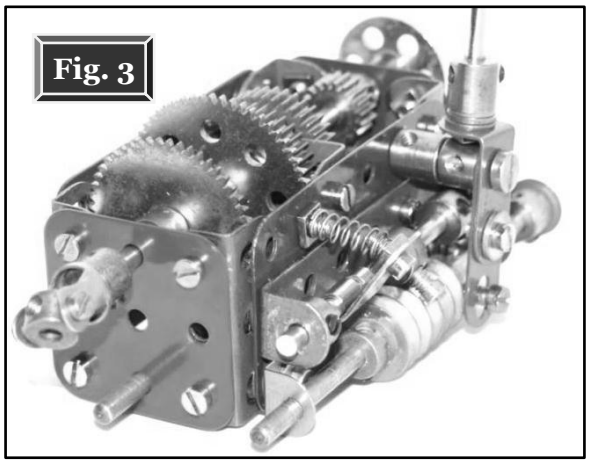


Fig. 3

Tyres 6 - the mysterious P44

Self-confessed smartypants **Russ Carr** is better known as a builder rather a Meccano collector or historian but that didn't stop him making an observation on the sixth instalment of John Learman's 'Tyres' epic. John stated: ***Fig. 6.22*** *shows that for every Tyre, one sidewall bears the words 'PNEU HUTCHINSON' with the 142c also having the extra word 'MECCANO' and the number 'P 44' on the same facing sidewall. I'm very sorry but we don't have any answer yet as to why this smallest Hutchinson carries 'P 44' and not '142c' on its sidewall so if anybody does have the answer could they please let us know?* Russ realised that part P44 is an Aero Constructor Tyre but *...you'll have to ask one of our collectors how size compares with a 142c.*

From **Geoff Brown**. *John's Tyre series is right up my street and I have one or two observations.*

1. *The P44 must be a reference to the Aero part which is a white rubber ring for 1" Pulleys. It seems to have kept its number when it changed to the chunkier version used with the Spat Wheel.*

2. *I have three Pneu Hutchinsons. If they really are mid 1930s I cannot but agree with him about their condition. Bootiful! With them, the fourth Tyre is a Dunlop Cord Meccano 142d but it is chunkier than the UK versions and matches the Hutchinsons in size. It too is nice and flexible.*

3. *I own a Meccano Pneu Michelin 142c just as per Figs. 6.6 and 6.7.*

4. *I have a number of English 142c's and 142d's in various conditions with the Dunlop Cord tread and also at least one of the later 142d's with the finer block pattern tread.*

In my opinion, some of these Tyres are the rarest of all Meccano parts. I am looking forward to what John has to say about the wrap-around tread tyres! I think they are by far the worst in all respects. I am still looking for a 3" one for my collection but have never ever seen one! Were they just too terrible or were Meccano stores up to their lug 'oles in earlier Dunlops?

While in the Tyre mood, this is a sensible juncture to mention a rather special set of inter-war ashtray tyres which are to be auctioned for SMG funds on 15th October. There are nine, all different and some are mounted on 3" Pulleys; all have been pictured in John's series and have been involved in charting the history of the Meccano 142s. John has kindly donated them and it is hoped they will attract some strong bidding!

Return of the SMG Machining Service

News that will be received with jubilation in some places (especially Cleckheaton and Kimberworth) is that after a two-year break, the necessary machinery has been rescued, moved to a safe place and been properly wired. All you need to know is provided below.

SMG Machining and Fabrication Service

Light machining, drilling, $^{5}/_{32}$" BSW threading and fabrication with all sharp edges and burrs removed. You supply the raw materials for conversion.

- **Collar** from common (1" Pulleys, Bush Wheels etc) or scrap bossed parts: **12p**
- **Roller/long collar** from tinplate or plastic Road Wheel boss: **10p**
- **⅜" motor pulley** from tinplate Road Wheel: **30p**
- **⅜" double motor pulley** from Road Wheel: **40p**
- **Bore correction** to retrieve eccentric or drilled-out expensive parts such as a 48t Bevel: **75p**
- **Bore reduction** such as ½" Pulley or 14t Sprocket to 3.0 mm or ⅛" for non-standard motor: **75p**
- **Bosses bored** to your spec with size restriction due to lathe capacity. Example: to 6.0 mm or ¼": **15p**
- **Pinions thinned** to your choice of tooth face width: **2p per tooth**
- **Boss removal** to convert Pinions to near-MME replicas for compact idlers: **25p**
- **Motor mounts** made from Flat and Flanged Plates for non-standard motors. Typically **£1.50 for 1" Ø motor, £2.00 for 1½" Ø and £2.50 for 2" Ø.** It helps if you make available the motor and your own parts can also be modified to suit.
- **Motor wire soldering** ~6" flying leads with strain relief and block connector: **75p**
- **Anything else** from the 'Robbits' range can be made at a reduced rate as you supply the materials.
- **Discounts** applied according to quantities and mix.
- **Can't do** accurate 90° drilling & tapping (like a Coupling) or rings of holes (like a Bush Wheel).

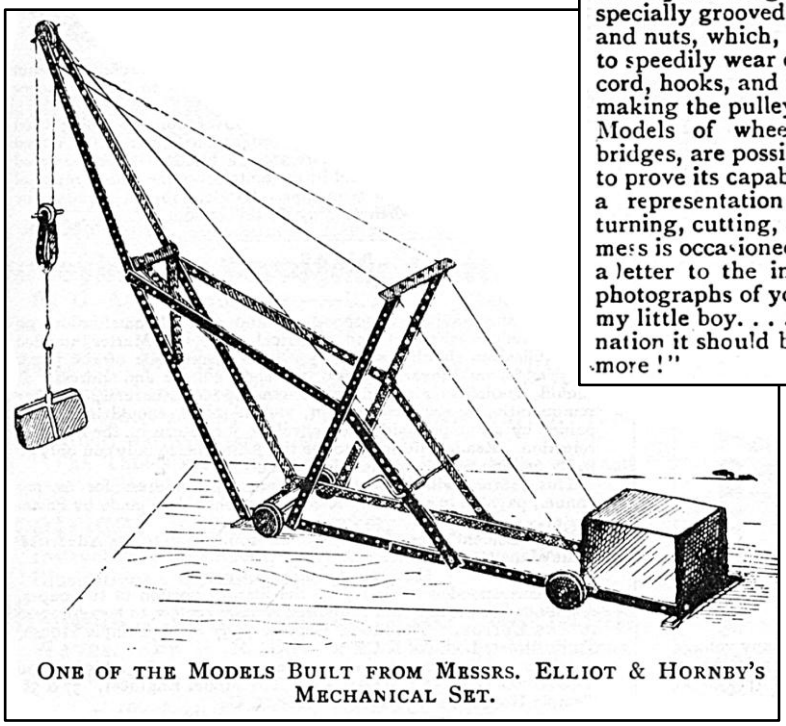
Contact Rob (page 2). It helps greatly if you can remove any fixing screws although the SMGM&FS can deal with most stubborn ones. Items can be collected then returned when convenient or posted at cost. All proceeds go to SMG funds.

Plastic Plate problems

Back to **Russ**, all was not as it seemed on SMGJ126's cover picture of two crawler tractors as he noted when it was too late to rectify the matter. *Just noticed on cover pic and verified on the model - my tractor had a broken seat back so 2½" x 1½" became 2½" x 1" and that's another rare 1960s black Plastic Plate gone!* What a vandal, eh?

Bah, Brunton been built before!

Still with **Russ**, this will be bad news for our serial contributor Ken Ashton whose steam horse was in SMGJ125; apologies, Ken… During a rummage through older *SMGJs* for something or other, Russ stumbled across a model (in No. 59, September 1997) of Brunton's steam horse by Hellmuth Kohler. The sound of an original subject gurgling down the plughole is one your Ed knows well.



One of the Models Built from Messrs. Elliot & Hornby's Mechanical Set.

A Mechanical Toy for Embryo Engineers.

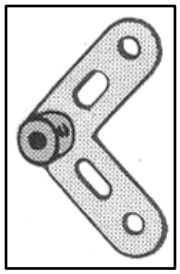
Parents and elder brothers are very often at a loss to know what to purchase in the way of toys for the younger members of the family who evince a natural liking for things mechanical. To meet this need, Messrs. Elliot & Hornby, of 18, James Street, Liverpool, have introduced to our notice an adaptable and practicaliy unbreakable toy, with which the child is able to make up models of engineering structures and machines. The object of the invention is to train the young in mechanical construction, and accompanying this latest version of the box of bricks is a pamphlet, entitled—"Mechanics Made Easy," giving illustrations of the various models which can be made up by the set of apparatus, including model bascule and swing bridges, lines of railway, travelling and overhead cranes, etc. The set, packed in a neat tin box, consists of lengths of tinned iron, with smooth edges and regular perforations, 12½ ins., 5½ ins., and 2½ ins. long—a dozen of each, about eighteen angle pieces, specially grooved rods for use as shafts and axles, a box of bolts and nuts, which, by the way, are of good quality, and are not likely to speedily wear out; pulley and flanged wheels, with key-ways; cord, hooks, and ingeniously conceived keys which are capable of making the pulleys and wheels either fast or loose upon the shafts. Models of wheelbarrows, rope tramways, swing and bascule bridges, are possible in fact, the scope of the toy is unlimited, and, to prove its capabilities, we built up, in about a quarter-of-an-hour, a representation of the Rottingd an submerged railway. No turning, cutting, or drilling is required. and, above all, no dirt or mess is occasioned by its use. Professor Hele Shaw, of Liverpool, in a letter to the inventor, says: "Thank you very much for the photographs of your clever toy. . . . I shall certainly buy a set for my little boy. . . . With a little ingenuity and exercise of the imagination it should be as good as a fairy story, and what can one say more!"

As good as a fairy story?

Hellmuth Kohler has spotted what must be one of the earliest advertisements of 'Mechanics Made Easy' in a copy of *The Model Engineer and Amateur Electrician* for 1st June 1902; this was nominally a year after Hornby's invention and the *ME&AE* was to become *The Model Engineer*. From there, page 263 had various items of interest to the reader including an accumulator (a battery) shaped like a whisky flask and intended to fit in the pocket. The 'Mechanics Made Easy' drawing and the approving two-part text has been scanned by Hellmuth, reunited and reproduced above.

A ding-dong with Bell Cranks

Inspiration for the next little-used Meccano part to have its profile raised by the SMG at the October 2016 meeting was simple. This is SMGJ127 so the Simple Bell Crank, part number 127, is the non-obligatory focus part for our attention on 15th October. The outcome - and your reward - will be coverage in SMGJ128 early next year so the Bell Crank, part number 128,



is also included. Apart from a right-angle lever or a stiffener in a 90° corner, let's see what we can make from any quantity of that difficult duo. As the unbossed type is uncommon, replicas are fine. Both should prove equally perplexing as last year's picked-on part, the Girder Frame. If unable to be at Laughton, sending a picture of your effort would be great.

SMG for the high jump at Bedale?

After some final loophole-shutting, NEMS's chief contest contriver **Tim Roylance** has finalised the rules of their jolly japes planned for 3rd December.

Objective: to build a throwing device powered by four Tension Springs that will propel a tennis ball over a high jump. **Judge:** to be determined on the day. **Rules:**

1. All parts must be standard numbered Meccano parts made by Meccano Ltd or Meccano S.A.
2. Modification to standard parts is not allowed.
3. Each throwing contraption will weigh less than 2.0 lb, 0.91 kg.
4. A standard tennis ball will be provided.
5. The high jump's horizontal bar will be set at the start of the competition.

6. Each competitor can have up to two attempts to clear the bar. If the bar is cleared, the competitor will proceed to the next round.
7. Each will be handicapped according to the resting height of the ball prior to launch. For example, if when cocked the ball is 4" above the model's base then 4" will be deducted from the jump total. If the jump is set to 36" and the ball clears the bar then 32" will be recorded.
8. At the end of each round the bar will be raised.
9. The throwing device can be any distance from the high jump as required.
10. A competitor will have up to five minutes to repair a model should it break down.
11. Each competitor may only enter a single model and must accompany it.
12. Entrants are asked to name their model and to write a short description; this makes writing-up the competition an easier task.

All queries should be directed to Tim, page 63.

Binders for your *SMGJ*s

In the last issue it was stated that Bob Seaton had looked into bespoke binders to house a run of twelve *SMGJ*s. Interest was expressed by several people but the prospective demand is as yet insufficient to make viable an order. To recap, we would have to place a minimum order of 50 and initial enquiries suggest a price of £7 each plus delivery. We need further firm expressions of interest before committing and these should be directed to Bob, page 2.

Model No. 7.5

Back at our October 2015 meeting, **David Wilkinson** showed his version of a quite nice prewar model combining Meccano with Hornby Trains - model No. 7.5, the Rotary Truck Tipper which is actually a 'Tippler'. Never mind as it's a grand opportunity to use a couple of 7" Circular Strips if you can lay your hands on them. If you don't have the necessary manual, your *SMGJ* will oblige (below) which contains all the information. Apart from the 145s and Motor, the model is probably within the scope of a smaller outfit than the huge No. 7! *RM*

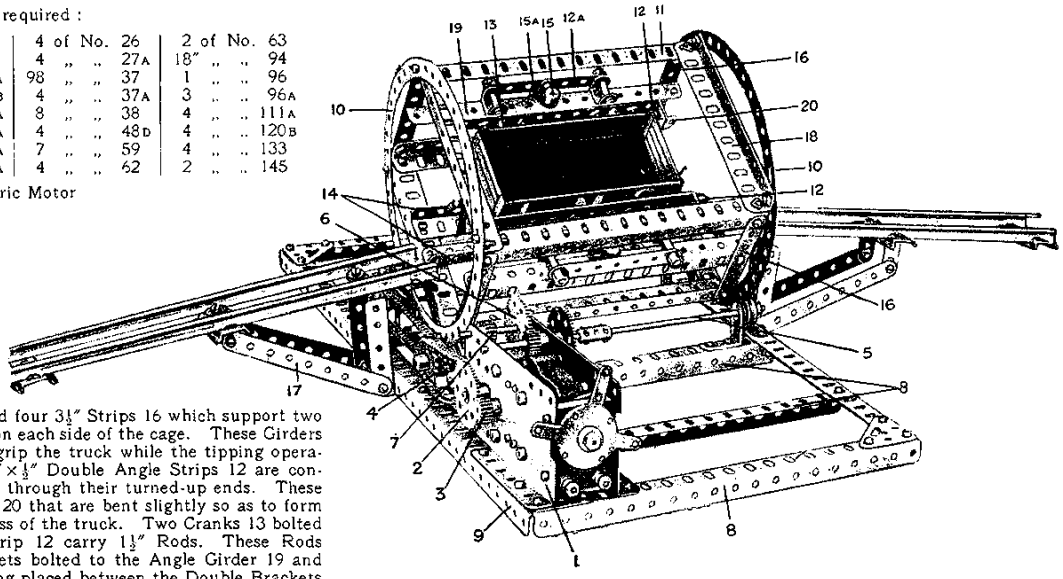
This Model can be built with MECCANO Outfit No. 7 (or No. 6 and No. 6A) 73

Model No. 7.5 Rotary Truck Tipper

Parts required :

9 of No. 2A	4 of No. 11	4 of No. 26	2 of No. 63
6 " " 3	8 " " 12	4 " " 27A	18" " " 94
2 " " 7A	4 " " 12A	98 " " 37	1 " " 96
5 " " 8A	2 " " 12B	4 " " 37A	3 " " 96A
8 " " 8B	4 " " 15A	8 " " 38	4 " " 111A
4 " " 9	5 " " 16A	4 " " 48D	4 " " 120B
4 " " 9D	4 " " 18A	7 " " 59	4 " " 133
2 " " 9F	4 " " 23A	4 " " 62	2 " " 145

Electric Motor



The base is built up from five 9½" Angle Girders 8 bolted to 18½" Angle Girders 9. The "cage" is formed by two Circular Strips 10, to each of which are bolted two 5½" Angle Girders 18 that, in turn, support four 7½" Angle Girders 11. Two further 7½" Angle Girders 14 bolted to the lower pair of transverse Angle Girders 18 form the rail track.

To the Girders 11 are bolted four 3½" Strips 16 which support two more 7½" Angle Girders 19, one on each side of the cage. These Girders support spring "pads" which grip the truck while the tipping operations are in progress. Two 5½" × ½" Double Angle Strips 12 are connected together by bolts passed through their turned-up ends. These bolts also carry Angle Brackets 20 that are bent slightly so as to form guides for the entrance and egress of the truck. Two Cranks 13 bolted to the outer Double Angle Strip 12 carry 1½" Rods. These Rods are journalled in Double Brackets bolted to the Angle Girder 19 and each carries a Compression Spring placed between the Double Brackets and the inner Double Angle Strip 12.

After passing the Rods through the Double Brackets a 3½" Strip 12A is placed over their ends. A Bolt 15 passed through the Girder 19 is held loosely in position by a nut and carries an Angle Bracket locked on the bolt by a second nut. A Collar is then secured to the bolt and carries a ½" Bolt 15A as shown. This completes the "gripping" device, and it will now be found that the Double Angle Strips 12 are forced by the Springs against the side of the truck. Using the Bolt 15A as a lever to turn the Bolt 15 the corner of the Angle Bracket may be brought into contact with the Strip 12A, thus drawing the "pad" 12 inwards and releasing the truck. The gripping device is duplicated on the other side of the cage.

The cage rests on four Pulleys that are mounted on Rods 5 (two 4½" Rods coupled together) and journalled in 1" × 1" Angle Brackets bolted to the Angle Girders 8.

The Electric Motor is mounted on the base of the model, and a ½" Pinion 3 on the armature spindle engages a 57-teeth Gear, the spindle of which carries on the other side of the Motor a ½" Pinion engaging a further 57-teeth Gear. The Rod of this latter Gear carries a ½" Pinion meshing with another 57-teeth Gear 6, on the Rod of which is a further ½" Pinion 7 engaging a third 57-teeth Gear carried on a Rod journalled in the Motor framework. On this Rod is a ¾" Sprocket connected by Sprocket Chain to a 1" Sprocket Wheel 4 on one of the Rods 5. The latter carries also a ¾" Sprocket Wheel 4 connected by Sprocket Chain to a ¾" Sprocket Wheel on the other Rod 5. Rotation of the Motor therefore causes the Rods 5 with their Pulleys to revolve, and the Pulleys to impart rotary movement to the cage.

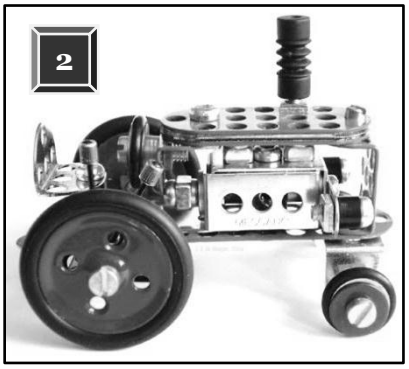
Let's Have a Look at a Meccano Website: 13

Having been squeezed out since SMGJ121, this feature returns and is likely to be sporadic. As a reminder, your writer delves into Melvyn Wright's 'Meccano Ring' which contains an index of many (all?) Meccano websites, prods the 'Random' button and, depending on the result, summarises the content. Here we go and in a jiffy, the first, second and third results were to sites that hadn't been updated for years. A fourth attempt yielded success with Frank W Weber's professional-looking website:

http://home.snafu.de/fwebart/Meccano-F.W.Weber/homo-ludens.html

Naturally, the content is in German and an auto-offer to translate was declined because at best, they're rough! As it is a very deep 'Home' page, **1** is the top part only which contains a brief introduction to Frank's enthusiasm for Meccano. There are no tabs but the content is accessed from the 'thumbnail' images of which there are lots.

