



NZFMM MAGAZINE

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Bumper Issue!
28 Pages of
Meccano Magic.



The Man and His Machine



Garrett
Portable
Engine



Ruston
Hornsby
Portable
Engine
1921

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Letters are welcome and may be sent by post or by email. The author's name and address must be supplied. Publication of letters will be at the editor's discretion.

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A Meccano Poem

*"The time has come", the Chairman said,
"To speak of many things,
of nuts and bolts and pins with thread,
and brackets, strips, and springs,
and why the tab on pulley block,
and rods, and strip couplings."*

Tom Pittams.

The Tides of Change

The rate of change in putting together the NZFMM Magazine continues unabated. Bruce Geange of Palmerston North is a modeller who builds original Meccano models (and many other items) from little more than pictures and details in real machine catalogues. In my opinion, Bruce's models are of master builder quality because they are proportionally correct, highly detailed, innovative and reproduce/simulate the essential actions of the prototype. His generous offer of original models of the size and calibre for writing up in NZFMM magazine is an Editor's dream and to do the Portable Engine in this issue proper justice, six pages have been allocated. In addition, the Modelplan includes a first ever offer of a CD-ROM containing lots of pictures in full colour as an aid to any Meccanoman who wants to build the Portable Engine. The large file size of each picture allows considerable fine detail to be shown when the computer screen 'zoom in' facility is used. Modern technology has moved the goal posts of cost so drastically that a considerable part of the sale price of the CD-ROM goes to NZ Post for packing and postage!

A plea – if you build the Portable Engine from this issue, please send me your comments and feedback.

If you haven't started building your Convention 2003 model yet, you are living dangerously.

Keep those screwdrivers turning.

R. Bruce Neilson

A fine picture of a "Meccano widow".

Anne Prescott is the author of the article about Skegex on the next page. For those who need to know, Anne also works on the editorial team under the pseudonym, Prue Freda. Don't you think she does a great job correcting the editor's grotty grammar?



The cover picture The Man and His Machine is of Bruce Geange and his Meccano model of a portable engine. Two photographs of examples of the prototype engine are also shown. The photographs are by Bruce Neilson.

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SKEGEX 2002 from a Meccano Widow's Point of View!

by Anne Prescott

Recently Bob and I travelled to England to see family and friends and of course our trip was timed to include a visit to Skegex 2002. The exhibition was held in the Embassy Centre in Skegness and since our visit in 1999 the building has had a major refit with a smart new entrance, cafe, bar and facilities - just the auditorium remains unaltered and as usual it was filled with Meccanomen and their models, large and small. Dealers such as Mike Rhoades, David Taylor and John Thorpe had their stock displayed on the stage.

With the models on display for three days there was plenty of opportunity to come and go. We visited on Friday afternoon and soon met up with John and Margaret Jordan from the MWT Club, also enjoying an overseas trip. It was good to catch up with Peter Kessler and Dave and Margaret Barrett who have all visited NZ.

Though there was still a few empty tables, some of the models which impressed me were:

- A four foot high saxophone - lots of plate bending in that model
- Tower Bridge with opening and closing roadway/spans
- Three magicians - which intrigued everyone
- A collection of army vehicles, guns and equipment, Action man size
- A very clever marble rolling machine
- A loom with a piece of woven fabric - a very complicated model

Popular with the children was a three horse race game in which the horses moved a number of places depending on which hole a rolled ball landed in.

Remote control vehicles were represented by a two foot long single-decker open top bus and a magnificent "Battlebot", similar in size and shape to a small vacuum cleaner - both roamed the hall to the fascination of the crowd.

We chatted with Robin Johnson about his excellent Constructor Quarterly magazines and also met Ernie

Chandler, a long-time exhibitor, who was displaying a model of a Johnson single wheeler railway engine. The descriptive sign noted it was originally built by Dr Keith Cameron and "recently remodelled by a New Zealand modeller" - Ernie decided to build it after seeing the article in a recent NZFMM magazine!

By opening time on Saturday morning most of the tables were filled with models and the town was crowded so there were lots of visitors young and old to see the Meccano. Hotels and bed and breakfast establishments abound within walking distance of the Embassy Centre and the claim to fame of the Merrydale Hotel where we stayed is that the legendary Herbert Lansley used to stay there! The town's

centre is attractively laid out with colourful gardens and walkways but it was a big disappointment to learn that the many imposing and decorative lighting displays would not be switched on till the end of July - the beginning of the main holiday season.

"Bracing Skegness" was the description on an old Railway poster advertising the destination

but despite the frequent cool breezes from the North Sea, Skegness has for decades been a popular seaside resort catering for those who enjoy amusement arcades, fairground rides, fish and chips and a sandy beach with donkey rides for the children! Well that's how it seemed to me though other attractions included Natureland, tenpin bowling, boating, mini-golf, nightclubs etc. etc. and when the Meccano exhibition is over, the Embassy Centre is filled nightly with visitors enjoying band concerts, classical concerts, ballet, comedians, pop singers or ballroom dancing. Away from the town the rural landscape has wind and watermills, historic buildings, quaint villages

and old churches and museums including one with an ex-WW2 Lancaster bomber which every few weeks fires up its Merlin engines and taxis for a short distance on the old airfield. So I guess there is something for everyone to enjoy during a short stay in Skegness.

The builder of the Saxophone was Sid Beckett, the photographer was Kees Trommel. This photograph and others can be found at the ISM Internet site at <www.internationalmeccanomen.org.uk/GI/Exhibitn/Skeg2002>.



*Sid Beckett with his superb saxophone.
What key does it play in?*

The Robot Gargantua History, Building and Modelplan

by Chris Shute.

(An expanded version of a email Spanner posting.)

The original Robot Gargantua was completed in 1937 by Griffith P. 'Bill' Taylor (hereafter called Bill), the son of Robert Scott's Antarctic Expedition Geologist. At that time, Bill was a student of engineering living in Toronto. He sent detailed photographs and a description of his creation to the Meccano Magazine. The published result of Bill's efforts was a single page and a photograph too small to show any mechanism (Page 172, March, 1938 Meccano Magazine). The original notes and photographs were filed away at the Liverpool factory to gather dust.

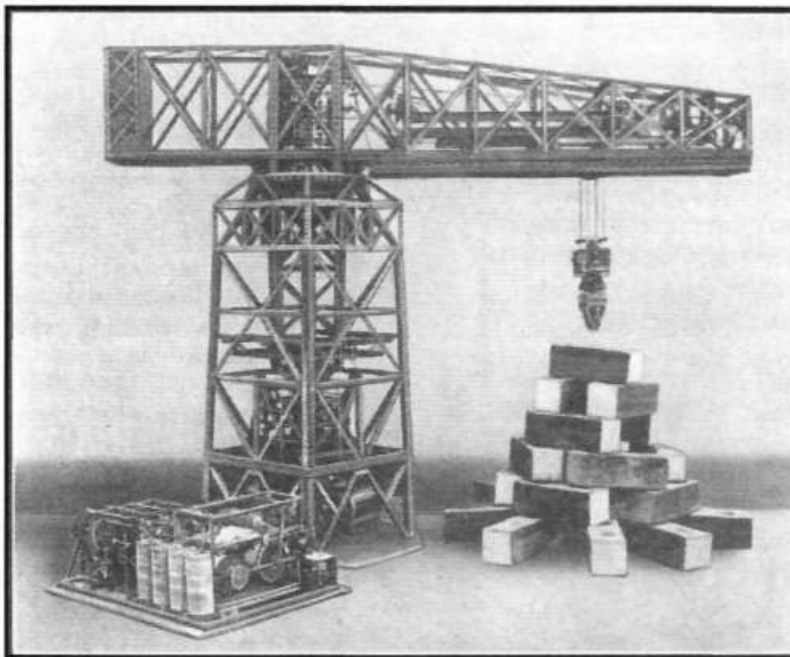
In 1980 when the Binns Road factory was being demolished, a thoughtful contractor, Jack, saved a quantity of Meccano parts and Bill Taylor's original material from the bulldozer and the bonfire. Acquired by Meccanoman Dave Evans, the notes and photos were passed to Robin Johnson of the Constructor Quarterly. Robin shared this unique discovery with Bert Love, Alan Partridge and John Woollatt who had long puzzled over how such a machine might have worked. Their findings, together with Bill Taylor's notes and photographs, appeared as a Constructor Quarterly special publication in 1994. Colin Hoare tracked down Bill Taylor, a retired professor of engineering in Sydney, Australia, who was surprised and pleased to receive the hardbound collection of writings and photographs from his youth. Still an active modeller, Bill was working on an improved mechanical robot device. He modestly considered his own Gargantua to be rather crude. Bill Taylor died In November 1996.

The June 1997 edition of the Constructor Quarterly magazine showed a photograph of a reconstructed Gargantua built by Charles Roth in South Africa. Charles' version used an electric motor in the grab and was not automated.

Bill Taylor's Gargantua

This was probably one of the largest and most complex Meccano models of its time, the result of three years work. Driven from a single electric motor, and like the early steam driven cranes, the Gargantua has ingenious linkages and drive transmissions to all its motions. Modern robots have separate motors.

The Gargantua's grabbing mechanism can rotate as well as grab, yet these functions operate through the four cords which suspend the grab. These require a unique compensating mechanism. In order for the other jib motions to remain unaffected when the Gargantua is operated manually from the five levers at the base of its tower, a variety of mechanical protection devices prevent accidental overdriving of any motion. The easy way to do it today is with electrical limit switches but to achieve this mechanically presents quite a challenge.



A remarkable model block-setting crane that automatically builds simple structures. Its movements are controlled by an ingenious robot mechanism, which is seen at the base of the tower on the left of the illustration. The model is the work of Mr. Griffith P. Taylor, Toronto.

Illustration from the March 1938 Meccano Magazine, page 172

Automation

The crowning glory of the Gargantua is its 'Robot' unit, a separate machine which physically pulls and pushes the Gargantua's control levers. A pre-programmed sequence of operations is stored on paper tape. A hole in the paper allows a brief electrical pulse to activate a solenoid arresting a differential cage which is driven through one half-shaft. This causes the other half-shaft (which was lightly braked) to rotate, driving a 3 1/2" gear and faceplate, pushing or pulling a lever controlling any

one motion on the main Gargantua crane. After a quarter turn of the faceplate the solenoid is reset. This allows for single pulses to set the Gargantua's levers at forward, neutral, reverse, neutral, and so on.

As a guide when writing programmes, a five digit counter indicates the number of drive shaft revolutions which have elapsed. Since the programmer and Gargantua share the same motor, synchronisation is achieved without any feedback system.

When the Gargantua was created, punched-tape automation existed in the Jacquard loom and the Pianola, but had scarcely been applied elsewhere. The term 'Robot' itself was fairly new, first heard in a play "Rossum's Universal Robots" only a few years before. The Gargantua may well be one of the earliest manifestations of a machine to be called a robot. It predates the millions of robotic machines which assemble our cars and computers.

Chris Shute's Gargantua

In July 1997, I demonstrated my own version of the Gargantua's 'Robot' programmer, then operating a 12" Robot Man, at the Skegness Meccano Exhibition. People

asked me when the rest of the Gargantua would be built. "But I don't build 'big' models" I replied. I didn't have the parts, time or space to tackle such a project. Or so I thought.

By a curious coincidence, Bill Taylor's widow, Dorothy, and son, Norman were visiting Britain at that time and had come to see the Skegness exhibition. It was strange, meeting the family of a man I'd never met, yet I felt I knew him through his work. Sooner or later I was going to have to build the complete Gargantua.

Spurred on by my wife and family, I began to acquire the extra Meccano parts needed. I worked out that the jib would be able to swing in our Meccano room after all. I dismantled my Meccanograph and modified my Orrery to release some of the 200 gears and 300 collars required. I began building in October 1997. By the end of January the tower was complete. After our Easter holidays the jib was in place. It took another month to fit all the strings and fit the motor. Most of the remaining time up to the Skegness exhibition of that year was taken up with programming the 'robot' to stack the blocks. Oh, and then there was the de-bugging.....

Challenges Ahead !

I wanted the Gargantua to build the octagonal tower which appeared in the original Meccano Magazine article. In order to minimise the operating area, I offset the axis of the octagon from the jib's axis. This involved the plotting of individual angular positions for the blocks. With hindsight I might have invested some time with a small computer program to calculate the correct intervals between the holes. The roughness of the structure which the Gargantua builds at the moment is down to my performance with a ruler and graph paper rather than any inconsistencies in the machine's performance. A brick wall would have been a lot easier!

My Gargantua runs from a fan motor salvaged from a scrap Ford Sierra. With reduction through a Meccano spring-cord drive band the power transmitted to the first drive shaft is around the $\frac{1}{10}$ horsepower of the original hefty mains motor. Friction? No worries!

This version of the Gargantua is an attempt to reproduce Bill Taylor's masterpiece within the limits of my Meccano collection. A few modern parts have been substituted in place of the more exotic and obsolete items, notably Elektrikit coils, wipers and large-toothed quadrants have been used in place of their older counterparts. No flexible plates have been used, neither have any yellow parts (well, there are four somewhere: spot them if you can!). This is all in deference to the vintage of such a model. I'm pretending that the zinc-plated parts are actually nickel-plated.

I made some mechanical modifications to my Gargantua, mainly in order to reduce friction and improve reliability in the programmer. Small pulleys have been added to the four bolts on each $3\frac{1}{2}$ " gear to act as rollers. These now strike built-up left-handed pawls in place of mutilated cranks. In the re-setting mechanisms a long rod was added to deflect the cord linkages. The flanged wheels were made

free-running between collars. Even so, the pitch of the motor can be heard to drop as the solenoids do their work.

In the grab, slipping clutches have been added to both the rotation and the grab drive. These act in addition to the end-of-drive limiters in the jib gearbox, in order to overcome any discrepancies caused by cumulative cord slippage. By programming a few extra revolutions into the rotation and grab drives, they slip at their end-stops and the machine stays 'on course'.

The grab requires a substantial ballast weight in order to maintain the cord drive to the pulleys and to activate the lower hoist limiter. As suggested by Bert Love, I've put the weight on the upper part of the grab assembly in order to reduce momentum when the grab rotates. 6" Circular Plates have been used in place of the $5\frac{1}{2}$ " x $2\frac{1}{2}$ " Plates in the original.

Bill Taylor later accepted that the upper jib bearings should really be vertical, but the oblique angle performs satisfactorily and makes assembly of jib and tower much easier. The single central transmission shaft and four surrounding control rods disconnect at the base of the jib gearbox. Most of the longer rods are 4mm steel rod from a DIY warehouse, available in one metre lengths. Curiously, one metre is exactly the length required for several of the Gargantua rods, even though Bill Taylor used standard $11\frac{1}{2}$ " Meccano Rod for the original. The metric rod (being slightly narrower) is ideal for passing through numerous holes without binding.

Other Modifications

The wooden blocks were drilled from top and bottom with a large hole saw. Instead of using plastic wood to provide ridges on which the grab fingers might act, pairs of oval nails were driven in deep from each end of the block to give a solid lip, one inch below the tops of the holes.

When the jib is detached from the tower, the grab can be inverted (with the cords held tight!), and fastened up into the cavity between the jib gearbox and rear counterweights, for convenient and safe transport. For erection, the jib is first placed with its rear (counterweight) end on the tower edge and its front half supported on a step-ladder of similar height as the tower (46 inches). This allows the grab to be released from the cavity before the jib is lifted and located correctly onto the tower, still supported by the step-ladder. Then the four house bricks can be added and the jib gets fastened to its lower column within the tower. I wrapped the bricks in cling-film (food wrap polythene) to minimise scratching and dust fallout.

In place of the obsolete $3\frac{1}{2}$ " wide adding machine paper rolls, modern fax rolls have been sawn down to length. A sequence lasting nearly three hours is possible. Constant paper speed is not essential since the programmer and crane share the same motor drive. However, as the diameter of a driven take-up spool increases, so will the consumption of paper. Likewise the size of the holes would need to increase in order to maintain a pulse of adequate length to operate a solenoid. Bill Taylor solved this problem

by the use of a driven rubber roller pressing the paper on a hard idle roller. I simplified this by putting the drive to the hard roller and pressing the paper to it with a single soft rubber tyre, much like a tape recorder uses a capstan and rubber pinch-wheel.

