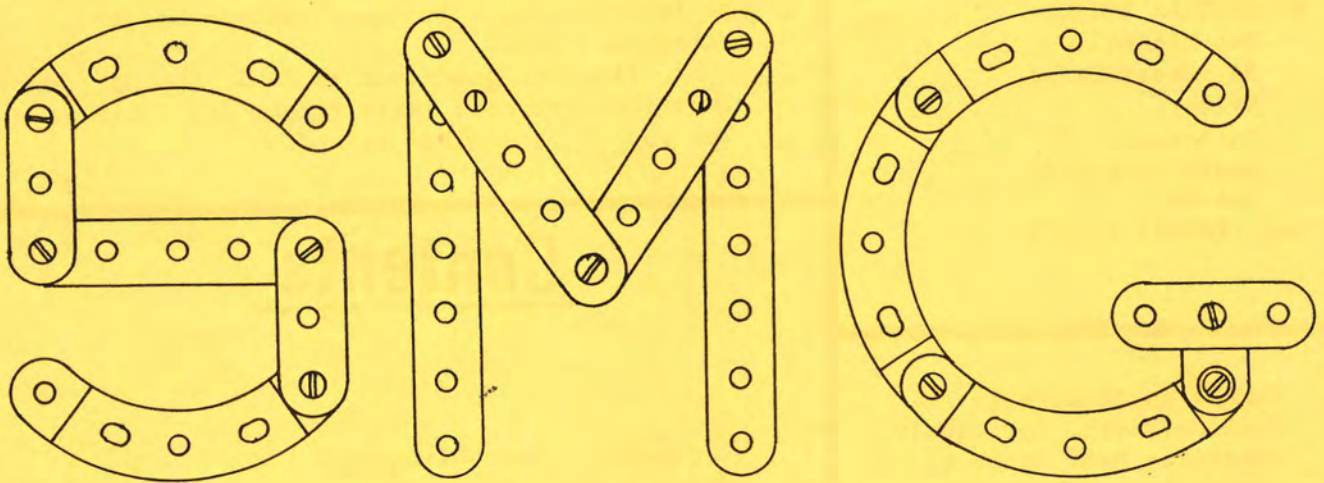
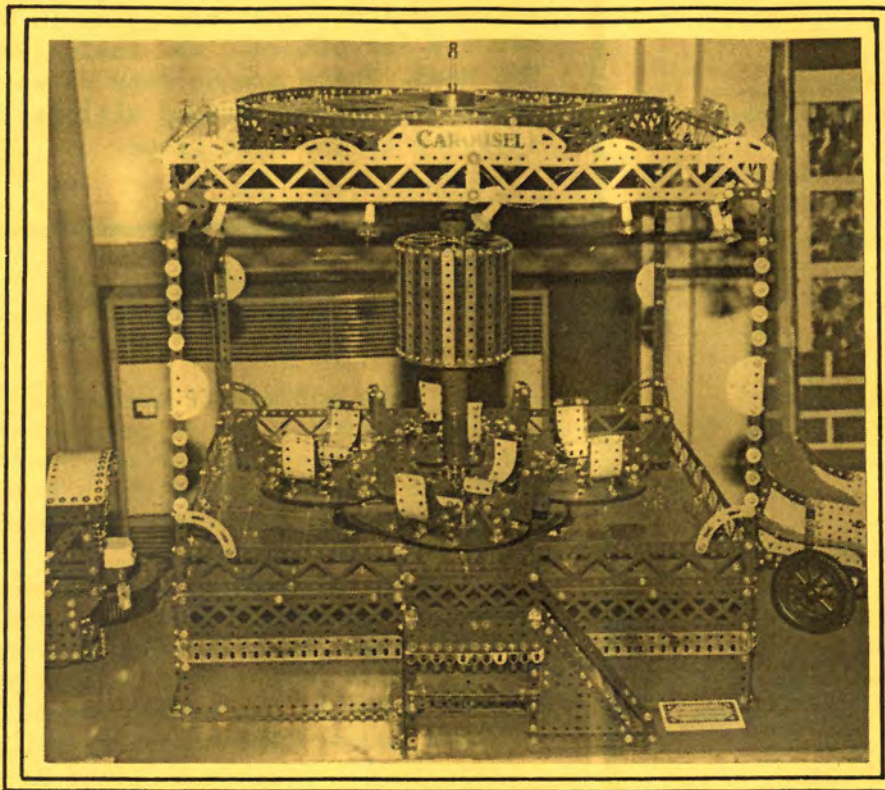


# SHEFFIELD MECCANO GUILD



# - NEWS -

No. 37

March 1992



THE SHEFFIELD  
MECCANO GUILD

GUILD OFFICERS:

CHAIRMAN-

Barrie McKenzie,

PRESIDENT-

Richard Bingham,

SECRETARY & TREASURER-

Mike Beadman,

NEWSLETTER EDITOR-

Rob Mitchell,

SMG News is produced quarterly by the Sheffield Meccano Guild in March, June, September, and December of each year.

Both the SMG Secretary and Newsletter Editor welcome any items sent in by SMG members (or others!) for inclusion in SMG News. There are no copy dates or deadlines; contributions will be included in the next issue.

## Editorial

Mike and myself would like to take this opportunity to welcome several new members to the ranks of the Sheffield Meccano Guild, many of which have already distinguished themselves for superb model building achievements.

The membership list now shows a healthy number of sixty SMG Members, a number that the newsletter duo can easily handle when it comes to the quarterly rush of activity in the production of this. Even a modest club circular like this can cause some headaches at times as the publication date looms closer. It often helps to remember those notoriously large and friendly words, 'DONT PANIC' which can be found on the cover of a certain wholly remarkable book!

Finally, good luck to NEMS, hoping that they overcome their recent difficulties. See you all at Kelham Island!

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Thanks go to Dave Yates, from Bolsover, for kindly producing half tones of photos for reproduction in SMG News.

FRONT COVER PHOTO

Ex- SMG Chairman Charles Hatfield showed this model of a Carousel at the last Norton meeting of 1991. A most attractive sight in Charles' usual red, yellow and blue colour scheme.

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# Secretary's Scribblings

MITCHELL pointed out to an embarrassed Secretary that we have in fact missed a unique event: the Guild's tenth anniversary was last October! So, apologies all round, and a piece in celebration of same appears in this issue.

Prior notice now of a good reason to wear your best bib and tucker or whistle and flute, and other Londonisms. Why? Armed with his beloved cheap (but by no means tacky) Praktica BCl, Rob is going to attempt a group photo. Visions of Victorian magnesium flares and singed hair spring to mind, but the reason for the photo is for inclusion in CONSTRUCTOR QUARTERLY's 'Down Your Way' series.\*

Michael Adler, Chairman of the International Society of Meccanomen, sent a circular recently, explaining the aims of the society. Michael asks that the views and comments be publicised, so here goes with a precis: 'There are 59 Meccano societies, clubs and guilds in 22 countries, representing over 3000 Meccanomen, but each of these groups operates separately and there is no central representative organisation. The ISM was established to fill this need, to which all Meccano societies can belong without giving up any of their autonomy.

There is a wealth of material of interest to Meccanomen which fails to gain a wider audience because of problems with language, but the world of Meccano is its own language. Through photographs and text translation, this material can be available to all.

Special interest groups are being established, such as Clocks and Mechanisms, Robotics and Automation.

The ISM is purely a non profit organisation which was established by Meccanomen for Meccanomen and has no commercial connections.

The ISM looks forward to working with you in the future.

\*Cock-up: I should have said that this will be at the April meeting! Sorry.

## Diary Dates

April 4th/5th	SMG ANNUAL EXHIBITION, KELHAM ISLAND.
April 25th	SMG Meeting, Norton Church Hall.
May 16th	NMMG Meeting, Oxton.
May 23rd.	Kettering Meccano Exhibition (details P.14)
May 30th	Ilkley Show, Winter Gardens (details P.14)
July 3rd/4th/5th	SKEGEX '92
August 22nd/23rd	Lincoln Weekend, Lincolnshire Showground (see P.14)
September 4th/5th	Henley Show
September 19th	NMMG Meeting and AGM, Oxton
October 17th	SMG Meeting and AGM, Norton Church Hall



# Ten Years Of The SHEFFIELD MECCANO GUILD

## A LOOK BACK IN AFFECTION

The SMG has its roots in the defunct Pennine Meccano Guild; the SMG was formed in October '81, with Richard Bingham as Chairman. Dave Penny (Treasurer) and Peter Mason (Secretary) attended the Guild's last meeting and are well known and greatly respected modellers; also listed on the cover of the first Newsletter was a certain Mike Beadman, who in '81 was supposed to be 'Assistant Secretary' but did not!\*

Newsletter production was twice yearly until 1984, a typical issue being of six sides with few illustrations.

If my creaking memory serves me aright, the SMG has always held its meetings at Norton Church Hall with two early exceptions; we have been fortunate in having such a venue at a good site and a fair price.

In February '84, Newsletters were sent out three times a year, now under the hand of Editor Ken Ashton. Peter had moved into the Treasurer's slot. Very soon afterwards, came an historical event; the name of Robin Johnson appeared in print under the title 'Nothing Serious'. By issue 7, Robin had become Secretary, and by issue 10 of the Newsletter, in June '85, the first attempts at showing pictures from a meeting appeared. By now the Newsletter was a solid 14 sides, and something that has always stuck in the mind; on the back was the first of Robin's gems from 'The Mikano', a delightful series of cross-pollination from RJ's interest in Gilbert and Sullivan.

