The Sheffield Meccano Guild

Journal No. 129, June 2017

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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.

Annual subscriptions become due each October: rates are UK junior £10, adult £15; Europe £18; rest of world £20.

Editorial 129

At the risk of repeatedly bemoaning his not entirely unhappy lot, your Ed's main job has been to force-fit as much as possible into these pages without incurring the wrath of those who have had their work primed for seemingly ages. To hopefully placate those affected, my own material is always the first to be side-lined or, in the case of *Building Servetti's Magician*, severely pruned into a token instalment. Talking of instalments, John Learman's 'Tyres' has had further delays so it is now the intention for chapters to appear when they are ready rather than to meet the *SMGJ* schedule. The blame for the sometimes tricky balancing act of what to include, hack to small chunks or delay lies squarely with our quite superb 'Laughton Day'; 'A great meeting!' wrote one correspondent with 'What a cracking day...' from another. The account beginning opposite should allow those unable to attend to enjoy it for themselves, the 23-page sprawl being chiefly occupied by photos following an attempt to have at least one for all those there although that goal was to be thwarted. Returning to episodes, we are privileged to start *The Meccano Model-Building Club Chronicles* by Ron Pitches, a Meccano Boy's account of his and his pal's constructional endeavours from the late 1940s to the mid-1950s; this pure Meccano gold deserved its own distinctive typeface to remain faithful to the hand-written script. Other delights include a further dead-end of steam traction from Ken Ashton, more early steam industrialisation by John Wilson, Graham Jost continues to develop his own thread, Ian Brennand's vintage Citroëns, a foray into railways by Ken Ratcliff... With the willingly-offered efforts of such notable Meccano enthusiasts, this editing caper isn't so arduous after all. *Rob Mitchell*

Contents

On the cover

Our picture this time is of a lesser-seen prewar model from among the apparently millions of new and attractive Meccano models that descended on Laughton-en-le-Morthen in April. It is the No. 4.43 Motor Breakdown Crane looking smart in restored dark red & green by **Ken McDonald** who clearly enjoyed its construction. On top of a few changes to the prescribed model, a keen eye will spot a sprinkling of later parts plus a smattering of decidedly modern examples. (RM)

Definitely the Best SMG Meeting Ever!

Laughton-en-le-Morthen, 8th April 2017
Reporters: Albert Howe, Ken McDonald, Tony Seed and John Wilson
Pictures: Mick Burgess, Hellmuth Kohler, Rob Mitchell and Ken Ratcliff

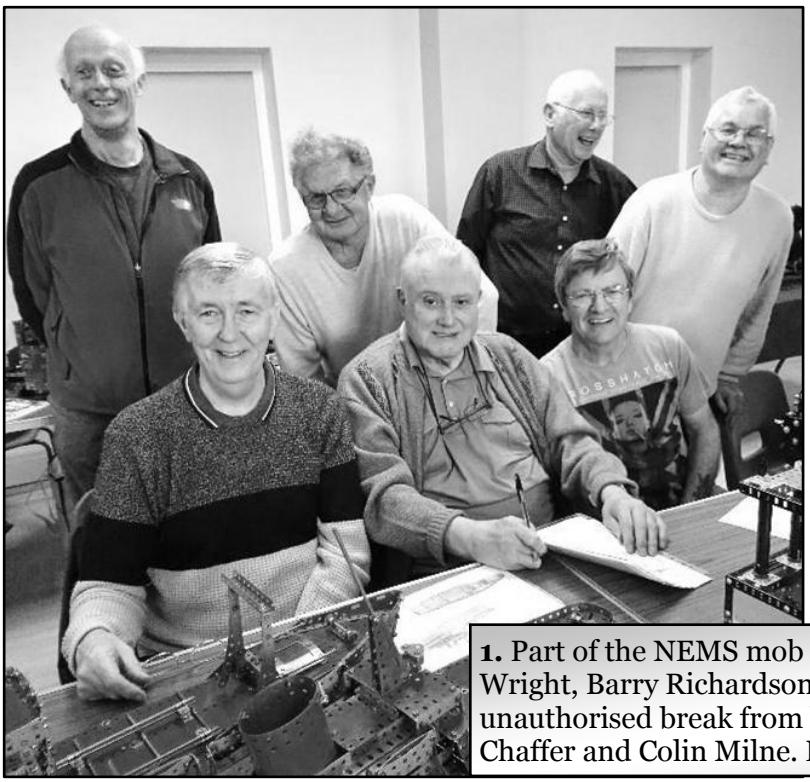
Here we go!

At the top of page 3, SMGJ128 asked if 15th October was *The Best SMG Meeting Ever?* It was surpassed by 8th April 2017. In October, I arrived twenty minutes before the Laughton-en-le-Morthen Village Hall doors were due to open and found (a) doors open and (b) tables whizzing into position. Your Ed arrived even earlier for the April meeting as the table layout needed a change plus there were an unprecedented number of space reservations. Curses, 08:25 and the doors were again open! Luckily, the table whizzing had just started so it wasn't too late to accommodate the revision. After that, the Hall had probably never before filled so quickly and certainly never been so full; at about 11:00, half a table would have been tricky to find for a fresh arrival. What made the situation more surprising was that the fairly nearby South Birmingham MC and North West MG had their own meetings on the same day.

We had the presence of some far-flung Meccano nuts. From Scotland, Alan Blair (Crieff, 300 miles each way) and Ken McDonald (Balerno, 246 miles) made a considerable effort to represent the MSoS. Staying in England, the Issigonis-winning duo Pete Evans and Richard Smith travelled from Bristol (172 miles…) They were all unexpectedly trumped in the distance department by John Dimech who popped over from Malta (1950 miles). From nearer to Laughton was our smash-hit David Miller. His reserved space was the kitchen and it wasn't long before the whiff of bacon drew a queue. When the bacon ran out, there were plenty of other edible indulgences. Following an appeal in October for requests, David had just the one (for 'pigs in blankets'; to the uninitiated, a sausage wrapped in a rasher) but it would have involved buying 120 - even your Ed would have had trouble scoffing that lot - so had to be abandoned. Let it be made plain that David's culinary exploits, with Wendy's assistance, have been previously reported in these pages and 8th April 2017 was no different. Burp!

To our reporters

Four likely individuals were invited to take on a reporting job and all were happy to accept: they were Albert Howe, Ken McDonald, Tony Seed and John Wilson. Such was the attendance with tables groaning under the weight of Meccano models, they should have had second thoughts and fled but they remained steadfast. Albert, Ken, Tony and John also know they're now safe for a meeting or two! Despite not having a deadline, they delivered their work like lubricated lightning and will be presented in alphabetical surname order to conceal the laggard… Now to let loose Albert's musings for the bottom island.



1. Part of the NEMS mob - plus an interloper! Left to right are Eric Wright, Barry Richardson, George Roy, Albert Howe taking a crafty unauthorised break from his reporting duties, Bob Seaton, Brian Chaffer and Colin Milne. Lesley is to blame for this cheery photo.

My first builder was **Pat Briggs** who had a superb Lantern Clock styled in the early English period and featuring a passing strike for the quarter hours. Driven by a No. 2 Clockwork Motor regulated by a lightweight anchor on a 28t Sprocket, the clock was capable of running for three days with the potential for more.

Alan Lovett had tackled the No. 10.13 Combine Harvester in his preferred dark blue & yellow with a touch of zinc then fitted an all-pinion differential. To his own design, he also had a battery-driven agricultural tractor & trailer and a buggy carrying the 'Action Control' system.

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LANTERN CLOCK

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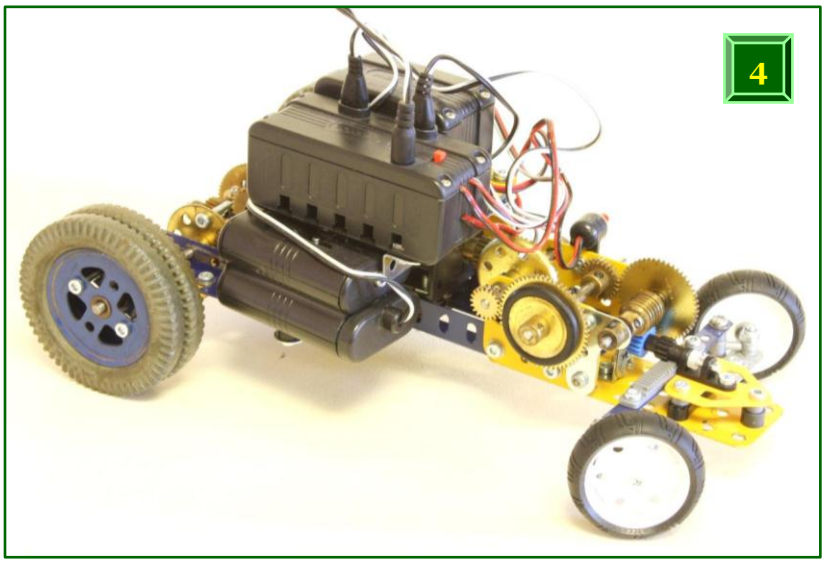

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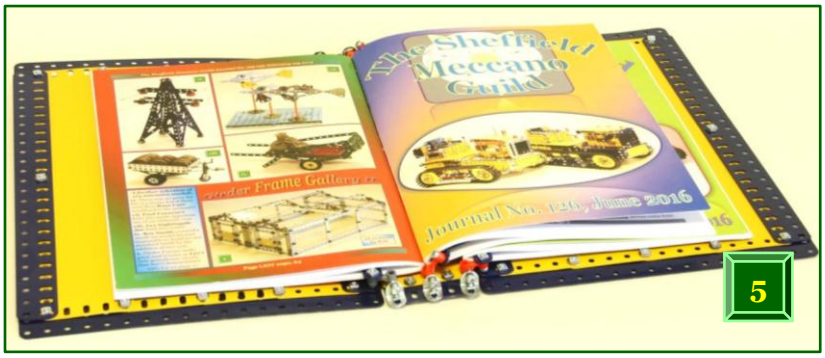
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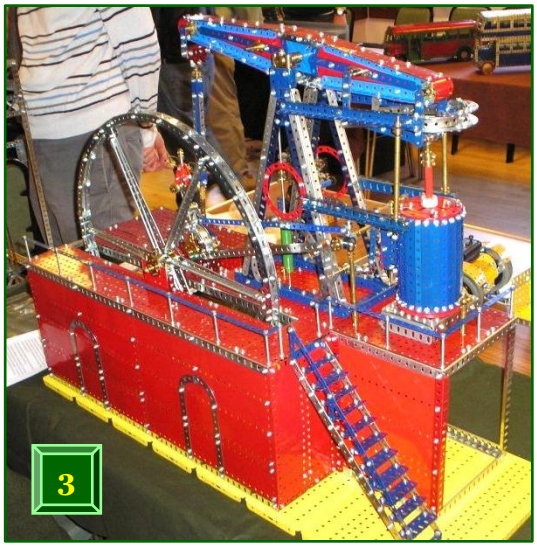

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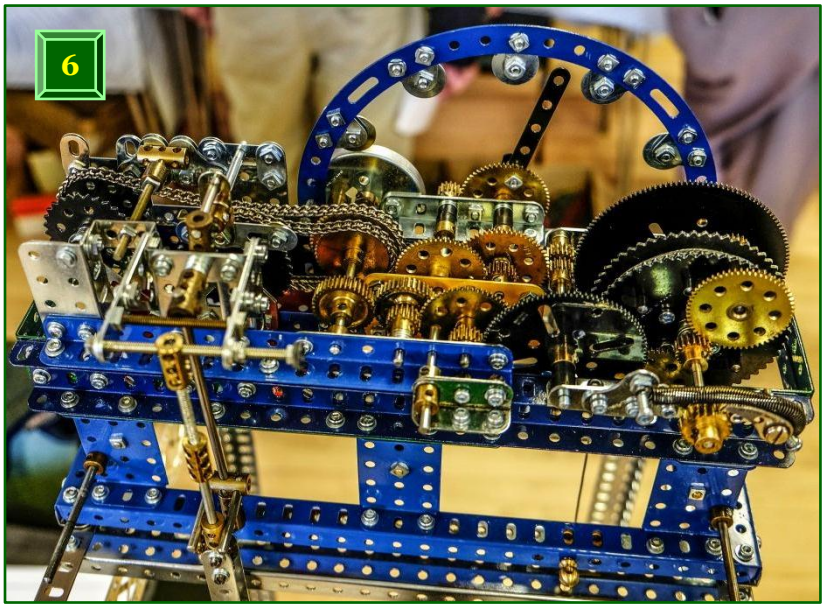

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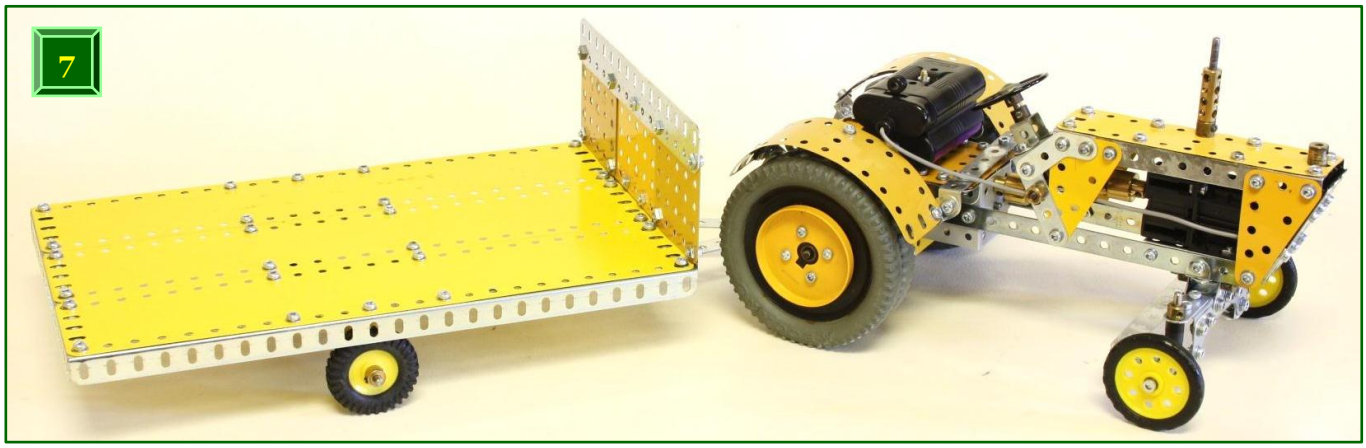
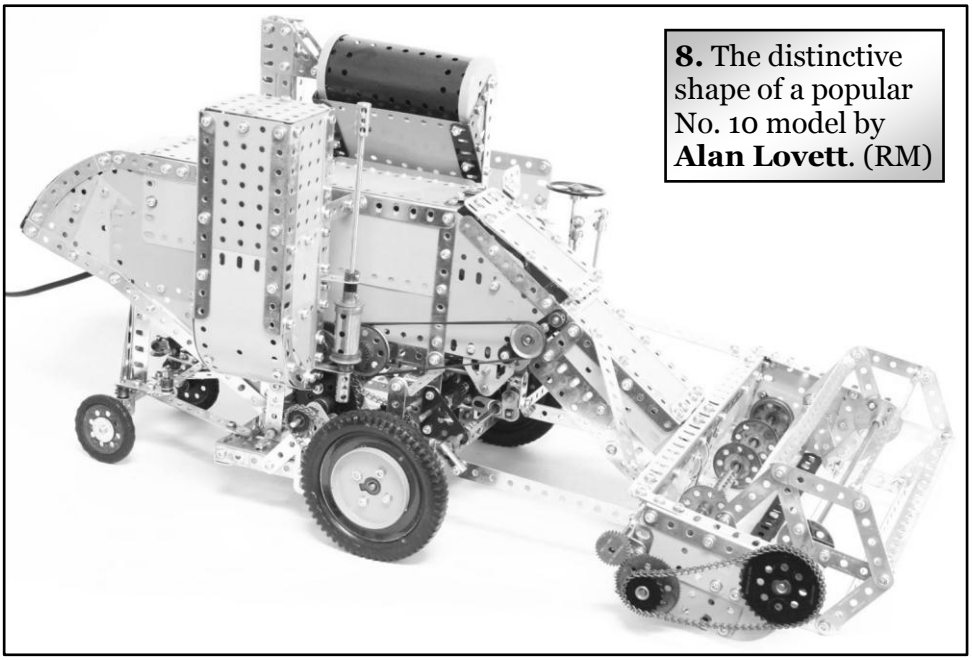


2. Colourful, Clockwork-driven and instrument-grade Meccano from **Pat Briggs**. (HK)
3. Philip Webb's Modelplan 93 was reconstructed by **Margaret Massingham**. (MB)
4. Alan Lovett would have had his work cut out to secrete those oversized infrared control system boxes on this remote-controlled buggy chassis. (RM)
5. Build-It-Yourself binder for three *SMGJs* courtesy of **Russ Carr** and it being casually opened to show his own models on the covers was purely coincidental… (RM)
6. Gears galore in **Raymond Massingham's** Modelplan 221 demonstration clock. (HK)
7. Alan Lovett shows off his versatility with this attractive agricultural combination. (RM)



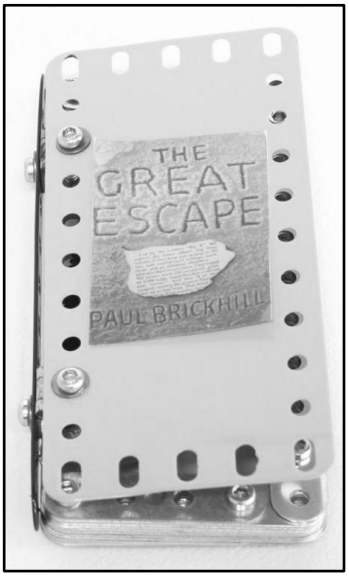
8. The distinctive shape of a popular No. 10 model by **Alan Lovett**. (RM)

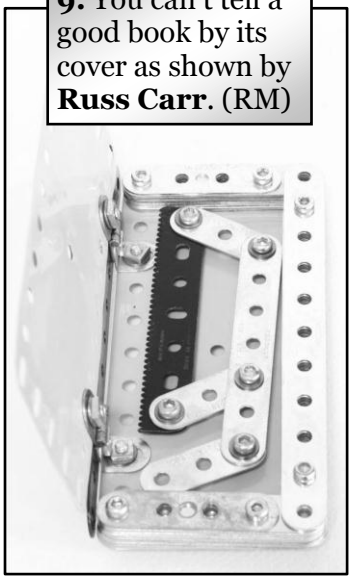
Russ Carr treated us to another showing of his version of Graham Jost's eight-spool braider although it wasn't operational on the day. Showing off his comedy side, his book *The Great Escape* contained a hacksaw with a Rack Strip blade and Russ ruffled some LMS feathers by building his own binder to hold a full year of our favourite journal.

Margaret Massingham was next with a red, blue and zinc 'A' frame beam engine from Modelplan 93 by Philip Webb. Being an older Modelplan, it was in black & white which didn't present many problems and she ignored the self-imposed rules about fitting in the car! There were some changes such as a smattering of Märklin and replacing the 6" Pulley with 1½" to enable running by a geared motor. The governor was filched from a Konkoly steam engine…

Although **John Hornsby** isn't small in stature, his models are often two or three times his own height and his Liebherr Litronic 280 HC-L 12/24 luffing tower crane was shaping up to be no exception. The 24t-rated crane was being built to 1:30 scale and I hope to see it completed at Skegex!

Squeezed in was **Ken Ashton's** little 'coffee table nonsense', an assortment of brass with a pair of trip hammers and all on a 5½" x 2½" plinth; the occasional cry of a dry bearing had better go unmentioned…!





9. You can't tell a good book by its cover as shown by **Russ Carr**. (RM)

Raymond Massingham was alongside with his Demonstration Clock Movement by Mike Edkins and published as Modelplan 221 Part 1; a change was to not install the seconds escapement. It still needed some fine adjustments but even so, it managed to keep time to within a minute per run. Raymond had built a two-section stand, the base having adjustable feet for levelling and added a carrier for the 6.5 lb (2.95 kg) roofing lead weight.

Eric Wright had an attractive little four-stroke engine; see pages 46 & 47 for more.

We were honoured to be visited by **Richard Smith** with his awesome 'Jamie on his Trike', a worthy winner of the 2015 Issigonis then featured on a grand scale in CQ111.

Accompanying Richard was **Pete Evans** with the 2016 Issigonis winner, his ever-so-realistic 1930s Brooklands Garage with an assortment of MGs (all models in their own right), other cars, tooling,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Brooklands Garage
SHELL
Esso
BP
CHAMPION


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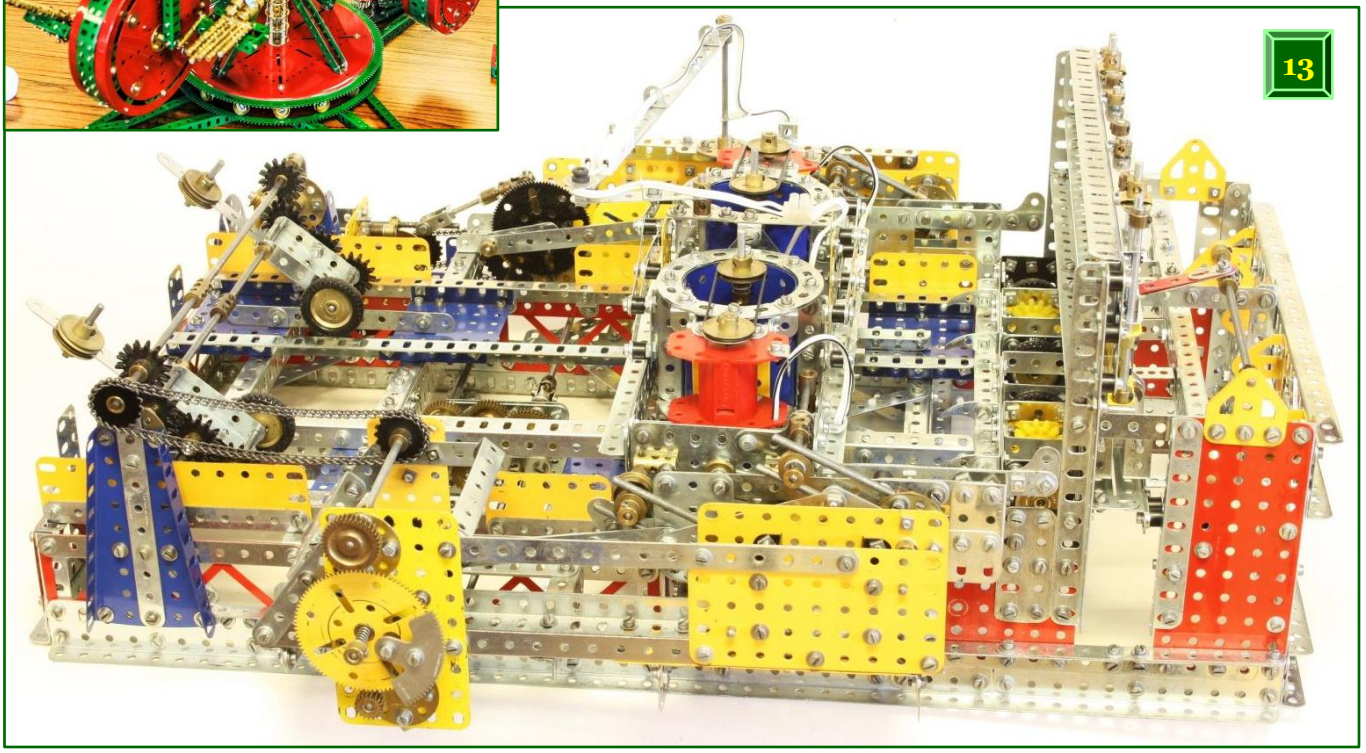
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10. The front aspect of **Pete Evans'** Brooklands Garage neatly 'cut' from the background. (HK)
11. You can almost smell warm engine oil and fresh paint in this interior view! (HK)
12. Richard Smith's 'Jamie' has every bone represented except those in the inner ear. (HK)
13. Rob Mitchell's 'mystery machine' has grown since its first outing in October 2016 and to avoid blushing in case of abject failure which has a high probability, its intended purpose has been revealed to a few trusted confidants only - which didn't include our reporter, Albert… (RM)

workshop equipment, rolling road etc. You will have to consult CQ114 to appreciate the time invested in this model which was arranged to dominate the scene when entering the Laughton Village Hall.

Rob Mitchell presented his version of Douglas Carson's No. 8 ball roller first seen at Skegex 2015 then published in CQ112. There was also a 'mystery machine' full of Pulleys, Gears, Chains etc which did nothing [Ed. Cheek - just you wait miladdo!] and a pair of leg-driven entries for the annual Meccanuity competition, page 54.

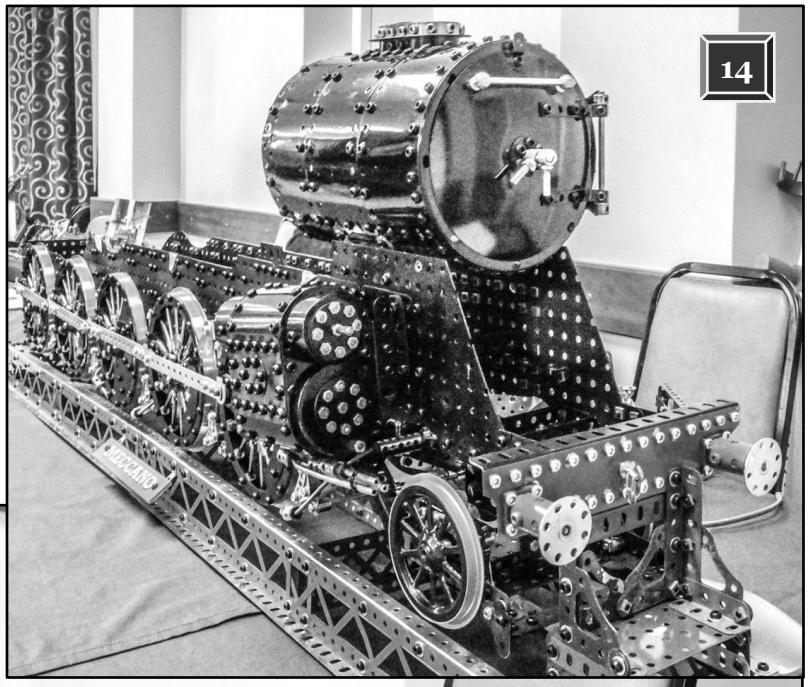
Albert Howe

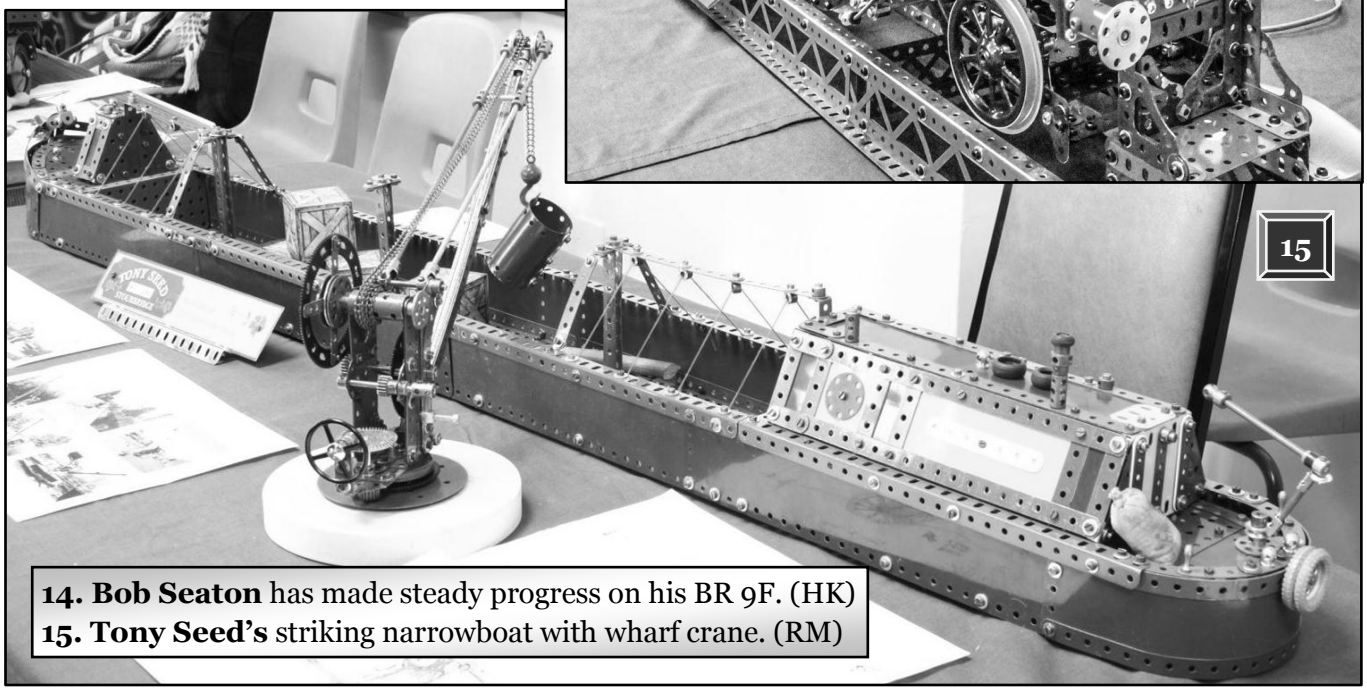
Good work Albert and we now turn to Ken who opted for the left-hand row.

Located at the stage end were **Bob & Anne Seaton** showing Bob's 1:12 work-in-progress BR 9F 2-10-0 locomotive, another very fine model constructed with his usual high standard of accuracy and meticulous attention to detail. We look forward to seeing it completed and added to his splendid collection.

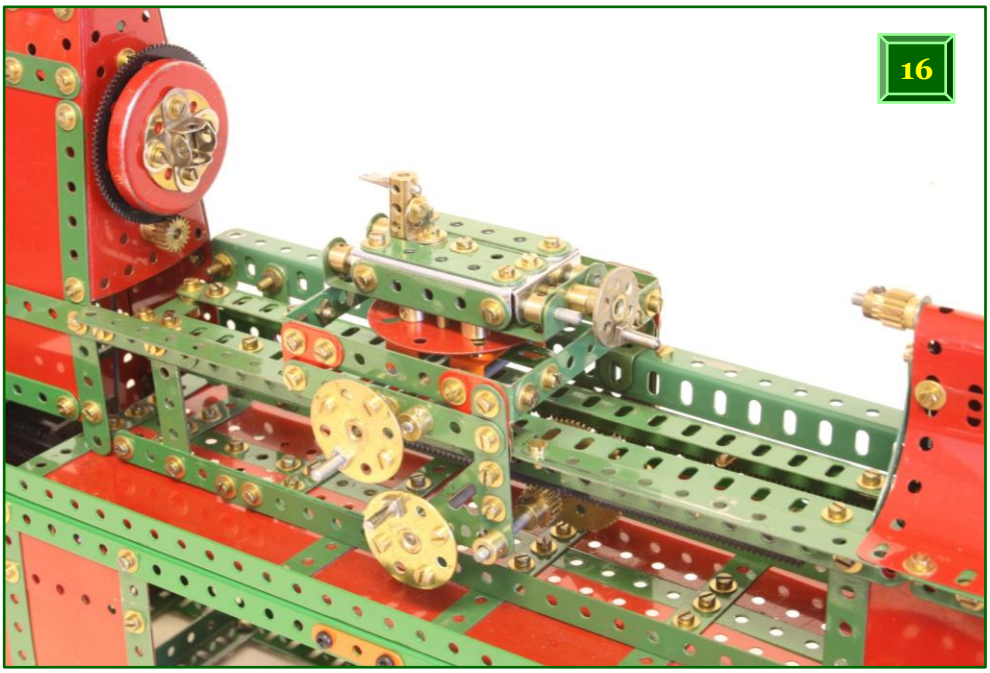
Alongside, **Tony Seed** had a four foot-long narrowboat nicely built in red & green and accompanied by a canal-side crane in the same colour scheme. The crane was based on photographs of similar prototypes from which he took components to create his own version. He said it was the first model he had built with working gears and the neat compact mechanism worked very well. So, Tony, next step powered operation?

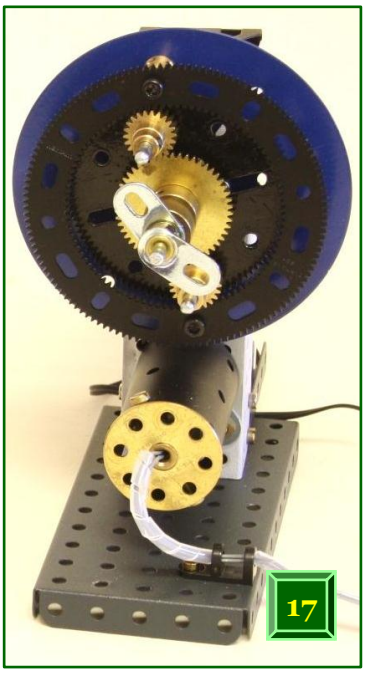
Next along, **Roy Smith** showed his 1955 No. 9.1 Mechanical Horse & Trailer (Scammell 'Scarab') as seen on SMGJ128. Immaculately built in bright, shiny medium red & green with incorporated improvements and a neatly-formed engine cover, the result was a delight to the eye. He also had a fine Engineers' Lathe, a 1955 model No. 7.14, constructed again with pristine red & green and driven by a small battery-powered motor. Both were splendid recreations of models of the period.

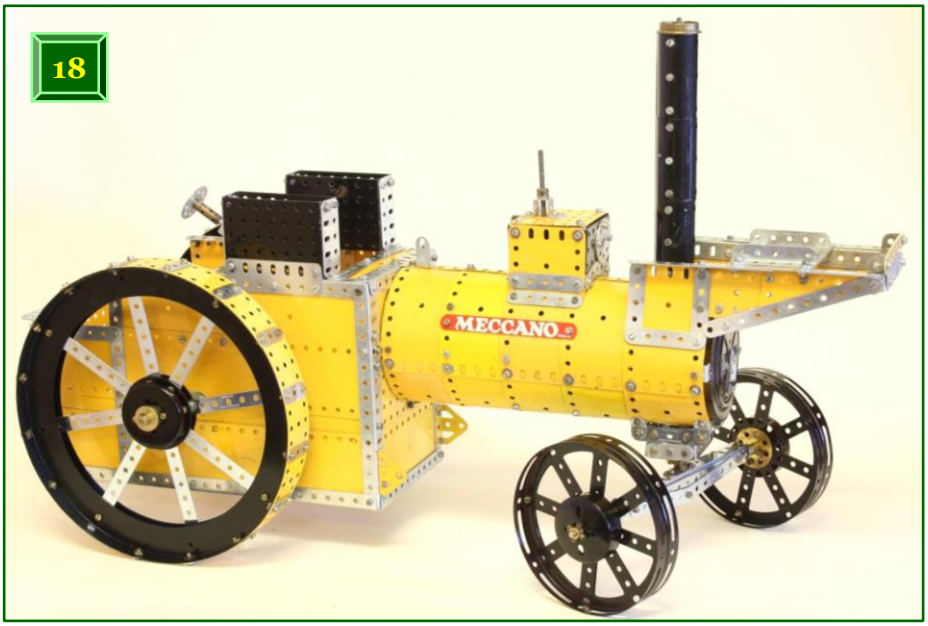




14. Bob Seaton has made steady progress on his BR 9F. (HK)
15. Tony Seed's striking narrowboat with wharf crane. (RM)





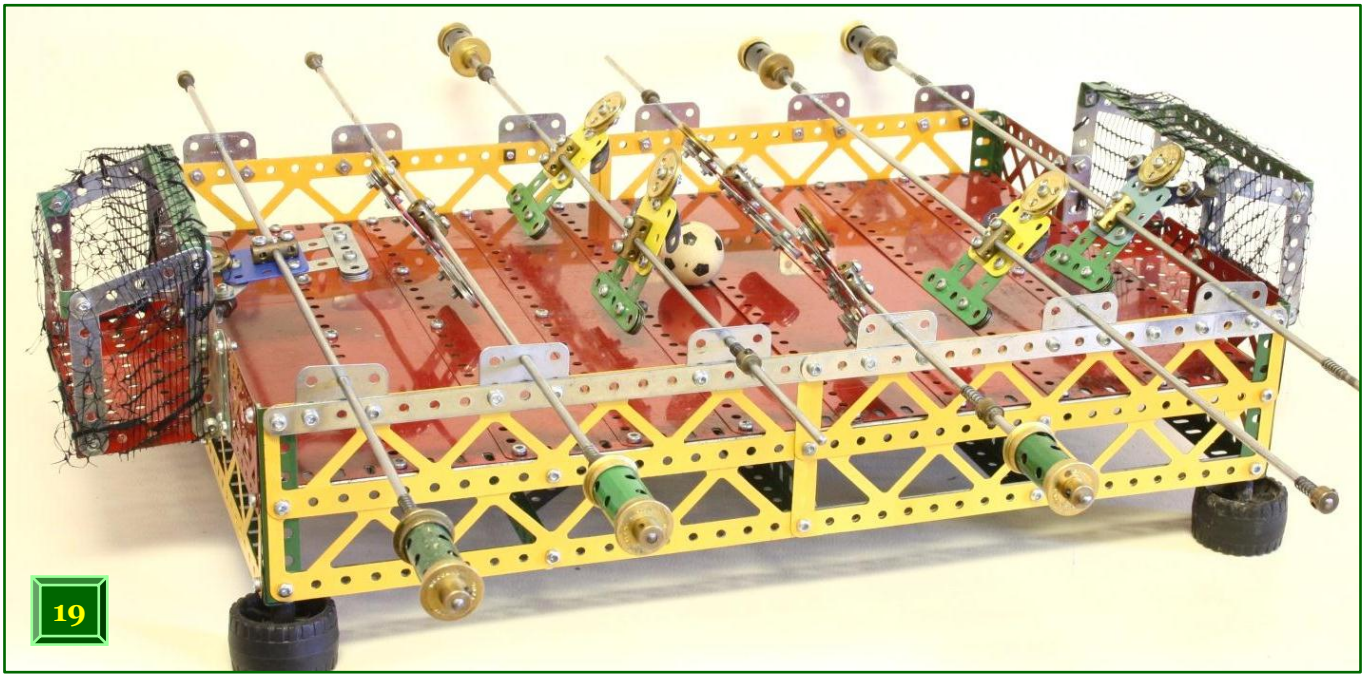


16. A detail of **Roy Smith's** No. 7 Outfit Engineer's Lathe. Roy was inspired to build this after seeing John Sinton's slotting machine, itself from a Manual. (RM)

17. Epicyclic 2.9:1 reduction gear from **David Wilkinson**.

18. There may be a little more work needed before **Barrie McKenzie** completes his recreation of a Binns Road Showman's Engine! (RM)

19. Rob Miller said *Lincoln versus Grimsby, Lincoln to win!* after building Bob Seaton's fab football game.



Hellmuth's Laughton portraits

A thoughtful-looking David Wilkinson lurks behind an undernourished Jamie.

John Dimech and George Roy.

Lesley Mitchell with CQHQ's Robin Johnson.

Pete Evans and Barrie McKenzie can only be discussing vintage cars.

Stefan Tokarski.

Geoff Brown (who else?)

Ruth Smith with David Owst.

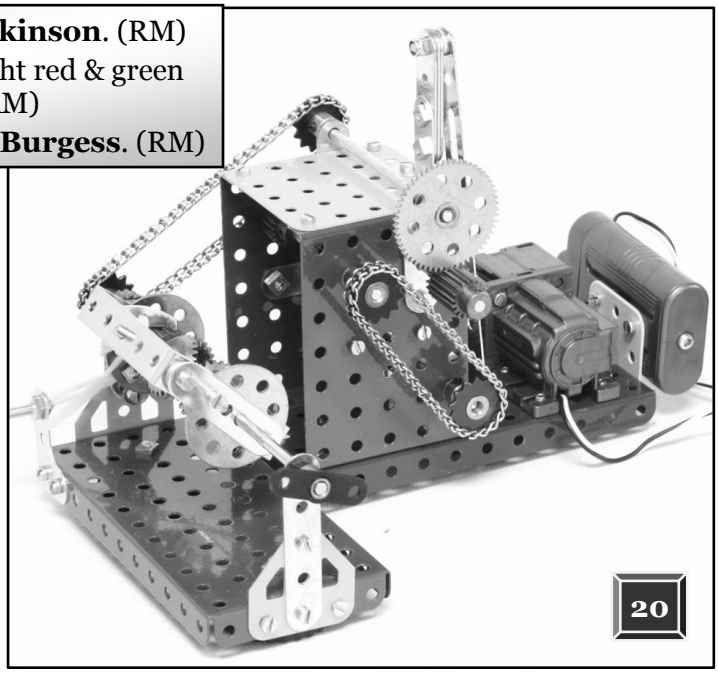
Philip Webb and John Hornsby must be talking tower cranes.

Rebecca and Sophie McKenzie can't wait to see Dad's entry meet its doom in the contest!

Pat Briggs.

Mick Burgess with Barrie & Doreen McKenzie.