Skegex 1998 and the Taylors

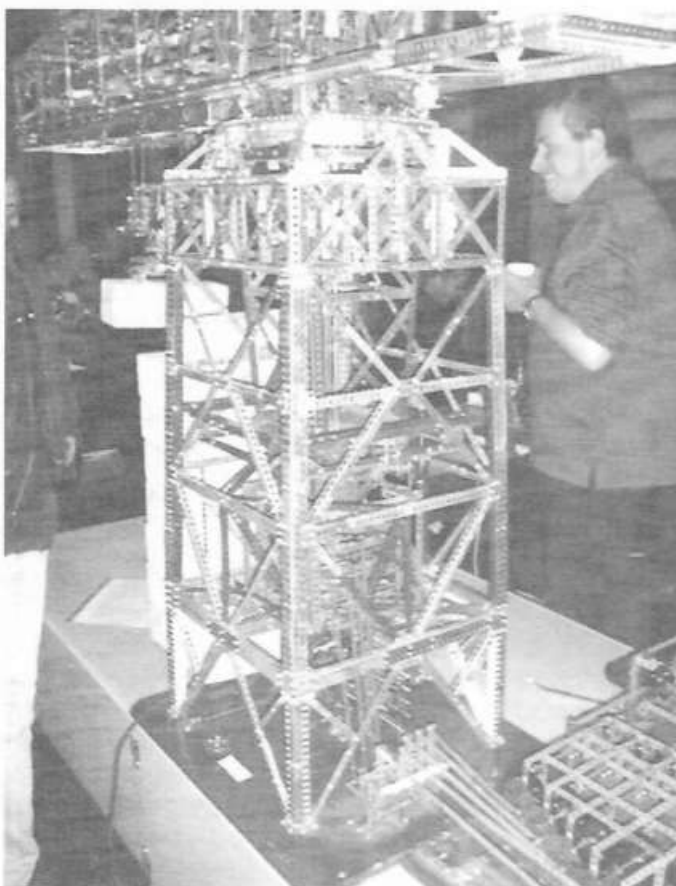
I completed the paper-tape program just in time to take the Gargantua to the Skegness exhibition, where it gained fourth prize (voted by fellow exhibitors). I think it was frowned on by some for not being an 'original' model, being 'copied' from published plans. (Those who have the book would not describe it as a set of plans!). Still, Dorothy and Norman Taylor kept their promise to return to see the completed Gargantua. After Skegex they came back to our home (then in South Wales) for more exploring and reminiscing. We discovered the Taylor connection with my home town of Tewkesbury. Bill's mother was Dorothy Priestley, sister of Scott's Antarctic colleague Raymond Priestley. The Priestleys had provided two generations of Headmasters at my old school. Bill's father, also named Griffith Taylor, was the son of a mining engineer, James, originally from England, but travelled worldwide, including such places as Antofagasta in Chile (known for its blocksetting crane!!). I discovered that while Bill Taylor was a young Meccanoman in Chicago, his grandfather, James was living nearby and would have been able to give his grandson some help. Griffith Taylor, the father, was a highly paid academic who would have been well able to supply his son with the Meccano needed to build Gargantua.

Conclusions

Does the Robot Gargantua stand comparison with today's Meccano marvels? In modern times, Meccano enthusiasts have built more complex automated machines. They have built quieter, faster or bigger structures. They have built scale models faithful in every way to the real thing. They have created models of great ingenuity and elegance. Yet today's modellers have a wider range of parts. There are more gears, flexible plates, tyres, plastic parts, cheap motors, Elektrikit, remote control. We have computers and calculators. Some of us have more leisure time than others. Some of us may have Meccano wisdom and the accumulated knowledge of years spent learning from our own mistakes and those of our fellow Meccanomen. Decades of Meccano literature have guided and inspired us.

But Gargantua was built over 60 years ago. The greatest model of its day was probably the much-loved Giant Blocksetter Supermodel. This model had no protection against over-winding, no automatic stopping when the block reached the ground, no powered rotating grab and certainly no automation.

If Gargantua were invented today we might question the multiple bearings and long drive shafts. We'd probably want to add lots of motors, micro-switches and relays. People would say "What you need is a computer, mate!" But that would be missing the point: Gargantua is a computer-age model fifty years ahead of its time. Bill Taylor conceived the Gargantua when barely a schoolboy and while building it, still found time to obtain a degree. It remains a colossal achievement.



Chris Shute with his version of Gargantua at the 2001 Exhibition in Edinburgh.

RECENT SPANNER NOTES

I built the 'Robot Gargantua' referring to the Constructor Quarterly Special Publication of that name, available by mail from CQ as already mentioned (Robin Johnson, 17 Ryegate Road, Crosspool, Sheffield S10 5FA). I believe it is also available by ordering online from MW Models, Henley on Thames.

The Special Publication consists of the following: An A4 sized hardback glossy volume of 28 pages.

26 black and white photographs, some A5, some A4, on fold-out panels to be viewed alongside the main text. An account of how the notes and photos were re-discovered.

An introductory explanation of the book.

The original full description of the model by its creator, Bill Taylor, which never made it into the Meccano Magazine.

A complete parts list. (Part No.9 requires 53, not "03", as suggested!).

Modern explanations and commentaries on how the main mechanisms work.

Useful details on Stepper Motors and control of DC Motors (though not needed in a 'pure' Gargantua).

Alas, there are no building instructions or plans as we know them. I worked primarily from the excellent black and white photographs (much counting of holes!), guided by the narrative. It was a bit like an archaeologist trying to re-construct a lost city, but once the framework was there, it

became much easier to recreate what was unclear. The main obscurity was the arrangement of the linkages to the four "Control Frames", swashplates which act upon the lower jib within the tower to select gears above. These are not photographed fully and had me foxed for a while. Now I have the answer, I'm sure it's correct, because nothing else will fit, nor do the job so efficiently.

The punch tape programming method is described well in the book, although the programme itself is not given. Be prepared to do some maths, nothing heavy, just tedious. Then be prepared to cut over 500 holes in paper tape. Then be prepared to fine-tune the holes by, err, ...moving them along the punch tape to get the block tower built neater. I believe this could be done simpler by first using an old home computer to emulate the paper tape, thus allowing changes to be made easier. When the desired "performance" is obtained, the paper could then be cut with holes at the exact places needed. I did it the hard way. Well, if you wanted to rebuild the pyramids, it would be cheating to do it using a Le Tourneau Excavator.

Would-be Gargantuans should know that the horizontal length of the jib is 78 inches and requires an operating radius of 54". A sector allowing 45 degrees of rotation is sufficient to build the octagonal tower shown in the March 1938 Meccano Magazine article. I modified the jib slightly to allow removal from the tower for easier transport to exhibitions. The tower alone is 46 inches high. The jib adds a further 15½" to the overall height. The tower baseboard can be reduced to 28 x 24 inches. The "Robot" programmer fits onto a board 28 x 22 inches and attaches as in the original. A vehicle such as a Nissan Serena People Carrier can accommodate one Gargantua and all accessories, one proud stocky Meccanoman, one slim but surprisingly strong wife, one excited child and one bewildered Border Collie sheepdog.

About Chris Shute

I began modelling seriously in 1978, based in South Wales. I exhibited at Henley between 1979 and 1985, Skegness 1997, 98, 2000. I now live in Scotland and am an active member of The Meccano Society of Scotland and The South Birmingham Meccano Club. I'd describe myself as a designer-builder-tweaker sort of Meccanoman rather than a collector-polisher-cherisher. I like finding low-tech, low-cost, elegant Meccano solutions to modelling challenges. I don't build many scale models, but I admire the folks who do. Some of my current models include:

THE ONLY-ONE-PART CUCKOO CLOCK, built for a Henley competition. No Meccano part gets used more than once, (except nuts, bolts & washers). Now rebuilt, the clock chimes, shows moon phase, and has a calendar with leap-year indicator.

THE MULTIPLE MATCHBOX MANIPULATOR: Within a 12½" x 12½" x 6" chassis, a carousel carries matchboxes which each receive a ball bearing. After one lap, each box gets removed, flipped over, re-inserted on the carousel and emptied. The operation is repeated. A mechanical sensor confirms that a box is present and correctly positioned

before any ball can be loaded. The machine works from a single cassette recorder motor. A detailed article about this machine appears in *Constructor Quarterly*, complete with a parts list.

THE ROBOT GARGANTUA: A 95% faithful reconstruction of Bill Taylor's legendary 1937 monster robotic crane. I built it for Skegness 1998, and it is still operating, although the paper tape really needs to be card. I'd love to hear from anyone else who's built Gargantua, or who might be considering it. I discovered a lot of things along the way that never found their way into the published notes and photos. It was the Meccano equivalent of finding a flying saucer. Gargantua is packed with peculiar mechanisms unlike most of those we have come to recognise over the years. It is a crane, but not as we know it. I could go on about this for some time, and usually do, as fellow club members will testify. Perhaps, one day a website might do justice to this machine and its creator. A historical question for the massed minds of Spanner folk: is Gargantua the earliest known punched-tape operated 'robotic arm'?



Bevel gear problems

I chased down the reference to the earlier article I mentioned previously about the variation in bevels. Log Saw Puzzle by Keith Cameron. *NewsMag* 42 July 85 pages 14, 15, 31. Paul Dale.

Further notes — Keith Cameron's article recognises 7/8" Bevel Gears and then goes on to add further problems.

"Bevel Gears have come from Binns Road in a variety of configurations over the years — the photo (page 31) shows six different specimens. Some are identified with the reference number given them in the DMS. The oldest kind, Reference 1249, has a centre that is un-recessed, and from this one forward there is a gradual progression to full recessing. The later gears had teeth with flats. The modern variety with deep recessing, narrow gear face and flats on teeth introduced in 1947 cannot be made to fit in this model (Log Saw) as shown in the leaflet. This is because the early types occupied less space, the base between the teeth being placed nearer the boss."

Keith Cameron then goes on to point out other inconsistencies when the Log Saw was rebuilt and the photos retouched for later Manuals, etc.

I liked Keith's Moral Statement — "Even the simple models of the past reward close study. Revising instructions must be done with care, and following them may require even more care. Modernising may not be an improvement. A knowledge of the history of the Meccano system can be useful in the building of models. Refusing to be obstructed by an apparently insoluble problem often leads to new approaches of wide application."

Bruce Neilson

Death of a Dinosaur - Part II

Reprinted by kind permission of The Hornby Railway Collector Magazine

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To some extent Meccano's declining fortunes were beyond the firm's control, reflecting international economic and social changes. By the middle 1950's both Germany and Japan were beginning once again to challenge for a substantial share of the toy market. The progressive dismantling of the quotas and tariff arrangements behind which the British industry had sheltered since the early 1930's assisted them. Some of the largest American firms were also beginning to look overseas and made a determined effort to capture a larger share of the British domestic market during the 1960's. In the next decade the international slump which followed the oil crisis adversely affected the demand for non-essential items. It also coincided with a demographic change which was reducing the number of children in Europe, the largest market for toys and Meccano's own major export outlet. By the end of the 1970s the government's commitment to a strong currency was forcing up the value of sterling, with predictable results for the price of British toys abroad and of foreign toys in Britain. The high interest rates on which this policy depended also created liquidity problems for business. Cautious customers delayed placing orders with manufacturers until the last possible moment. This was a particularly serious difficulty for the toy industry since traditionally the bulk of orders were already heavily concentrated in the last three months of the year. Manufacturers were left holding large inventories. With high interest rates the burden of supporting these became intolerable and Meccano was one of several leading British toy companies which went down as a result. Yet the impact of these changes in the nature of the world economy and demographic patterns was not confined to British manufacturers. Toy producers elsewhere were similarly affected and two of the most successful toy making nations, Japan and Germany, both had to contend as well with strong domestic currencies. The fact that they came through the difficulties - as indeed did other British companies - suggests that Meccano's problems lay not so much in the environment as the firm itself. New strategies, more appropriate to the increasing competitive situation, were slow to emerge. When they did, management lacked both the ability and knowledge to implement them effectively. In variety of areas - distribution, product design and diversification, cost control, plant and capital modernisation, and labour relations - the company was found wanting. The group's record, suggested the Daily Telegraph in December 1962 'points to incontrovertible

evidence of serious mismanagement problems.' A few months later management consultants Peat Marwick & Mitchell provided a more precise diagnosis of these problems.

'Apparently successful trading results in the past have not encouraged greater efficiency in production and selling

methods, with the result that the development of vigorous competition since the mid 1950's has led to substantial loss of turnover by the company. The same circumstances have also probably tended to encourage concentration of effort on established products rather than to widen the scope of the Company's manufacturing activities.'

By 1962, therefore, business experts deemed Meccano's distribution, product design, and production methods to be the chief sources of weakness.

The method of overseas distribution had remained virtually unchanged for half a century. Local agents who sold to local purchasers from their own stock conducted the majority of business. Large overseas orders were referred directly to Binns Road, a cumbersome and slow process whose real costs became evident only when the trading environment became more competitive. Over the years Meccano had proved remarkably resistant to changing either the agents or the system. Not until 1963 was it decided to review marketing arrangements in the United States, for example. The dynamism that had once characterised export policy had evaporated and proved difficult to restore. Even under the impetus of new management the proportion of output exported continued to stagnate at levels lower than those achieved in the 1930's. It was also significantly less than those achieved by competing firms. In 1973-4, for example, Mettoy sold 37% of output overseas, Lesney 47%, while William Britains managed 51%. Small wonder that Bev Stokes, recruited as Meccano's personnel director in 1974, was struck by the lack of aggression in the export sector. A similar conservatism characterised domestic arrangements. Meccano had never dealt with wholesalers, even refusing to allow Co-operative Wholesale Society shops to use its products as part of their dividend schemes. Only in 1964 did it permit its stock to be handled by mail order firms. For far too long, the company stuck by its policy of dealing only with selected retailers. Postwar rebuilding and urban development, however, had left many of these long-standing customers relatively isolated from centres of population. No attempt was made to modify this policy until the middle of the 1960's, by which time, according to one survey, 40% of dealers on the company's list had either closed or no longer stocked Meccano, while others carried only Dinky Toys. Furthermore, little account had been taken of other changes in patterns of retailing which saw toy sales extended well beyond tradition channels. In the model vehicle market, for example, Meccano's chief rivals, the Corgi range produced by Mettoy and Lesney's Matchbox



1932 Edition

series, were available not only in specialist toy shops but also in 21,390 non-specialist outlets such as newsagents, tobacconists and confectioners. Dinky Toys were sold in only 4,500 such shops. In effect therefore, Meccano was denying itself the opportunity of sales through about 17,000 venues. It is true that the Lines Brothers' takeover heralded some changes in these policies but they were long overdue and the company had already lost valuable ground to its competitors.

Nor had the company kept up with modern advertising techniques. Indeed, there is some evidence that the directors had completely lost sight of its purpose. At least, a directors' meeting in 1947 decided that 'Press advertising in the form of a selling campaign was wholly unnecessary...the policy of advertising for the purposes of keeping the Company's name and names of its products steadily before the public should be continued.'

Only in the period immediately prior to the Lines takeover were attempts made to improve this aspect of the company's operations. The Meccano Magazine was sold to an outside publisher, while advertising was contracted out to an independent agency. A similar complacency explains Meccano's slowness to exploit new advertising opportunities. By 1962 the company was devoting a smaller proportion of its advertising budget to commercial television than it had in 1957, when the first of its televised advertisements had appeared. Rival companies were much quicker than Meccano to capitalise on other aspects of the commercial potential provided by television. Not until 1966 did Meccano market its first model based on the television characters associated with the Thunderbirds series. By contrast, Mettoy had been using television character merchandising for its Corgi range since 1962.

In any case, modern marketing mechanisms was only half the battle. Meccano products were also in need of radical change in order to meet the challenge presented by new toys in the market. Once again, however, conservatism, complacency and a remarkable lack of imagination marked management response. For instance, high powered advertising, and the advantage of lightness and cheapness, and ease of use all combined to push Lego ahead of Meccano in the construction toy sector of the market. Roland Hornby proved singularly incapable of recognising the fact, however, telling his shareholders in 1963 that 'I have heard it suggested that Meccano Construction sets are outdated. Don't believe it, I cannot think that the boy growing up in the space age is any less imaginative than those days of Jules Verne and H.G. Wells.'

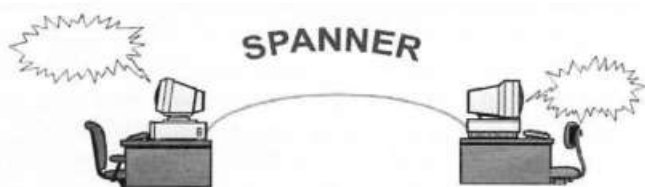
Tri-ang's Spot On range, Corgi models from Mettoy also eroded what had been a virtual monopoly of the diecast vehicle market, and the Matchbox series produced by Lesney. In a similar fashion, Tri-ang and Playcraft Railways threatened Hornby's dominance of the model railway market from the late 1950's. Playcraft (Jouef) was a French product marketed by Mettoy in the UK. Both were cheaper than Hornby, principally because they made much greater use of plastic. Matters were not helped when Hornby's introduction of a new 2-rail system in 1959 had left dealers with thousands of pounds worth of parts compatible only with the old 3-rail system. More generally, sales of toy train sets were falling in the face of the growing popularity of powered model racing cars. Faced with this broad challenge to its three most successful ranges Meccano responded

feebly, in the main continuing to produce the same basic range of items. There was general resistance to new ideas, however, Meccano's managing director rejected a proposal to give Dinky cars a sprung suspension system. Shortly afterwards the idea was introduced with outstanding success by the American firm of Mattel. True, there were some innovations, usually associated with new ownerships, but they were essentially cosmetic - plastic Meccano, a change of colour and new packaging for Meccano, Multikits, and the first powered Dinky car in 1972, for instance. Yet in the same year the latest addition to the Dinky army vehicles series, an armoured car, still had its detail incorporated into the casting in the traditional Meccano manner. It thus lacked the action features which made rival models more appealing to children.

