22 OTHER SYSTEMS NEWSLETTER

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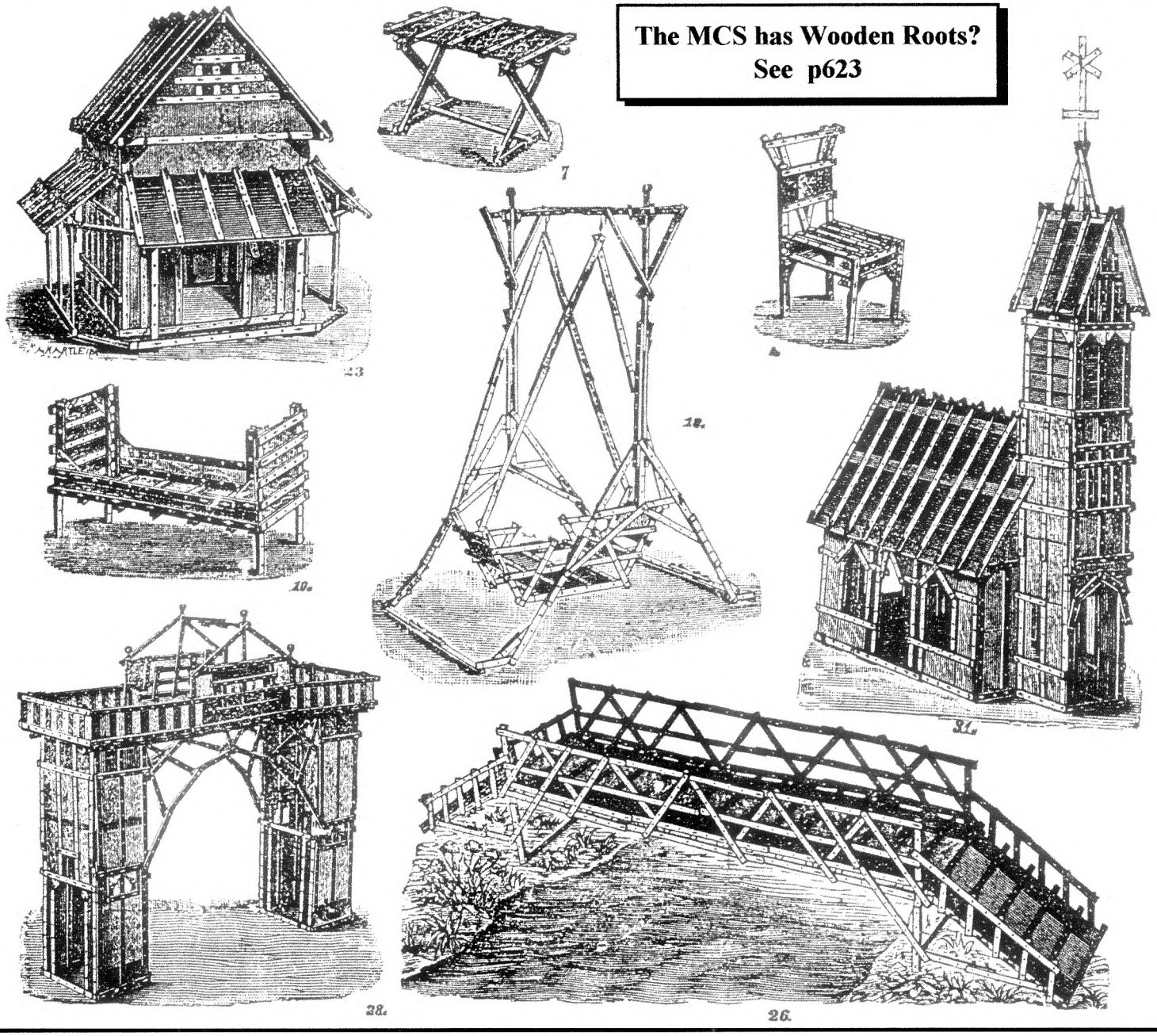
EDITORIAL Most readers will have heard by now that the future of Märklin's METALL & TRIX ranges of sets and parts is in doubt. In fact most reports say that production has already stopped, or that it will shortly. One other though, says that no final decision has yet been made, and yet another that the large 'supermodel' sets may continue to be produced from time to time.

For anyone who wants to buy MÄRKLIN, I understand that Frizinghall now have some parts & sets in stock, though what the situation in future will be is obviously unclear. Their phone/fax is 01274 542515/498281.

In OSN 19 I asked if sets such as GEOBRA, to make a single model, should be included in MCS. Several replies have now been received, all in favour; the reasons being to provide more detail, and to have a record of all MCS parts in one place. So Extra Sheets for GEOBRA are now listed, and any similar sets will be included in future, as enough material on them becomes available.

Some 'mystery parts', similar in concept to GEOBRA, will be included in the next Issue - they are clearly intended to make a Crane, but no one so far has succeeded in assembling them correctly.

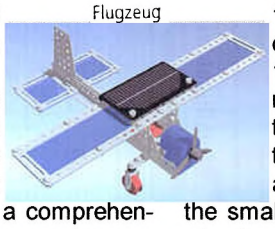
The MCS has Wooden Roots?
See p623



CONSTRUCTION Update Werner Sticht kindly sent copies of the pages from a **1998** German Conrad catalogue that show the CONSTRUCTION Sets they sell. The standard ones listed are C02, C03, C04, C07, C13, C15, C16, & C17, and the number of parts in them are the same as the corresponding sets listed in 11/293 & 14/383 (except that in OSN 11 the parts for 03 should have been 419 instead of 415). The descriptions of the sets correspond too, and for C17 the models include the Motorcycle & Sidecar mentioned in 16/442, as well as those given for it in OSN 14.

Also included is a new set to make the **Eiffel Tower** (right - the part between the top balcony and the flagpole is guesswork because it can't be seen on the original). The outfit is in a plastic box and has 996 parts. There looks to be a structure running up the centre but there's no mention of a lift

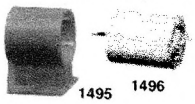
3 Eitech **Solar Sets** are shown though they are not credited to Eitech. The first is a Solar-Rotor (below the Tower), 115*26mm, 'which can be used for example with Eitech, Märklin, Lego.' It gives up to 350mA at .5V. The second looks like the No.71, Helicopter shown in 16/442. It has 84 parts and the rotor diameter is 222mm. The third has 210 parts and 3 examples of models that can be built with it are shown: a Rotating (swirly patterned, card) Disc; a simple Windmill using the standard CONSTRUCTION plastic Sails (the No.73 from OSN 16); and the OSN 16, No.74 Monoplane (right), with the cell on top of the centre of the wing.



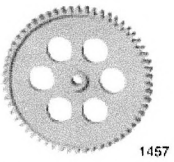
I checked the Conrad web site (www.conrad.de) in **January 1999** and found the standard sets as above, but not the Tower or the Solar sets. Perhaps I couldn't find the right place - such sites should have a comprehensive index, as a catalogue would.