In 1985 the Newsletter became a quarterly publication, but more important was the major change in format to a magazine style with many more pictures, including fully illustrated instructions for a fine 060 Tank loco by Keith Cameron.

There was no stopping Robin- or indeed the veritable flood of talent which led by September 1985 to the 'Sheffield Meccano Guild Magazine.' In this 55 page treasure were items from such leading Meccanofolk as Bert Love, Brian Rowe, Dr. Keith Cameron, Michael Edwards inter alia, and SMGM had surely become the best publication for the Meccano modeller/collector.

In March '87 came the announcement that we were to stage our first exhibition at Kelham Island Museum. Although we had taken part in numerous events previously, this was the first true Guild exhibition.

The report in the September edition proclaimed it a 'great success', aided greatly by Radio Sheffield's publicity, both with an interview of Richard early doors, and a live report for thirty minutes from the museum. The article quotes the reporter, Bob Hazlewood, as muttering to himself- 'If I can't make a good broadcast of this lot I'll pack my job in!'

By now, SMGM was offset-litho printed, with very clear half-tone photos, and membership was counted in the hundreds.

Issue No. 20 was a 'classic', with the charming cover by Barrie McKenzie depicting Father Christmas driving his E20R powered car; inside articles covering all aspects of the hobby- Peter Mason's Cliff Lift described in detail, with full building instructions; 'Design for Joy' by Andreas Konkoly; the hilarious 'Thing' walking machine by Rob Mitchell; and so much more.

(\*- things haven't changed much! Ed.)



By 1988, the decision was made by Robin, for various reasons, to produce an independant Meccano magazine, of the same style as SMGM, but originally this was to be called Meccano Quarterly. Due to problems with Marc Rebibo, concerning the right to use the name 'MECCANO' in a magazine title (these matters having been discussed at the Spring-meeting that year), Robin opted for the title CONSTRUCTOR QUARTERLY, which also reflects the coverage of other systems in this magazine.

At the same time, the 'great triumvirate' of Richard Bingham, Peter Mason and Robin Johnson resigned as Guild Officers. Richard and Peter had, after all, been involved with the Guild for eight years of effort and hassle.

So while Robin went ever onwards to edit a magazine respected the world over, Rob Mitchell and Mike Beadman produced a 'stop gap' Newsletter for September '88- the first SMG NEWS- and at the AGM a new gang of four was elected. Charles Hatfield became Chairman, Stephen Parkin was our new Treasurer, and Rob and Mike did the quarterly Newsletter. These were numbered to follow on from from SMGM, ie the first rather crude SMG NEWS was No. 23. This seemed like a good idea at the time, but may cause confusion in future years...

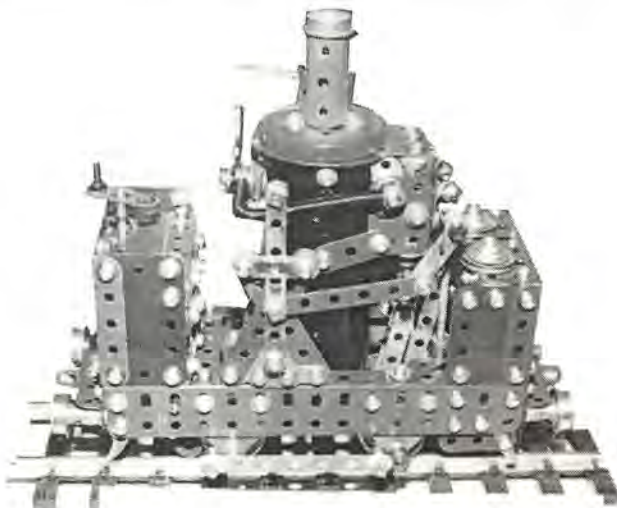
As of the end of 1991, we have a new Chairman, Barrie McKenzie, Richard is back in the fold as President, and Mike has become joint Secretary/Treasurer, while Rob does the Newsletter. Although presentation has gradually improved as Rob and Mike have 'learned their trade', the size of the Newsletter is kept firmly within limits. There are no plans for SMG NEWS to grow and 'bud off' like CQ!

So, into a new year. Welcome to our new members; we hope to see you at Kelham Island in the Spring (sounds like a song title!); it's KI on the 4th/5th of April, and Norton on the 25th.

Happy Modelling!

At Kelham Island in the Spring again,  
We'll talk together by a Tower Crane,  
While Rob's Meccanosaurus stomps about,  
And kids all stand in awe...

And as the crowds inside just grow and grow,  
Folks say, 'We heard about it on the radio',  
Until we're told, 'You brought the place to life,  
Won't you come back once more?'



A lovely model of a DeWinton narrow gauge locomotive built to a scale to suit LGB track. Constructed from red & green Meccano, it even sports a built-up three throw crank axle within the confines of the restricted track gauge. Hellmuth Kohler constructed this gem, and showed it both at Kelham Island in 1991 and at Norton in last October.



# A ROTARY MODEL DISPLAY PLINTH



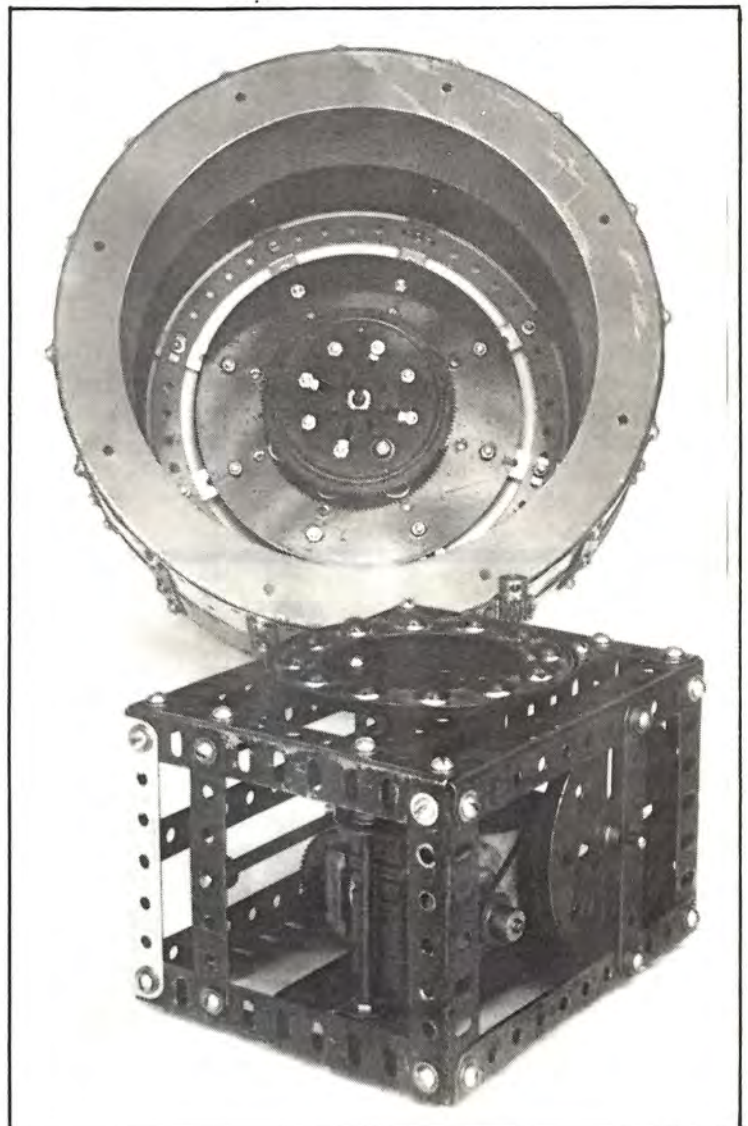
LEFT- Photo 1, complete model.

BELOW- Photo 2, rotating structure and the 'works' separated.

RIGHT- Photo 3, the underside of the 'works'.

Not really a model as such, but an attractive way of displaying other small models which are either unpowered or only run occasionally.

The rotating structure is based around three flanged rings surrounded by two rows of  $2\frac{1}{2} \times 2\frac{1}{2}$ " flexible plates. Slotted hole plates are preferable here so as to accommodate the 'run out' of holes in the ring peripheries. Sixteen  $4\frac{1}{2}$ " strips overlap the plate joins to hide the slots. I used alternate yellow and red plates in a chequer pattern purely to add some colour. Eight  $3\frac{1}{2}$ " strips are bolted radially on the top ring with a 6" circular plate held centrally (photos 1 & 2), with a circular strip filling in the ring gap. A  $3\frac{1}{2}$ " gear is stood off the underside of the plate by eight reversed angle brackets, and a wheel disc covers up the central hole. A  $4\frac{1}{2}$ " axle rod is held in the boss of the gear, around which the structure slowly rotates. 'MECCANO' labels can be added at will on the outside.