When diversification was attempted it tended to be badly handled. For instance the decision to introduce a racing car set, Circuit 24, in 1962 made little sense, given that it was technically less reliable and also more expensive than Tri-ang's Scalextric, which had established itself as market leader over the previous 5 or 6 years. A similar lack of success attended a later venture with large steel vehicles. Meccano's Mogul Wagon series was too expensive and too similar to represent a serious threat to Tonka Toys, the market leader. This general lack of imagination reflected perhaps the fact that the company had no department charged with long term planning of new products. Thus the Mogul range had to be commissioned from an independent outside designer.

The third set of deficiencies mentioned in the consultants' report lay in the area of production methods. Here again, several problems can be readily identified. There were, first of all, the diseconomies resulting from the piecemeal acquisition of factories. Although the original Binns Road site had been extended on several occasions, two other factories at Speke and Aintree and a warehouse were operated in Liverpool as well as a main showroom in London. Lines Brothers and Airfix both disposed of some of these properties but attempts to acquire a green field site foundered in 1978 when it was opposed by the unions and local Labour politicians, fearful of the employment implications. Although the production of Meccano was eventually moved to Aintree so that Binns Road could concentrate on Mogul Toys the movement of goods between the sites was very inefficient. One production chaser recalled that it was not unknown for parts to be transported by taxi, sometimes in single parcels, because the scheduling of production was so poor.

With individual plants the movement of parts moving through the production process was mainly manual and so badly coordinated that the assembly lines were frequently stopped. All attempts made by Lines to improve this foundered and there is oral evidence to suggest that, in part at least, this was the shopfloor managers who had grown very attached to long standing practices and rhythms of work. Airfix apparently did no better. The directors were told in November 1973 that 'the rearrangements of Production Control, and, in particular, control of movement of material from basic production to assembly and finishing operation, have not, however, produced any benefits.' Responsibility for stock control had still not been satisfactorily established when the company collapsed in 1979.



The use of email from the Spanner group is acknowledged.

Exacto Internet site has started to work at <www.exactosystem.com>.

Lubrication - For lubrication needs I turn to the model train hobby and use what they use. Currently I am using Labelle 107 lubricating oil for model trains. I think it is a silicone-based lubricating oil; it has excellent surface tension, lasts a long time and works very well. (Charlie Pack, USA.)

Knotting - In the meantime, can I tell you about a "cheat" for joining lines together? This works just as well on plastic lines as on natural fibre ones. If you need the line to look as flat as possible, this is what I do. Get a piece of polythene film (polyethene/polyethelyne, or whatever it's called in your country), about 2" x 3" should be fine. Unravel about 1/4" to 1/3" of both ends of the line, and lie them on the centre of the polythene film, with the unravelled ends as mixed together as you can reasonably get. Apply 1 to 3 drops of superglue (cyanoacrylate adhesive) to the join. Roll the polythene film around the join, and roll it between your fingers for a few seconds, and leave to dry for several hours. Note that the glue normally dries in seconds, but the polythene stops the solvent from evaporating, so it takes a lot longer. Unwrap the polythene, this will be easy as superglue does not stick very well to polythene. Leave to dry for another hour now it is unwrapped. Trim off any rough edges, and you should have a barely noticeable join that is almost as strong as the line itself. Note that although it will not bend, it will still go over pulleys as long as they are not too small in diameter. This join is not as strong as properly splicing them of course, but then splicing 2mm diameter lines together is at best tedious. If clearance is very important, or the join is not to be put under too much tension, you can get a sharp knife, and "scrape" it across the unravelled fibres before joining them together. The idea is to have less and less fibres towards the end of the line, so the thickness tapers off. This type of overlapped joint is known as a skived joint. Not as strong as the normally overlapped one, but can be rolled to be the same diameter as the line itself. (Anthony, Manchester, UK).

Shipping Sets - A - I like your idea of "builders' foam" for the underside of the plastic trays. I have been using Styrofoam 'peanuts' for the same purpose as you suggest. But I wonder if in the long run either the peanuts or the foam will cause harm to some of the parts, especially the zinc-plated rubbish. Whether it is a 10 set or a Multikit, I know from experience that unless the parts are separated from the plastic trays, there is no way to mail such sets without damage to the trays or the parts. And the thumb tacks make matters worse by scratching the parts and causing cracks in the tray. (Madhav M. Bhalerao, Alpharetta, Georgia, USA).

B - No guarantees unless you empty the trays. The momentum of the heavy metal parts smashes the ends of the compartments in the trays. No way to prevent this unless the trays are emptied. I think one container for the parts and one for the empty cabinet with drawers containing the inserts would do just fine - other things being equal. Twice tried, twice stung. (Tom Smith).

C - I have sent a few 10 sets round the world and it is a problem to protect the cabinets. First, never send parts in a Meccano cabinet. Their weight will be the force that destroys it! Send the shrink wrapped trays (not drawers) well padded in a dispensable container with if possible sheet metal reinforced corners and edges. Make sure none of the contents can move about, but are separated. Send the cabinet separately with the drawers wedged in with corrugated card. Remove the knobs (can be re-glued). Cover with 1" expanded polystyrene, 2" on ends if possible (can be got from builders' merchants). Make sheet metal corners and edges, parcel tape them on securely. Cover with good heavy cardboard and use plenty of parcel tape. Should work OK but no guarantees! (Dave Taylor, Essex, England).

Gear Meshing - With 38 diametral pitch, the gears that mesh when the shafts are two holes apart (1") must have a combined number of teeth which add up to $2 \times 38 = 76$, or within 1 of 76.

Example: 19T - 57T Ratio 3:1; 25T - 50T Ratio 2:1; 38T - 38T Ratio 1:1.

Shafts one hole apart (1/2") combined number of teeth to be $1 \times 38 = 38$.

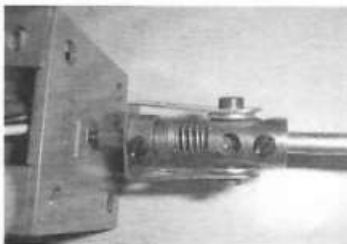
Example 13T - 25T Ratio 2:1; 19T - 19T Ratio 1:1.

Shafts 3 holes apart (1 1/2") combined number of teeth to be $3 \times 38 = 114$.

Example 95T - 19T Ratio 5:1; 57T - 57T Ratio 1:1.

There are lots more, but you get the idea. Mr Hornby was a clever chap wasn't he? (David Lawrence).

Safety Clutch - Using a narrow 1" x 1/2" Double Bracket, a narrow Collar, small Compression Spring, and old-style slotted Pivot Bolt, a Short Coupling, Shouldered Bolts from Universal Coupling and eight Washers (M4 actually). The clutch will run between adjacent holes, runs quite smoothly and if you grip the output shaft the motor slows a little but still keeps going pretty fast. It certainly does not stall and would not burn out.



It could be adjusted to slip at a higher load by placing a washer or two on the pivot bolt with the compression spring (there would not be room for much more than that) or by replacing the narrow collar with a standard one.

If you did that, you'd need to use a standard coupling because the pivot bolt would project too far in for the output axle to be fixed in place. Conversely a shorter or weaker tension spring could have the opposite effect. (John Stark, Nelson, NZ).

Bruce's Choices From Around The World

by Bruce Neilson

Constructor Quarterly – March 2002.

Pick of the articles – A Science Fiction Car Chassis by Geoff Bennett.

If you lived in a world where toothed gears had not been invented, how would you design a Motorcar Chassis? The answer to this question is demonstrated in this article very ingeniously with a good amount of detail in text and pictures over four pages. Geoff started with the Supermodel leaflet and developed belt drives and cone speed changes.

Other comment – The articles in this issue of CQ are not extremely detailed by way of step by step instructions in text, and close examination of the excellent photographs will be required if you wish to recreate a model.

Sheffield Meccano Guild – June 2002.

Pick of the articles – The Meccano Larynx by Martin Atkinson.

"Larynx – Voice box. A cartilaginous structure at the top of the trachea; contains elastic vocal cords that are the source of the vocal tone in speech."

When entertaining the public at Hobby Shows and similar, I quite often use the phrase "Meccano can build anything!". Well, that phrase is now a proven statement. This model has the five elements of a working larynx (three cartilages, support framework and the joints and muscles) and these were modelled to meet the requirements of the Speech and Language Students at Sheffield University. The model had to be anatomically correct as possible, simple to use and robust to take abuse and rough handling when "lets see what happens when this muscle contracts". A page of text, four poor quality pictures and a parts list gives you the Mark 1 version. A brilliant piece of Meccano modelling.

At the opposite end of the scale from being a medium of technical excellence lies the artistic bent and Meccano can be the subject of an entire exhibition with life size models made from giant size Meccano parts cut out of MDF painted in appropriate red, green or brass. A saloon car, based on the model in a prewar No 3 manual, is all yours for \$NZ\$8500!

Canadian MeccaNotes – June 2002.

Pick of the articles – 6" Butler Slotting Machine by Alf Dean and Joe Ethridge.

For those who like modelling machinery this will be a challenge. 8 pictures, 4 pages of text and 4 pages of line drawings sets out your mission should you decide to accept it. The intricacies of this model have been overcome by both the designer and rebuilder but is recommended as a model for the experienced modeller.

Constructor Quarterly – June 2002.

Pick of the articles – A Hand Tricycle with Rower by Bernard Perier.

I can marvel at the ingenuity and complexity of the larger models featured in CQ but my heart seems to lie with the smaller models which I can relate to. Bernard Perier's models appear regularly in CQ and to date are compact,

built from pristine parts and often with a little quirky touch. In this issue of CQ, Bernard has come up with a powered tricycle, shaft driven from a trailer, and a jointed driver who moves like a rowing sculler.

The model measures approx. 10" long plus another 5" for the trailer, then 8" high and 3 1/2" wide. The eleven full colour photos are crystal clear, large (up to half a page) and give an all round view of the model. Text instructions complete the 5 1/2 page article. The lack of a Parts list is a pity as I like to find out if there are any peculiar parts and what Meccano I may need to buy. Apart from the usual common Meccano parts, the following items were identified from the text: - Narrow Strips, 1 1/2" x 1 1/2" Flanged Plate, Double Angle Channel Strip, 15t Pinion, Swivel Bearings, Rubber Pulleys, Mini Rubber Collar Caps and Geared Motor 760/770.

The general principle is that the batteries drive the Motor in the trailer, which drives the shaft, which drives the back axle of the Tricycle, which drives the reciprocating handlebar rowing mechanism which drives the arms, body and head of the rower. The front wheel drives the legs of the rower back and forth. In my opinion, this model is a crowd stopper at any convention.

Second pick of the articles – The See-Saw Ride by John Machin.

Again this is a Meccano model builder article. The prototype does not exist in reality which makes this model even more unusual. John Machin describes the model as follows, "A car stands on a track, which is supported at each end by an outrigger bracket sliding up and down one leg of a gantry. When a start button is pressed, the brackets raise the track to the top of the gantry. After a pause, the right bracket drops three inches and the car runs to the right. Then the left bracket drops and the car runs to the left. Drops at right and left continue alternately, finishing so the car comes to a rest level with the starting platform on the left."

This is an open model with all mechanisms, etc on view, measures about 26" high, 31" wide and 10" deep, and has enough brass in the gear train to attract Dad and action in the model for Junior. Put some little L**gomen in the car and make them sick! There are 7 big colour photographs and text to fill 5 1/2 pages of article. For the electronically handicapped, there is an electrical circuit diagram, list of components and a description of what the circuit is doing. That is "1 - to start the motor and operate the electromagnet, 2 - to stop the hoist at the top, release the magnet and start the descent motor, and 3 - to ensure that at the end of the descent both ends of the track are grounded on the stops at the bottom of each gantry leg, and the camshaft is so positioned that the right-hand end of the track descends first.". No Parts list is supplied and a read of the text shows only a 7 1/2" Axle Rod, some 'hairclip' springs, a small electric motor, and the electrical circuit components as the peculiar parts needed.

A model which will need some careful modelling and a bit of electronic knowledge but will entertain well.

This issue of CQ has something for everybody from simple aeroplane models for your three year old to play with, some intricate models (gearboxes etc.), pendulums, history and ping pong ball module No. 3. A good issue.

Subscription rates, etc. from the Editor, NZFMM Magazine.

A Portable Engine

by Bruce Geange.

The Prototype

In the early nineteenth century, the need arose for shortening and improving the manual tasks in agriculture, particularly threshing. Portable Engines (hereafter engines) appeared at the Great Exhibition of 1851 and the Hornsby engine with enclosed cylinder over the firebox was judged the best. Engine efficiency increased and coal consumption per horsepower decreased over the next 25 years. However the increasing weight of the engines became a sore trial for the draught-horse teams by which the engines were moved. Apart from threshing work, engines drove corn-mills, centrifugal pumps, stone-crushers, dynamos, chaff-cutters and hay-balers. The flywheel of the engine carried a wide belt to drive the farm machinery.

The Model

This model is based on a generic single cylinder engine. The model includes most of the features of the prototype and requires prior experience in modelling with Meccano and care in assembly. Please view all the photographs and captions before building as various modules may appear more than once from different angles. If you require further photographs, refer to the "Additional Photographs" paragraph.

Photographs

All photographs are described as the stoker looks forward towards the chimney.

Picture 6 – Front cover colour photograph shows the engine from the right hand side.

Picture 6 – Black and White photograph shows the engine from the right hand side with all features identified by label and line.

Picture 9 – Rear of engine.

Picture 11 – Left side.

Picture 12 – Front.

Picture 15 – Top of rear.

Picture 16 – Top of front.

Picture 17 – Underneath.

Picture 18 – Underneath rear end looking into firebox.

Picture 22 – Inside front of boiler.

Picture 24 – Inside firebox.

Picture 92 – Crankshaft removed.

Picture 99 – Governor and cylinder module removed.

Picture 107 – Inside front of boiler with 2½" Double Angle Strip removed.

Picture 109 – Reduced MO Motor output shaft from inside boiler.

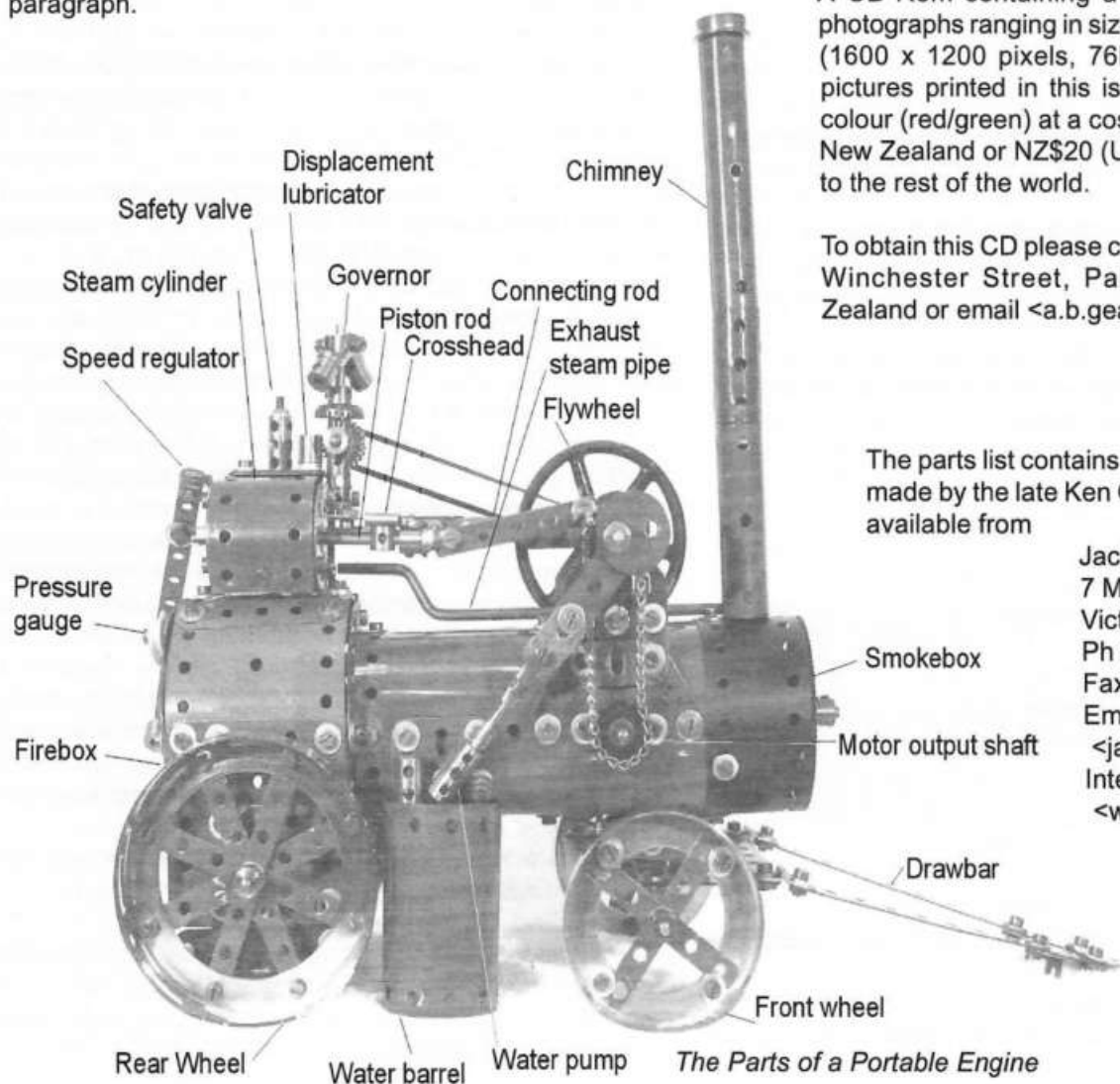
Picture 116 – Rear wheel removed.