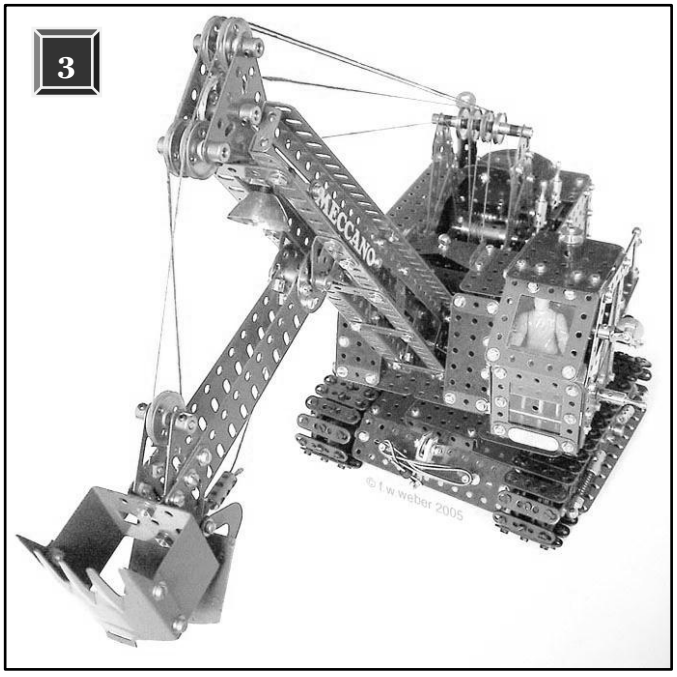
Frank has had several of his models published and some are linked, such as the miniature tractor, **2**; others haven't been in print of which the red & green excavator, **3** is an example. He also likes to add appropriate settings to his work, **4**.

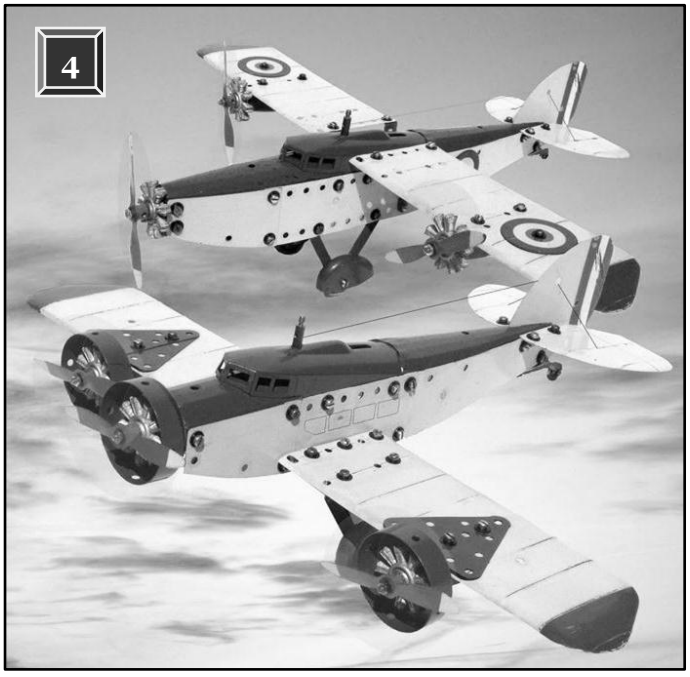


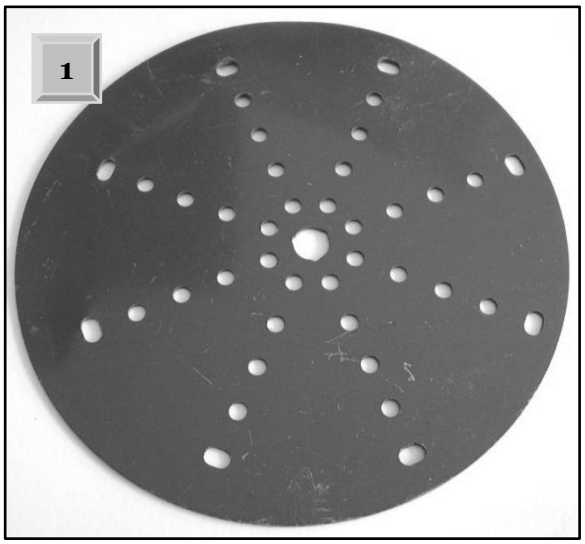
An overriding impression is that, on top of being an imaginative builder, he knows what he's doing when it comes to illustration. *LHaL* always ends with comments from the website owner and Frank swiftly obliged with:

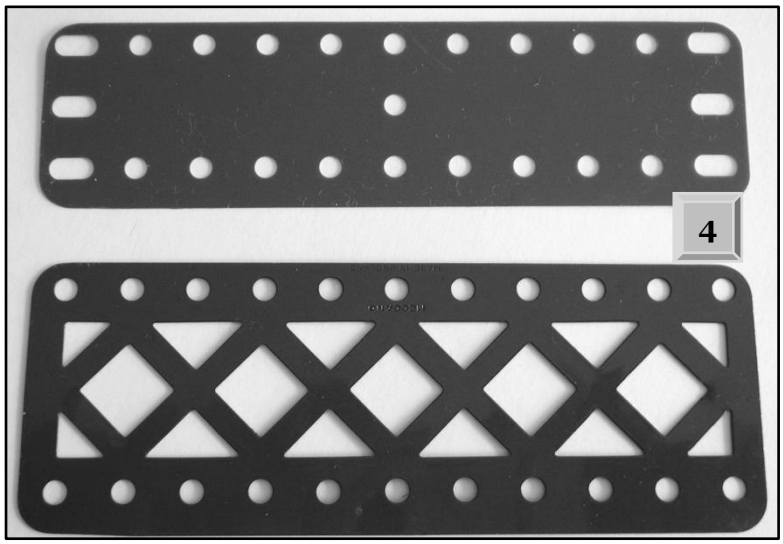
Thank you for your good work but, unfortunately, my website has not been updated for three years as I have not had much time for Meccano. Deep inside I'm still a child and when I no longer sense that feeling it's too late for me! To me, it is fascinating that Frank Hornby's invention ensures today's Meccano Boys worldwide are connected; the Internet is a positive thing. I hope you will all enjoy our Meccano hobby. My wife Andriotta and I send greetings to everyone in Meccanoland.

Thank you too Frank! *RM*







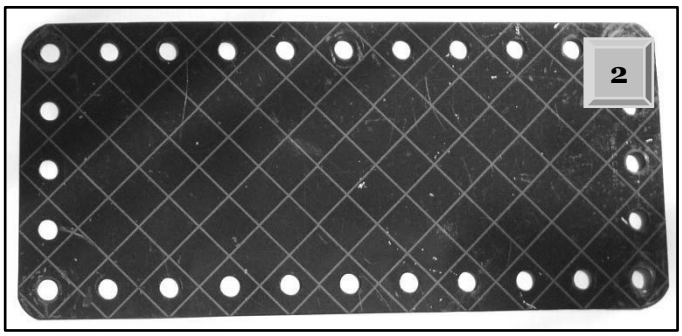


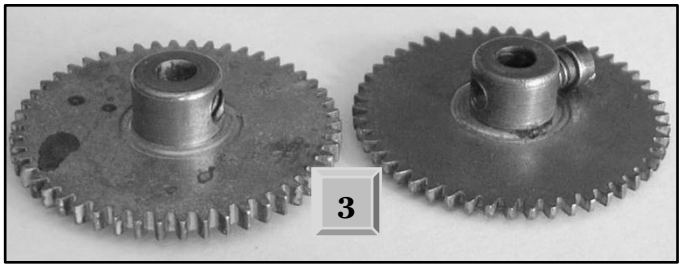
More Malformed Parts

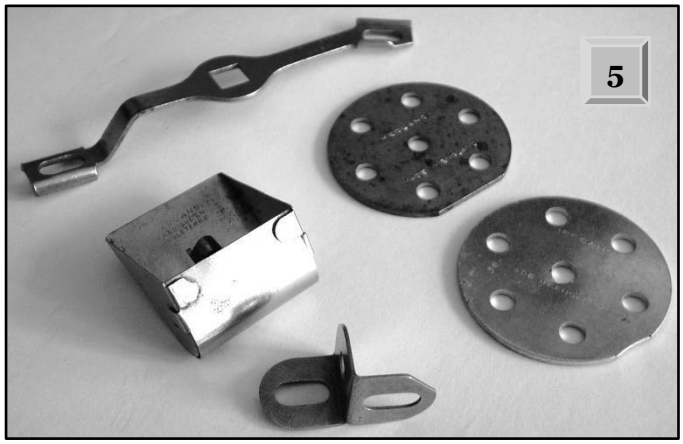
By the perfectly-formed Mick Burgess

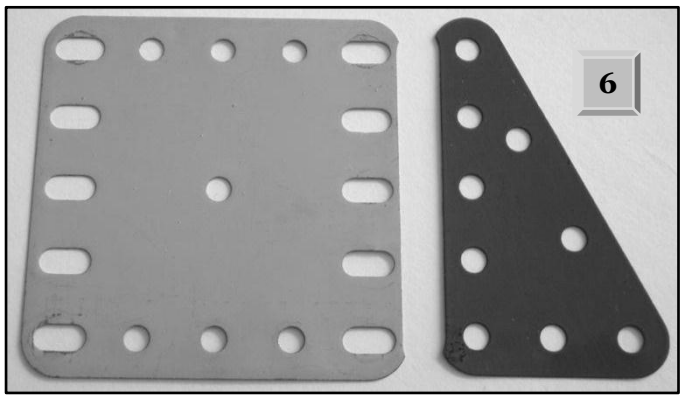
If Meccano Ltd employed a Quality Controller then it must have been tea-break when these left the factory! Mick Burgess has sent notes and pictures of some recently-discovered examples in his collection that should have found their way to the scrap metal skip rather than an eager customer. Over to Mick:

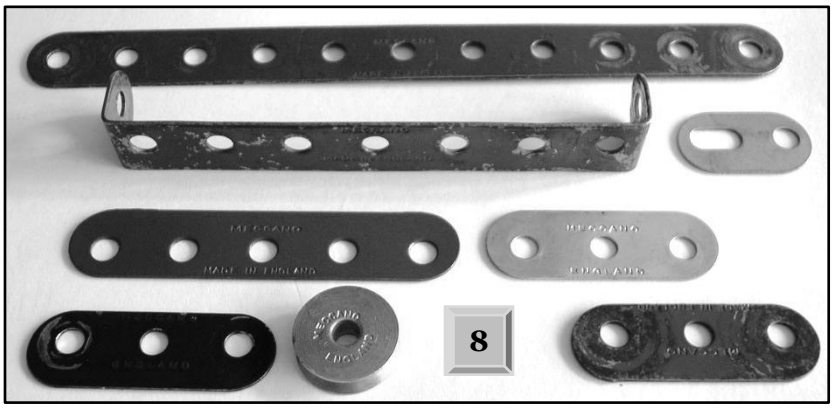
1. A mis-struck 6" Circular Plate (1970s?) with the holes decidedly off centre; the basic fan is OK.
2. A blue & gold 5½" x 2½" Flexible Plate where the hatching does not intersect the holes. These are very unusual and I have only two!
3. Two early 50t Gears, the one on the left having a toothed disc about twice as thick as the other. Could it be a normal variation of early parts?
4. A very recent blue 5½" x 1½" Plastic Plate and a medium red & green 5½" Braced Girder, both cut off register.
5. A selection of five parts all made near the edge of a blank where there was not quite enough metal to complete the job. They are a 1950s Box Spanner where right-hand end has part of the Nut holder missing; a nickel-plated Dredger Bucket where the left-hand tab has a small curved section absent; a Corner Angle Bracket where part of a lug tip is missing (this is also the rare first version with a slot in each lug and available only for a few months in the 1920s); two zinc-plated six-hole Wheel Discs with the edge clipped.











6. Two painted parts (1960s yellow 190, light red & green 221) where the cut for the next part has started early.
7. Two nickel-plated Brackets (1950s 12c, 1920s 12b) that have not been guillotined cleanly.
8. A selection of eight common parts of various vintages with the stamping off-centre; holes also in some cases.

Mick Burgess

Lined up for SMGJ128

SMG at Laughton-en-le-Morthen - models galore and annual prizes

John Wilson builds his way through some early steam power

Fowler four-wheel drive traction engine from Ken Ashton

Servetti's Magician: part 1 of an accompaniment to GSM32

John Learman resumes his history of the Meccano Motor Tyres

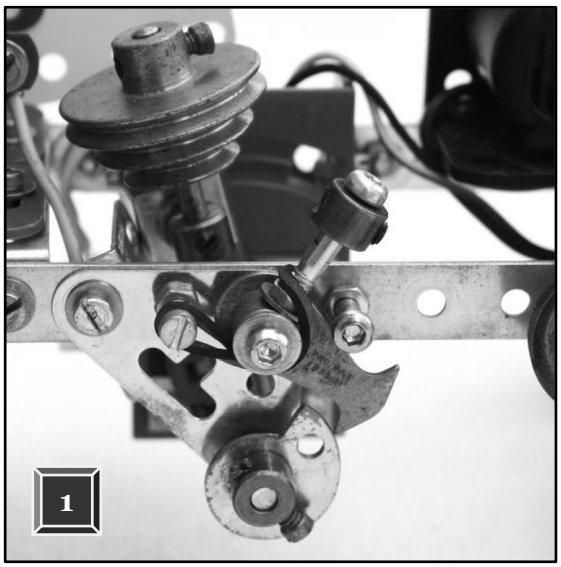
A tour of the year-end shows

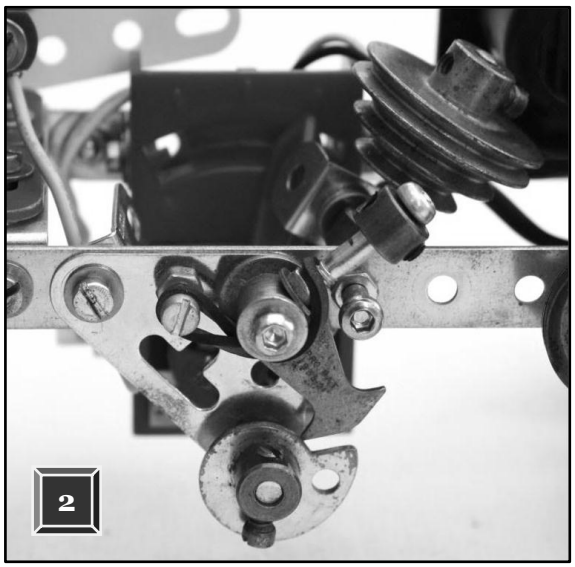
Lots of other goodies and maybe your contribution!

Catch 33 Mk II

Do you recall Bob Seaton's novel use for the first pattern of Meccano Pawl in SMGJ113? If not then it was the blackened tinplate type (part 33, about 1904-1921 according to HCS Vol 6). The second, double-headed form (about 1921-1925) became a vital component in a device to allow an Axle to rotate a partial turn then stay put until manually reset; **1** shows it primed and **2** is when rotated (the Cone Pulley weight has swung over) then retained. The 33 is working as a pawl although mating it with a Cam acting as a single-tooth ratchet was one of those little rays of sunshine that Meccano keeps producing.

The background to devising this contrivance was the 2015 TIMS Meccanuity contest for impact-reversing vehicles (see SMGJ123). Instead of some sort of probe to change gear or nudge a switch, I opted for inertia to flip an inverted pendulum coupled to an M.o Motor Switch with the centring spring removed. The whole thing didn't 'arf shift and, as the impact force was high, the pendulum wanted to bounce back - note the Grub *and* Set Screws in the Cam boss to cope - and, with the overall weight having to be considered, I ended up with this dubious pairing.





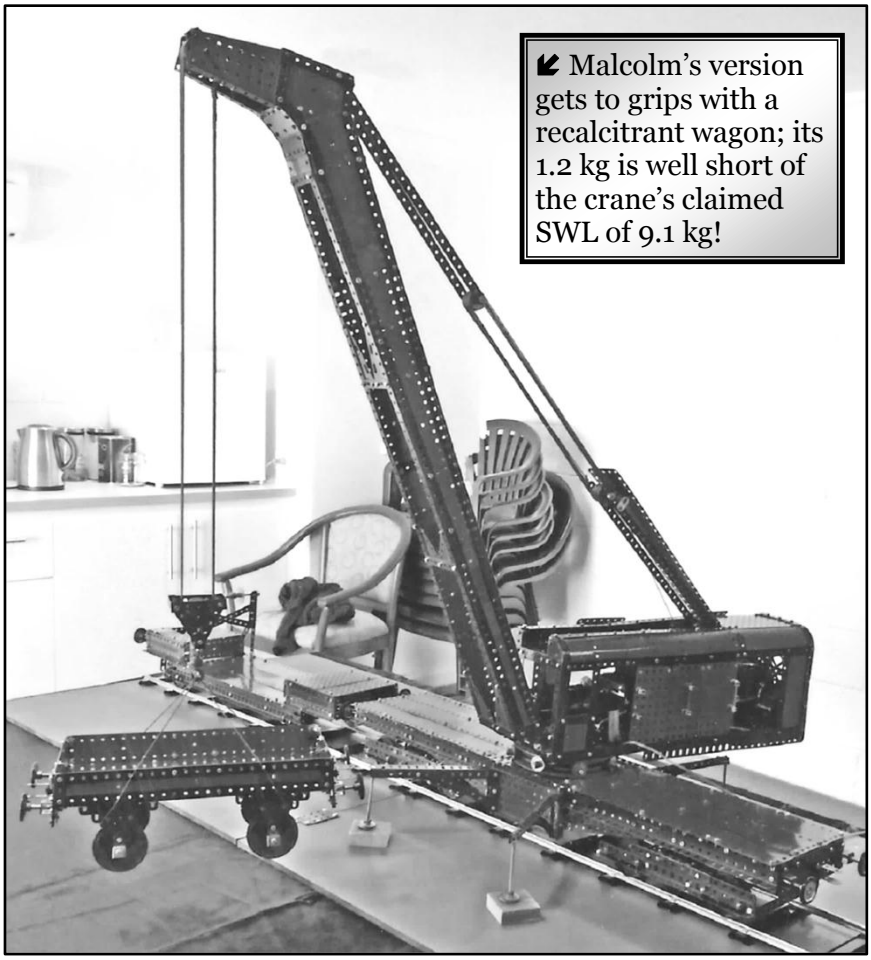
Lateral freedom of Pawl and Cam has to be small to keep the edges in line with each other and the Cam's flat makes almost parallel contact with the Pawl. The Pivot Bolt and Collar formed the initial light weighting to keep contact but, to make it snappier, it had to be helped by the looped 2½" Driving Band.

