## SHEFFIELD MECCANO GUILD




No. 32 DECEMBER 1990

THE SHEFFIELD
MECCANO GUILD

GUILD OFFICERS:
CHAIRMAN-
Charles Hatfield,

PRESIDENT-
Richard Bingham,

TREASURER-
Stephen Parkin,

SECRETARY-
Mike Beadman,

NEWSLETTER EDITOR-
Rob Mitchell,

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

COVER PHOTO
A model of a Hunslet electric rack loco, built for haulage of spoil inside the Channel Tunnel. Constructed from $B-Y-Z$ parts by Russell Carr, it sports overhead catenary power pick-up. Photo by Robin Schoolar.

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

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

## Editorial

Welcome to the last issue of SMG NEWS for this year. Inside we have news, views, models and mechanisms, which hopefully will keep you occupied for a while.

Christmas is nearly upon us again, lalthough in Woolworth's, it started at the end of october!), and many youngsters will get their first taste of model building with their new Meccano sets, a portion of whom will stay with their newfound hobby for a lifetime.

Enough rambling! A Merry Christmas and a Happy New Year to all Meccano Nuts:

All computer printed titles in this issue of SMG News have been produced on a Star LC10 Colour Printer, with a BBC Mode1 ' $B$ ' machine containing innumerable and incomprehensible bits and pieces. Thanks go to Carl Huteson, the Maltby computer expert.

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IT HAS BEEN SAID that not only must you know what you doing, you must also look as if you know what you are doing; thus, the Guild officers arranged themselves at the front of the hall, and tried to look the part. Whether we were successful or not must be left for the members to judge.

Charles made a good start with his introductory speech, which was commendably short and pithy. The financial report followed from Stephen, who explained that the level of funds was now effectively zero. This had been a deliberate policy in order to keep subs lowthey had been $£ 3$ for the last two years-but it was now time for an increase, and a figure of $£ 4$ was suggested. It was also pointed out that $£ 4$ would be adequate for holding two meetings peryear; if three meetings were wanted, it would be necessary to charge £5. Only two members voted for hotding three meetings next year, and the figure of $£ 4$ was agreed upon.

Since Stephen is also responsible for maintaining membership records, he raised at this point the question of whether the Guild wished to have the membership list published in the Newsletter. He explained that it would be possible to omit any member from the published list who wanted confidentiality, in which case his name would only be held on the 'master' list available only to Guild officers.

At this point, The secretary added that in addition to publishing the list in the Newsletter, there was the question of making the list available to 'outsiders' wishing to send members promotional material, Meccano parts lists, and, as he described it, 'Junk Mail', meaning in this context Meccano related items. In reply to this, there was a suggestion from the floor that anyone wishing to contact Guild members for these purposes should join the Guild, wherupon they would receive the Newsletter containing the Membership List. There being no objections to this idea, this policy will be adopted in fuiture.

Returning to Stepher, he said that anyone wishing their name and address to be not published should contact him; and that a note setting out this policy should be included in the next Newsletter.

A brief secretary's report then followed, in which it was requested that since Rob Mitchell now does most of the work on the Newsletter, could members please send submissions to him. Also, that the Guild's Hydro Action hydraulic kit, which was to have been auctioned at the meeting, would now be auctioned in the Spring meeting.

Rob stated that the Newsletter was now as big as it needed to be- in reply to previous comments about size, and therefore cost, increasing.

Charles now conducted the election of officers. There being no other nominations, the present officers were re-elected en bloc.

Charles then had the pleasant task of requesting that Richard Bingham be elected as Guild President. It was explained that the post of President would in ebfect be to advise and guide the Guild officers, something that Richard has in fact been doing for some : time, having had considerable experience with the Guild, in being its original Chairman. The suggestion was proposed and seconded, and Richard made a short speech.

Next, Charles explained that it had been necessary to book the meeting dates for next year without consulting the Guild, since the hall was becoming increasingly popular with various local organisations. The meeting dates were to be April 27 th and 0 ctober 19th, 1991.

Charles also said that he would soon be contacting Kelham Island Industrial Museum in order to organise a date for the Guild's anuual exhibtion. This date would be as near as possible to the previous year's date, in the middle of March.

Any other Business finished the meeting with news of three Meccano exhibitions-Telford during the week October 23 rd to 28 th., Fhe North east Meccano Society in Darlington on the 17 th November, and the Lincolnshire Steam Spectacular at the Lincolnshire Shawg-round on the 17th/18th August 1991.