Picture 117 – Front wheel, perch bracket and boiler.

Additional Photographs on CD-Rom

A CD-Rom containing a total of 50 jpg format photographs ranging in size from 650Kb to 1500Kb (1600 x 1200 pixels, 76Mb total, including the pictures printed in this issue) is available in full colour (red/green) at a cost of NZ\$10 post-paid in New Zealand or NZ\$20 (US\$10, UK£7) post-paid to the rest of the world.

To obtain this CD please contact Bruce Geange, 4 Winchester Street, Palmerston North, New Zealand or email <a.b.geange@inspire.net.nz>



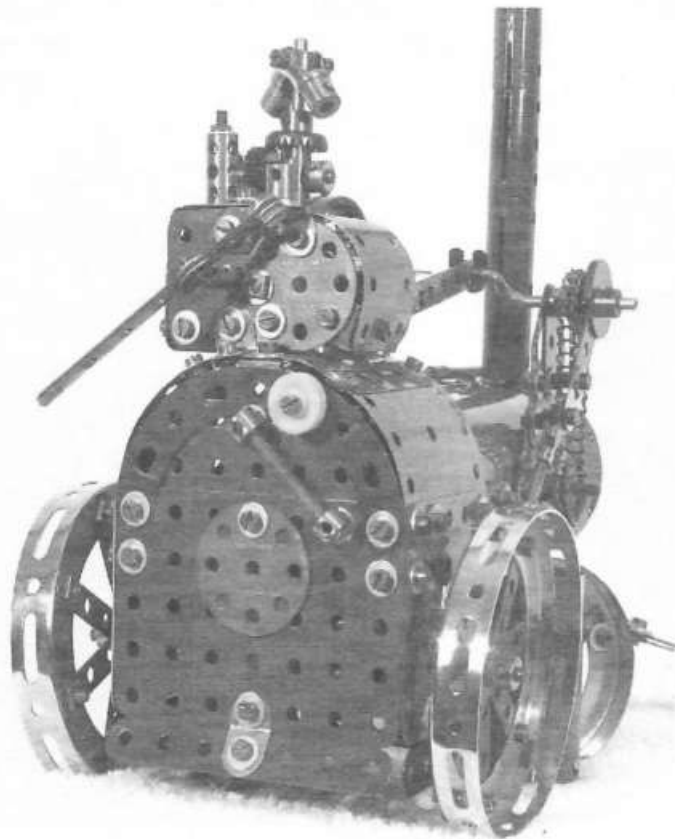
The parts list contains some parts which were made by the late Ken Gordon. These are now available from

Jack Parisson
7 Meerlu Ave., Frankston,
Victoria 3199, Australia.
Ph 9789 5796,
Fax 9785 9365.
Email:
<jackp@cavva.com.au>
Internet:
<www.meerlu.com.au/>

The Parts of a Portable Engine

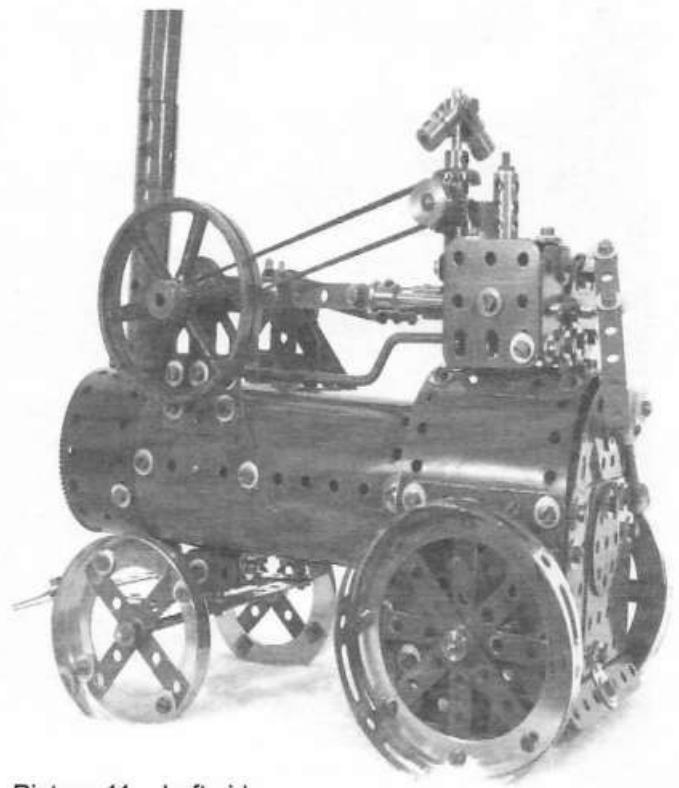
Parts List

Qty	P/N	Description	Qty	P/N	Description	Qty	P/N	Description
2	2	Perforated Strip 2"	149	37c	Nut	1	120b	Compression Spring
3	3	Perforated Strip 3 1/2"	173	38	Washer - various thickness	2	126	Trunnion
2	4	Perforated Strip 3"	1	38d	Washer 3/4"	2	126a	Flat Trunnion
2	5	Perforated Strip 2 1/2"	1	45	Double Bent Strip	2	130a	Eccentric Single Throw
1	6	Perforated Strip 2"	3	48	Double Angle Strip 1 1/2" x 1/2"	1	132	Flywheel
10	6a	Perforated Strip 1 1/2"	2	48a	Double Angle Strip 2 1/2" x 1/2"	2	134	Crank Shaft
5	10	Fishplate	2	48b	Double Angle Strip 3 1/2" x 1/2"	1	163	Sleeve Piece
1	11	Double Bracket 1/2" x 1/2"	1	48c	Double Angle Strip 4 1/2" x 1/2"	4	164	Chimney Adaptor
13	12	Angle Bracket 1/2" x 1/2"	1	50	Slide Piece	2	166	End Bearing
1	12a	Angle Bracket 1" x 1"	1	51	Flanged Plate 2 1/2" x 1 1/2"	2	179	Rod Socket
1	12c	Angle Bracket Obtuse	1	53	Flanged Plate 3 1/2" x 2 1/2"	1	187a	Conical Disc
2	14a	Axle Rod 5 1/2"	17	59	Collar	3	188	Flexible Plate 2 1/2" x 1 1/2"
1	15a	Axle Rod 4"	2	62b	Double Arm Crank	1	189	Flexible Plate 5 1/2" x 1 1/2"
3	16b	Axle Rod 3"	3	63	Coupling	5	192	Flexible Plate 5 1/2" x 2 1/2"
3	17	Axle Rod 2"	1	63c	Threaded Coupling	3	200	Curved Plate 2 1/2" x 2 1/2"
7	18a	Axle Rod 1 1/2"	2	63d	Short Coupling	2	212	Rod and Strip Connector
4	18b	Axle Rod 1"	4	64	Threaded Boss	1	212a	Rod and Strip Connector Right Angle
1	19h	Crank Handle 3 1/2"	4	72	Flat Plate 2 1/2" x 2 1/2"	7	235	Narrow Strip 2 1/2"
1	20a	Pulley 2"	1	77	Triangular Plate 1"	10	235b	Narrow Strip 3 1/2"
1	20b	Flanged Wheel 3/4"	1	82	Threaded Rod 1"	1	?	Coupling 5 Holes 1 5/16"
1	21	Pulley 1 1/2"	4	90a	Curved Strip Stepped 2 1/2"	3	?	Driving Bands various lengths
1	23	Pulley without boss plastic 1/2"	1	94	Sprocket Chain as required	1	?	Electric Switch normally closed bias
1	23a	Pulley with boss 1/2"	2	96a	Sprocket 3/4"	2	?	Flanged Ring 2 1/2" ex Ken Gordon
1	24	Bush Wheel	8	103h	Flat Girder 1 1/2"	2	?	Flanged Ring 3 1/2" ex Ken Gordon
2	24a	Wheel Disc	1	111	Bolt 3/4"	?	?	Grub Screw as required
1	25	Pinion 3/4" x 1/4"	9	111c	Bolt 3/8"	1	?	MO Motor French
1	27c	Gear Wheel 2 1/2"	1	111d	Bolt 1 1/8"	1	?	Pinion without boss 3/4" Diam. x 1/4" Face
2	29	Contrate Wheel 3/4"	2	114	Hinge	1	?	Pulley 3/8" from cricket ball motor
2	35	Spring Clip	2	116a	Fork Piece Small	1	?	Sleeve Piece 2 1/2" ex Ken Gordon
143	37b	Bolt				1	?	Sleeve Piece 3 1/2" ex Ken Gordon



Picture 9 – Rear of Engine.

This view shows from the ground up: damper, firebox door, water gauge glass, pressure gauge, cylinder and valve chest, speed regulator lever, governor and safety valve at the top.

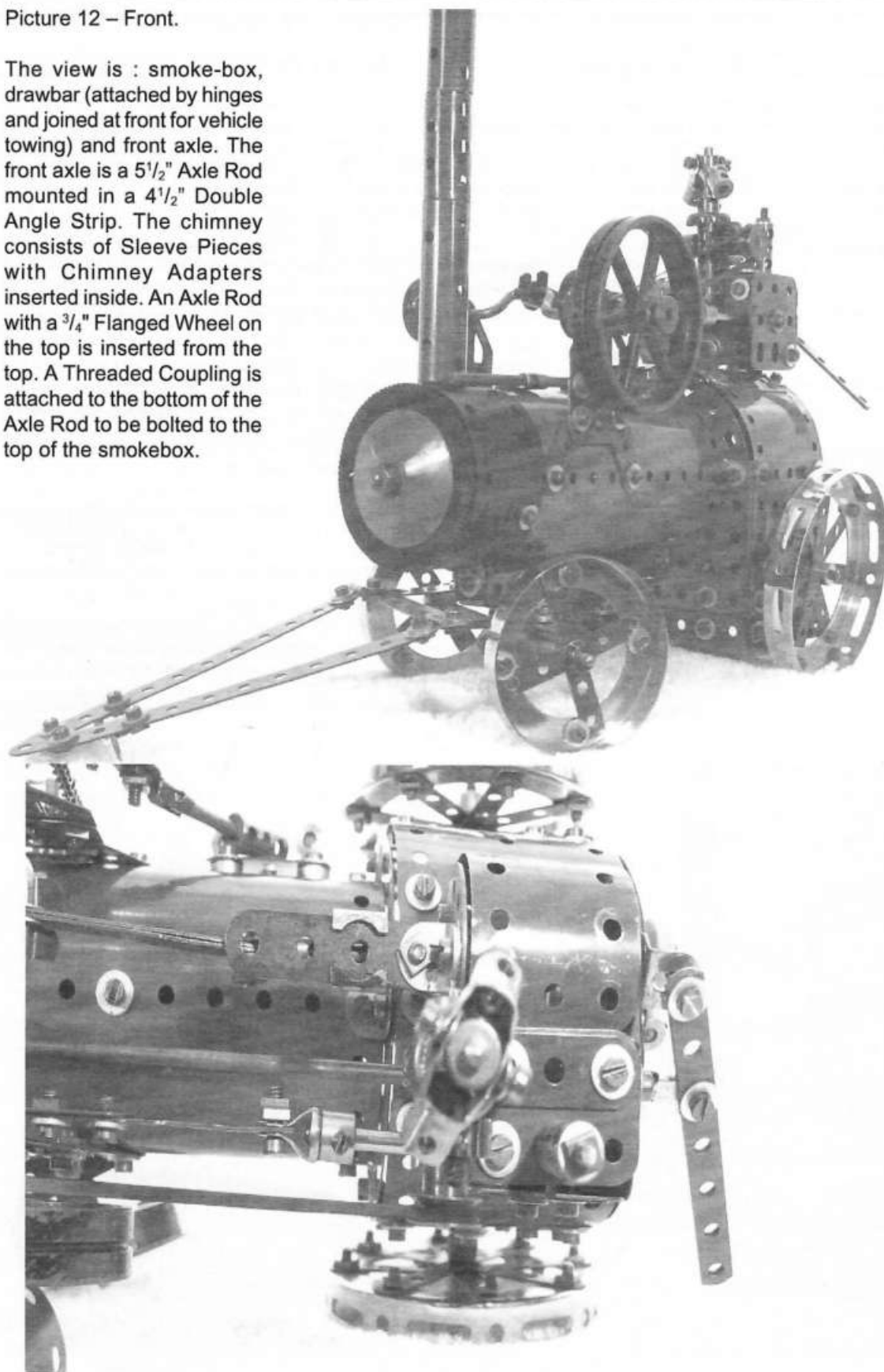


Picture 11 – Left side.

From right to left along top of the boiler: firebox with valve chest, exhaust steam pipe, flywheel mounted on crankshaft. The rear wheel is a 3 1/2" Flanged Ring with Narrow Strips as spokes. Front wheel is a 2 1/2" Flanged Ring with Narrow Strips as spokes clamped under Washers. Line up the spokes carefully as the centre hole is for the Axle Rod and Collars. The boiler barrel is four 5 1/2" x 2 1/2" Flexible Plates.

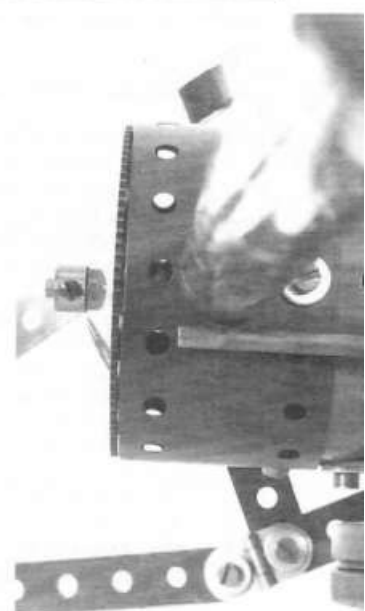
Picture 12 – Front.

The view is : smoke-box, drawbar (attached by hinges and joined at front for vehicle towing) and front axle. The front axle is a $5\frac{1}{2}$ " Axle Rod mounted in a $4\frac{1}{2}$ " Double Angle Strip. The chimney consists of Sleeve Pieces with Chimney Adapters inserted inside. An Axle Rod with a $\frac{3}{4}$ " Flanged Wheel on the top is inserted from the top. A Threaded Coupling is attached to the bottom of the Axle Rod to be bolted to the top of the smokebox.



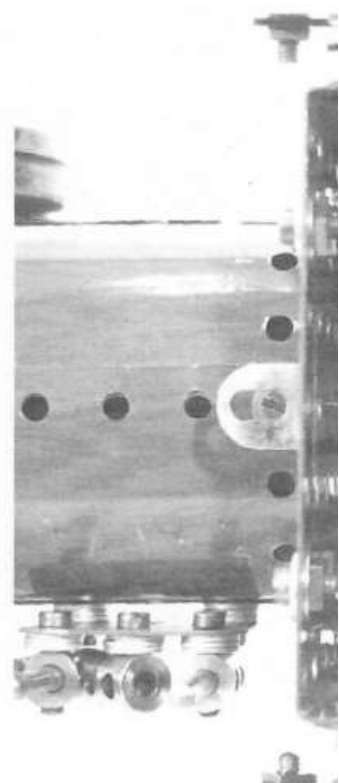
Picture 15 – Top of rear.