20. An *MM* reversing mechanism by **David Wilkinson**. (RM)
21. Barrie & Iain McKenzie presented this light red & green factory-produced shop window display model. (RM)
22. A lovable 1930s Streamlined Car from **Mick Burgess**. (RM)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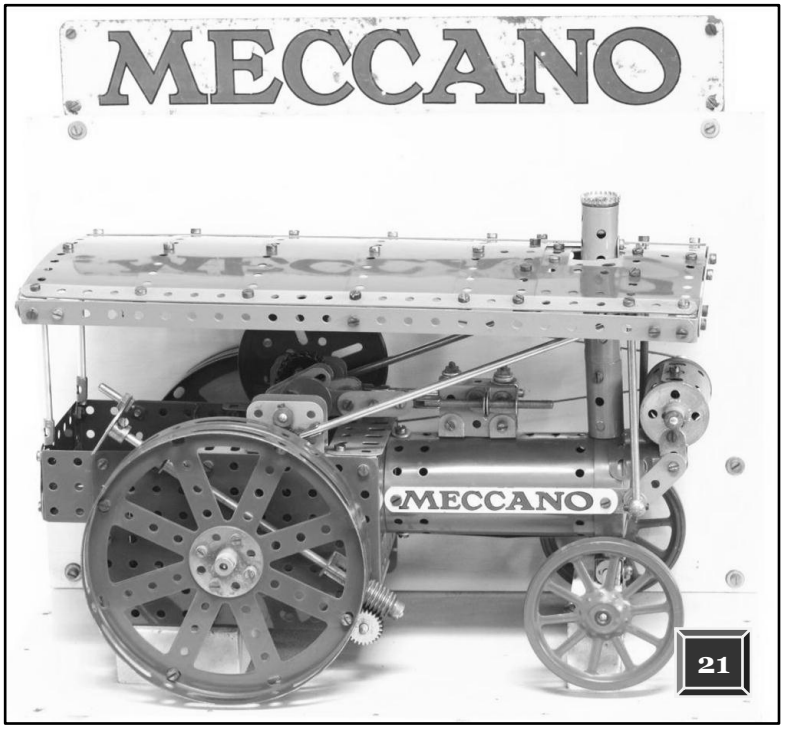
Adjacent were **Wendy & Rob Miller** with a version of Bob Seaton's table football game in SMGJ126. Rob had adopted some of Russ Carr's modifications as illustrated in SMGJ128. It looked good in his colour scheme with a bright red playing surface but I didn't see anybody playing with it. Perhaps it was too good to touch?

David Wilkinson had a striking Supermodel No. 18 Revolving Crane in bright zinc and nickel parts and driven by a battery-powered motor. Alongside, he had an interesting demonstration of a constant-direction drive depicted in the February 1970 *MM* with an automatic reversing mechanism from the September 1950 *MM* in blue, yellow & zinc parts and turned by a battery-powered geared motor. From *Everything Epicyclic*, David also showed a drive giving a 2.9:1 ratio using 50t and 22t gears and powered by a Lego battery (perhaps I shouldn't have mentioned that?) with the motor concealed inside a Cylinder.

At the next table, **Barrie & Iain McKenzie** displayed a partially-completed recreation of the Binns Road Showman's Engine display model, one of a number built at the Meccano Works and illustrated on the January 1968 *MM*. Neatly made in yellow, black & silver, Barrie aims to have it finished and running at the October meeting. Behind was an original smaller and earlier version produced as a shop display model, in well-preserved light red & green; an impressive display.

In addition to having a spread of inviting sales items, **Mick & Frances Burgess** had their customary range of small models made with parts of the appropriate period colours and having some adjustments to improve appearance or robustness. The largest was a blue & gold 1937 model No. 7.1 Streamline Petrol Tank Lorry with those attractive French tinplate wheels and some repainted gold. Powered by a No. 1 Clockwork Motor, Mick had added steering, using parts in the Outfit but omitted from the instructions. There was a 1930s No. 7.6 Motor Breakdown Crane in dark green, a 1931 Horizontal Overtype Steam Engine in 1933-5 red & green with royal blue wheels and a Tractor & Manure Spreader from the 1962-9 Manual in contemporary light red & green. Completing the layout, he had a neat little 1960s jeep in light red & green, an incomplete Boat Lowering Gear in 1931-4 green with blue Pulleys, a little Streamlined Car in blue & gold and an intriguing miniature differential: altogether a delightful trip down memory lane.



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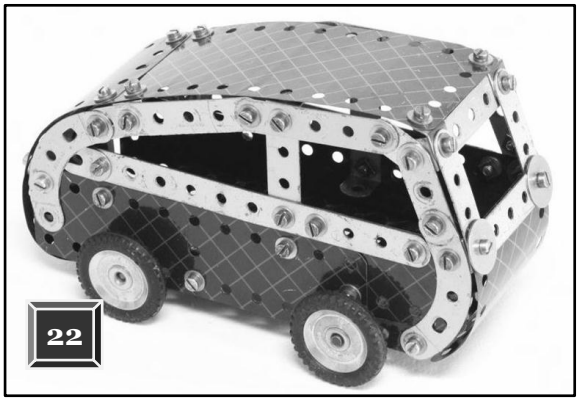
Alongside, **Philip Webb** displayed a Swing Bridge based on the 1950s No.8 Manual in red & green but not restricted to the No. 8 contents plus some additions such as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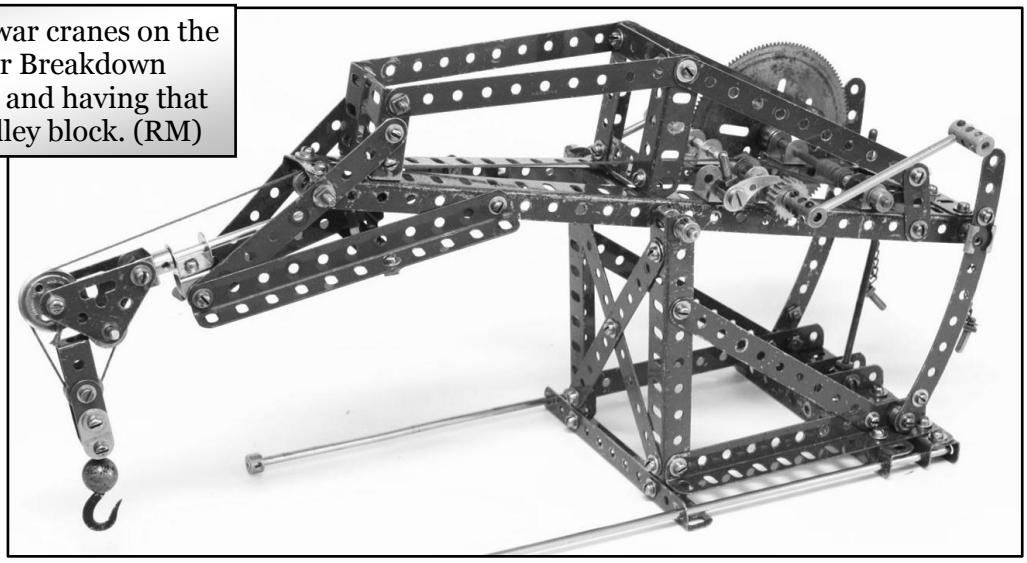


23. One of the many prewar cranes on the day was the No. 7.6 Motor Breakdown Crane by **Mick Burgess** and having that famous swivelling top pulley block. (RM)

Erector braced strips and extra weights to keep the span balanced when swinging. Adjacent was his Christmas Carousel, a miniature train running around a Flanged Ring infilled with a Circular Strip and Plate which he had built for the family festive celebrations.

Finally in the section I selected to cover was **Lesley** (LMS) **Mitchell** with her array of tempting goodies for sale including splendid new binders for the *SMGJ* which attracted much interest - and orders!

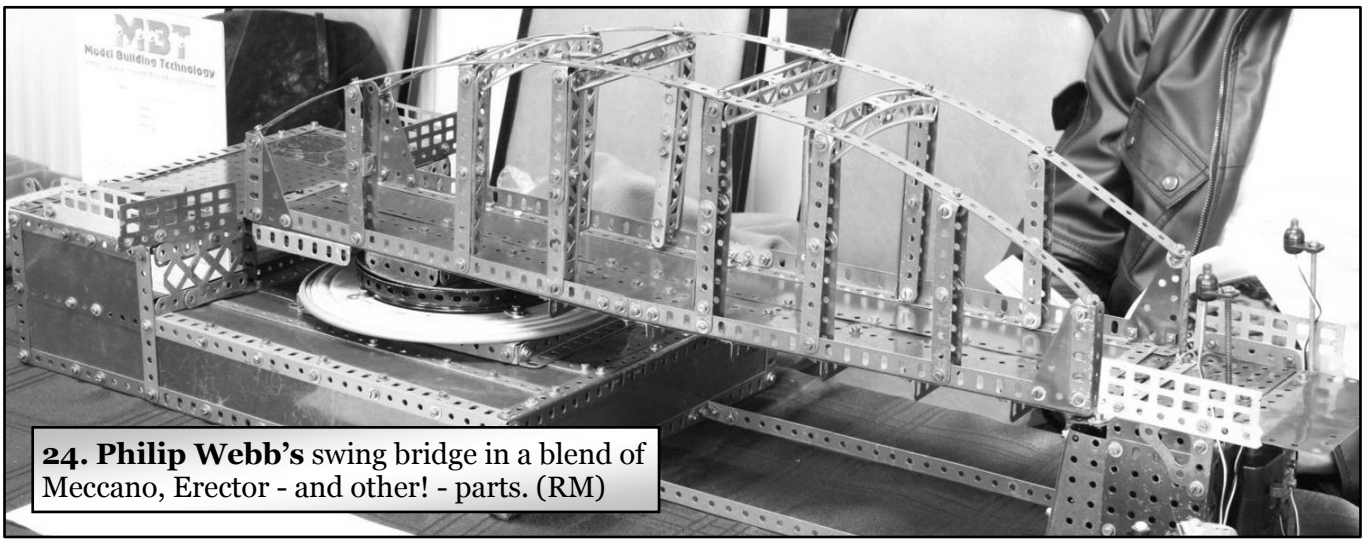
Ken McDonald

Thank you Ken! Tony, away you go with the row along the right-hand wall.

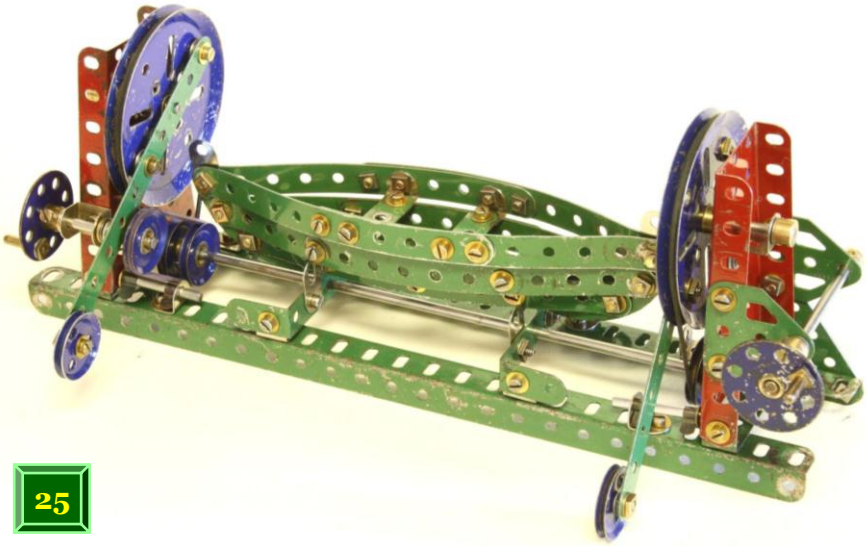
For my second outing as a roving reporter for the SMG I had another fantastic array of superbly-built and presented models to inspect.

First on the tour was an ingenious and cleverly deceptive optical illusion crafted in zinc and yellow. At the heart of this contraption was a large card conical object that, on first sight, appeared to roll uphill. Without fully understanding the exact science, I observed that the deceptiveness was in the construction and the way that the two opposed cones placed together form an inclined plane allowing the cone to travel when the two parallel Angle Girders are pinched at one end. A Meccano building challenge that this mechanically cautious reporter would have no hesitation in avoiding - full stop. The machine's maker, **Brian Harper**, said that the name 'It Rolls Uphill' is 'Ik Rol Omhoog' in Dutch and was designed by AGW Nijs of the MGN. Keith Cameron built and photographed the machine and had it presented in CQ8. This apparently caught Brian's eye and became the inspiration for his next model. Brian explained that he altered the reverse switching for the diverging-converging of the rails to make it double-pole instead of single-pole, thus removing the need for a centre-tapped supply to the motor.

Next and a delight as always and chance to catch up with **Ken McDonald**. It was Ken, with Bob Seaton, who ignited my first interest in Meccano, Ken giving me the confidence to have a go and how to break the news sensitively to my unsuspecting spouse. Ken always builds the most beautifully-presented and carefully-made models that marry superbly the mechanical with the aesthetic. If form truly follows function then this is spot on for me! I even found myself admiring the Bolt spacing as part of the overall finish. First was a Motor Breakdown Crane, an enhanced version of the 1930s model No. 4.43, built with repainted dark red & green. Then a Kientz 19th Century single-cylinder oscillating steam engine, also from



24. Philip Webb's swing bridge in a blend of Meccano, Erector - and other! - parts. (RM)



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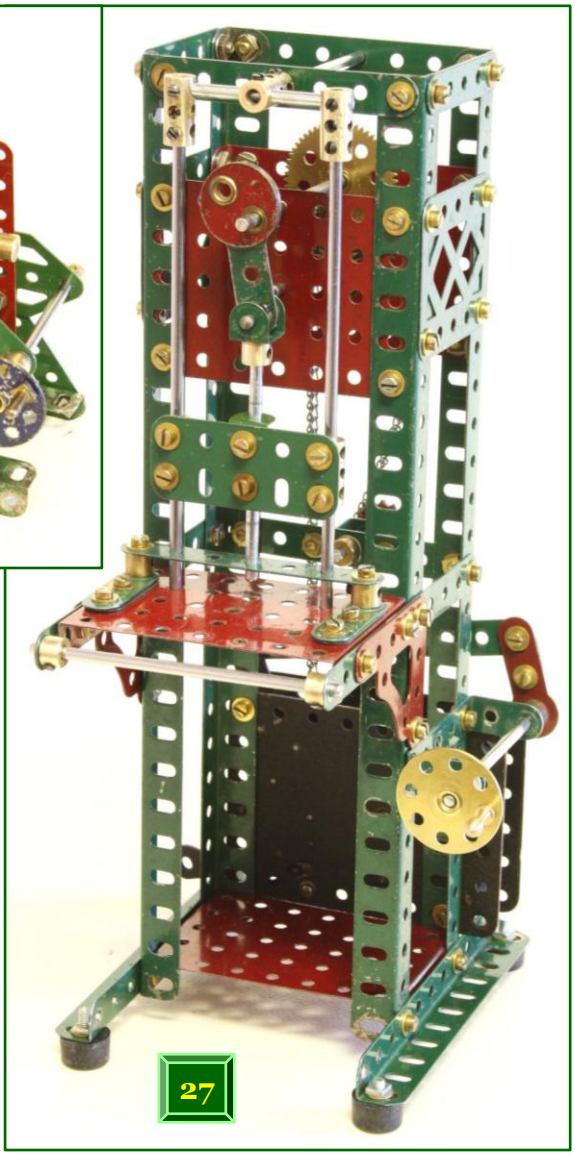

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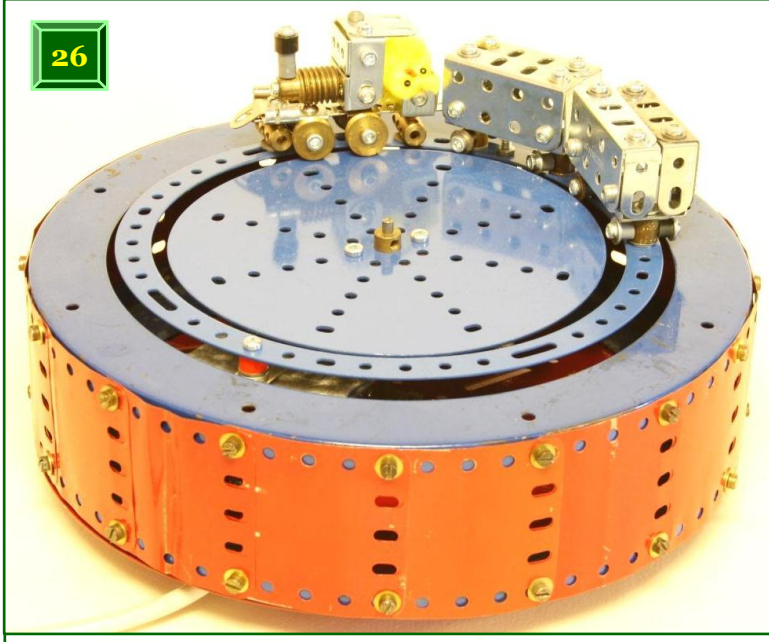

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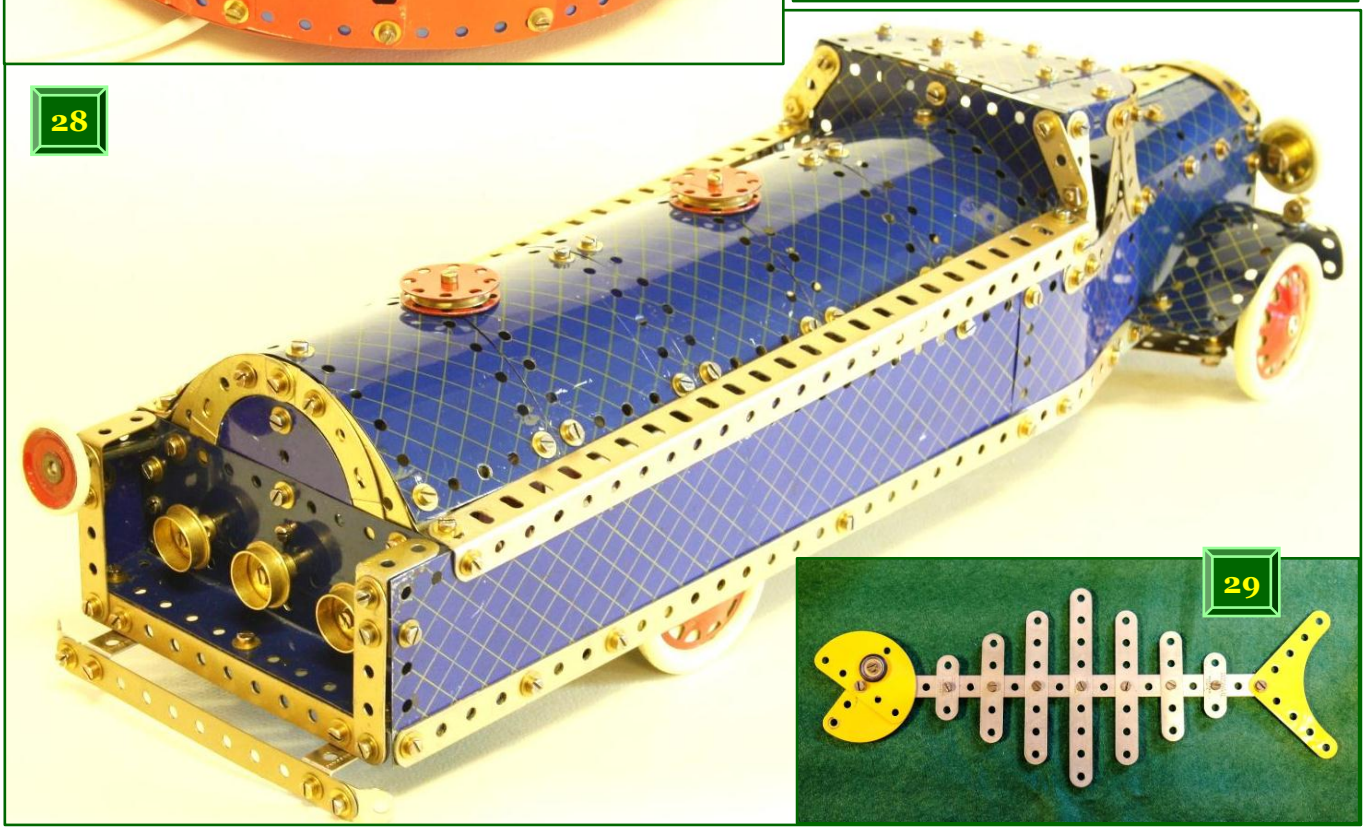

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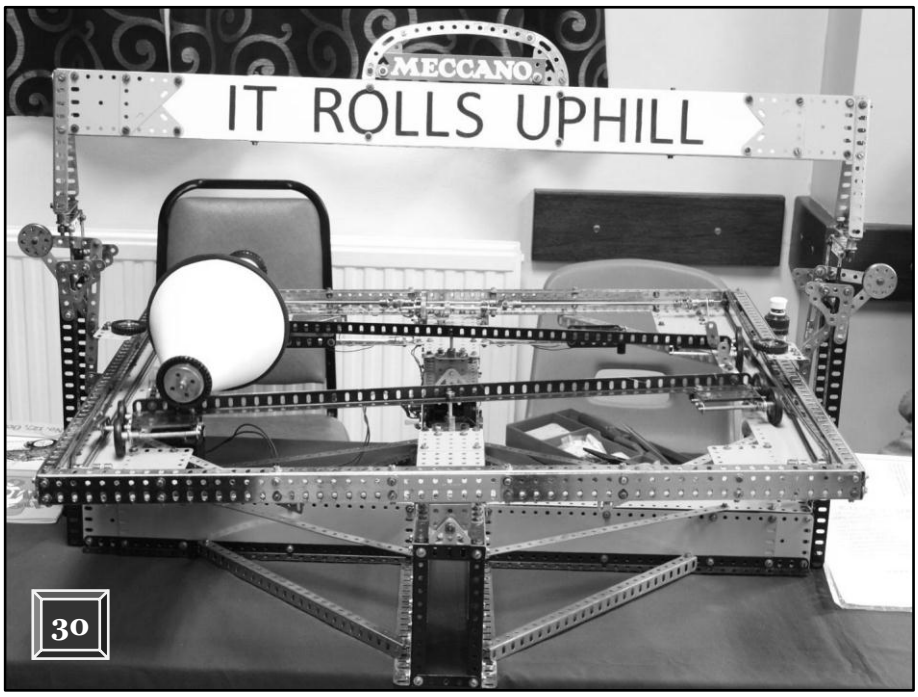
25. Boat-Lowering Gear by **Mick Burgess** in an attractive prewar colour mix and the boat looks good compared with contemporary models relying on Curved 'U' Plates with crushed ends. (RM)

26. Philip Webb's miniature festive train and the driver appears to be another rogue part! (RM)

27. As well as lathes and slotting machines, the Meccano factory won't have been short of power presses and punches as **Ken McDonald's** prewar No. 6.3 shows. (RM)

28. Yet another model from **Mick Burgess** was this Streamline Petrol Tanker; he preferred this viewpoint as it shows the recessed end and ¾" Flanged Wheels representing the fittings. (RM)

29. Something fishy courtesy of **John Bader**. (HK)



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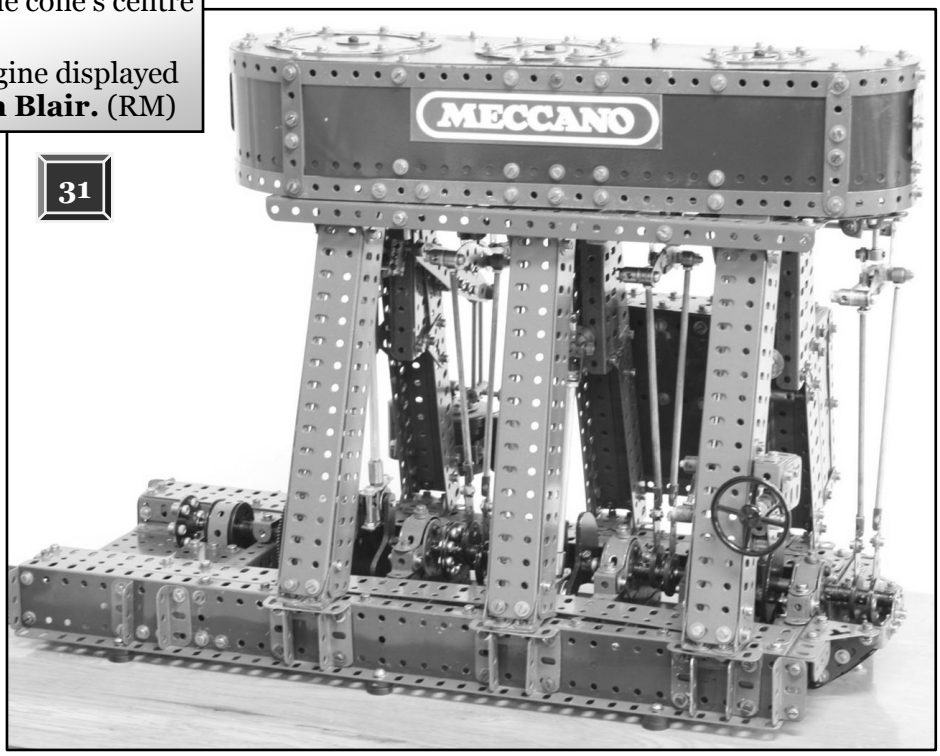
repainted parts, was from a design by Dr David Whitmore. Finally, 1930s model No. 6.3 Punching Machine and constructed with dark red & green then driven by a No. 1 Clockwork Motor.

30. More electromechanical trickery built by **Brian Harper** where the double cone's centre of mass actually descends. (RM)

31. Triple-expansion marine engine displayed by the MSoS's anchorman, **Alan Blair.** (RM)

Next to Ken was another striking example of Meccano's ability to copy/mimic/suggest the scale and power of the subject. All were on display with the 'Liberty' ship propulsion engine skilfully built by **Alan Blair** who explained that this engine was a truly big beast indeed, weighing 100 tons and so successful that it was loved by shipbuilders of the period. 'Liberty' ships were 10,000-ton cargo vessels built under an emergency programme early into WWII. Alan mentioned that this particular model is $^{1}/_{12}$ scale, featured Stephenson's valve linkage on all three cylinders and was powered by a motor turning the model at a scale speed. Alan used many refurbished 1950s parts. A precise use of Meccano to impart the feel of a huge and powerful engine.

Leaping seamlessly to the next table, we meet Citroën maestro and specialist **Ian Brennand** who, surprisingly, didn't have a car on display? He explained that he had found his next model and after seeing the photographs, I can only hint at how great it will look. I am certain that it will have all of Ian's hallmark hand-crafted features, meticulously-researched and executed graphic period details. He is very much bringing his style of model-making to the fore and his additions always create captivating miniatures in their own right. To compensate *sans vôiture*, Ian had a rather lovely Art Deco chair which showed that Meccano can tackle just about any object quite faithfully.



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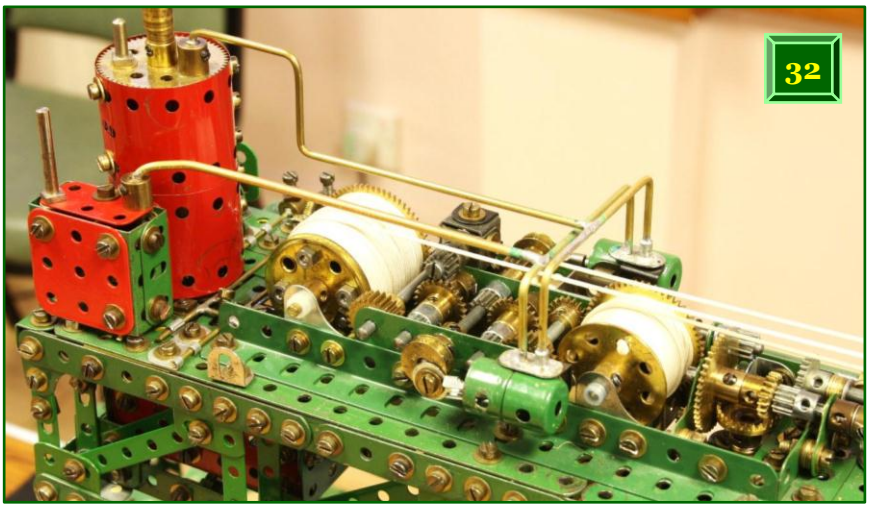
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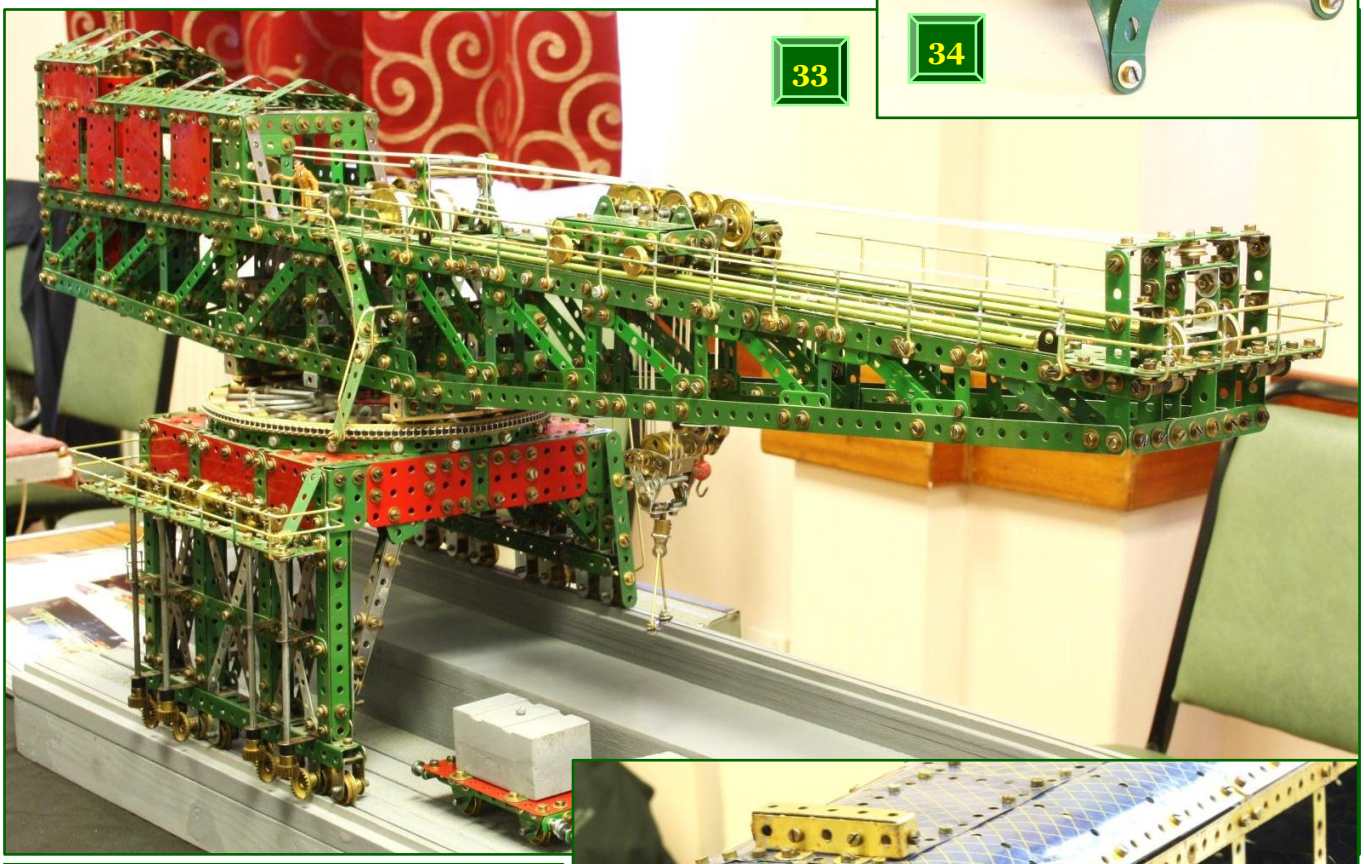
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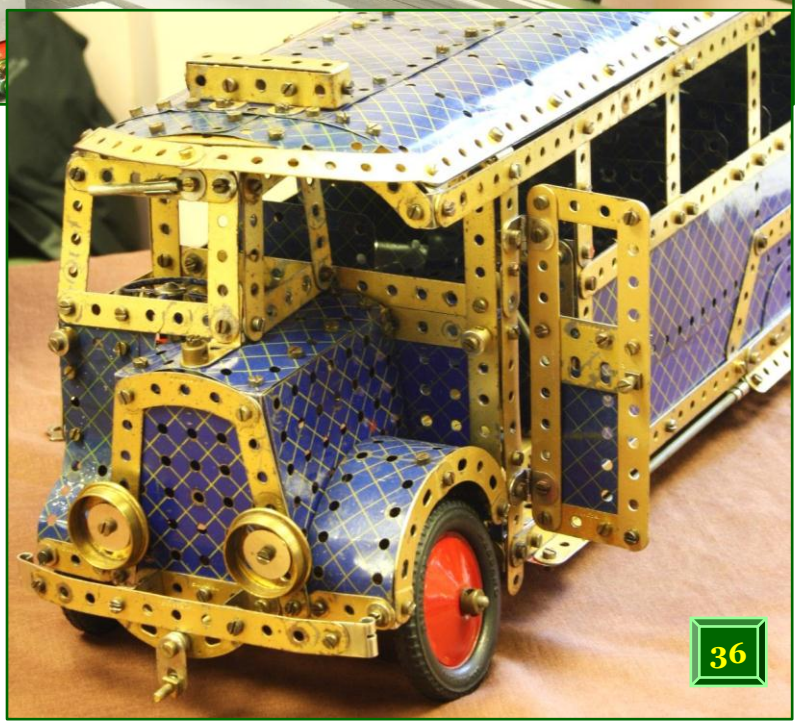
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32. With the 'shed' lifted off the boom rear, we have a view of the engine driving the machinery on **John Sinton's** latest small-scale blocksetter, the Tynemouth Pier Titan Crane. (RM)

33. John's Cowans Sheldon 'Titan' in its red, green and brass glory with blocks on bogies and a section of sea wall. Concealed in the asymmetric tower is the long travel motor. (RM)

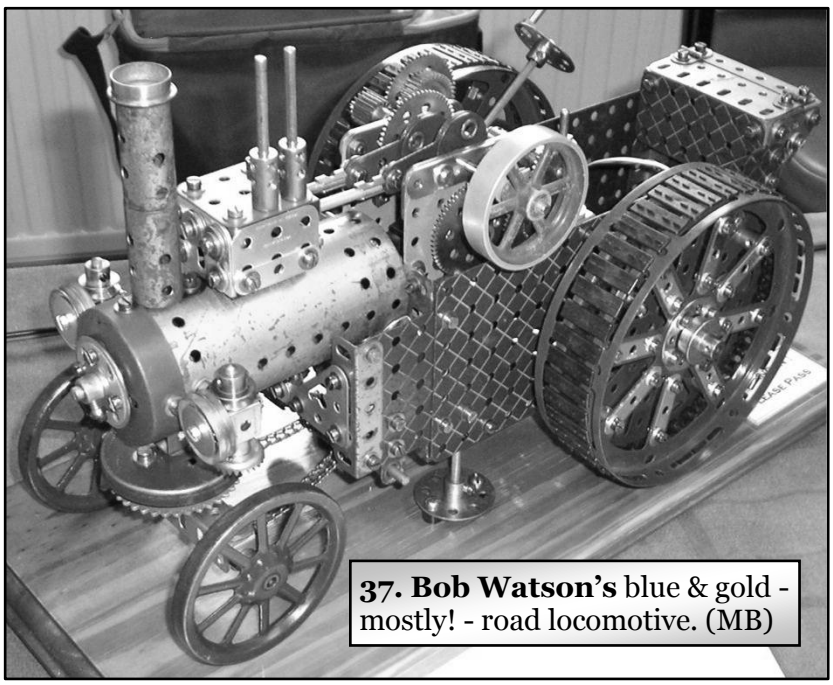
34. Rupert (the Bear) takes a breather on a shapely Art Deco chair he built almost entirely from Curved Strips and Plates; your Ed thinks the seat was actually made by Ian Brennand! (RM)

35. This metallic, mess-free moggy with Loom Heald whiskers was from **John Bader**; 2½" Stepped Curved Strips for those ears are common enough - but not in nickel. (RM)

36. Front end detail of **Paul Robertshaw's** latest single-deck bus in er, blue & gold. (RM)

To Ian's left were presented a collection of models all showing the true versatility of the engineering system that is Meccano. We had a road locomotive and two excavators built by **Bob Watson** who provided a description. *The excavator is actually a copy of a Binns Road display model kindly loaned by Barrie McKenzie. The mechanics were hidden below the body and some judicious dismantling was needed to reveal an interesting sequence of Gears and Chains so left off some plates. The original dealer model, bought for £45, still runs well and it's interesting to note that an original appeared for auction and sold for £300. It was powered by an 'Enicron' motor and as I did not have one, I used an M.O. With a few modifications this was a most satisfying model and I wonder how many were actually made for shop display.*

To the next table and I was instantly reminded of my futile attempt at describing John Ozyer-Key's Tatra last year. I felt just as unqualified and a bit silly to even attempt to say anything other than "Wow!" So folks, welcome to the (miniature) Tynemouth Pier Titan Crane, 1931-69 and I had better let **John Sinton** explain this stunner. *Due to the model's small size, its movements had to be controlled from the engine house rear, resulting in some unusual arrangements. All motions, with the exception of the carriage travel, were powered from a motor in the balance weight. Travel was by a separate motor on the carriage and set by a microswitch linked to movements on the jib. This gave the impression that all motions were driven by one motor and was necessary as the effort to rotate the gears and overcome the model's weight could not be transmitted in the normal way. Many of the vague details from original drawings were represented by assemblies of small parts in the approximate position. Hoists were fitted with drum brakes but it had not been possible to include these due to the $^{1}/_{45}$ scale.*



37. Bob Watson's blue & gold - mostly! - road locomotive. (MB)

On to safer reporting and we were greeted by three splendid period motor coaches and buses from **Paul Robertshaw**, all built to the exacting level of detail I try to aspire to in my own work. The collective styling and how Meccano had been used to capture the correct proportions and historic vibe of each bus was wonderful. As a newbie (still!), I find blue & gold seems to anchor our hobby in its origins and heritage. The streamline shape of the second blue & gold coach was so pleasing on the eyes and I feel few modern vehicles have this all-round designed *présence visuelle*.

My April 2017 report nears its end and some fun & smiles lay in wait on the final table. A pleasing (and pleased with itself) cat in black and nickel with whiskers made from Healds was standing proudly over the carcass of a dead fish; it ought to be proud after managing to consume such a large meal. **John Bader** was the equally proud modeller and it is always great to see good humour regularly injected into our hobby. John also provided your reporter with his final assignment, a fine 'early years' crane built from nickel parts and driven by a Clockwork Motor. l happened to notice that John was bravely attempting to entice us with a generous offer of some 34b Box Spanners - grin...!

Tony Seed

Cheers Tony; John now takes the baton and ends our tour with the top island.

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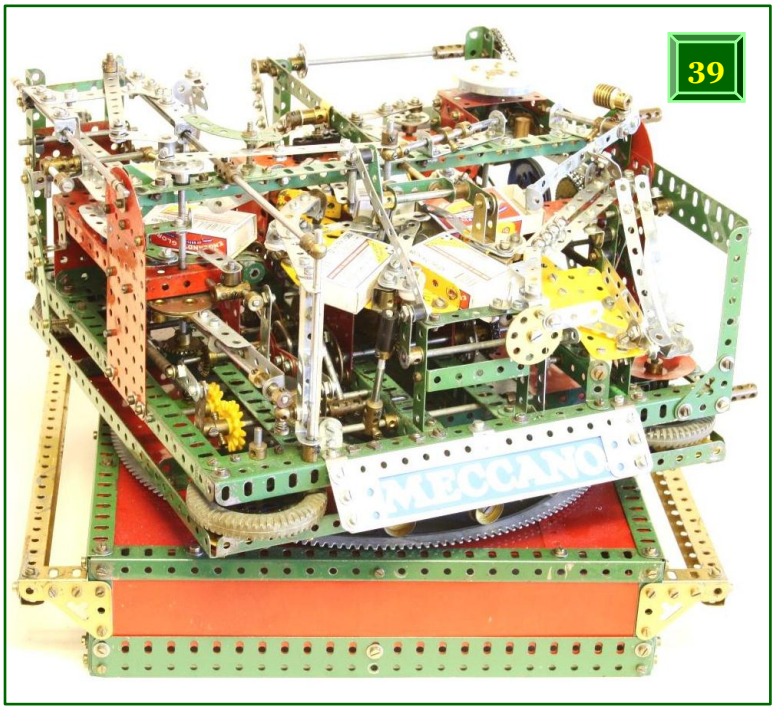

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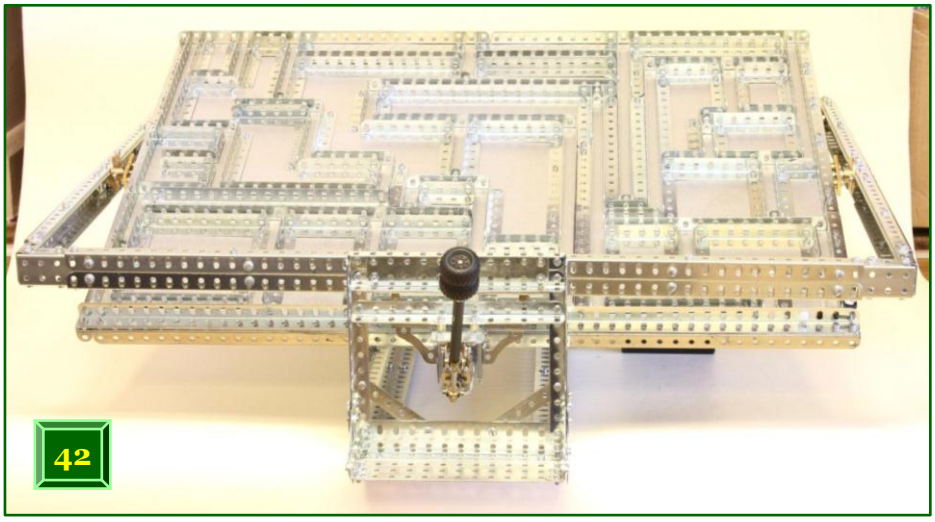


An SMG Laughton colour page devoted to NEMS!

38. David Owst won top honours at Darlington last year and here's how he did it. (RM)

39. David reinforced the impact on his first Laughton Day with probably the most dependable version ever built of Chris Shute's fiendishly complicated Multiple Matchbox Manipulator. (RM)

40. Chris Shute was well represented at Laughton in his absence, his Land Rover rebuilt by **Barry Richardson**; stuffed in there is that chunky infrared control system. (RM)

41. As **Albert Howe** was one of our reporters, your Ed thought it unwise to incur his wrath by not including a colour picture of his latest steam engine, even in its unfinished state! (RM)

42. Brian Chaffer's tilting ball-in-a-maze game pushed the Ed's backdrop (an offcut of lino; no expense spared) a little beyond its limit… (RM)

A strong contingent from the North Eastern MS occupied most of my area which was good as they are splendid company. The tallest model in the room was a windmill by **Joe Etheridge**. Based on John Machin's CQ46 *Wake the Sleeper*, there were lots of amusing details. You were invited to push a lever which rang a bell twice to wake the miller, who emerged rubbing his eyes. Naturally, he objected to being woken and his hand appeared to switch off everything. Four motors powered all the devices.