In **October 1999** the Eitech site (www.eitech.de) showed the main series sets as C03, C04, C11, C13, SOLAR Sets C71, C75 & C76, and STARTER Sets C61-C66. As well as showing the lid of each set, the parts list and step-by-step building instructions could be called up for one or two of the major models from each set.

The 2 featured models for **C03** are a previously known Lorry & Gantry Crane, so although at 418, it is said to have one fewer part that before, no doubt it hasn't changed much. **C04** though has 252 parts against 205 before, and a Bulb (1734) & Holder (1735) are now included; also a different Motor (1496) which pushes into a Casing (1495). The main model on the lid demonstrates turning rotary into linear motion with the Motor driving a crank through a gear train, and a connecting rod to an Axle sliding in 2 A/Bs. In another the Motor is turned by hand through 2 stages of step-up gearing and acts as a dynamo to light the Bulb. Sets **C11 & C13** have the same number of parts as before, and the models on the lids are the same except that the main one on the #11 lid, a Trike, is a variant of an earlier model.



The Solar **C71** looks as before (though the claimed number of parts has increased from 84 to 418!). The yellow casing referred to in 16/442 is in fact a seat and the Rotor is a self-contained unit with the solar panels and motor built in to it. **C75** is the third (210 part) Conrad one. **C76** has 412 parts and the large model on the lid is a Radar Dish. 5 other models are shown including a larger Helicopter using the Blades from the old C20 Helicopter Set, a pedalling Cyclist and a rotating Wheel made up from 24 Curved Strips. 3 new push-on, plastic Gears are in the Set, a blue gear of about 60mm Ø (1457, right), a 13t Pinion, 1454, & a Worm, 1458. There is a good photo of this Set in *Baukästen*, p149. David Hobson found the C75 & C76 on sale in Bath last August.



All the **STARTER** sets are new to OSN and their lids show either 1, 2 or 3 small models, mostly built from metal parts. One is shown below and it is

typical of the Eitech boxes of the 1990s, with CONSTRUCTION in large red letters on the blue box, a large colour photo of the model(s) on a light blue ground, and the eitech name at the bottom. **C61** has a single model, a Motorcycle with the 20mm Pulley + 40mm o.d. Tyre (1421) as wheels. **C62** is a Racing Car with the 7*3h Plate as the rear wing and the 28mm Ø (1305 Tyre + 1307 Hub) wheels used in the START-BOX models shown in 13/343. Like the first two Sets, **C63** has 116 parts, and the 2 models on the lid are a Helicopter with a 4-bladed rotor made from crossed 15h Strips, and a Floatplane with a 15*3h wing made from Plates. **C64** also has 116 parts and the two models are a Jeep and an Excavator, both with the smaller wheels. **C65** is larger with 152 parts and the lid has 3 Dragster type vehicles on it, with the small wheels at the front and the 53mm (1304+1423) wheels as used on many of the earlier theme set models (see 3/35-36). One of them is called Propellerauto and has the 3-bladed Helicopter Tail Rotor, 1618, on the back, but as far as I can see it isn't linked to the wheels. **C66** (above) is larger again with 213 parts and the 3 models on the lid, all have the 20mm Pulley/Tyre at the front and the 52mm wheels aft. In case it's not clear, one is a Tractor, one a Trike, and the third a Snow Plough.

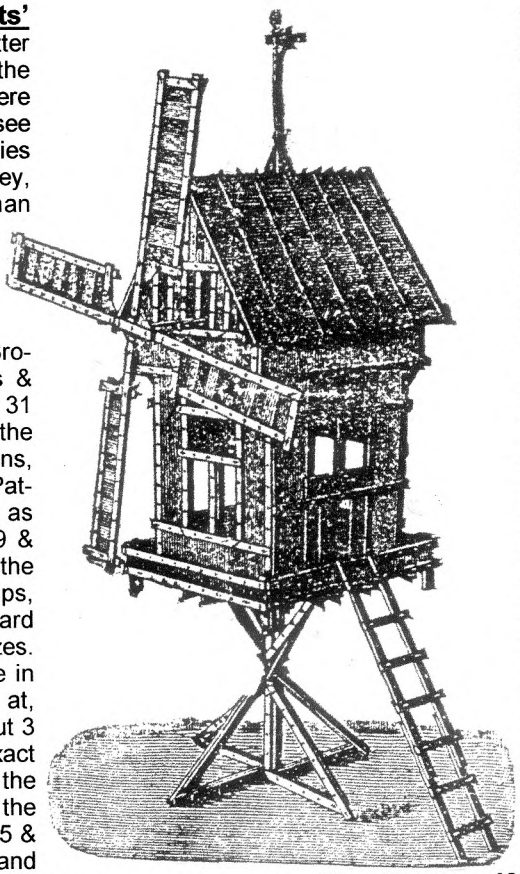
So eitech seem to have abandoned the START-BOX range with models containing a high proportion of plastic parts, and in fact the only plastic parts now used throughout the whole range are the original Flexible Plates, and a few parts like the Seat & Rotor Blades. None of the special plastic parts that were used in the (apparently very successful at the time) 'theme' sets, to make ultra realistic models, are now to be seen.

Werner sent Eitech's full address: eitech GmbH, Dorfstr. 17, D-37308 Pfaffschwende; phone/fax 036082 4320/42028 or 43236. He also sent a catalogue from Traudl Riess who supply CONSTRUCTION parts at reasonable prices (and many other useful bits & pieces). The parts come in packs, usually of 10 or 50, & carriage is free on foreign orders over DM600. They don't take credit cards but apart from that I bought some parts without difficulty. Note though that the N&B they sent were BZP & not the nickel which I suppose Eitech still use. Their address is St. Georgen-Straße 6, 95463 Bindlach, Germany; tel/fax: 09208 9119/ 1573.

Finally a note from *Baukästen*. In the 1980s sets labelled CONSTRUCTO were sold in the UK, Swedish boxes were called INGENIØRSAET, and Quelle sold sets under their GOOD PLAY brand. I think that all manuals in the CONSTRUCTO sets bore the name CONSTRUCTION.

'The MCS has Wooden Roots'

That was the last line of a letter from Thomas Morzinck about the c1890 Lilienthal sets, which were based on the 1888 patent (see 11/295). He also kindly sent copies of a Brochure, courtesy Tobias Mey, for the Sets, and a 1902 German patent (courtesy Werner Sticht) for the Austrian system MATADOR invented by Johann Korbuly (see 3/45 & 9/234).



The LILIENTHAL Sets The Brochure contains lists of the parts & sets available, illustrations of 31 models that could be made from the sets, & some basic constructions, using the line drawings in the Patent. The 6 types of part are also as in the Patent: Strips with 3,5,7,9 & 11 holes, the Corner Bracket, the Ridge Support, various wire Clips, the Wedge to hold them, and card Panels in various shapes & sizes. However each part was available in 2 sizes, normal (with the holes at, say, 25mm pitch) and giant, about 3 or 4 times as large. The exact pitches aren't known, but from the dimensions given for some of the models it seems to be between 25 & 30mm for the smaller parts and between 90 & 105mm for the larger ones.