RM

Building Modelplan No. 211: Railway Crane

Malcolm Booker is another to tackle Tony Parmee's No. 10 model; pictures by David Taylor

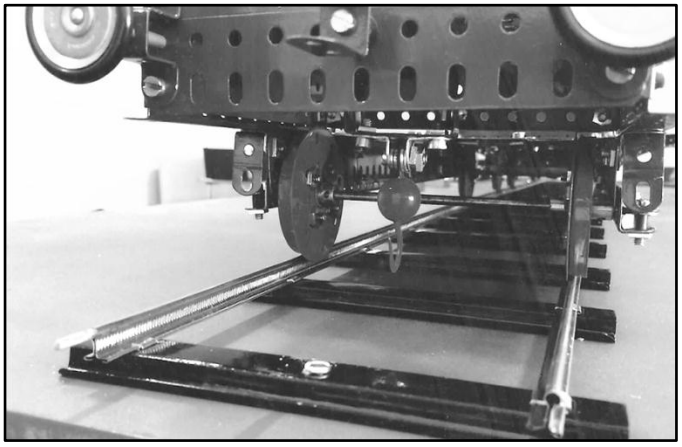
Bearing in mind that I started Meccano when aged six and I am now nearly 80, this is the most satisfying and best working model I have ever made; it will not be dismantled so congratulations, Tony! An important feature is there are no Worms in the drive mechanism. It must have been extremely difficult to build this wonderful model strictly within the contents of a No. 10 so I have cheated and made building much easier by using extra, mostly common, parts such as 1" Pulleys, Axles and Collars. The only significant change I made was to substitute a 1:1 Gear pair in place of 2:1 so the crane now works at exhibition speed rather than scale speed. Motor speed can be varied. I also made a 1.2 kg railway wagon for the crane to lift.



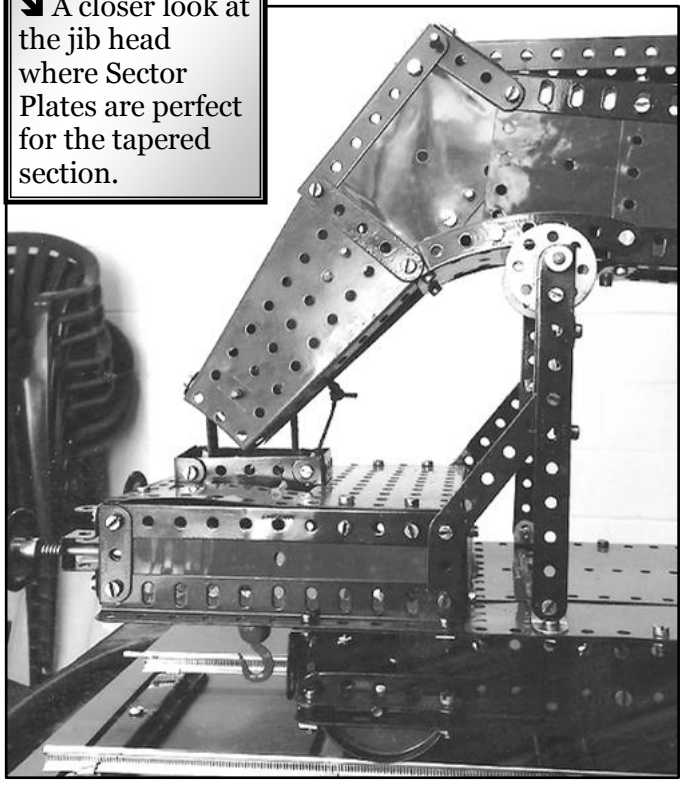
↙ Malcolm's version gets to grips with a recalcitrant wagon; its 1.2 kg is well short of the crane's claimed SWL of 9.1 kg!

➔ The crane runs on Australian-made 4½" gauge tinplate track.

Including the wagon, parts used totalled approximately 1050 plus 900 Nuts, 850 Bolts and 200 Washers. Many of the parts were originally damaged and rusty so all were repainted to the same shades of red and green; the Nuts & Bolts were replated with zinc.

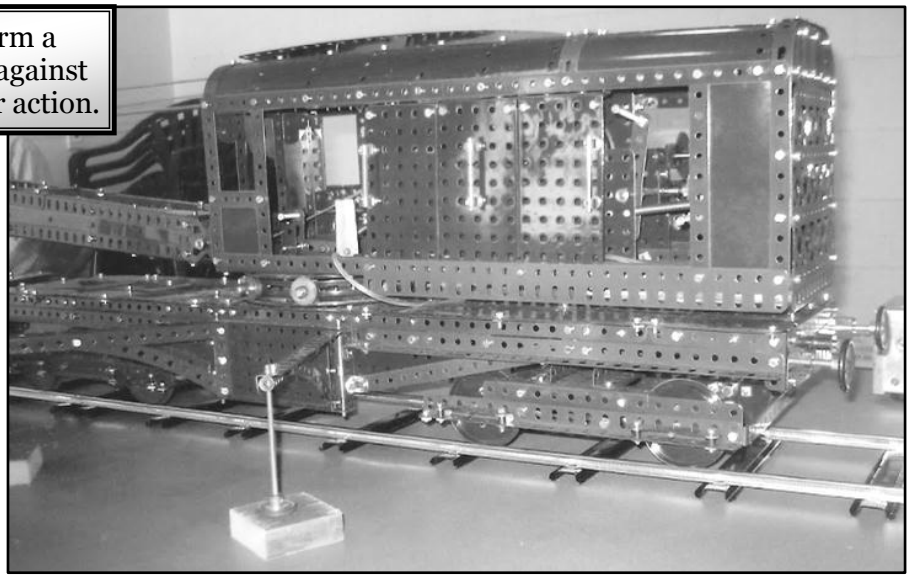


↘ A closer look at the jib head where Sector Plates are perfect for the tapered section.



I used 1" Pulleys for the stabiliser feet and luffing pulleys and with added Rubber Rings for all the buffers. Railway wheels are Face Plates with Wheel Flanges. In the pulley block and jib head, I used 1½" Pulleys with the boss turned down to be flush with the rim. A lead counterweight sits under the cab rear and all cord is dyed green. The complete model runs on 4½" gauge track - made by Alan

➔ With outriggers deployed to form a wide base then packed to protect against overturning, the crane is ready for action.



Middleton - which is then screwed to a grey-painted baseboard. Ray McGimpsey made the wood packing under the stabilisers.

Malcolm Booker

The MMA Show on DVD

Malcolm's crane was one of the models present at the Meccano Modellers Association's 35th annual show held on 30th April 2016 at Frenchs Forest Baptist Church, Sydney. The video was by Owen Fisher then kindly sent by Malcolm & June. Watching it, the following is an overly short summary of what made your writer jab 'Pause'.

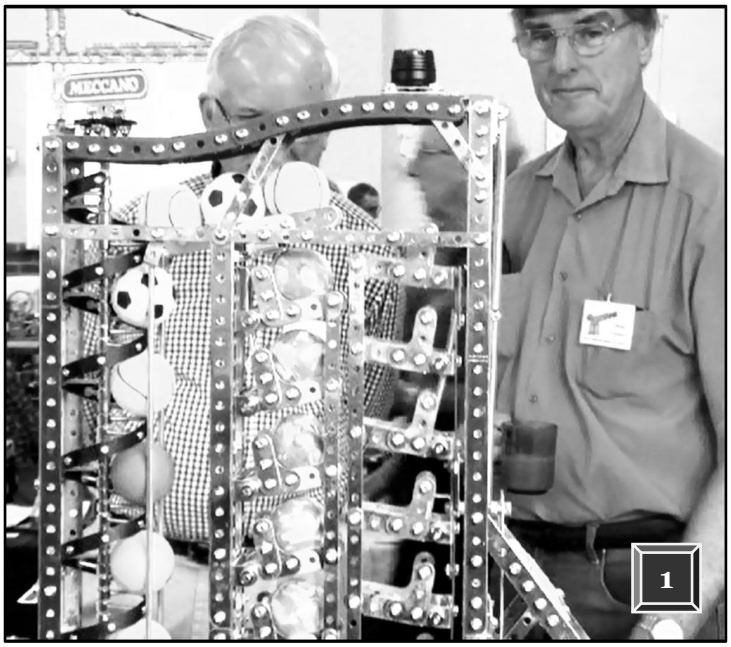
1. A partly-decapitated **Doug Trounce** with the top end of a ball roller; he had three, all fully loaded and very busy! Balls descend via the helix on the left and ascend by alternating between the stationary central column of tipping 'pockets' and series of vertically-oscillating (and temporarily empty) tipping 'pockets' on the right.

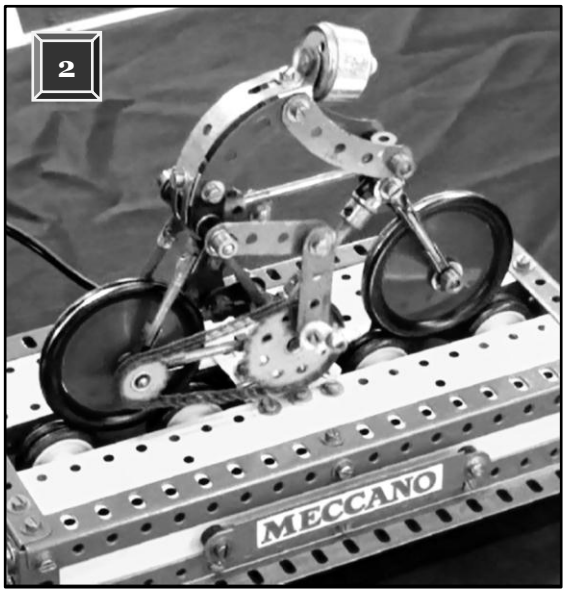
2. 'Pedalling Pete' on a rolling road was among a ton of models - including a raft of braiders of course - by **Graham & Mary Jost**.

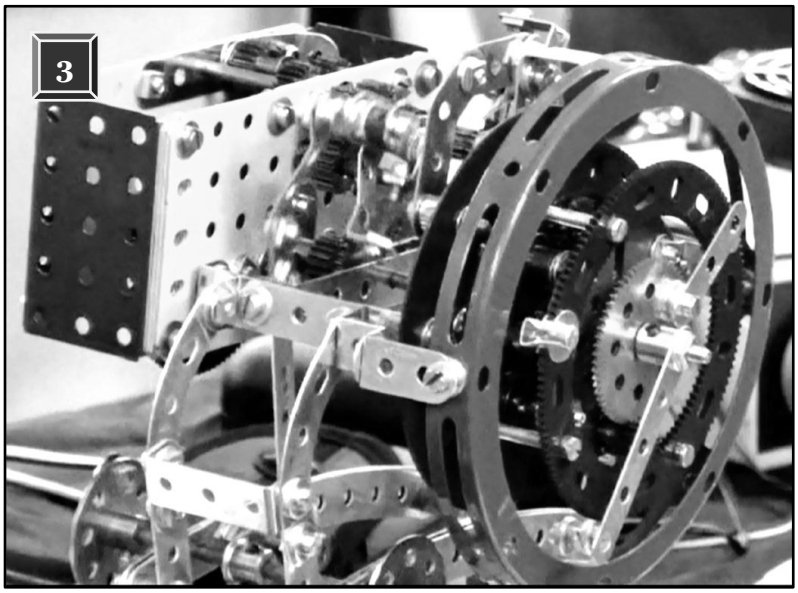
3. The top end of an inching clock by **Mario Moszczynski** was originally by Dave Harvey then featured in the October 2015 *RMGM*.

Should you fancy viewing the DVD yourself, have a word with Rob (page 2) or to secure a personal copy, the MMA would surely oblige.

RM







Skegex 2016

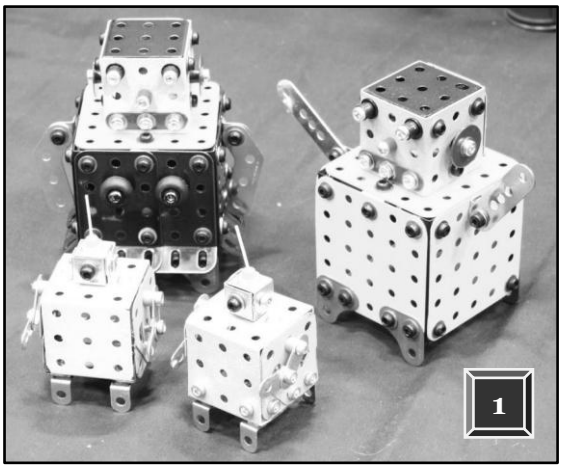
30th June to 3rd July

Reported by Les Megget, Bob Seaton and Rob Mitchell
Pictures by Ken Ratcliff and Rob

Here we go again! Our novel approach to last year's coverage was appreciated so we are repeating the method - well, almost. One of Russ Carr's relatives had thoughtlessly arranged a family bash for the same weekend as Skegex so he had to bunk off. Luckily and without knowing the situation, the NZFMM's Editor **Les Megget** volunteered and was snapped up before he had chance to reconsider his rash offer. You remain stuck with the other two, Messrs **Seaton** and **Mitchell**. It may be recalled that the method for 2015 was a knock-on effect of Michael Denny's enforced absence, an absence now permanent. With that in mind, **Ken Ratcliff** wrote his own tribute to Michael.

I was so sad to hear of the death of Michael Denny. With Michael we have lost one of the friendliest of Meccano enthusiasts. The hobby is not lacking in interesting or unusual characters and aficionados are spread among a very wide spectrum of personality types. We enjoy the company of specialists in complex gearboxes and transmissions, in historical collections and displays, in cranes of all shapes and sizes, in engineering complexity and innovation, in minimalism and charm, yet Michael was indeed difficult to categorise but there was no mistaking him for anyone else. In his use of Meccano, he concentrated on the play value, the fun element, and always he invited the young and old alike to try them out, to turn the handles, switch them on and off for themselves and experience the magic of movement. Skegex was the arena in which we knew him best, with his child-like appreciation of models (always enjoying being shown something unusual or funny or intriguing - vide Tim's toilet paper dispenser) - and writing about such things from the innocent's viewpoint in the CQ Skegex report. He was unusually self-deprecating and modest ("Oh, I just made it for a bit of fun") yet was instinctively right when it came to models that didn't go together well or work well and would describe the simple changes he made to improve matters.

Michael was, of course, highly educated and articulate. He read PPE (Politics, Philosophy and Economics) at Oxford, having switched from History as he thought it would be more useful but later found it to be completely useless and often derided Oxford philosophy as ridiculous. Before Oxford, Michael did National Service in the Navy; after doing A-level Russian at the Joint Services School for Linguists in Bodmin he was posted to Kiel in Germany where he "Spied on the Russians" (listened to their military radio transmissions) and generally had a good time. He occasionally referred to his past experiences in the Cold War using his knowledge of German and Russian and he enjoyed lapsing into phrases in those languages, for fun, with a mischievous grin and always with the modest look of someone not quite sure if he had remembered it correctly. Michael had also been a journalist and columnist at 'The Times' and 'The Guardian' newspapers.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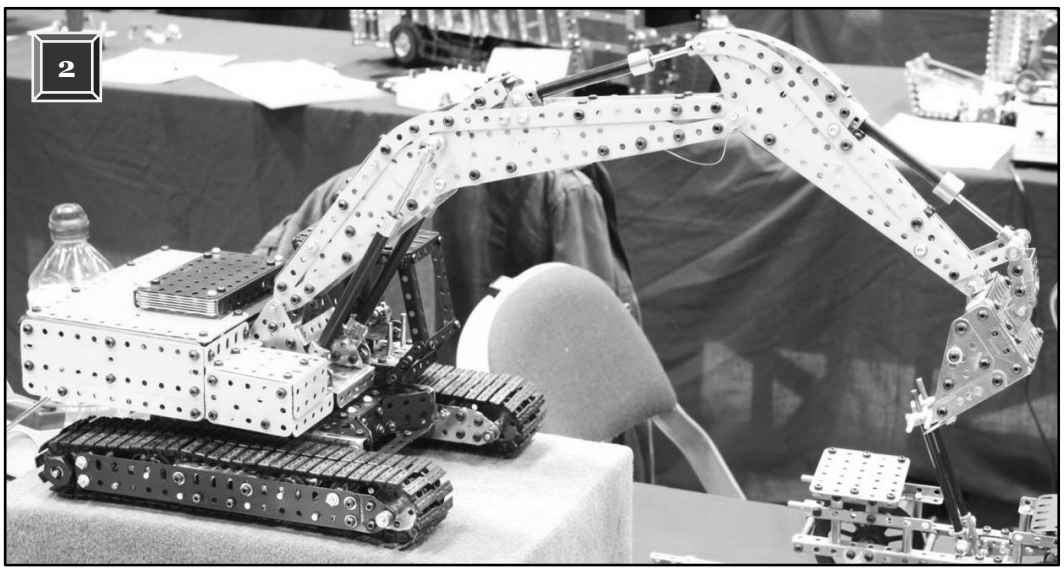
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Arrogance and showing-off were anathema to him. In addition, he was a demon at table football, as Guy Kind

and Frank Weber will attest and was of course a friend of grape and grain. He was in some ways an enigma - the apparently untrained beard, the puzzled look, the Queen's English accent - but then we heard the playful, provocative excursions into his native language and Devonian and Cornish accent. We have lost a unique member of the Meccano fraternity, an accomplished writer and the embodiment of the notion that Meccano is also meant to be fun for children and the curious.

Ken Ratcliff

Back to the show which was one of the best of recent times; events of this nature do have their ups & downs. The empty tables seen last year did not recur and in some areas, models were densely packed. The SMG took its regular space allocation and it filled with John Ozyer-Key (Tatra pipe-carrier), Stephen Pashley (steam excavator), your Ed (reworked Magician etc), Les Megget (small-scale Austin-Healey 3000) and John Stark (also from New Zealand, three clocks). Also representing 'Down Under' were Chris Johnson & Winnie Southcott with a certain large bridge…

Moving to our reporters, the brief was simple enough - select any models which they found to be particularly agreeable irrespective of whether an SMG member, an obvious candidate for the Issigonis Shield or not. We'll start with Les as he had first pick and he headed straight for the bigger, complicated stuff!

1: Les's pick

Months before Skeggie, while at home in New Zealand, I offered to write up a few models for our Editor Rob. I felt I owed him as he promised to provide a power supply for my mini Austin-Healey at Skegness which he did. Rob offered me first choice on the four models to briefly describe so here goes.