So it was that with these thoughts of good times to come, the business meeting ended. Thanks to the Parikin Family for providing refreshments - a man of many parts indeed is our Treasurer:

## LINCOLNSHIRE STEAM SPECTACULAR EXHIBITION

Geoff Brown reports that himself and Peter Pyefinch are organising a Meccano exhibition as part of the Lincolnshire Steam Spectacular, held at the Lincolnshire Showground. Other attractions will include traction engines, vintage tractors, motorbikes, vehicles, small i.c.engines, and a market.

The Meccano will be in the Exhibition Hall, where all manner of other models will be displayed.

Exhibition dates: 17th/18th AUGUST 1991.
Call Geobb Brown on Lincoln 190422 for further details, or write to him at 21 Daniel Crescent, Heighington, Lincoln LN4 12T. Please let Geafb know how much table space you need, and which days you can attend. All applications to attend to be in by the new year.

## A BLAST FROM THE PASTA 1920'S CRANE REBUILT

This is a simple model taken directly from a $1920^{\prime} \mathrm{s}$ instruction manual, and is very easy to construct. It would look great built up in Nickel parts to form a real period piece.

Construction is fairly obvious from the reproduced page of the
instruction manual, but some photos (nos. 1 to 4) show the real thing built up. More modern single braced girders have replaced their older double braced counterparts in the original. Other slight differences include the addition of a pair of $3^{\prime \prime}$ flat girders, one at each end of the gantry, to prevent the carriage overrunning, and the substitution of flanged wheels at the bottom of the legs with $1^{\prime \prime}$ pulleys and tyres. One nice touch in the original is the use of a fixed worm as a rack as part of the gear selection from travel to hoist. If you dont have the parts required, then try the Timber Carriage instead!



For the first time, your Chairman is having a bash at compiling the Model Report, in response to a plea from Rob Mitchell, whose hands are full with the overall production of S.M.G. NEWS. I begin this task with some trepidation, as having reached the geriatric stage, my powers of observation and memory for detail are no longer of the brightest.

I do remember that it was a good meeting, with most of the regular attenders present, a few new faces, and a fine display of excellent models.

Instead of wracking what vestige of brain I still possess to find variations on 'Joe Bloggs arrived with/brought/came with' etc., I propose to deal with the modellers in alphabetical order, and try to interpret their Model Reports! Here goes:-

John Bader The Electric Clock which was described in the last CONSTRUCTOR QUARTERLY, but fitted with a mains motor for ease of operation. His other model was a Kenworth Road Train, with three trailers, this used no less than $622 \frac{1}{2}$ " Road wheels.

Richard Bingham It was good to see one of Richard's models again, proof that the old skill is still there. His contribution was an automatic rope climbing man, in blue yellow and zinc, with an EO20 motor.

Charles Hatfield Same old lot: Cylinder printing machine, Printer's Guillotine, small Beam Engine, Magic Windmill, Burgh Isalnd Sea Tractor, 1904 Rolls royce, home made GRB, and automatic Belt tensioner. Mostly red and blue, with some yellow.

Hellmuth kohler Broads reed-cutting Boat, which among many interesting features sported a working swash-plate as part of the cutter mechanism; Genoa Harbour Hydraulic Crane, unfortunately not working on the day, due to failure of one of the Hydro Action cylinders; an ingenious internal gear mechanism; and a Tower clock.

Hellmuthalso displayed Philips ME 1250 constructional sets, made mostly out of moulded perforated plastic and shaped wire. Mike Martin A promising young modeller, he had made a Bulldozer and a Cement Mixer with Plastic Meccano. Well done, Mike:

John Martin Showed a few sample red and green Exacto parts. M. Mccallum (Aged $12 \frac{1}{2}$ ) A Locomotine Coaler with conical hopper, and a Hornby train and wagons. The Coaler was driven bu a horizontal engine, powered by a PDU. An extremely good effort, much admired.

John McDonald A Sterling Wrecker Truck- USA 1945. This magnificent model was well up to the very high standards we have come to expect from John. Finished in Army Green, the model featured $\therefore 8$ wheel drive, by chains, with six forward speeds and reverse, two cross difberentials and one inter differential, turntable steering, two power winches, and a power wrecker. (What a model:

Iain McKenzie A Foden Skip Lorru in red and green, built to use Hydro Action hydraulic components to load the skip and operate the steady jacks at the rear; Ocean Liner on a rough sea, with MO motors providing the eccentric movement; and a single cylinder Grasshopper Engine.