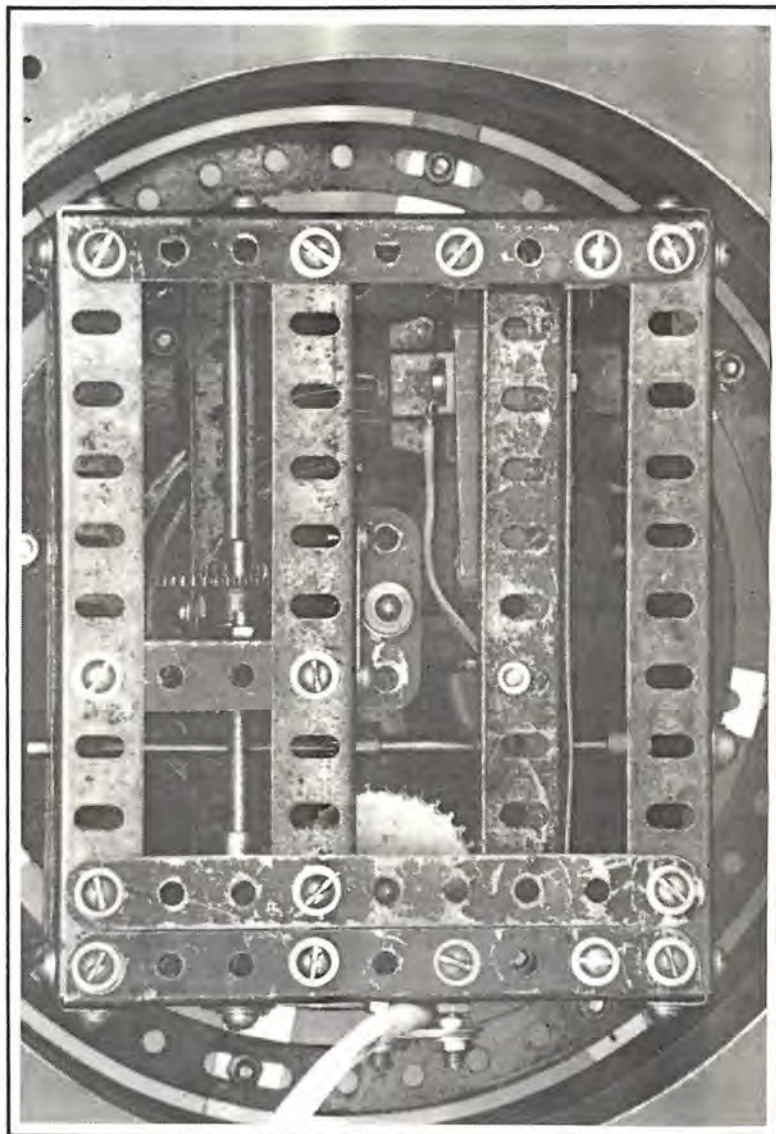




The 'works' and motor are contained in an angle girder frame,  $5\frac{1}{2}$ " long x  $4\frac{1}{2}$ " wide x  $3\frac{1}{2}$ " high. The motor is clamped to a  $5\frac{1}{2}$ " built-up channel section by a pair of vertical 3" screwed rods with a  $3\frac{1}{2}$ " angle girder across the top. One such screwed rod can be seen to the left of the closest upright  $3\frac{1}{2}$ " angle girder in photo 2. This assembly is bolted onto the bottom of the frame by two double bent strips, one at each end of the channel section (photo 3), in the 2nd. and 4th. holes from one side. A  $\frac{1}{2}$ " pulley on the motor shaft drives a 3" pulley via a 10" driving band. The pulley is fixed to a 5" axle rod, journalled in a vertical  $3\frac{1}{2}$ " strip (photo 2). Each of the strip's fixing bolts have two washers under their heads, and the pulley is spaced away from it by five washers. The other end of the 5" axle is supported by a horizontal  $5\frac{1}{2}$ " strip, shown removed in photo 4, which runs across the centre. The 5" axle also carries a 16 tooth bevel gear.

Three more  $5\frac{1}{2}$ " angle girders are added to the frame. One is shown in photo 3, in the 4th. holes from the left. Attached to this are a 2" and a  $1\frac{1}{2}$ " angle girder and a  $4\frac{1}{2}$ " strip, all as in photo 3. The other two are bolted to the top,  $2\frac{1}{2}$ " apart, and to these are bolted a ball race and a  $2\frac{1}{2}$ " strip directly above the  $4\frac{1}{2}$ " strip. Three  $3\frac{1}{2}$ " strips are also added, in line with one another. They are all three holes from the left of photo 2, which shows the first one. A second is bolted to the 2" angle girder and attached to a top girder by an angle bracket. The final one is fixed to the opposite side of the frame.

A 48 tooth bevel gear on a  $3\frac{1}{2}$ " axle rotates in the middle holes of the internal and first  $3\frac{1}{2}$ " strip (photo 4), and carries a 19 tooth pinion and a retaining collar. Arrange the bevel gears into mesh. The pinion engages a 57 tooth gear directly below on another  $3\frac{1}{2}$ " axle journalled in the internal and third  $3\frac{1}{2}$ " strips, which also carries a 14 tooth helical gear. A vertical  $4\frac{1}{2}$ " axle is journalled in the centre holes of the  $2\frac{1}{2}$ " and  $4\frac{1}{2}$ " strips, on which there is a 35 tooth helical (photo 3), and a 19 tooth pinion on the top which just clears the ball race, photo 4. A mains cable clamp can be seen at the bottom of photo 3, which keeps the cable clear of the moving parts. The consequences of omitting this bit are potentially shocking; it is made from a pair of fishplates on a duo of  $\frac{1}{2}$ " bolts.

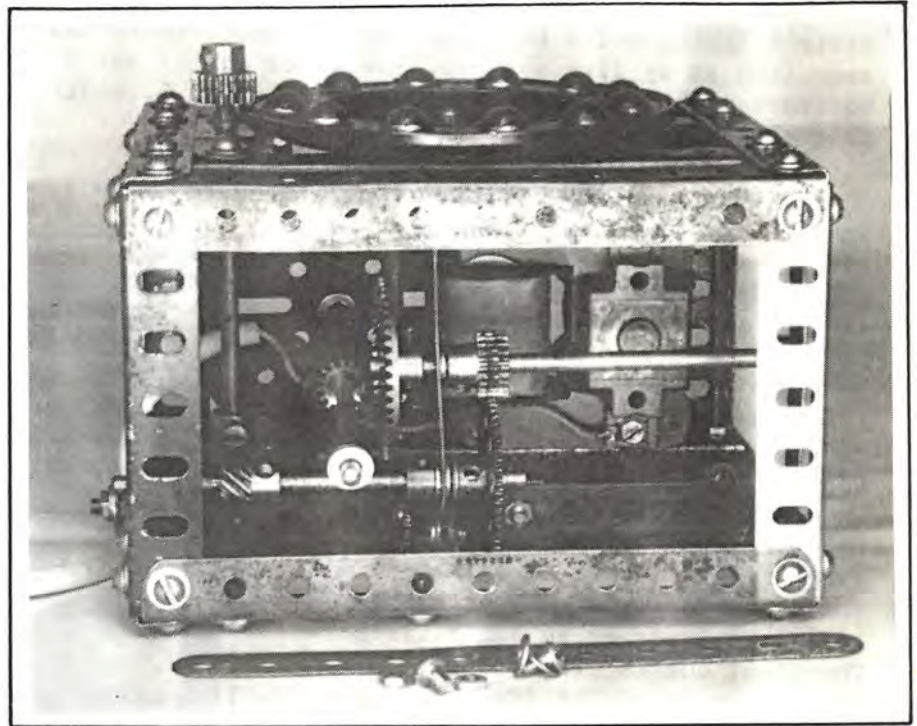


Assembly of the two units is done by placing the ball cage on its race and lowering the axle on the circular bit through the central hole. Engage the  $3\frac{1}{2}$ " gear with the 19 tooth pinion and turn the whole lot upside down. Hopefully, the axle should locate in the middle circular hole of the  $1\frac{1}{2}$ " angle girder with just enough protruding to accept a washer and a short grub-screwed collar.



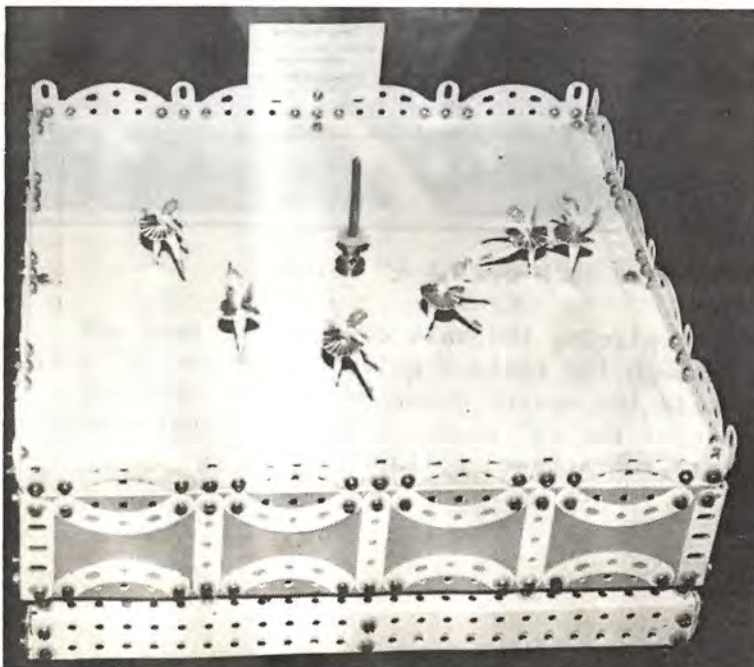
Switching on should start the circular structure rotating around the now concealed frame, and it should also be capable of taking a fairly heavy (balanced) load without too many internal mechanical protests. The 'works' are obviously designed around an average sized mains motor, but a smaller DC motor, such as an M0, can be easily substituted. You may be stuck for space to accomodate a motor much bigger than about 2½" high x 3½" long.

RIGHT- Photo 4, the rear, or non-motor side with the horizontal 5½" strip removed for clarity.