There were 5 Modellbaukästen, I - V, with normal size parts, plus conversion sets IA - IVA, and also IB - IIIB, which gave a jump of 2 sets, so a IB made a No.I into a No.III, and so on. The sets with the large parts were called Riesenspielzeug (Giant Toys) Nos.XI - XV, plus the corresponding 'A' & 'B' Conversion Sets. The No.XIV was packed in 2 boxes, and XV in three, over 1m long. The latter cost 85 Mk, against 16 Mk for a No.V, and 3 Mk for a No.1.

Most of the 31 models were either domestic items, a Table, a Bed, etc, or Buildings of various types, but in addition there were 2 Bridges, and 2 Swings with the moving parts suspended by what appears to be cord. A selection of these models is on the front cover of this Issue. Model 23 is the one in the Patent but fully panelled. Each model could be made with either the normal or giant parts and, with the latter, the Bed was over 1m long, one of the Swings was 2m high, children could act on the Stage, and an adult could stand up in some of the models, in the Church for instance, though it does looks a tight fit.

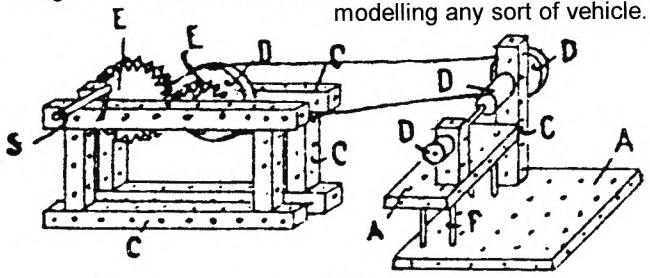
A photo on p94 of *Baukästen* shows the wooden box of a No.IV Set, a few parts, and a small House. The box has a sliding lid with a label showing 3 of the models from the Leaflet in colour, and there's a small 'IV' in the top right corner, but no name that I can see. In the model the Wedges are wooden, the Wall Panels light brown with irregular darker veining (rather like brown blue cheese), and the Roof Panels are a dull red with yellow diagonal lines to give a tiled effect. By scaling, the cross section of the Strips is 12*4½mm, and if the larger ones were in proportion they would be, say, 45*17mm. Imagine an 11h Strip of that size and over a metre long. With such parts how rigid would the structures have been? Mentioned in the Leaflet is an 8m high Eiffel Tower which was displayed at the Leipzig Cristallpalast, and which 'was easily transportable despite its size, and clearly showed the solidity of the fixings'. No doubt, but that 2m high swing would be the acid test.

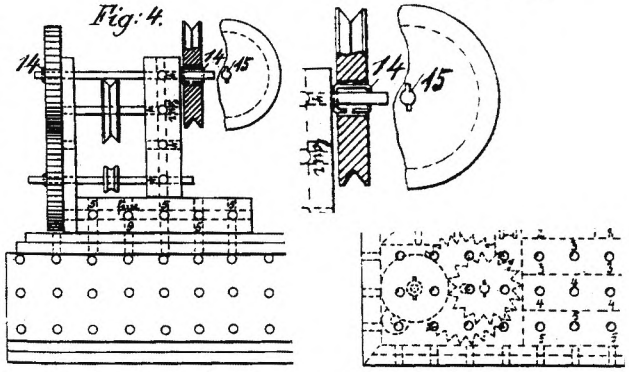
What prompted Thomas's comment though is the Windmill at the top of the page in which, though it can't be seen in the illustration, the sails are mounted on a metal Shaft. Such a part is not in the List of extra parts but one is included in a well preserved No.V Set owned by Tobias Mey, and he says that the model operates quite well.

So not only had Gustav hit on the idea of parts with equispaced holes, he had thought of using a shaft to allow rotary movement. The latter idea isn't in the Patent and so perhaps he regarded it as a refinement of no particular note. With hindsight it is surprising that it seems to have taken 10 years before the axle with wheels came to be used in constructional toys, to allow models of wheeled vehicles, which had been everyday objects for centuries, and must have been just as appealing to youngsters then as they are today.

The name and address on the Brochure is Otto Lilienthal, Gross-Lichterfelde, Marthe-Strasse Nr.5, b. [near] Berlin, But as explained in 21/618, Gustav rather than Otto was the key figure in relation to this construction system. How long it lasted isn't known, but, at least in the smaller size, it does look capable of providing the possibility of interesting models. One item in the Brochure may indicate a lack of commercial sense, the separate parts are priced per 100, and so a lad wishing to add some Strips to his No.I Set, which cost 3 Mk, would have to spend a minimum of 2 Mk for 100x 3h Strips, or 6 Mk if he wanted the 11h length. 'Architects & engineers' were offered Strips of any length at a cost of 5 Mk per 1000 holes.

The German KORBULY Patent This is Nr.138774, and is basically the same as the Nov. 1901 UK one shown in David Hobson's *Primus Engineering*, but it is dated Jan. 1902, the figures in it are slightly different, and there are more of them. It was said in 9/234 that Korbuly had invented MATADOR in 1900 but the date & content of his Austrian patent, presuming that there was one, isn't known. The UK/German patents show beams & plates with equispaced holes (see 3/45), together with pulleys & coarse-toothed gears which could be held fast by a key fixing. Several mechanical models are shown including Pulley Blocks & the Lathe below (from the German patent), in which gears can be seen. How the handle crank, S, was fixed to the end of the Axle isn't clear. The Fig.4 is from the UK patent & shows gears, and the key fixing (14,15), though no details of the key are given. To the right a plan view of parts in a box and 2 sizes of gears can be seen. This seems to be the earliest system in which gears are used, and perhaps, depending on the date of Korbuly's first patent, the first to envisage mechanical models. Still no mention though of modelling any sort of vehicle.





Some Current INDIAN OUTFITS

Ashok Banerjee has kindly sent over some more Sets that he found on sale during 1998 and 1999. Of the first 4 described below he wrote that there is probably only a limited market for them, and that TECNICA is too expensive to sell well, even though it is of very good quality. The other 5 sets are a series, each to make a single small model, or a similar alternative one. Finally, a smaller than previously seen MECHANIX outfit found on sale here.

TECNICA If MECHANIX parts owe much to BRAL (see 15/409) then TECNICA parts owe even more to MÄRKLIN, with many hard to tell apart except by their colour. The Set has No.2 on the lid and there may be a larger one because a 2" Pulley, not in this Outfit, is shown in the Manual's introductory pages.

The large **box** (45½*30*5cm) opens at the end to take the foam block in which the parts are housed, and the lid is hinged to show the parts through a clear cover that fits over the foam. The box lid is like the Manual cover opposite, bright blue but with colour photos of Manual models covering most of the top & sides. On one side is the Product Code, 11569, and 'Manufactured by Electronic toys - india | 37/A, B.T. Compound, | Malad West, Bombay -400 064. | For | Kemp & Co. Ltd. | E-6, (1) Addl. MIDC Area, | Jalgaon - 425 003.' More models are shown on the underside of the lid, together with the Set Contents and B&W illustrations of the parts.