An aerial view of: rear wheel, flywheel, driving band from crank to governor, valve rod on eccentric from crank to valve chest, steam exhaust pipe, crosshead, connecting rod, motor output chain, eccentric and water pump and rear wheel. (see 0016). Also showing are the firebox, governor and boiler. The curved section of the firebox is three $2\frac{1}{2}$ " x $2\frac{1}{2}$ " Curved Flexible Plates. The speed regulator closes an electrical contact switch to make the MO Motor go (see Picture 99)



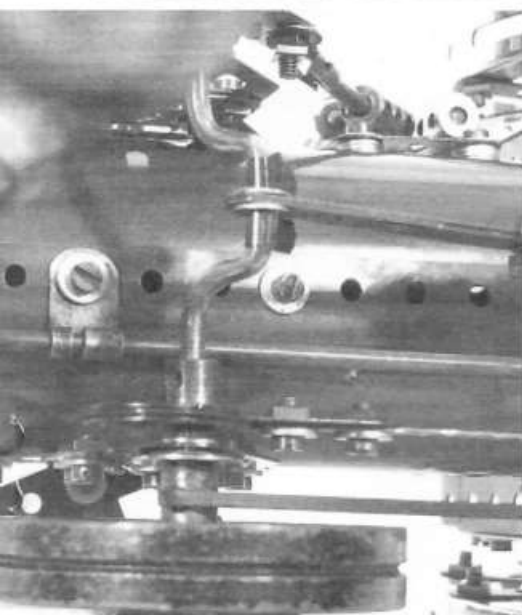
Picture 16 –

The top of the locomotive carries: Flywheel attached to Perforated Sleeve Eccentric (on rod (2 x 2" N attached to Perforated Sleeve driven by rear Eccentric for



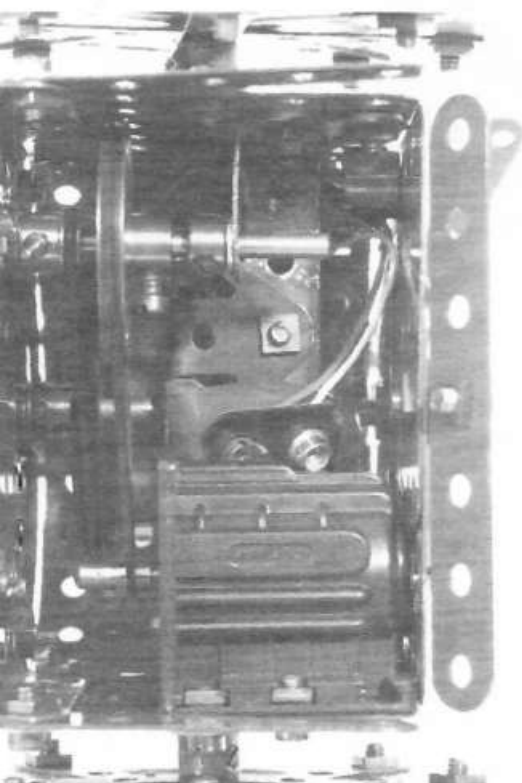
Picture 18 – Underneath rear end

MO Motor driving $1\frac{1}{2}$ " Pulley on 2" firebox and 1" x 1" Angle Bracket. Pulley. The $\frac{3}{8}$ " Pulley drives a 2" Pulley boiler. (see Picture 24).



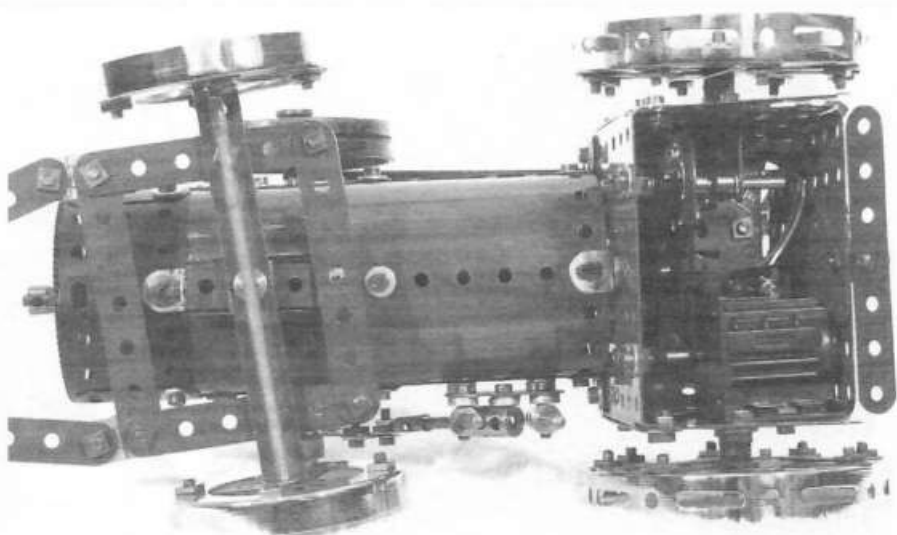
Top of front.

The chimney is out of focus. The Crankshaft wheel, driving band to governor, Flat Trunnion $1\frac{1}{2}$ " Flat Girder by round holes and $1\frac{1}{2}$ " Strip for additional bearing, $\frac{3}{4}$ " Washer, Single operates valve), Spring Clip, Washer, connecting Narrow Strips), Washer, Spring Clip, Trunnion $1\frac{1}{2}$ " Flat Girder by round holes and $1\frac{1}{2}$ " Strip for additional bearing, $\frac{3}{4}$ " Sprocket Wheel reduction gearing from MO Motor, and Single water pump drive.

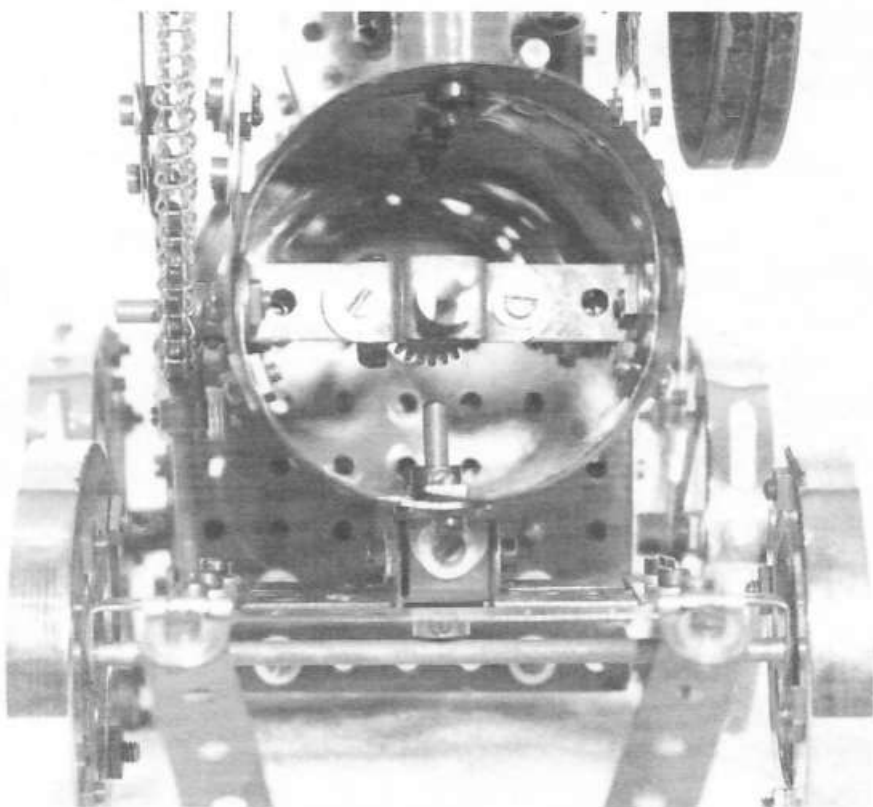


Looking into firebox.

2" Axle Rod which is supported on boiler end of The 2" Axle Rod also carries an E20 motor $\frac{3}{8}$ " Pulley on a $5\frac{1}{2}$ " Axle Rod down the centre of the

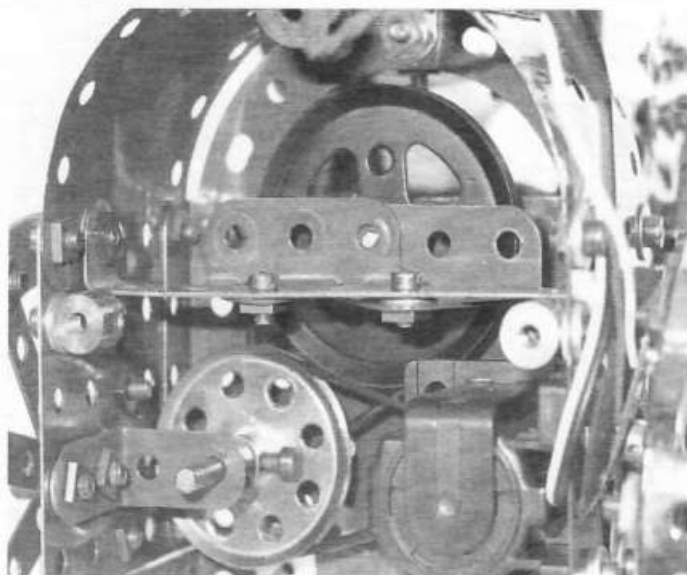


Picture 17 – Underneath. MO Motor with two stage reduction belt drive. Front steering axle and supports and perch bracket (holds front wheels module onto boiler).



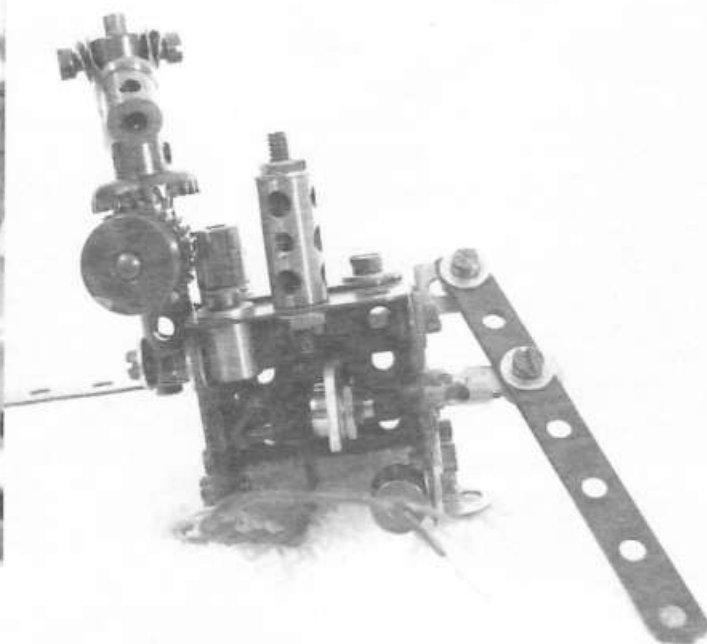
Picture 22 - Inside front of boiler.

A $2\frac{1}{2}$ " Double Angle Strip carries a Double Bent Strip which carries a Rod Socket which holds a 2" Axle Rod which holds the smoke box door in place. The $2\frac{1}{2}$ " Double Angle Strip supports the end of the $5\frac{1}{2}$ " Axle Rod from the reduction gearing at the firebox including the $\frac{3}{4}$ " Pinion. (see 0107 and 0109). Also showing is the front wheels module showing the Collar, Axle Rod, end of the perch bracket, and the securing Collar inside the boiler. Also the Axle Rod which carries the reduced motor output at right angles to the outside of the boiler to drive the Crankshaft and water pump by Sprocket Chain.



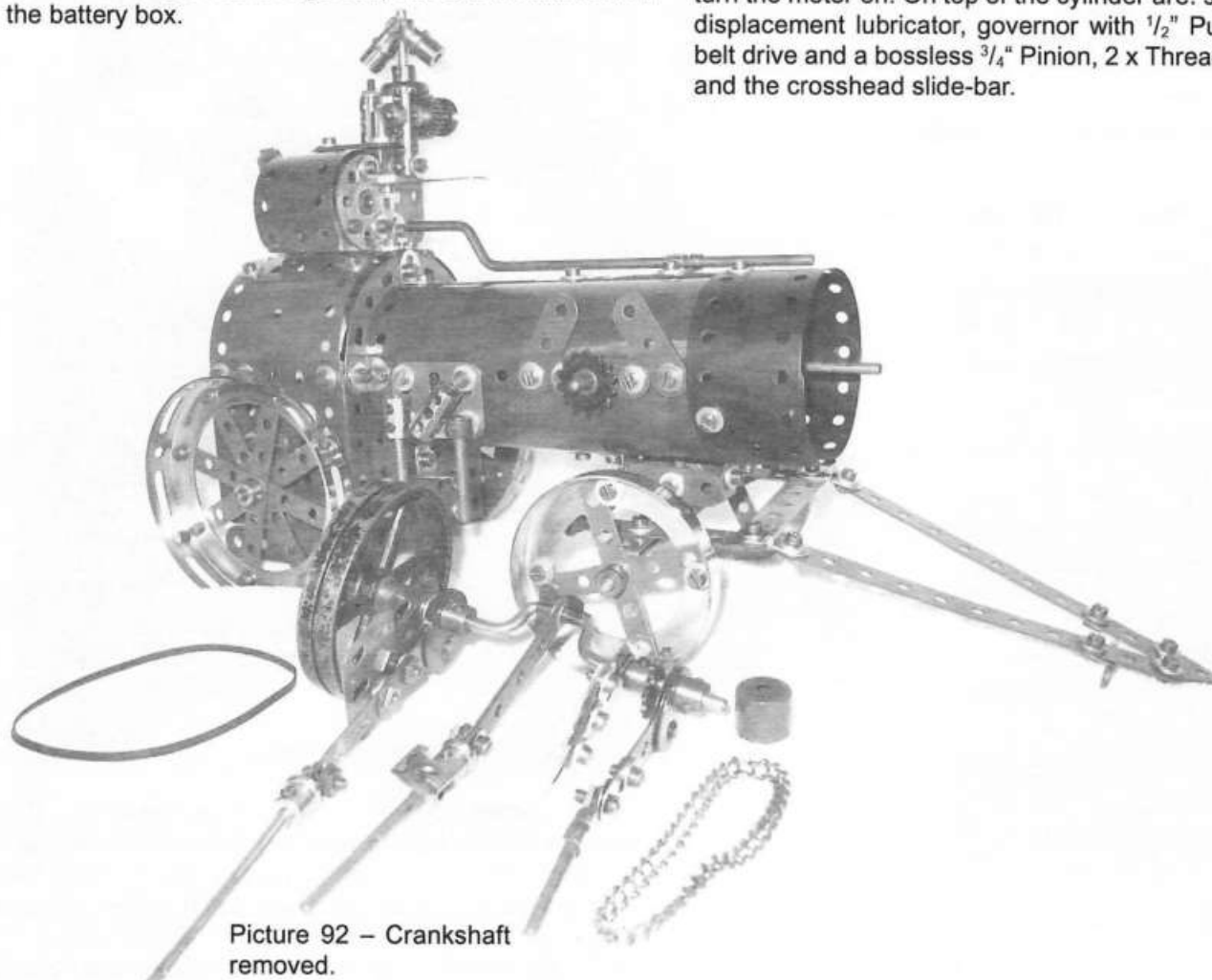
Picture 24 – Inside firebox (see Picture 18).

This is an end on view showing the MO Motor and reduction pulleys with the 2" Pulley driving a 5 1/2" Axle Rod down the centre of the Boiler. 2 x Threaded Bosses hold the firebox cover on. A 3 1/2" Double Angle Strip and two Trunnions hold the battery box.



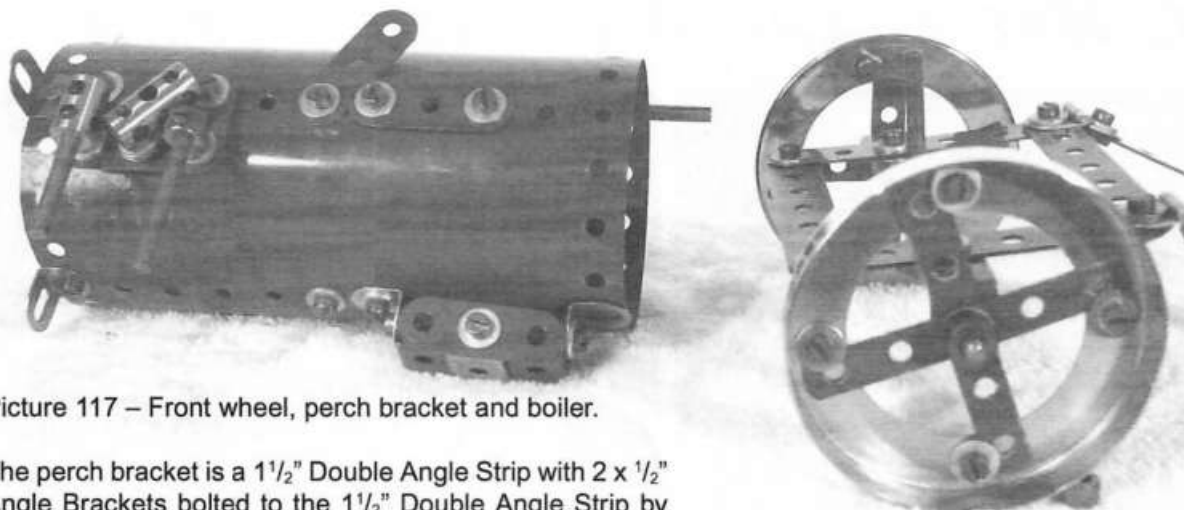
Picture 99 – Governor and cylinder module removed.

This module also contains an electrical switch operated by the speed regulator lever. Pull the speed regulator out to turn the motor on. On top of the cylinder are: safety valve, displacement lubricator, governor with 1/2" Pulley for the belt drive and a bossless 3/4" Pinion, 2 x Threaded Bosses and the crosshead slide-bar.