Tatra 8x8 pipe carrier
Built by John Ozyer-Key

This was my pick as the best model displayed at SkegEx this year. Enough gears for Africa, all meshing in harmony, all movements prototypical in style as well as speed. A pity you couldn't see the gearboxes, differentials etc powering the eight wheels (see the NZ Meccano Forum) but I did view it moving forwards and backwards across the table, power steering working a treat. I don't want to be critical of the superb Issy Shield-winning Brooklands Garage but that diorama was entirely static whereas John's model did almost everything

1. "There's been an event!" exclaimed an excited **Bob Seaton**, his Mr & Mrs Périer Portly-Robot now being a family- those square corners and Bolt heads must have made her wince. (RM)
2. An unusual splash of yellow by **Stefan Tokarski** was this backhoe excavator built from Michael Adler's Modelplan 222. (RM)
3. It was all go in the ever-popular workshop championed by, left of centre, **Wendy Miller**. Most of those seen here seem to be a little older than the intended age group! (KR)
4. Among the strong MSoS showing was **Douglas Carson** and in the midst of his medley of models was a small-scale Falkirk Wheel. (KR)


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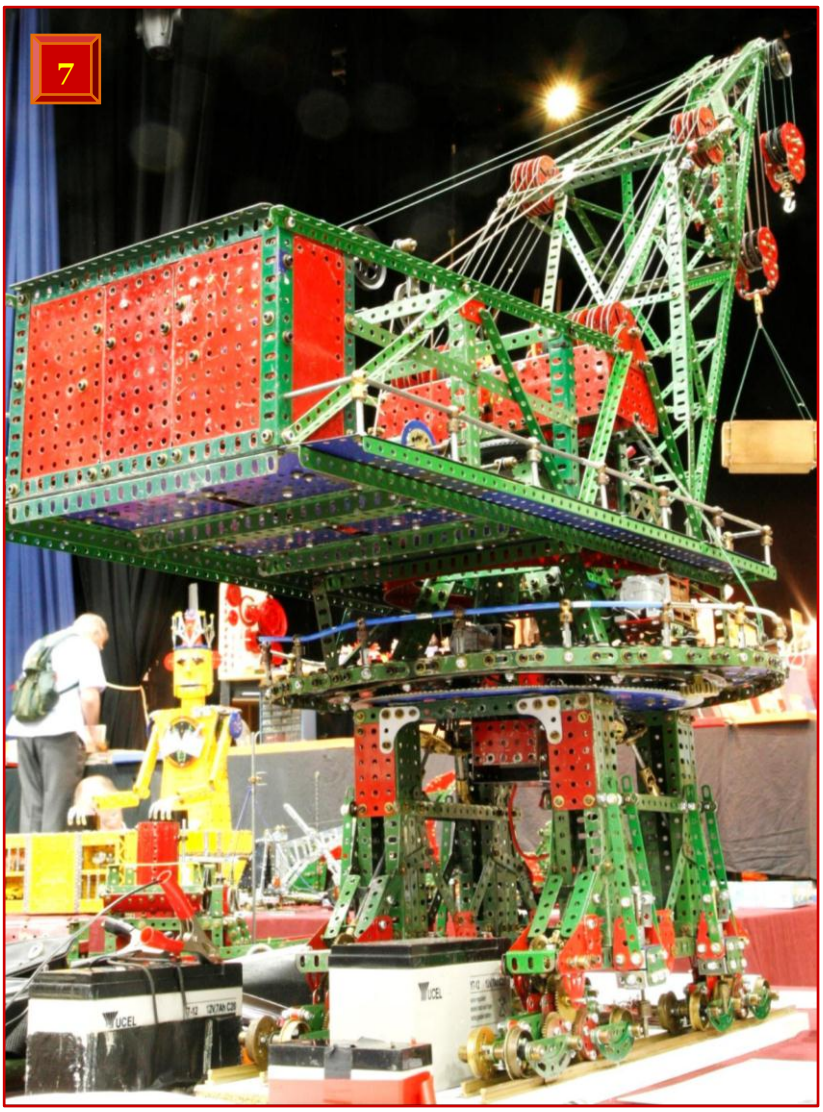
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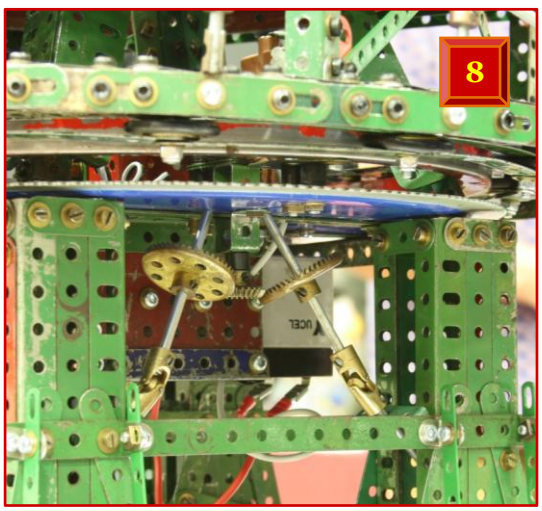
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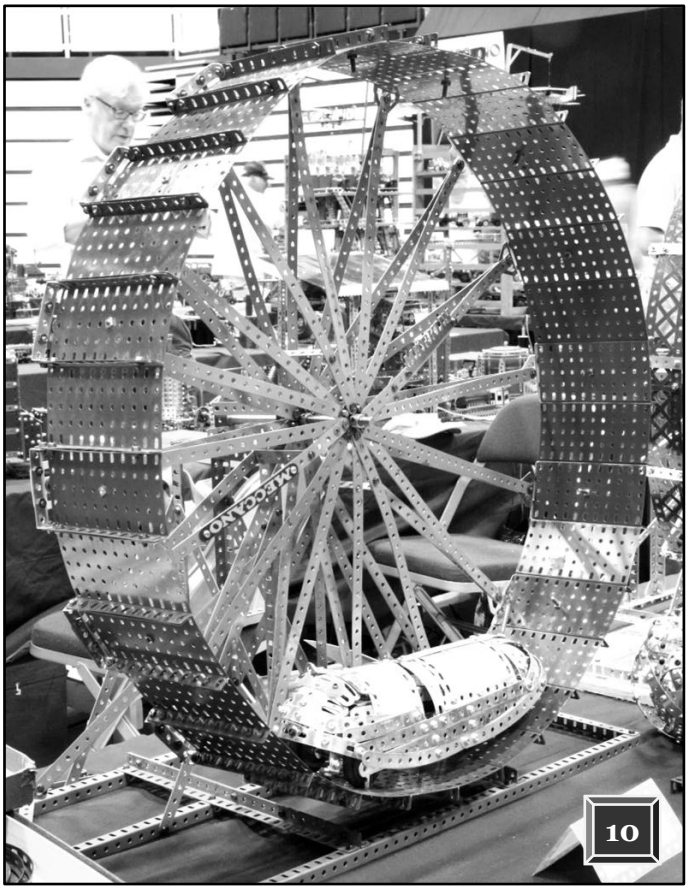
5. Broadside of what must be the finest model ever to be constructed from postwar red & green - **John Ozyer-Key's** Tatra 8x8 pipe carrier having loaded itself. (KR)
6. The Tatra's 'stringdraulic' crane with its electromagnet is a work of Meccano wonder in its own right and "Does it work mister?" is a really, really silly question. (RM)
7. A dramatic ground-level view of **Peter Goddard's** atypical dual-purpose crane shows off an equally atypical parts mix from blue & gold Plates to some 'Tuning' 1½" Flexible Gussets. (KR)
8. *Can only be used together* was Meccano's instruction for the Bevels, an instruction wantonly ignored in the drive train down to the Nagel & Kaemp 60-ton crane's bogies. (RM)
9. **Peter** (right) gives a fellow crane enthusiast a guided tour of his handiwork. (KR)
10. **Georg Eiermann's** Märklin hamster wheel which inspired Stefan's model seen at Laughton in April; the captive rodent could be replaced by a fearless motorised motorcyclist! (KR)



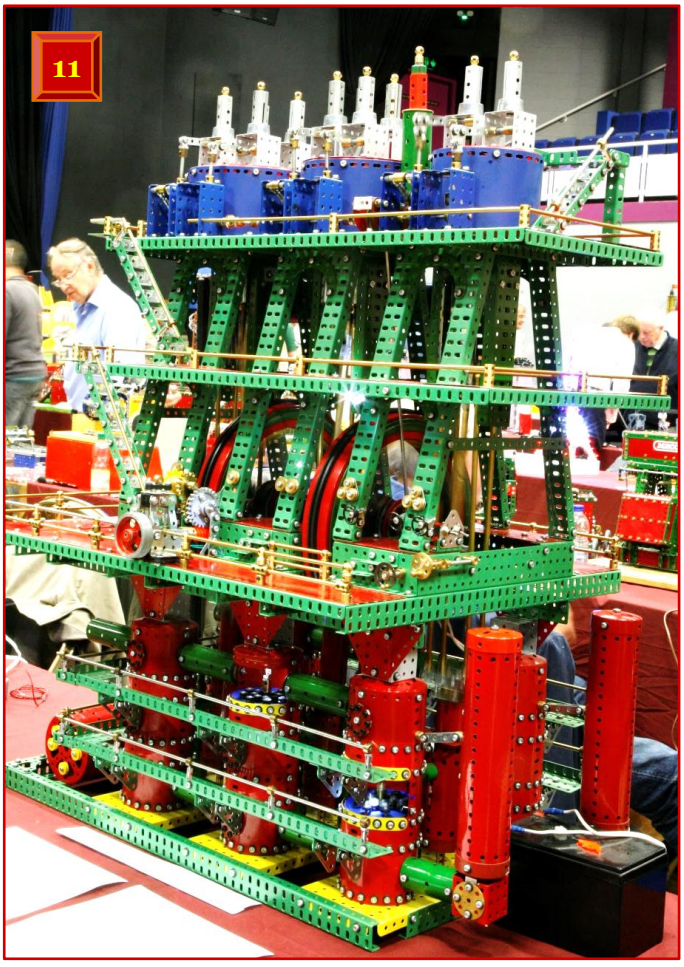
the prototype does. The model was powered by only two motors, one for the four-wheel power steering while the other ran all the crane movements, the six-speed gearbox transmission and the stabilisers. John told me he had a problem with a Grub Screw that fell out of a differential but was impossible to fix without major surgery so he locked that diff by securing the crown wheel to a half-shaft. From what I saw the model behaved flawlessly over the three days. All the crane's boom actions are accomplished with cables running from winches in the crane carrier (truck chassis), not in the crane itself. I doubt if anyone has done that previously? An electromagnet on the end of the boom could pick up a single pipe for final positioning. In all a fantastic scale model and well deserving its second equal placing.

Blocksetting and ship coaling crane
Built by Peter Goddard

This Nagel & Kaemp 60-ton blocksetter was designed firstly as a coaler with three hooks (one or two of which were needed to release the coal bucket, I presume). The model was inspired and researched by the late Bruce Ward and is dedicated to him. The travelling drive is interesting by incorporating diagonal shafts to each tower leg using 50t Contrates driven by a 26t Bevel on two sides of the tower. Universal joints then transmitted the drive downwards to the four pivoted bogies via 3:1 Bevel sets to spur gears driving the twin-flanged wheelsets. Powerdrives ran the hoists while more modern Meccano Motors looked after the slewing and travelling. The crane was up to Peter's usual high standard and he had produced an excellent $^{1}/_{12}$ scale model from very little hard evidence, even though the crane probably still exists at Lourenço Marques, now called Maputo, Mozambique.

Kempton Park pumping engine no. 6
Built by Andy Knox

A three-cylinder, double-acting triple-expansion engine was modelled on the *Sir William Prescott* which was one of two engines used to supply mains water to London from 1926 until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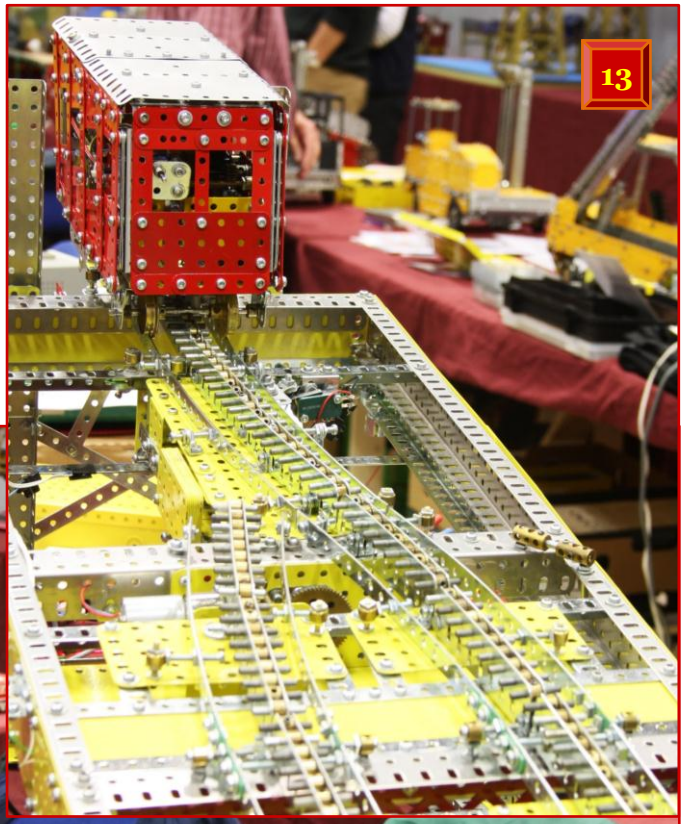
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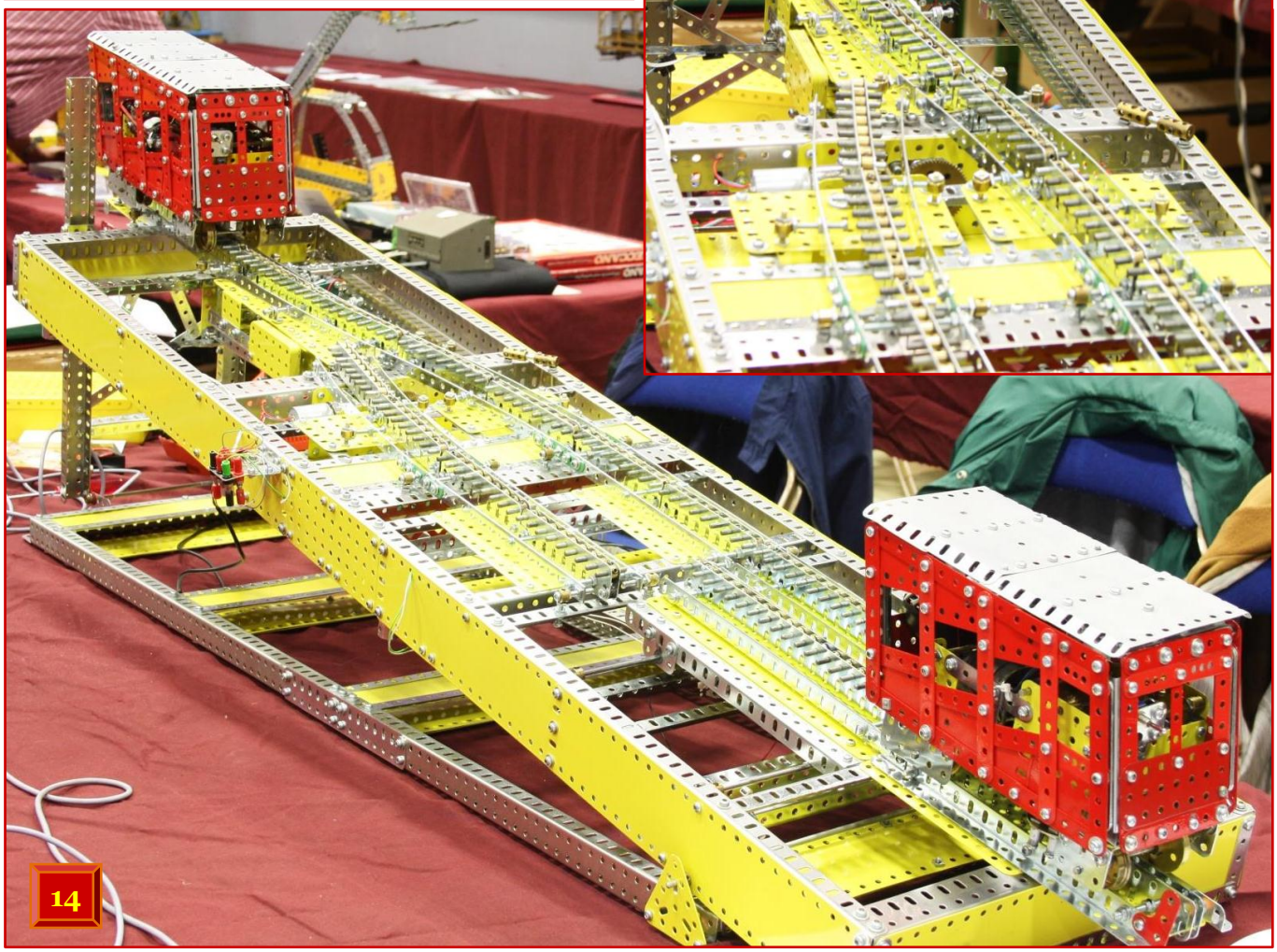
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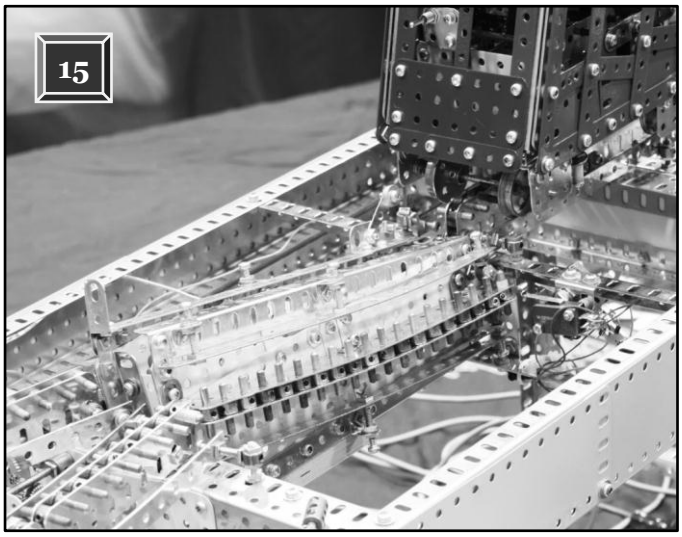
11. **Andy Knox's** multi-system model of a huge steam-driven pumping engine. (KR)
12. Below the engine itself are the actual pumps; plumbing, even for massive flows, is not easy to represent with the myriad of pipes, elbows, flanges, seals, tapered sections… (RM)
13. The summit end of **Guy Kind's** Pilatus Railway with that unique rotary point first seen at CAM's Calais show; space was too limited on the prototype for a traverser. (RM)
14. **Guy's** model in its entirety with two cars and the loop with point at the top and traverser ahead of the lower car. There are more than a few Collars in the central double-sided rack! (RM)
15. That Pilatus point in more or less mid position. (RM)
16. **John Berryman** had been building his way through some models from Meccano's earliest years and the latest was this Model No. 302 Planing Machine for a No. 6 Outfit. (KR)

1980 at a rate of nineteen million gallons (that's 85000 tons!) per day at a pressure of about seven bar, equivalent to a head of 200'. I admit to not knowing much about pumping engines but this model was large, well-proportioned and exuded the feeling of power required to pump such volumes of water continuously for such a long time. When this engine was operating, over 200 tons of machinery were in motion; enough said. Andy had captured the prototype very well with its unusual pumps and motion and I could have stood for many minutes watching it smoothly run. For a full appreciation of his model, see CQ107.