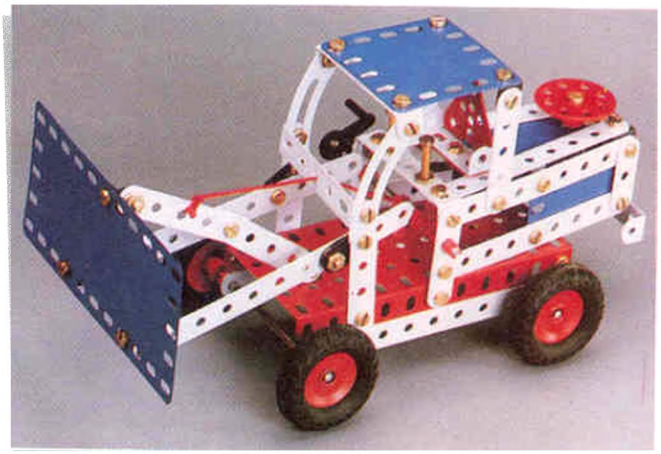
The **parts** fit into recesses in the foam block but some are also held by 35mm long CH, ⅛" BSW bolts which pass through the block and screw into round pink plastic 'nuts'. Perhaps Ashok added them to minimise damage in the post. The main way the parts differ from MÄRKLIN is in colour, the light green MÄRKLIN parts (Strips etc) are silver-grey, the pinkish-red parts (Flanged Plate, Trunnions) light red, & the Flexible Plates are yellow instead of blue. In both the Brackets are black. The parts are described below with notes if they are not the same as current MÄRKLIN.

- **DATA** (in mm) STRIP (11-hole): •hole pitch/dia, 12.7/4.3; •width, 12.8; thickness, .81; •ends nearly fully radiused. BOSS: •o/d, 10.2 but see below; •i/d, 4.04; •steel, painted; •double tapped. THREAD: 5/32" BSW. AXLE DIA: 3.92. NUT: hex 7.9 A/F; BOLT: CH 7.0 Ø; both iridescent steel.
- **Strips**, 3,4,5,7,9,11,25h. Also a 5h long Curved Strip, and a '5h' Strip with holes at ¼" pitch. 3 & 5h long DAS.
- A 5*11h **Flanged Plate** with a 4mm radius on each corner. 4 **Flexible Plates** 3*5,11h, & 5*5,11h; all are aluminium, like MÄRKLIN, but have a centre hole.
- **Brackets**. Angle; Flat; Reversed Angle; Double & 3h high Double. The chemical black finish on these parts is duller than on MÄRKLIN parts. A Trunnion & Flat Trunnion.
- **1" Pulley** painted black, and **Tyre** for it with ET & 709 on each side, and a tread pattern extending half way down the sidewall. Brass **½" Loose Pulley**, probably similar to the current MÄRKLIN one. **Bush Wheel** painted red. **Universal Gear**, red with a BZP on steel, 9mm Ø boss, and with a wider 'V' between the teeth laterally.
- 3,5,7,10,11.5, & 13cm long Nickeled **Axles** with flat, slightly rounded ends,. A **Handle Crank**, s/t & painted black. A brass **Collar**, s/t, 9.5mm o.d. A push-on **Axle Stop** of soft, red plastic. A brass **Spacer** 9.0mm Ø & 3.0 mm wide. A **Hook** like the current MECCANO part but with a slightly smaller, 11.5mm Ø, barrel, & it is painted black.
- **Bolts** 5½, 9, & 22mm u/h. The heads are not tapered and are only about 2.4mm deep. A pressed **Nut.** A BZP **Set Screw** with 4.7mm Ø CH, & 4½mm u/h. A brass **Grub Screw** about 6½mm long. A **Washer** to match the N&B, 10mm Ø. A **Spanner** painted black, 5mm longer than MÄRKLIN, with deeper jaws. A **Screwdriver**, 15.8cm long, with a BZP blade & a clear orange handle marked ET 002.
- **The parts** are accurately made and well finished. The Double Bracket and 3h Strip are shown in the Illustrated Parts in the Manual, but not elsewhere, with an elongated centre hole. A hank of **Cord** is included in the Set Contents but was not found in this outfit.

The Set contains 163 parts plus 173 NBW. The main pieces are 54 Strips, a Flanged Plate, 12 Flexible Plates, 5 off 1" Pulleys/Tyres, 2 Universal Gears, a Bush Wheel, 4 Trunnions, and 29 Brackets.

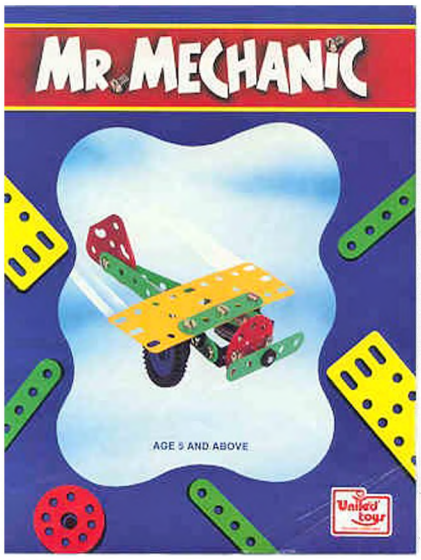
So a reasonable little Set, a little larger than the MECHANIX one. The **Manual** is a number of loose sheets clipped into a cover, and 6 pages of constructional hints are followed by 33 models. They vary from a simple 2-wheel Handcart to some quite nice looking Vehicles with a few Cranes, simple Machine Tools, etc on the way. In fact that is the pattern of the first 17 models and all those are shown with blue Flexible Plates. After that there are a number of the better models, most with yellow Plates though some on the back covers are blue again. None of the Flexible Plates shown have a centre hole.

All the models except the ones on the back cover have step by step photos, up to 6 for the Bulldozer below, but after the 17th only 1 step before the complete model is shown. Also the parts needed for each step are shown for the first 17 but not afterwards. I don't recognise any of the models but they are generally in the 1937-61 MECCANO style, straightforward with good lines without needing to bend too many parts. They are not very adventurous mechanically though, with just centre pivot steering on a couple of models, and not much use is made of the Gears.



SUMMARY OF MANUAL •Name: TECNICA Set 2. •Details of maker: Electronic Toys (India) | 37-A Bombay Talkies Compound, | Malad (West), Bombay - 400 064. Marketed by: Blow Plast Ltd. | 88C Old Prabhadevi Road, | Bombay 400 025, INDIA. •Dates &/or Ref Nos: none. •Page size: covers 255*210mm deep, pages 247*189mm. •No. of pages: 30 unnumbered + covers. •Language: English. •Printing: cover (see top of page) blue with yellow top band & models in colour; colour photos of models. •Page No. of Illustrated Parts List / Set Contents: IFC [no PNs] •Sets covered: No.2. •No. of models: 33. •Name, Page No. of first & last model: HANDCART,8; DRILL PRESS,BC. [no Model Nos.] •Other notes: 15 loose sheets clipped to covers.