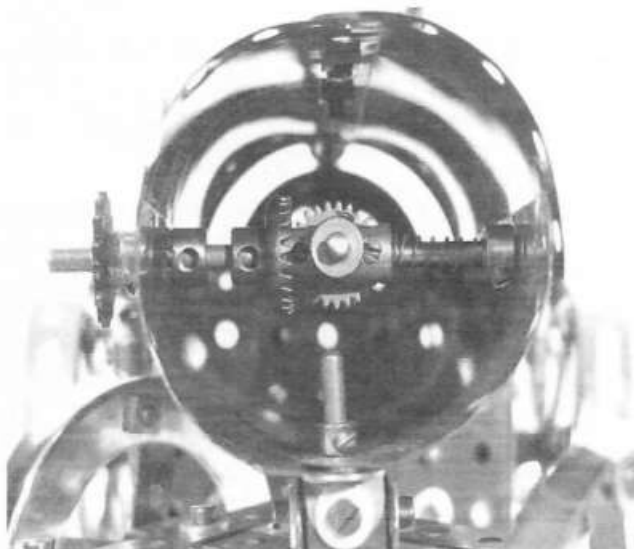
Picture 92 – Crankshaft removed.

See Picture 16 for layout of crankshaft. The smokebox uses one 5 1/2" x 1 1/2" Flexible Plate and two 2 1/2" x 1 1/2" Flexible Plates. The pump is mounted on a 1 1/2" flat Girder. This has mounted on the round holes a Short Coupling, Coupling on an angle, and a Collar. All are spaced out by three Washers. 1 1/2" Axle Rods are in the Short Coupling and the Collar.



Picture 117 – Front wheel, perch bracket and boiler.

The perch bracket is a $1\frac{1}{2}$ " Double Angle Strip with $2 \times \frac{1}{2}$ " Angle Brackets bolted to the $1\frac{1}{2}$ " Double Angle Strip by the round holes. The $\frac{1}{2}$ " Angle Brackets are eventually bolted to the boiler by their other holes. A $\frac{1}{2} \times \frac{1}{2}$ " Double Bracket has bolted to it a $1\frac{1}{2}$ " Strip on each side. The nuts fit under the $1\frac{1}{2}$ " Double Angle Strip which prevents the $\frac{1}{2} \times \frac{1}{2}$ " Double Bracket and attachments falling off but allows it to move backwards and forwards. The vertical Axle Rod of the front wheels module is inserted into the centre holes of the $\frac{1}{2} \times \frac{1}{2}$ " Double Bracket and $1\frac{1}{2}$ " Double Angle Strip and into the boiler and secured by a collar (see Picture 107).



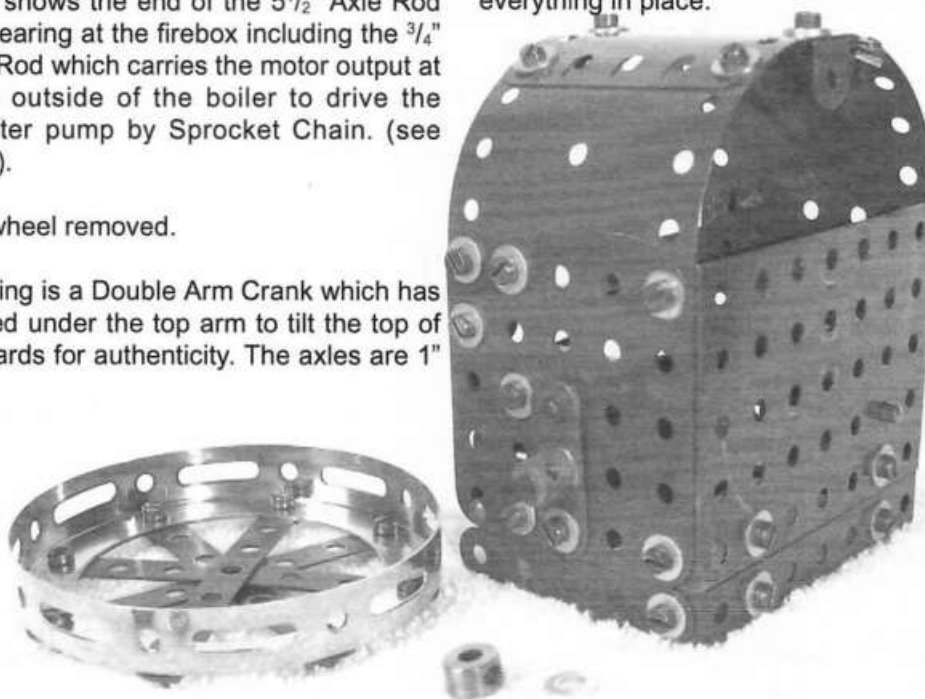
Picture 107 – Inside front of boiler with $2\frac{1}{2}$ " Double Angle Strip removed. This shows the end of the $5\frac{1}{2}$ " Axle Rod from the reduction gearing at the firebox including the $\frac{3}{4}$ " Pinion and the Axle Rod which carries the motor output at right angles to the outside of the boiler to drive the Crankshaft and water pump by Sprocket Chain. (see Pictures 22 and 109).



Picture 109 – Reduced MO Motor output shaft from inside boiler. From left to right. On a 2" Axle Rod is $\frac{3}{4}$ " Sprocket Wheel, Collar, $\frac{3}{4}$ " Contrate Wheel. Then on a $5\frac{1}{2}$ " Axle Rod, a Collar, Washer, Coupling, 2 x Washers and $\frac{3}{4}$ " Pinion. The 2" Pulley is from inside the firebox. Then on a 1" Axle Rod, a Compression Spring and Collar to hold everything in place.

Picture 116 – Rear wheel removed.

The rear wheel bearing is a Double Arm Crank which has two Washers inserted under the top arm to tilt the top of the rear wheel outwards for authenticity. The axles are 1" Axle Rods.



Photographs by Bruce Neilson using Canon G2 digital camera Pictures on CD-Rom as listed above.

Some Non-MECCANO Sets - Part 3

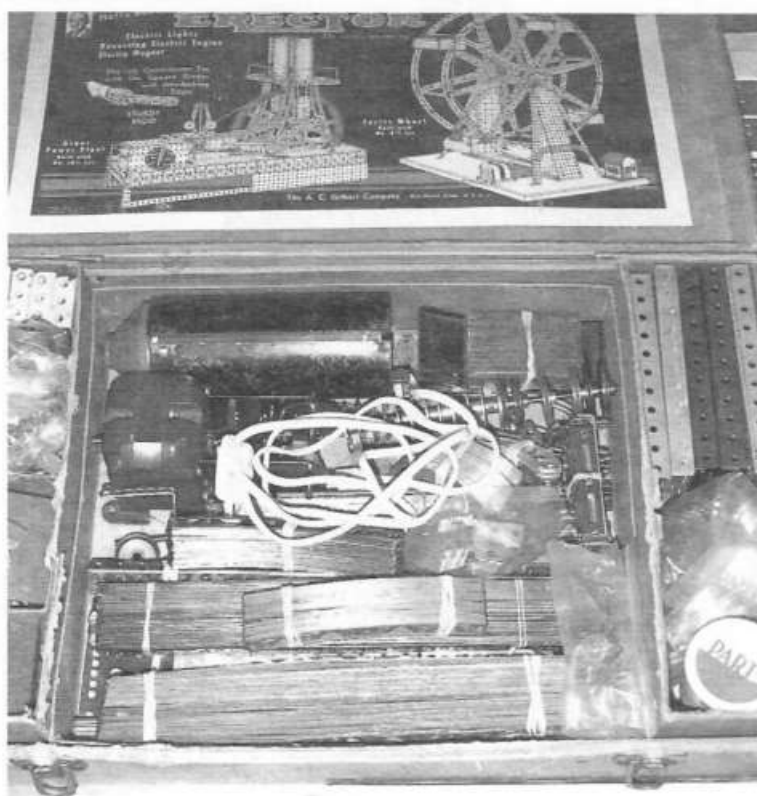


Constructo was probably made by Merkur. It comes from Canada and was manufactured from 1975 until the 1990s. As the holes are 3.8mm diameter and are spaced at 10mm, this product is not compatible with Meccano.



Dan Dare Rocket Builder

The **Dan Dare** sets which appeared in the 1950s were made in England. The sets focused on Space Models. The holes were 4.0mm diameter and occurred at 12.7mm, 25.4mm and 38mm spaces.



Erector Set 8.5

This large **Erector** set is one of many produced by Gilbert in the United States of America between 1915 and about 1999. Because of the similarity with Meccano, the company was in its early days subjected to claims of copyright infringement. Dimensions are the same as Meccano. In recent years the trademark has been acquired by Meccano and these products have been marketed in USA as Erector.

The sets illustrated on this page are from the Don Blakeborough collection; the photographs are by Daryl Anderson.

**BACK IN OUR STORES:**

After a break of many months, Meccano has re-appeared in Toy World stores. They have a good selection of 'City' and 'Multi-Model' series sets, but no sign yet of the 'Crazy Inventors' series. Here are some of the current prices:- Set 9550, \$199.99 (two years ago this one was \$169.99); Set

8540, \$129.99; Set 7530, 99.99; Initiation sets - 2511, \$17.99; 1100/1/2, \$14.99.

QUOTATION:

The shop-floor space at Datong is immense, with more than 20 workshops - steel forgings and pressings, boilers, fireboxes, coupling and connecting rods, chimneys and those magnificent red wheels (more Bulleid than Riddles). To my untrained eye the works had the appearance of giant Meccano sets with a variety of metal objects scattered seemingly at random around the place. Yet there was no suggestion of muddle - just lots of metal.

(from "To China for Steam" by Robert Adley, Blandford Press, 1983). (Thanks to Doug Harris for this).

BRIDGES PLUS: Chris Burden is an American artist who specialises in building huge models of famous bridges from Meccano and Erector parts. One such model of Hells Gate Bridge in New York, USA, was 29 ft. long and 6½ ft. tall. His latest, of the Tyne Bridge in north-east England, has been on display in the UK.

SUB-CONSCIOUS AT WORK: One evening, before bedtime, I was browsing through some Meccano Club magazines. I spotted a headline - "Sprocket Chain - should the hooks be inside?" and decided to read the article next day. So, next morning I went through the heap of magazines (twice) before I realised there was no such article. During the night I had dreamed it.

SACKED BY F.H.: Elliston Hawkes' spell as Editor of Meccano Magazine (1924-1932) ended suddenly when he was dismissed by Frank Hornby for running a photographic business on the other side of Liverpool when he should have been at his desk in Binns Road. (Bert Love in WLMS newsletter, Dec., 1988).

HAROLD WILSON, later to be Britain's Prime Minister, was Secretary of the Huddersfield Meccano Club when he was 10 years old.

MODELS (NZ) LTD., 1974: In an interview for "Family Circle" magazine, Models Ltd's Sales Manager, Don Scotts, said the Pocket Meccano set at \$2.45 included enough parts to build over 1000 models (that's what the article said !!).

WHAT'S IN A NAME: Jack Parsisson's parts are marked "Jackano". Fair enough !

AT DICK SMITH IN OZ: On 'Spanner', Dave Denner advises from Melbourne that these sets were listed on Dick Smith's web site in July:- Crazy Inventors Helicopter \$A 49.50; Steam Boat \$A 69.50; Airship \$A 79.50; Motion System Set 20 \$A 43.50; Set 30 \$A 69.50; Set 40 \$A 99.50; Set 50 \$A 149.50.

QUOTATION:

The tower blocks were made from pre-fabricated concrete sections bolted to a Meccano-like steel structure.
(from "Trial and Retribution" by Lynda la Plante).

THE JONES SEWING MACHINE: One of Meccano Limited's diversions was the Jones Meccano Sewing Machine. It was a neat, hand-operated item which is now rare. It reportedly worked well and looked very nice in its contoured white case. One has been sold on eBay auctions for about \$NZ130.

HORNBY TRAINS DO WELL: Hornby Trains Ltd., based in southern England, reported a rise in sales, and turnover in excess of £24m for its June 2001 year.

THE VERY FIRST MECCANO?: Patrick Broxham, on 'Spanner' points out that in his book "The Conquest of Gaul", Julius Caesar mentions a siege engine which came in what we would now call a 'flat pack', ready for assembly on site. And that was in 55 BC.

LIKE A FLYING BOAT: On Radio NZ's "Sounds Historical" programme, June 23rd, there was a piece about the 'Aotearoa' flying boat which flew TEAL's trans-Tasman air service over 60 years ago. The commentator likened the aircraft to a very intricate Meccano model, although many, many times larger.

STRANGE FACTS: Elephants are the only animals with four knees. Bamboo can grow four ft. in 24 hours. Every citizen of Kentucky, USA, is required by law to take a bath once a year. About 87 million people have the surname Li, the most common in the world.

What Readers Think

Origins of Names

Having just perused a copy of Jim Gamble's book "Frank Hornby - Notes and Pictures", I was pleasantly surprised to discover that Frank Hornby and I share a birthday on 2nd May. It might explain my intense interest in all things Meccano!

This book is a wealth of information, amongst which are new insights into the origin of the word Meccano. According to Ernest Beardsley, who joined the business in the early 1900s, Meccano was derived from the phrase "make and know". Frank Hornby is quoted as saying "I decided on the name because it was one that people of every nationality could pronounce".

The most likely origin of the name "Dinky Toys" is attributed to Una Hornby, Frank's daughter-in-law, who remarked "they're dinky little things" when shown some of them.

William Irwin, Auckland.

BEGINNER'S LUCK

as experienced by Brian Taylor

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The manner by which my loving wife introduced her newly disabled spouse to the hobby of writing may be likened to a non-swimmer being forced to walk the plank.

"The Parish News editor requests contributions of general interest to readers, so I've told him that you'll write something for this month's issue; it doesn't have to be a religious topic, it could be on any work-a-day subject."

"Why me? I'm no writer. Apart from business letters I've written nothing since my schooldays."

She ignored my protests and excuses, each futile squirm countered by tweaking the screws.

"Now you're home all day, writing will occupy your mind. You've 10 days. It's ample time to write something, and have it ready for me to hand to him, Wednesday week."

Made up for me, my mind became fully occupied seeking a topic. Writer's block? I'd never heard of it, but I now recognise its symptoms; in fact, unwittingly I've suffered from it since schooldays. Our English teacher had a mania for setting drier-than-dust composition subjects; not the ideal rooting compound for propagating young writing talents. In retrospect, blockages flourished like weeds. Little wonder we were overwhelmed when a stand-in teacher let us choose our own 'compo' subject. To encourage us, topics were suggested such as: My pet, My bike, My holiday, My favourite toy, and many others. I readily recalled writing about my favourite toy – Meccano.

Bingo! Why not use Meccano as a Parish News topic? If it prompted vivid memories for me, it may interest the readers of Parish News, too. Side issues sprang to mind, sparked by events associated with particular models. As a topic, "Meccano's Magic" would write itself. Seated in a wheelchair, oblivious to all but memories, I stabbed an old typewriter's haphazard keyboard. Editor's needs? - You must be joking! I now realise my sins; every page crammed with type, single-spaced and narrow margined. Polished? Spell checked? Word counted? I doubt if time would have allowed for any of them, even if I'd known about such things.

Having beaten the deadline by a whisker, I passed the sheaf to my wife and sensed both her relief and anxiety.

"I knew you could do it, but my goodness! - He asked for a 'piece' and this is a book! It'll be a shame if he can't use it."

My ego did a double somersault when I found that "Meccano's Magic" would be serialised in four issues.

Behind the scenes and unbeknown to me, the editor told my wife that he considered it worthy of a wider readership and had submitted it to the local newspaper's editor. That led to their secret being blown when the local paper requested my photo. Thus "Meccano's Magic", illustrated with views of Meccano components and models, plus a

photo of the author, occupied one-and-a-half 'broad-sheet' size pages of the local paper's Saturday issue.

Months later, the newspaper sprang another surprise; a cheque pinned to a memo, which read:

'In settlement of an outstanding account'.

From writer's block to a pay-cheque for a 'piece' that I had not submitted? - What better fillip for one's ego than a stroke of 'Beginner's Luck'!

I now return to the morning of that Saturday paper. When I responded to the door bell, a total stranger explained that he was on his way to stay with friends and with them, spend the week-end browsing round a 'Meccano Bring & Buy' meeting. Having read the Meccano article, he chose to break his journey and call on me. Placing his trust in me (an equally complete stranger, in his eyes), the enthusiast left a large parcel of his collector's items in my safe keeping so that I could have a good read and have them ready for him to collect on his way home the following evening. That parcel included copies of 'Meccano Magazine' that I readily recalled reading as a youngster, way back in the 1920s and '30s. One copy contained a fully illustrated account of an electrically operated, accurately scaled working Meccano model of a Scammell transporter, complete with a huge girder. The object being to prove that the vehicle and its load could negotiate the proposed route through London's streets, from a railway siding to the site of the Dorchester (?) hotel, then under construction.

The superb model was used in conjunction with a large and equally accurate scale map, equipped with 'solid block' replicas marking the positions of all the obstructions.

Another of the enthusiast's treasured items was a near-mint edition of the book outlining Frank Hornby's life story. The hefty volume explained how he hit on the idea of keeping his sons out of mischief for days - even weeks - on end, by providing them with a toy they could dismantle and rebuild in seemingly endless versions.

The desperate years of WW II saw all my well-read yet well-preserved copies of Meccano Magazine fall victims of wartime's 'paper-collection-drives'. Those stacks of Meccano Magazines, each copy of which displayed a cover price of 6d (7.5cents NZ\$), would today be regarded as much-sought-after collector's items, each promptly snapped up by enthusiasts ready and willing to convert cash into memorabilia.

