

**WELLINGBOROUGH & DISTRICT  
MECCANO CLUB**

Since our last club report, we have been to several exhibitions. The annual Meccano Exhibition at Henley-on-Thames, which all members thoroughly enjoyed, was the Club's first visit, and incidentally, our first outing together. The following members exhibited models: Richard Fisher, a Dragster; Michael Lawrence, a Motor Bike and an Army Jeep; Paul Dickin, a Dockyard Crane; Stephen Burgess, a Strongman with Dumbbells.

In early October, we were invited to display our models at Irchester Model Railway Exhibition. This, our first local event, proved very successful and created much interest. My father and I had built the Ship Coaler from the 1928 SML, a most fascinating model to operate. Our club chairman, Ivor Dickin, replaced the grab with an electro-magnet, and little eyes watched spellbound as Meccano Strips were hoisted aloft, then dropped into the truck, which in turn despatched them through the hopper. A Tower Crane with automatic grab by Paul Gautry was also on show, as was a Drop Hammer and Grinding Wheel by Matthew Traxton.

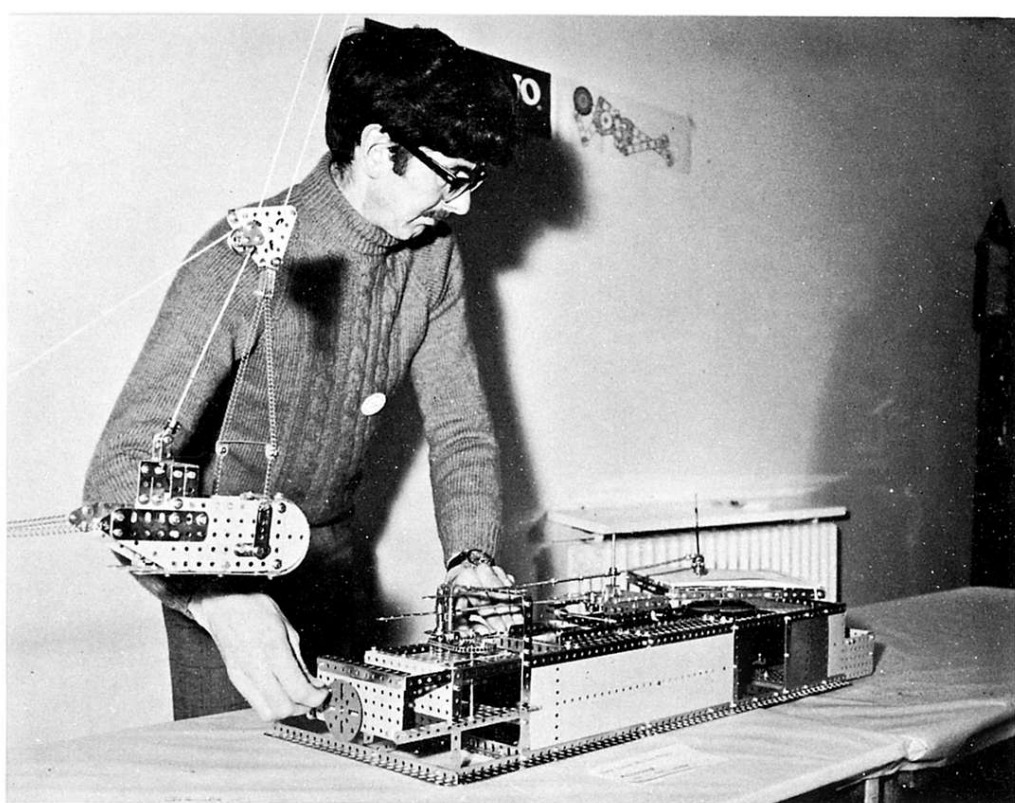
Later in October, we responded to an invitation from the '92 Squadron' to join in their exhibition at Letchworth. Here I displayed my own models, the Beyer-Garratt Locomotive, and the Double Decker Bus with complete working chassis. Various small models from our younger members made up the display.

One new member has been enrolled, and we welcome David Lack of Wollaston.

Terry Pope  
16, Princess Way, Wellingborough,  
Northants, NN8 2HJ, England.

**MECCANO IN TASMANIA**

An enthusiast in Tasmania has written to us in the hope of contacting Meccano enthusiasts in his part of the world. He writes: "I would like



to join a Meccano Club in Australia, but I do not know of the whereabouts. I am anxious to get in touch with other enthusiasts, as Meccano is nowhere near as big a hobby here as in England, with parts hard to get, and no exhibitions held". Meccano enthusiasts able to contact our correspondent are urged to do so; his name and address are as follows: G E Duncan 42 Lavender Grove, Launceston, Tasmania, Australia, 7250.

**JOHN LYTGOE demonstrated his freelance Meccanograph at the NEMS Darlington exhibition**

**POSSIBLE NEW MECCANO CLUB**  
P Tonges of Emmastraat 3, Trommenie, in the Netherlands would like to hear from any of his countrymen interested in forming a Meccano Club.