MR MECHANIC That's the name of a small set which again has some MÄRKLIN-style parts, but also one or two distinctly different. Ashok wrote that it & TECNICA are made by the same firm, and indeed some of the parts are identical. There's no name on the box, other than a 'United Toys' logo ('Our work is child's play'), but in the Manual under the same logo is 'PLEASANTIME PRODUCTS', with a Bombay address that is given in full in the Manual summary at the end. The Set is the 'Basic' size, but the Manual also covers a larger 'Junior' outfit.



The Set is in a box 33*22*4cm, and the colourful lid is nearly filled with the same name & Aeroplane that are on the Manual cover (right), but against a white ground with blue clouds, and a dark blue panel at the LH end. The parts fit into recesses in a light grey moulded plastic tray.

The Parts. • DATA (in mm) STRIP (9-hole): •hole pitch/dia, 12.7/4.2; •width, 13.0; thickness, .95; •ends near fully radiused. BOSS: •o.d., i.d., see below; •steel; •double tapped. THREAD: 5/32" BSW. AXLE DIA: 3.94. NUT: hex 7.9 A/F; BOLT: CH 6.9 Ø; both iridescent steel.

First the parts that are similar to TECNICA, with only the differences noted.

- **Strips**, 3,5,9h, have the same ends but there are small differences, noted above in DATA, in their dimensions. The 5h DAS has no slotted holes though they can be seen in some of the Manual models, as in the Stamping Mill (top right). It is 2mm less wide, and so about the same as current MECCANO The Curved Strip has 3 normal holes replacing the long centre slot. All are painted bright green.
- The **Flanged Plate** is only 9h long & is 2mm wider, with corresponding reductions in the depth of the flanges. The **Flexible Plate** (3*5h) is paper thin plastic and has only the 3 holes at each end slotted. Both these Plates are yellow.
- **Angle & Flat Brackets**, are identical, with the same dull black, chemical finish.
- The **Bush Wheel**, again red, has the centre of the disc recessed (just like the MÄRKLIN part).
- **Axles** are 51 & 90mm long. The **Handle Crank** is made of black plastic, double-tapped, and though the same general shape the web is noticeably concave. It is very hard to push onto the Axle.
- The **Nut**, **Bolts** (5½, 9mm u/h), **Washer**, & **Set Screw** are identical.

Now the parts that differ:

- The **1" Pulley** is dark blue plastic moulded onto a nickel plated steel boss, 9.5mm o.d. & 4.17mm bore. The **Tyre** is black rubber and 37mm o.d. when on the Pulley; the tread is similar to M142c.

- The red **Flat Trunnion** is shown right at ½-scale - the angled slots allows parts to be attached at near to 45°.
- The **Axle Stop** is a 10mm Ø, 2.3mm thick black rubber washer. The thickish, dark orange **Cord** is wound onto a small oblong card.
- The flat **Spanner** (85mm o/a, ½-scale below) is painted black. The **Screwdriver** is 137mm o/a with a clear yellow, 64mm long, plastic handle. Its end is too thick to enter the slots in the Bolts.

Parts only in the **Junior Set** are a 7h Strip; a Double Bracket, shown as the wide type in the models; a 3h long DAS; a 1" Loose Pulley; and a Trunnion like the Flat one.

In the Manual some Trunnions are shown green, and one Handle Crank red. In the Illustrated Parts the Curved Strip is shown without slotted end holes and the boss of the Bush Wheel is extended outwards for the Set Screw tapping, as if it were made of plastic.

The Sets. The Basic has 12 Strips, a Flanged & 2 Flexible Plates, 6 Brackets, 2 Pulleys/Tyres, a Bush Wheel, 2 Flat Trunnions, & 18 N&B. The main extra parts in the Junior are 6 Strips; 6 Flexible Plates; 2 Pulleys, Loose Pulleys, & Tyres; 2 Trunnions; 7 Brackets; & 14 N&B.

So quite small Sets and the **models** are simple, straightforward, and quite good of their type - again typical of MECCANO around WW2. The Stamping Mill above is one of the better Basic models, and the Junior ones include Scooterman, a tri-cyclist circling a central pole, and a reasonable foot pedal operated Punching Press. The **Manual** has 8 very glossy US Letter size pages, with one large photo and a Parts List for each model.

SUMMARY OF MANUAL •Name: MR MECHANIC •Details of maker: PLEASANTIME PRODUCTS, 4, Wadala Udyog Bhavan, Naigaum Cross Road, Wadala, Bombay 400 031. •Dates &/or Ref Nos: none. •Page size: 207*284mm deep. •No. of pages: 8 unnumbered inc covers. •Language: English. •Printing: all colour, cover has red band on purple. •Page Nos. of Illustrated Parts List / Set Contents & highest PN: 8,U2. •Sets covered: Basic, Junior. •No. of models for each set: 13,11. •Name, Page No. of first & last model of each set [no Model Nos.]: Basic: AIR PLANE,2; BOAT,4. Junior: MERRY GO ROUND,5; TRUCK,7. •Other notes: printed on very glossy paper.

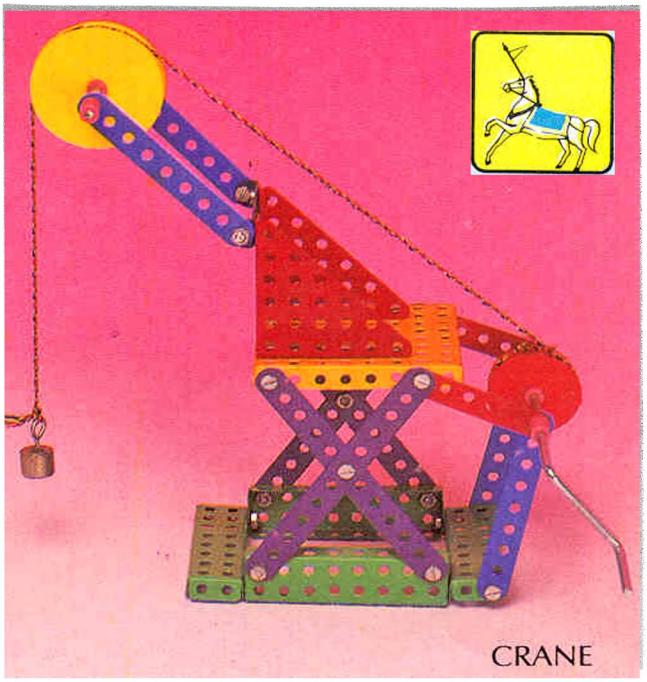
METAMECH This is a slightly revised version of an old friend, META BUILD Junior, described in 6/126. There is a slightly larger, brighter box, slightly fewer but very much brighter parts (in 7 different colours), and similar, slightly surreal models in the Model Sheet. It is now made by Saurabh Enterprises, 16, Sripal Industrial Estate, Navghar-Vasai (East) Dist. Thane, and marketed by Olympia Marketing, P.O. Box 6747 Bombay 400 052. The box has 'Mfg. Date Dec - 95' on it.