Barry Richardson had built a good-looking Land Rover. The paint job was an exactly-right safari yellow, a more mustard than canary yellow. Based on a design by Chris Shute and shown in *CQ* a few years ago, it had the Meccano two-motor infrared 'Action Control' system.

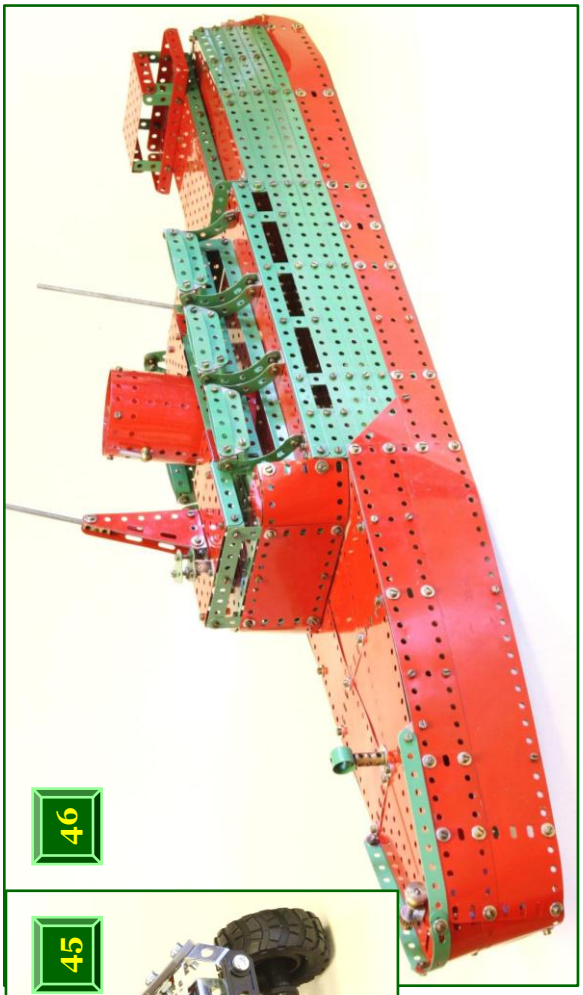
Brian Chaffer had not brought any of his trademark red and zinc models but surprised with a (for children of all ages) tilting-table game. In theory it was controlled by a joystick though it was so sensitive that guiding a ball through a maze was a decidedly chancy business. Even the builder had not yet mastered the technique. The table was mounted in a gimbal which allowed tilting backwards & forwards as well as left & right.

43. Joe Etheridge is another who enjoys automation by Elektrikit. (RM)

Did you see **Albert Howe's** late-era beam engine at Skegex a couple of years ago? It had a beautiful blue structure with finely decorated columns. A new Victorian-era machine is now under way, a vertical steam engine, also with columns, though not yet finished. Also in that deep royal blue; it will be very elegant.

Colin Milne brought a super little red *Tintin* jeep and seaplane from recent sets, the latter a yellow monoplane with radial engine, floats, tapered wings and RAF roundels. An 'Evolution' model made up the trio, a 'Red Arrows' jet; those sets are definitely worth buying just for that tapering nose cone.

David Owst had two very different items. Not the 'Angel of the North' (I think the wings rather stiff and rectangular) as David's angel was a more curvy (I almost said realistic) angel with moving arms and wings. The head tilted back as it prepared to give a blast on the trumpet. David said a motor in the base ran continually, switching on or off a second motor which operated the moving display. It was inspired by the 2016 Osmotherley Angel Festival. His second model was the splendidly-titled Multiple Matchbox Manipulator and was worth the entry fee alone. Typically for a Chris Shute design in *CQ*, it had been difficult to make work reliably but it had managed seven hours at home and several trouble-free hours at meetings. It combined moving matchboxes with ball bearings and you could watch it for hours.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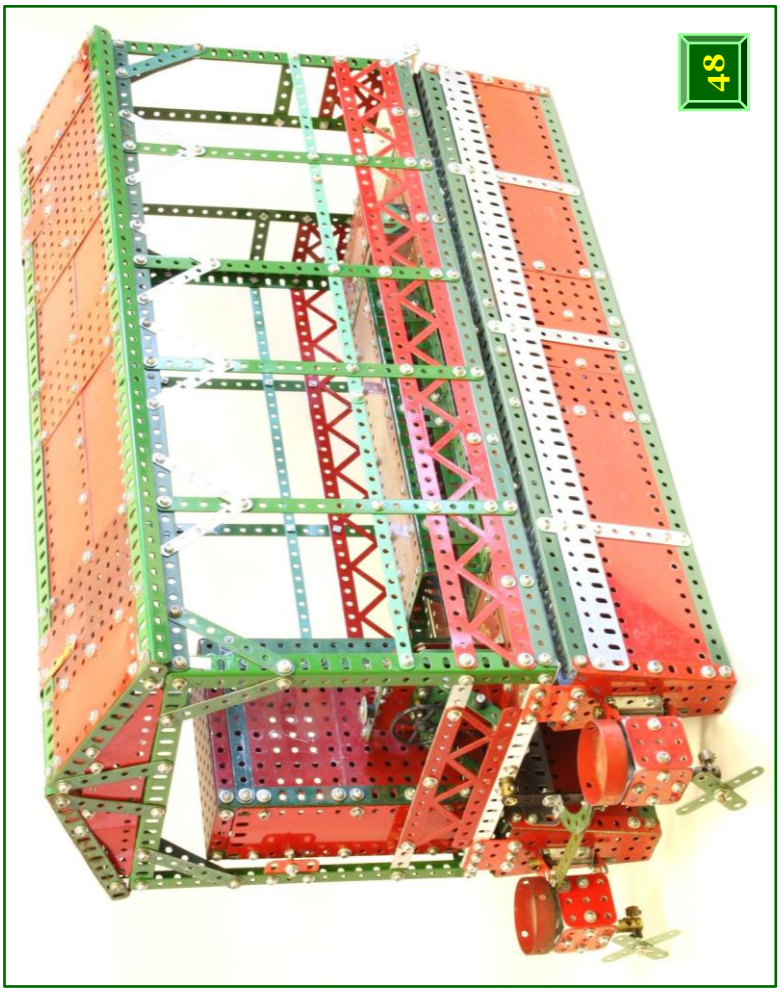
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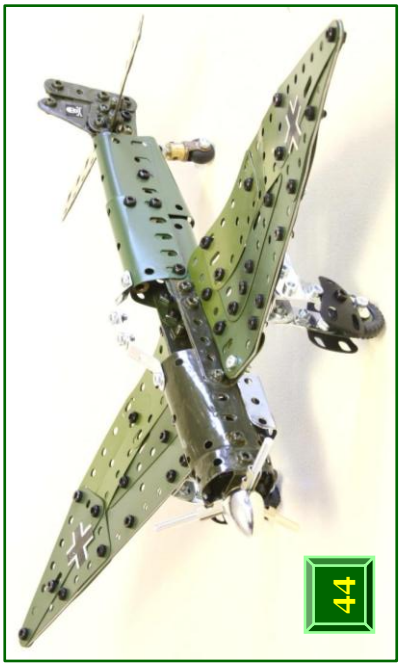
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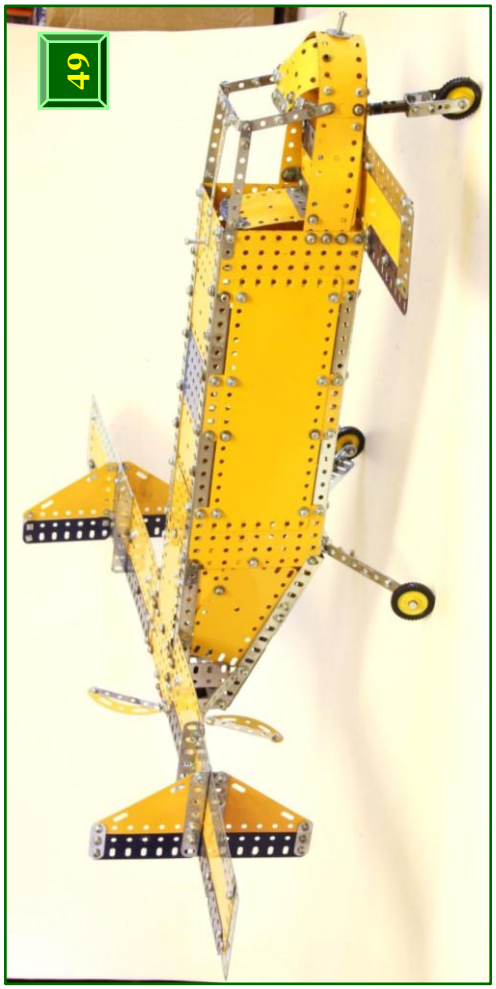
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A sideways look at Laughton

44. Paul Furness had built a range of military models which included this 'Stuka'. (RM)

45. Modern production Meccano is soon snapped up by **George Roy**. (RM)

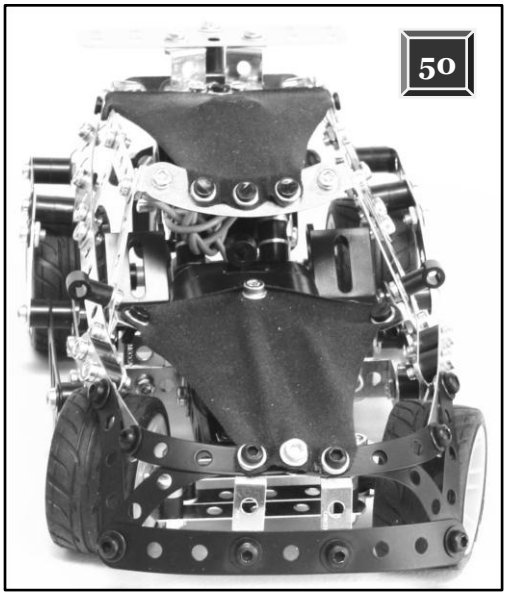
46. Traditional Meccano in a traditional model; No. 9.4 Train Ferry by **John Nuttall**. (RM)

47. Among other things, **John Ozyer-Key** has added wheels to his AEC 'Roadtrain'; this is one of the steerable, driven axles with smooth-spinning gears and ready for the chassis. (RM)

48. It has been a couple of years since **Wayne Stancliffe** joined us but his reputation for offbeat subjects continues unabated thanks to this water taxi - note the two propellers. (RM)

49. Wayne's equally-odd 'Lockspeiser' was another model to encroach off the backdrop! (RM)

Two lovely vessels in immaculate light red & green (but mostly red) were by **John Nuttall**. One was a Train Ferry from a No. 9 Manual, the other an Oil Tanker from the December 1956 *MM* - which had to be built in the prescribed order and consumed 34 Right-angle Rod & Strip Connectors!



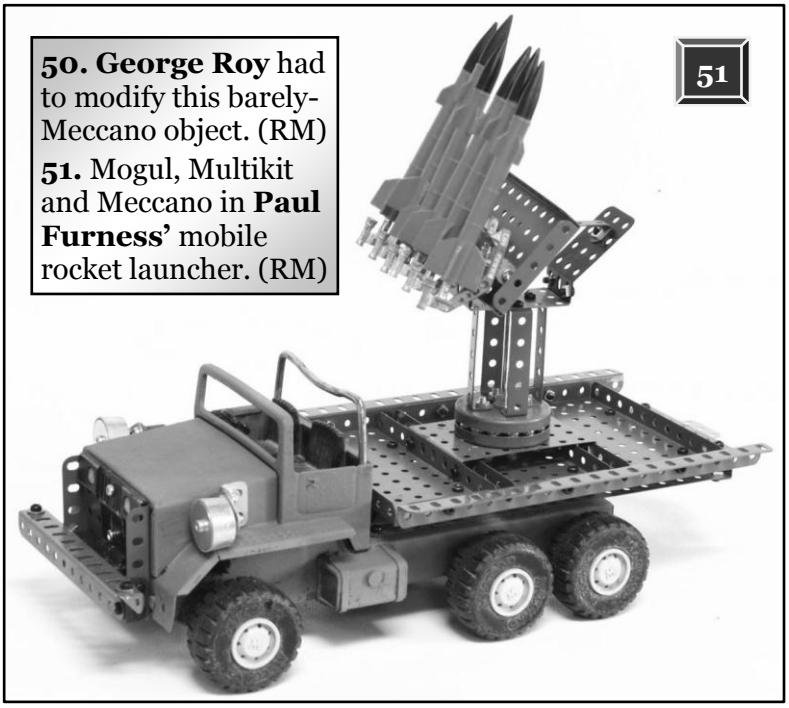
Wayne Stancliffe hails from my old stamping ground, Cleckheaton. He had not been to Laughton for a while so had an accumulation of models. A nuclear submarine caught the eye, (yellow, what else?) A tractor in red & green with trailers for a variety of jobs from scarifying to hauling crops. A water taxi was a strange-looking vessel. The Lockspeiser Land Development Aircraft was designed as an 'Aerial Land Rover' to take off from rough airfields; it had a pusher engine but was destroyed by an arson attack before it could be further developed. An interesting aircraft with lots about it and the designer on the Web.

A series of models came from **George Roy** who used modern sets to make small vehicles. A motorcycle was typical of the trend towards plastic parts, George liking the wheels. A cross-country truck featured plastic locknuts to fix its suspension arms which did not work well so he replaced them with 'Nylocs'. The suspension mounting also had to be beefed up. A mountain rally vehicle especially needed revision as the motor failed to move it but with altered gearing he was able to get results. George is no fan of Tri-flat Gears which do not always run true.

Paul Furness also featured items which can be investigated on the Web. Remember the 'Honest John' missile? It was launched from the back of a lorry as a free-flight rocket with a range of twelve miles. Another lorry-based system launched six rockets in anger. A postwar vehicle was the 'Kübelwagon'; made by VW, a rear-wheel drive four-seater designed for the German army as a staff runabout vehicle and also sold for civilian use. Paul's fourth model was a Stuka dive bomber and all were painted in the appropriate khaki.

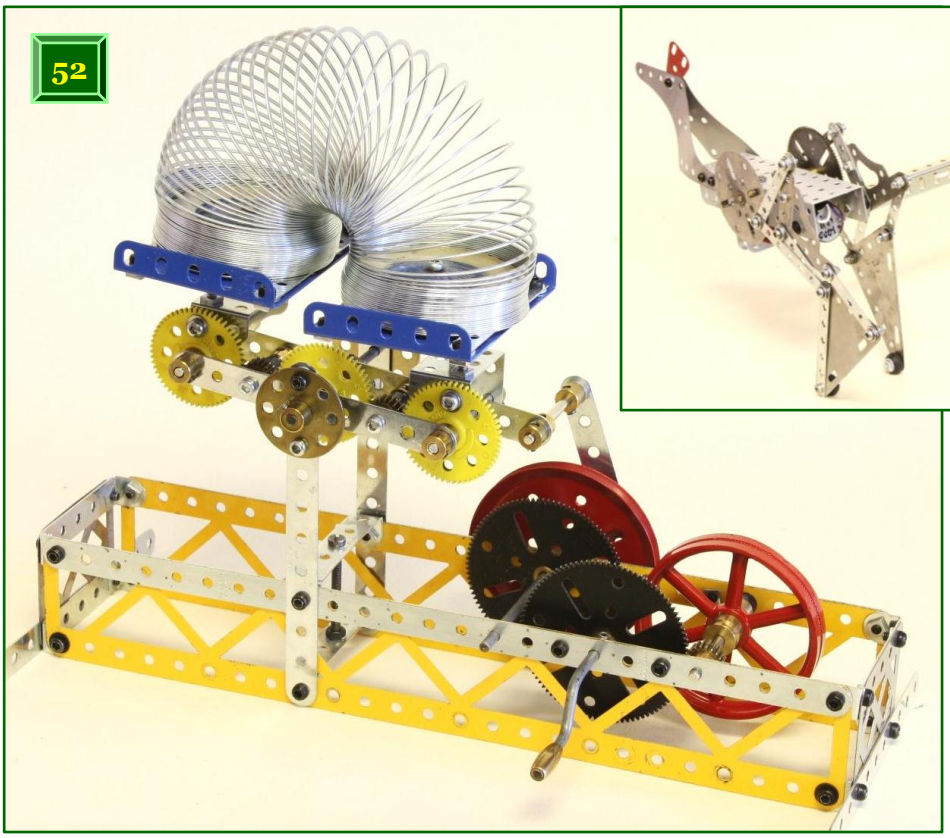
50. George Roy had to modify this barely-Meccano object. (RM)

51. Mogul, Multikit and Meccano in **Paul Furness'** mobile rocket launcher. (RM)



Stefan Tokarski filled a table with models, the two largest being a pair of cranes designed for youngsters to 'drive' using simple, colour-coded controls. They were a jib crane on a travelling gantry as used on postwar Meccano advertising then rebuilt by Bill Steele and the Elevated Jib Crane from 1913. Tim Martin's unique 'Slinky Juggler' in CQ115 also caught Stefan's eye! The electric roadrunner happily pounded circles using the mesmerising Theo Jansen linkage.

My own contributions were a couple of beam engine configurations to take the weight of heavy pump rods in mines and replicas of the two valve mechanisms in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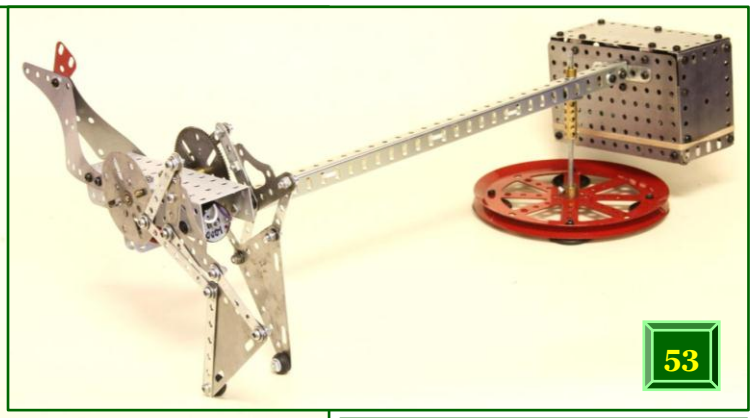
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The International Society of Meccanoists
The Michael Adler Founder's Prize
2016
awarded to
John Wilson ISM and SMG
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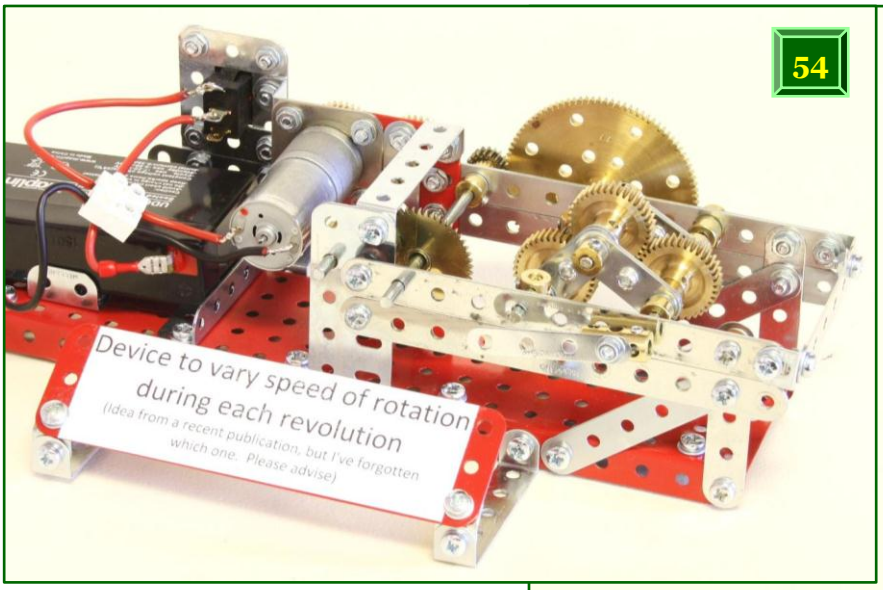
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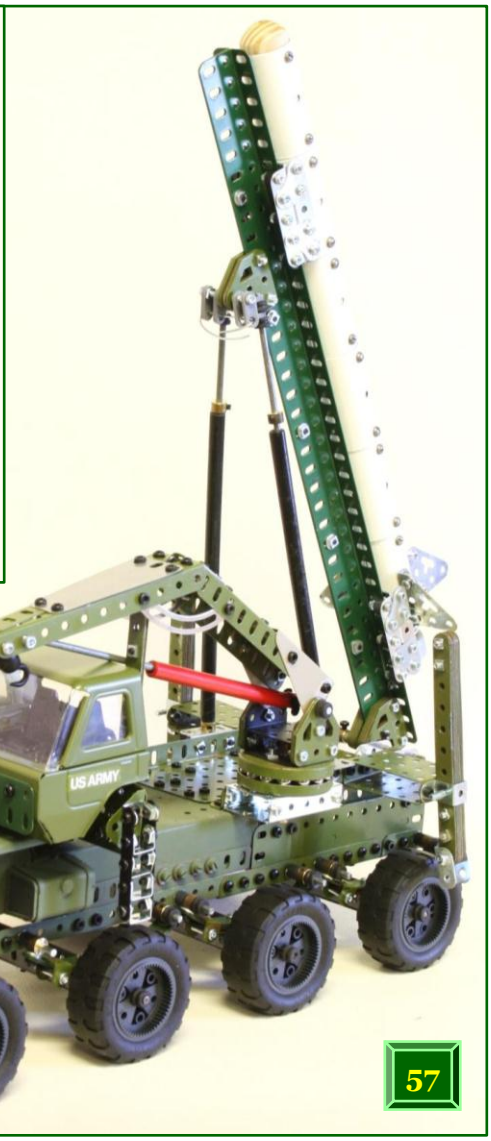
Device to vary speed of rotation during each revolution
(Idea from a recent publication, but I've forgotten which one. Please advise)


US ARMY
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52. Stefan Tokarski was clearly impressed by Tim Martin's offbeat 'Slinky Juggler'. (RM)
53. Stefan's rotary roadrunner seemed not to be bothered by dizziness. (RM)
54. As well as atmospheric engines, **John Wilson** can produce an attractive mechanism. (RM)
55. John's Meccano atmospheric engine won him the ISM's Founder's Prize for 2016. (HK)
56. Of **Paul Furness'** sudden splurge of hybrid military models, the 'Honest John' was the largest and those two Army Multikit Cabs don't do a bad job of representing a single cab. (RM)
57. Returning to **Stefan,** this is his travelling gantry crane from a Bill Steele design. (RM)

the Dudley Castle engine, pages 38 to 43. All were designed to be played with by members but you are just too polite to touch other peoples' stuff. Pity! There was also a device to vary speed of rotation, accelerating and slowing down during each revolution. The idea was published in a recent Meccano publication but I've forgotten which one! Please let me know if you recognised it. This variation is designed for heavy duty.

John Ozyer-Key was a late arrival thanks to work so had to nab a vestigial space at the very end for his steadily-progressing AEC 'Roadtrain'. Not many are capable of building steerable, smooth-running driven axles of this quality plus the start of a chassis frame was on show.

John Wilson

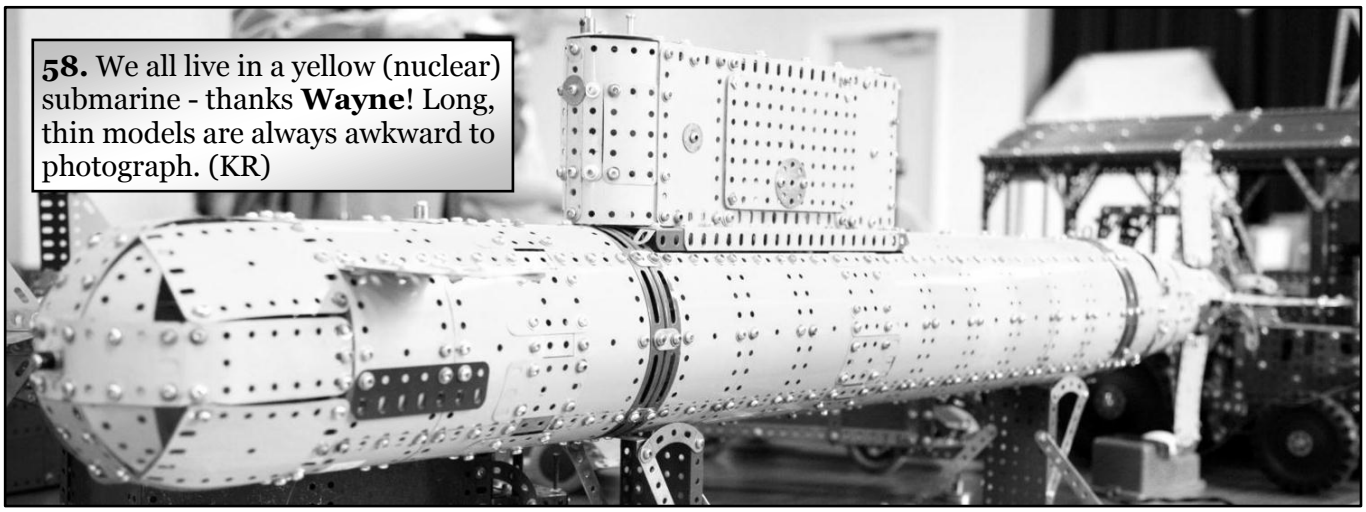
Excellent work as always John.

The less informal bits

Our annual horn-lock entertainment began at 14:00 and last year's winner, Russ Carr, relives the pain, ignominy and glory overleaf.

We had a business meeting at 15:00 which finished at 15:15; no doubt some would say it was still ten minutes too long. Following the traditional welcome to all and those from afar in particular, gratitude was expressed to all for making it the best SMG Day ever. We welcomed three new members: Robert Jones, David Owst and Ernie Turnbull, Ernie returning after several years of absence. Apologies had been received from Tim Martin (at the SBMC), the Nightingale family (at the NWMG), Gregg Worwood (a family member had no regard for Meccano events) and our regular contest entrant, Pete Turner. John Dimech offered Jim Gamble's apology; being the SBMC's President meant Jim had to be there instead! Our own Pres, Barrie, had nothing to say nor did our Treasurer John but Russ spoke of then revealed our new banner. In flagrant defiance of the membership's instructions in October to spend about £60, it cost us nothing (page 62). Events man Bob had good news about Barrow Hill Roundhouse: their new building is done, the SMG firmly invited to display in September and it falls on his birthday to boot. In a more sombre mood, the loss of our long-term member David Howard was announced. Moving to other events, we covered NEMS at Beamish then Shildon, TIMS at Meccanuity, CAM at Garges-lès-Gonesse, Skegex courtesy of Geoff Brown and the MMG at Gaydon. David Miller had nipped outside and missed a round of thunderous applause for his culinary work so when he returned we gave him a second. In a surprise move, Lesley Mitchell announced the imminent production of some very swish binders for your *SMGJ*s, page 47. Your Ed then expressed gratitude to everybody who helps the SMG along from words of encouragement to the effort of his fellow Committee members who cheerfully volunteer to be at the 'sharp end'.

Various points had dripped out of your Ed's leak-prone think-tank and maybe the severest drop was a mention that we had two prize-winners in our midst. Recipients of the April 2017 *International Meccanoman* would already have known that two of our Johns, Ozyer-Key and Wilson, had done rather well in the ISM Founder's Award for 2016



58. We all live in a yellow (nuclear) submarine - thanks **Wayne**! Long, thin models are always awkward to photograph. (KR)

with the Tatra 8×8 pipe-carrier (second place) and Newcomen Engine (first place); consult CQ115 to boggle at the Tatra's inner brass-stuffed workings and SMGJ128 to appreciate the Engine. Fifteen minutes later the business bit had closed and Russ Carr took control of the auction.

Not a huge quantity of items this time so after twenty minutes, lot 17 would have found a new owner if its reserve had been met. Items were the usual range with some excitable bidding for a stack of *IM*s and a collection of dark blue parts. Our Treasurer later reported the SMG as £45 better off. After all that, models were packed ready for the trip home, tables folded then un-whizzed and Laughton-en-le-Morthen Village Hall steadily reverted to the state in which we found it. By 17:00, it was all over for another six months.

Thanks to the assistance of the SBMC's Bob Thompson, a selection of pictures can be seen at:

www.nzmeccano.com/image-111658

The SMG would be nothing without…

Reinforcing the fact that such a successful SMG Day is wrought by the willing hands of many, pats-on-back were more than earned by Geoff Brown, Mick Burgess, Russ Carr, Albert Howe, Hellmuth Kohler, Ken McDonald, Barrie McKenzie, David and Wendy Miller, Lesley Mitchell, John Ozyer-Key, Ken Ratcliff, Bob Seaton, Tony Seed, Bob Thompson and John Wilson. If our pals in the NWMG and SBMC had half as good a day as us then they too will have enjoyed a memorable time. Shall we do it all over again in October? Nurse, the screens! *RM*

Pushing Their Luck

Russ Carr rediscovers the sneaky 'The winner is next year's reporter' rule; pictures by Hellmuth Kohler

Rampant cheating exposed!

Mechanised mayhem between twelve cunning contraptions from nine builders commenced at 14:00. In sort-of random order, they were weighed, listed then, despite a couple of omissions, photographed. It wasn't long before the first transgression appeared as Russ Carr's entry was grossly overweight at 1.96 kg - cheat! Equally outrageous, the mandatory moniker was missing. Having been rumbled for two wrongdoings, he swiftly applied the appropriate appellation of *Pushing My Luck* - which lent its name to this commentary - then fled to put it on a diet by removing 150g of parts. The scales revealed Paul Furness' *Dozy Bull* as 40g on the tubby side so having had his 59 felt, Paul also scarpered to remove the errant mass. At the other extreme, John Nuttall repeatedly weighed his slightly lean *Revohs* plus some parts (we found that a 2" Slotted Strip is near enough 0.005 kg) until the scales settled a little closer to the 1.81 kg limit. Having set the scene, it's over to Russ.

Let battle commence

8th April 2017 was the day of a major competition, not to be confused with some trivial horse-racing event over near Liverpool. No confusion as the Laughton event was run on the flat and involved significantly less than one horsepower.

Contraptions in action: a picture of each entry during Round 1

1. **Push-off 1:** *Taurus*, a stationary linear actuator from **John Rodgers**, slowly succumbs to the four-motored *Tarzan of the Japes* entered by **John Wilson**.
2. **Push-off 2:** a confident **Iain McKenzie,** *Discombobulator* and a crowd - all eager to see slipping tyres, smouldering motors and wheels spinning on bosses - await the countdown.
3. **Push-off 2 again: Rob Mitchell's** proudly unshiftable *Shift* and another linear actuator, was inexorably shifted to the edge (and defeat) by Iain's six-motored *Discombobulator*.
4. **Push-off 3:** the E15R-driven *Derbyshire Ram* entered by **Bob Seaton** had the upper hand before shedding a Sprocket drive then turning which allowed **Russ Carr's** *Pushing My Luck* to recover, advance back over the line and generally have fun making ram mincemeat.
5. **Push-off 4:** *Mr Shovemback* built by **Alan Lovett** barged backward **Rob Mitchell's** twin-No. 1 Clockwork *Gruntfuttocks* and in the process, abruptly terminated Rob's push for glory.
6. **Push-off 5: Alan** was immediately returned to the fray with *Mrs Shovemback* which made short work of **Paul Furness'** meaty *Dozy Bull*.
7. **Push-off 6: Paul's** second entry *Canit Wheely Doit* is rescued from the table edge, having been barged to the brink by **John Nuttall's** *Revohs*.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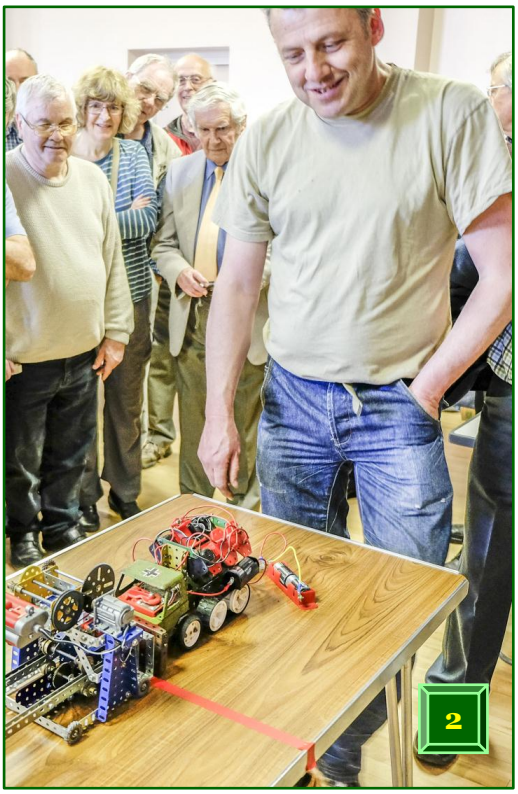
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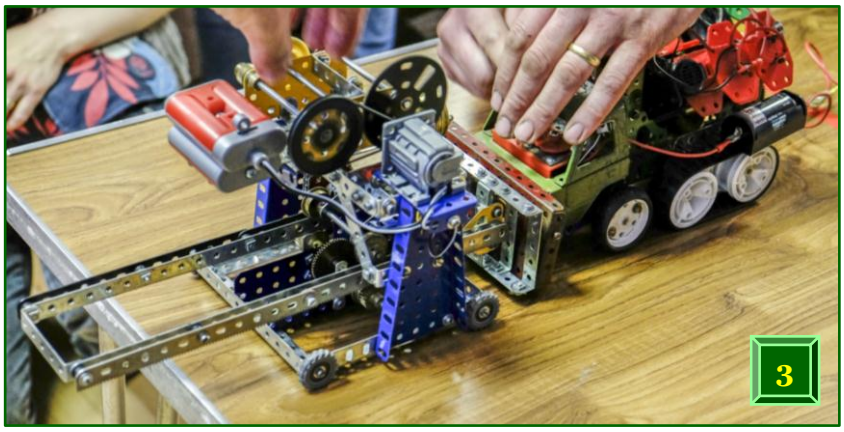
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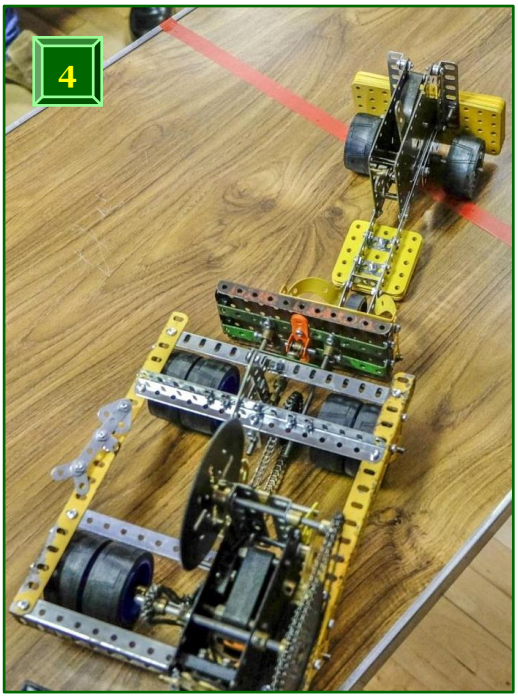
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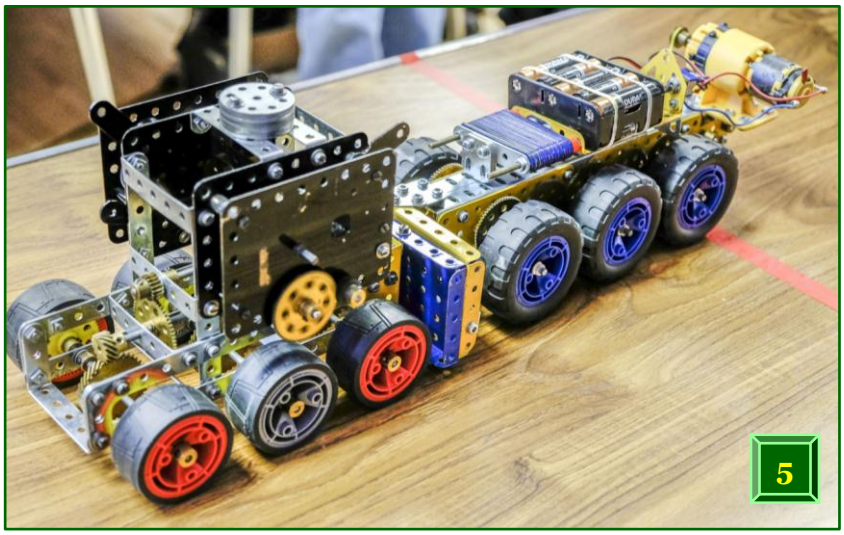
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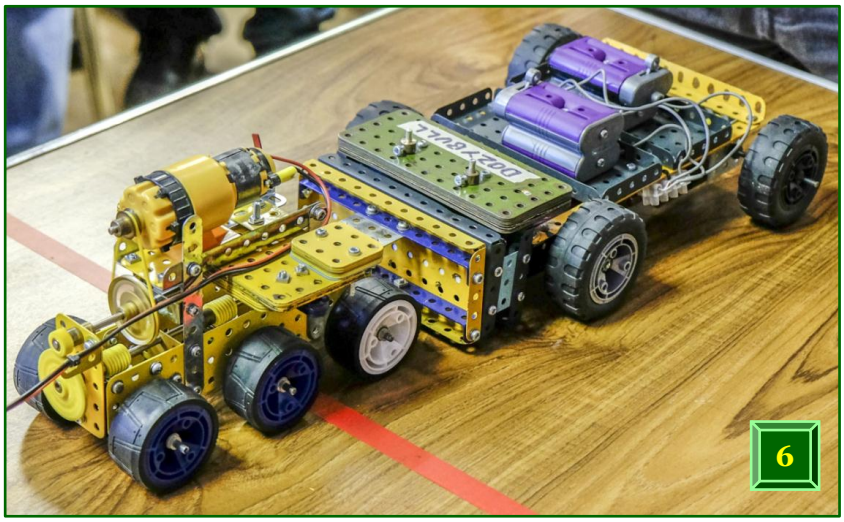
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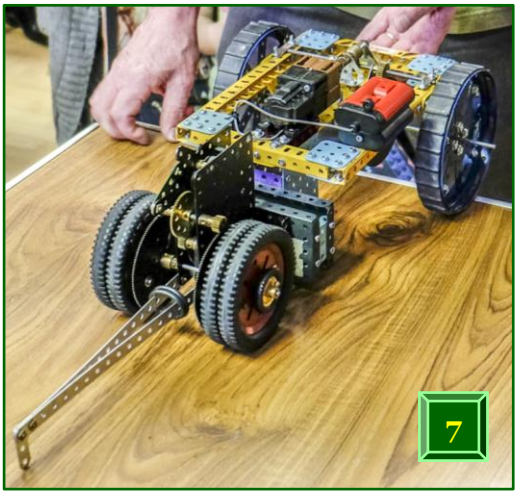
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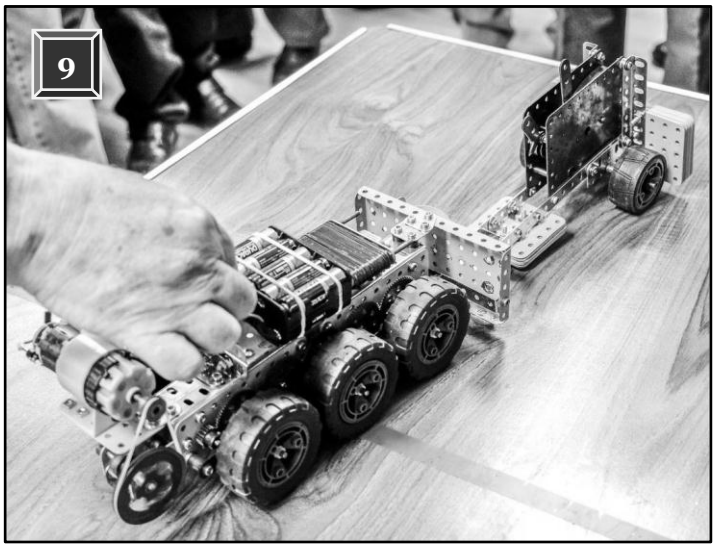


8. Round 1, push-off 5: watched intently by two NEMSers and a clutch of McKenzies, Paul Furness rescues *Dozy Bull* from the iron-like tractive effort of *Mrs Shovemback*.

9. Round 2, push-off 8: the hand of Alan Lovett saves *Pushing My Luck* from the table edge by turning off his resolute *Mr Shovemback*.

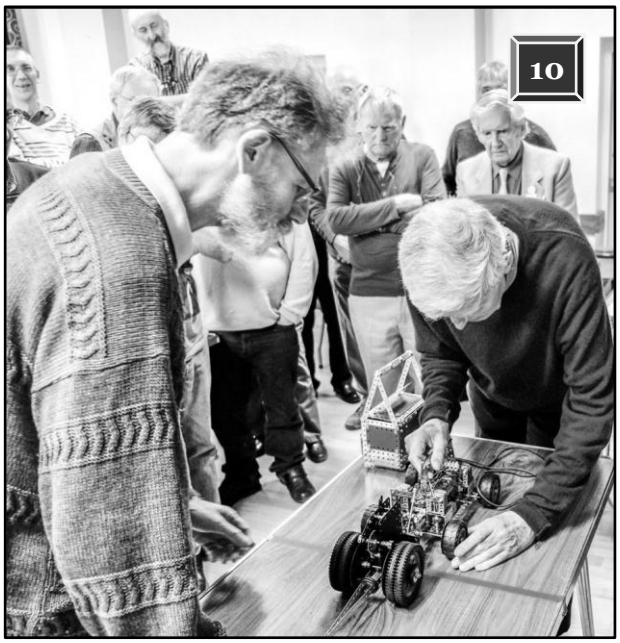
There were nine competitors but three - Rob, Paul and Alan - had entered two machines making twelve entries. Scrutineering found blatant over-weight from two entrants and hasty removal of ballast ensued; I can now confirm a 5½" × 2½" Flat Plate weighs 38g. A table was marked with a central line from red tape and battle commenced.