Pilatus rack railway
Built by Guy Kind

As per usual, Guy had produced a 'different' model of a prototype with several very innovative features. The model depicted a portion of the Locher cogwheel railway in Lucerne, Switzerland which employs the world's steepest gradient of 42%. Vertical cogwheels (Bush Wheels with Pivot Bolts carrying plastic Spacers) on each motorised car meshed with horizontal 1" Axle Rods at ½" centres attached by Collars to the central rack made from pairs of Flat Girders. I gather much of the incline is single track but where the two cars pass, a very innovative revolving switch (point or turnout) is employed. The other direction (right, say) was accomplished by turning the point electrically about a horizontal axis by 180° where a curved track aiming in the other direction lined up with the right-hand branch; very neat. Guy also modelled a traverser where one car could be moved transversely from the left-hand branch to the right. The model worked very well and gained Guy a creditable fourth placing.

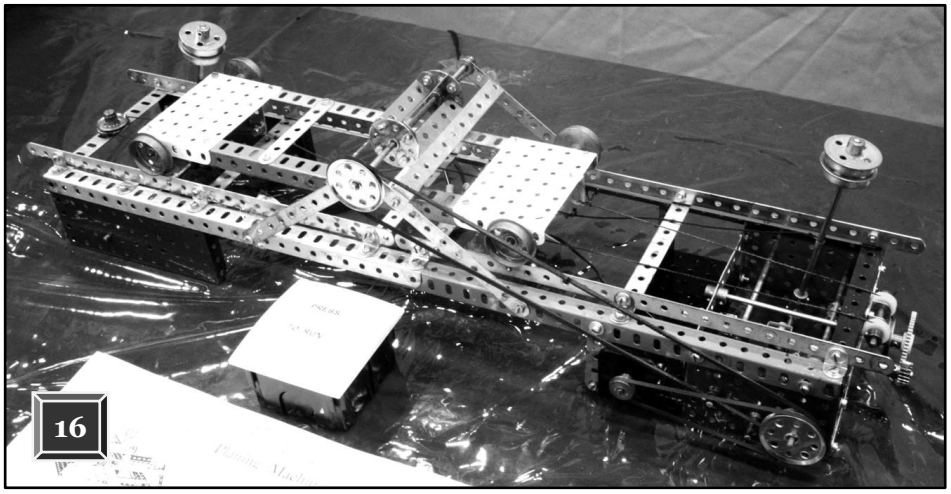
Les Megget

2: Bob's pick

Having got Les's selection, it was a relief that he didn't make a beeline for:

1930s Brooklands garage
Built by Pete Evans

Pete's Brooklands Garage must surely be the most detailed diorama ever! Based on the original Brooklands Garage (but with the advantage of transparent roof sections allowing an overhead view of the interior), this exquisite model contained all of the period equipment one would expect to see. Clearly on view and arranged in a typical workshop manner are work benches with working vices, tyre changing and wheel balancing equipment, a set of rolls, a folding machine, an



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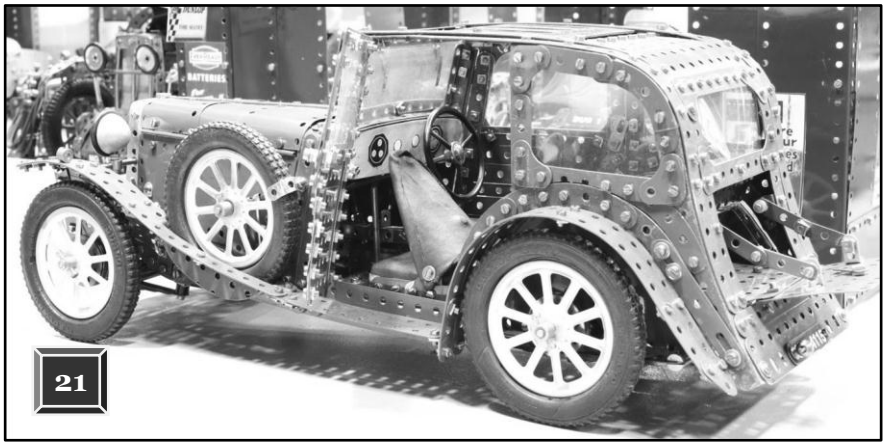
17. **Pete Evans's** Brooklands Garage in all its glory and a nightmare to photograph, such was the attention to well, er, everything from the customers to the tooling. (KR)
18. Ken wormed his lens deep inside where he found, lower left then clockwise, rolls for curving sheet, C-shaped English roller, folding machine for creases and Bob's favourite accoutrements, the oxy-acetylene kit and vice on the bench. Behind it on the ramps is a Bugatti. (KR)
19. **Norman Brown** poses with his Hitachi 50-tonne crawler crane. (RM)
20. The spindly jib contrasts with the machinery, especially when in dark blue & yellow. (RM)
21. **Pete's** 1934 MG L Magna Salonette shows off its tilting seat and opening doors. (RM)
22. Broadside of **Norman's** Hitachi KH180. (RM)
23. This Turret Clock was built by **Roger Thorpe** from a John Wilding design. (RM)

English roller (for creating 3D curved surfaces e.g. wings), a lathe, press, pillar drill, wheeled engine hoist, a set of oxy-acetylene gas bottles, a ramp (with a vehicle on it) and jacks. Externally, period petrol pumps are accurately modelled along with a cabinet containing cans of oil. Several cars were meticulously modelled to scale, even down to a four-seater that has opening doors and tilting front seats! Most of the cars were MG marques (some of which were owned by Pete himself) with a Bugatti on one of the ramps.

Hitachi crawler crane
Built by Norman Brown

Norman's working 50-tonne Hitachi KH180 hydraulic crane was skilfully built and well presented in dark blue & yellow. Good use of Narrow Strips in the jib construction gave it a realistic appearance. All functions were expertly modelled, including the ability to raise the jib to the vertical position to become a pile driver. The crawler tracks were of Norman's own design.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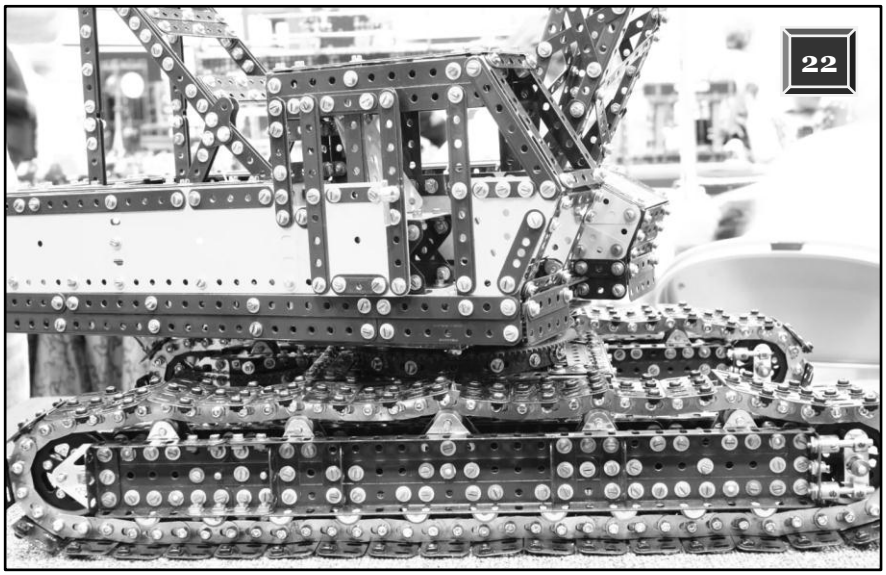
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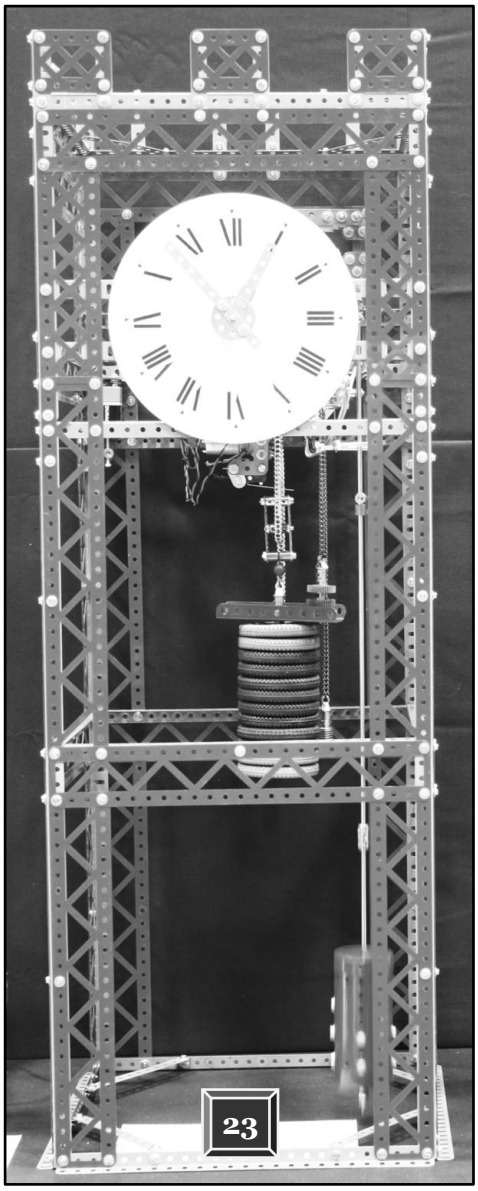
Grange Ironworks overhead crane
Built by Ian Mordue

Ian's thirty-ton workshop overhead travelling crane was accurately modelled on the original now kept at the Beamish open-air museum. The principal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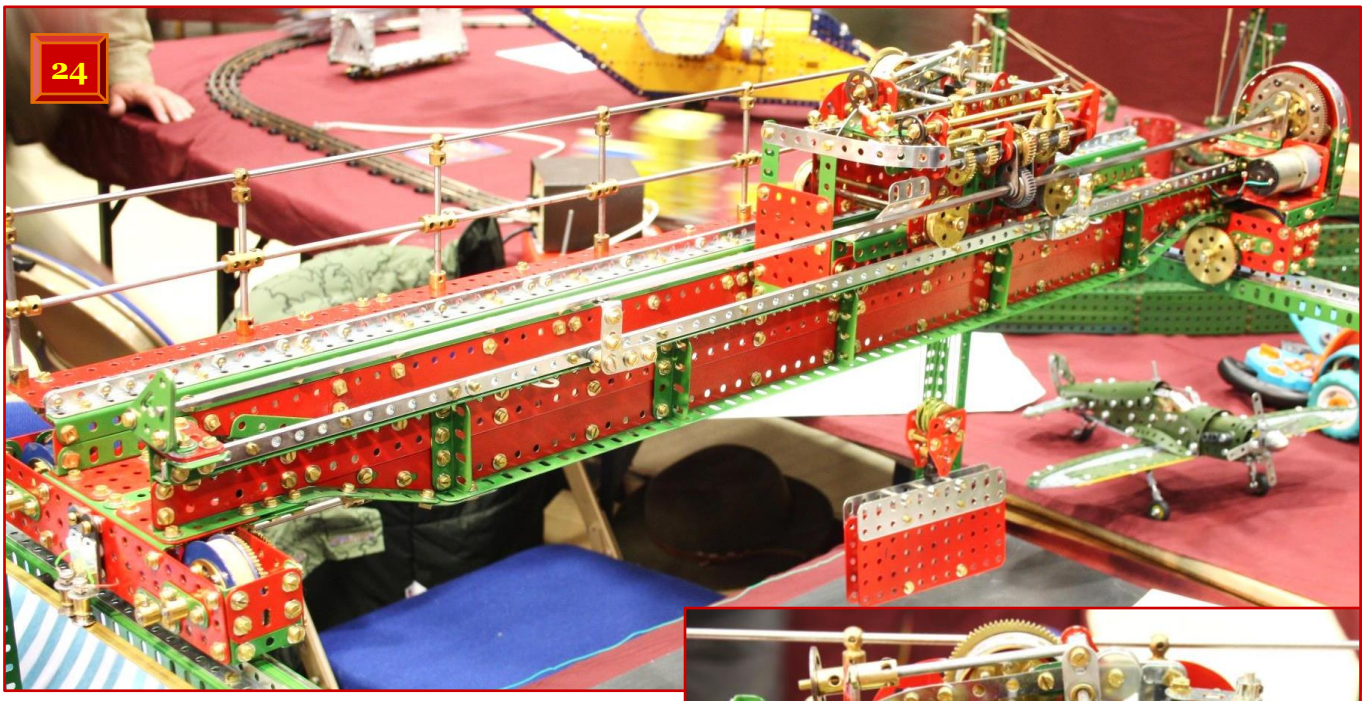
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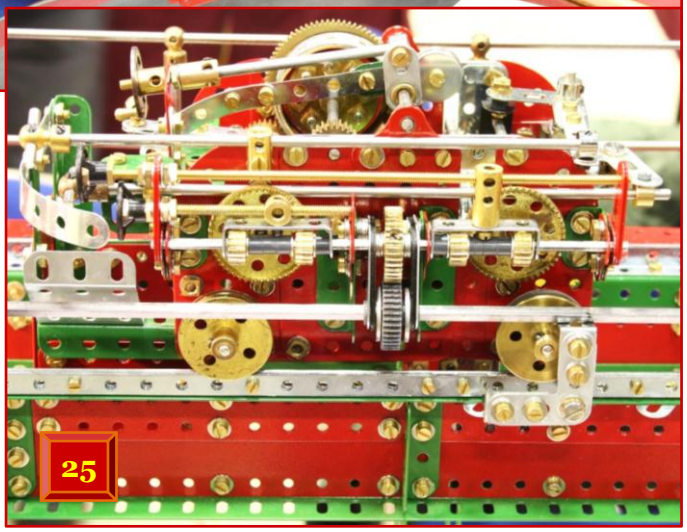
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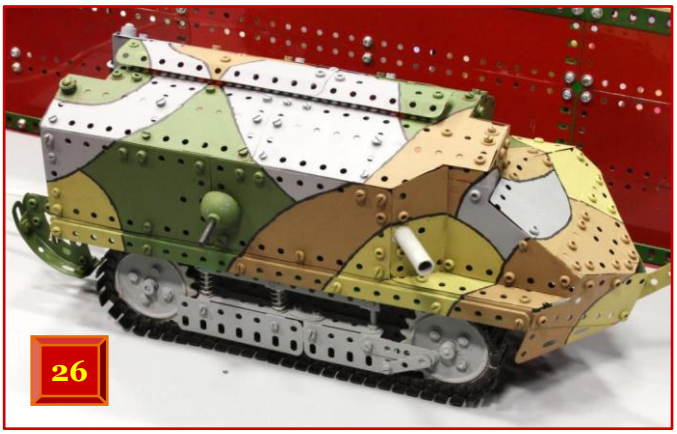
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24. Although driven by a single electric motor, the mechanical layout of the 1830s Grange Ironworks crane as modelled by **Ian Mordue** owed much to steam-era engineering. (RM)

25. One side of the crab, the square shaft transmitting the drive to the three motions by sliding gears then further gears and clutches, all manipulated by the driver perched on a platform to the left. The L-shaped lever supports the square shaft and flips over as the crab passes. (RM)

26. Skegex 2016 coincided with the centenary of the notoriously bloody Battle of the Somme and when this *SMGJ* arrives, with the first use at the same conflict of the tank. **Dave Hobson** had built seven from various makers and considering he's an 'other systems' enthusiast, he used loads of Meccano. Bin-ready parts were used throughout and when suitably repainted, made some good-looking models like this French Schneider CA1 Heavy Tank. (RM)

27. Mark Rolston's work was based on a Joe Attard model originally featured in CQ76. (RM)

28. There were two Grange Ironworks cranes at Skegex; **Andy Knox** (left) shows his MSoS pal **Alan Blair** some of his model's inner intricacies. (KR)

29. Part of **Colin Bull's** massive Laxey Wheel which gave John's Tatra a run for its money. (RM)

functions of traverse (longitudinal, transverse) and hoist were represented, the highlight being a square shaft (as per the original) with sliding gears which allowed the use of a single motor for all the functions. Principally modelled in red & green with some zinc parts, this well-engineered model was ably demonstrated by Ian on request.

Ten-wheel American tractor
Built by Mark Rolston

Mark's Peterbilt ten-wheeler logging truck was worthy of a further outing and a particular favourite. The model was finely detailed and utilised the unusual combination of green Strips and Girders with yellow Plates (which actually worked very well), trimmed with zinc parts for the front bumper and radiator surround.

Bob Seaton

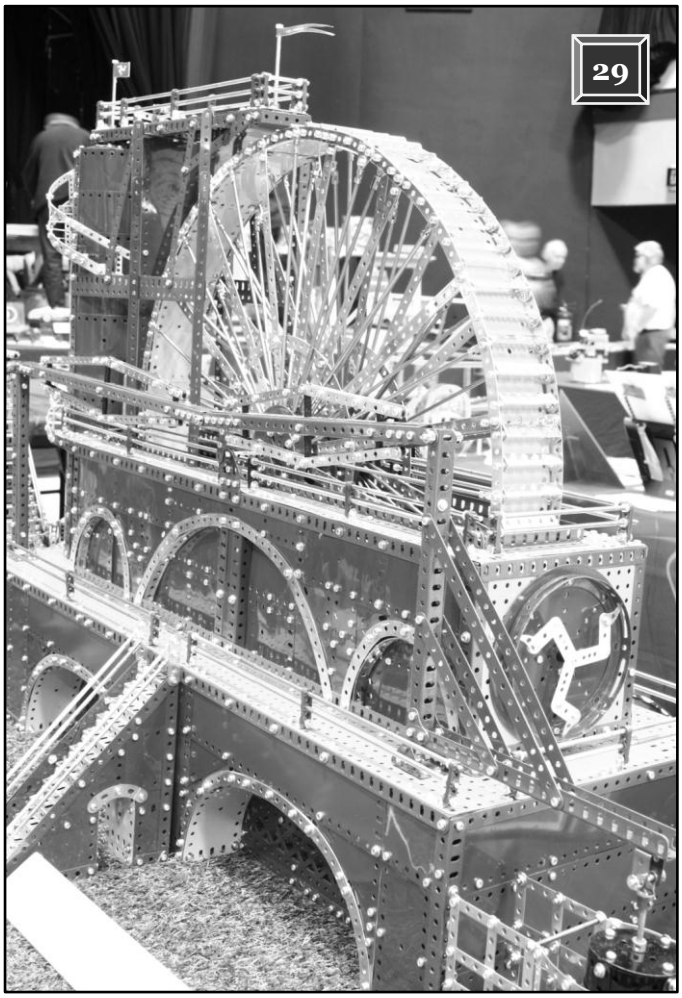
3: Rob's pick

One model that really caught my eye and many, many others too was Les's Austin-Healey but as it is featured on and in this edition (front cover, page 10 onward) then I had better move on but not without mentioning that Les's masterpiece landed him with eighth place in the top ten.