The box, 35½*25*3cm, has a light yellow lid with colour photos of 4 models, and METAMECH (above) in 4 colours. The Set doesn't have a specific name, like Junior. The parts are housed in a pale grey formed tray. The differences from the OSN 6 Set follow.

- **Contents**. This Set has 2 extra 6h Strips (wrongly called 5h in OSN 6), 2 less DAS, and no Reversed Angle Brackets. [The Junior outfit was wrongly credited with 2x 8*8h Flanged Plates, it should have been one, as in this Set.] The loss of the Brackets - there are no others in the Set - impedes general model building considerably.
- **Parts**. Apart from colours the changes are: the body of the Weight is 2mm less deep; the Sleeves are 1mm shorter; the shorter Axle is 55mm long; the Bolts are cheeseheaded, 6.6mm Ø & 6mm u/h; and the Screwdriver is 10½cm long o/a against 8½, with a more suitable tip.
- **Colours**. The 6,9,12h Strips are light red, light blue, & purple respectively; the DAS is dark blue; the 8*8h/2*8/Triangular Plates, yellow/light green/light red; the large/small

Pulleys, yellow/light red; the Sleeves & Screwdriver Handle, pink; and the strands of the Cord are multicoloured. All the colours are very intense.

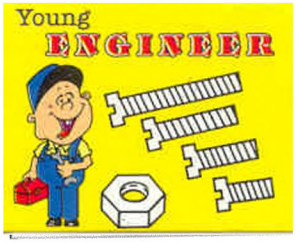
Models. The Leaflet is 43*27cm, folded into four, with 14 models plus a Church on the front, and one large colour photo of each. The models are now named which is a help, and the first is a Temple & the last a Bridge. 5 from the earlier Leaflet are included, changed a little in some cases, and the new ones are a little more down to earth including 2 Cranes (with the Weight used instead of a hook, as below), two Cradles, & a Swing. None of the OSN 6 models are included so we may never know what they represent. The horse logo above the Crane is on the Box and the Leaflet.



YOUNG ENGINEER Another small Set in a large box, but this time the parts have obviously been inspired by MECCANO and include some which were introduced comparatively recently. On the box is 'Transport series' and instructions are provided for the main model, a reasonable looking Motorcycle, and 5 others.

The Set was made in 1997 by Natraj Plastic Industries, Mahim, Mumbai - 400 016, and was (is?) marketed by Olympia Marketing again, at exactly the same address as that given for METAMECH (Mumbai is the Indian name for Bombay).

The Box is 36*19½*3½cm and the yellow lid is nearly covered by colour photos of all 6 models, with the PIYU logo, above, in one corner. The parts are in a light grey moulded plastic tray with a recess for each main part, and in depth all are well under half that of the box. The N&B are in a yellow card box, 5½* 4½*1½cm (left), and the small rubber parts are in a similar one. A space in the centre of the tray that isn't used for parts is filled by 9cm long stick-on of the Motorcycle model.



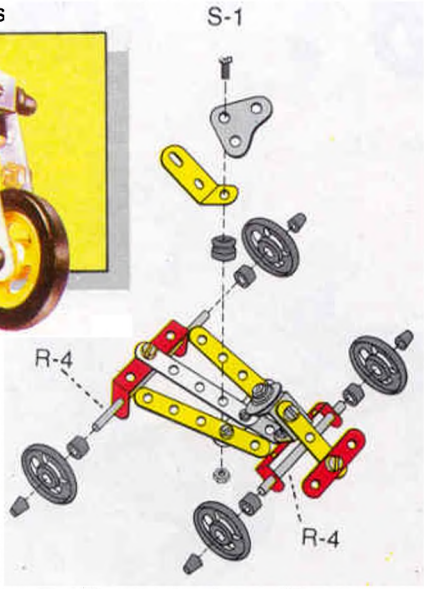
The Parts. • **DATA** (in mm) STRIP (5-hole NS): •hole pitch/dia, 12.7/4.2; •width, 8.9; thickness, .65; •large radius ends. BOSS: none. THREAD: 5/32" BSW. AXLE DIA: 4.01. DP (Mod): N/A. NUT: hex 7.6 A/F; BOLT: CH 5.9 Ø; both iridescent steel.

The parts are described below and are like MECCANO unless otherwise stated. The quantities found in the Set are given in curly brackets. NS; (d)r; y; h; k; Q mean Narrow Strip; (dark) red; yellow; white; black; BZP.

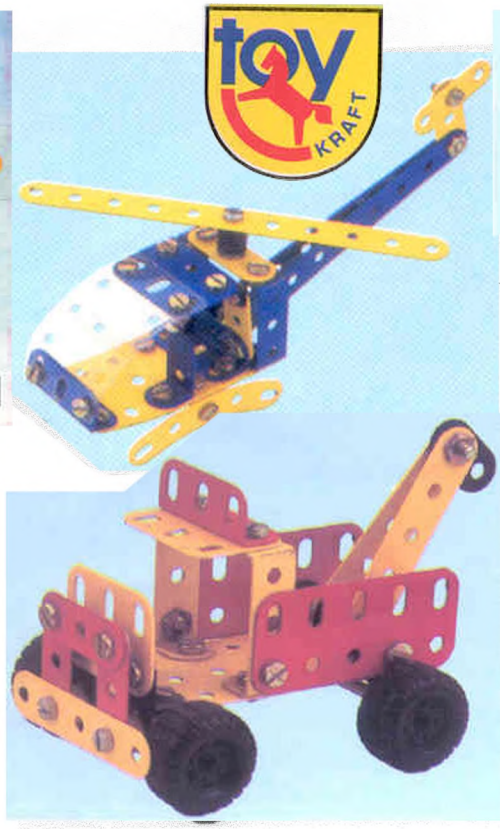
- 2, 3, & 5h NS {2Q; 2y, 2dr; 2y, 2dr, 2h}. Unlike the 5h, the 2 & 3h have fully rounded ends.
- From the 3h NS: a Double Bracket {1Q}; a 45° 2*1h Bracket {1Q}. From the 5h NS: a 2h deep Double Bracket {1Q}; a 1*3*1h DAS {3dr}.
- A Flat Bracket {1Q}. A 45°, 2*1h Bracket {1y}. A 2*2h Corner Bracket {1Q}. A 2h long 1*1*1h Channel Girder {1r}.
- A 3-Spoke 1" Loose Pulley, bore 4.2mm, very similar to the MECCANO one but in a softer plastic {2y}. A Tyre to fit, plastic with no tread and a near square section, 37mm o.d. {2k}. A 28mm 3-Spoke Wheel, like the Pulley but with a rounded rim, and a push fit (4.0mm bore) on the Axles {4k}.
- Axles: 24,32,40mm with slightly domed ends (1 of each, Q}; 76mm with sheared ends slightly rounded {2Q}.
- A plastic 4mm Ø Spring Strut and Spring, M120e, {2r, 2Q}. A plastic Spacer (4k). A rubber Pulley, M23c, {7k}. A rubber Axle Cap, slightly smaller than M59a and softer, so not so liable to split {12k}.
- The Nut is pressed {23}, and the Bolts are 7,13,19mm u/h. {18,3,3} There's also one RH BZP Bolt, 25mm u/h. One 'unlikely' part is an 8mm Washer, 16mm o.d {1Q}. Its use is explained later. The black Spanner is the MECCANO square pattern except that the end jaws have been widened to take the hex Nuts (the centre hole is still ¼"). The L-shaped Screwdriver is made of 3.5mm BZP rod with the blade 85mm long and the arm 25mm.