Round 1, push-offs 1 to 6

First up in push-off 1 was **John Wilson** with *Tarzan of the Japes*, its four M.os powered by Jungle Juice - a near car battery-sized power source - against the screw-driven *Taurus* by **John Rodgers**, a static pusher affair. Mobility ruled this clash with *Taurus* being almost shoved off the table. Push-off 2 was **Iain McKenzie** with *Discombobulator*. Iain's entry featured his ever more battered Army Multikit Cab and having no less than six M.0 Motors arranged in a V6 formation against **Rob Mitchell's** *Shift*. As befitted a machine named after a lady's nightdress, *Shift* lost. **Bob Seaton's** *Derbyshire Ram* versus my own No. 2 Clockwork-propelled *Pushing My Luck* followed in push-off 3 and after a bit of to-ing & fro-ing over the line, clockwork proved to be up to the job against Bob's E15R which shed a Sprocket drive at an inconvenient moment then yielded. Alas, an oil slick from the recently de-gunged No. 2 appeared to have a bearing on later results as we shall see. In push-off 4, **Alan Lovett's** *Mr Shovemback* demonstrated superiority over **Rob's** twin-Clockwork *Gruntfuttocks*, making sure that both of Rob's entries were eliminated in the first Round. **Alan's** second entry, *Mrs Shovemback* made slow progress against **Paul Furness'** *Dozy Bull* in push-off 5, wheel rotation not being translated into forward progress. Finally for Round 1, **John Nuttall's** clockwork-powered *Revohs* overcame Paul's second entry *Canit Wheely Doit* during push-off 6.

Round 2, push-offs 7, 8 & 9

With half of the original field now forming an orderly scrapping line, Iain's half-track *Discombobulator* made great progress and was almost pushing John's *Tarzan* off the table. The contest carried on until someone noticed the timekeeper was snoring. [Ed Lies, all lies! Was merely transfixed by the unfolding tussle, honest.] After a re-run demanded by the crowd, the push-off 7 outcome was reversed and *Discombobulator* was, well, discombobulated after melting an electrical connection supplying its six M.0 Motors. Next was me again, *Pushing My Luck* a little too far so an initial strong start gradually ran down as the minute progressed and handed the game to Alan's electric-powered *Mr Shovemback* in push-off 8. The final Round 2 clash, push-off 9, John's *Revohs* took out Alan's *Mrs Shovemback*, electric succumbing to clockwork.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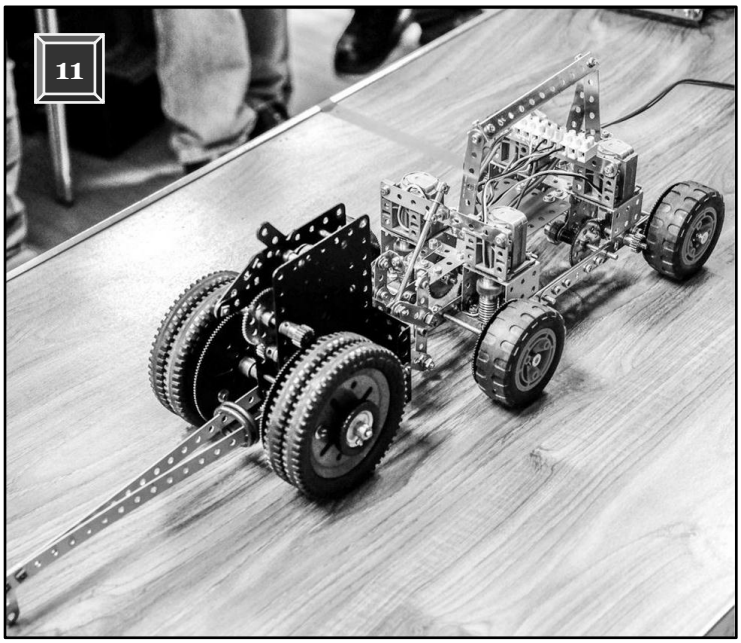
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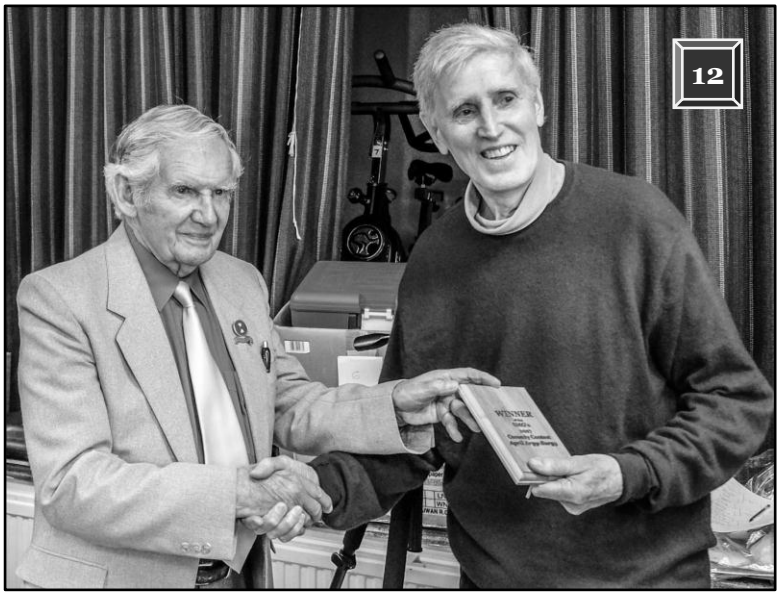
Round 3, push-off 10 then the final

With the opening field halved again to three combatants, one went through on a bye to the final. The randomised running order allowed *Revohs* that honour but who was to be the opponent? Well, *Tarzan's* pushiness in push-off 10 ended *Mr Shovemback's* quest for glory to leave John Nuttall and John Wilson to go head-to-head. In the event, *Revohs* yielded to *Tarzan of the Japes* in a closely-barged final.

Russ Carr

Ed. Thanks to Russ for his commentary. Some mechanised entertainment for April 2018 is already in preparation but before its announcement, we can look forward to *How They Did It* in SMGJ130. *RM*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10. The final, push-off 11: let there be no doubt that this is a serious business! With *Revohs* and its handler John Nuttall primed for the off, John Wilson carefully sets *Tarzan* over the dividing line.

11. The final, push-off 11: as the sixty seconds tick by, *Tarzan* steadily gains the upper hand.

12. Oh no, not again! John Wilson receives the 2017 comedy contest plaque from our President, Barrie McKenzie. Looks like that Meccano trophy shelf at Wilson Towers will need further reinforcement…

The as-it-happened results table

Running number	Builder	Contraption name	Motor	Weight, kg	Round			Final
					1	2	3	
1	John Rodgers	*Taurus*	Electric ×2	1.81	***Tarzan of the Japes***	***Tarzan of the…***	***Tarzan of…***	***Tarzan!***
2	**John Wilson**	***Tarzan of the Japes***	**M.0 electric ×4**	**1.81**				
3	Iain McKenzie	*Discombobulator*	M.0 electric ×6	1.81	*Discombobulator*			
4	Rob Mitchell	*Shift*	M.0 electric	1.75				
5	Bob Seaton	*Derbyshire Ram*	E15R electric	1.73	*Pushing My Luck*	*Mr Shovemback*		
6	Russ Carr	*Pushing My Luck*	No. 1A Clockwork	1.81				
7	Alan Lovett	*Mr Shovemback*	M5 electric	1.81	*Mr Shovemback*			
8	Rob Mitchell	*Gruntfuttocks*	No. 1 Clockwork ×2	1.81				
9	Alan Lovett	*Mrs Shovemback*	M5 electric	1.81	*Mrs Shovemback*	*Revohs*		
10	Paul Furness	*Dozy Bull*	M.0 electric ×2	1.81				
11	John Nuttall	*Revohs*	No. 1 Clockwork	1.79	*Revohs*			
12	Paul Furness	*Canit Wheely Doit*	M.0 electric	1.56				

Law & Downie Road Locomotive of 1863

Designed, built, described and photographed by Ken Ashton

Fig. 1

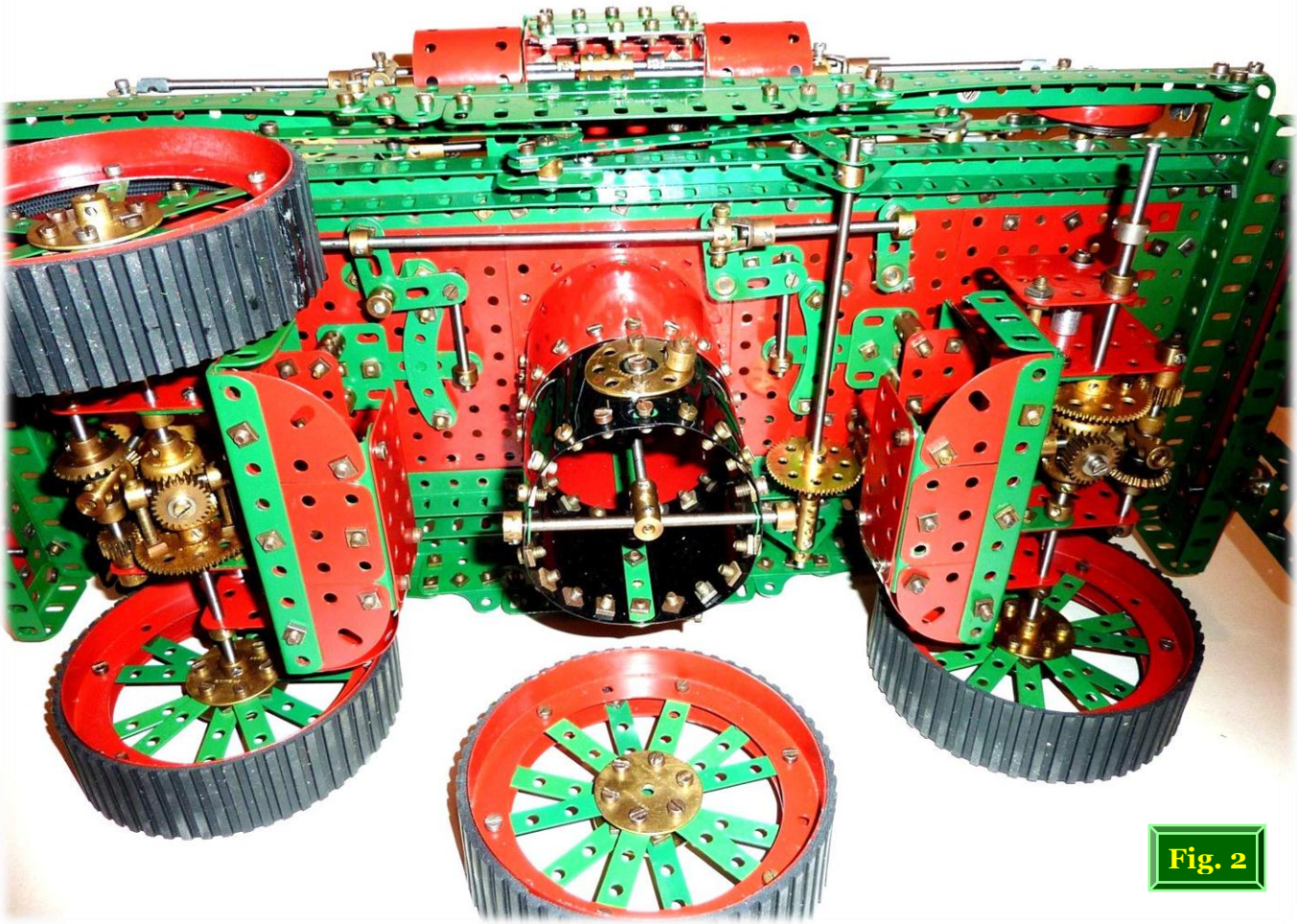


Fig. 2

Introduction

This model is my fourth in a series taken from that excellent publication - *Cherry's Model Engines* by David Carpenter and published by Robert Hale Ltd. The prototype represents both four-wheel drive and steer and is driven by four cylinders via two crankshafts with brakes at each end of the flat chassis which also incorporates the vertical boiler. Although drawings were prepared it is unlikely to have actually been built.

The Meccano model follows the outlines of Cherry's superb model but the drives have been substantially modified to include a differential on each axle with some provision for limited axle tilting. The model carries its own 12V battery and motor. Fig. 1 is a general view of the model.

Fig. 1. This is not your typical steam-age road locomotive or 'traction engine' with its vertical and centred boiler, four cylinders, a crank disc (with brake pad) at each corner, a drive to all of the same-sized wheels and buffers. It is driven from the right, i.e. the end with the vertical steering wheel. A driveshaft connects the front and rear wheels and passes through the boiler as Cherry herself modelled it. This connecting shaft did not exist on the original drawings - the premise was that on each side of the locomotive the two cranks would be driven by connecting rods to a common piston. Correspondence to the *Mechanics Magazine* pointed out that this could not have worked.

Fig. 2. The drive to each axle enters by the 26t Bevels then 3:1 gearing to the differential cage. Parallel Bell Cranks direct the steering linkage to each axle.

Fig. 3. An improved view of the final drive arrangements to the rear axle shows a 2:1 reduction gearing to the 1:1 Bevels. Bossless 25t Pinions allow a compact differential.

Chassis, bogies and steering

The chassis is 18½" long, 8½" wide and consists of six 18½" Angle Girders connected at their ends by 8½" angle girders and completed by five 5½" × 3½" Flat Plates (Figs. 2 & 3). Side plates are each provided by a central 7½" Flat Girder extended downwards by a 4½" Flat Girder and two 1" Corner Brackets. These are connected to two more 1" Corner Brackets by 5½" Curved Strips.

The bogies are identical in construction but are mirror-imaged. The sides consist of 2½" × 2½" Flat Plates joined by three 2½" × 1½" Double Angle Strips, the upper two carrying a 3½" × 1½" flat plate. Additional axle journals are provided by 1½" × 1½" Flat Plates spaced from the side plates by an Elektrikit 1" Core and a short Screwed Rod. The coal scuttle consists of a 4½" × 1½" flat plate with the bottom 1½" × 1½" Flat Plate and quarter plates supported by a 4½" Angle Girder (Fig. 3) and is completed by a 2½" × 1½" flat plate and a curved 2½" × 1½" Flexible Plate bolted to 2½" and 1½" Angle Girders (Fig. 2).

Each bogie pivots on a short Rod through the chassis plate held in place by a Collar above the plate and a 95t Gear below. The rod also carries a 25t Pinion within the differential case and the slack between the 95t Gear and the Pinion allows limited tilting of the bogie. Tilting from fore to aft is prevented by a 2½" Strip bolted to a 1½" Flat Girder spaced from the top plate by Couplings and long Bolts: the strips engaging between two 2½" Curved Strips spaced apart by Washers and further spaced by Collars on long bolts from the flat plate (Fig. 2). The 25t Pinion drives a 50t Gear on a downshaft journalled in a Coupling free running on a horizontal shaft and allows a bevel drive to a 19t Pinion (Fig. 3). This Pinion meshes with the

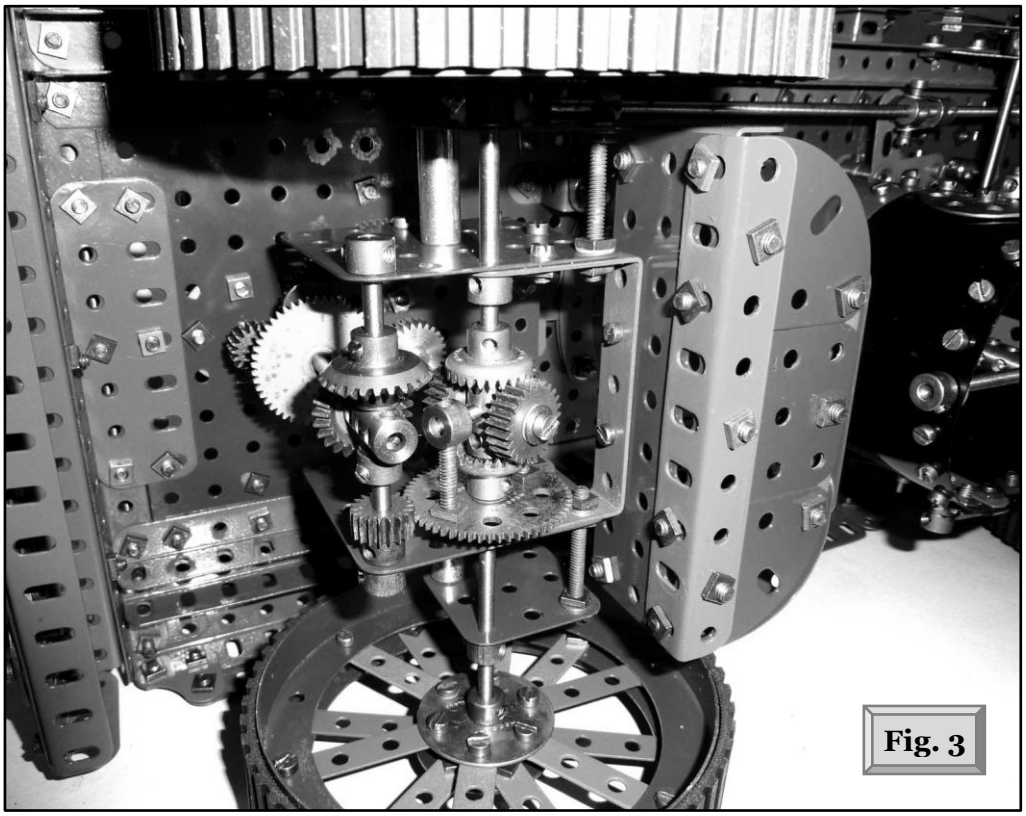


Fig. 3

57t Gear which carries a standard differential arrangement but using unbossed 25t Pinions. Each half-shaft carries a wheel comprising two 4½" circular girders with 4½" Narrow Strip spokes attached to a Bush Wheel and a Wheel Disc. The wheels are rubber-treaded.

The chassis is completed by adding the buffer beams consisting of Flat Plates bolted to a 7½" Angle Girder which is in turn bolted to another 7½" Angle Girder fixed to each end of the chassis (Fig. 4). The non-sprung buffers are comprised of 1" Bush Wheels on short rods in Bush Wheels bolted to the frame. A hook is located centrally on a long Bolt in a Double Bracket.

Steering links are provided by two Bell Cranks pivoted on short Rods in Cranks bolted to the chassis underside (Fig. 2). A short Rod fixed in Collars on Bolt shanks connects the Bell Cranks to the 2½" Strips on each bogie. The Bell Cranks are further connected by a long Rod in pivoted Collars and a Swivel Bearing bolted to a short Rod carrying a collar pivoted on a Bolt shank in a Crank on the steering shaft. The latter is journalled at its top end in a Flat Trunnion carried by three 2½" × ½" Double Angle Strips (Fig. 5). A 1½" × ½" Double Angle Strip carries a short worm meshing with a 19t Pinion on the steering shaft. The wheel comprises two 3½" Narrow Strips formed around six short Rods in two Triple Rod Connectors, one of them bossed.

Boiler

Under the chassis, the boiler comprises curved Flexible Plates and is located centrally by a vertical Rod fixed in a Double Arm Crank bolted to the chassis underside and a cross bar attached by a Coupling (Fig. 2). Above the chassis, a 3½" circular girder is bolted centrally and supports curved Flexible Plates slightly flared out to accommodate a Flanged Disc (168a) resting on the Nuts arranged on Bolts around the boiler top edge (Figs. 5 & 6). The Flanged Disc carries a Double Arm Crank and a vertical Rod to carry the chimney arrangement. The boiler also carries representations of the regulator, pressure gauge, water and steam connections and steam vent evident in Figs. 1 & 5. Provision must be made for a horizontal Rod to pass through the boiler three holes up as seen in Fig. 6.

Crankshafts, cylinders and valve gear

The crankshafts are identical and are each supported in two Flanged Brackets (Fig. 5). They are comprised of four Eccentrics (Triple shown: Single preferred), two Wheel Flanges fixed to Bush Wheels and a 21t bevel gear. This latter meshes with a 42t bevel on a vertical Rod journalled in a Bush Wheel bolted to the chassis, the rod carrying a 19t Pinion under the chassis which meshes with the 95t Gear drive to the bogie.

The cylinders on each side comprise a steam chest made from two 2½" × 1½" Flanged Plates joined by two 2½" × 1½" Flexible Plates, Strip-braced, and a 2½" × 2½" Flexible Plate bolted to two 2½" Angle Girders (Figs. 5 & 6). These are fixed to two Girder Brackets bolted to the chassis (Fig. 4). Two Double Bent Strips provide journals for the sliding valve stem comprising a short Rod with a Strip Coupling. The latter accommodates a 1½" Narrow Slotted Strip lock-nutted at the top to a cranked 4½" Narrow Strip bolted to the inner Eccentric. A

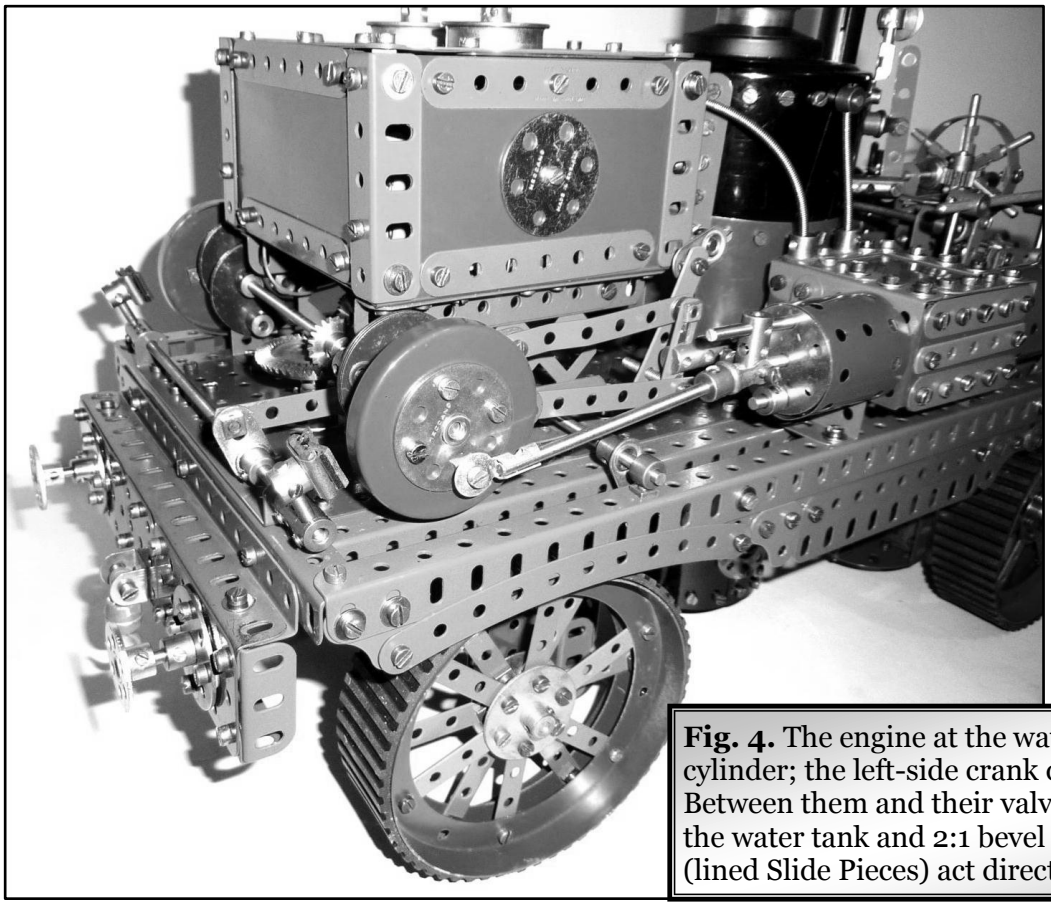


Fig. 4. The engine at the water tank end, right-side cylinder; the left-side crank disc is beyond. Between them and their valve gear eccentrics sit the water tank and 2:1 bevel pair to the axle. Brakes (lined Slide Pieces) act directly on the crank discs.

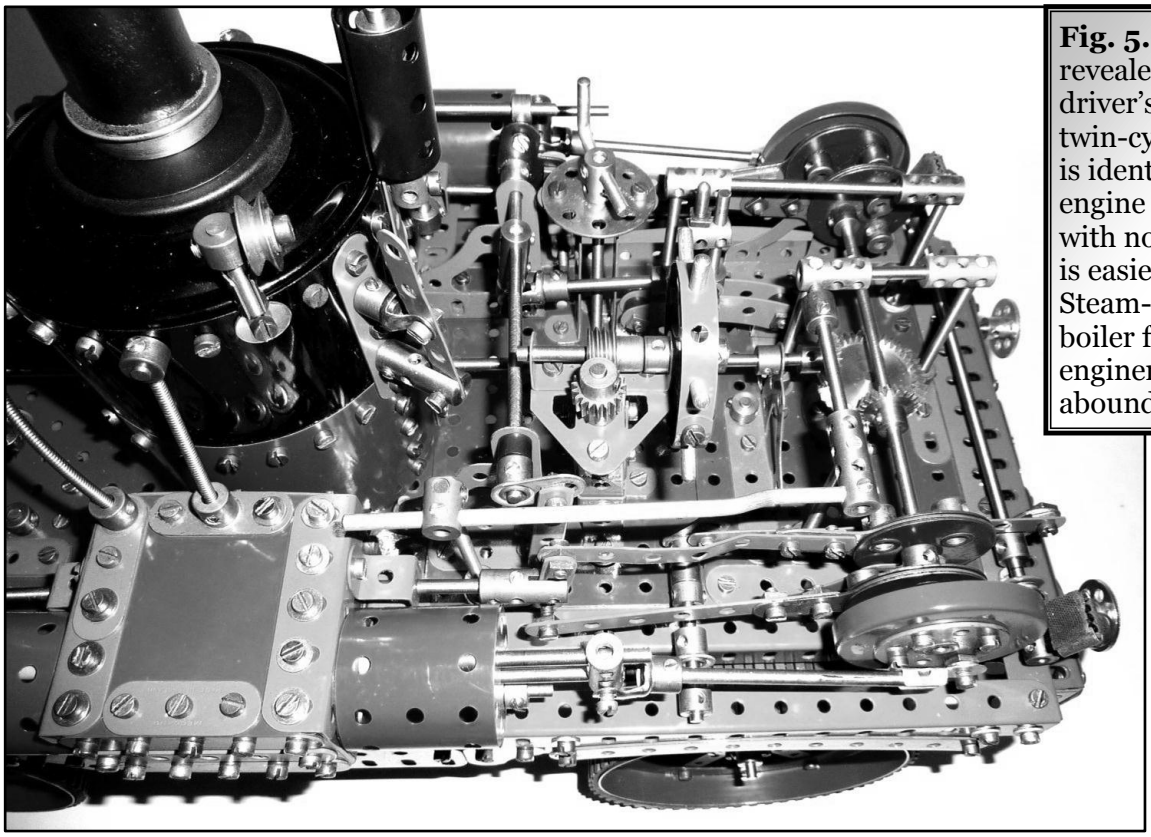


Fig. 5. Much detail is revealed here for the driver's position. The twin-cylinder engine is identical to the rear engine in Fig. 4 but, with no water tank, it is easier to appreciate. Steam-age plumbing, boiler fittings and engineman's controls abound.

further 4½" Narrow Strip bolted to the outer Eccentric carries a long Bolt located through the bottom hole of the Slotted Strip (Fig. 5). A Double Arm Crank and a Crank bolted to the top of the chest accommodate the dummy steam-exhaust pipes attached to the boiler.

Cylinders are made from Wheel Discs and Spacers on long Rods through the valve chest (Fig. 6). These are contained in a curved 5½" × 1½" Flexible Plate overlapped two holes. This is slipped over the inner four Wheel Discs then the outer three are held in place by a Collar on the lower rod. The longer upper Rod accommodates a sliding Coupling with a Small Fork Piece swivelling on Bolts fixing the piston rod. The Fork Piece is attached to a connecting rod with a Rod & Strip Connector lock-nutted to the Wheel Flange on the crankshaft.

Water tank, motor drive and control

The 4½" square water tank accommodates the motor (6000 rpm) and battery (Yuasa NP1.2-12). Built on a framework of 4½" Angle Girders with sides provided by Strip-braced 4½" × 2½" Flexible Plates and 2½" Angle Girders it gives a 4½" × 2½" Flat Plate battery tray with the battery located against a 4½" Angle Girder (Fig. 6). The motor carries a Worm and is suitably spaced to mesh with a 50t Gear on a short Rod which also carries a 14t Sprocket. The top of the tank is made up from two 4½" × 2½" Flexible Plates, again Strip-braced, with two Flanged Wheels representing the filler covers and is attached by Bolts in the captive threads provided by two ½" square collars attached to the side plates. The tank is spaced from the chassis by 3½" Braced Girders bolted to 3½" Angle Girders attached to the underside of the tank and the chassis top plates.

Adjacent to each crankshaft is bolted a Flanged Bracket which provides one journal for a long Rod extending into the boiler via the third hole up as the other journal (Figs. 5 & 6). Each Rod carries a 21t bevel gear meshing with the 42t bevel and, within the boiler, carries a Collar with long Grub Screw which engages within the slots of a Socket Coupling (not shown). This provides a non-binding drive connection between the two crankshafts and the Rod beneath the water tank carries an 18t Sprocket which is chain-driven from the 14t Sprocket within the tank.

The motor stop-start-reverse is controlled from a lever in the 'cab' area next to the steering wheel which operates the motor control via a DPDT switch in conjunction with the valve gear movement for each of the four cylinders. The lever with a Short Coupling at its base pivots on a short Rod carried in Collars bolted to the chassis and operates within quadrants provided by two 2½" Curved Strips suitably spaced apart and bolted to two 1" × ½" Angle Brackets (Fig. 5). The lever has a handle of a Short Coupling and Threaded Pin and, via two Swivel Bearings, rocks a Coupling on a Rod mounted in Corner Gussets bolted to 2" Angle Girders attached to the chassis. This Rod has a short crank at one end lock-nutted to a 2½" Narrow Strip which engages with the long Bolt on the valve gear. At the other end, a short bell crank carries another lock-nutted 2½" Narrow Strip

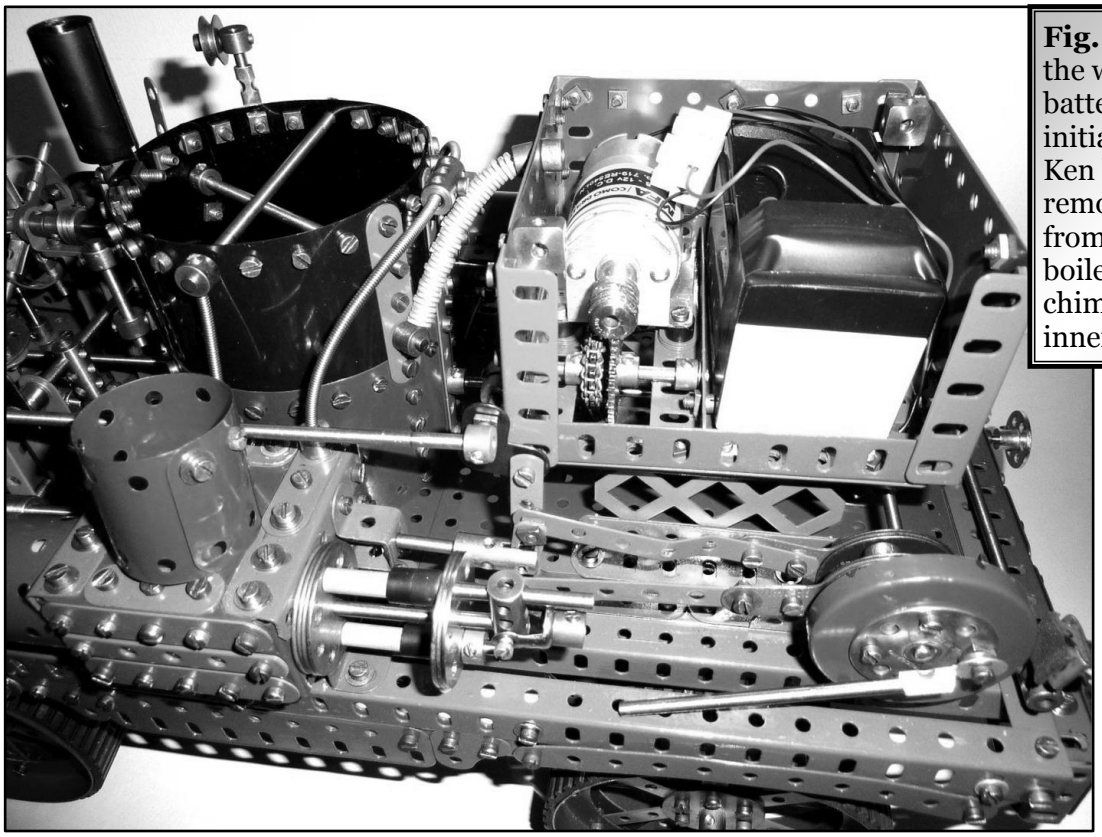


Fig. 6. Tucked inside the water tank is the battery, motor and initial gear reduction. Ken has thoughtfully removed the casing from the cylinder and boiler top (with chimney) to show their inner construction.

similarly engaged with the long Bolt on the other valve gear. The bell crank also operates a Rod via a Collar on a bolt spigot to a similar bell crank and lock-nutted 2½" Narrow Strip on a Rod journalled in two Collars at the bottom of the tank (Fig. 6). This rod carries at its other end a short crank with the fourth 2½" Narrow Strip engaging the long Bolt on the valve gear (Fig. 4). The Rod on the tank also carries a Coupling with Small Fork Piece which operates a rod attached to a DPDT switch attached to the underside of the tank. Operation of the cab lever hence raises or lowers each valve gear and operates the equivalent motor forward-stop-reverse.

Brakes and fittings

Each crankshaft has a similar double brake acting on each crank wheel. The brake rod is mounted in a 5½" × ½" Double Angle Strip and carries two Couplings each with a short Rod and a Slide Piece with a rubber insert (Fig. 4). At each end, a short crank on the brake rod is actuated by a lock-nutted 4½" Narrow Strip which is lock-nutted to a further short crank on a short rod journalled in Collars attached to the chassis (Figs. 4 & 5). The short Rods each carry a short crank within the chassis channel (Fig. 1). At the cab end, the crank carries a lock-nutted 2½" Narrow Strip which in turn is pivoted to a Crank on a long transverse Rod journalled in Flat Trunnions (Fig. 2). The Crank also carries on the lock-nut a 4½" Narrow Strip lock-nutted to one arm of a Double Arm Crank free on a Pivot Bolt attached to a 1½" Flat Girder. The other arm of the crank also carries a pivoted 4½" Narrow Strip in turn lock-nutted to the small crank at the tank end. The brake shaft is journalled in a Wheel Disc attached to the chassis by two 2½" × ½" Double Angle Strips and carries a cranked Rod in a Short Coupling (Fig. 5). Under the chassis plates, the shaft carries a Worm which meshes with a 57t Gear on the long cross-shaft (Fig. 2).

An arrangement of railings around the steering position is from horizontal Rods in Couplings attached to vertical Rods held in Cranks bolted to the chassis plates (Fig. 5). The model is completed by a ladder comprising two 3" Strips separated by 1" × ½" Double Angle Strips and bolted to the buffer beam. This is just visible in Fig. 2.

Construction notes

Although a relatively small and compact model, this proved to be a very complex design and build project. It was demonstrated at the SMG meeting at Laughton in April 2015 and, in the event, showed itself to be a very nice runner. Certainly the model could be improved by using eight Single Eccentrics but mine were in use on other models. It steered well and was deceptively manoeuvrable even though the steering 'feel' was non-existent! The valve gears worked well in combination with the selected motor direction. The main downside to the design was the provision of allowing each axle a degree of tilting: the net result was that the whole of the superstructure was somewhat wobbly when operating the controls. For running on flat surfaces this could be significantly improved by minimising its tilt capability.

Ken Ashton

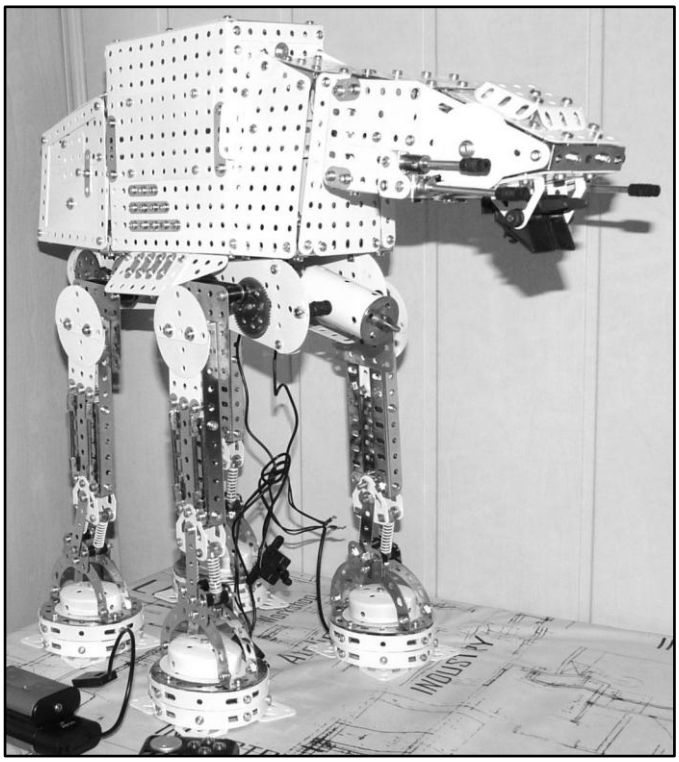
Coming up in SMGJ130:
Gordon's Steam Carriage of 1824

Le AT-AT ×3

Philip Webb sent an interesting e-mail in late 2016. To explain: in the 1990s, your Editor had gained enough Meccano confidence to tackle a static model of one of those four-legged walkers in the *Star Wars* films, bottom. A decade later, Philip used pictures of this model to make his own then put some photos on his website:

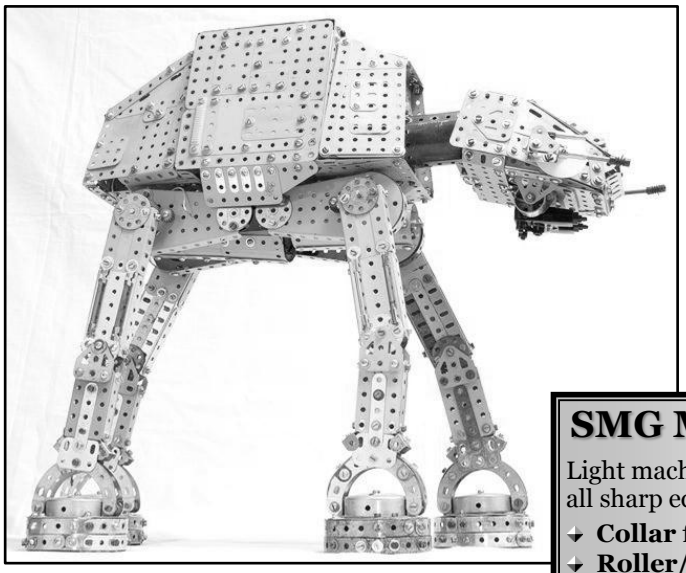
https://dovedaler.com

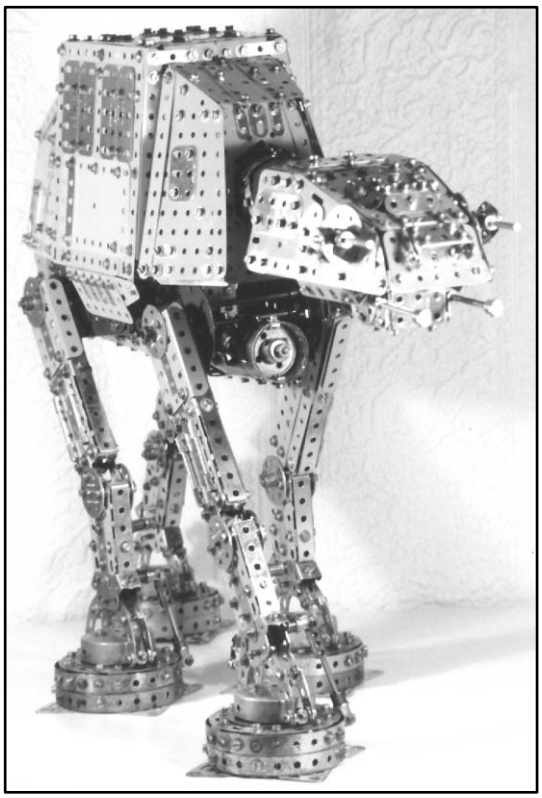
...like the one below and part of his series of *SW* hardware. Back to 2016, Philip was e-mailed by Aurélien Degano (Alsace, France) who had also built one *and* made it 'walk'. Remarkably, Aurélien was only fourteen years old! He wrote *My first 'Star Wars' model is finished. I had to make a few adjustments and change the voltage to the motors because it's heavy! It worked perfectly without the carcass. The model can be viewed on my site:*



Meccano-hobby.blogspot.fr

When it is operational, I will place a video. Aurélien's own picture of his commendable white and zinc AT-AT is reproduced above. *RM*





SMG Machining and Fabrication Service

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

- **Collar** from common (1" Pulleys etc) or scrap bossed parts: **12p**
- **Roller/long collar** from 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: **£1**
- **Bore reduction** such as ½" Pulley or 14t Sprocket to 3.0 mm or ⅛" to suit a non-standard motor: **£1**
- **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: **3p/tooth**
- **Boss removal** to convert Pinions to near-MME replicas for compact idlers: **30p**
- **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: **£1**.
- **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.