The Reader's Letters page of the local paper subsequently revealed that many readers held vivid memories of models they built with their 'Meccano sets'. One lady wrote to say that her two big brothers elected her as their 'picker-up' due to her being small enough to stand under the table and spot the bits they dropped.

Just a few treasured memories of happy days in a by-gone era.

The article Meccano Weaves its Magic will be published in the October NZFMM magazine.

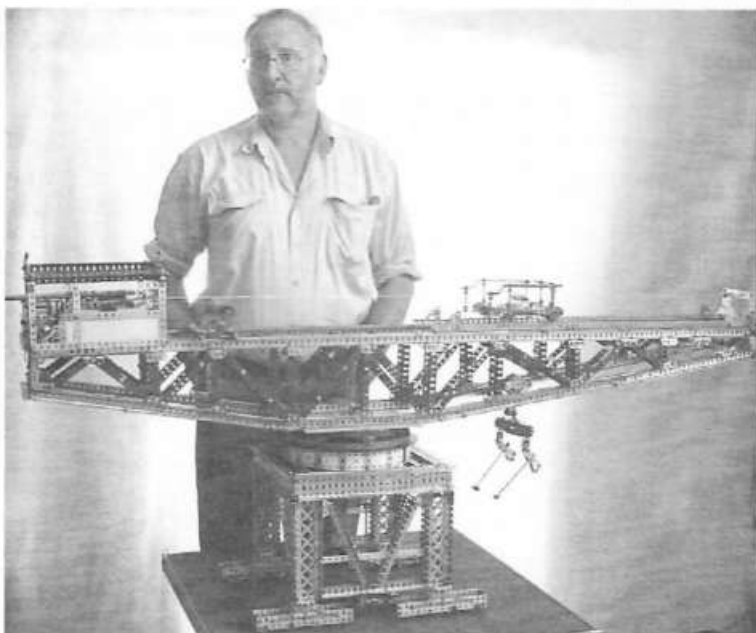
Auckland Meccano Club Meeting Report May 2002

Reporter: Peter Hancock

The autumn meeting of the club was held at 2.00pm Saturday 11th of May at the residence of Peter and Jan Hancock, 1 Orangewood Drive, Northpark, Howick, Auckland.

We were blessed with a beautiful sunny afternoon which meant that members could move outside which was just as well as the theme for this meeting was steam engines as they applied to Meccano and other oddities. Being in the fresh air enabled some of the more obnoxious smells to dissipate quickly. A number of the engines were fired up with some really humming along while others were a little more inclined to spit and splutter along. It was a great display and it certainly enabled members to have a much better appreciation of the variety of steam engines used by Meccano formally as well as being able to view those steam engines that members have modified to power their favourite Meccano models.

We were pleased to have Simon Moody as our guest for the meeting. Simon brought along the two speed constant speed gearbox out of the tractor that he had featured in the Wellington Meccano Club Challenge with the MWT Meccano Club recently. It had obviously been a great challenge and event. Bruce Haines displayed a book on Caterpillar products that he uses as inspiration along with a very interesting book on Steam in Miniature. Mike Walmsley had the biggest and possibly the grandest model on display being a Block Setter Crane that he has been working on for some time and is now about 98% complete.



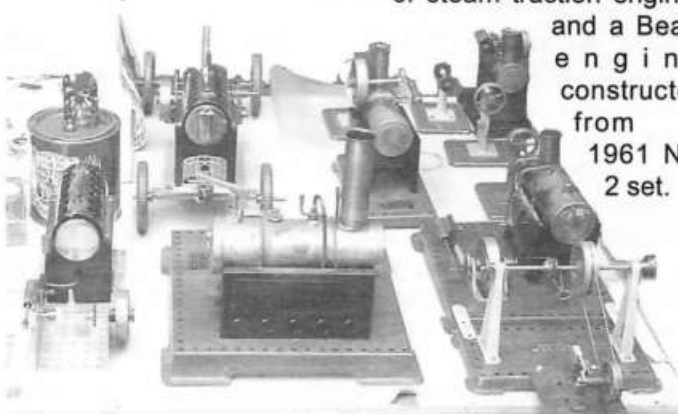
Don Stuart displayed some old Meccano manuals while John Denton powered up several of the steam engines he had on display which included a Wileco, a small Mamod engine of 1950 to 1960 vintage and a Meccano Mamod engine built into a bulldozer. Mike Geary showed off his modified New Zealand made Cranko Steam Engine, which was busily driving a 'Small Machine Shop' through a series of pulleys and belts. George Ovenden did not contribute to

the pollution as a magic motor economically powered his model of a 'Simple Horizontal Steam Engine'.

David Wall has a real passion for models of steam powered locomotives and appeared with yet another of his superb models.

Graeme Wrightson and son Kegan showed off a steam car powered by a Meccano SP3 steam engine, two different versions of miniature steam rollers, two different versions

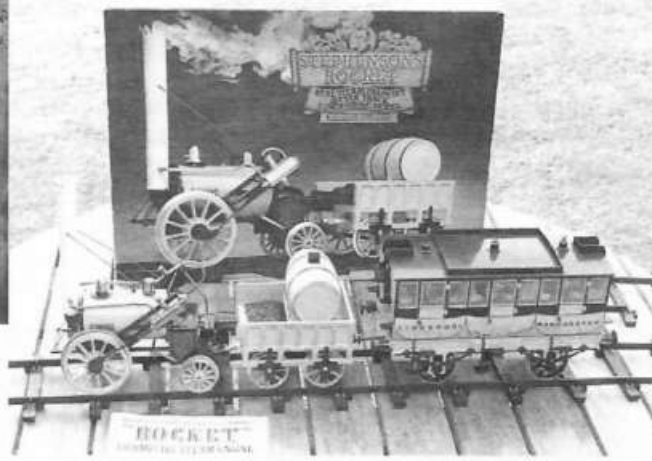
of steam traction engines and a Beam engine constructed from a 1961 No. 2 set.



William Irwin demonstrated a special theme set based on Stephenson's Rocket steam locomotive, which was really something to see. The way that it is built and set up to run on propane gas was very interesting. William had recently received one of the new French sets being the Hot Air Balloon. This drew a variety of comments from members. This meeting with its member and visitor attendance of 19 and accompanying wives was the largest Auckland Club meeting for several years and was a great event.

The business section of the meeting discussed the upcoming display that David Wall and Peter Hancock were going to mount at the Hamilton AMP Show. David will spend some time manning the stand over the four days that the show will run.

The details of the display to be mounted at Model X during Queens Birthday weekend along with the manning schedule was finalised and after a great afternoon tea and some further relaxing discussion the meeting broke up some time after 5 o'clock with all very satisfied with the event.



Correction

William Irwin points out that there was a small glitch in the Model X write-up in the June magazine. The picture labelled as Bruce Haines' mini models was actually of small models by John Denton. The Editor apologises.

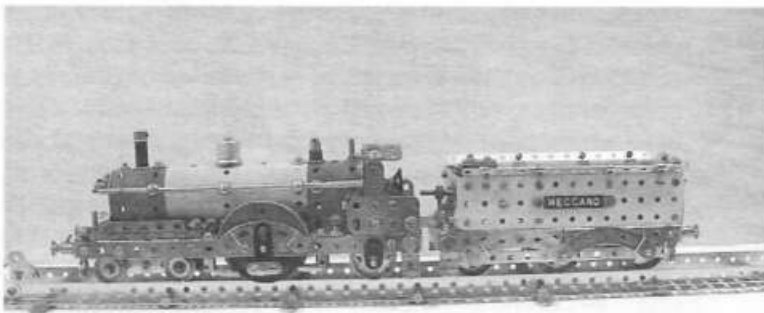
Auckland Meccano Club Meeting Report August 2002

Reporter: Peter Hancock

The mid winter meeting of the club was held at 2.00pm Saturday 10th of August at the residence of Neil and Eileen Carey, 23 Eaton Road, Hillsborough.

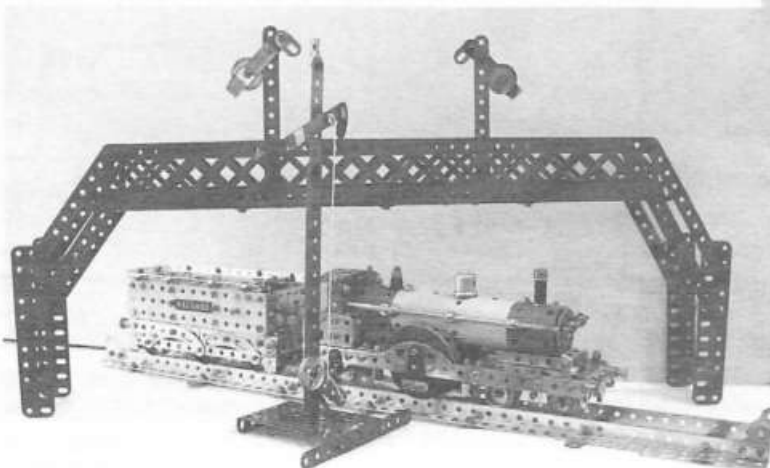
It was a crisp winter afternoon but the colder than normal temperatures did not deter thirteen club members and eight wives from coming out. The gathering included two young members, which is really great and gives us some heart for the future of the hobby. While there were fewer models available for display the quality of those that were on show along with the special items that William Irwin, Neil Carey and Doug Harris had available for inspection, more than made up for the reduced quantity and were the source of much comment.

As usual, members minutely scrutinised the models that were on display and made various comments with some being helpful and some not so helpful but all taken in good humour.



David Wall had a railway locomotive on display and as always it was well crafted. John Denton had a trotter and a clockwork buggy on display and we understand that the buggy which is built around a No. 1 clockwork motor needs a good deal of room to function in. As floor space was limited at the meeting we were unable to see what it was really capable of.

Graeme and young son Kegan Wrightson displayed a railway footbridge complete with signals along with a signal standard complete with the Meccano signal arm. A cargo



wagon-loading crane based on a 1920s model plan completed the set-up and when these were coupled with David's locomotive really looked the part.

Doug Harris had a very old 1906 set D of Mechanics Made



Easy on display. Doug has a great nose for sniffing out the real special and rare items much to our general envy. Come to think of it, he did not go too far from it all meeting. This set was in remarkably good condition given its age and it is still in its original wooden case. What a find. Some of the parts are showing real signs of corrosion but it was really great to be able to handle these early parts and marvel as to how later parts evolved from them. I am sure that Doug will work on the preservation and conservation of this set and we hope that it can be displayed to a wider gathering of modellers in the future.

William Irwin had some genuine Meccano weights



both 50 and 25 gram to display. Along with these William had brought the appropriate pages from Don Blakeborough's Encyclopaedia of Meccano Parts (EMP) to compare against. Several of the weights were in pristine condition while some from a different batch with different metallurgy make-up were quite corroded. William had carried out some restoration on several of the corroded pieces with some success. All of the pieces were well branded. Some slight differences noted on several of the weights

that were slightly at variance with the EMP drawings.

Neil Carey had forgotten to bring his steam engine display to the last Club meeting so had examples of his collection on display this time. The pride of Neil's collection is a vertical Meccano steam engine vintage 1914 in beautiful order. A good deal of envy was displayed by some of us over this item.



Mike Geary showed off his examples of Meccano circles, hexagons and octagons, which he assures us will appear as an article in the magazine shortly. A most interesting display backed up by an excellent paper.

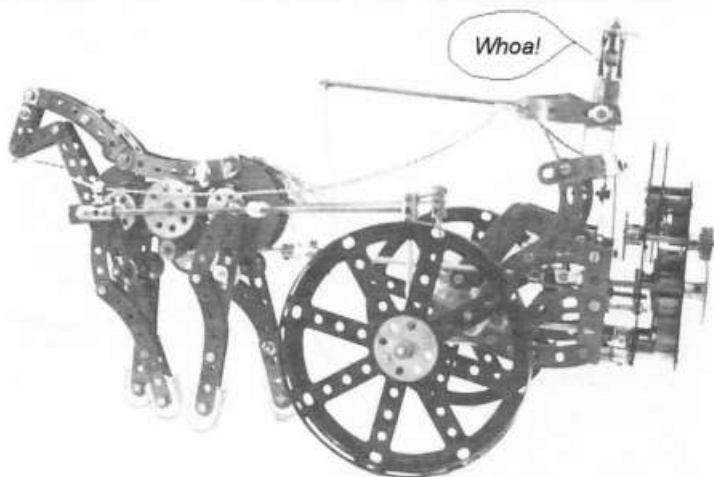
Copies of volume one and two of the history of Meccano Literature compiled by Bruce Neilson were on display and were the source of some interesting discussion.

Doug had brought along a number of pre-1940 Meccano Magazines and these were given a thorough going over. Where does he find them all?

The meeting then considered several pieces of mail that had been received regarding the possibility of us mounting displays at Papatoetoe in September 2002 and Tauranga in February 2003. Some discussion about the Hawera Convention, which is sneaking up on us all.

A very enjoyable afternoon tea was then served and sadly the meeting drew to a close with members all noting how cold Auckland can get in the middle of winter as we left the warmth of the Carey household.

Photos on pages 21, 22 & 23 are by Peter Hancock



This trotter and buggy was built by John Denton but lack of space in the Carey household prevented the exhibit being demonstrated.

The next meeting of the Auckland Meccano Club is scheduled for Saturday, November the 9th, beginning at 2.00pm at the home of George and Joan Ovenden, 19 Richards Avenue Milford, North Shore Auckland.

Low and Cunning Dodges for Meccanomen

(Culled from all over the place, all the ones tried, worked)
by Peter King

PK1 - Use synthetic rubber / plastic insulation foam intended for insulation of 12mm copper pipe as a filler / tube for ashtray tyres. Length is diameter halfway between inner / outer diameters multiplied by pi. Glue the ends together with superglue and fit into the tyre.

PK2 - Galvanised wire of the type commonly used to bond flooring sleepers to concrete piles is usually 8 gauge (0.1600") and often straight! Alas, it is not as hard as genuine Meccano Axle Rod. (Ed. An alternative is 4mm (0.1575") silver steel. It is hard and straight.

PK3 - Check out your local Dick Smith store for replicas of Meccano Electrikits and Electronic parts.

PK4 - Check out your local car spares shop for polyurethane spray paint. Often there are perfect matches for Meccano colours and much harder wearing than the original enamel.

PK5 - Use synthetic rubber O rings as Driving Bands.

PK6 - Take your old Nuts, Bolts, and Washers into the local metal platers and get them barrel plated with the appropriate finish. Any other brass or nickel plate parts can be re-done the same way.

PK7 - A visit to the local nut and bolt shop will usually produce perfect replicas of nickel-plated Meccano Nuts, Bolts, and Washers.

PK8 - A very useful stainless steel ball will usually be found in an empty spray paint can.

The Story of the Junior Engineers' Club

by Graeme Wrightson, Auckland Meccano Club

In recent years there has been a lot of discussion in Meccano clubs both within NZ and overseas lamenting the lack of young members involved in our hobby. Indeed this goes even further with a general lack of interest in technology and science at schools, universities and technical institutes and the resulting chronic shortage of technicians, engineers and scientists. "Science is not cool" they say!

However, I did find it hard to believe that this was true for all children and young adults. At our Meccano displays there is always a high degree of interest in our hobby from young and old alike. Additionally my own son, Kegan (now age nine), and his friends have always been interested in finding out how things work and building models. These are generally made with K'Nex which is readily available, although Kegan also has Meccano.



This interest from the boys suggested that a club like the Meccano Guild could provide the necessary encouragement. But there is no Guild and, even worse of course, is that there is very little Meccano available, there



is no advertising and a whole generation (or two) has never even heard of it! Because of this, any such club could not be restricted to Meccano but, while still following engineering principles, needed to be open to any modelling system, including K'Nex and Lego-Technic.

The Meccano Guild had to be reinvented. So how was this done? Well, first, at a local Meccano display I asked for initial interest with a small flyer. I had about a dozen replies. I then got involved with a modellers' club at the school for four weeks. The club was full with twenty children. Following this, I worked out a basic structure, booked a room at the local community centre (\$15 for two hours so it's low-cost), put some flyers around the local model shops and advertised (free) in the community newspapers. I had offers of help from Peter Hancock and Chris Sullivan (Auckland Meccano Club) and with a couple of mothers we were ready to go. But what would happen? Our very first meeting was held in August 2000 and we had just seven children that night. By October the numbers had increased to more than thirty children - the place was overflowing and we couldn't move!!

The club has now been going for two years. Our numbers have settled down to about twenty children (ages 6 to 12) at our meetings and the club is a success. It is not a Meccano Club but some boys have Meccano and Meccano is featured at each session. Meetings are held monthly except over summer and there is usually a project sheet or special display each month. We have built cars, cranes, a cable car and steam engines and we have looked at engines, model railways and bicycles. The next challenge is to encourage more use of Meccano.

But is there more to come? Perhaps we could have a chain of Junior Engineers' Clubs? Does anyone want to have a go?