The parts are accurately made except that one or two of the 90° bends are way out, and the moulding is a little untidy. The paint finish is adequate but not as good as the powder coating used in the first 3 Sets; the BZP is excellent. As with other sets the parts are held in place in their recesses in the tray by Sellotape over them, and a little paint was lost when this was peeled off. Doing so also left a sticky residue which could be softened but not removed by the usual solvents.

The **Model Sheet** is 322*272mm deep, folded into 3, with 1 model on each panel, and no text of any sort, not even the name of the Set. However the Axles & Bolts are shown full-size and identified in the step by step instructions. 12 steps are shown for the Motorcycle but 3 at most for the other, simpler models



The Motorcycle (above) is a fair looking model though quite difficult to make because not all the parts needed are in the Set, and ways of using unused parts had to be found. In particular there were none of the standard Washers needed for spacing the front wheel, no 10mm Bolts, and the longest (BZP) Bolt (not shown on the Model Sheet) had to be used instead of the Axle specified. But when finished I thought it a better model than the little STEEL TEC one (see 12/323). The other models, a Cart, an Aeroplane, & 3 Buggies/Racers don't look much to me but they are easier to make, and there were enough parts over, including N&B, to considerably improve the Go-Kart I built. The final assembly stage for it (above) shows a Rubber Washer held by a Bolt, with the Large Washer pushed into its groove, free to turn as a pretend steering wheel.



TOY KRAFT The main name on the boxes of this series of 5 sets is 'Make Your Own Toy', followed by the name of the Set, but alongside this wording is the 'toy KRAFT' logo above centre, & so I'll call the system that. The Sets also have numbers and the range is 1351 "Air-Planes", 1352 "Truck", 1353 "Helicopter", 1354 "Cars", & 1355 "Racer Car".

The brightly coloured, end-opening **boxes** are 14*9½*4½cm and are basically red & blue, with a photo of the main model on the top, plus a smaller one of the alternative that can be made. The bottom of each has photos of one model from the other 4 sets, and 'Mfg. & Marketed by: Aries Incorporation, 37. B.T. Compound, Malad (West), Mumbai - 400 064, India.' A sticker on 2 of the boxes gives the date of manufacture as March 1999. The address is very nearly the same as that for TECNICA and the Angle & Flat Brackets are the same in the two systems. The Spanner and many of the other parts are identical to MR MECHANIC, but since most of the latter are like MECCANO, & there are other MECCANO-pattern parts as well, the overall impression is of a copy of MECCANO. All the parts are the same good quality as MR M.

The parts, and the N&B in a separate packet, are loose in a plastic bag inside the box. In what follows they are the same as MR MECHANIC unless otherwise stated.

- **DATA** (in mm) Strip (9-hole): •Hole pitch/dia, 12.7/4.2 •width, 12.9; •thickness, .90; •ends nearly fully radiused. Boss: N/A. Thread: 5/32" BSW. Axle Dia: 3.95 mean. DP: N/A. Nut: hex 7.9 A/F; Bolt: CH 5.9 Ø; both iridescent steel.
- 3,4,5,7,9,11h **Strips**. A Curved Strip. A 1*3*1 DAS which is like the TECNICA part but without the slotted holes, & is about 2mm wider than M48.
- A 3h **A/G** and the 3 & 5h **Flat Girders**, all just like MECCANO. The 3*5h **Flexible Plate** is yellow, and there's also a transparent version, equally thin.
- **Brackets**. The Obtuse A/B, like the ordinary Angle Bracket, is made from the Flat Bracket. The Double Bracket is MECCANO pattern. The 2*1h Bracket is a 3h Strip, bent so that the centre of the hole in the short arm is 9mm from the outside face of the 2-hole arm.
- **Wheels.** The Small black rubber one is 15½mm Ø and has a very rounded outside. It pushes onto a Spacer and there's an almost identical MECCANO part. The Large one is again black rubber but is a push-fit on the Axle; it is 27½mm Ø & 14¾mm wide with crossways tread, and is partly hollow with 5 webs supporting the boss. It has a slightly smaller MECCANO counterpart, but has 7 pips on the outer face whereas the MECCANO part has 8.
- **Axles** are 50 & 70mm long and some are BZP & some nickel.
- **Nuts** are like MR M but the **Bolts** are 6½, 13, & 19mm u/h, and their heads are slightly smaller in diameter. The **Spanner** has already been mentioned; the BZP **Screwdriver** is M-style but much shorter at 100mm o/a.
- **Paint colours**. The Strips, Girders, Double & 2*1h Brackets are variously red, dark blue, & yellow. The Truck and Racer parts are red & yellow; the others are blue & yellow.

Each **Set** contains about 30 parts, plus some 20 N&B. Full details of the contents found will be included in an Extra MCS Sheet but an idea of the main parts in each can be gathered from the models above. In each Set is a single-sided **Model Sheet**, 193* 135mm, with colour photos of 2 constructional stages for each model, against a light blue ground. The second is usually the finished model but the photos on the box must be used for the 'Air-Planes'. The only words on the Sheets is MODEL 1 & MODEL 2.

The boxes are similar in same size as those used for the recent MECCANO Collection series, & they have the same general appearance. One or two of the TOY KRAFT models look a little like their MECCANO equivalents but all are relatively simpler in design & none the worse for that perhaps, particularly since they are for said to be suitable for 5 year olds.

A Smaller Indian MECHANIX Outfit At Skegex last year Ivor Ellard spotted a pile of these Sets, called **Junior** MECHANIX, on sale in a novelty shop, and this led to several OS gents queuing up to hand over their £9.99 to a slightly incredulous shop assistant. It's a smaller version of the Set described in 19/531 with similar packaging, in a box 15*9*1¼", with 5 photos of models that can be made from the Set on the red lid. As before the bottom of the box has illustrations of the parts and the number of each in the Set, and photos of 3 more models. The EEC label on the OSN 19 Set suggested it was unsuitable for the under-8s; the equivalent age on this one (again © 1997) is 3, which seems nonsense, and doesn't agree with a RECOMMENDED FOR AGES 7 AND ABOVE label stuck over a line of text in the main descriptive panel on the lid.