Rob Mitchell A hydraulic Robot Arm of simple but effective design; a gear ring mechanism, design by Hetlmuth. Kỏhler; Röb saus that this mechanism defies description!; and the beginnings of a Plasser and Theurer 'RM 800' Ballast Cleaning Machine- a $\frac{1}{2}$ " to the foot scale model of their largest current design. The model will be about twelve feet long when complete!
J.H.Mortimer A Road Traction Engine and a Penguin walk, in blue and.H.Mortime yellow.

Brian Rowbotham A display of an interesting 'other system', the East German 'Construction', consisting of a C07 Set and two Lorries in orange, white and zinc.

Eric and Robin Schoolar A segment of Stick Insect, intended as acontribution to the SMG Meccanpede, which actually ended up with less segments than it had in August! Colour was described as 'Stick Insect Green'.

Joyce Schoolar A 'Summer Theme' consisting of 2 Patio Chairs, 1 Table with Sunshade, 1 Swing Seat with Sunshade, 1 Lounger, 1 Small Table, and a Swimming Pool.

Frank Singleten A Lorry-crane, and a 'Single Crank Widget', another one of those wonderful' 'Mechanisms looking for an application' that Meccano modellers are so good at.
wayne Stancliffe A Stuart-Turner Steam Engine, based on Brian Rowe's design with a few details of wayne's own. A nice model.

Michael Whiting Three admirable models- A Skeleton Clock, design by Pat Briggs; A gearless Martian Orrery, which could well be the first so designed. It incorporated 22 sprockets, accuracy being achieved of better than $1 \%$ in spite of the limited ratios available with Meccano Sprockets; An Orrery of the Solar System, the Sun, 9 planets and 4 asteroids shown, all orbital periods accurate to $0.1 \%$. Ratios calculated using 'Shift values' from the July '90 NEWSMAG. A most remarkable achievement!

## ** YOUR SUBSCRIPTIDN IS NDW DUE!! **

This is the last copy of SMG NEWS you will recieve unless you have paid your annual subscription before the March issue is ready!

Annual membership is now $£ 4$, which covers two meetings, the annual Kelham Island Exhibition, and of course, four issues of SMG NEWS. Please send your remittance to the Treasurer, Stephen Parkin, address on the inside front cover.

## SMG MEMBERSHIP LIST

At the AGM, it was decided to publish the Guild membership list once more, after objections had been made that members may wish to not have their names and addresses published- it is not unknown for commercial interests to use such lists to distribute 'junk mail'.

An arrangement is now in hand for anyone who does NOT want their name to appear on the published membership list to write or 'phone Stephen Parkin and tell him so.

From now on, any commercial concern-Meccano dealer, related product maker etc., will be asked to join the Guild in order to receive a membership list. An addition to this is that any member can place a free advert in the Newsletter.

## WHEREVER IS NORTON \& KELHAM ISLAND?

Although the SMG has been established for several years at the Norton Church Hall, many enthusiasts still do not know its exact whereabouts. Also, the Kelham Island Industrial Museum is not at all well signposted from the City Centre. Reproduced below is a map of Sheffield, showing where each location is. There is no excuse now for not attending the meeting!:


Reproduced from the 1988 Ordnance Survey 1:50 000 Landranger map with the permission of the Controller of Her Majesty's Stationery Office.
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# PLANETARY GEAR <br> PAGE 8 

This mechanism almost falls into the 'super-interesting but useless' or 'solution searching for a problem' categories. It is extremely simple, but time spent in accurate alignment will pay dividends; also, gear rings can alter significantly which compounds bad alignment. Little supporting structure is shown, as this will depend heavily on the intended application. It is, however, worthwhile constructing just to see it work. So, dust off those unused $180^{\prime} \mathrm{s}$ and have a stab at it!

The input axle drives two other axles through a trio of in-line, preferably plastic for a wider meshing contact, 57-tooth gears, with the input axle projecting about $1^{\prime \prime}$ above the mounting plate. The pair of driven axles each carry a bush wheel, onto which a screwed rod adaptor (173a) is fixed. The bush wheels should rotate in unison, with the adaptors at a constant $3 \frac{1}{2}$ " apart. Place a strip across them and turn by hand as a check for bind-free rotation. A washer is put onto each adaptor stem, followed by a gear ring through any opposite pair of circular holes; this is then retained by a couple of collars. Check for free rotation agaain! The gear ring should ride round on the bush wheels, but not rotate. A plastic 57-tooth gear is free to rotate on the . projecting input axle, and this meshes with the internal teeth of the gear ring. Retain this gear at a meshing height by selected collars and washers. A more cleanly moulded French 57-toother may eliminate any tight meshing, or change the gear ring, if you are fortunate enough to possess more than one.