Photos by Peter Hancock



MWTT MECCANO CLUB

Meeting Report for 10 August 2002

by Bruce Neilson
Photographs by Daryl
Anderson

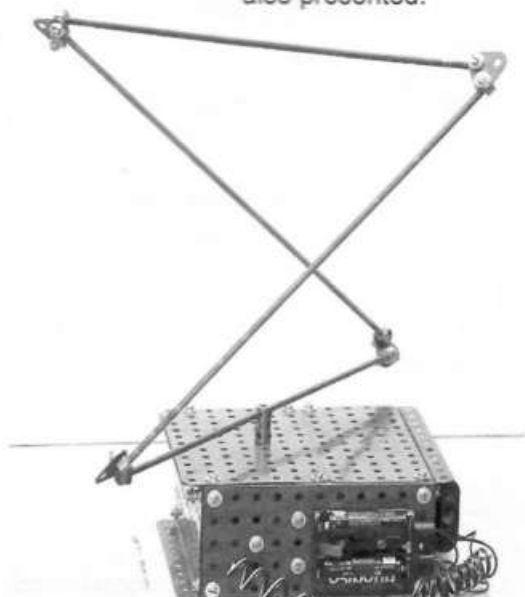
From the business side
at the AGM, Tom

Pittams continues as Chairman, John Hansen takes on the Sec/Treas. and Bruce Neilson moves sideways to model writeups.

The antique subject was special parts for the Meccano Loom; we managed to assemble Reed Hooks, two lengths of Healds, three varieties of Shuttles, 50 and 25 gram weights, and rollers in plain wood and with fine and coarse holes in tinplate covers.

The meeting model was a Rotary Hoe and five members rose to the challenge and presented varieties which ranged from the hand push variety to a motorised Howard Bullfinch tiller. Even a "Rotary Oh!" was displayed with a silhouette screen to demonstrate the changing appearance of the assembly of rods as the figure rotated.

A variety of other models (a picture = 1000 words) were also presented.



John Ince's Rotary Oh!

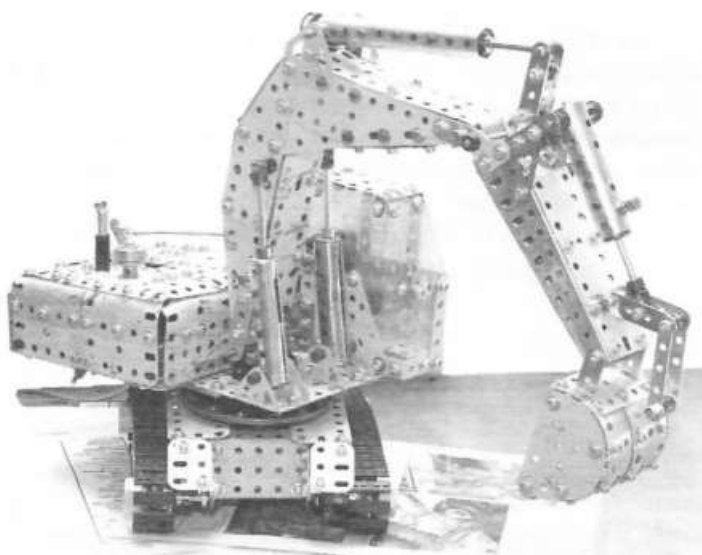


A Neat Rotary Hoe by Tom Pittams.

Bob Prescott and John Jordan met up with each other at Skegness on their overseas trips and both came back to NZ with Skegness badges. Wayne Blakely had some of the new 2002 sets on display which have certainly moved from the original engineering philosophy of Meccano.



Chris Morton explains a tricky technical point!



This Rotary (Back) Hoe was built by Don Blakeborough. It features a most ingenious system of "hydraulic" controls using Bowden cables made from Spring Cord and nylon fishing line. Two motors provide power to allow all actions to work.

Some determined bidding for rather nice items of Meccano brass and literature brought the meeting to a finish.



Bruce Neilson, the auctioneer, has found a bidder!

Wellington Meccano Club Meeting August 2002

by Bryan Jones

A small group of five members met on Friday 2nd August. We welcomed a new member, Darryl Lundy from Ngaio, who made contact with Lloyd Spackman through the Internet and found out about our club.

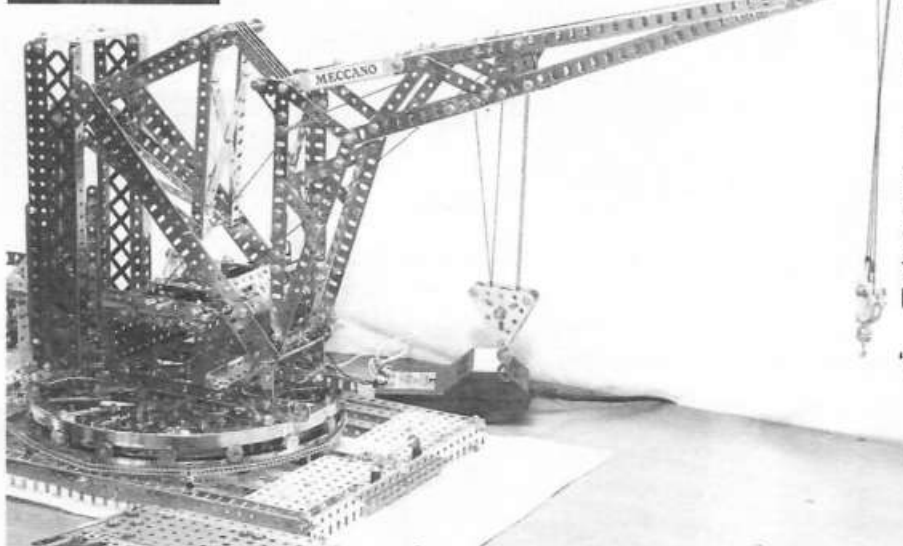
With Simon Moody and Laurie Webb both being absent on this occasion, there was no formal business to be discussed at the meeting. We spent the evening updating Darryl on the recent history of Meccano (he has enjoyed the hobby in the past but has been away from it for a while), and encouraging him to join our little band.

A selection of documents from the late Bruce Baxter collection was available for taking away. Included was a folder of advertising for Meccano and Hornby products, another of press articles about exhibitions, and a collection of photocopies of magazines and manuals - an interesting assortment, with something for almost everyone to add to their own collections.



Also displayed was part of Bryan Jones' contribution to the Club display

*Lloyd Spackman with
another of his fine models*



for the next Convention - not making as much progress as he would have liked, since its last viewing! As is the way with anything self-designed, a certain amount of dismantling and reconstruction was in progress to get things to work properly.

Lou Nichols showed some rocket motor parts, which he had acquired in response to a request for these items. They are to form part of a clock which he is building (we know that time flies, but with rockets???)

Lloyd Spackman had his usual selection of interesting items

to show. The first was a pair of 1 inch by 1 inch corner brackets painted green, which he had received from Jack Parsisson of Melbourne. These items had a reinforced corner and were stamped with his "Jackano" label. Lloyd's models were a truck with low-loader trailer, and a wandering tractor. The truck was built to a plan which was featured in the April 1995 Midlands Meccano Guild Gazette - a very nice "handful" sized model which captured the essence of a modern cab-over tractor unit. The trailer was made of Marklin parts to give a contrast in colours, and while Lloyd had built it as published, he intends to modify the design to that of a car transporter. The wandering tractor was not completed, but was inspired by the Bob Prescott model featured in the last NZFMM Magazine.

The club has been invited to attend the Karori Festival, an annual community event which we have exhibited at in the past. Some members indicated that they would try to organise a display for the event, to be held on the weekend of 7-8 September.

The evening drew to a close with supper. It is noted that St Lukes has sold the church hall to developers, and work had already begun with separating the various buildings in readiness for the redevelopment of the church complex. Our next meeting will be on 4th October, but the venue should be confirmed with Lou Nichols.

Know How Costs!

contributed by Lloyd Spackman

This is an old engineering story which I had not previously heard attributed to James Watt.

"Before he built his own (high pressure) engines, James Watt repaired and serviced older atmospheric mine pumping engines. One day he got an urgent message from a tin mine owner in Cornwall whose engine had failed, causing his mine to flood.

"Please come as quickly as possible and fix my engine" (or words to that effect).

Watt duly rode down from Lancashire to Cornwall, spent a few minutes looking at the sick engine, then quickly made and fitted a new leather washer to the site of the problem.

"How much will that be?" asked the mine owner.

"Five pounds", replied Watt.

"But you've only been here half an hour", protested the owner.

Whereupon our hero wrote out an invoice which said -

'To fixing pumping engine - 6 pence'.

'To knowing how to fix engine - £4-19s-6p'.

'Total charge - £5'."

(from Peter Finney, Hampshire, U.K., on Spanner)

Christchurch Meccano Club Meeting June 2002

by Ian Torrens

At the meeting held on the 7 June 2002, eight members were present, with four models on show, all by David Lang. The Car Chassis, which had been previously displayed, has two electric motors for the drive through a three speed gearbox giving two speeds forward and one speed in reverse. The car has a rear propeller for propulsion. The Robot in K'Nex was seen to plod along very nicely. The Robot measured 10" long x 13" high and 6" wide. There was also a small Car in K'Nex, and a small, very neat, Beach Buggy. Altogether a good effort by David. Much general discussion continued for some time, then supper was on at 2100 hours and the meeting finished at 2135 hours.

CMC Meeting July 2002

by Ian Torrens

5 July 2002 was a fine but cold evening and ten members of the Christchurch Meccano Club gathered for their meeting. Graeme O'Neill brought along his usual set of models as well as a good selection of Meccano photographs. Though they have been seen previously, they are always worth a further perusal. David Lang showed a

partly constructed Hammerhead Crane having a boom length of thirty inches and standing eighteen inches high to the trolley rails. This will be a fine model when completed. David also had a K'Nex electric motor with a built in gearbox which is a very neat unit. Ross Lear had some Meccano parts for sale and these sold fairly quickly. Supper was put on at 2100 hours and the meeting finished at 2135 hours concluding a pleasant and interesting evening.

**** News Flash ****

It has been revealed that John Pond, a Meccanoman from Cornwall in England, will be visiting New Zealand later this year.

John has been to New Zealand before and, being a retired farmer, knows enough about farm machinery to have built and nearly completed a reaper and binder to the Doug Muff's design. (see NZFMM magazines December 1998 and August 1999) If you haven't guessed already, the detail which is delaying completion is the very tricky knotting mechanism.

John does not seem to be on email but if you are desperate to know more about his travel arrangements in NZ then you might like to talk to David Wall.

John's "eBay Auction" Column

by John Hansen

Welcome to another report of some of the Meccano action on eBay Auctions. After looking at Meccano eBay pages for a period of time, you build up a picture in your mind of the various traders and buyers out there in cyberspace. There are a number of regular traders - mostly from the UK and the USA but also one or two from our very own NZ. Some of these traders must have been buying and selling for a long time as they have feed-back in the thousands. Let's get on with this month's eBay delights.

I know my girls like playing with my plastic Junior Meccano and I am sure plenty of other children do.
Meccano Junior Set A Complete with instructions. An older plastic set. Sold for NZ\$15 after three bids.
Plastic Flexible Track Pack. Always popular with children and grown-ups. Nice box and complete. Sold for NZ\$70.
1970 Plastic Meccano Set B in very nice condition and nice box. A handy size outfit. Sold for NZ\$50 after three bids.
Plastic Meccano 200. No instruction leaflet. Box good but had pencil marks on it. Sold for a bargain price of NZ\$8.

Now let's look at something most of us don't usually collect and that is Hornby Boats. They are usually a fairly rare beast and the ones below reflect their scarcity.
1930 Boxed Meccano Hornby Speed Boat No 3. Clockwork, boxed, complete with packing, instruction leaflet, key packet and key. Boat has a small amount of rust. Very nice-colour, cream and red. After 20 bids sold for NZ\$830.
Viking Boat No 5. A speedboat in original box and box has good graphics. Boat has a teal coloured hull and cream

upper deck. Few dents in hull. Not sure if colours are original. Sold for NZ\$630.

Let's move on to some modern sets.

1978 Meccano Motorised No 4 set. In UK yellow and black. Complete with manuals, working motor, nice parts, good box. Sold well at NZ\$102.

1981 Meccano Action Pack Cement Mixer. Not that common. Mint condition still sealed in plastic bag. Sold for NZ\$33.

Meccano No 9 in wooden box. Completely unused. No manuals. French yellow. Looked great. Sold well at NZ\$1494 after 14 bids.

Meccano Trucker set 1981. Good box, original instructions and decals, few components missing. Was this set seen in NZ? NZ\$27 was the winning bid.

1980's Meccano Set No 2 in very good condition with manuals. French yellow. Very collectible. Sold for NZ\$52 after 11 bids.

And finally let's look at a few parts being sold on eBay.

P/N 168 Ball Thrust Bearing, blue and black, unused condition. NZ\$55.

Helical Gear set in good condition-NZ\$70.

30 kg of Meccano purchased in 1974. Comprises 2 No 9 sets, 2 No 8 sets, 4 No 1 sets, 7 No 5X sets, 2 No 7X sets, 1 No 6X set. Sold as one lot. Unused. Would be difficult to value and sold for NZ\$3420 plus a lot for shipping. There were 26 bids. An interesting lot.

Four round and two square type Dredger Buckets-good condition. Sold for NZ\$27.

Four green Shafting Standards P/N 178. In nice condition-sold very well for NZ\$322.

Well that's all for this time. Happy collecting and building.

New Zealand Club Diary 2002

Auckland Meccano Club.

Contact - David Wall - Ph 09 426 1965.

Meetings at 2 pm on second Saturday every third month.
9th November - George Ovenden's home, 19 Richards Avenue, Milford, Auckland.

MWT Meccano Club.

Contact - John Hansen - Ph 06 325 8211.

Meetings at 2pm on second Saturday every second month at St. Luke's Church Hall, cnr. Cornfoot and Manuka Streets, Wanganui.
12 October.

Wellington Meccano Club.

Contact - Lou Nichols Ph 04 973 6177.

Meetings at 7.30 pm on first Friday every second month at ?? (contact Lou to get place of meeting).
4 October, 6 December.

Christchurch Meccano Club.

Contact - Graeme O'Neill Ph 03 322 7456.

Meetings at 7.30 pm on first Friday every month (except January) at St John's Hall, cnr St John St. and Ferry Rd., Woolston, Christchurch.
6 September, 4 October, 1 November, 6 December.

Additional Meccano Contacts

Hamilton - Don McClelland Ph 07 847 4503.

Wanganui - Tom Pittams Ph 025 274 8486.

Palmerston Nth - Bruce Geange Ph 06 357 0566.

Napier - Trevor Adam Ph 06 843 4837.

Internet sites

International Society of Meccanomen (ISM)

<www.internationalmeccanomen.org.uk>.

Meccano Webring <www.meccanoweb.com/meccring>.

Articles etc. for the August issue of NZFMM Magazine should be sent to the Editor well before 14 October 2002.

Back Numbers - NZFMM Magazines from April 2001 are available. Contact the Editor.

Reminder - 8 Months to Go.

New Zealand 2003 Convention.

18-19-20 April 2003.

Community Centre, Albion Street, Hawera.

Organiser - Daryl Anderson.

Email <meccano2003nz@bitworks.co.nz>.



Buy, Sell, Auction, & Exchange.

Advertisements in this section are free.

First insertion will be printed in full.

Subsequent identical insertions (max. one) may be abbreviated to fit space available.

For Sale - Meccano Supplies.

New 2002 Sets now available.

Contact Wayne Blakely.

Phone 06 327 6184, Fax 06 327 4184.

Meccano Parts - New - Used - Replica.

If you are short of Meccano parts for your Convention model, I may be able to help.

If phoning, please leave a message when I am not available.

Exacto Agency - Wayne Blakely

I am pleased to advise that I have been appointed as an agent for Exacto. (See Exacto article in April 2002 issue of NZFMM Magazine).

Paper price list available from me at Phone 06 327 6184, Fax 06 327 4184.

If phoning, please leave a message when I am not available.

Electronic price list available from William Irwin at email <irwins@ihug.co.nz>.

For Sale - MECCANO Magazines

Approx 200, 1925 to 1975, post war (small), near mint, \$4 ea, full years 1950 to 1953 \$40/yr. Pre-war (large), some excellent, others a little aged, but good for filling gaps in your collection until better turn up, from \$4 to \$18 depending on condition.

Doug Harris (09) 535 2546, Fax (09) 535 8048, email <digbee@xtra.co.nz>

For Sale - Digital Camera

Kodak DC3200. 1.0 megapixel, 2X digital zoom, 2MB internal memory and software.

Extras:- 16 MB memory card and camera case.

Many photographs from this camera have been used in the NZFMM Magazine.

Enter the digital photography world and photograph your Meccano models at a very reasonable price - the lot for \$325.

Bob Prescott, phone 06 323 9963 or email <rjp@xtra.co.nz>

EARLY DAYS - QUALITY TOYS



EDUCATIONAL TOYS

Karen Swenson

Ph/Fax 06-323 1308

Email: earlydaysnz@yahoo.co.nz

60 Manchester Street, Feilding

We found that this Feilding Shop has a good stock of the current series of Meccano products.