PARTS REQUIRED

18 x 2a	2 x 10	2 x 26	2 x 45	3 x 167b
11 x 3	1 x 12	1 x 27a	6 x 59	1 x 168a
1 x 5	1 x 15	1 x 27b	1 x 69c	1 x 168c
9 x 9	2 x 15a	1 x 30a	2 x 80c	1 x 186b
4 x 9a	2 x 16	1 x 30c	2 x 111a	32 x 190
5 x 9b	1 x 19b	164 x 37	8 x 125	1 x 211a
1 x 9c	1 x 23a	12 x 37a	1 x 145	1 x 211b
1 x 9f	1 x 24a	18 x 38	1 x 146	1 motor



LEFT- a model of the Skaters, the building instructions for which appeared in CQ some while ago. This is a alternative version, built up to represent an iced birthday cake by Jim Mortimer, who realised his lifetime ambition in October when he became a SMG member after several unsuccessful attempts!



# Introducing The Members~ No.10~ John Martin

John is pictured here with one of his prizewinning models which is a fine example of his tremendous attention to detail and scale.

Q. How long have you been a Meccano modeller?

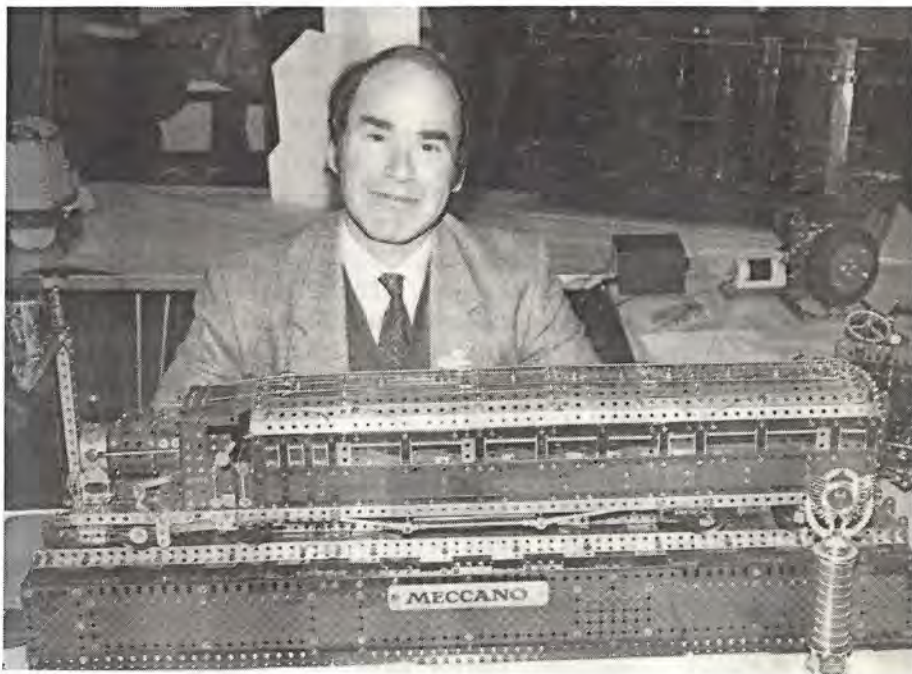
A. Since I was a lad.  
I was very lucky to pick up a big box of Meccano at a church bazaar.

Also I lived within 3 or 4 miles distance of Binns Road, and spent a lot of time there.

My brother gave my Meccano away while I was at University!

In 1979 I bought three No.10 sets from a Scots gent, through an advert in Exchange and Mart, and never looked back.

At the time, I thought I was the only adult Meccano enthusiast!



Q. How did you start with the SMG?

A. My first contact with the Meccano clubs was to the North West Meccano Guild, via MW Models. I contacted the SMG and NMMG in '82.

Q. What are your favourite modelling subjects?

A. Dentist's Chairs in Blue/Gold!

Q. What do you do for a living?

A. I'm a music teacher.

Q. What would you like to build that you haven't done?

A. Railway subjects generally- my aim is to make my models smaller.

Readers are directed to Page 6 of the December issue to obtain an idea of how successful John is in his aims to produce small models.

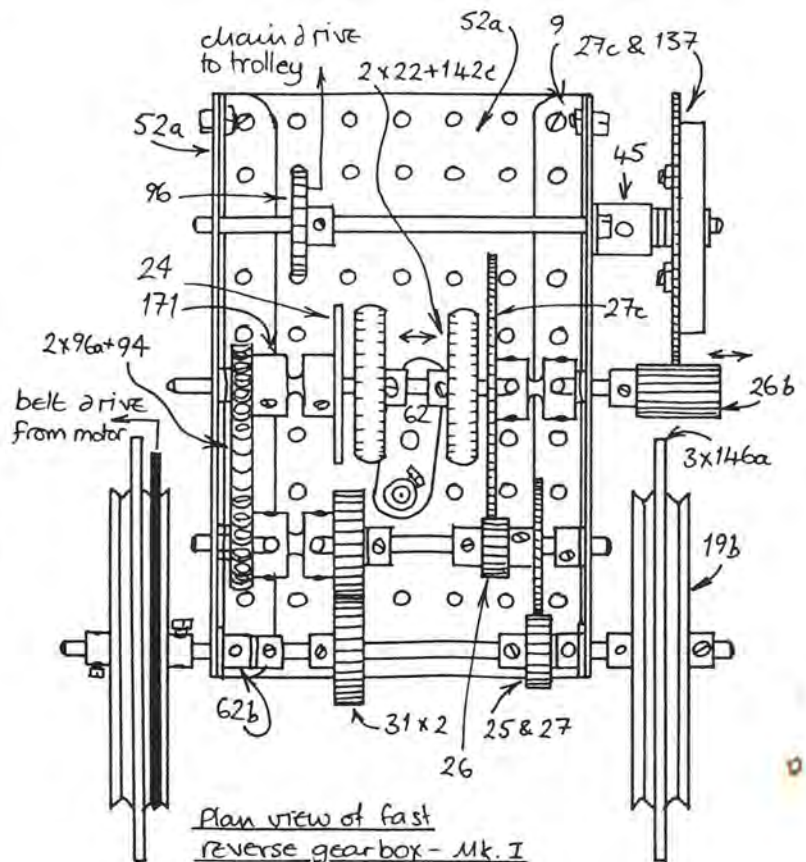


# R&D MECCANO MODELS

It is comforting to think that even in these days of fast moving, high-tech modern industry, Meccano can still find a place in Research and Development. Gears, girders, pulleys and plates are still in demand without a dreaded chip anywhere in sight!

British Steel had a problem that they wanted their R & D establishment at Swinden Laboratories in Rotherham to solve. Basically, our department had to produce samples of flat bottom rail with the same metallurgical properties as that made by the Workington Rail Rolling Plant in Cumbria for further testing. It was not possible merely to nick samples from the plant, as it would involve taking test pieces from the middle of a 20m length of hot (1100 deg. C) freshly rolled rail which is travelling at about 4m/sec, so we had to make our own. We had to mimic the final rolling passes alternating with water spraying which 'fine tune' the rail section. Apart from the obvious expense, the final roll stands form a long line which we could not possibly copy in the space available. It was finally decided to use a 200mm length of rail, hot of course, and move it backwards and forwards through one set of sprays. The rail ends are heavily insulated so that it thinks that it is in the middle of a long continuous length, and the final shape rolling was found to be unnecessary to copy. Ideas on how to move the rail through the sprays were sought, and, knowing that I am a Meccano nut, I was roped in, thoughts tossed around, and the MkI Rail Cooling Machine was constructed.

Built to more or less half scale, it consists of a trolley on which the 1100C rail sits running on a pair of 24½" angle girders and a drive mechanism. The motor drives an endless chain to which the trolley is attached, via a forward-reverse gearbox. The trolley is hauled forward, through an imaginary set of sprays- top, sides and bottom- and then reversed at ten times the forward speed, with the 'sprays' off before going forward again, 'sprays' on. Because of the rapid forward-reverse with such a large change in ratio, it soon became apparent that gear crunching changes would be both sickeningly tooth wrenching and unreliable, so clutches were used. Flywheels are required to store inertia for the rapid reversal. The mechanism to achieve the desired motion is shown in the diagram. Off the flywheel shaft, two socket couplings are driven. One has a 1:1 chain drive, the other a 10:1 contra-rotating step down, a 2:1 followed by a 5:1. They are both loose on a shaft but with virtually no lateral movement, being retained by threaded pins. The central shaft also carries two opposing 'tyred' 1" pulleys which form the clutches between the couplings. The 1:1 coupling also holds a bush wheel, against which one clutch mates, the other against the 2½" gear. One or the other engages, imparting a slow forward movement to the clutch shaft or a rapid reversal if the other is mated. The shaft is geared to the trolley chain drive. Clutch actuation is done by a push-pull non-Meccano solenoid arrangement on the top, through a tension