The overall ratio is $3:-2$ (i.e. $1 \frac{1}{2}: 1$ ) from the input/bush wheels to the plastic 57-tooth gear output. Gear arrangements such as this have been built commercially. An example known to Hellmuth has three internal gears, at 120 degrees to each other for balance, mounted on short-throw eccentrics. The driven output has almost as many teeth as the internal gears to give a much larger reduction ratio. By using such mechanisms, large ratios can be obtained from small, compact gear boxes.

## ESSENTIAL PARTS FOR CONSTRUCTION AS SHOWN

| 1 of no. 15b | 4 of no. 27a (P1) | 4 of no. 59 |
| :--- | ---: | :--- |
| 2 of no. 16 | 2 of no. 37b | 1 of no. 180 |
| 2 of no. 24 | 11 of no. 38 | 2 of no. 173a |

## SMG SPRING MEETING AUCTION

As usual, the SMG Auction will take place during the Spring meeting, to be held on the 27th April 1991. In addition to any items you may bring aiong to sell, there will ilso be for auciion the Guild's HYDRO ACTION hydraulic kit. Money from the sale of this kit will go to SMG funds, along with $10 \%$ of all items sold.

fig. no:1
0000000000000


## Hydraulic Kit Production Stops!!

ACTION ENGINEERING of sheffield have decided to stop production of their Kit 'A', the set which contains three polycarbonate cylinders.

Kit ' $B$ ' is to continue- the set which contains no cylinders, as is the full range of spare parts and the four new metal-bodied cylinders.

Enclosed in this Newsletter is news of latest developments
in the hydraulic range, and a 'clearance offer' on remaining stocks of Kit ' A '.

- the second in this occasional series.

Insert the threaded pin into the threaded end of the threaded coupling to form the drill bit. Lock-nut a pair of $3 / 8^{\prime \prime}$ bolts into any two adjacent threaded cransverse bores to make the two handles at 90 degrees apart.

PARTS REQUIRED:
2 of no. 37a
1 of no. 63b
2 of no. 111c
1 of no. 115


# MODEL BUILDING IDEAS: PLASSER \& THEURER RAILWAY MAINTENANCE MACHINERY 


#### Abstract

Plasser \& Theurer is an Austrian based company who produce a massive array of automated maintenance machinery for all types of railways; industrial networks, main lines, tramways, and complex junctions. Machinery for track geometry recording, formation rehabilitation, rail maintenance, ballast cleaning, and other permanent way work are all part of the Plasser \& Theurer range. Much of the machinery are ideal and challenging prototypes for the Meccano modeller; the underframes are made from steel sections, and the control cabins are angular; also, they usually have Meccano yellow liveries! They also have lots of moving parts, such as tamping tines, multiple bogie/ wheel drives, screens, and conveyor belts, most of which are fairly open and accessible. The only fly in the ointment as far as the Meccano enthusiast is concerned is that they arealmost entirely hydraulically driven- rams and hydrostatic motors are used extensively, so screw jacks and long mechanical transmission shafts are in order, unless you select a scale to suit the Hydro Action components.

The current Plasser \& Theurer product brochure contains many pictures and drawings of the range, and some are reproduced here to whet your appetite. The brochure is available from Plasser \& Theurer, the London address of which can be obtained from Rob Mitchell, should you be interested. Modern railway maintenance machinery is rarely modelied in Meccano, let alone any other model building medium. There are virtually no ready-to-run machines for railway modellers, for instance, and scratchbuilt models are almost none existent. That means that such a model would prove to be fairly original and provide a lot of enjoyment for the enthusiastic Meccanoman.


This lightweight tamping machine in compact design (wheelbase 3.1 m , total weight 12 t ) is equipped with one tamping unit with four tiltable tamping tines. The unit can be moved across the entire width of the machine. Switches, crossings and plain track can be tamped using the Unima 3. The track is lifted using profile-free track jacks.

As on the Unima 1, it is also possible to attach other work units in place of the tamping unit.


## ZRM 79

## On/off-track ballast cleaning machine

The machine has two 2 -axle bogies with a distance between bogie pivots of 16.7 m and two running axles at the front end of the machine. Two caterpillars with infinitely variable hydrostatic drive serve to travel on ballast where there is no track.
The machine weighs 92 t .
The machine is designed to work on-track in switches, crossings and plain track, even where track and switch units have been removed. This is necessary, for example, for ballast cleaning in station areas where there is often not sufficient space between the platform edges and the sleeper ends to insert an excavator chain.