28

Six-axis industrial robot
Built by Stuart Weightman

Stuart's precision machine took one of the two top honours at Calais then fell outside the first five at Skegness (it was seventh) which may explain the different slant to Meccano from either side of the Channel. For the benefit of those who were terrified by all the wires, they were purely to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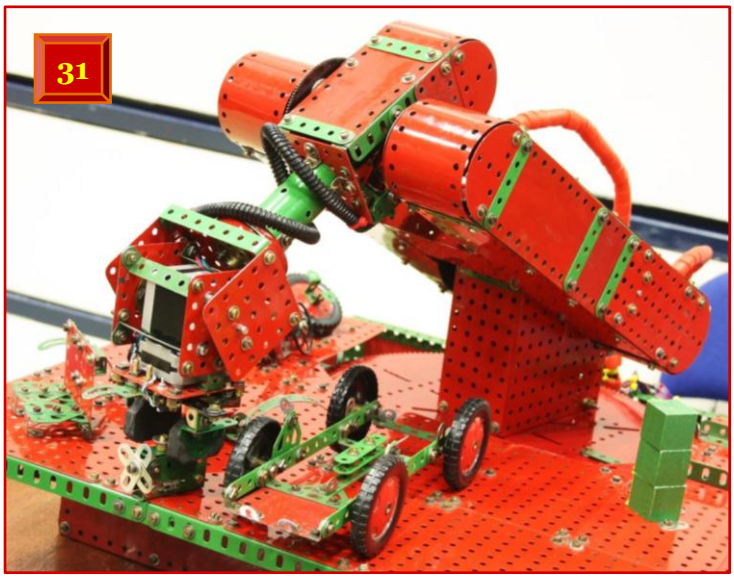
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33
MECCANO


34

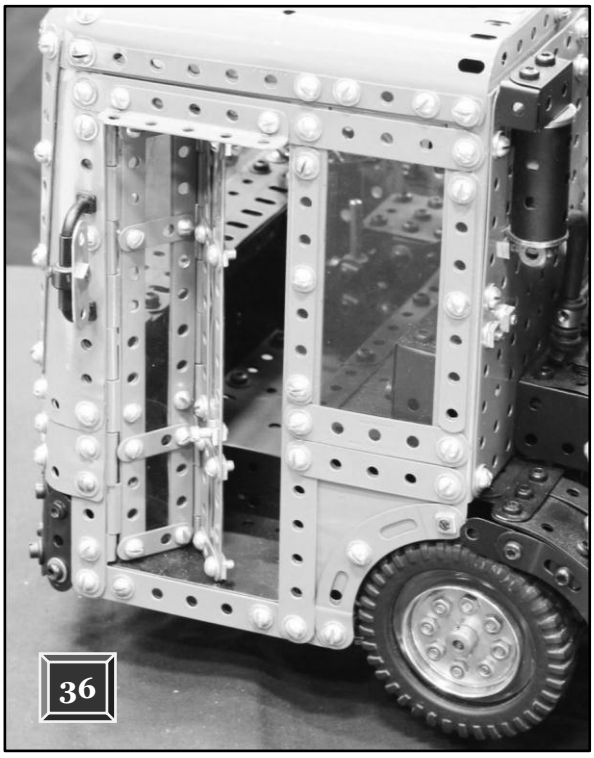

35

30. Here's S**tuart Weightman** with a Meccano robot capable of knocking the Spin Master things into a cocked hat! Its radius of destruction is almost complete with car parts strewn around and the chassis about to be placed. The two piles of blocks on the right would be stacked then whirled around without toppling, their lettering spelling 'Meccano'. (RM)
31. Now to reverse demolition, the engine about to be grasped and positioned on the chassis. (RM)
32. Bristol M1 fighter monoplane complete with cartoon pilot/gunner by **Richard Smith**. (KR)
33. Nick Rodgers with his wheelie good rubbish model! (RM)
34. Powered bin lifters are driven by geared motors stashed on each side of the rear. (RM)
35. Bin there, done that; the compacted contents are discharged by opening the rear door. Note the pivots on top, each made from a pair of folded Flat Trunnions. (RM)
36. Cab nearside with folding door and low floor to suit rapid and repeated entry & exit. (RM)

connect the stepper motors (each had a rotational precision of 0.007°) to the necessary controls so where a plainer Meccano model has two wires per DC motor, this had lots - the rest of Stuart's work was no more petrifying than 100% red & green proper Meccano. Mass is the curse of constructions like this, Stuart combating the perilous physics with lots of spring assistance, counterweights and careful positioning of the heavy steppers. The end result went about its pre-programmed balletic business to dismantle a Meccano open-top car, placing each module in its own spot before reassembling elsewhere on the stand. Your writer asserts that it deserved better than seventh place!

Modern refuse collection lorry
Built by Nick Rodgers

What first summoned your reporter were the neatly-done inclined ribs on the sides as when angles are other than 60° or 90°, Meccano geometry soon becomes messy. Further inspection showed it had been done with loads of the common 2½" x 1½" Triangular Flexible Plates and how much more complex and mechanised domestic refuse collection had become since muscle-bound binmen with a cart yielded to diesel and hydraulics. Nick's model was complete with two wheelie bins on powered lifters at the rear, simulated hydraulics to open the back for discharge (I'll not mention that it didn't behave as well as Nick intended…) and the moving ram inside the chamber to compress the accumulated contents then push them out when at the tip or, more likely these days, the waste-to-power plant. The tilt-forward cab was mounted on a low-profile Mercedes HGV chassis and had a bi-fold door on the nearside, the latter two features to assist the crew with lots of in-out associated with the bin run. Nick was keen to point out that the only parts to meet with tinsnips were some tightly-curled Flexible Plates in the cab edges and corners. All the usual Rodgers refinements were present - gearbox, seats etc and all in shiny restored parts to boot. Waste not, want not, eh? Pun intended… Nick's work wasn't wasted, it gaining sixth place.



Partwork crane and Liebherr excavator
Built by Michel Bréal

Everybody will be familiar with the 'magazines' that spring up in early January at a bargain price and, when most subscribers are committed, undergo a steep rise. Succeeding editions have a few extras to add to your collection whether it be miniature battleships, stickers, thimbles or in this case, a yellow Pinyon-esque blocksetting crane. Michel first showed the prototype at Calais; he was involved in a redesign to replace parts no longer made (24½" Angle Girders) and increased reliance on current parts (mainly plastic of course). Although Spin Master's involvement seems little more than probably giving permission to have the parts made and use the name, it certainly makes a change for a proficient enthusiast to have been involved at such an early stage! The thing caused quite an e-kerfuffle from some self-appointed partwork experts and armchair pundits; parts not fitting an A4 paper size, provenance, take-up at the start, fraction seeing it out to the end, choice of model and colour, watching out for those of the 100+ editions with expensive parts like Bevels (could be die-cast?), the main bearing plates, motor and so on.


37
LIEBHERR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LIEBHERR


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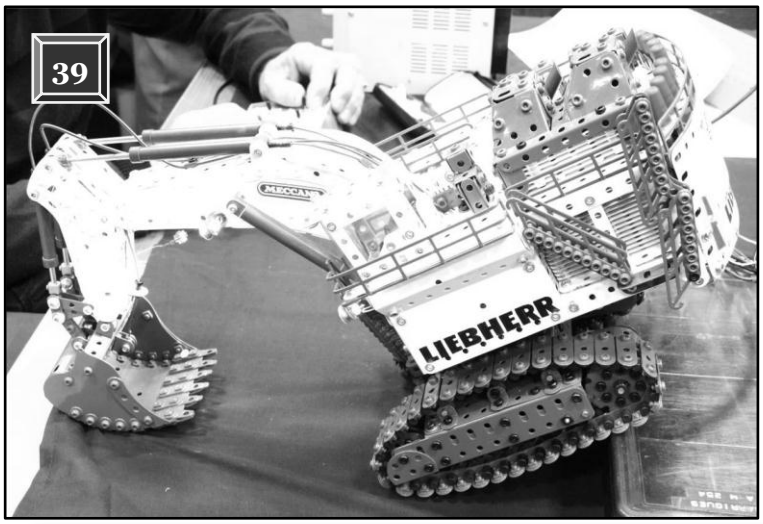
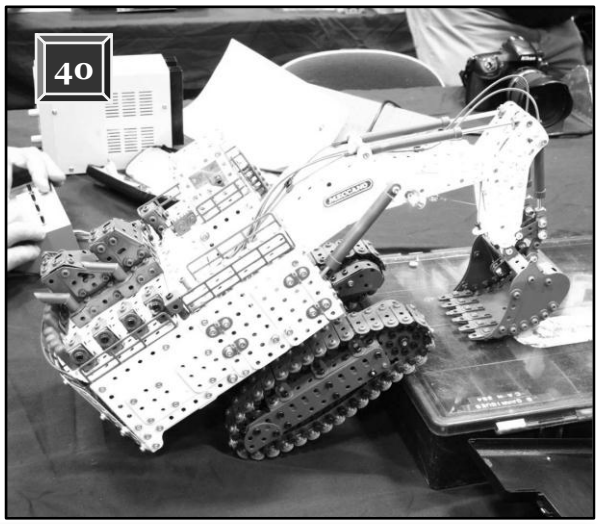


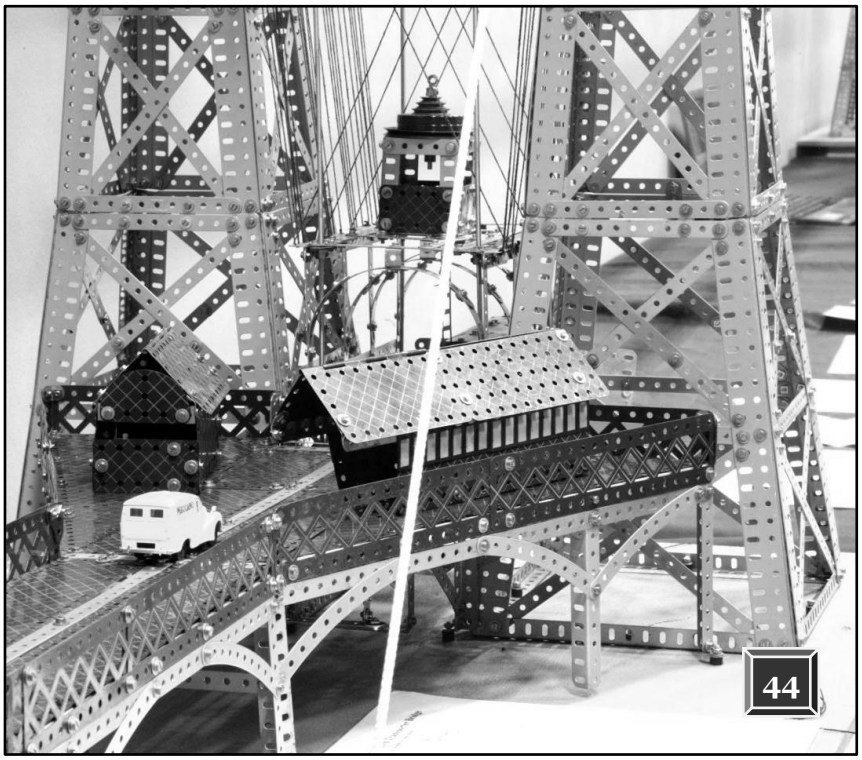


37. With his model poised on a box, **Michel Bréal** is primed to begin the H&S-flouting trick. (RM)
38. The Liebherr trundles to the edge, lowers the bucket so it takes the weight then trundles a little more; without the bucket in place, this would be a disaster! (RM)
39. Gingerly raising the bucket arm allows the leading sprockets to gently lower so the whole tracked base eventually settles on the lower surface. (RM)
40. Now rotated through 180°, the bucket again takes the strain as the trailing sprockets leave the edge and are then lowered to the lower level. Climbing back on is the reverse process. (RM)
41. Fancy one of these? With **Michel's** involvement, you know it's going to work. (KR)
42. The Widnes-Runcorn transporter bridge model was so big it defied most attempts to capture its entire 22' in one picture although this one does give a sense of scale. Nobody was brave enough to instruct **Chris Johnson** and **Winnie Southcott** in the delights of small models... (RM)
43. Another scale-setter is the suspended carriage. RM)
44. One of the boarding sections; a tower base at the far end contained the carriage drive. (KR)

Michel also showed his tiny - by Meccano standards - model of a Liebherr excavator. Fully motorised, he put it through a stunt sequence whereby it clambered off a box, turned through 180° then clambered back on with minimal effort. The massive real thing will be capable of the same exploit and it would be a real hair-raiser even for a bald driver!

Widnes-Runcorn transporter bridge
Built by Chris Johnson *et al*

At 22' (6.70m) long with a 15' 6" (4.72m) span and proportionately wide and high, the colossal construction of the now-gone transporter bridge that connected Widnes to Runcorn over the River Mersey and Manchester Ship Canal was either the Chief Steward's dream at taking up tons of space in a spectacular manner or his nightmare for the same reason! Chris was in the Sydney-based team of eleven MMA members (Dave Thom, Ivon Rock, Keith Burston, Lee Squires, Malcolm Booker, Max Crago, Michel Holland, Murray Tulett, Tom Hughes and Warwick Lewis) who built it from a mix of original and reproduction blue & gold. Yes, that's correct - this 1:50 scale monster model was built in Sydney, Australia then sent to the UK by ship in kit form. Your reporter arrived at Skegex on Thursday



Skegex 2016: the top five places

5th: **Maxim Tsoy** (left) and **Wilbert Swinkels** (right) and their combined efforts of 'Rubik's Shrine'. Fed with an easy-running cube, the machine worked like greased lightning. (RM)

4th: Pilatus rack railway with its smiling constructor, **Guy Kind**. (RM)

2nd & 3rd: **Colin Bull** lurks behind his massive model of the 'Lady Isabella' waterwheel. (KR)

2nd & 3rd: **John Ozyer-Key** matched Colin's vote count with his Tatra 8x8 pipe carrier. (RM)

1st: Due to sad and now well-known circumstances which meant **Pete Evans** had to head for home, his pals Neil Bedford and Richard Smith accepted the Issigonis Shield on his behalf for the fabulous and supremely-equipped 1930s Brooklands Garage. (KR)

Bottom right: with presenter Chris Johnson on the far left, this year's prize-winners line up for the annual grand picture. (KR)

afternoon to find assembly was under way; by the same time on Friday, it appeared complete. Whether Chris has more than his allocation of loose screws or has shown inordinate dedication for the entire feat is open to debate but it is likely to be the latter theory! Although Chris & Winnie were among the last out of the Embassy (and with ninth place in the voting to boot), conversion back to a multiple-box kit was a shorter affair and was set for storage in the UK while they headed back for home. Its next outing is planned to be at CAM's exposition at Garges-lès-Gonesse in May 2017.

Rob Mitchell

With votes counted, Chief Steward Geoff Brown announced the top five places and Chris Johnson presented the prizes which were:

Fifth: **Wilbert Swinkels'** and **Maxim Tsoy's** stylish Rubik's Shrine.

Fourth: Pilatus rack railway from **Guy Kind**.

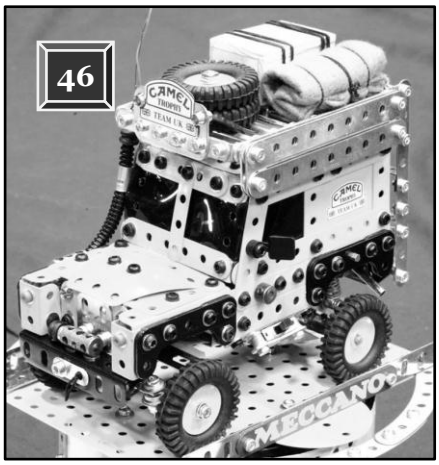
Third and Second: **John Ozyer-Key's** Tatra 8x8 and **Colin Bull's** huge Laxey Wheel.

First and the Issigonis Shield for 2016: the 1930s Brooklands Garage by **Pete Evans**. It was reported that he had managed to treble the points for second & third and probably had the highest score at any Skegex.

All are pictured opposite. A draw for second and third must be the only time this has happened at Skegex! John and Colin were later spotted equally dividing the prize money but not the 3rd and 2nd certificates which were trickier to split. Could one suggest some sort of timeshare arrangement…?

An unwelcome thought is that the ticket-buying public were somewhat thin on the ground despite good weather i.e. warmth to get folk to the coast then rain showers to flood their chips and send them to indoor attractions. Whatever the reason(s), it must put in doubt the future viability of Skegex. Until then, look on the bright side and let us prepare for Skegex 2017!