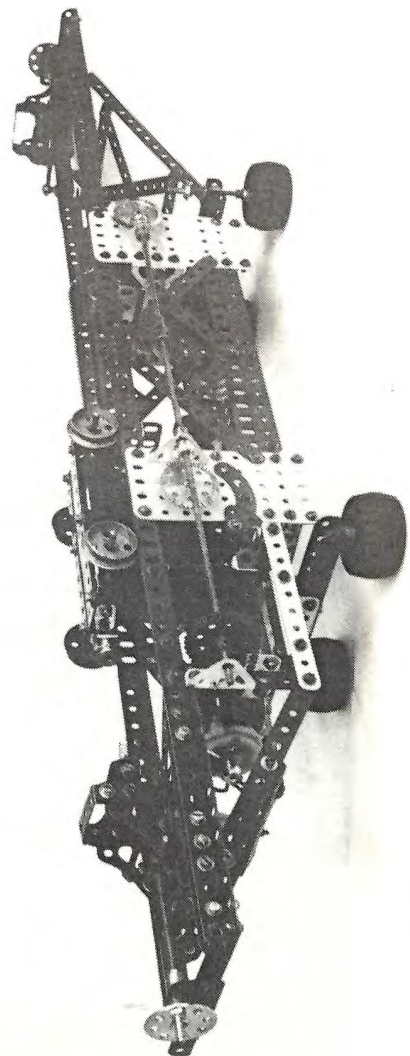
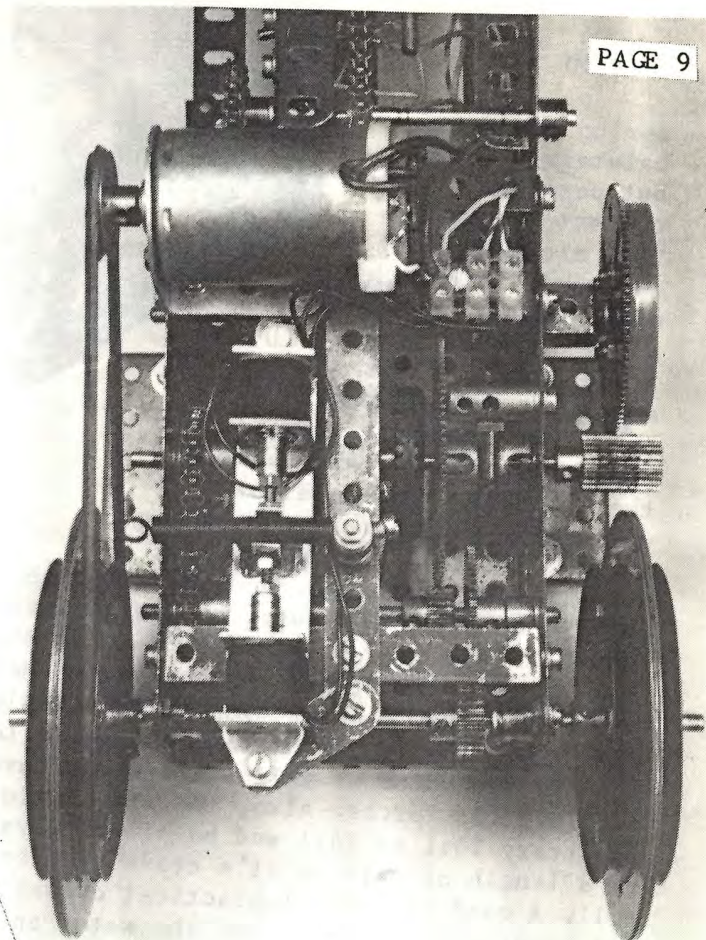
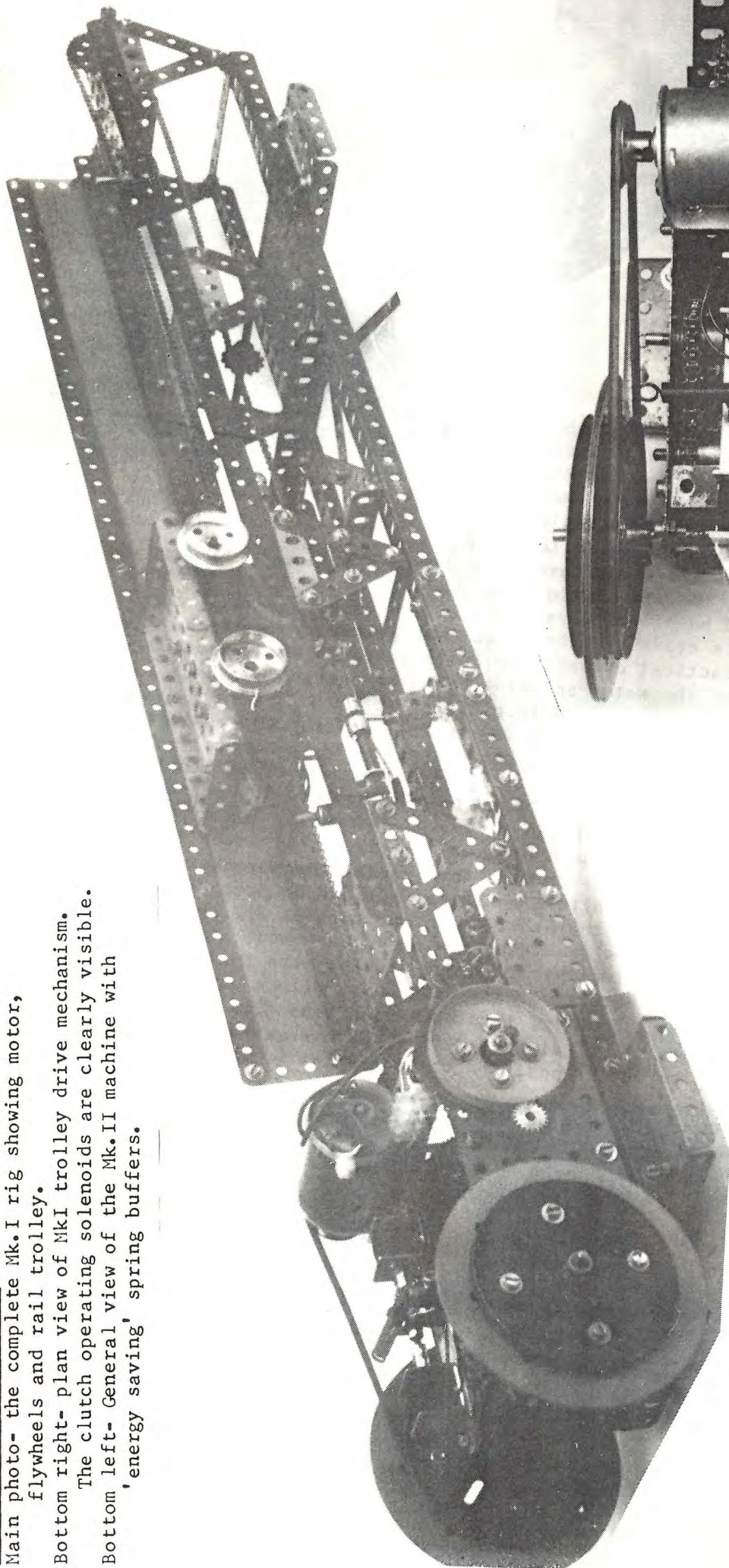


RAIL SPRAYING MACHINES.

Main photo- the complete Mk.I rig showing motor, flywheels and rail trolley.

Bottom right- plan view of MkI trolley drive mechanism. The clutch operating solenoids are clearly visible.

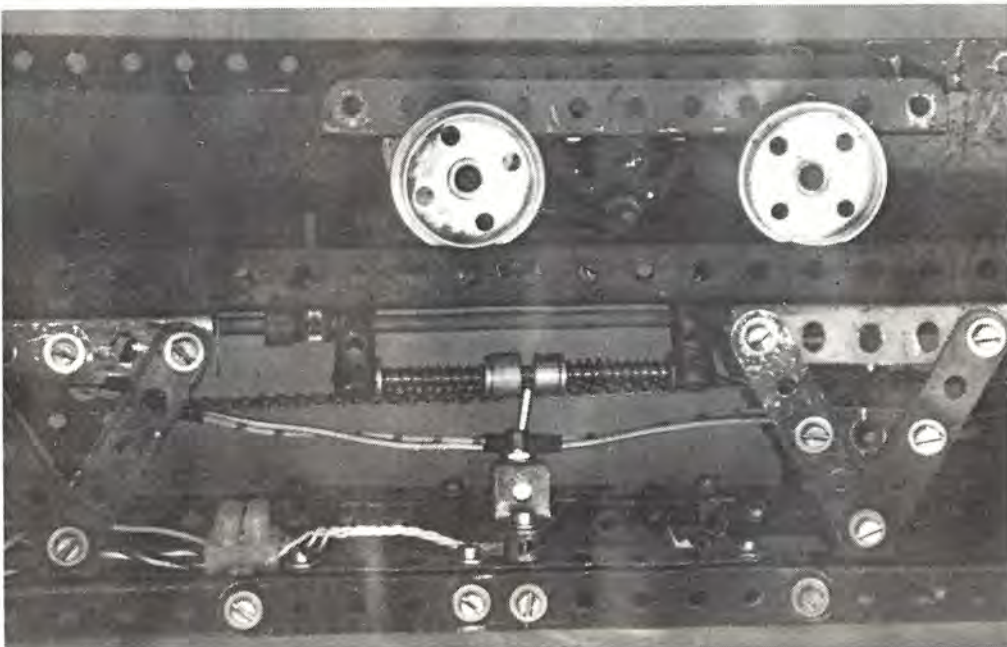
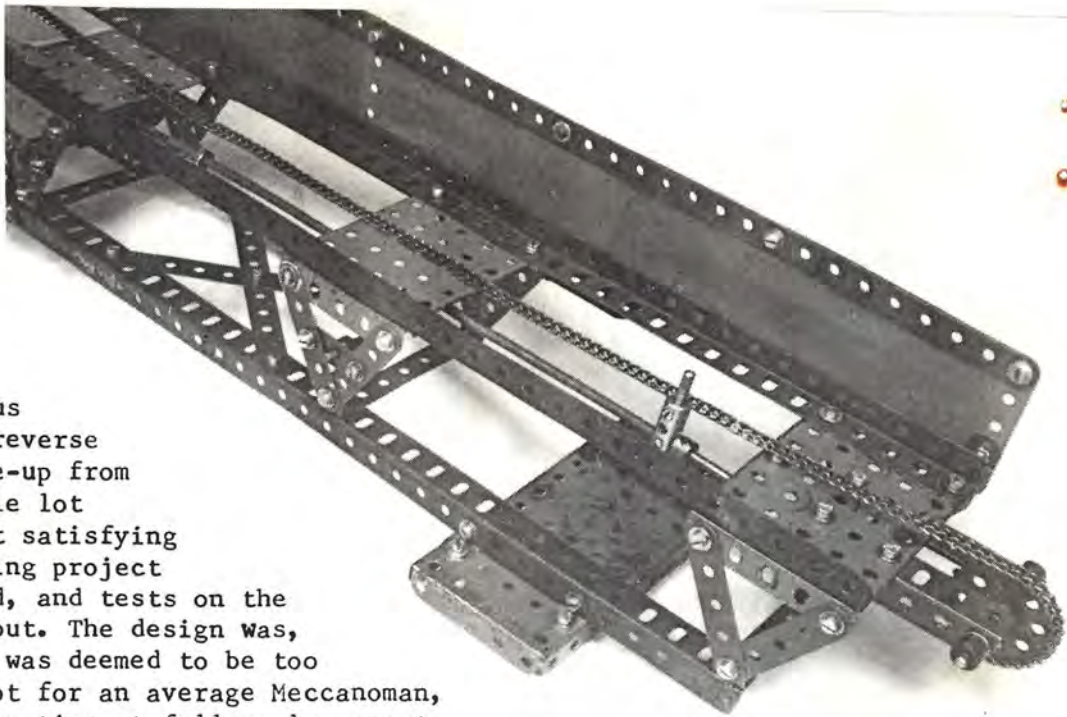
Bottom left- General view of the Mk.II machine with 'energy saving' spring buffers.