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All Meccano Clubs are invited to submit reports (and photographs if possible) for these pages. Reports should be approximately 350 words long, and should reach us by the end of the second month before publication. Ed  
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# South-Seeking Chariot · by Terry Morris

**MANY ENCYCLOPAEDIAS** attribute the discovery of the magnetic compass to the Ancient Chinese, but there is a school of thought which says that the navigational aid used by the Chinese was not magnetic, but mechanical!

The South-Seeking Chariot is interesting because it contains a differential gear, the same concept as that found in the back axles of motor vehicles, but used in a rather different way so as to direct a pointer to the true South point of the compass irrespective of the way in which the chariot is manoeuvred. I baulk at the difficulty of explaining how it works. Build it and find out!

The model is not difficult to build, but care must be taken at each stage to ensure that bolt holes are in line so that all Axle Rods revolve smoothly.

## BUILDING INSTRUCTIONS

### THE FRAMEWORK

The framework is commenced by building two rectangular sections, each constructed by bolting two 1½" Strips 1 to two ½"×½" Double Brackets 2. Two of the sides of the Nuts used should be parallel to the edges of the 1½" Strips to give the maximum space between them. The two rectangular segments are joined by two further 1½" Strips 3, the Bolts also securing 1" Corner Brackets 4, only one of which can be seen in the photographs. The centre holes of each of these latter 1½" Strips carries a 3½" Strip 5 on a 3/8" Bolt. The 3½" Strips are separated from the 1½" Strips by three Washers. The 3½" Strips are also bolted by 3/8" Bolts to the remaining holes in the Corner Brackets and separated by three Washers, the

Bolts also carrying 1½"×½" Double Angle Strip 6 separated from each corner Bracket by a Washer.

A 3½"×½" Double Angle Strip is fixed as shown, and carries a Rod Socket containing a 2" Rod which forms the stand.

### THE WHEELS

The Spoked Wheels are mounted with Grub Screws on 1½" Axle Rods journalled in the 1½" Strips 1. These Rods are held in place by ¾" Pinions. One Pinion, 7, has its boss outwards, and the other, 8, inwards. Each Pinion is prevented from excessive lateral movement by a Washer on the Rods. Sufficient room at the inside ends of the 1½" Rods should be allowed for another Rod to pass between them.

### THE DIFFERENTIAL

At this point, the differential should be built. A Bush Wheel and

a  $1\frac{1}{2}$ " Contrate Wheel 9 are joined by two  $1\frac{1}{2}$ "x $\frac{1}{2}$ " Double Angle Strips which are each separated from the Contrate Wheel by a Collar. A  $\frac{3}{4}$ " Contrate, 10, is fixed on a 2" Rod mounted in Contrate Wheel 9. The Contrate Wheels are separated by a Washer. A further  $\frac{3}{4}$ " Contrate 11 is mounted on a  $1\frac{1}{2}$ " Rod journaled in the Bush Wheel, and is separated from it by a Washer. A further  $1\frac{1}{2}$ " Rod carries two  $\frac{1}{2}$ " Pinions and a Collar. These Pinions mesh with Contrates 10 and 11. One Pinion is fixed on the Rod, the other is loose, but held in place by the Collar.

Three Washers are now placed on the 2" Rod which is inserted into the centre hole of Double Angle Strip 6. The Washers rest on the inner Strips 1, and raise the Contrate Wheel 9 above them slightly. This Rod also carries a  $\frac{3}{4}$ " Contrate 12, which meshes with Pinion 7. The Contrate Wheel 9 meshes with Pinion 8.

The other end of the differential mechanism is journaled in a  $2\frac{1}{2}$ "x $\frac{1}{2}$ " Double Angle Strip 13, bolted to the top ends of Strip 5, and separated from them by four Washers. The  $1\frac{1}{2}$ " Rod carries a  $\frac{3}{4}$ " Pinion 14, which meshes with a  $1\frac{1}{4}$ " Gear Wheel 15, mounted loose on a Threaded Pin attached to Double Angle Strip 13, and raised from it by two Washers.

#### COMPLETION AND OPERATION

The Spoked Wheels should now be adjusted so that they are *exactly* the same distance from the centre of the model, and spaced apart a distance *exactly* equal to their diameter.

All that now remains is to attach a 'Chinaman', made of 'Plasticine' or card (or Meccano), to Gear Wheel 15. When the model is correctly adjusted, he will point in the same direction regardless of whether the chariot is moved forwards, backwards, or round in circles.

Dashed clever these Chinese!

PARTS LIST			
2 of No 3	2 of No 26	1 of No 48a	3 of No 48
6 of No 6a	1 of No 27	1 of No 48b	
4 of No 11	1 of No 28	2 of No 111a	
2 of No 17	3 of No 29	6 of No 111c	
4 of No 18a	15 of No 37b	1 of No 115	
2 of No 19a	24 of No 37c	2 of No 133a	
3 of No 25	35 of No 38	1 of No 179	

ABOVE RIGHT: The completed model of the South-Seeking Chariot, complete with 'Plasticine' Chinaman on top!

RIGHT: A close-up of the mechanism of the Chariot, showing the construction of the differential and the axle unit.