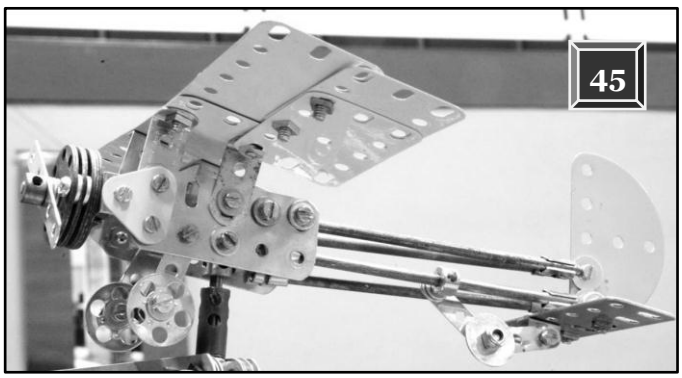
RM

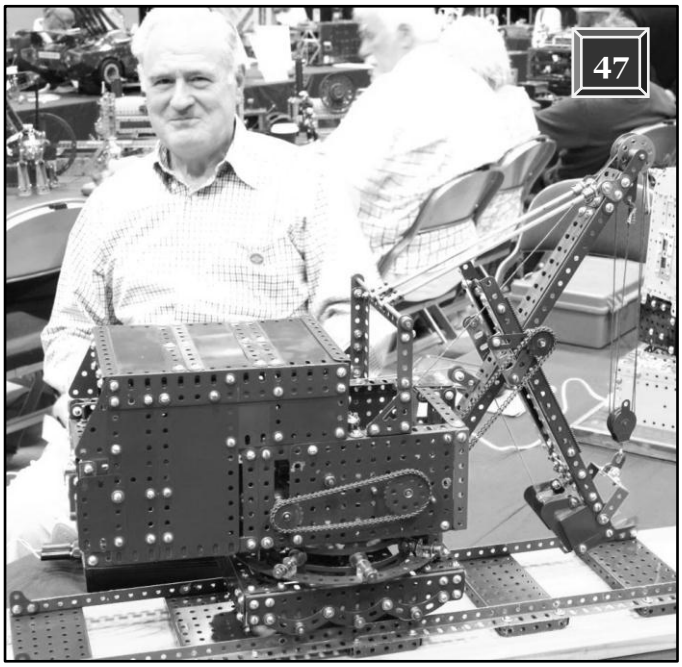


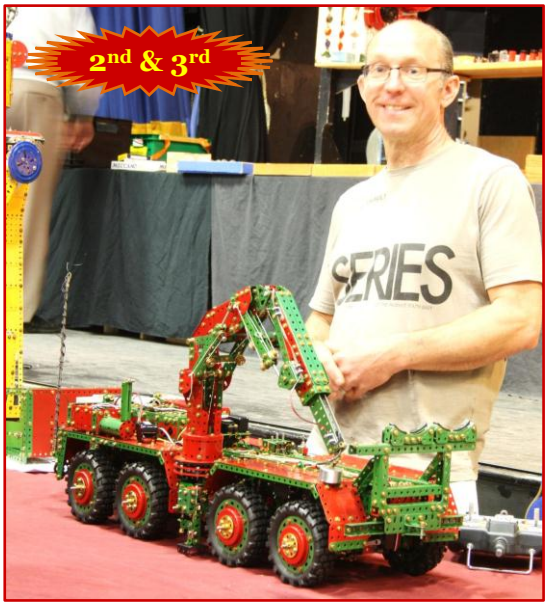
45. Bleriot aeroplane by **John Evans**. (KR)

46. A small-scale 'Camel Trophy' Land Rover on its plinth from **Neil Bedford**. (KR)

47. Two prewar Supermodels for the price of one by **Ken McDonald**! (RM)



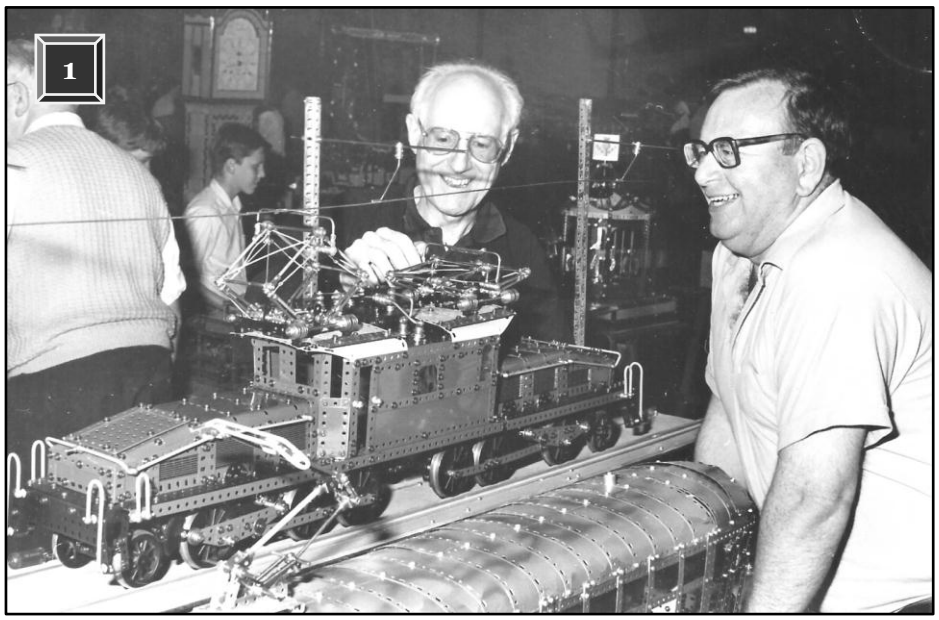




Skegex 2016: the winners!

Pictures from a Late 1980s Skegex

By a stroke of good luck, the SMG has taken possession of some black & white pictures from Skegex taken by a photographer working for the *Skegness Standard* which is still going. Dating them isn't easy although their envelope is postmarked September 1988 so they are likely to be no later than that year's Skegex which was the seventh. Those reproduced here, the best of the ten prints, do not deliberately omit a toe-curling picture of your twenty-something Ed as he does not appear on any, 'onest. Your writer first attended in 1989 due to a clash with a local all-weekend, now defunct show. Nevertheless, your Editor may have to find a new hiding place away from some of those fine folk pictured here and it is unfortunate that time has taken many of them from our midst. Our photographer seemed more interested in recording the Saturday evening get-together at Mike & Marion Cotterill's home before it outgrew their capacious place and moved to the Imperial Café then The Vine.



1. We start in the Festival Pavilion where Mike Cotterill is pictured admiring a 'crocodile' electric locomotive built by the late Rolando Piazolli. The grandfather clock lurking in the background must be Brian Harper's work.

2. Left to right in front of the Cotterill's giant noticeboard are Harry Mariën from Belgium, the ISM's John Westwood, Meccano trader & TIMS founder John Linder (died 2007) and Roger Burton.

3. In the kitchen we find the inimitable Pat Briggs, Cathy & Brian Harper (all three of them

haven't changed a bit!), Paul Joachim (died 2011), Geoff Brown and Nick Rudoe, a talented builder who later abandoned Meccano. Could those glasses of 'falling-down water' be blamed for the array of grins and Geoff having a quick snigger? Little did he know that in a few years, he would be taking over the Skegex reins...

4. The names of these two Meccanomen are lost although they did take a keen interest in Mike's Hornby Dublo empire.

5. The Cotterill's hallway becomes standing room only so it's no wonder the soiree had to move somewhere larger! Left to right are an unknown chap, from the hair and glasses it's Rod Rich (died 1996), Mike & Olwen Hooper and Peter Kessler (from Switzerland, died 2011).

6. A distracted Sally Etheridge with Joe, *CQ*'s Robin Johnson and Mike Cotterill who looks rightly satisfied with either how his Meccano extravaganza is working out or because the paper plates mean the post-buffet clear-up would be a doddle.

7. It is believed that none of this quartet is still with us. From the left we have NEMS founder Frank Beadle (died 2002) with his trademark pipe, the MGN's own pipe enthusiast Maurice Sijnja (?) with Henk Elema (died 1993) and possibly Richard Greenwood who died in the 1990s.

If you can fill in any of the missing names or have any corrections, please let the Ed know, page 2. *RM*

Meccano Article in Frankfurter Allgemeine Zeitung

Written by Peter Thomas, printed in *FAZ* on 6th August 2016
Translation from German and pictures by Ken Ratcliff

Among the metal constructor set modellers

Invented over 100 years ago as an educational system for children, metal construction sets have been meanwhile seized upon by men with an average age exceeding forty.

What are the nuts and bolts that hold the world together? As far as the international community of Meccano contructors is concerned, the answer is clear: bolts with $^{5}/_{32}$" Whitworth thread and slotted boltheads. However, where needs must, similar bolts but with hexagonal recess heads are acceptable. This apparently exotic and curious standard was chosen by Frank Hornby, the inventor of the metal construction set, at the turn of the 20th century, for his revolutionary system Mechanics Made Easy, the characteristic components being perforated strips with holes at a standard half-inch spacing. The rest is history, for Mechanics Made Easy soon acquired the more attractive name Meccano - up to now, the most important name in the international hobby.

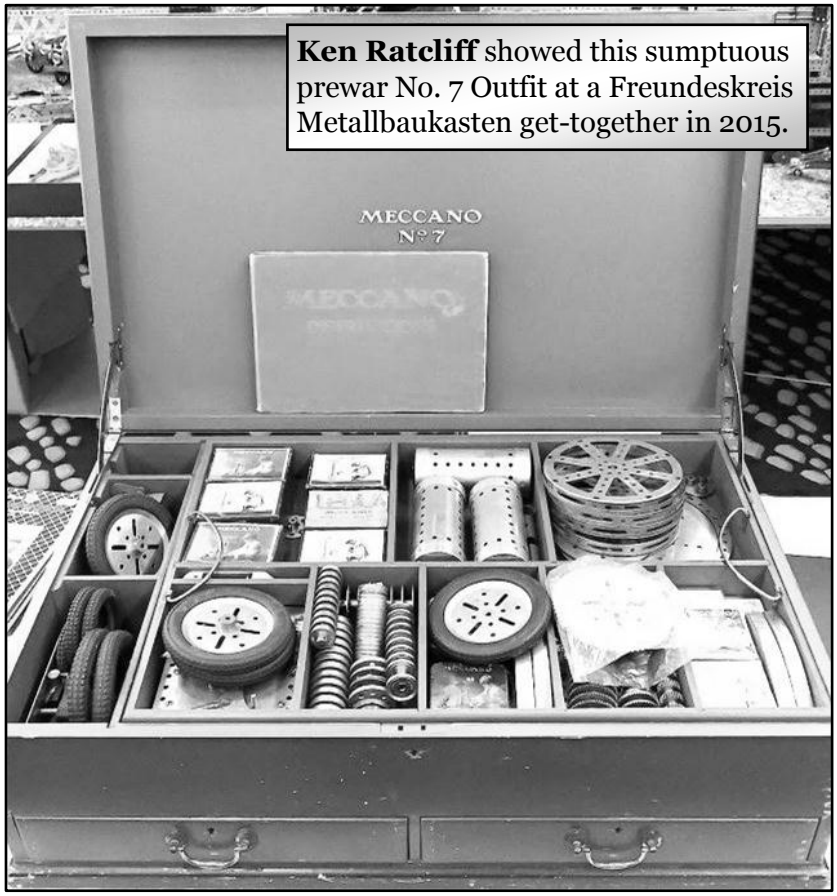
The other major standard is the 10 mm system, with Eitech (Germany) and Merkur (Czech Republic) the largest examples. Large is literally the case, at least when it comes to Andy Drabek, the 43-year old constructor, who has built the Messerschmitt Bf109 fighter plane at a scale of 1:5. The model took seven years and 100,000 bolts (M4, in this case) to build, and is about to become a long-term loan exhibit at the museum in Altenburg-Nobitz, but prior to that it will be on show in Münster from 30th September to 3rd October, for that is where the metal construction kit modellers from Germany and neighbouring countries are getting together, bringing cranes, locomotives, ball-rolling machines and no doubt much more besides.

More than a hundred years old, and full of life

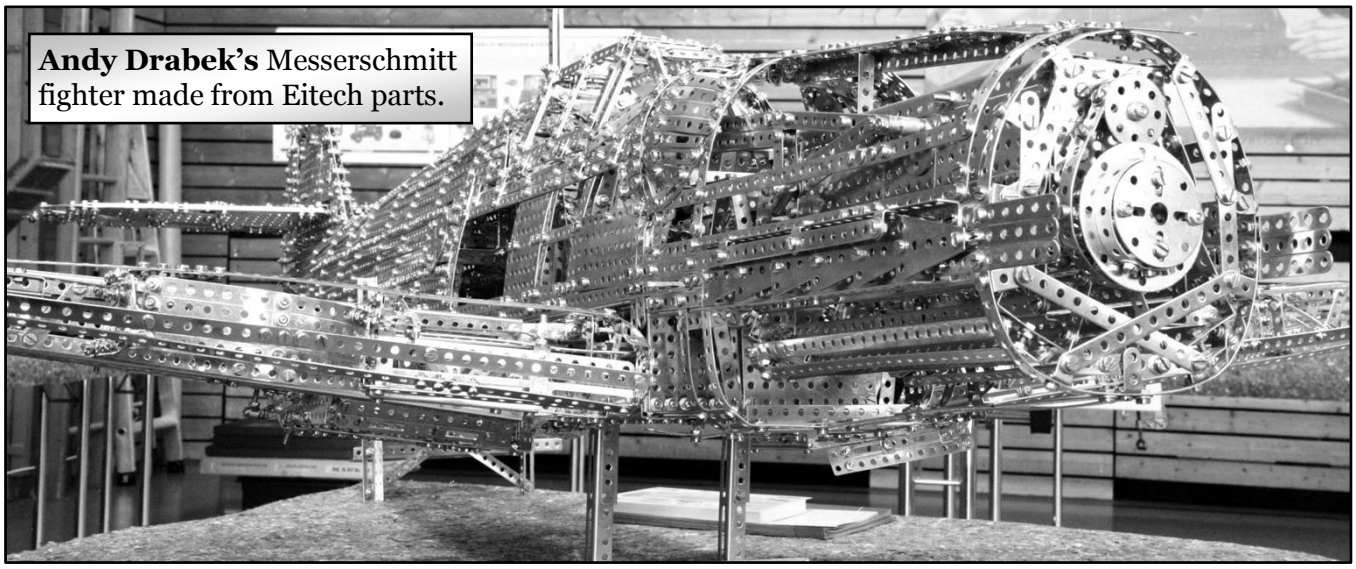
The major meetings and exhibitions are the very embodiment of the hobby's vitality. In Calais, in May, the Club des Amis du Meccano had its annual get-together. Next year it takes place in Garges-lès-Gonesse. Just a few weeks ago the world's most important meeting took place, an annual event in the English seaside resort of Skegness. In Britain the Meccano culture is, now as never before, widespread and thriving - almost every weekend sees a club or guild meeting somewhere or other. In and around London alone, there are six active Meccano guilds. In the industrial heart of Britain, the Meccano system itself, more than a hundred years ago, became an instrument of education. With this modular toy, 'Meccano Boys' with a technical bent could acquire a deep understanding of the stresses in bridges, the functions of cranes, of locomotives, looms, motor car transmissions, and many other structures.

The correspondence with engineering practice is not denied by today's models - bolting perforated steel parts together, for example, is clearly reminiscent of joining parts by means of rivets. Each Meccano nut and bolt embodies thus the late Victorian ideas of the mechanical. The aesthetic in models of modern vehicles - even though these as prototypes have been welded for a long time - is hardly damaged by that fact.

The community of Meccano-et-al modellers encourages a definite openness regarding the



Ken Ratcliff showed this sumptuous prewar No. 7 Outfit at a Freundeskreis Metallbaukasten get-together in 2015.



Andy Drabek's Messerschmitt fighter made from Eitech parts.

authenticity of models. On the one hand you may see a preoccupation with the tiniest details in the reproduction of an actual machine, and on the other, models inspired simply by playfulness, such as ball-rolling contraptions which have no prototype and arise from the sheer joy in mechanics. Another type of model is the mechanical demonstration, where the aim is not to make a scale model, but to demonstrate and make understandable gear trains, transmissions, control systems and other mechanisms.

Anyone who goes to a Meccano-type exhibition cannot help but be astonished by the structures on view, from outfits made by a multiplicity of manufacturers. When the original British Meccano company folded in 1979, the French subsidiary continued the business, and now Meccano is part of the Canadian Spin Master Corporation. Alongside Meccano, construction outfits are currently produced by Eitech, Tronico and Merkur, among others. Conforming to the Meccano standard with half-inch (12.7 mm) hole spacing, are the Swiss Stokys system and the Mechanix parts made in India. There is a strong market for historical parts, and so, even though many great manufacturers of the past are no longer in the business, old, historical and second-hand parts are available. In Germany this applies mainly to the Märklin, Trix and Stabil systems, but also includes Mekanik, Mignon and Staba, as well as other manufacturers.

Meccano Men vs Meccano Boys

Who are these people who withdraw into their workshops with their perforated strips, brass gears, driving belts and masses of nuts and bolts? Who are these people who become builders of miniature bridges and machines, even to the point of using vices, lathes and strip rollers? They are, above all, men aged 40 and above, who dedicate themselves to this hobby, for even the digital revolution hasn't dimmed the glory days of the metal construction outfit.

The Meccano Boys have thus grown to adulthood, yet their curiosity is as fresh as ever. This is not limited to those who have developed their technical interest as professional engineers. The world of spanners includes doctors, professors of Latin, churchmen of various denominations, labourers, and economists. Witness to their international network are the websites of the New Zealand Meccano Forum, and the International Society of Meccanomen, and others.

Joining with the digitisation of playthings

The loveliest moment in the creation process using metal and brass is when, after much planning, after many cycles of building and dismantling, the mechanism runs with silky smoothness, or the crane works perfectly. At that point the evening-long struggles with the annoying perversities and frustrations of the system finally mean a sweet success.

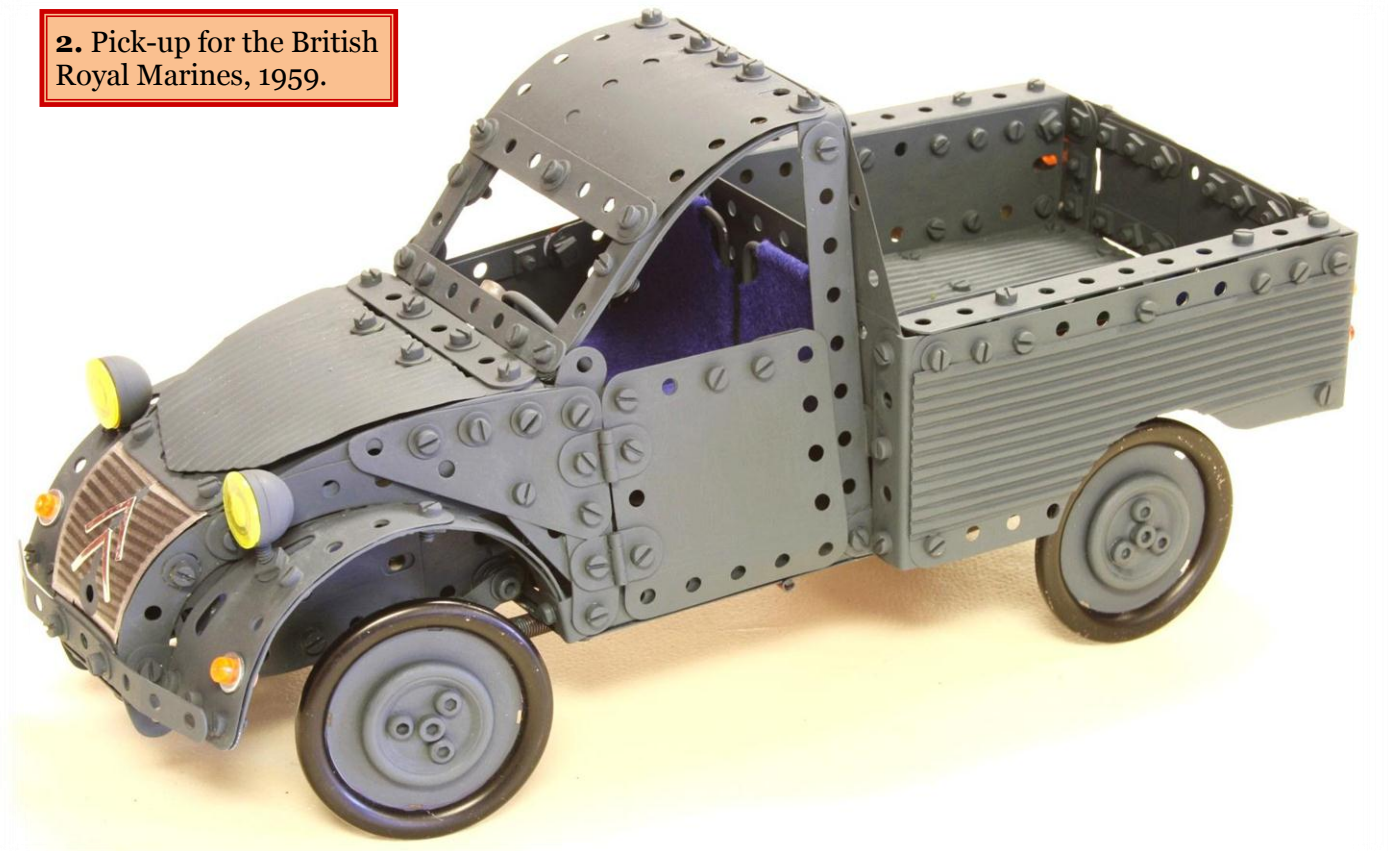
Ideally, modellers limit themselves to the parts available in their chosen system. Many constructors however do not adhere to this orthodoxy. In particular, electronics bring great possibilities to the constructional hobby. Meccano itself seeks to integrate digitisation with its robot kits. Whether this proves to be successful depends surely on the interface with the electronics, and here the Meccano robots with their mechanisms, the servos, and the motors are a self-contained system. It would appear that greater success might follow if the robots were to offer an interface to the current microcomputers Arduino and Raspberry Pi. Other construction systems, albeit in plastic, already do this. It is clearly a point of honour for ever-increasing numbers of Meccanomen who are already adapting such widespread techniques.