A Linear Braiding Machine

By Graham Jost,
Melbourne, Australia

Introduction

Mary and I have taken braiding machines to Meccano exhibitions for years, including some overseas. For the latter, they were split into two parts, with one half in my suitcase and the other half in Mary's. Recently, I have tried to devise one in which no breakdown was required, but which would fit into a suitcase as is, ready for running and display on arrival. Last year my Travelling Braider, documented in SMGJ126 for June 2016, was the outcome. Sad to say, airport baggage handlers still managed to damage it, both ways, in visiting New Zealand. So with the present attempt, Fig. 1, I am trying again. I have called it a Linear Braider, because its three carriers are in line, by which means its depth is minimised. And as that is now only 4½", it will surely fit comfortably, on its side, into a suitcase along with plenty of surrounding padding to render it immune from all attempts to damage it.

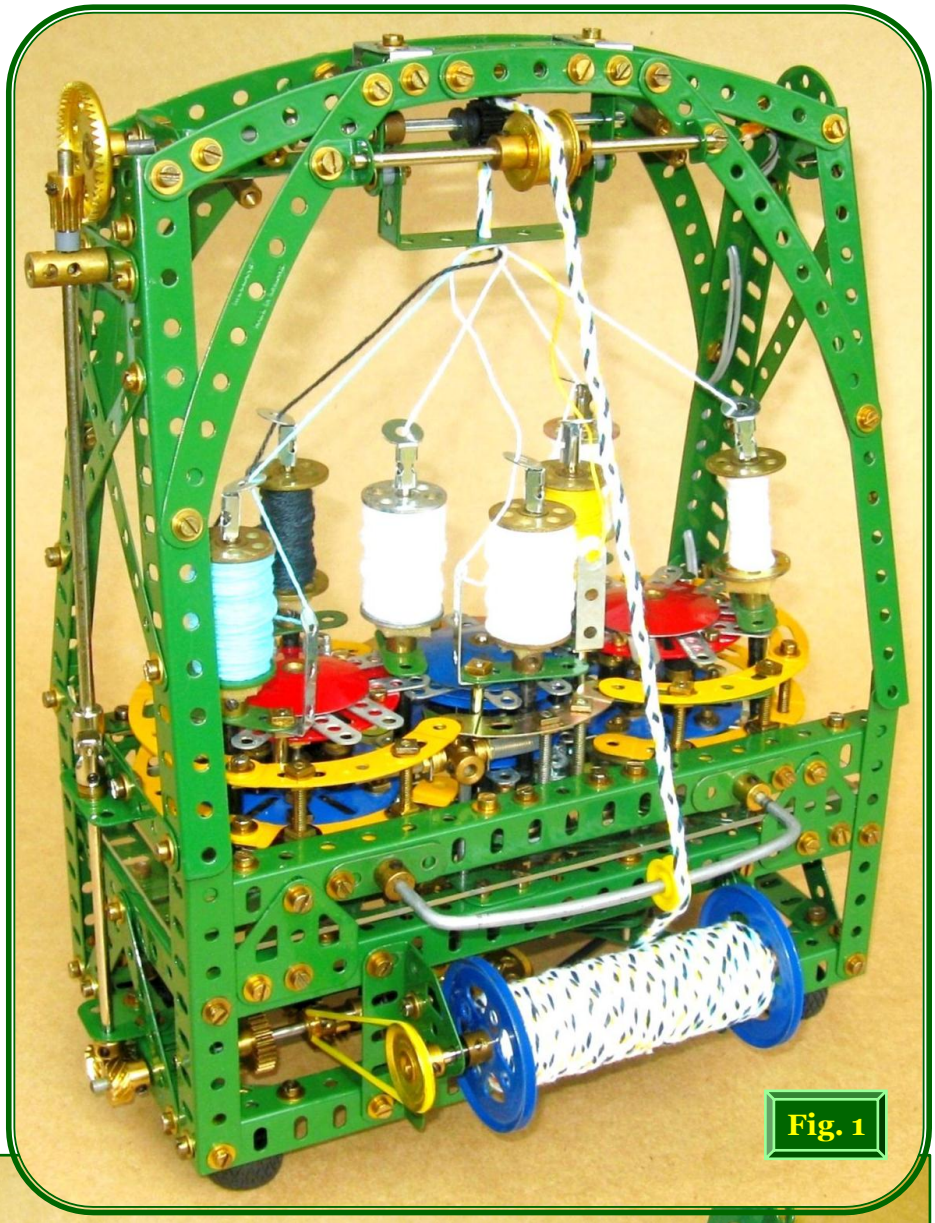


Fig. 1

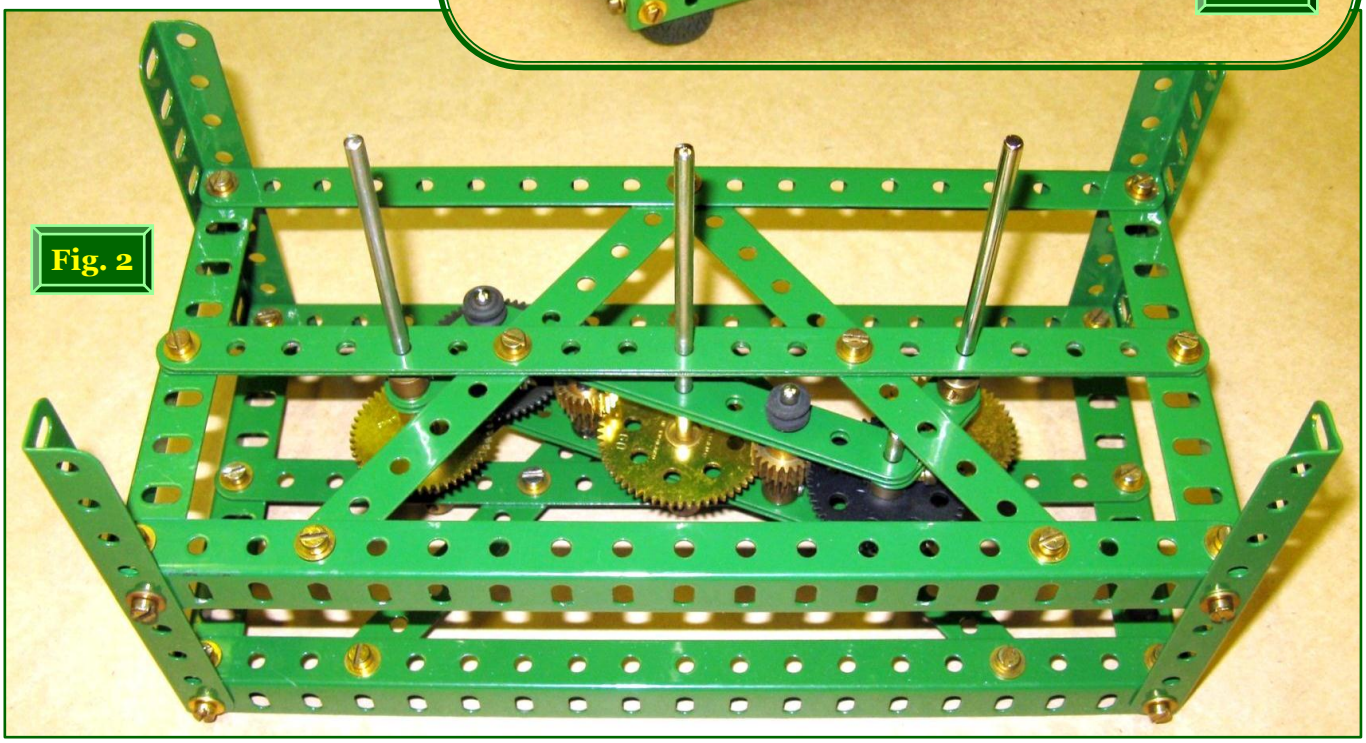


Fig. 2

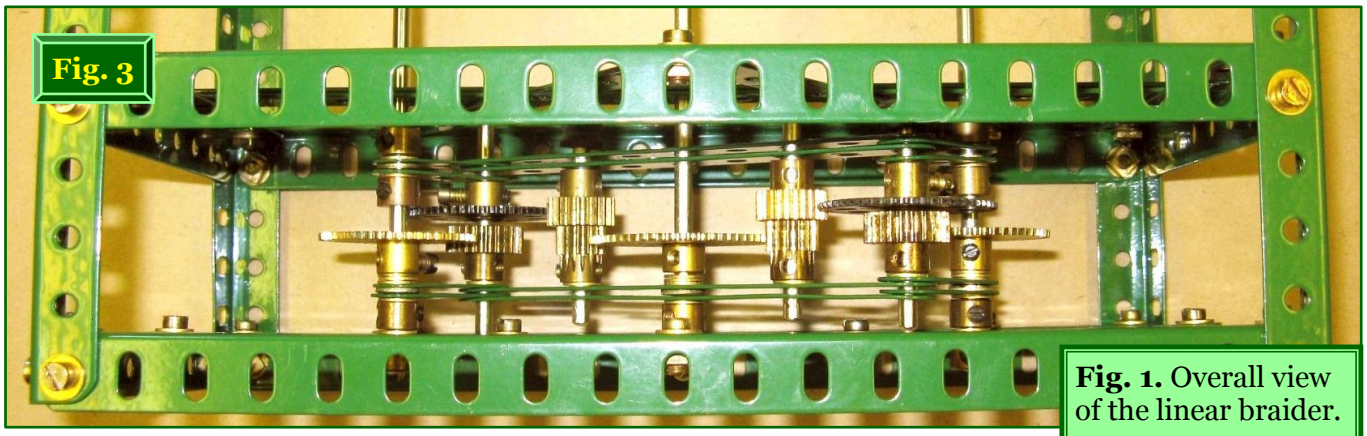


Fig. 1. Overall view of the linear braider.
Fig. 2. Main framework.
Fig. 3. Gearing between carriers.
Fig. 4. Underside, showing drives to take-up drum and pinch rollers.

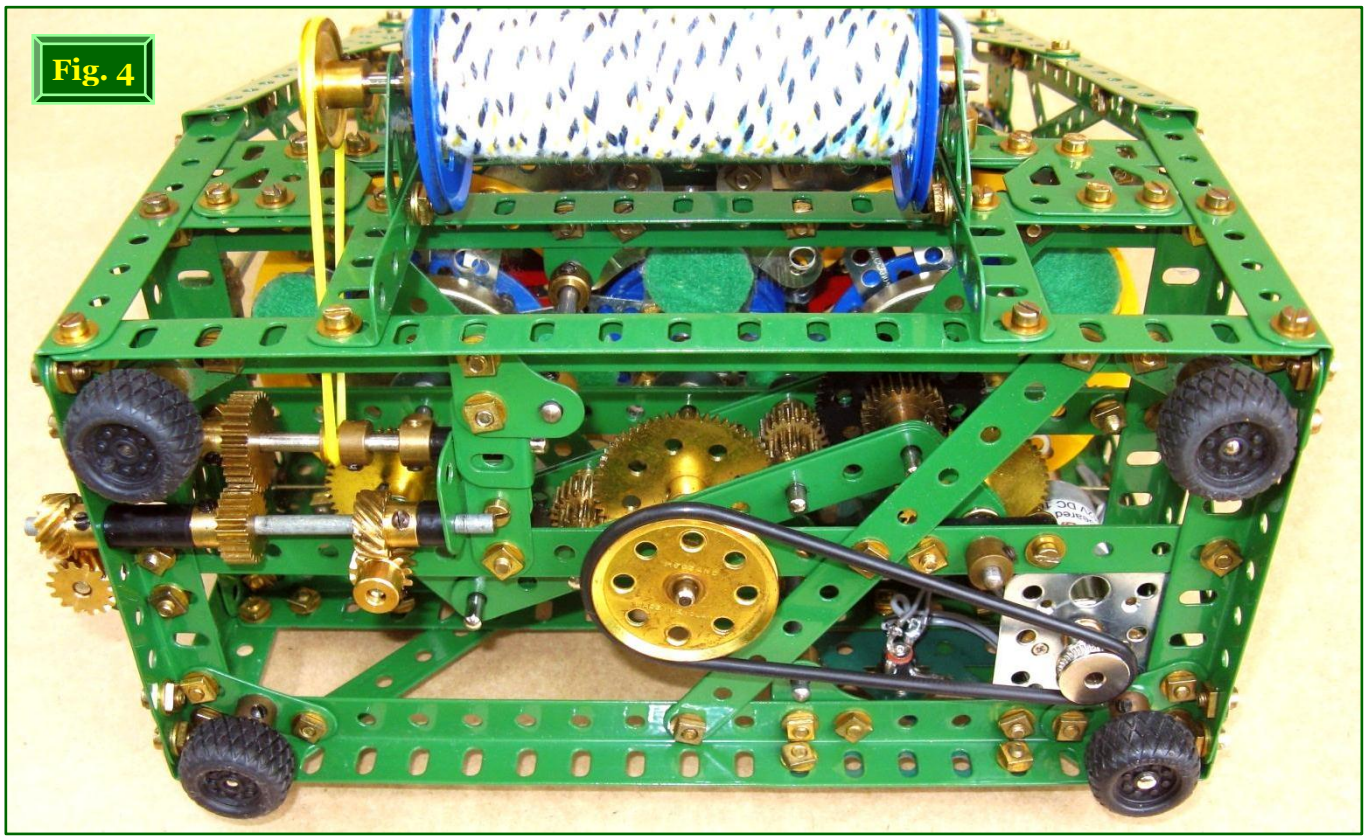
Base and gearing

The straightforward structure of the base is shown in Figs. 2 & 3, along with the gearing installed for connecting the three carriers. The outer carriers rotate clockwise; the central carrier rotates anti-clockwise.

There are some fundamentals which need to be clarified here. First of all, the outer carriers must have odd numbers of forks, so that circulating spools never clash; apart from three/six-hole Meccano Bush Wheels, this immediately means the use of non-standard Meccano parts for mounting the forks. I have settled here on five forks for each outer carrier, using five/ten-hole Exacto Face Plates.

Secondly, any intermediate carriers must have forks numbering one fewer than the outside carriers, so the central carrier here must have four forks. This causes no difficulty as there are plenty of Meccano options. But why is a central carrier included at all? - it is not actually necessary. It is so that the threads from two extra spools can participate in the braiding process!

Finally, there are two further aspects that require attention: in order to facilitate straightforward switching of the spool assemblies from carrier to carrier (and remembering that the outer carriers have an extra fork), the rim speeds of all carriers should be the same, so that the forks 'mesh', as in gearing. This means that the diameter of the central carrier here should be $^4/_5$ that of the outer carriers. As the outer carrier Face Plates are nominally 2½" in diameter, a central carrier based on 2" Pulleys fulfils that requirement perfectly. Further, the speed of the outer carriers must be $^4/_5$

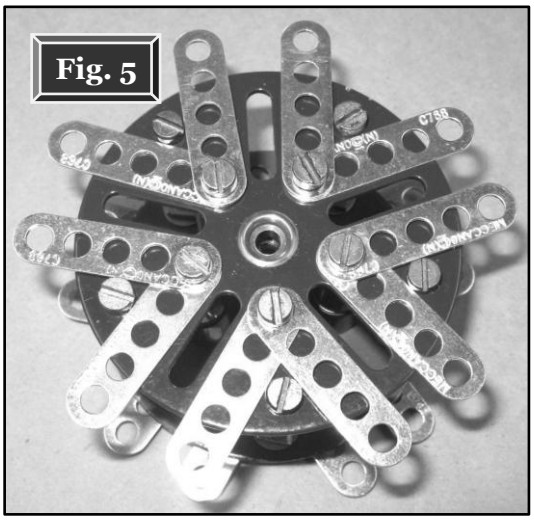


that of the central carrier. That requirement is met by appropriate gearing between them, shown in Figs. 2 & 3. All gears are mounted at standard spacing on the floating Strips seen at angles to everything else in Fig. 2 - I really do not like non-standard spacings in gear drives if I can avoid them. The gearing from the central carrier shaft to each of the outer carrier shafts is:

$$^{60}/_{15} \times {}^{22}/_{55} \times {}^{25}/_{50} = {}^{4}/_{5}$$

as required, and one turn of the central carrier in one direction corresponds to $^{4}/_{5}$ of a turn of both outer carriers in the opposite direction.

Once all of the above is in place and working properly, an appropriately drilled bespoke Perspex deck is located on top of the base assembly, to provide the smooth surface on which the spool assemblies will slide - its edges can be seen in Fig. 1. The central carrier shaft is driven by a 167 rpm MeccParts geared motor, mounted below, via a readily-accessible, heavy, but slippable-in-emergency, O-ring, Fig. 4.



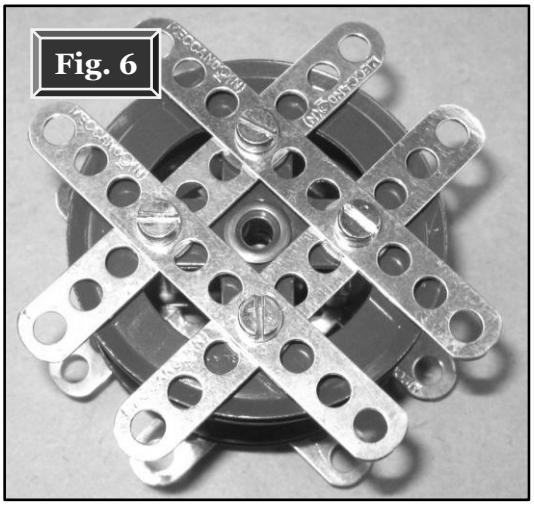


Fig. 5. Outer carrier based on an Exacto pentagonal Face Plate.

Fig. 6. Central carrier on a 2" Pulley.

Fig. 7. Outer carrier from the underside.

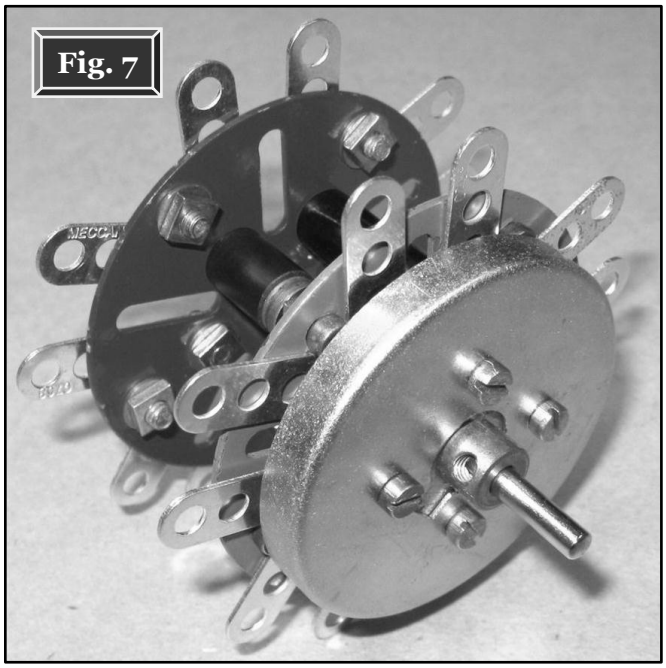
Fig. 8. Carriers and lower tracks in position.

Fig. 9. Mounting of the side tracks.

Fig. 10. Carriers and tracks completed and installed.

Carriers

Outer and central carriers are shown in Figs. 5 & 6 respectively. The outer carriers have Wheel Flanges beneath them, Fig. 7, for the feet of the spool assemblies to bear against as they circulate in the outer regions of their travel where there is an upward pull on them from the threads being drawn off. The central carrier requires no such restraint, as the threads on the spool assemblies when they are in this region are quite slack. The outer carriers are built up using 1½" bolts and plastic Spacers and washers; the central carrier uses 1⅛" Bolts, plastic Spacers and washers.



Tracks

These are shown in Figs. 8, 9 & 10, at progressive stages of the build. They comprise 2½" and 3" Stepped Curved Strips located as shown. The 3" Curved Strips match the 2½" Face Plates with gaps for the spool assembly shafts to pass freely, and the 2½" Curved Strips match likewise around the 2" Pulleys. Both upper and lower tracks are provided, the outer regions of the lower tracks taking the brunt of the loading as the threads are drawn from their spools there. The upper tracks are for tracking purposes, but also stabilise the spool assemblies as they circulate.

A Threaded Crank is shown at each end of the 9½" Angle Girder in Fig. 9. They are provided to enable ready installation and removal of the assembled track on them during fitting out - believe me, they are an absolute godsend! Once the front and back track assemblies are fitted and causing no obstruction to the passing spool assemblies, additional 3" Curved Strips complete the tracks at each end. An opening section of track is provided at one end for loading the spool assemblies, and removal of same should anything misbehave, Fig. 11.

Wagglers

The circulating spool assemblies are directed from carrier to carrier by two 'wagglers', Fig. 12.

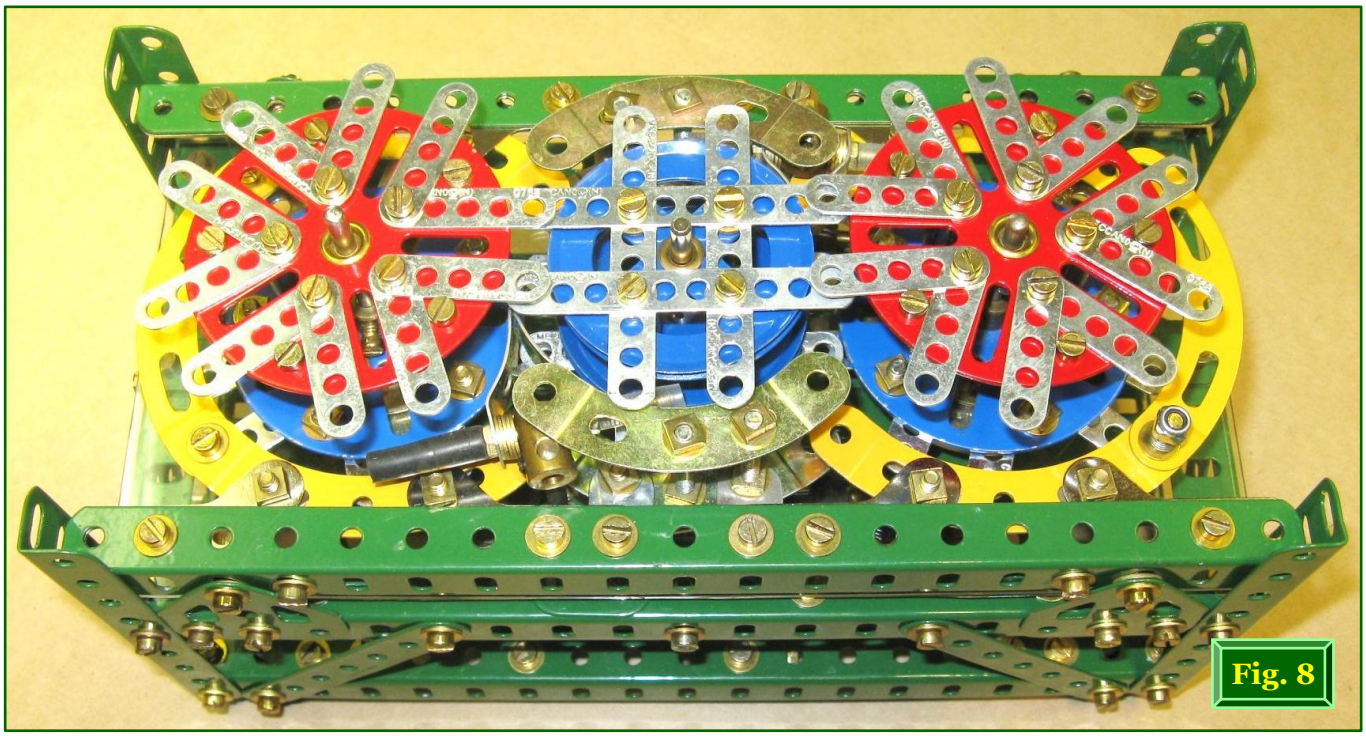


Fig. 8

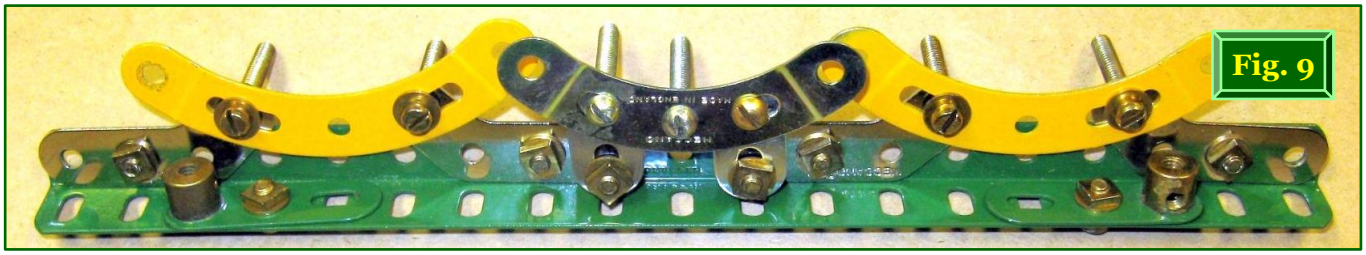


Fig. 9

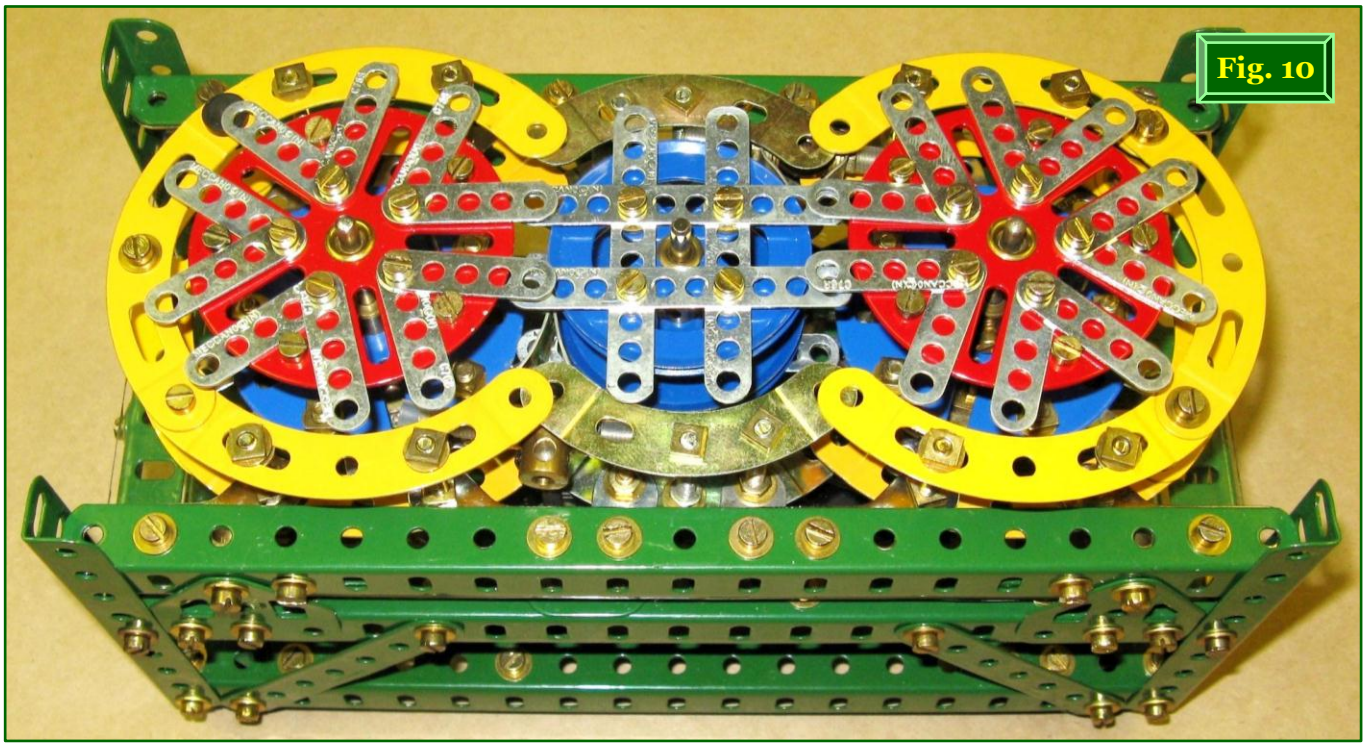


Fig. 10

These are operated by the passing spool assembly shafts themselves - they are *not* operated by any external gearing or other device. A 2½" Strip has been sacrificed in the making of each of these wagglers which, in effect, extend the track inwards to intercept and direct the next arriving spool assembly as required. As it passes, each spool shaft bears against one of the two arms of the waggler, and in doing so sets the waggler pointing the other way. The next arriving assembly is then directed the other way to its carrier and, in passing, sets the waggler back to its first position again, and so on, repeatedly. Fig. 13 shows one of the wagglers *in situ*.

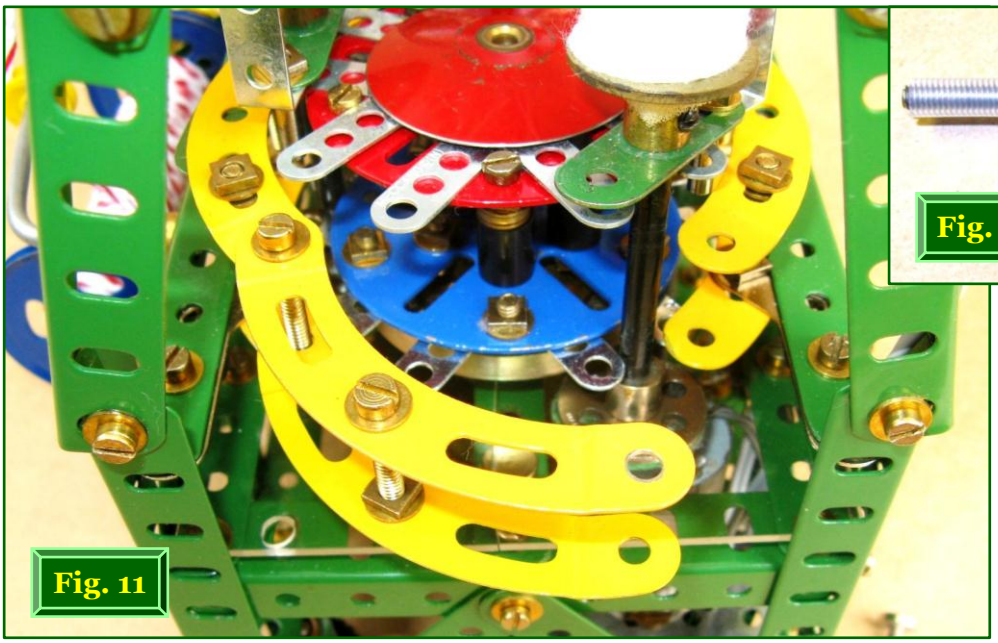


Fig. 11

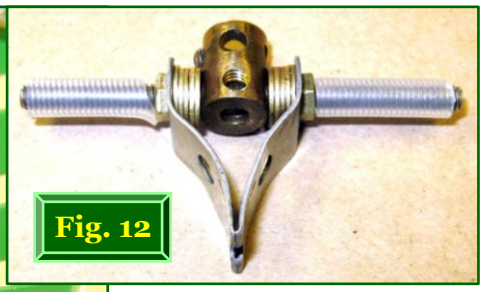


Fig. 12


Fig. 14

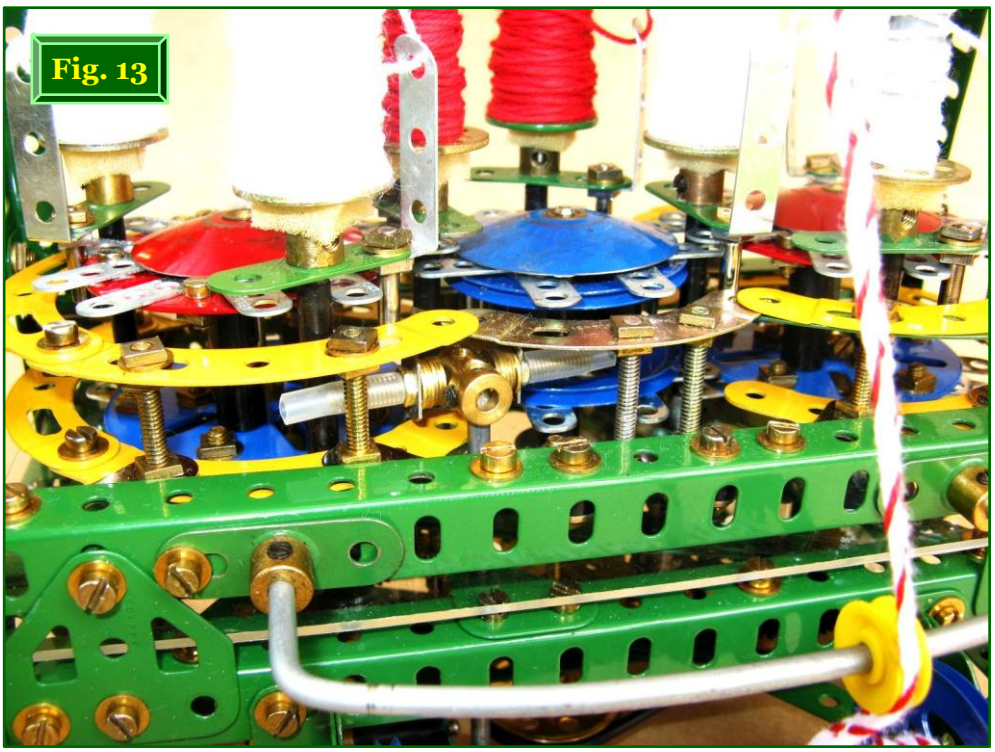


Fig. 13

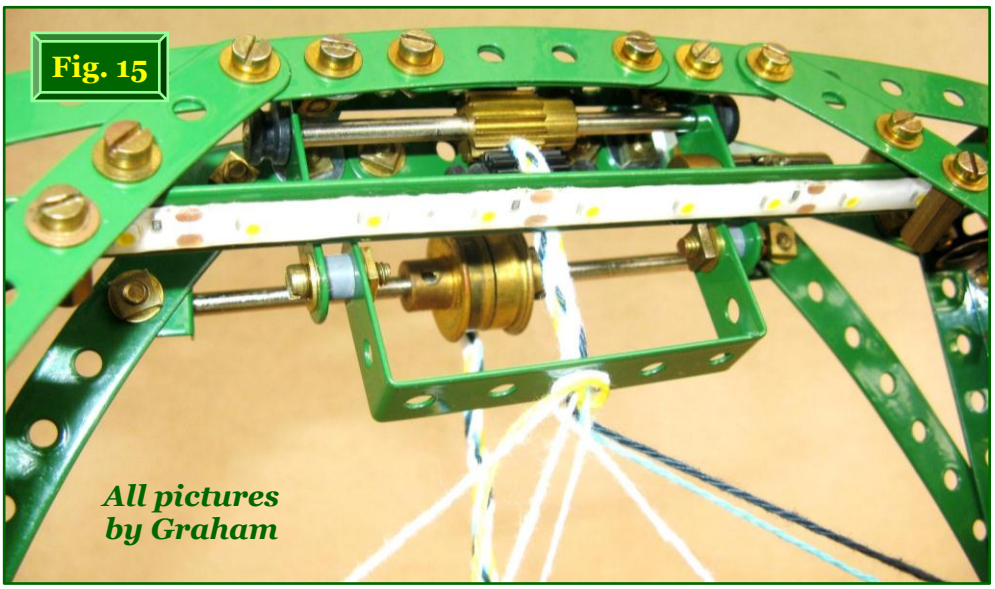


Fig. 15

All pictures by Graham

Spool assemblies

Each is made up of 1" Bush Wheels top and bottom, spaced by three plastic Spacers, the whole being held together by duct tape - this is a great opportunity to use and hide, legitimately, some bright orange Spacers! A loaded spool assembly (four-ply cotton is being used here) is shown in Fig. 14, where a 4½" Axle Rod terminates in a felt-covered 1" Bush Wheel at its lower end, the felt being to ease and silence its sliding around on the Perspex deck - it is Meccano green, of course! A small piece of soft foam

plastic sits atop the Double Arm Crank under the spool. An overhead Rod & Strip Connector is bent as shown, and the top of the upright bespoke narrow bracket through which the thread first passes is also bent slightly; both bends facilitate a smooth passage for the thread. The spools are free on their shafts; they are not preloaded. The foam plastic provides all the restraint required to prevent uncalled-for unrolling. The downwards-facing Threaded Pin follows in the upper track as the assembly circulates, to maintain a consistent orientation thereof at all times. Drinking straws fitted to the lower parts of the shafts provide a significant and useful reduction in noise as the assemblies rattle around in their tracks - they are black here. Seven identical assemblies are required in all.

Fig. 11. Carrier opening.
Fig. 12. One of the two 'wagglers'.
Fig. 13. Waggler *in situ*.
Fig. 14. Complete spool assembly.
Fig. 15. Overhead detail showing the LED lighting.

Braiding

The seven circulating spool assemblies travel back and forth from side to side, following each other and crossing and recrossing each other as they do so, in Maypole fashion. The threads are drawn upwards to the central hole (the ferrule) in the suspended overhead 2½" × 1" Double Angle Strip, Fig. 15, and there the braid is formed. No problem arises from the completed braid passing through the ferrule - it does so with ease. It then passes to the overhead pinch-roller pair whose purpose is to draw it off at just the right speed, neither too quickly, nor too slowly. Too quickly, and too loose a braid is formed; too slowly, and the point at which the braid forms may fall below the ferrule, leading to entanglement with the circulating spool assemblies in no time. The appropriate speed depends on the type and thickness of thread being used - it is a matter of trial and error.

One of the pinch-roller pair is driven from gearing in the base of the machine, up one side, and across the top to the centre of the overhead region. The beginning of the drive can be seen on the left in Fig. 4, and the remainder on the left and overhead in Fig. 1. In Fig. 15, which is photographed from the rear, the two black 19t Tri-flat Pinions are driven, whilst they and a long 15t pinion above sandwich and grip the incoming braid firmly to draw it on its way. The braid then passes to the overhead ¾" Flanged Wheels at the front of the machine and down to the take-up roller below. This latter is driven by a slipping Light Driving Band to maintain a modest tension on the braid as it arrives there, Fig. 1. Fig. 15 also shows part of the overhead LED strip lighting installed on a horizontal 7½" Strip running across the width of the machine. It is very effective at illuminating the entire braiding action below, particularly in venues where the ambient lighting is less than satisfactory, which is often!

Stills and movies of this braider in action can be seen on the NZ website at:

www.nzmeccano.com/image-108030

Graham Jost

Two Shows in July

After a successful first exhibition in 2016, the MMG will be doing it again on 16th July 2017 at the British Motor Museum, Gaydon, Warwickshire, CV35 0BJ. Booking before 16th June is vital via the Show Manager, Tom Caren (**E:** tom.caren@britishmotormuseum.co.uk) and if assistance should be required, the MMG's Roger Marriott (see page 63) will undoubtedly oblige.

Meccano modellers have been invited to show their work at 'Steam Toys North' at Leeds Industrial Museum, Armley Mills, Canal Road, Armley, Leeds, LS12 2QF on Sunday 23rd July, 12:00 to 16:30. The event is organised by the Leeds and District traction Engine Club and usual museum charges apply for non-exhibitors. Space has to be reserved via Bob Watson:

also **www.leedsinspired.co.uk/events/steam-toys-north**. *RM*

Steam Power for Industry
Part 2: The Newcomen Engine - Slow Progress

John Wilson examines then builds his way through the landmark machinery that propelled the Industrial Revolution
Illustrations by John, model photos by Stefan Tokarski

Continued from SMGJ128

Although the Dudley Castle engine worked well, nobody would have been more conscious than Thomas Newcomen himself that it could be improved. So when he built his next engine at another colliery, Griff, in the Warwickshire coalfield, there would be improvements.

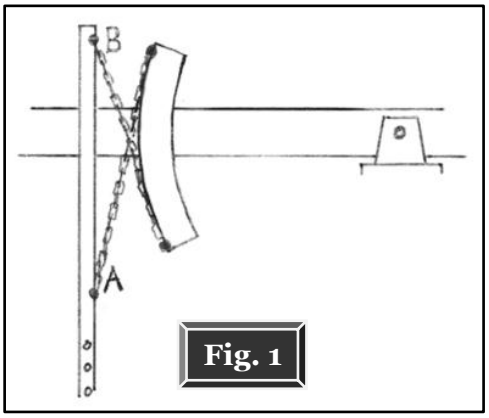


Fig. 1

The Dudley Castle engine's third arch-head had a clumsy arrangement whereby it had to lift the weight of the plug rod as well as push down to operate the force pump under the decking. Two chains were therefore needed, crossing over, to connect arch-head to plug rod, **Fig. 1**. Chain **A** lifts the plug rod and chain **B** pulls it down. At Griff, Newcomen introduced a simpler system. He built a fourth arch-head on the other side of the lever wall. It was connected by chain to a lift pump, **Fig. 2**. Since that eliminated the force pump under the third arch-head, a simple single-chain system could be used on both sides.

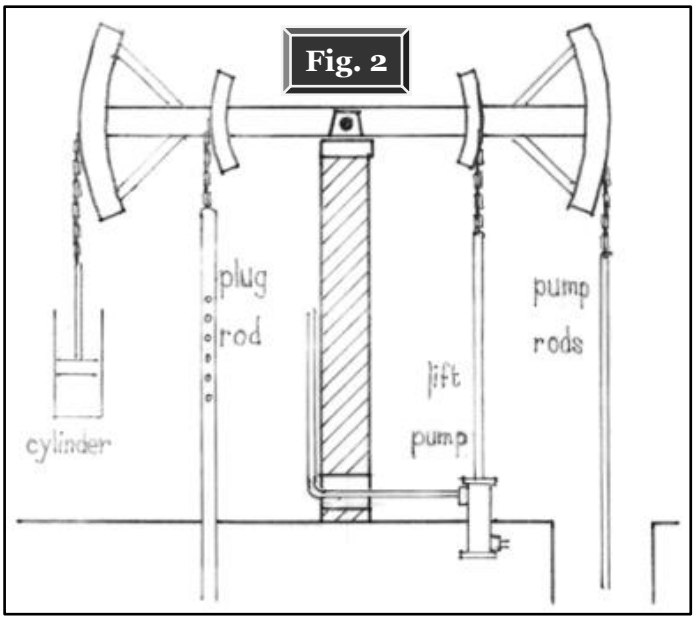


Fig. 2

The arrangement for checking water level at Dudley Castle had been a single pipe reaching down to about water level. A tap above the boiler was opened. If water came out the water level was high enough, but if steam came out more water had to be supplied. At Griff there were two pipes, one ending above and one below the target water level. Another improvement was in taking water from the topmost cistern for induction to the cylinder. The Dudley Castle engine had used a siphon. Instead, at Griff, a new pipe took water from the bottom of the cistern.