spring lever to maintain a light but positive clutch contact pressure. They are thrown by an on-off-on switch moved by the trolley at each end of it's travel, which gives an almost instantaneous snap from forward to reverse with smooth power take-up from the clutches. The whole lot worked OK, with a most satisfying action. The rail cooling project leaders were impressed, and tests on the machine were carried out. The design was, however, rejected. It was deemed to be too complicated (what?? Not for an average Meccanoman, it is'nt!!) for construction at full scale- apart from that, the length of rail was going to be heavy, and the mechanism at full scale would have to be built like a tank to deal with the acceleration forces. Also, the step ratio would have to be both increased from an arbitrary 10:1 to 14:1 and be slightly variable to duplicate the small acceleration of a length of rail as it's cross sectional area was gradually decreased with each roll. A good try, but impractical overall, so another design was dreamt up, as it was eventually decided that the water spraying could be carried out both forwards and backwards, it having no adverse metallurgical effects.

The Mk.II is simpler, despite having two contra-rotating endless chains which are not attached to the rail trolley. The chain wheels (3" sprockets) share common axes but are independent. Each chain has exactly the same number of links and an angle bracket wired to it, diametrically opposite one another. The brackets pass each other at the very extremes as they go round the sprockets. The trolley has two catches, one each side; as one chain bracket engages it, it moves the trolley in the same direction, and disengages as it dips down around the sprocket wheel. The trolley continues 'cos of inertia, hits a spring buffer and bounces off, and the other bracket comes up and engages the other catch, and carries off the trolley in the opposite direction. Exactly the same sequence of events occur at the other end with the other spring buffer. Neglecting frictional losses, the springs return all of the energy to the trolley at each reversal, doing away with a clutch changing and high acceleration forces. Mk.II, however, is a much more sensitive rig. The spring buffers can slide in the slots of 5½" slotted strips, with screw adjustment to achieve the fine tuning of the buffer position to bounce the trolley into the right



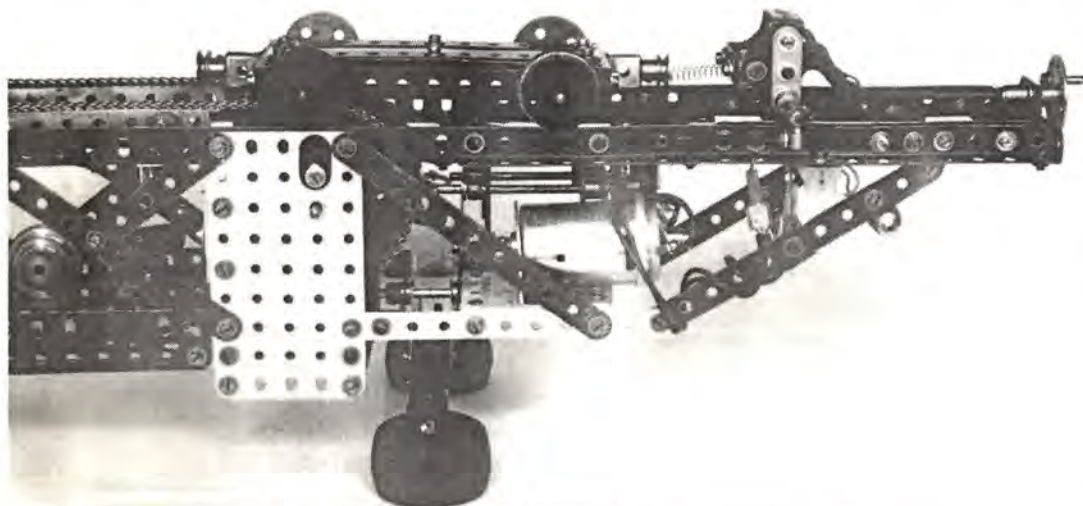
Top photo- trolley chain return end of the Mk.I machine; the upright coupling is part of the coil switching arrangement.

Left- trolley and coil switch, Mk.I. The springs reduce the shock on the toggle switch.



place for the chain to engage. If it misses the catch, disaster results! The whole rig must also be level otherwise the trolley tends to run away downhill; screw adjustable feet are built in level things up. As it stands, the model cannot run as fast as the scale speed, as the chains tend to centrifuge off the sprockets before that speed, even with chain tensioners. Advantages of the Mk.II include it's relative mechanical simplicity- just four chainwheels, energy returning springs, and no transmission reversing.

Mk.III may not appear, as it seems that Mk.II will do the job when correctly set up at full size. Meccano has come to the rescue in providing a working prototype that has convinced people that such a system can work. No doubt that it could have



proved to work on a computer, but it is definitely much more satisfying to see it work in the metal than on a 2D computer screen - and it is probably quicker too!

Left- one end of the Mk.II machine showing the spring buffer and trolley.

## SMG Megamodels nos.4a & 5

FRANK SINGLETON is to blame for an added extra in this issue- SMG Megamodel no.4a. Model description only, as my collection of blue 52's had mysteriously (and happily, considering the circumstances), gone away. So no photos. Reference should be made to SMG NEWS no.36 for full details of Megamodel no.4. Over to you, Frank:  
SMG MEGAMODEL NO.4A

"A blue flanged plate ( $5\frac{1}{2}$ "x $2\frac{1}{2}$ "). Thats all! HMS Unseen, crash-dived to 200 feet, shut off for depth charging!"

Thanks a bundle, Frank. Anyway, the almost dead series springs back into life (groans all round)- JOHN BADER is guilty for this cunning mastery of the Meccano system.

SMG MEGAMODEL NO.5- STEAM ROLLER

"No credit is claimed for the Steam Roller as this was published in a 1968 MM (and dates back before this to 1927 I believe)"

Two  $\frac{1}{2}$ " loose pulleys are locknuttred to the first threaded coupling on a 1- $\frac{1}{8}$ " bolt, and a fishplate is added to form the cab roof. Another threaded coupling forms the boiler and is held by a  $\frac{1}{2}$ " bolt. The front roller is a standard coupling also held by a  $\frac{1}{2}$ " bolt, the head of which forms the smoke stack. Stand back and admire the end result.



### PARTS REQUIRED

1 x 10; 2 x 23; 2 x 37a; 1 x 37b; 1 x 63; 2 x 63c; 2 x 111a; 1 x 111d.