Peter Thomas and Ken Ratcliff

Two 1950s Citroën 2CV Vans

1. A van for the French postal service, 1958.

Models and text by Ian Brennand; pictures by Rob Mitchell

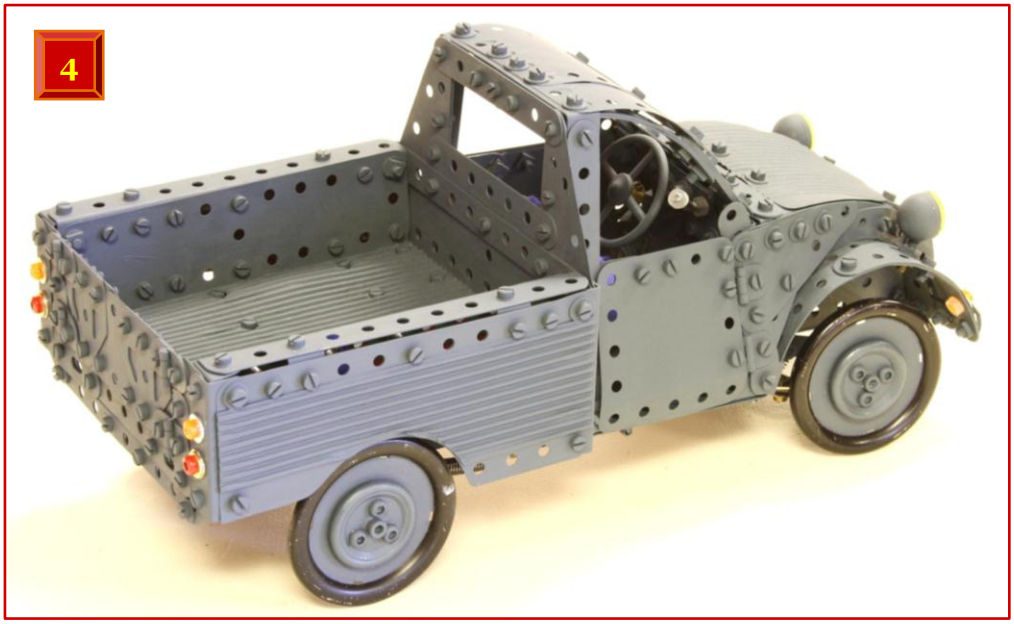


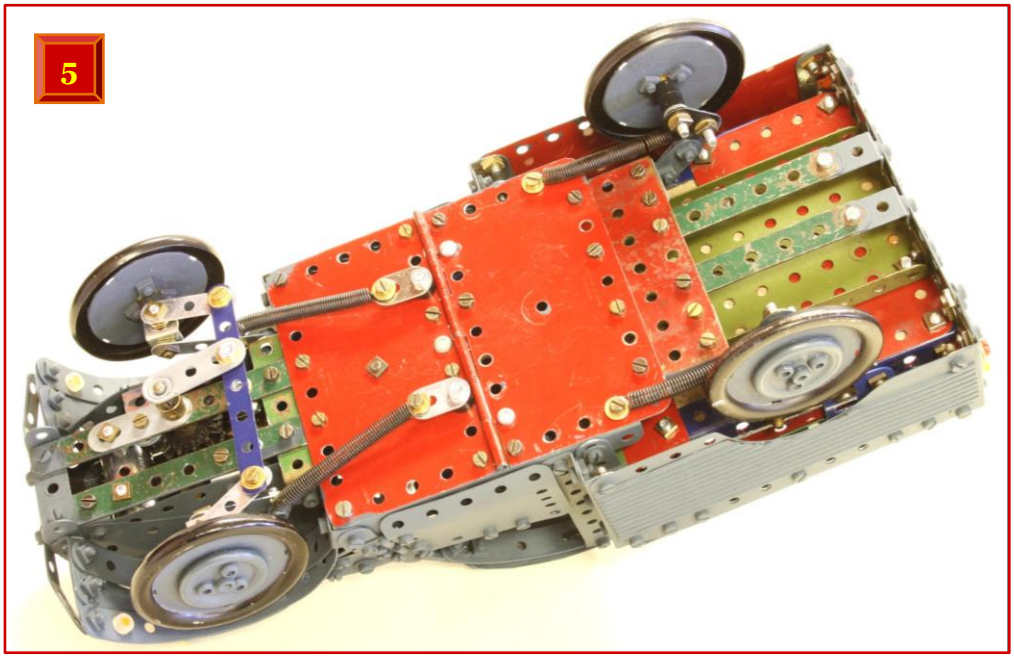
2. Pick-up for the British Royal Marines, 1959.

Introduced at the Paris Motor Show in 1948, the Citroën 2CV enjoyed one of the longest production runs in the history of motoring, 42 years, the last model rolling off the production lines in 1990. The car, and in particular its engine, was a triumph of minimalist engineering design with few moving parts and ease of maintenance. It was originally fitted with a two-cylinder, air-cooled 375 cc engine producing 9.0 hp (6.7 kW). Later variations of 425 cc then 435 cc led to the final version with 602 cc, 29 hp (21.6 kW).

The models

Inspired by the Bernard Périer design for the 2CV saloon in CQ93, I thought it would be nice to build models of the pick-up and van, which are my particular favourites. Both are based on the earlier, short-bonneted vehicles; post-1960 2CV bonnets reached down to the front bumpers and had an integral air grille.
The 1958 post van has





3. Rear view of the post van to show off the doors with their windows.

4. The pick-up from its rear right corner. Note that the doors are hinged at the front; on the post van, they're hinged at the rear.

5. A Hinged Flat Plate forms the underside and sets the scale. Four Tension Springs are used for the squidgy 2CV suspension. This is the pick-up; the post van is identical.

front-opening doors while the 1959 pick-up has rear-opening doors. Whereas the Périer design has a seven-hole wide chassis, I decided to base the floor pan of my models on the 4½"-wide Hinged Flat Plate, thus enabling creation of the correct inwardly-sloping sides.

Because Meccano do not produce corrugated body panels, I made the bonnets from creamed rice pudding tins, suitably cut and shaped. Rear body panels are from stuck-on corrugated cardboard and given a coat of sealer before painting. Seats are made from 2.0 mm wire, painted then covered in fabric to represent the lightweight tubular seats of the prototype. As I am a keen philatelist and interested in all types of postal vehicles, I included the images of a 1958 French stamp on the front doors to depict doing its duty in that year.

The extremely rare pick-up is one of a batch of 65 vehicles purchased by the British Admiralty for the Royal Marines, chosen for its lightness and ruggedness, to be airlifted by helicopter for use on beach assaults.

I would like to thank Paul Robertshaw for donating many parts to this very enjoyable double project.

Ian Brennand

E15R Brush Replacement

Some sideplate DIY from the ever-handy Russ Carr

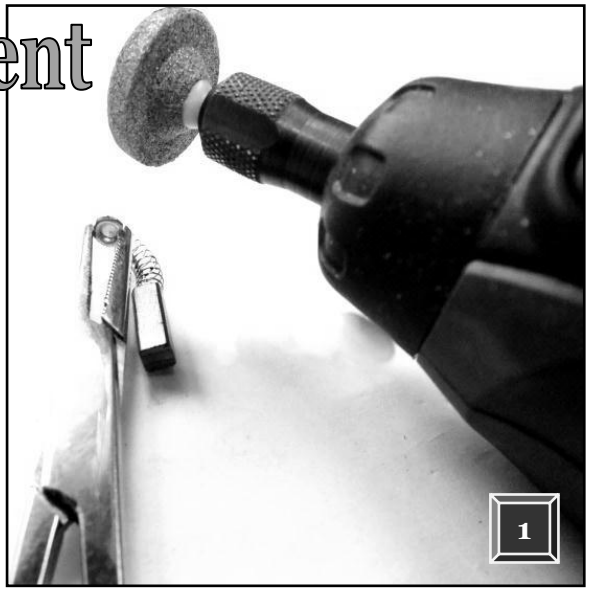
I recently acquired an E15R Motor, described as a non-runner, mainly because I fancied the challenge. Upon investigation, the carbon brushes were found to be worn to almost nothing. Not having a source of original brushes I found some 4.0 mm square replacements being sold on 'Ebay' as spares for a 'Dremel' tool.

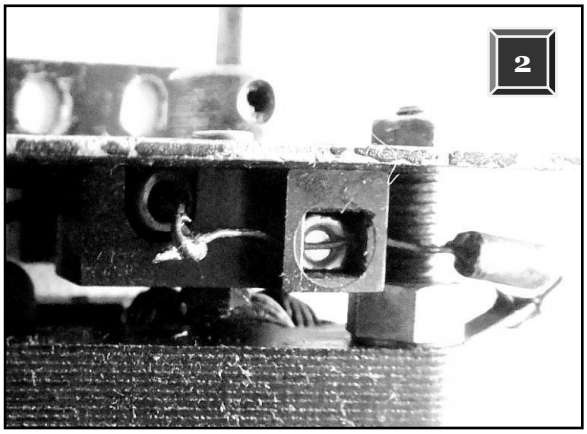
The Motor was first dismantled and its parts cleaned. If you choose to do the same then do not be tempted to use pliers to undo the Motor nuts - scoring is an almost certain consequence - rather use a correctly-sized socket spanner. Dismantling also involves de-soldering the wiring in the brush area.

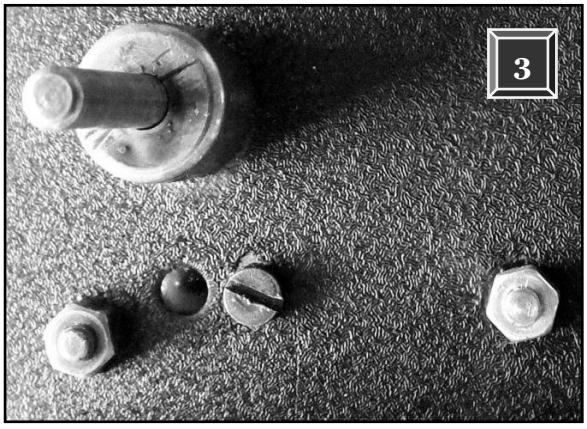
The new 'Dremel' brushes have a spring with a brass cap; the springs are twisted off the brushes and discarded because they are too strong as the E15R brush holders are very short. The original Meccano brush springs are twisted onto the new brushes and the caps are ground or filed to a loose fit in the brush holder, **1**. Reassemble the Motor and capture the brushes as per original assembly; they are not soldered to the wiring but rather the brass cap is held by the spring pressure against the retaining wiring, **2**.

One Motor stud had a missing nut and the thread appeared to have been sawn off. The stud was squared off and drilled to 3.0 mm by around 10 mm deep. An M3 screw, shorn of its head, was inserted into this hole and soft soldered in place making a very strong fix; should any future owner find a correct size nut and 5 BA brass screw the repair is easily modified. Can you spot the non-original nut, **3**? For those viewing in black and white - it's the silver one on the right! The photo also shows the typical bearing bush wear found on sideplate Motors - something I should attend to on my remaining E20Rs.

Russ Carr







What's on When

3rd September	NEMS, Dales Care Centre, Wycar, Bedale, North Yorks, DL8 1ER
3rd September	HSME gathering, Christ Church Centre, Reading Road, Henley, RG9 1AG; 10:00-17:00
10th - 11th Sept	MSoS at 'Farming Yesteryear', Scone Palace, Perth, PH2 6BD, Scotland
10th September	SELMEC, Falconwood Community Centre, Kent, DA16 2PG
17th September	NMMG with AGM and auction, Oxton, Notts, NG25 0SA
24th - 25th Sept	WLMS annual exhibition, Townsend School, St Albans, Herts, AL3 6DR
1st October	RMG, Lyne Village Hall, Chertsey, Surrey, KT16 0AN
8th October	MMG with AGM, Baginton, Coventry, CV8 3AB
15th October	**SMG meeting, Bell Crank theme (page 33), SMG Members' Award, President's Trophy, AGM (page 30) and auction, Laughton-en-le-Morthen Village Hall, Rotherham, South Yorks, S25 1YD**
22nd October	SBMC, Hall Green, Birmingham, B28 9BQ
22nd October	HTMC, St John's Church Hall, London Road, Hildenborough, Kent, TN11 9HT
29th October	NEMS exhibition, St Cuthbert's Church Hall, Darlington, Co Durham, DL1 5QG
29th October	SELMEC, Falconwood Community Centre, Kent, DA16 2PG
5th November	TIMS, Coalbrookdale, Shrops, TF8 7DQ
19th November	WLMS, Greenford Community Centre, Middlesex, UB6 9JS
20th November	MSoS, Smith Art Gallery, Stirling, FK8 2RQ; 14:00- 16:30
26th November	HSME with AGM, Christ Church Centre, Reading Road, Henley, RG9 1AG; 13:00-17:30
3rd December	NEMS, Dales Care Centre, Wycar, Bedale, North Yorks, DL8 1ER
3rd December	NELMC 'Hainault Hangout', Hainault, Essex, IG6 2UT
15th April (tbc)	**SMG meeting with contest (to be revealed in SMGJ128) and auction, Laughton-en-le-Morthen Village Hall, Rotherham, South Yorks, S25 1YD**
25th - 27th May	CAM 44th Annual Exposition at Garges-lès-Gonesse 95140 in the northern outskirts of Paris and about 170 miles (275 km) from Calais; the theme is L'aviation au Bourget (the aviation at Le Bourget); Le Bourget is an international airport in the area.

Contacts as it can be worth checking before travelling (www.hsomerville.com/meccanoevents)

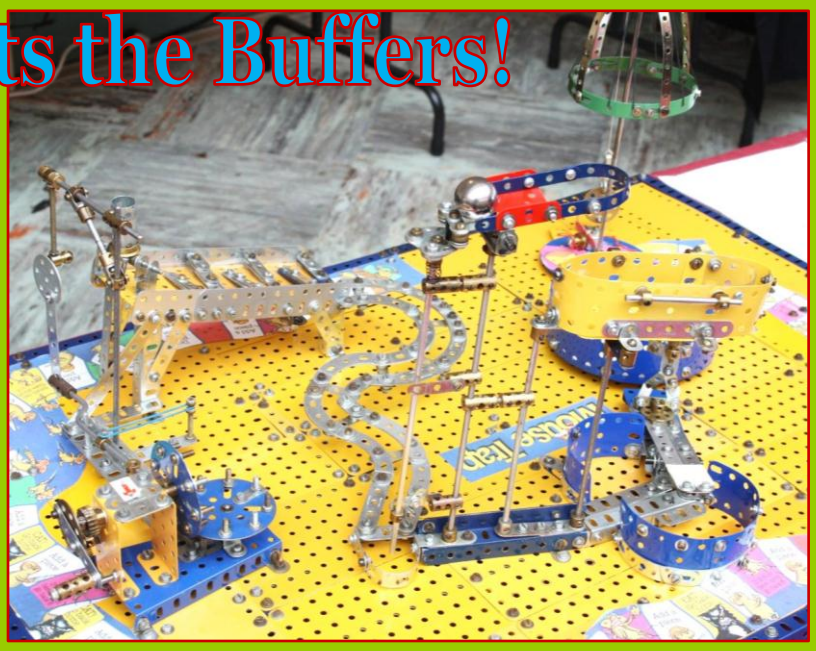
SMG **John Ozyer-Key or Bob Seaton (page 2)** ***and please let us know if you intend to bring anything large and/or travel a substantial distance so we can reserve a space for you***
CAM Jean-François Nauroy **W:** http://club-amis-meccano.net
HSME Kim Fisher
MMASI June Booker
HTMC Jim MacCulloch
MMG Roger Marriott **W:** www.midlandsmeccanoguild.com
MSoS Alan Blair **W:** www.meccanoscotland.org.uk
NELMC Ralph Laughton **W:** nelmc.org.uk
NEMS Tim Roylance **W:** www.nems.club, www.blocksetter.co.uk
NMMG Geoff Brown **W:** www.nmmg.org.uk
RMG Nick Rodgers **W:** runnymedemeccanoguild.org.uk
SBMC Bob Thompson
SELMEC Chris Warrell **W:** www.selmec.org.uk
TIMS Tim Martin **W:** www.tims.org.uk
WLMS **W:** enquiries@wlms.org.uk

630: the last part

Hats are taken off for Ken Ashton, John Bader, Malcolm & June Booker, Ian Brennand, Geoff Brown, Mick Burgess, Russ Carr, Cretia Denny, Paul Furness, Hellmuth Kohler, John Learman, Alan Lovett, Iain McKenzie, Les Megget, John Ozyer-Key, Ken Ratcliff, John Rodgers, Tim Roylance, Bob Seaton, Frank & Tree Singleton, Roger Thorpe, Alan Wenbourne, John Wilson and everybody else who has contributed irrespective of scale.

To the wider benefit of the hobby, those in receipt of our *Sheffield Meccano Guild Journal* are welcome to extract or use the contents provided that both the original author and the SMG are acknowledged as the sources. Original materials are obtainable via the Editor. *RM & RC*

Ilkley Show Hits the Buffers!



Words by John Bader, pictures by your Editor

Saturday 4th June 2016 saw the SMG once more out in force at the annual Lionel Trains and Meccano Exhibition held in the Winter Gardens, Ilkley. A full turnout of the regular crew meant we easily filled our allocation of eight tables; in fact, a couple more had to be found in order to accommodate everybody satisfactorily. It was considered by many to have been the best ever display of working and static Meccano models at this show to date; therefore it came as a bit of a surprise to learn that there were to be no more shows at Ilkley. The Lionel Club UK had decided that due to financial considerations plus lack of convenient unloading facilities, parking etc, they were in future going to use a hall they had already found in Leicester. So, bringing the show to the end of the line were **the Nightingale family**, **Bob Watson**, **Russ Carr**, **Paul Robertshaw**, **Ian Brennand**, **Rob & Lesley Mitchell**, **Wayne & Gillian Stancliffe**, **Brian & Cathy Harper** and **myself**. Many thanks to all the above-mentioned plus the others - you know who you are - who have supported the event for many years. 'Bye Ilkley...

John Bader

↑↑ The public were treated to another outing of **Brian Harper's** 'Mouse Trap Game'.

↑ An agricultural tractor with one of its range of trailers by **Wayne Stancliffe**.

↖ At an SMG auction, **Ian Brennand** invested in a windmill made from half-scale parts by the late Dr I Boerdijk then built its big brother.

← Hunslet rack loco for Channel Tunnel construction work from **Russ Carr** strikes a dramatic pose. The red lights in the cab's upper corners show it to be heading downhill.