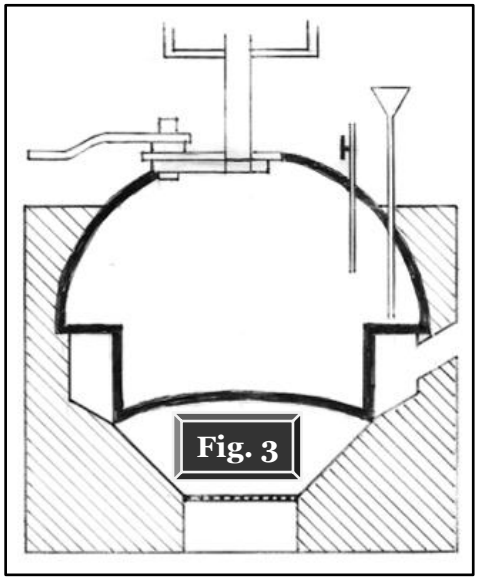


Fig. 3

The boiler

Variously called a haystack, flange, beehive or balloon boiler, it was made of two materials. The upper part was a dome, assembled from lead plates. These were dished and had holes punched to take rivets. The bottom part was formed from beaten copper to a complex shape, comprising a lower cylindrical section with dished bottom plate, **Fig. 3**. Then a flange increased the diameter. The outer rim was turned up to meet the lead dome, forming a seam. Flue gases heated not only the concave bottom panel, but also the lower cylinder and the flange, coming off the fire, circling the boiler and so up the chimney.

The Dudley Castle engine struggled to produce enough steam. Newcomen thought that the amount of steam depended on the volume of water in the boiler, and he built a tall narrow boiler. Actually it depended on the area of boiler heated by flue gases, so a lower, wider boiler had to be developed.

Boilers gave endless trouble. Allowing water level to fall below the flange would have caused massive distortion of the copper, destroying the seal between copper and lead. The seam was a problem anyway. The junction of two metals, in contact with acid water pumped up from the pit, provided perfect conditions for corrosion. The sixth known Newcomen engine went into service in 1715 in Whitehaven. There were continual problems with the boiler, partly because water pumped from local coal seams was especially acidic. They tried patching with copper sheets, but this corroded so badly in a fortnight that water spilled out and doused the fire. The boiler was replaced three times in as many years. Cast iron boilers were first tried here, but they too corroded.

Later the design was changed to eliminate the flange, **Fig. 4**. Known as tun boilers, there was less distortion. But other faults were not corrected. For example nobody tried to use less acidic water from an alternative source. In spite of all these problems and the availability of better types of boiler, tun boilers were still being built in 1900, nearly 200 years after the Dudley Castle engine.

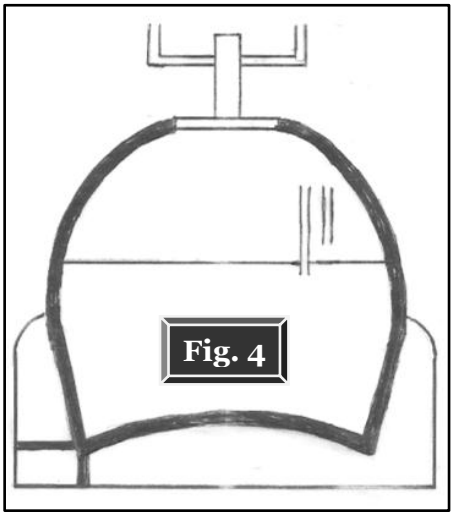


Fig. 4

Larger engines needed more steam than one boiler could provide. It was probably in the Northumbrian coalfield that builders started to double up on boilers. A builder called William Brown did this with several engines, culminating in 1763 with a 74" diameter (1.88 m) cylinder fed by four boilers. At any one time, three would be supplying steam while the fourth was being repaired. These boilers were still made with copper base and lead dome, except that the whole of the boiler under the cylinder was of copper. (It would have been harder to repair the boiler under the cylinder, so perhaps Brown suspected that the two-metal seam may be a cause of trouble?)

The cylinder

The most important and expensive part of the engines, early cylinders were made of brass. Cast as accurately as was possible at the time, they had to be finished by hand, and brass was easier to work than iron. Iron cylinders were known to be less efficient but, as cylinders became bigger, cast iron had to be used for cost reasons. There were also limits to the quantity of brass which the small charcoal furnaces could deliver in one casting. The first supplier of cast iron boilers was the Coalbrookdale Company founded by Abraham Darby. When the Savery patent expired in 1733, the Ironworks had already supplied 22 cylinders. However, the majority of engines built by that year would have brass cylinders.

In some parts of the country such as Northumbria, mining took place at depths of as much as 1200' (366 m) and sometimes under the sea. The deeper you dug the more water was likely to enter the seam, so more and more powerful engines had to be built. The only known way of gaining more power was to build cylinders of greater diameter and longer stroke. The 21" diameter (533 mm) cylinder of the Dudley Castle engine was exceeded ten years later by a 33" (838 mm) one at a Newcastle colliery. Deeper mines required more and more power; hence larger cylinders. The largest known cylinder was built at a colliery in Whitehaven in 1810. It had a cylinder of 80" (2.03 m) diameter and 8' (2.44 m) stroke. There were even rumours of a monster 120" (3.05 m) diameter and 18' (5.49 m) stroke which might have been built in 1789 for a returning engine at a cotton mill in Manchester.

Valves

Before a Newcomen engine could be a commercial success the valve gear had to be automated. The solution was to organise a system by which valves were opened and closed by movement of the great lever. The third arch-head was needed for this. It was connected to the plug rod, a double timber member which (like a giant piece of Meccano) was perforated to take pegs that could be inserted at any position.

The steam valve is sited at the top of the boiler. It admits steam directly into the bottom of the cylinder. Because it has to be opened and closed very rapidly, Newcomen developed a complicated set of levers, **Fig. 5**. Two levers locked onto an axle are known as the little-Y. As the plug rod descends it trips one of the little-Y levers, turning the axle and causing the 'tumbling bob' to rise until it passes top dead centre. At this moment the bob starts to fall. More levers attached to the bob (known as the big-Y), and locked to the same axle, are given momentum before suddenly tripping open the valve. The bob needs considerable momentum because of friction between the moving valve plate and its housing.

As the plug rod rises a second peg comes into play, catching on the little-Y and taking the tumbling bob back over the top. As the bob descends on the other side yet another lever suddenly shuts the valve.

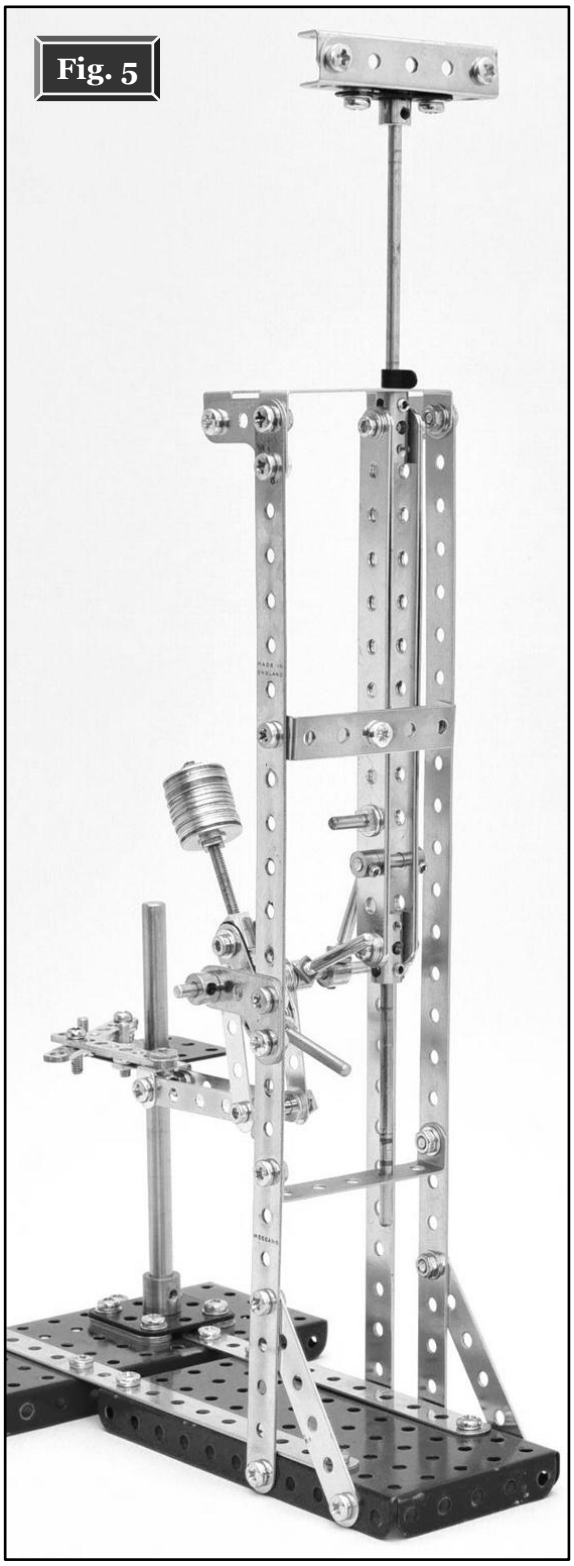


Fig. 5

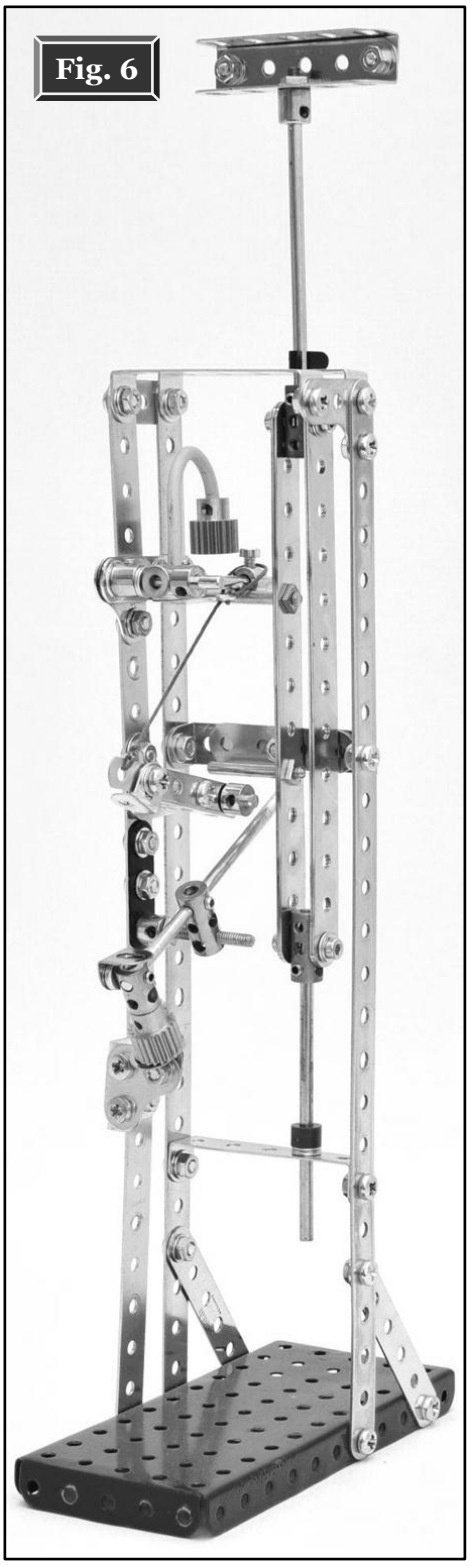


Fig. 6

The induction valve, **Fig. 6**, operates in a different way. In order to create an immediate powerful vacuum by injecting a large quantity of cold water, it too has to open very rapidly. But because the hot cylinder walls are tending to reheat the steam and destroy the vacuum, water has to continue squirting upwards though at a reducing rate. So this valve has to close slowly.

Quite early in its descent a peg on the plug rod pushes down on the F-lever (so called because of its shape). Attached to the induction valve by an axle, the valve is thereby closed, slowly. With the plug rod very close to the bottom, the top end of the F-lever catches onto a latch, holding the lever up until a second plug trips another lever right at the top of the mechanism. Connected by a leather thong, this tugs the latch open. A weight on the end of the F-lever is enough to open the valve rapidly, allowing a strong jet of cold water to enter the cylinder, so setting off the power stroke. The weight is brought up short when it strikes the 'anvil', the valve now being wide open.

Pump rods

These were made from mastwood, a product essential to the navy. Imported from Russia and Sweden, mastwood grew slowly in arctic regions and proved of the highest quality. Timbers were straight and long. Lengths were fastened together by scarf joints bound with iron bands. Pump rods were heavy, and although some weight was needed to lift the piston during the recovery stroke, in deeper mines the pump rods were far too heavy. Any excess weight on this end of the great lever detracted from the weight of water that could be lifted out of the mine. When setting up an engine, it became the practice to put weights on the great lever at one end (above the cylinder). Having reached balance, a small amount was removed so that the pump rods gave enough leverage to return the piston by gravity. In especially deep mines the excess weight was so much that extra equipment had to be devised to balance the great lever, double-beam examples being shown in **Figs. 7 & 8** for Hungarian (1732) and Cornish (1778) engines respectively.

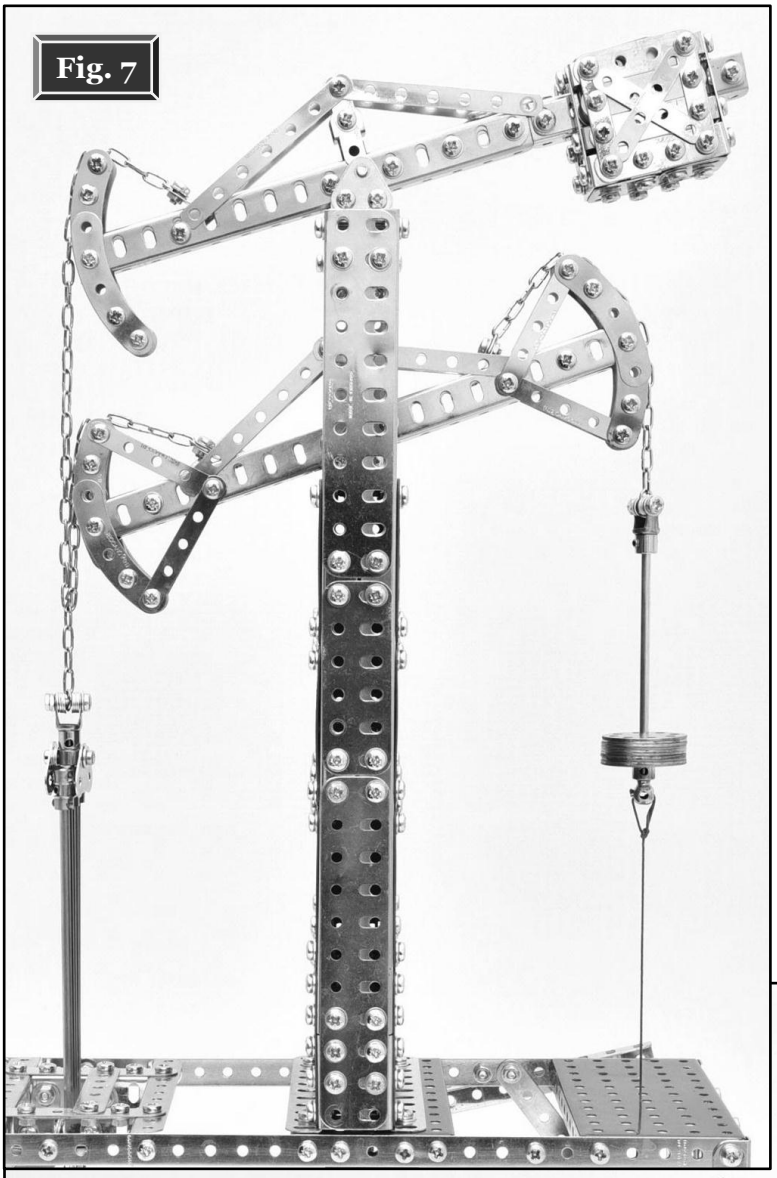


Fig. 7

Safety valve

There was a safety valve on the Dudley Castle engine, but it is not known how it operated. When R L Hills built a working $^1/_3$ scale engine at the Museum of Science and Industry in Manchester, he used a weighted valve designed to blow off at 1½ psi.

How do we know what the Dudley Castle engine looked like?

It had been working for seven years before Thomas Barney made his drawing, **Fig. 9**. Engineers who have studied this believe it to be technically accurate in that everything is there to make the engine work, including all the pipework and valve gear. There are absurdities in the drawing, all to do with Barney's failure to understand scale. For example, the fire door is shown way above the fireman's head. Also, the massive timber structure outside the building is shown at far too small a scale, being suspended in mid-air. This is a vital structure which carries the spring beams, a protective device to prevent the great lever going too far and pulling the piston out of the top of the cylinder. Barney was working long before the development of logical machine drawing and no doubt his work was good for its day.

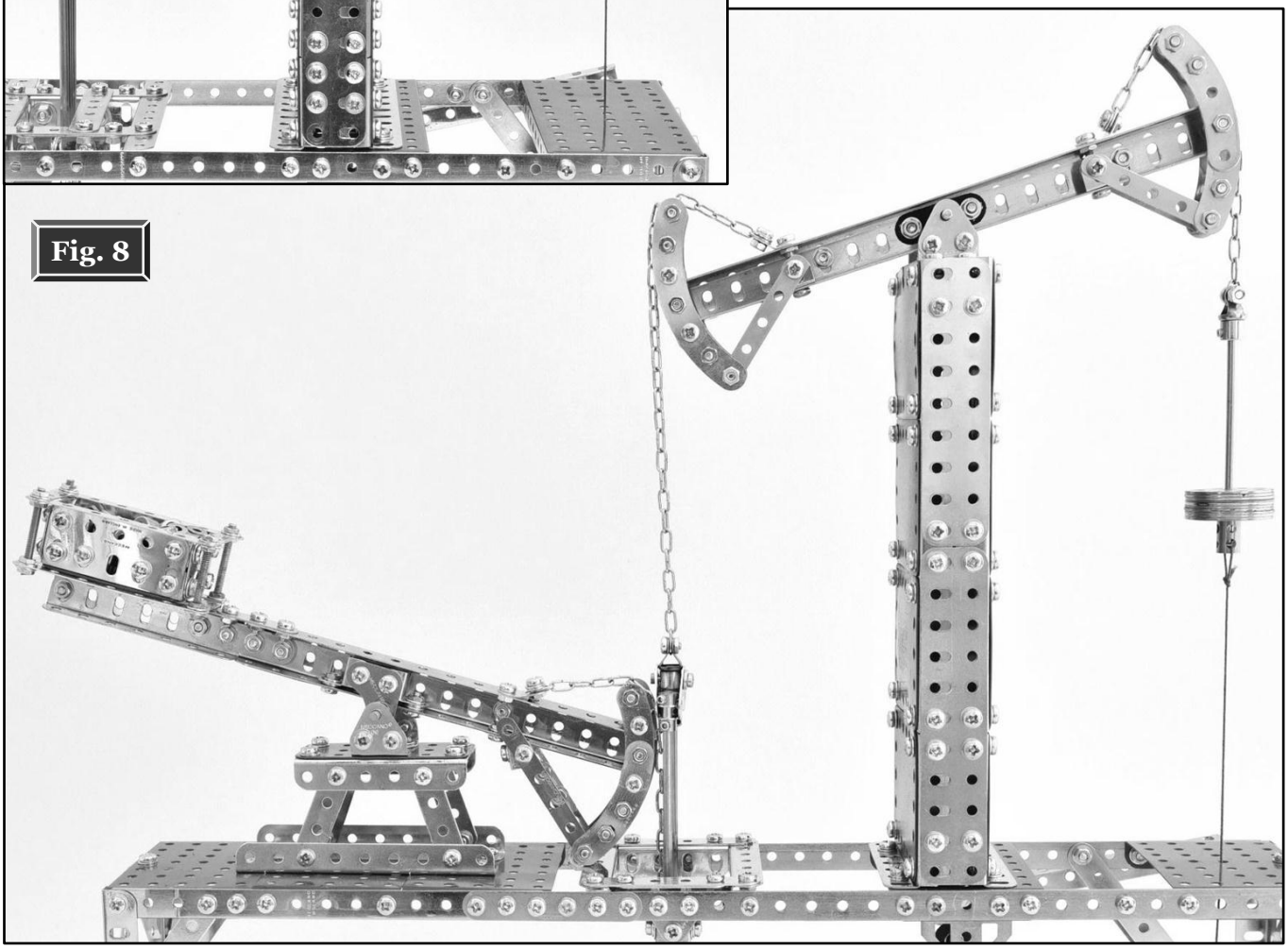


Fig. 8

The only other illustration is a watercolour made many years later, **Fig. 10**. I believe that although very little detail can be made out, the proportions at least can be taken as accurate. So by looking at both images and using logic, I think it is possible to work out with some accuracy how the real engine looked and worked. Consider only the lever wall. Barney shows it wafer thin, yet the watercolour shows it quite otherwise; massive enough to carry the great lever and resist the upward force on the cylinder.

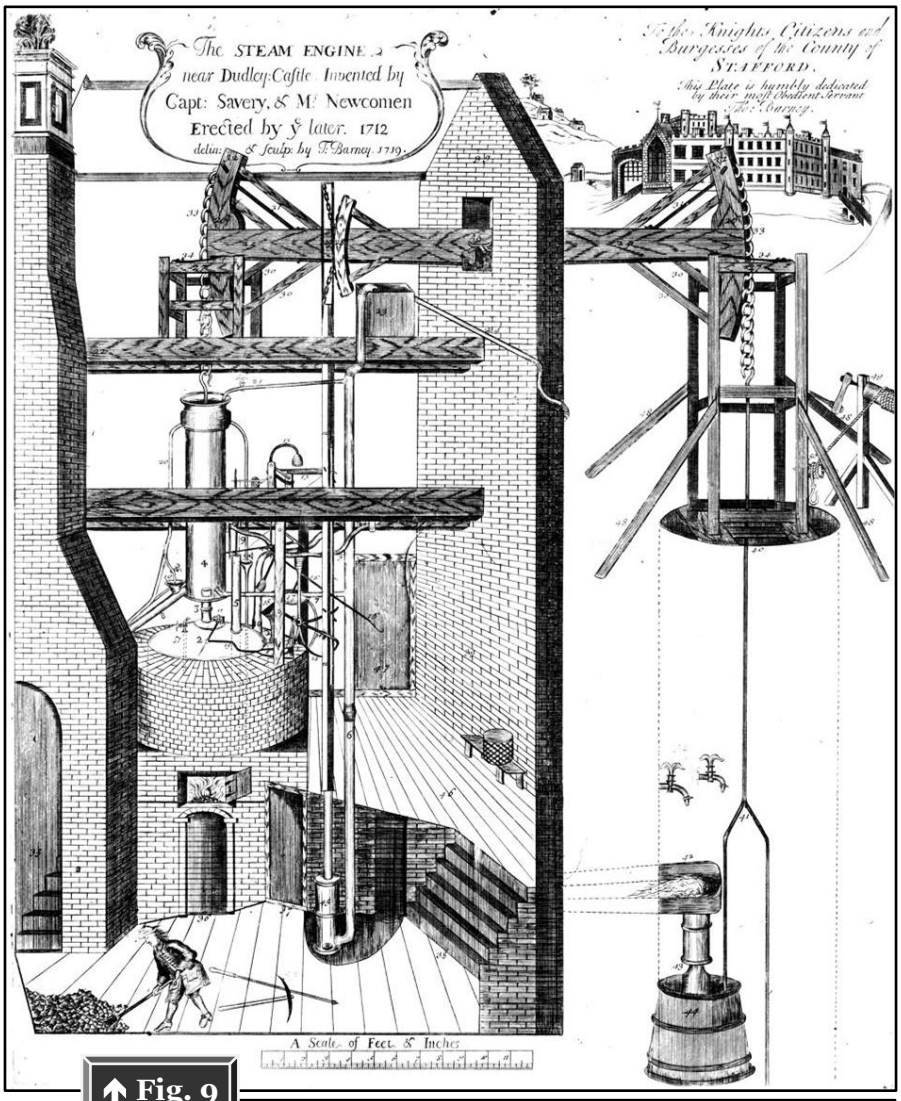


Fig. 9

What else could a Newcomen engine be used for?

Engines were first used in mines for lifting water to the surface. But mines also needed winding engines to move materials and people up and down the pit shaft. Many other industries used waterwheels, which operated at constant speed and constant torque; two vital requirements for industrial machinery. For example, iron foundries needed powered bellows to blow air into blast furnaces. In the wool industry some fulling mills had waterwheels driving large cam-operated hammers. Later in the century, early textile mills were being built, especially for processing cotton. Stamping and polishing work also required power.

A weakness of the waterwheel was that in dry weather or a cold snap the water supply was not enough, and the foundry or mill might come to a standstill. A Newcomen engine could pump water back from the bottom of the wheel to the upper mill dam. Known as a water-returning engine, it became the method of choice for providing rotative power. You could even use a returning engine at a site which had only modest water supply. As the water was used over and over again, new supplies were only needed to replace evaporation, and a factory could now be sited in flat country. The foundry at Coalbrookdale installed one in 1742,

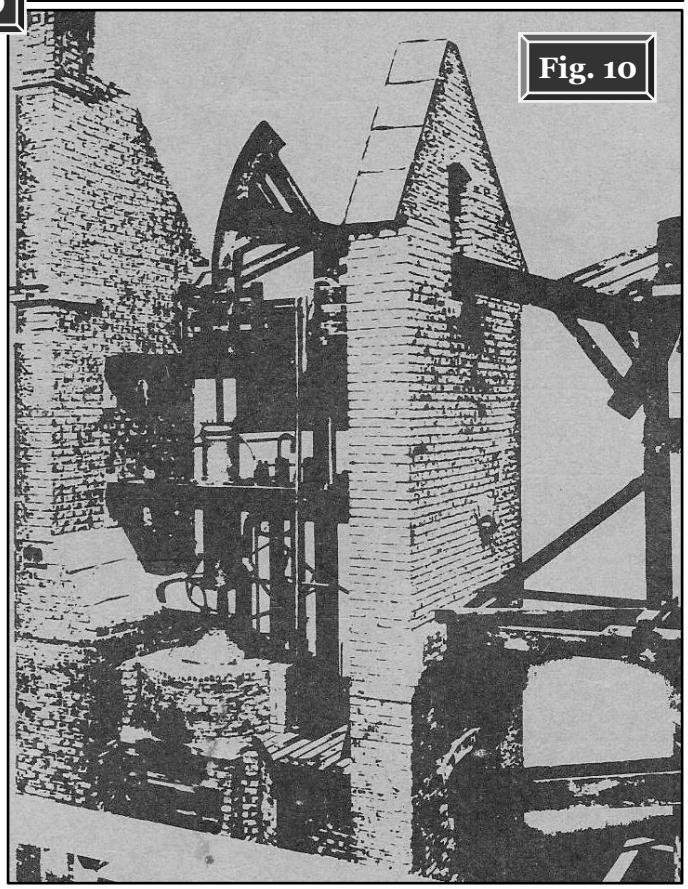


Fig. 10

Fig. 9 *is reproduced with acknowledgements to the Science Museum (http://collection.Science museum.org.uk/objects/co50906/barneys-print-of-the-steam-engine-at-dudley-castl).*

Fig. 10 *is from the brown-tinted front cover of an untitled A5 booklet by R L Hills at the Museum of Science and Industry (MUSI) in Manchester.*

and in 1765 the Carron Ironworks situated at Falkirk near the River Forth installed a monster with 72" (1.83 m) cylinder.

Later, mines came to have three engines, one for pumping, one for winding and one for blowing air through the workings.

The crank and fly

The crank was known at the time, but nobody expected that it could be used on a Newcomen engine. Stroke length on the engine was erratic, and the power stroke might be more violent than the return stroke. The piston might pause at top and bottom of the stroke. So irregular was the engine's action, it was universally believed that the engine would be torn apart by connecting it to crank and fly. It seemed impossible that a crank could *control* the cycle. So nobody tried it. For 67 years!

Many people were trying to get rotative power from their engines, there being increasing demand from industry. Several tried to devise systems using combinations of rack and pinion with ratchet and pawl. Somehow these never worked and were quickly abandoned. Several people tried to take out patents on the 'ratchet and click' devices, as they were called, the last one being a Bristol millwright called Wasborough. A mill owner, James Pickard, had been employing Wasborough and after trying for a year they gave up on the ratchet and tried a connecting rod and crank, coupled to a lever carrying weights. Every historian gives a different occupation for Pickard, from flour miller to button maker, but he is known to have had some sort of mill in Birmingham.

No doubt to their surprise, the method worked. Pickard immediately slapped a patent on the device, which handicapped engine builders for many years. Wasborough built three engines using the crank, of which one was used in his own works and one in Pickard's. They were reported as being "...subject to such irregularities as rendered them of little use", but at least they worked. And to quote Rolt, "One of the most remarkable fallacies in engineering history was exploded."

This was in 1779, and 67 years had passed since the Dudley Castle engine started pumping. As long as millwrights had no knowledge of contemporary science they were groping in the dark, and struggled to bring about improvements. One man did bridge the gap, and another chapter will deal with the impact made by John Smeaton.

John Wilson

The Illustrated Meccanoman's Dictionary: P

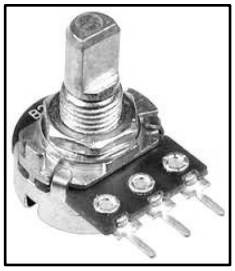
Portal crane to Power

Portal crane. A **crane** made from an elevated beam mounted on legs moving along rails, right; often called a gantry crane in Meccanoland. See also **semi-portal crane**.

Portescap. A high-quality Swiss-made **brush**less **DC** (and **stepper**) motor. They're wasted on clunky Meccano models! Some are tiny with geared outputs for putting slow, high-torque rotation exactly where needed, right.

Positive. Usually the red wire in **DC** electrical circuits, symbol '+' or '+ve'. See also **polarity**.

Potentiometer. An adjustable **resistance** with a **wiper** working on a **carbon** track, below. They have various ranges ('R' stated in **ohms**, Ω) and characteristics (**linear** or **logarithmic**).



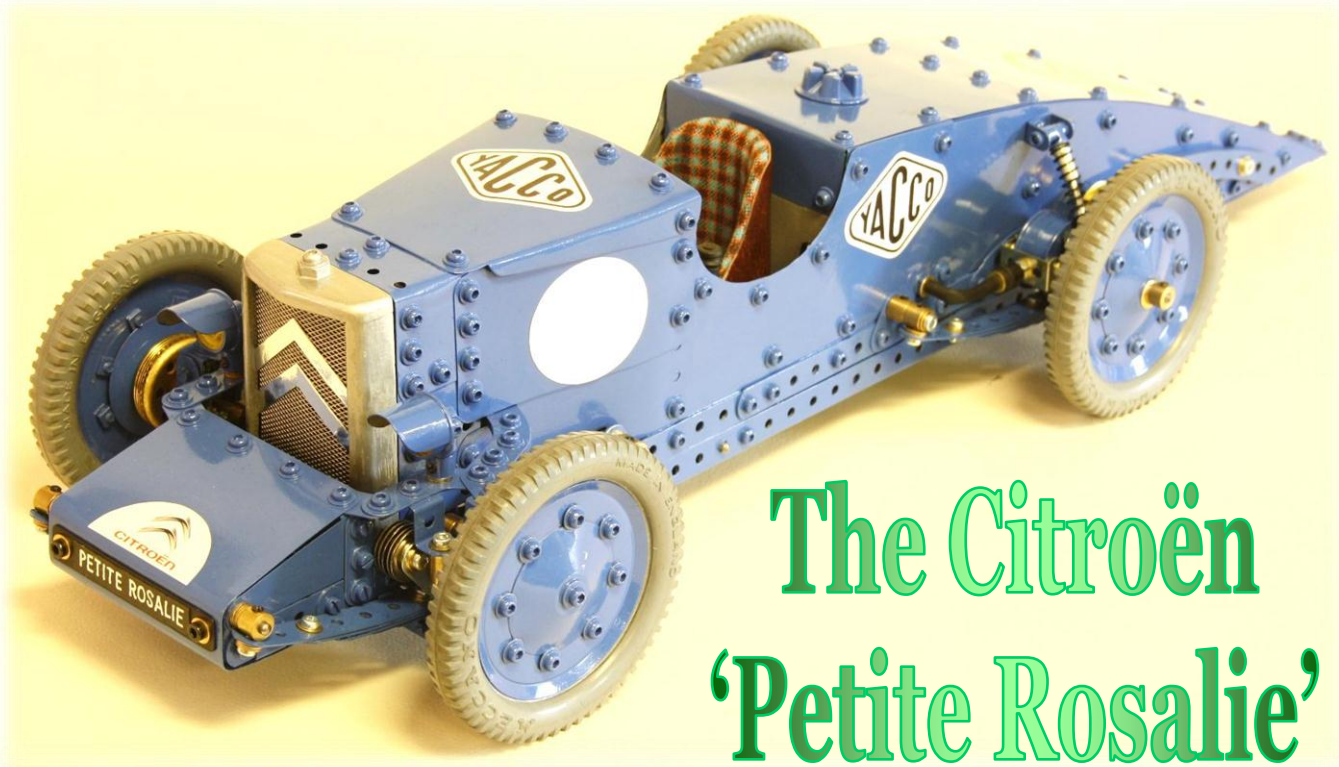
Potential difference. See **voltage**.

Potential energy. Stored energy like a tensioned/wound spring, water in a raised reservoir or balanced weight, above.

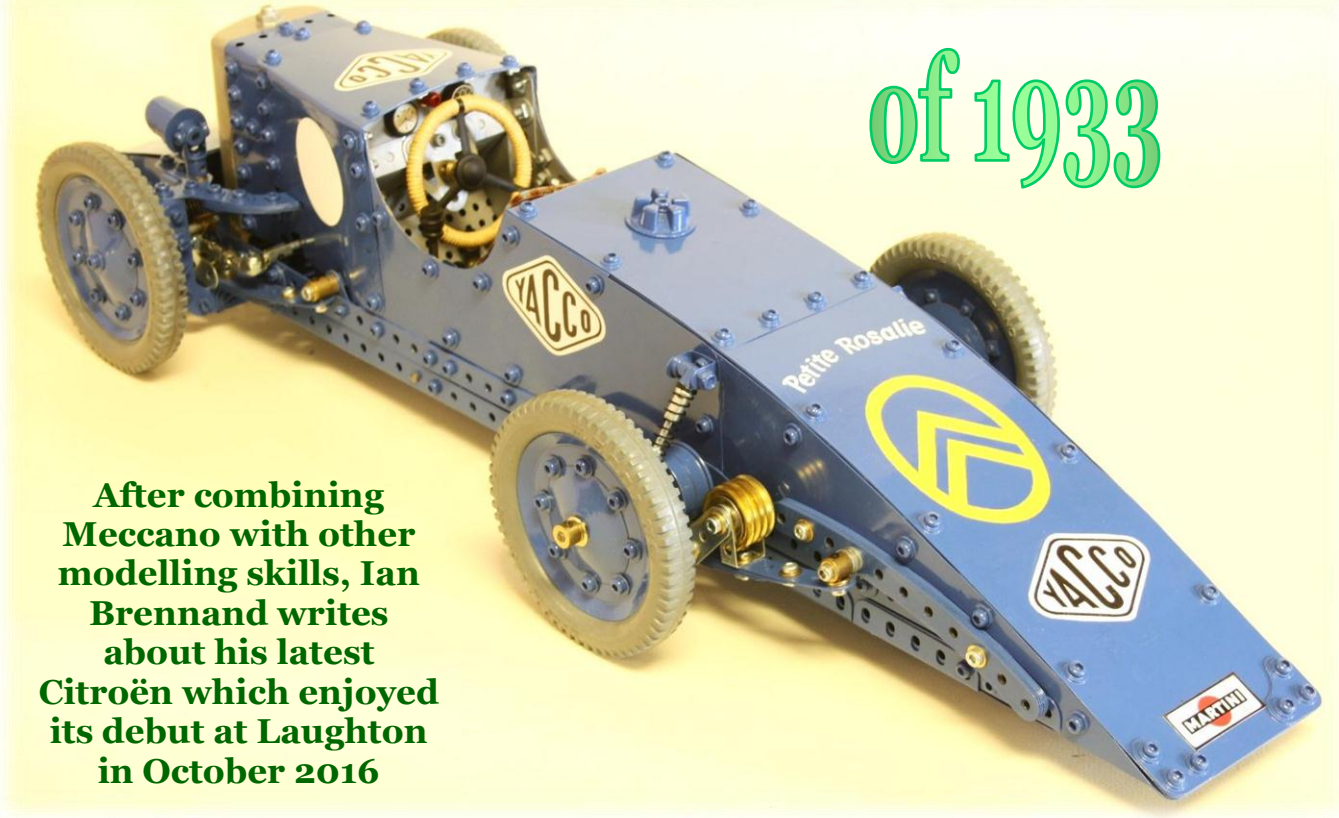
Pound. Archaic, obstinate Imperial **weight** measure: 1.0 **lb** = 16 **oz** = 454 **g** and 14 lb = 1.0 stone. Eh?

Powder coating. An **epoxy**-based strong, colour-stable (see **fade**) layer. Being thicker than paint, it noticeably reduces Meccano hole diameters.

Power. (1) Rate of energy change. For a rotating shaft, power P = **rps** × **torque**; DC electrical power = **volts** × **amps**; **AC** is the same but needs a correction (**power factor**); chain or belt power = **tension** × **speed**. The **SI** unit is the **watt**, W. (2) A number's index, such as the '3' as in '5^3' or 'five **cubed**'; $5^3 = 5 \times 5 \times 5 = 125$ like three successive 19t Pinion-95t Gear pairings. *RM*



The Citroën 'Petite Rosalie' of 1933



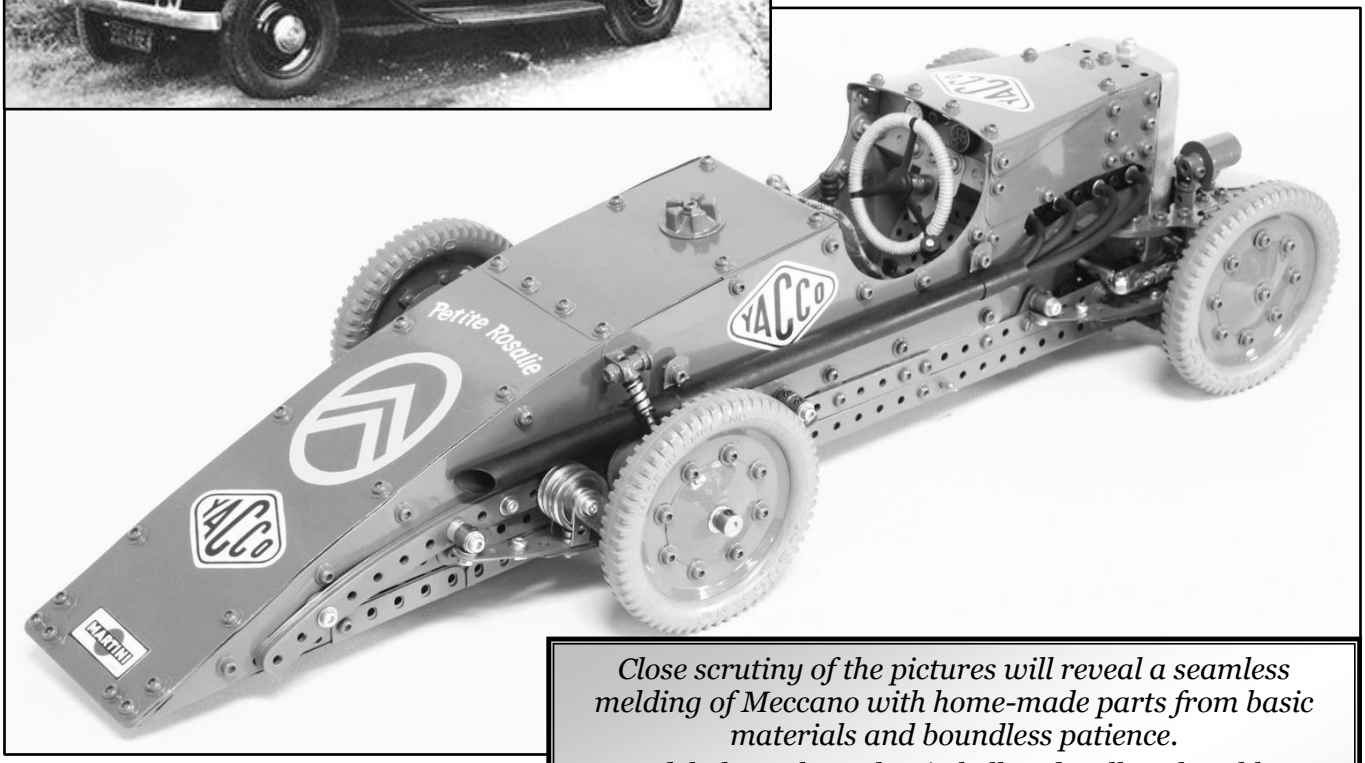
After combining Meccano with other modelling skills, Ian Brennand writes about his latest Citroën which enjoyed its debut at Laughton in October 2016

Some history

André-Gustave Citroën (1878-1935) was not very keen on motor racing as he thought it far too dangerous and in the context of the 1920s & 30s, he was probably right. Unlike André Citroën, however, I have had a lifelong passion for motor sport and building Meccano models since being eight years old. Rallying was my life for twenty years (1965-85) and the memories are as clear as yesterday. To most folk, the thought of being strapped into a rally car howling through a 'forest special stage' on sheet ice and snow is a bit concerning but, rather like building a decent Meccano model, it is very enjoyable and just gets in the blood. For the last decade I have been running a rally team based on historic events and after several setbacks, we won our class outright in the 2012 RAC Historic Rally.