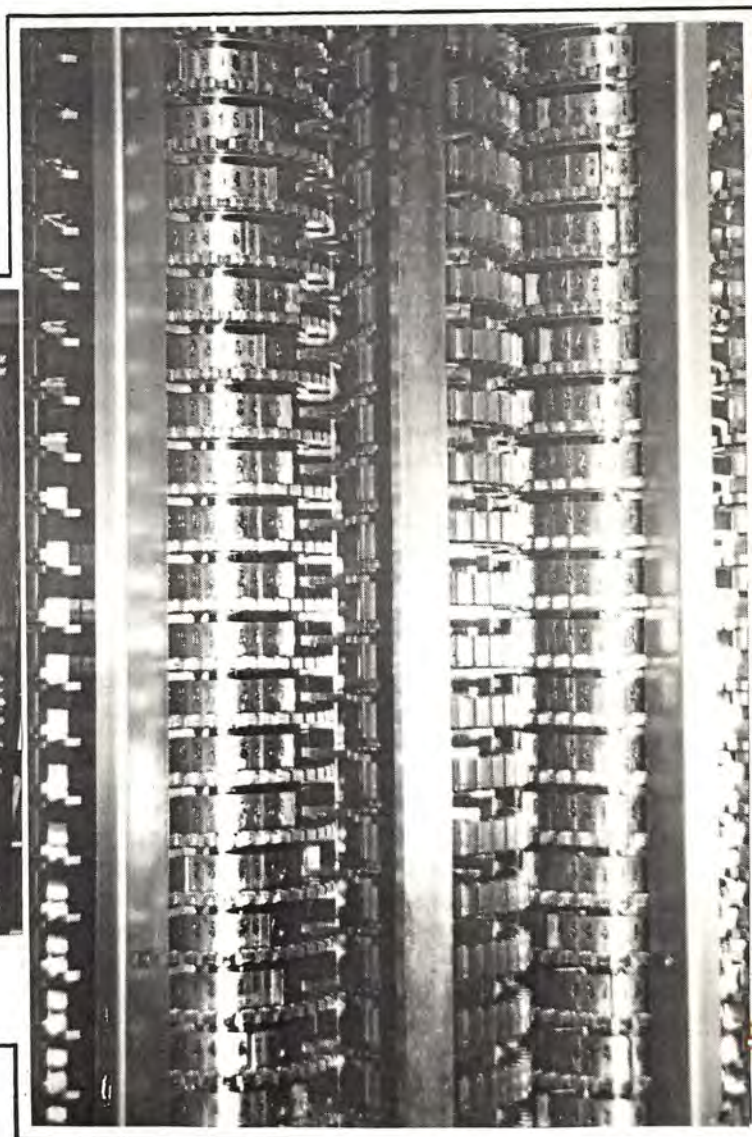
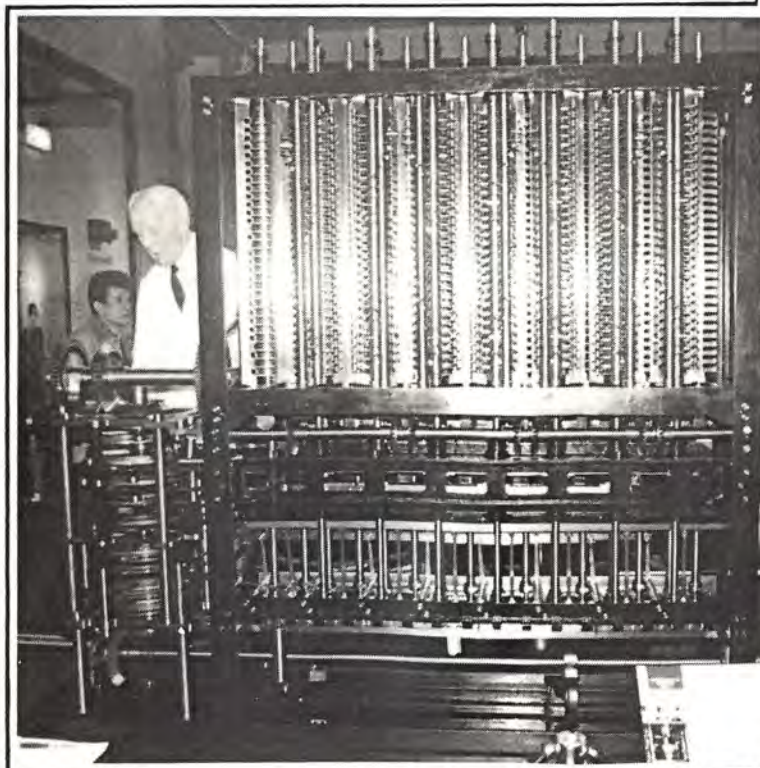


# Inspiration at the Science Museum

The Science Museum in Kensington, London, is a wonderful place to soak up tons of inspiration for Meccano modellers. You name it, it's there- clocks to coke ovens, bridges to barring engines, aircraft to atomic power.

In the Computing section there is a display cabinet emblazoned with the title 'Differential Analysers'. Inside is a fragment of the fabled Meccano differential analyser of the early 1930's that is featured in the New Cavendish HCS book, 'The Meccano Super Models'. Meccano now has its official place in the scientific and mathematical development of Mankind, and quite right too. By the way, Lego was spotted in another display case in a far flung corner, but only as an example of a common, mass produced plastic moulding!

The real star of the Museum, however, is the No.2 Difference Engine which has been constructed from Babbage's original plans in 1990/91. It is a most impressive sight when in action- lots of lovely bevels, cams, bell cranks, and springs! I can't even begin to describe how it works, but it utilises the principle of finite differences.....whatever they are. The computed answer is read off columns of toothed, numbered drums after a lot of crashing, bouncing on springs, and the occasional squeak. No doubt that the Science Museum could furnish you with a set of working drawings if you want to have a go at building your own Meccano version. Go to it, Lads!







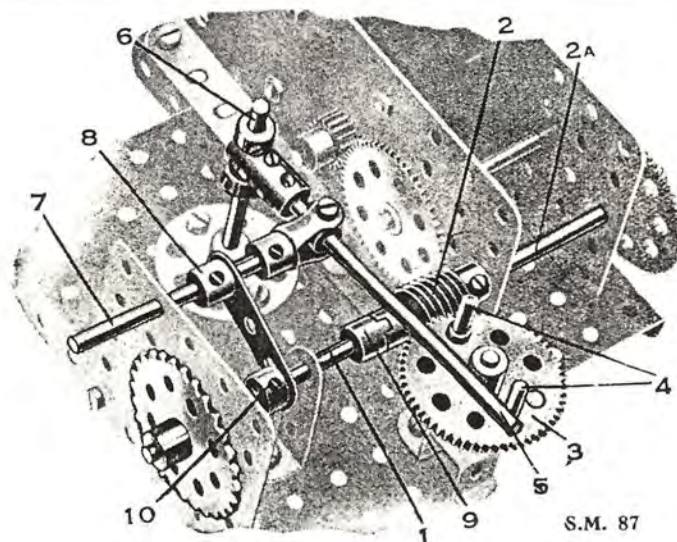
Bottom left- The complete No. 2 Difference Engine. The 'Crank Turner' is just emerging from behind to give an indication of the size of the machine. The master crank handle is on the left, with the bevel drive down to a stack of cams to sequence the levers below which move the vertical sprung axles.

Bottom right- A close-up of the vertical output/calculating shafts. The computed answer is read off the numbered, partially toothed brass drums. The machine contains sixteen of these columns.

Above- An admittedly poor photo of the remains of the Meccano Differential Analyser in its display case.

## Intermittent Rotary Motion

A clever little mechanism found whilst idly glancing through the 'Standard Mechanisms' section of the same 1920's 00 to 7 manual mentioned on P.16. It is also shown as an optional extra in the Double Flyboats supermodel leaflet.



S.M. 87—INTERMITTENT ROTARY MOTION

The device shown in S.M. 87 is designed to convert continuous rotary motion to intermittent rotary motion. Rod 1 is the driven shaft. The drive from the Motor is led by any suitable means to a Worm Wheel 2 that meshes with a 57-teeth Gear Wheel 3, in the face of which two Threaded Pins 4 are secured.

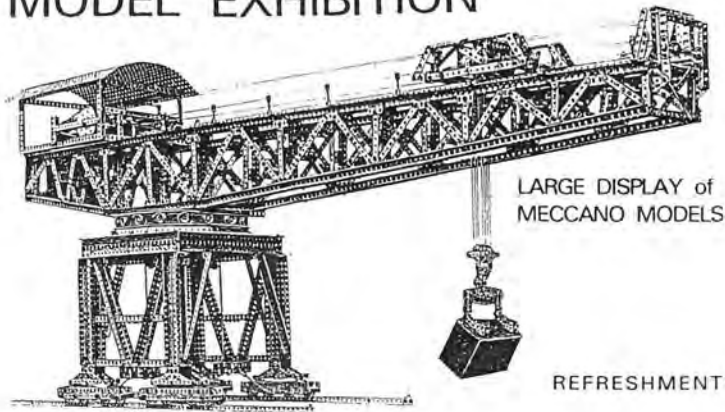
As the Gear Wheel 3 slowly rotates the Threaded Pins 4 alternately press against the end of a  $3\frac{1}{2}$ " Rod 5, which is secured in a Coupling mounted on any suitable pivot 6. A Swivel Bearing forms a pivotal connection between the Rod 5 and a  $2\frac{1}{2}$ " Rod 7. This Rod 7 carries a Crank 8, through the end hole of which is journaled the driven shaft 1. The latter slides in its bearings and carries on its inner end a Dog Clutch section 9, the corresponding clutch section being secured to the driving Rod 2a. The clutch is normally held in engagement by means of a Compression Spring mounted on the driven shaft and pressing against a Collar 10.

When one of the Pins 4 strikes the lever 5, the Rod 7 is pushed back in its bearings, the Spring on the Rod 1 is compressed and the clutch members 9 disengaged. The Motor then rotates independently until the Gear Wheel 3 has carried the Threaded Pin far enough to allow the Rod 5, through the action of the Spring on Rod 1, to slip back to normal position, when the Clutch is re-engaged. The cycle of operations is repeated when the second Threaded Pin strikes the Rod 5.



# Coming Exhibitions

## **MECCANO** MODEL EXHIBITION



Three exhibitions coming up in the near future, organised by SMG members:-

Mick Burgess stages a Meccano show at the Drill Hall, Kettering- for the first and last time! Mick says that the hall is going to be pulled down soon after.