ZRM 79



## USP 403 Universal ballast distributing and grading machine

The USP 403 is a 2-axle machine in standard railway vehicle design with a 7.7 m wheelbase and a net weight of 30 t . A plough is located between the axles for moving ballast along the ballast crown (centre plough). Two shoulder ploughs level with the centre plough bring the ballast from the shoulder to the area of the ballast crown. All positions of the ploughs can be activated from the cabin.

A sweeper-conveyor unit is located at the rear end of the machine. Surplus ballast is taken from the sweeper-conveyor unit to a 6-7 ton capacity ballast hopper via conveyor belts.

Seen in working direction, the ballast hopper is located in front of the other work units. Wherever required, the stored ballast can be discharged through six openings onto the track at the tamping area or onto the ballast shoulders.

The collection and distribution of ballast in the track and from the shoulders using the ballast hopper enables economical operation and the machine soon pays for itself due to the large savings of ballast in the course of one year.


## KELHAM ISLAND 1991

The date for the Guild's Exhibition in 1991 has been set for the 16 th and 17 th of March. For those of you who have attended previouslu, arrangements are as before; the Museum is open to exhibitors from 9A.M., until 5 P.M. on Saturday, and 10:30 A.M. until 5 P.M. on Sunday. We will be in the classroom, which is a light and airy venue, next door to the cafeteria, and 100 yards from the 'Fat Cat' Pub, (which serves real ale and pub grub).

John Bader is the current holder of the SMG TROPHY, which is awarded according to votes cast by exhibitors.

Exhibitors have comented that Kelham Island museum is difficult to find. The map on Page 7 should make things clearer.

May we tempt new exhibitors by mentioning that the Museum, to which entry will be free, contains a mammoth 12000 HP Steam Engine, and a Crossley Gas Engine, both of which will be run frequently during the weekend.

See you there!.!!!


## BERNARD'S BITS

Bernard Maillot of Carbon-Blanc, France, sells a wide range of Meccano and.compatible parts, some of which look frankly odd.... such as treble armed flanged bell cranks! A selection of same is herewith enclosed.

Address: 40 av. Austin Conte, 33560, CARBON-BLANC, France. Tel. (33) 56062009.


Or- The opposition gets there first!

LEGO continue to promote their system as progressive and forward looking, by introducing a computer control system for models. While we all know that the 'plastic peril' produces models that are at best squidgy and vague in operation, and at worst contraptions that just fall apart, the marketing of the product has to be admired. The leaflets look good, the 'belarb' about the control centre is enough to blind many with science, and demonstration models have been seen in toyshops, allowing the punters to actually push buttons and see the results:

A triumph of promotion over design.... for the models built with the Technic Control Centre have just two 9 V motors, not enough to work a robot arm properly.

Space does not permit reproduction of the full-size
photo of the robot arm which can be made with the TCC; but the arrows shooting oft in all directions suggest five independent movements. Scrutiny suggests that at least three of them must work together- ie arm movements and aripper powered by the same motor. It is interesting to note that the TCC will operate up to three motors. But imagine the problems of mounting a motor on the end of a LEGO arm to operate a gripper, for example? The whole thing would collapse in a pathetic heap.

Nevertheless, all power to LEGO for at least TRYING. one can only suppose that the cost of an equivalent Meccano set would be prohibitive.

As a postscript, it could be added that LOGEY have made a serious mistake in making the TCC battery powered-alkaline batteries are prohibitively expensive.

## * * IARY DATES **

January 19th
February 2nd
February $23 r d$
March 9th
March 16th
March 16th/17th
March 30th
April 27 th
April 27th
May 18 th
May 25 th
June 1st
June 15th
June 22nd
July 5th/7th

North Midlands Meccano Guild, Club Meeting, oxton Runnumede Meccano Guild, Club Meeting, ottershaw Henlett Soc. of Meccanó Engineers, Club Meeting, Henley
N.E. London Meccano Club, Club Meeting, Barkingside W. London Meccano Soc. Club Meetina, Greenford SHEFFIELD MECCANO GLILD, ANNUAL EXHIBITION, KELHAM ISLAND INDUSTRAIL MUSEUM.
Midlands Meccano Guild, Arthur Rank Centre, Royal Showground, Stoneleigh
*SHEFFIELD MECCANO GUILD, CLUB MEETING, NORTON Holy Trinity Meccano Club, Club Meeting, Hildenborough
North Midlands Meccano Guild, Club Meeting, Oxton Henley Soc. of Meccano Engineers, Club Meeting, Henley
Runnymede Meccano Guild, Club Meeting, Ottershaw N.E. London Meccano Club, Club Meeting, Barkingside w. London Meccano soc., Club Meeting, Greenford SKEGEX '91