Although André Citroën disliked motor racing and did not have the cars capable of competing with contemporary rivals on the race track, he was a

Petite Rosalie driven by the racing driver César Marchand at the Montlhéry race track between 15th March and 27th July 1933. He clocked up 300,000 km (186,500 miles) in 134 days at an average speed of 57.8 km/h (35.9 mph). In doing so, 132 international endurance records were set and remained unbroken for 30 years.



Close scrutiny of the pictures will reveal a seamless melding of Meccano with home-made parts from basic materials and boundless patience.

Model photos by Rob Mitchell and Hellmuth Kohler.

↖ A general aspect from the front left. (RM)

← Ian's favourite viewpoint shows a detailed cockpit. (RM)

↑↑ With acknowledgements to Citroën, a contemporary depiction of an early 1930s production Rosalie. (RM)

↑ The right-hand side has the large exhaust system and the strange object behind the cockpit is the fuel filler cap, made from the yellow plastic insert for a 1980s Road Wheel. (RM)

keen supporter of endurance events and saw this as a way of promoting his products. The best examples of these were the four epic trans-global adventures in the 1920s & 30s using the Citroën-Kégresse half-tracks or 'Autochenilles', proving reliability beyond doubt.

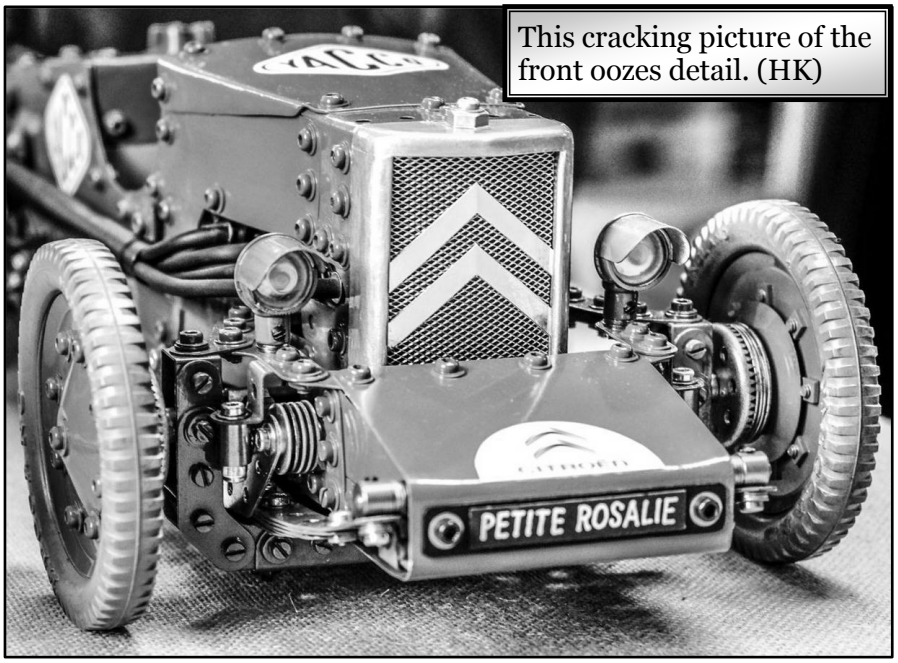
Before the introduction in 1934 of the famous Citroën Traction Avant (the world's first mass-produced car with a monocoque body shell and front wheel drive), Citroën produced a range of rather conventional cars known as the 'Rosalie Series' with a separate chassis and welded steel body. Because the Rosalie cars were so well-built and reliable, they became famous for supplying Paris with a fleet of taxis!

Approached by the Yacco Oil Company, André Citroën was persuaded to produce a series of endurance record-breaking cars based on the Rosalie models. Between 1931 & 1936, nine of these cars were built and took to the track. Simply by removing the body of the Rosalie saloon and fitting a lightweight streamlined version with improved suspension and brakes, they became world-beaters. The most famous of these cars was

The model

I built the model from what I would describe as 'scrap Meccano' which is fine because these parts would be either covered up or painted. Once I had worked out the basic proportions, wheelbase etc, the chassis and framework for the body was assembled. A few Flexible Plates were used on the body but, basically, the body is a bespoke alloy one just like the real thing. To create these panels, I cut cardboard patterns and offered them to the framework. After very careful measuring of the mounting holes, I made the holes using a leather punch. Once completed, these cardboard patterns were laid on aluminium sheet, drawn around then cut out using heavy-duty scissors. The holes were then centre-punched and drilled. Once these panels were cleaned up, I started from the rear of the car and worked forward, fixing them to the framework.

Because the real car had a floor pan, quite a bit of forward thinking had to be employed to ensure access to tighten the internal Nuts! I fabricated the radiator from five pieces of hardwood and once assembled, it was given a coat of 'sand seal' which seals the wood grain. It was then given four coats of metallic silver paint with rubbing-down between each coat using 800-grade wet & dry paper, followed by two coats of clear varnish. To complete the unit, a wire mesh grille was fitted with the famous Citroën double chevron on the front.



This cracking picture of the front oozes detail. (HK)

Cockpit details include the seat made from layered cardboard, padded and upholstered in fabric and leathercloth. The steering wheel was wrapped in waxed string which, I think, adds a period touch. The completed model was then given three coats of French Racing Blue, again rubbed down between each coat. Being an ex-illustrator, I hand-drew the artwork for the Yacco advertising at twice the required size before a friend kindly reproduced to the correct size four copies for the model. To tell the story of the *Petite Rosalie*, I built a simple display backscene which included an image of the car pounding around the banked track at Montlhéry and a $^1/_{43}$ scale diecast model of a Citroën Rosalie, the car on which the model was based; see SMGJ128.

Ian Brennand

STEM and a Four-Stroke Engine

Eric Wright enhances GSM35 then puts it to work

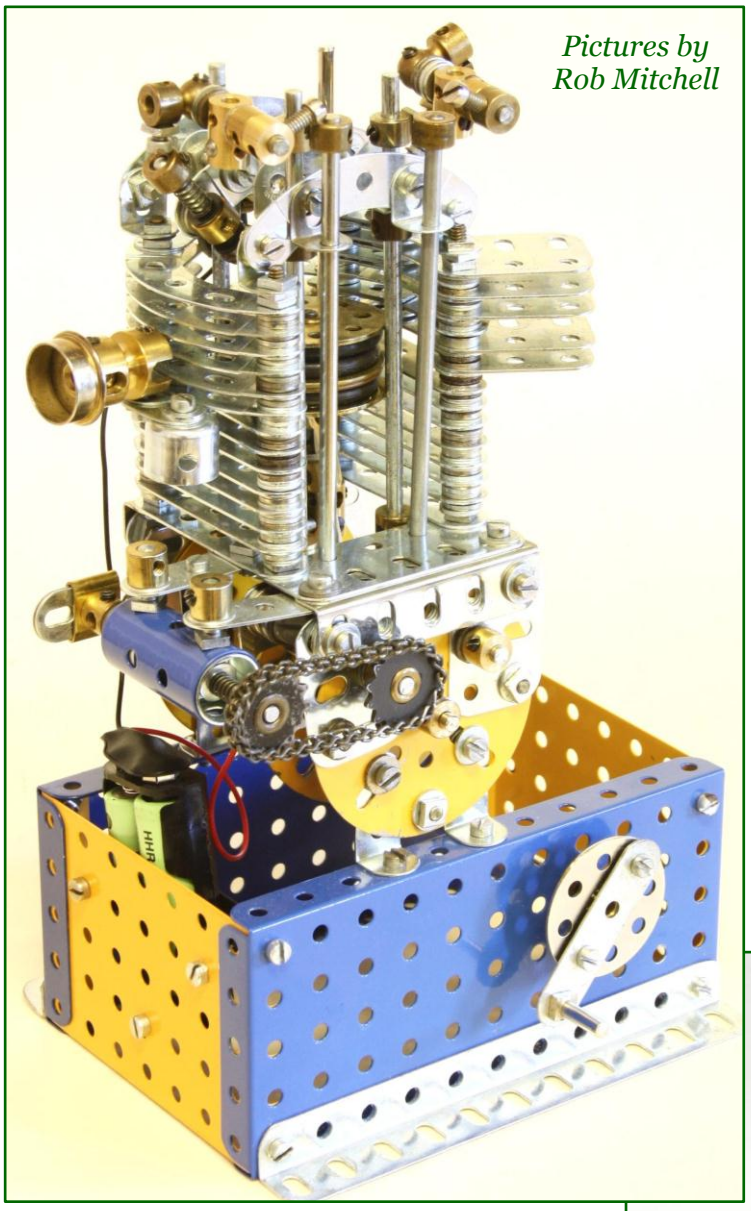
This model was built to attract the attention of young people at the London Transport Museum Depot at Acton Town which is where LT store all the objects which are not on display in the Covent Garden Museum[1]. The total number of items exceeds 320,000 which includes almost anything imaginable from London's Transport. Unfortunately, they are not open very often, twice a year I think but if one can get there it is well worth a visit; there is so much to see and do.

I have been among a lucky few who get there more frequently. London Transport Museum works very closely with STEMNET who attempt to encourage more children to undertake STEM (Science, Technology, Engineering and Mathematics) at school. As part of this work the Museum hosts school parties on 'Inspire' days. This is fun for the students and their teachers seem also to really enjoy the days. I am usually interviewed by the students to find out about life as an engineer. As well as the above there are the twice-yearly open weekends and I used to ensure I had a presence to support the various stands and displays. One stand is 'Sending the right signals' where younger attendees are invited to build a Lego railway to show how signalling works. I am on hand to answer questions as a 'Real Engineer' and they are very rewarding sessions.

This, at last, brings me to the model. As well as at the specific stand, I am often asked to be alongside a static exhibit (old Underground coaches etc) to answer general questions. The younger people have a questionnaire on which they have to write answers obtained by searching the Museum. When doing this, I found some reluctance among them to interact with me (as opposed to the signalling stand where they were full of enthusiasm). All I needed was something to attract their attention - hence the model of the single-cylinder four-stroke engine. This worked like magic! The youngsters and their parents were fascinated to see the internal workings of a four-stroke. I had somehow managed to hit the right button.

The history to building this started with my making a plastic model of a four-cylinder engine but it was not up to the continual use at events and the like so I started looking for a suitable Meccano

[1] ☎+44 (0) 20 7379 6344 or have a look at www.ltmuseum.co.uk.



Pictures by Rob Mitchell

aforementioned method enabled fine adjustment of the supports to ensure free running of piston inside the cylinder.

Other tricky points include making full use of the slotted holes in the Face Plates to ensure that a 19t Pinion meshes nicely with the two 38t Gears that operate the push rods. These latter are activated by Set Screws in the Gears and bossless Pawls. Note that care is necessary to select short Set Screws only to achieve a realistic valve action.

I hope that the above description, along with access to the original instructions, will enable others to enjoy the challenge of building this excellent model.

Eric Wright

substitute. After some time on 'Google' I found GSM35[2] (by Roger le Rolland, 1973) as a possible candidate. It is neat, shows very clearly the four-stroke workings and is also compact; this is the second version I have built. It is invariably well received by students at STEM activities and always provokes a lot of discussion. There is nothing like seeing a functional model to better understand how things work!

My original version was built too quickly and the only way I could get it to run was by using the smaller-diameter (1¼") Wheel Discs to fit within the four Rods forming the 'cylinder'. I corrected this in the rebuild. I was aware of how it worked and put the model together in such a way that I could adjust it as I built. This meant concentrating on the supports for the four vertical Rods and the top. I left the fins until later. The

[2] Available from MW Mail Order: ☎+44 (0) 20 8810 8719 www.hsomerville.com/mwmailorder.

Binders for your SMGJs!

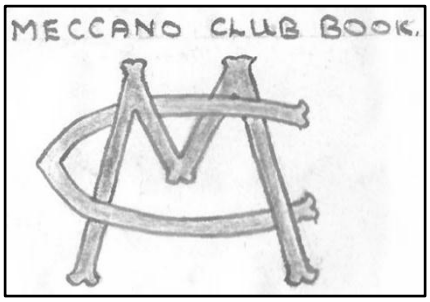
Exciting news - the new and almost official *Sheffield Meccano Guild Journal* binder is now available! House your *SMGJs* within this beautiful, fully-illustrated lush green binder replete with the SMG logo and Yorkshire rose in tasteful gold lettering. Each binder can hold up to ten Journals and will look smart on any bookshelf. Binders are available in the UK at £10 each post-free; for overseas orders or enquiries, please contact Lesley Mitchell (**E:** calamityjane70@talktalk.net **T:** 01709-816769 **M:** 0758-3082330) for postage rates prior to ordering.

Lesley Mitchell

Colour on this page has been sponsored by Lesley's Meccano Sales.

The Meccano Model-Building Club Chronicles

Transcribed from Ron Pitches' own notes
Ephemera from Mick Burgess
Part 1: February 1947 to June 1949



Editorial foreword

By good fortune in January, the SMG was given permission to publish the Meccano memoirs of Ron Pitches who, when aged ten and with his school pals, started then ran from 1947 to 1954 their own Meccano club in Beckenham, Kent. In a thoroughly readable account penned retrospectively in 1956, Ron recounted the Meccano Club's activities from its creation to a series of truly audacious joint efforts. All is housed in a small ring binder: Ron's neat hand-written notes on ruled paper, some black & white photographs, newspaper cuttings, letters from Binns Road and the BBC etc, 1950s catalogues & price lists and notes about his own decent-sized and well-balanced Meccano collection. Ron and his friends were the archetypal wholesome and diligent Meccano Boys of whom Frank Hornby would have approved.

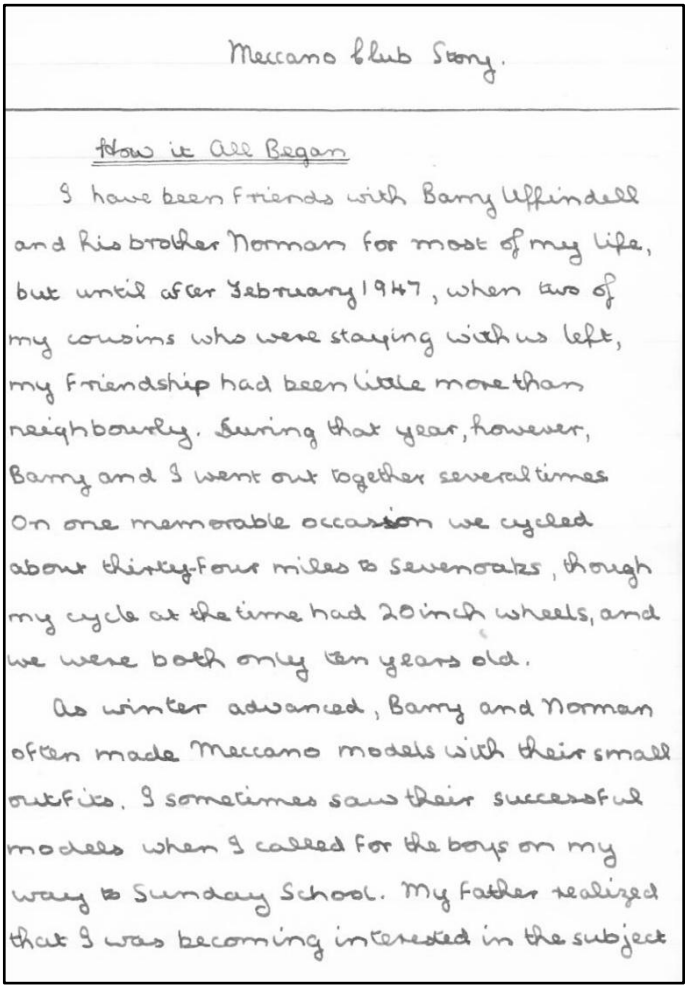
To set the scene, their efforts were against the backdrop of a country recovering from war with austerity affecting much - Meccano included - so many things were of indifferent quality and in short supply. Knowing the value of things rather than their cost was imperative and nothing was thrown away. Although faced with difficulties itself, Meccano Ltd was trying to regain the prewar halcyon period in a drastically altered world where the pace of change was to accelerate and which the company ultimately failed to do.

Ron is currently quite ill with vascular dementia, a debilitating disease, so we are indebted to his wife Angela for loan of the binder - which is rightly precious to her - for scanning in preparation of this article. It was clear that her allowing the heirloom out of her possession, even for a short period with guarantees of deferential handling then secure return, was not an easily-made decision. It tells a story of Meccano ambition initially outstripping available parts, attempts to garner a little money to remedy that situation, ingenuity, schoolboy politics, girls (good grief…!), trials & tribulations of shows staged at their homes, old money, truculent models, some under-age boozing (!) and the eventual reward of recognition for their Meccano endeavours. Much will resonate with many a latter-day enthusiast.

To remain faithful to Ron's script, editing has had a light touch so the text beginning opposite is almost verbatim. At Angela's request, the transcription omits most surnames and all addresses; it should be noted that Ron and his pals lived in the same street. His 'Contents' shows the text to be grouped into two sections split by photographs, the latter being inserted into the text here in chronological order.

The current global fraternity of Meccano clubs will be able to trace their roots back to Ron's activities so it is on his metaphorical shoulders that we stand. To our readers: enjoy this Meccano jewel. To Ron: the Meccano stage is all yours.

RM



Meccano Club Story.

How it All Began

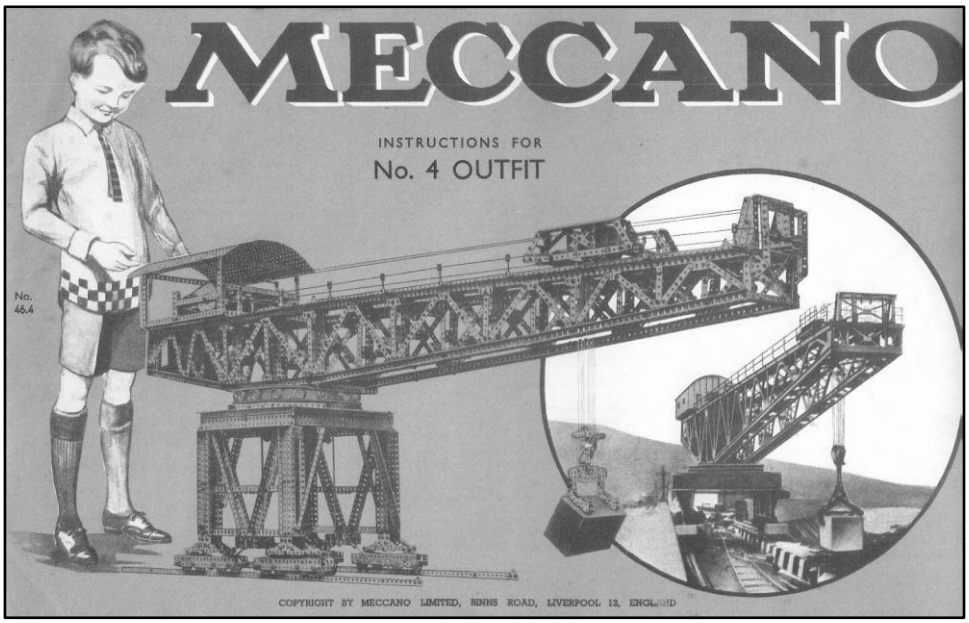
I have been Friends with Barry Uffindell and his brother Norman for most of my life, but until after February 1947, when two of my cousins who were staying with us left, my Friendship had been little more than neighbourly. During that year, however, Barry and I went out together several times. On one memorable occasion we cycled about thirty-four miles to Sevenoaks, though my cycle at the time had 20 inch wheels, and we were both only ten years old.

As winter advanced, Barry and Norman often made Meccano models with their small outfits. I sometimes saw their successful models when I called for the boys on my way to Sunday School. My Father realized that I was becoming interested in the subject

↗ Inside the binder's front cover is the Meccano Model-Building Club's monogram hand-coloured, of course, in red & green.

➔ In Ron's own hand is the first page proper of his 'Meccano Club Story'.

➔ Though slightly cropped here, this may have been the Manual cover greeting Ron on that Christmas Day. Mick Burgess said it ran from December 1945 to July 1947, print code 13/1246/20.



Contents

Illustrations

How it All Began, February 1947 to June 1948

I have been friends with Barry and his brother Norman for most of my life but until after February 1947, when two of my cousins who were staying with us left, my friendship had been little more than neighbourly. During that year, however, Barry and I went out together several times. On one memorable occasion we cycled about thirty-four miles to Sevenoaks, though my cycle at the time had 20-inch wheels and we were both only ten years old.

As winter advanced, Barry and Norman often made Meccano models with their small Outfits. I sometimes saw their sucessful models when I called for the boys on my way to Sunday School. My Father realised that I was becoming interested in the subject and bought me a No. 4 Meccano Outfit for a Christmas present, with which I was really delighted. During Christmas Day I built my first model, which was a sort of car with a Crank Handle attached to drive the car along. Dad added several belts and Pulleys.

With some help from Barry and with a few spare parts from Furley and Baker [1] (local Meccano agents), I made a very successful lorry. After this I built several models of different descriptions, some of which worked others were unsuccessful.

In March 1948 Barry, Norman and I were determined to build a model of a train and to send details of its construction to Meccano Ltd for the March General Competition. We started the model, Barry and Norman building coaches and I making the engine, early that month. Although the model was quite effective in appearance, I soon realised that unless a mechanism of some suitability

[1] Incredibly, Furley and Baker in Beckenham, Kent are extant and operate as a sports shop. It's a fair bet that they are no longer a 'local Meccano agent'.

was attached, the train would unlikely to be prize-winning. Consequently I attempted to fit a brake of push-pull type in the cabin, after the fashion in model clockwork train sets. My method of fixing this was barely sound in principle, let alone in practice. A Rod, rotated from a pair of driving wheels by a Cord and Pulley system, normally revolved in the driver's cabin. A Meccano Strip, when pushed forward, was supposed to stop the train by hitting a projection on the revolving shaft. Actually, all that happened was that the Cord jumped off the Pulley; and even had this not happened, the result would be for the train to stop dead in its tracks. After our disappointment over the failure of the brake, details of the bodywork of the engine and coaches were not sent in.


1947

PRICE LIST

MECCANO

REAL ENGINEERING IN MINIATURE

Meccano is a system of interchangeable parts — strips, plates, wheels, pulleys, gears, nuts and bolts, etc., with which any boy can build hundreds of magnificent models that work just like the "real thing."

There is no need to pretend or make-believe, for Meccano is real engineering in miniature.

Every Outfit includes a good selection of Meccano Parts, with a Screwdriver, a Spanner and a Book of Instructions showing many examples of models that can be built.

No. 4 Meccano Outfit

MECCANO OUTFITS

	Price, incl. Tax
No. 0 Meccano Outfit	7/-
No. 1 Meccano Outfit	10/6
No. 2 Meccano Outfit	15/-
No. 3 Meccano Outfit	21/-
No. 4 Meccano Outfit	30/6
No. 5 Meccano Outfit	41/-
No. 6 Meccano Outfit	53/-
No. 7 Meccano Outfit	77/6
No. 8 Meccano Outfit	130/-

MECCANO ACCESSORY OUTFITS

Each Meccano Outfit from No. 1 upwards can be converted into the one next larger by means of an Accessory Outfit. A No. 1 Outfit can be converted into a No. 2 by adding to it a No. 1a Accessory Outfit, and a No. 2a would then convert it into a No. 3, and so on.

Accessory Outfit	Outfit	Outfit	Price, incl. Tax
No. 1a converts	No. 1 into	No. 2	5/9
No. 2a "	" 2 "	" 3	8/3
No. 3a "	" 3 "	" 4	11/-
No. 4a "	" 4 "	" 5	12/-
No. 5a "	" 5 "	" 6	12/-
No. 6a "	" 6 "	" 7	24/6
No. 7a "	" 7 "	" 8	52/6
Meccano Magic Motor			4/- (no tax)

REAL ENGINEERING IN MINIATURE

Prices in this section are pre-Budget. Supplies leaving Works after 12th November, 1947 will include the increased Purchase Tax.

↑ Mick supplied this extract from a scarce 1947 list. It has no reference number but clearly shows a Purchase Tax rise for 12th November.

Even so, our interest in the fascinating hobby of model-building was steadily increasing and we still had hopes of being prize winners in some future competition. We knew a few other Meccano enthusiasts at school who had hopes the same as ours and we soon became keen on starting a Meccano Club with a view to sending in the best models for contests. We made our first plans during the Easter holidays of 1948.

When we returned to school, a few members joined straight away. To gain some more boys for the 'Meccano Model-Building Club', as we named it, we entered an advertisement in the shop window of Wyman's Elmers End branch. One boy, who Barry vaguely knew, joined the club as a result of seeing the advertisement. Meetings were arranged for Thursdays at 7.30 p.m. and at about this time about half of the sixteen members arrived at Barry's house. Strangely enough, there was only one occasion on which Meccano was our occupation. I can remember several of us, that evening, sitting on the floor in Barry's front room, dismantling a model of a Giant Excavator Barry had built. Usually we went to Stanhope Playing Fields and played cricket. We had hopes of mustering a full team and playing other elevens by mid-summer. However, our ambitions were never fulfilled.

The Club Mystery, June to July 1948

One evening, Barry and Norman called for me to come and play cricket as usual and they displayed two or three libellous notes addressed to the Meccano Club. The letters, which had been found outside my front gate, were signed 'The Secret Six'. I suppose we made an unnecessary song and dance about them but the idea of a mystery was exciting to all of us; probably, had not Barry and Norman knocked when they did, the notes would have blown away before anyone else would have found them. We formed our own ideas about whom the writers of the letters had been. I was convinced that the boy who joined the Meccano Club as a result of reading our advertisement was the leader of 'The Secret Six' or if not, a high-up. Norman knew a boy by the name of Clarke who belonged to an entirely different club, 'The Secret Ten' and believed that Clarke had a hand in the writing. Barry thought that yet another person was responsible.

↙ Another extract by Mick is from a 1949 catalogue (code 13/449/72) depicting a No. 4 Outfit with the then new 'Pinyon' Manual cover. Meccano Ltd was certainly swift to promote upgrading to a No. 5!

The Root of All Evil, June to December 1948

Presumably it was only natural that, sooner or later, we should start a craze for money 'to help the Club'. After adding a new rule to the Club 'log' book (now lost) to the effect that 'No member of the MMBC must belong to The Secret Six or Secret Ten' we left the mystery unsolved in this absorbing new craze.

It so happened that at the time one penny was paid for all one-pound jam jars returned to the shops and twopence for two-pound jars. A small discount was also given for sauce and various other bottles. Our first idea, which lasted about a fortnight, was to visit all the houses in the district and return jars and bottles which we collected to the shops. After a great deal of labour we collected the sum of six shillings which we divided between us.

We decided to investigate during the evening and within an hour we were more puzzled than ever. Our friend who read the Wyman's advertisement knew nothing of 'The Secret Six' which ruined my plans. Clarke was out when we knocked but next morning at school we contacted him. He knew nothing of the notes that we had received but admitted to being a member of 'The Secret Ten'. We decided, however, to take no chances and asked him to leave the Meccano Club. The boy whom Barry thought was responsible said that he belonged to 'The Secret Six' and told us one or two more members' names. He was laughing so much at the time that we hardly knew whether or not to believe him and I certainly reckoned he was pulling a fast one.

This incident, of course, caused the break-up of the cricket eleven and the Club in general. Only two members besides Barry, Norman and I turned up anything like regularly. These two were Peter and a member who had only just joined called Roger. The latter was a very keen model-builder and was to play an important part in the affairs and even management of the Meccano Club. I suppose it was only by chance that Roger joined. I was showing Barry a model I had built and I was running it down the garden path when Roger walked past. He said he had just built a lorry with his No. 4 Outfit and returned with it from his house. I can remember pushing it along and admiring the steering mechanism.

The next idea was my own. It was not, needless to say, a good one. On our way to school one day, Norman and I bought four notebooks at sixpence each. We divided them into four parts each book and my idea was to write a number of stories, vaguely connected to Meccano if possible, in each part. I designed a cover with the heading Engineering Magazine and drew a picture of a liner underneath. Roger and I wrote a story each and these I laboriously copied out into the first magazine. Brian and David, who lived nearby and were vaguely interested in the Club for a short while, helped in making the magazines which we reckoned on selling at threepence each, giving us a profit of two shillings. Unfortunately the others were not as keen on the idea as I was and so the idea was abandoned for an easier method of money-making.

The simplest and most enjoyable project took place in July 1948. This was a jumble sale which we held in Roger's back garden. About

← With apologies for this somewhat ropey example, the 'Pinyon' covers must be the finest to have been issued by Meccano Ltd.

half a dozen school friends attended this and each bought a few books and toys we offered for sale. As usual I was more impulsive than the others and rather foolishly bought four toy cannons at a price reduced from fivepence to threepence at a local toy shop. I offered them for sale at fourpence each (which ought to have given a profit of fourpence altogether) and sold only one of them. Norman was not able to find much to part with and he only offered for sale one shilling's worth of toys. Everyone enjoyed himself that day and we made a profit of 4s 4½d of which Norman received one shilling and Roger, Barry and I shared the remainder. Barry cycled directly to Furley and Baker and bought a Meccano part with his portion.

This was the last of our Club's functions for the year 1948. After the summer holidays Roger, Barry, Norman and I went to different schools. We saw each other less often but we still built our own models fairly often. I had bought my first Gears and with them had endeavoured to make an 'elastic band car' which, however, did not work. During July, my Father said he would forbid me to buying any more Meccano parts (for I spent a good deal of pocket money on them) unless I took more interest in building models. In consequence I entered into a challenge with him that I would build ten models during that month. If I was successful, Dad said he would then let me buy the parts I wanted. I worked feverishly but hardly six models were successful. Even so, Dad gave me the permission I wanted. During August I invented a novel fortune-telling machine using some recently-bought parts. This was so successful that I was wondering whether to enter it into a competition but I decided not to as it was difficult to draw and I was unable to obtain a photograph.

After this my interest in the subject was taken up with other things and it was not until Christmas that the four of us attempted to restart the Meccano Club.

Interesting Developments, December 1948 to June 1949

During the Christmas holidays of 1948-49, I was building a puppet theatre with Ian, a friend who lived a short way away and perhaps it was his partial interest in the subject of Meccano that aroused my interest once more.

We attempted to run the Club on a much grander scale than before. Rules were revised and an entrance examination imposed. Barry, Norman and I marked each other on the results of past models. We later gave Roger marks and I also gave marks to 'JB', a boy at school who seemed keen on joining, on a model of a bull-dozer he made and powered by a Clockwork Motor.

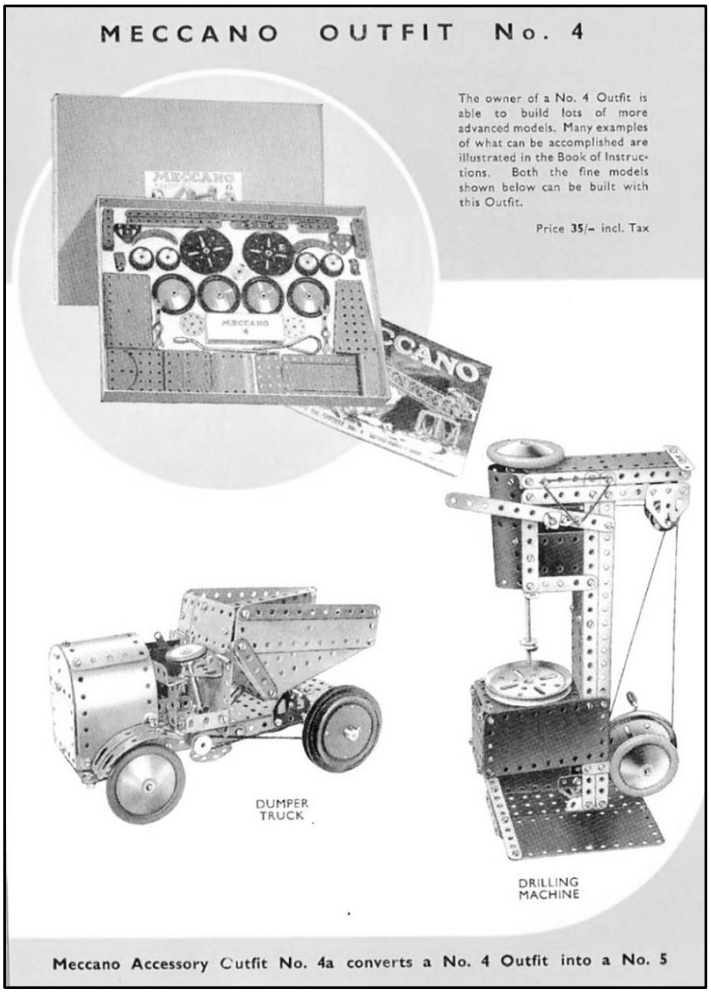
A Club Register we made out did not prove to be a good idea because we held meetings on all evenings but official club nights. The register dates from 20th January 1949 and shows that we had seven members at the time.

On Tuesday 22nd January and on the following two days we gained two members to the Club

in a very unusual manner. Actually, one member did not remain interested for very long.

I was cycling home from school games that afternoon with a friend named Derek. During our conversation I mentioned the Meccano Club. "Have you ever heard of 'The Secret Six'?" he asked me. I told him of the letters I had received and he admitted to writing them! He told me he was head of 'The Secret Six' and among other members were Roger and a friend at school, Roy. I learnt later that it was in Roger's house that Derek wrote the libellous letters. Had it not been for my conversation with Derek, I still wonder whether Roger would have kept his secret of being a member of the 'The Secret Six' to this very day.

🡻 Mick had some further contemporary advertising (1953, code 16/953/220) which states *The owner of a No. 4 Outfit is able to build lots of more advanced models*; Ron and his pals quickly managed just that.



'The Secret Six' packed up soon after its members left Marian Vian School [2] to go to a variety of different schools in the district. Derek and Roy both went to the same school as I so as they were both good friends I asked them if they would join the Meccano Club. Derek's enthusiasm soon waned but Roy was a keen member and was quick to show himself prominent.

Though we had made quite a good start to the Club early in the year, as spring advanced we no longer worked so much as a Club. The register soon became neglected entirely and the Club was split for some purposes into two distinct halves; Barry, Norman, Peter on the one hand, who often played cricket in Stanhope Playing Fields; and Roger, Roy and I who, though the three of us never went about together, formed the second half. I mainly went about with Roy during the Easter and summer holidays of 1949 but I went to Crease Park with Roger quite often. In May, incidentally, Roger and I turned out some waterlogged possessions from a rusty tank in Roger's garden where we had put those articles that had not been sold at the jumble sale of summer, 1948.

Though we were all taking advantage of the longer evenings and made fewer models, our interest in Meccano still remained. I began to take the Meccano Magazine as from February, for instance. During spring, Roy bought a Meccano reversing Clockwork Motor. Since, in the previous year, Barry and Norman had bought similar Motors and my Father gave me one as a present in 1948 as well, all of us except Roger (and Peter, who left the Club in summer, 1949) could have really working models. It was not until spring 1950 that Roger obtained a Clockwork Motor.

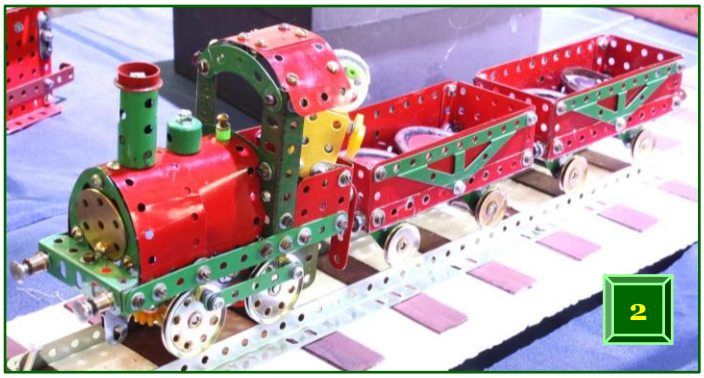
In August, I was keen on holding a Fête with Ian (with whom I had built the puppet theatre in winter) and another friend, Colin. There were to be, in Colin's house and garden, a film show, model railway, some Meccano slot machines and a 'Driving Test'. Unfortunately, though models were complete and plans under way, the Fête never took place.

Ron Pitches

To be continued.

[2] This school is another long-term survivor and still provides a primary education.

Meccanuity 2017



Enginuity, 29th April to 1st May

1. Ken Senar maintained his well-deserved reputation for finding then tackling some atypical subjects with this Australian domestic refuse collection vehicle. The single driver/operator stays in the cab and oversees bin handling-emptying-replacing by CCTV.

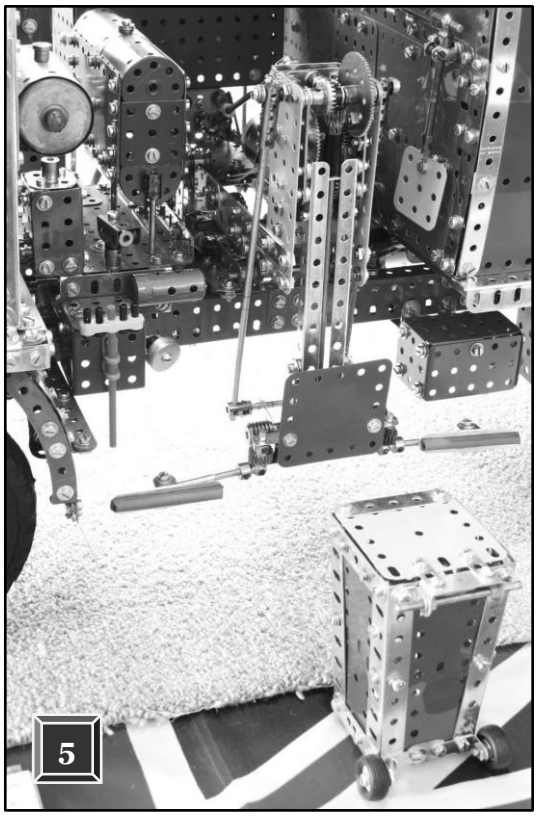
2. Initially built to add interest to a local charity shop window, **Chris Shute's** little 0-4-0 loco with two wagons and waving driver trundled happily back & forth on its track until the occasional over-enthusiastic visitor displaced those Pulleys from the Angle Girder rails!

3. The 2017 theme was windmills and turbines. By far the tallest theme model was built by **Gregg Worwood** who made good use of copious quantities of self-breeding Sector Plates to build the tower. Had better not mention that it didn't give an entirely trouble-free performance…

4. A modern wide-bodied jet airliner from the contents of a No. 10 by **Colin Bull**.

Orgnised by Dave Bradley, Matt Goodman and Tim Martin of the Telford & Ironbridge Meccano Society then assisted by a team of volunteers, this Meccanoland fixture is held in the Ironbridge Gorge, Shropshire. Support is certain from TIMS's fellow Meccano clubs although compared with previous years, this was confined to the more local organisations which naturally included the SMG. Model quality was high as can be seen here; your Ed did his best with a camera in tricky settings: windows on one side, dark areas, colour spotlights.

The contest could rival our April Antics and is a much-anticipated event. Required was a machine having two legs for propulsion, two wheels for stability and capable of carrying a full 330 ml drinks can over a 15' (4.57m) course. There were two classes - clockwork and electric - with a pair of entries in the former and four in the latter. Emanating from the Maltby Meccano Works, *Clockwork Calamity* was the first victor after making Chris Shute's Konkoly-inspired *Can-ter* appear stationary. Revenge was wrought in the electric section, his *Wem Wanderer* seeing off *Nice Legs* from the Works, Tony Evanson's prod-assisted *Wandering Walter* and Les Nightingale Jnr's *Oh Mr Porter!* derived from the *MM* 'Carry Your Batteries Sir?' In a final clash, however, *Calamity* out-sprinted the *Wanderer*. A major ignominy for the Works was that a certain female Meccano dealer was in charge of the No. 2 Clockwork's brake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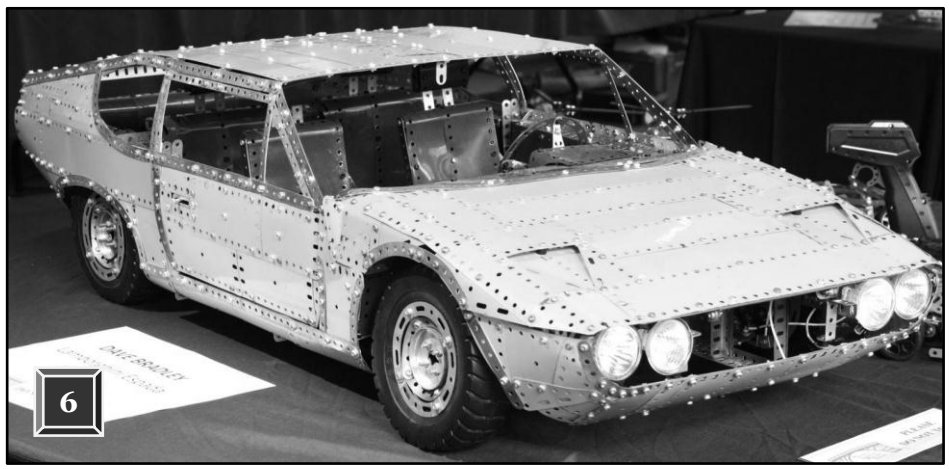
5. The bin-grappling gear on **Ken's** refuse collector. Gearing serves to replicate the ever-awkward hydraulics and note the sweeping brush on the left.

6. Dave Bradley captured the shape of a Lamborghini 'Espada' with lots of yellow Flexible Plates then added radio control.