This may or may not have anything to do with the sheer weight of constructional systems which will assault the foundations.

Tel. (0536) 84297

Drill Hall Northampton Rd.

**KETTERING** NEAR TO RAILWAY STATION

open 10-30 to 4-30

**SATURDAY 23rd MAY 1992**

And on the 30th May, Alan Grimshaw organises his annual Meccano section at the Lionel trains fair, Winter Gardens, Ilkley.

This is an interesting event, with like-minded enthusiasts, and there is usually some Hornby making an appearance too.

Write to Alan if you want to take part- give your space & power requirements.

Finally for now, advance notice for a rather splendid event in August. The Steam Rally staged at the Lincolnshire Showground on the 22nd/23rd has a large model display, including a substantial Meccano presence.

There is an 'Exhibitors' Night' on the Saturday, when the beer flows free, the fairground hums, and all manner of steam engines thunder away purely for your benefit.....aaaaah.

The site has room for your caravan or tent.



# Kelham Island Exhibition

## 4th-5th April '92

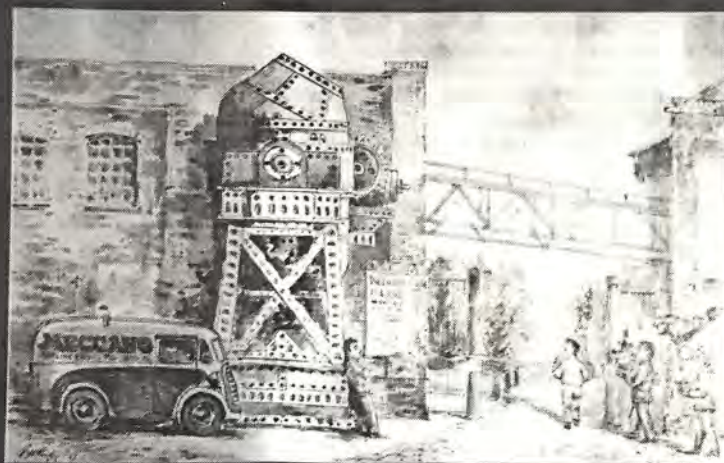
-a few notes from BARRIE MCKENZIE.

Sheffield's Industrial Museum has been very much in the news recently. First we heard that financial cutbacks had forced the shutdown of both the River Don Engine (which is run every hour) and the gas engine (which runs continuously). Then we learnt that there was to be a £10,000 feasibility study looking into the future of the museum. One of the possibilities under consideration was the idea of moving the whole museum to a new site at the Canal Wharf. I wondered if any of this would affect our annual exhibition in April?

On a recent visit to the museum I was able to discuss these matters with the curator, Peter Smithurst. I was assured that both the River Don Engine and the gas engine would be operational again from the 1st. April so we shall not be affected by any cutbacks in the museum's attractions. There was considerable interest in the idea of moving to the Canal Wharf site as it was felt that the museum had suffered from being off the 'tourist track' and it was not easy to find. However, even if a move were to be considered practical as well as desirable it would obviously not be in the immediate future. Of rather more relevance to the SMG, I was told that it would be possible for us to use both the upstairs exhibition gallery and the downstairs schoolroom for our displays.

With this greatly extended area available to us the committee felt that it was a good idea to send invitations to other Meccano Guilds and that we could also look at the possibility of various theme displays. For example, a sizable central display area could be given over to a celebration of nickel Meccano. If you would like to contribute to this please let us know. As 1992 is the 60th. anniversary of the introduction of the Hornby Speedboats we can have a special display of these including 'Hornby', the first one made. Another idea would be a display of models built with Meccano Aeroplane Constructor, but if there is any special theme display which you like to present, do have a word with a member of the committee so that we can arrange to accommodate it. (Continued over)

Come to KI this April and see if you can win this rather nice trophy for your model building den! It is, of course, the famed SMG MEMBERS AWARD.





I am sure that you will be pleased to learn that all of the main dealers have been invited so that we can have a good sales area. This will be in the downstairs room. We must make it clear, however, that this is the annual exhibition of the SHEFFIELD MECCANO GUILD and that the main strength of the display will be in the models that members bring along. We are looking forward to seeing the usual comprehensive display of member's models covering both a wide range of subjects and Meccano periods. If you have any special requirements which will help you with the display of your models, do let us know.

On the Sunday of our Meccano weekend, the Railton Owners Club will be putting on a display of Terraplane cars at Kelham Island. The Terraplane was a model introduced by Hudson in 1932 (another 60th. anniversary) and was the chassis on which the Railton was based. As might be imagined, these cars are extremely rare and this will be the first occasion in this country that they have been seen together in any number. It should all add up to a memorable weekend at Kelham Island!

# Have a Go at This!

A wonderfully silly model from a late Precambrian Meccano manual! Dust off those clockwork motors and try building it in a spare half hour. It really does work, despite its archaic appearance. If enough turn up with them anywhere, then we can probably try a few wobbly races!

## Model No. 450 Ancient Motor Car

This model performs very amusing antics, all its movements being derived from a Clockwork Motor in the chassis. When the Motor is set in motion the model wobbles violently along the floor, while the driver seems to be endeavouring to keep it in a straight line and the passenger (who seems to have fallen on to the floor!) appears in constant danger of being thrown completely out of the car!

A  $\frac{1}{2}$ " Pinion on the Motor shaft engages with the  $1\frac{1}{2}$ " Contrate Wheel 1 attached to the back axle 2. The latter is journaled in two  $2\frac{1}{2}$ " Flat Girders bolted to two  $5\frac{1}{2}$ " Angle Girders to which the Clockwork Motor is attached. Two Couplings 3 are fixed to each extremity of the Rod 2, and the road wheels are attached to their centre threaded holes by Threaded Pins. The Couplings are set at an angle of 180 degrees to one another and so cause the car to wobble in a most peculiar manner when it is running.

A 57-teeth Gear 4 is fixed to a  $4\frac{1}{2}$ " Rod 5 that carries at one end a Bush Wheel. This is connected to the front wheels by a link built up of  $3\frac{1}{2}$ " and  $4\frac{1}{2}$ " Strips and attached by an Angle Bracket 7 to the  $2\frac{1}{2}$ " Double Angle Strip 8 that forms a bearing for the front axle. This results in the front road wheels being turned alternately from side to side. The  $1\frac{1}{2}$ " Rod forming the pivot for the steering should be kept fairly loose to allow for the rolling of the chassis.

A  $4\frac{1}{2}$ " Strip 6 is lock-nutted to the Double Angle Strip 8 at one end and at the other to a Crank 9 which is fixed to a  $3\frac{1}{2}$ " Rod. This is journaled in the holes of the Clockwork Motor and at its top a Bush Wheel is secured. The driver is attached pivotally to the Bush Wheel by an Angle Bracket and  $2\frac{1}{2}$ " Strip, so that when the Motor is in motion he steers quite realistically. The passenger at the back is attached to the frame by a Spring clamped between two  $1\frac{1}{2}$ " Strips.

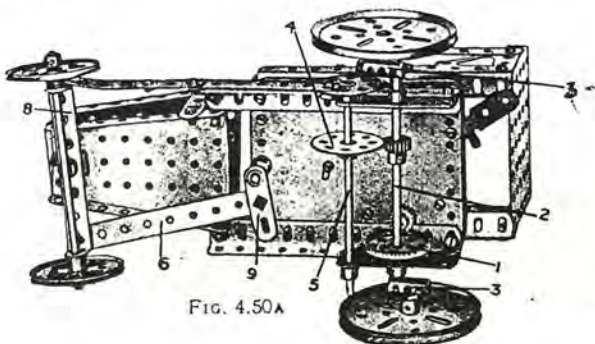
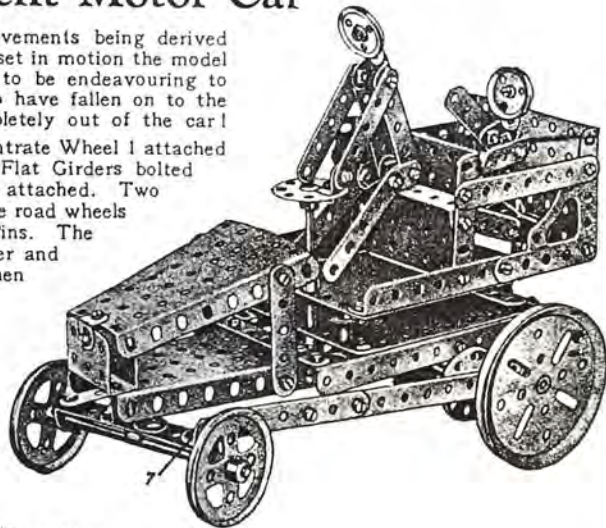


FIG. 4.50A



Parts required :

2 of No. 2A	3 of No. 12	8 of No. 38
3 " " 3	1 " " 15	1 " " 43
13 " " 5	2 " " 15A	1 " " 45
2 " " 6A	1 " " 16	2 " " 48B
4 " " 9	1 " " 17	2 " " 53
4 " " 10	2 " " 19B	2 " " 54
4 " " 11	2 " " 20A	10 " " 59
	2 " " 22A	1 " " 62
	2 " " 24	2 " " 63
	2 " " 26	2 " " 103F
	1 " " 27A	2 " " 108
	1 " " 28	5 " " 111c
	57 " " 37	2 " " 115
	14 " " 37A	1 " " 160

Clockwork Motor  
(not included in Outfit)