7. In the electric contest, **Tony Evanson's** *Wandering Walter* plods ahead of **Les Nightingale Jnr's** *Oh Mr Porter!*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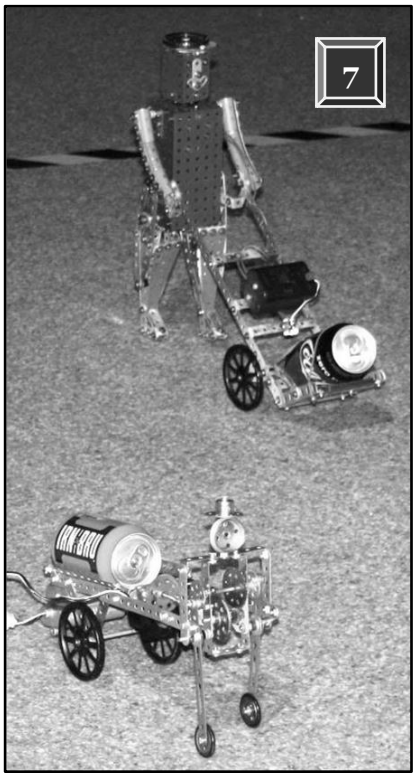
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Left to right. After an unlikely turn of events, TIMS boss **Dave Bradley** carries the can to present the spoils of war to a fizzing **Lesley Mitchell**. Without a can of fizzy pop in sight, **Mary Linder** hands over the other spoils to **Colin Bull** then **Gregg Worwood** for their Meccano endeavours.

lever and celebrated success accordingly! The Keith Way Memorial Shield, awarded by voting for the best theme model went to **Gregg Worwood** who had seven on display. Also by voting, the John Linder Memorial Shield was for the most eye-catching model and was taken home by **Colin Bull** for his jet airliner from Modelplan 126. Pictures by Bob Thompson can be viewed at: **www.nzmeccano.com/image-112486**.

RM

Building Giuseppe Servetti's Magician: Part 2

An accompaniment to GSM32 by Rob Mitchell

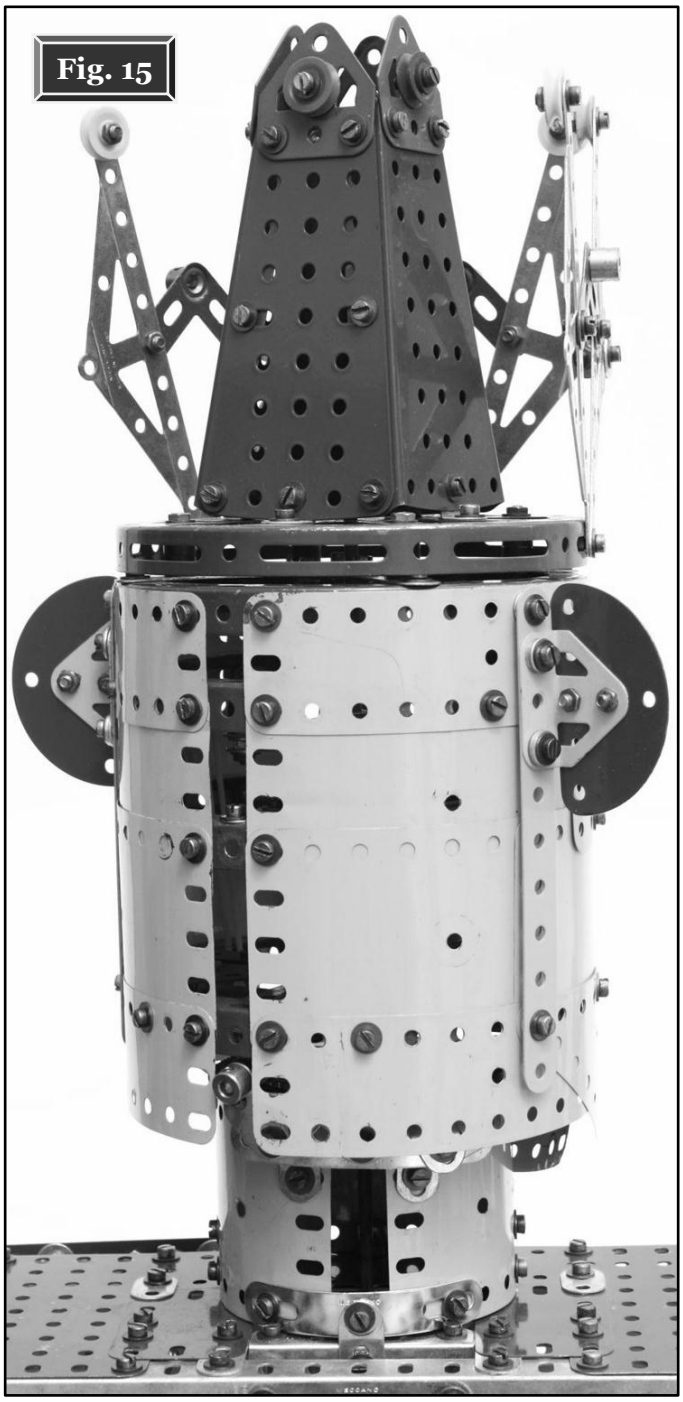
Introduction to Part 2

This series is intended to complement GSM32 so the Sections are numbered to match. Note that 'left' and 'right' in the GSM are from the Magician's aspect and not when viewed from the front. **Bold** text references are internal to this series; those in plain text are to GSM32. Part 1 in SMGJ128 contained **Figs. 1** to **13**.

3.4 Head, Figs. 14 to 17

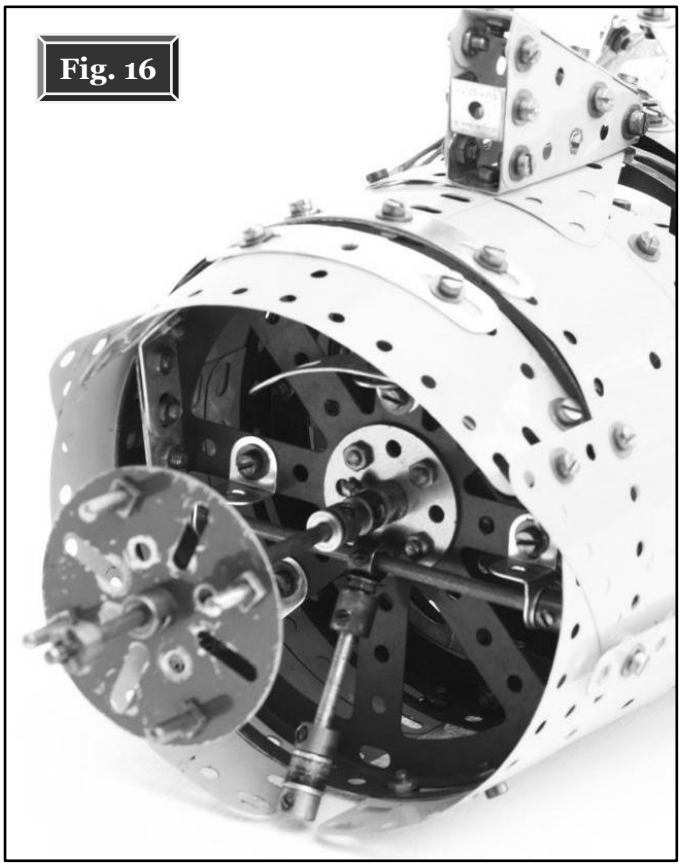
Construction began as prescribed until the lower, moving lip 65 which used 1" × ½" Obtuse Brackets (not available during the Servetti-Cameron era) for a stronger join to the 2½" Strips 70 (Fig. 6) and they saved having to bend the Strip ends, **Fig. 16**. The 'elastic band' assistance became a Tension Spring which won't deteriorate with strain and time; its lower end was attached to a ½" Bolt in the Crank's first hole and the top slipped over another ½" Bolt higher inside the head. The 'rider' 76 over the jaw-dropping Fishplates gained a plastic Spacer as a roller for an easier passage. Plating was applied in hoops to leave a narrower vertical slot at the rear than shown in Fig. 5 but it will still allow internal access by forceps, **Fig. 15**. Like the Hub Disc, the topmost Circular Girder 82 has a Bush Wheel which is centred by four radial 2½" Strips, the central 11½" Rod locked in its boss; it was

Fig. 14



also bolted to the plating's top holes instead of using 2" Screwed Rods 101 as stand-offs from 80. As the plating around the eyes and nose appeared to involve some metallic torture, it was slightly revised with 2½" Stepped Curved Strips as more prominent eyebrows, **Fig. 14**.

Do those three Flexible Gussets 102-104 in Fig. 5 really look like any ears you've ever seen? A Semicircular Plate is stiffer so less prone to accidental damage, **Figs. 14 & 15**. Each is fixed to a Trunnion bolted to a vertical 4½" Strip on the head side, the Strip providing holes where there are none in the Flexible Plates and each needs standing off by a couple of Washer thicknesses to clear the Trunnion's fixings.

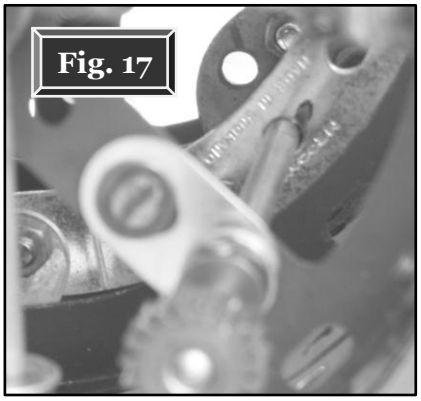


Eyes had minor changes, mainly the single Fishplate acting as an upper bearing for the drive replaced by a 2½" Curved Strip secured to the Circular Girder 80 via two Fishplates, **Fig. 17** and the Rod passing through the central hole. Another Fishplate improves the lower bearing in the Hub Disc's thin material.

Arrangements were necessary to allow the head to be easily lifted off as there would otherwise be a substantial weight pulling on the vulnerable 11½" Rod when the body was shifted; I already have quite enough bent examples. A loose Face Plate, **Fig. 16**, has four Threaded Pins which engage with the radial Fishplates at the neck Gear Ring, **Section 3.3**. Half a Dog Clutch on the Rod end is ready for further decapitation-based changes covered in **Section 3.22**.

3.5 Crown, Figs. 14 & 15

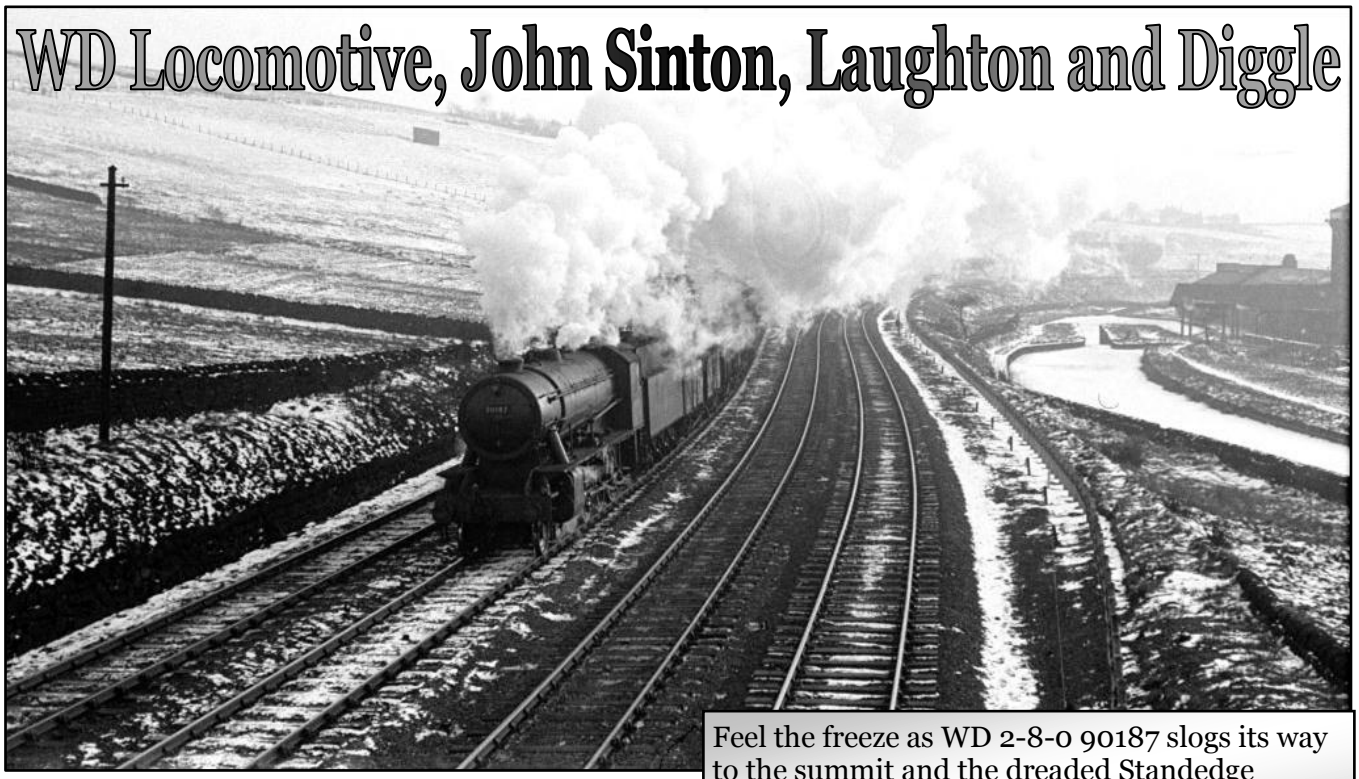
A few detail changes, mainly an opportunity to use Exacto Flat Sector Plates, Hinges accommodating the funny angle between Girder Frame apices. The completed crown is secured to four fixed ¾" Bolts rising from the head's topmost Circular Girder, **Figs. 14 & 16**.



Rob Mitchell

To be continued.

WD Locomotive, John Sinton, Laughton and Diggle



Feel the freeze as WD 2-8-0 90187 slogs its way to the summit and the dreaded Standedge Tunnels. Being in charge of a steam locomotive wasn't always a yearned-for occupation.

Further reminiscences and pictures from Ken Ratcliff

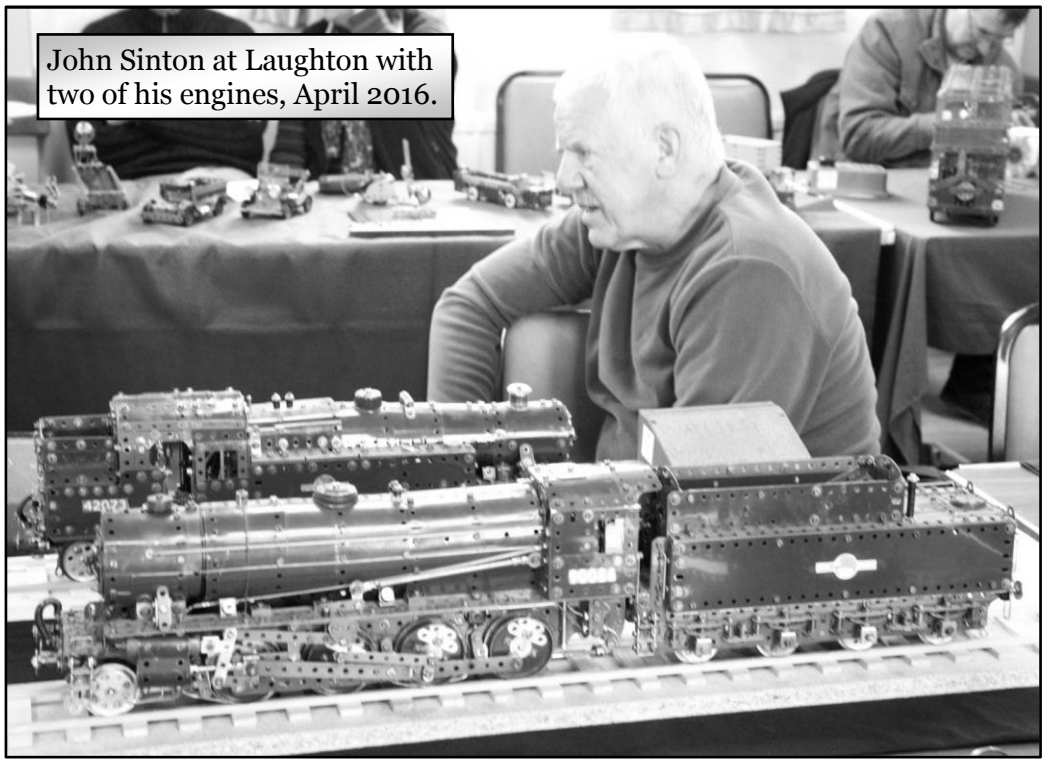
I took these two photographs about sixty years apart. At SMG Laughton in April 2016, John Sinton displayed his excellent models of the WD 2-8-0 alongside the Fairburn 2-6-4T and I must apologise for the fact that the photo is not pin-sharp - it was not one of my best days. However, the models themselves capture incredibly well the proportions and character of the locomotives, never easy, given the constraints of the parts available, especially when the models are compact, and to a smaller scale than is easiest for depicting particular vehicles, especially steam locomotives, where Meccano modellers usually have a pretty good idea what they should look like.

Then I trawled through some of my older photographs and among my earliest shots, after I acquired a 35 mm camera with the proceeds from selling my much loved Hornby Dublo trains, I found the second photograph, the black-and-white picture, taken in about 1954-5. I scanned the negative at maximum resolution but couldn't get rid of the deterioration markings, not being a Photoshop user. Fellow SMG member Ian Taylor had taught me how to develop and print, but still I managed to get a fine example of 'Newton's Rings' in the area where they show the most - in the steam exhaust. This was probably due to careless drying of the film.

Nevertheless, the photo shows the simple lines of the WD (War Department) loco and just how well John captured its lines and proportions. The engines were a development, for austerity war use, of the Stanier 8F 2-8-0, without the trimmings, using cheap materials and simplified construction. Built in enormous numbers and sent to war zones in the early 1940s, they were seen as disposable and were not expected to last long, being designed for heavy use by unskilled footplatemen in hostile conditions. However, they proved more robust than expected and at the end of the war, many of those that had been sent abroad were repatriated and found prolonged use by the UK railway companies and later BR. Examples lasted well into the 1960s, well remembered for their clanking and no doubt rough-riding and uncomfortable cabs as far as the locomen were concerned.

The engine in the photo is 90187. It is approaching Diggle towards the end of the climb from Stalybridge on the busiest trans-Pennine route between Manchester and the Huddersfield/Leeds area. It will shortly reach Standedge Tunnel at the summit of the line but since Diggle was a busy junction with freight yards, the train might pause there and be remarshalled. For an isolated place, Diggle could be very noisy at times. The fireman on this train will be looking forward to a breather after the long climb though he clearly had things under control as the safety valves are blowing.

Diggle was the junction of the two parallel lines coming up from Stalybridge. The original line, via Mossley and Greenfield, consists of the two tracks on the right. This is the line that survives. In 1885



John Sinton at Laughton with two of his engines, April 2016.

the LNWR built the Micklehurst Loop which left the original immediately on leaving Stalybridge, and simply went up the other side of the Tame Valley, never being more than half a mile from the Greenfield line. This effectively made a quadruple main line for the route but the Micklehurst Loop was mainly used for freight, especially since it didn't serve Greenfield which was a junction for the line to Oldham and where a surprising number of Liverpool-Manchester-Leeds-Hull/Newcastle passenger express trains called. There were stations on the Loop line but these closed as early as 1916. The line itself closed in the 1960s, leaving the older route, the two tracks on the right, to carry all the traffic and it is now slated for electrification. The goods train in the photo has just emerged from Butterhouse Tunnel which passes under the hillside partly hidden by the exhaust. The 'main' lines, curving away to the right, have skirted the hill by a shallow cutting from Saddleworth station and viaduct. Both sets of track are in bullhead rail in the photo.

Alongside the line is the Huddersfield Narrow Canal, frozen and disused. It has recently reopened and narrowboats can now pass through the Standedge canal tunnel. The wharf visible is (had been) serving Dobcross Loom Works, on the right - still there, but not making looms any more. The factory also had a siding from the railway. I spent a few weeks earning some holiday money resealing the panes of glass on its roofs, as I lived just a short walk away. When I look at the photo, I can still feel the cold of such days.

Ken Ratcliff

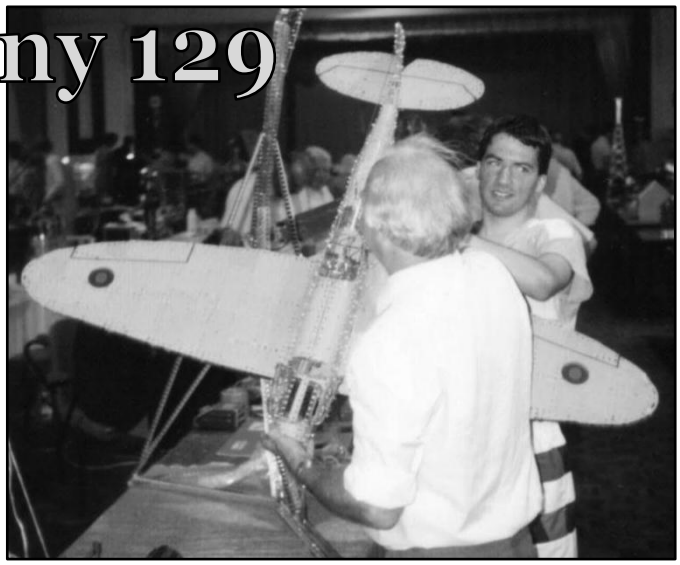
David Howard, 1937 - 2017

We again have to announce the loss of another notable Meccano enthusiast, **David Howard**, at the age of 79. Many of us will recall David during his regular trips to Laughton, Oxton and Skegex up to three or four years ago; always accompanied by his wife Carol, he was softly-spoken and usually brought a folding seat to aid him when absorbing a model. He later had to rely on a wheelchair which failed to dim his interest. David died in hospital near his north Wales home on 28th January after contracting pneumonia and his funeral took place in early February. Their son Rodney wrote *It's a real shame he never got to realise any of the wonderful creations he had the privilege to view and admire. His imagination and ability to translate ideas from reality into these replica mechanical marvels was hampered only by his physical ailments but the passion lived on, even in his last days. We know he'll be looking down on you all and enjoying seeing your models in years to come.*

We are indebted to Carol and Rodney for the picture of David enjoying some sun. Our sincere sympathies are naturally extended to Carol, Rodney and family; on behalf of the SMG, 'bye David.

RM

Miscellany 129



John Ozyer-Key, **Robin Schoolar**, **Bob Seaton**, **Ken Senar**, **Bob Thompson**, **Stefan Tokarski**, **Douglas Windibank** (who said he has to read it twice), **David Wells** and **Eric Wright**.

Sweet nothings

Better late than never, **Les Megget** apprehended another toe-curler in 127 although after 128 had passed the point of no return. *I've been reading more of 127 and was amazed by the statement on page 58 that Andy Drabek's fighter has "100,000 bolts". I don't think so; maybe 10,000 bolts? There wouldn't be 100,000 holes in the model to put the bolts in. I checked how many rivets the Forth Bridge has and Google says "almost seven million" so the fifth-scale model fighter has 1.5% of the Forth Bridge's rivets! Very doubtful and I rest my case. I've designed multi-storey bolted frame steel buildings which had only a few thousand nuts and bolts. I think Ken must have gained something (a zero) in the translation, but I could be wrong of course, it's not unknown!* Indeed, the number must have gained an extra zero where nought = nothing = irrelevant…? A glance at your Ed's parts inventory shows less than 21,000 37s in total so 100,000 in one, not enormous model is indeed rather a lot.

Before leaving 127, **Bob Thompson** had more on those folk seen in the Skegex '88 pictures in 126. *From Page 46, Miscellany 128; Mick Burgess e-mailed 'Photo 5 Page 57 SMGJ127 - I believe the chap front left next to Rod Rich is Richard Stevens…)' Sorry Mick but the chap front left next to Rod is Tim Covel, not known as a Meccanoman but his Dad Alan Covel is a well-known Meccano builder from the Midlands area. I have discussed this with Tim & Alan and there is no doubt that it is Tim. Furthermore, I have a photo* [above] *of Tim helping his Dad take down Alan's Spitfire model at Skegex 1989, a year later than Photo 5 on page 57. I have a photo of one of Alan's 'over 100 Meccano models' taken at the MMG in March 2011. Many of Alan's models can be seen on:*

www.nzmeccano.com/image-104152

Alan attends the South Birmingham Meccano Club as a very well deserved honorary member.

SMGJ128 arrives!

Among those acknowledging delivery were **Alan Cox** (*128 is great* he explained), **Peter Cross**, **Chris Fry** (*…thanks for another year of quality-production Journals…*), **Guy Kind**, **Alan Lovett**, Among those who had a little more to say was a typically e-verbose **Albert Howe**. *What a wonderful surprise when the postman delivered the 128th Sheffield Meccano Guild Journal and after a quick glance through, you have once again, Mr Editor, surpassed yourself in content. There are, however, one or two complaints but first I certainly liked how Roy Smith had built his Scammell 'Scarab' domed bonnet. Page 4, photo 7, refund of bribery money, thank you - ! Page 10, photo 26, what a fantastic model and yes, there is a motor in the base. I thought John Wilson's model of the Newcomen Atmospheric Engine was extraordinary and faithful to the prototype. He gives me a lecture on every steam model I display! Page 57, photo 2; I would sooner see the Meccano face and not this apparition of ugliness.* Regarding the second part of your first sentence, an *SMGJ* is not a single-handed operation (far from it!) and regarding your final comment, you are too kind, Mr Howe…

CAM's multi-talented Editor **Jean-François Nauroy** wrote *I just received the 128, interesting as usual. I barely had time to read the previous one with the models illustrating the perpetual movement then the new one arrives. I am impatient to see the new Stuart Weightman robot. I like photo 2 on page 57!* Regarding the 'ugliness' picture, Ken Ratcliff has a lot to answer for and Jean-François is clearly more diplomatic than Albert - which is not difficult!

Although having a hand in 128's content, **John Wilson** liked the end result. *I have been listening out for a day or two for the usual thump on the doormat as another Meccano mag arrives. Lo and behold, the package was handed over with a spanking new mag in perfect condition. I've had the briefest of glances so far (my grandson has me toiling to produce a Meccanograph) but it's clear you have done me proud with the article and Stefan's photos. The whole mag seems better with every edition, especially the quality of all photographs. Your personality is stamped all over*

it. Long may it all continue! Better keep that penultimate sentence to yourself, John, as it could have an adverse effect on membership numbers.

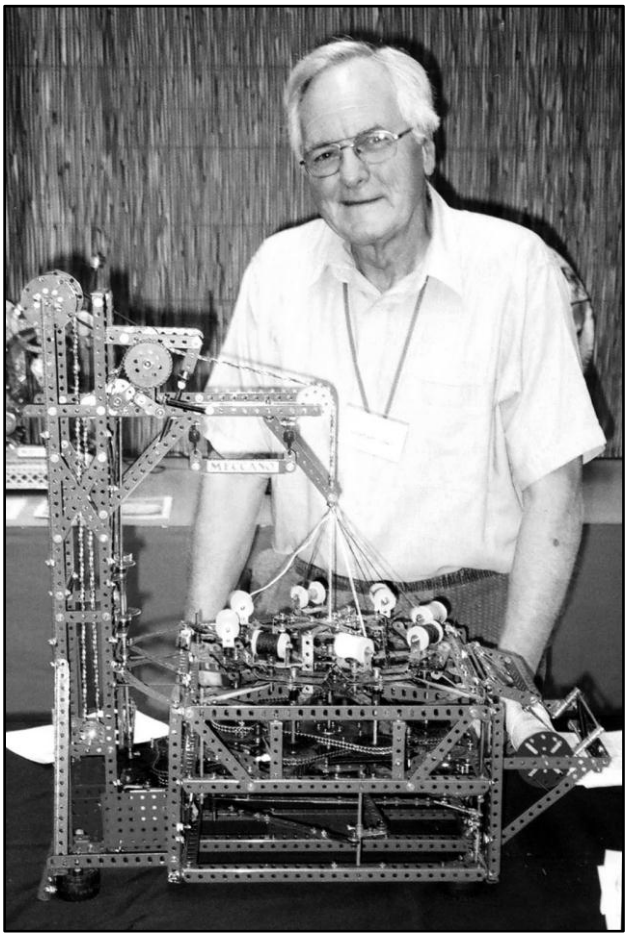
Another apparently satisfied customer was **Ken McDonald**. *128 arrived in good order and as always a joy to read. I swear it gets better and better and it's little wonder that your membership has increased in recent years. It was good to see details of your 'Magician' and I particularly liked John Wilson's Newcomen Engine. Red & green is my favourite colour scheme but I do think red and zinc go well together, especially when pristine parts are used. It is a delight to the eye and I would like to have seen it in operation. As usual, I am most grateful for including our MSS report and giving it such a good presentation. You have set the bar very high for those of us struggling to do a similar job*. About your closing comment Ken, nonsense; our able and keen contributors make for a fairly easy job.

Roy Smith had more reason than most to like his 128. *Wow! What a nice surprise to see the cover photo. I feel very honoured to have been singled out from the many other excellent models to be seen at Laughton. I did enjoy making this model and was delighted with the finished result. The registration was designed to fit in with the SMG issue in which I knew the Laughton report would appear. Of course the photo could appear anywhere in the Journal! What a superb issue as ever. Plenty of serious reading to be done.* Roy's satisfaction was reflected in the model's quality and the suspicions concerning its registration number were true.

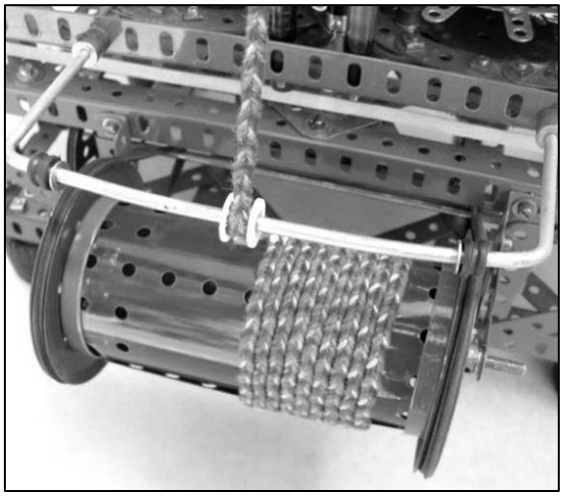
June Booker expressed approval at our tribute to Malcolm. She was assured that your Ed has no innate ability and any 'skill' is entirely due to too much practice in recent years.

From **John Rodgers**. *As usual the latest SMGJ is exceptional, full of interest and ideas for future projects - if I ever stop developing my bridge! I thought I knew quite a lot about Newcomen's Atmospheric Engine until I read John Wilson's article. Two comments about my mentions. On page 20 it states that I traced the whiff of burning - it was not me and I think that whoever it was should be given the credit. Secondly; as you were aware, my entry for the Bell Crank exercise was almost accidental and there were two Bell Cranks in that concentration of parts, one being part of the sensor for the longitudinal motion of the 'OO' gauge loco and second for the turntable rotation. I am working on a write-up of the whole system but, like the bridge, it keeps changing!*

No edition can be taken as complete without the SMG's recruiting machine, **Graham Jost**. *Russ Carr's article on his building of my (first) Travelling Braider is most informative - I quite enjoyed a sort of vicarious pleasure in building mine again via his article! There are several good tips there so should anyone else want to build it, then Russ's article in conjunction with mine should help them along the way most beneficially. Once again I can say that the reports from several writers at gatherings, which are in effect mini exhibitions, are one of my favourite parts. They do a great job. I look forward to taking in the Servetti 'Magician' article too - that is a fabulous model. Moving to Tim Edwards' Maypole Braider: page 51, top right. Now it was Tim who, inadvertently or otherwise, set me on the braiding path in 2002. At the time I had just decided to build the MM braider from 1966, when Tim chimed in (it must have been on 'Spanner') to the effect that he had an improved scheme for much of the mechanicals, which was sorely needed. He was very helpful and sent me full details. I incorporated them into my first braiding machine, which was pretty much a slavish copy of his. The photo* [so that's what he looks like, left!] *was taken in 2007 at an outside show. It ran faultlessly for the duration and was exhibited widely before it fell to my Meccano axe in 2015. That's how I got into Meccano braiding and, as they say, the rest is history! Of the model articles, I think I enjoyed most the burst on the Newcomen Engine. John Wilson has provided a succinct account of how it*



works, along with much related historical information - in just the right quantity! I couldn't agree more re his assessment of LTC Rolt - a wonderful scribe. Finally, my Figure-of-Eight braider did its stuff with aplomb and never missed a beat at our show at Colac in February. The pic [right] *is of the braid it produced which is superbly tight and better than anything else to date.*



After some approving comments for 128 (from the wrong side of the Pennines too!), **Colin Reid** was pleased to see featured his Yorkshire Waggon. He has since plugged it into a 'power cube' which gives a selection of voltages from a 12V battery, three of them suiting the waggon's lights, motor and radio control extracted from one of those Nikko-period chassis. Colin also saw fit to disconnect the somewhat harsh 'music'.

We have a banner

Reported in 127 was that the October 2017 meeting attendees authorised spending some SMG cash on a banner and that **Russ Carr** had dived straight into the job with **Iain McKenzie** subsequently lending a hand. Well, here is the end product, its 1.5 × 0.75 m eyeletted glory held outstretched by someone with a wide wingspan, below. Mostly light blue with the stylised Yorkshire white rose, it was adapted from an *SMGJ* front cover. The cost was £0; as was right and proper, Russ was keen for this to be an above-board paying job but his stubborn supplier was happy at £0 and when done, Russ added *Appropriately enough, fabrique en Liverpool* - !

New members

An enthusiastic eight to announce this time so it's a big welcome to **Nico van Beek** (Den Haag, Netherlands), **Andrew Cathie** (Auckland, NZ), **Peter Cross** (West Sussex, UK), **Robert Jones** (Wirral, UK), **David Owst** (North Yorkshire, UK), clock maestro **Dr John Stark** (Nelson, NZ), **Ernie Turnbull** (Lincolnshire, UK) and **Edmundo Veiga** (Rio de Janeiro, Brazil).

NEMS's ABC: Aiskew, Bedale, Crakehall

On 4th March, our northern pals had a first-rate maiden meeting at their new accommodation in Crakehall Village Hall, a more commodious venue than their previous two in rural Wensleydale. There was also a remarkably high-value auction as NEMS disposed of a collection from their loyal member Richard Holland who had died earlier in the year, the proceeds going to Darlington Hospice where Richard ended his days. With the recipient in mind, auctioneer Barry Richardson started the bids in hundreds of pounds for models containing uncommon parts and brass galore. The star lot came at the end; a good 1950s red & green No. 10 in an original dark oak chest and loaded with extra parts. Bidding ended at £850 which was a low price for such a haul but surely a record for a club auction. When done, their Treasurer Fred Thompson said they had made a most creditable £1645 for the Hospice. NEMS events and info are opposite. *RM*

Coming up in SMGJ130

Two of the biggest Meccano shows: CAM at Garges-lés-Gonesse and Skegex
We continue *Building Servetti's 'Magician'*
Graham Jost's Figure-of-Eight Braider
Gordon's 1824 steam carriage by Ken Ashton
Part 2 of the *Meccano Model-Building Club Chronicles*
Lots of other goodies are in the pipeline but if you're quick, there may still be room for you!

What's on When

10th June	NEMS, Crakehall Village Hall, North Yorks, DL8 1HG (new venue)
10th June	WLMS, Greenford Community Centre, Middlesex, UB6 9JS
23rd - 25th June	NMMG at Skegex 2017; exhibitor's fee reduced to £10, social evenings Fri & Sat
8th July	NELMC, Hainault, Essex, IG6 2UT
16th July	MMG at the British Motor Museum, Gaydon, Warwickshire, CV35 0BJ (see page 37)
23rd July	'Steam Toys North' at Leeds Industrial Museum, LS12 2QF (see page 37)
29th July	MMG 50th anniversary meeting, Baginton, Coventry, West Midlands, CV8 3AB
19th - 20th August	TIMS, Blists Hill, Madeley, Telford, Shrops, TF8 5DU
19th - 20th August	NMMG at Lincolnshire Steam Rally
20th August	MSoS with AGM, Smith Art Gallery & Museum, Stirling, FK8 2RQ; 14:00- 16:30
2nd September	NEMS, Crakehall Village Hall, North Yorks, DL8 1HG
2nd September	HSME gathering, Christ Church Centre, Reading Road, Henley, RG9 1AG; 10:00-17:00
9th - 10th Sept	MSoS at 'Farming Yesteryear', Scone Palace, Perth, PH2 6BD, Scotland
9th September	SELMEC, Falconwood Community Centre, Kent, DA16 2PG
16th September	NMMG with AGM and auction, Oxton, Notts, NG25 0SA
23rd September	NELMC, Hainault, Essex, IG6 2UT
23rd - 24th Sept	WLMS annual exhibition, Townsend School, St Albans, Herts, AL3 6DR
7th October	RMG with AGM, The Chertsey Hall, Chertsey, Surrey, KT16 9DR
14th October	MMG, Baginton, Coventry, West Midlands, CV8 3AB
21st October	**SMG meeting, a part-based theme, SMG Members' Award, President's Trophy, AGM and auction, Laughton-en-le-Morthen Village Hall, Firbeck Avenue, Laughton-en-le-Morthen, Rotherham, South Yorks, S25 1YD**
28th October	NEMS exhibition, St Cuthbert's Church Hall, Darlington, Co Durham, DL1 5QG
28th October	SBMC, Hall Green, Birmingham, B28 9BQ
4th November	TIMS with AGM, Enginuity, Coalbrookdale, Shrops, TF8 7DQ
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

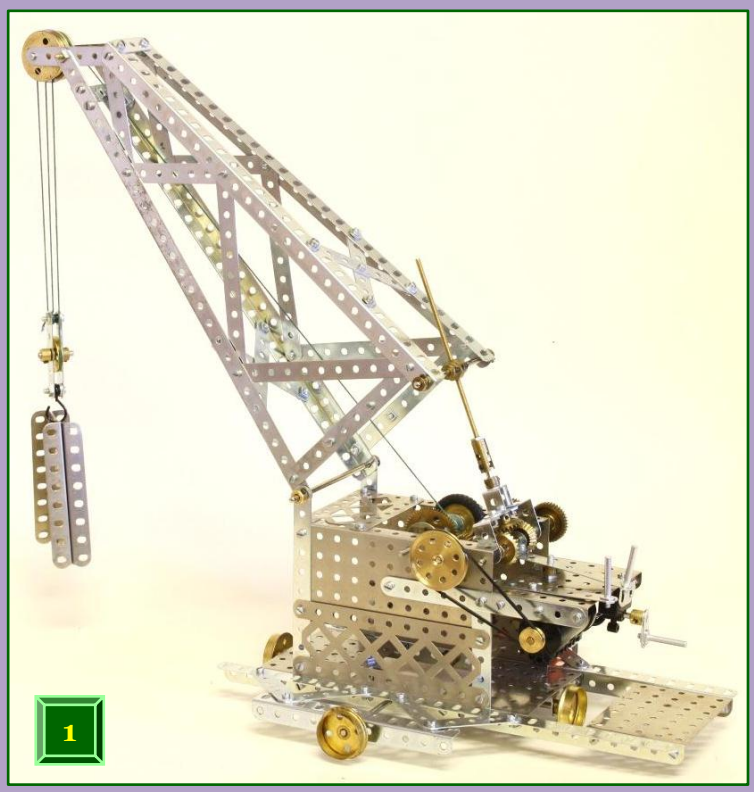
Contacts as it can be worth checking before travelling (www.hsomerville.com/meccanoevents)

SMG **Bob Seaton or John Ozyer-Key (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
HSME Kim Fisher
MMASI Warwick Lewis
HTMC Jim MacCulloch
MMG Roger Marriott
MSoS Alan Blair
NELMC Alan Esplen
NEMS Tim Roylance
NMMG Geoff Brown
RMG Nick Rodgers
SBMC Bob Thompson
SELMEC Chris Warrell
TIMS Tim Martin
WLMS **W:** enquiries@wlms.org.uk

630: the last part

Hats off for Ken Ashton, June Booker, Ian Brennand, Mick Burgess, Russ Carr, Albert Howe, Graham Jost, Hellmuth Kohler, Alan Lovett, Ken McDonald, Les Megget, Lesley Mitchell, Jean-François Nauroy, John Ozyer-Key, Ron & Angela Pitches, Ken Ratcliff, John Rodgers, Bob Seaton, Tony Seed, Roy Smith, Bob Thompson, Stefan Tokarski, Philip Webb, John Wilson, Eric Wright and all who have contributed.

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*



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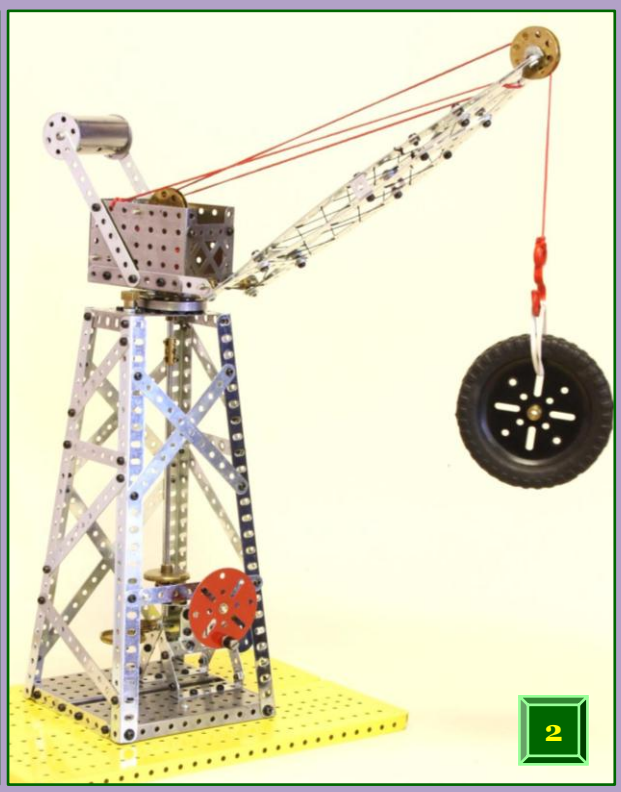

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Laughton Crane Collection

1. Motorised SML18 Revolving Crane by **David Wilkinson**.
2. Elevated Jib Crane of 1913 from **Stefan Tokarski**.
3. A self-admitted rare yet proud foray by **Tony Seed** into a mechanical model when he built this attractive wharf crane.
4. A further blast from Meccano's past was **John Bader's** Clockwork-driven Travelling Crane.

3

Pictures by Rob Mitchell

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