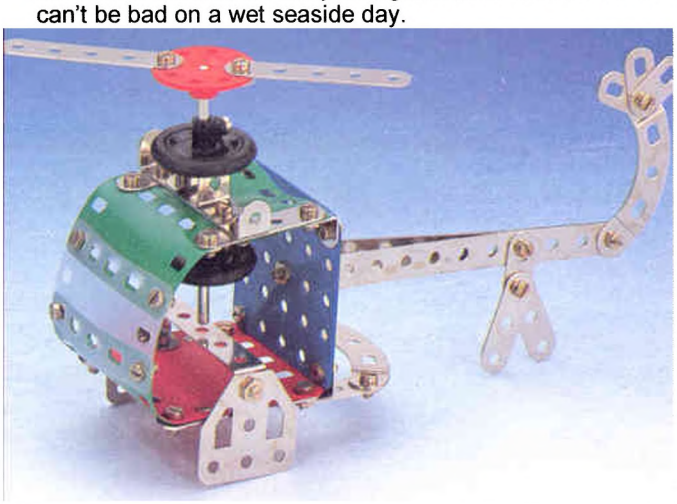
Contents The Set has no Flanged Sector Plate, Flat Girders, 53mm Pulley, or 1" Double Bracket, but otherwise the range of parts is as before, but with reduced quantities of most. In total I counted 74, including 4 of the 6 off 25mm Pulleys with Rubber Rings in the larger Set, plus 37 N&B.

Parts They are identical to those in OSN 19 except:

- All **Strips & Brackets** are painted silver with a thick, hard enamel, instead of being nickel plated.
- The **Nuts** are machined, 7.4mm A/F, and 2.2 mm thick; the CH of the **Bolts** is 5.8mm Ø.
- The **Screwdriver** has the same handle but the '453' is missing and the blade is 10mm shorter at 70mm.

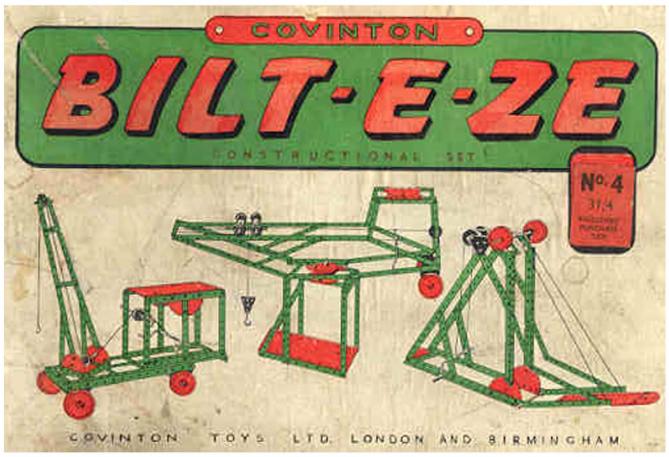
Model Leaflet It is 43*55½cm, folded into 6, with the name JR. MECHANIX on the front. There's one good colour photo of each of the 24 models included; the first is

DENTIST CHAIR & the last HELICOPTER (but different to the one below). Some half of the models are from the OSN 19 Manual, but none has the Parts Lists or step-by-step instructions which were provided. The new models are a little simpler, as might be expected, but are otherwise more of the same. Verdict: 24 fairly straightforward models for £10 can't be bad on a wet seaside day.



BILT-E-ZE Details of this small UK system are given in MCS but its hard to be sure just what the parts are like, and how they differ from VOGUE. Now David Hobson has found a No.4 Set, the largest in the range, complete & still strung in its box, and has kindly lent it for examination. BILT-E-ZE parts were mentioned in 8/183 & 17/465 but they don't exactly correspond to those in this Set, more of that anon.

The Box measures 9*16¼*1½" & the outside is printed with a pattern of fine, irregular brown lines. The white 10*8.4" label on the lid (below) has the name and 4 Manual models in solid red & green. At the bottom is COVINTON TOYS LTD. LONDON AND BIRMINGHAM, a name also on the Manual. A small label stuck over a space provided for it, gives the price, 'No.4 31/4 INCLUDING PURCHASE TAX'.

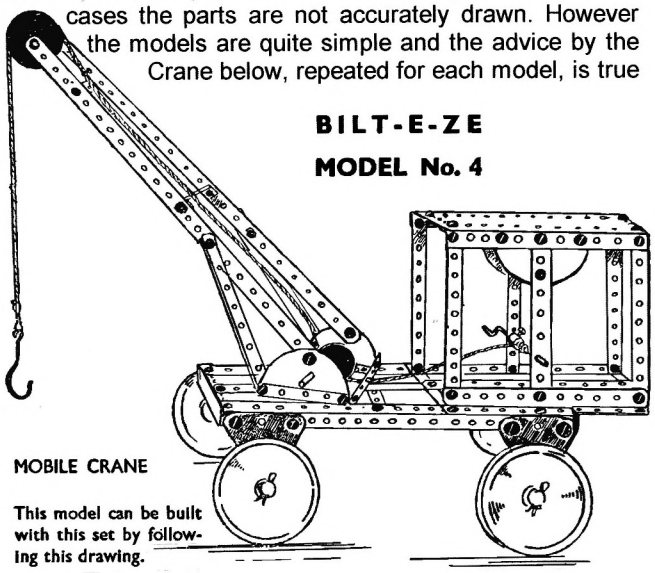


The PARTS There are 2 layers of parts, each strung to a brown card with thin, dark thread. The 72 Nuts are in a small envelope, and the Bolts & Split Pins in another; both have their contents printed on them. Most of the parts bear a strong resemblance to VOGUE and comparisons will be made in the notes that follow. The most striking difference is that the 4 Wheels run on ¼" Axles, which pass through the suitably sized apex holes of the Flat Trunnions.

- DATA (in mm) Strip (25-hole): •hole pitch/dia, 12.7/3.9-4.0. •width, 12.5; •thickness, .94; • corners chamfered. Boss: •o/d, 9.56; •i/d, 4.01; •brass; •double-tapped. Thread: 4 B.A. Axle Dia: 3.69 & 6.35. Nut: square 8.1 A/F; Bolt: round crosshead, 6.7 Ø; both blackened steel.
- The corner chamfers of the **Strips, DAS, & A/Gs** are slightly smaller than VOGUE, typically 3½-4mm along the diagonal against 4½-5. Holes are very slightly larger (3.9-4.0mm against 3.8-3.9), & the Strips vary in width a little, 12.5-12.7mm for the 25h, whereas all VOGUE are 12.7mm.
- The main **Plate** is 5*11h with chamfered corners and only perimeter holes. The **Semi-circular Plate** (called Double Gusset Plate) & the (triangular) **Flat Trunnion** (called Axle Bracket) are almost identical to VOGUE except for the larger apex hole in the latter (6.4mm Ø).
- The **Angle Bracket** has chamfered corners and round holes, but they are 4.9mm Ø, no doubt to allow a little adjustment (there are no slotted holes in the system). When VOGUE A/Bs have round holes they are standard size.
- The cast zinc **Wheels** (right) are 1¾" Ø with a bore of 6.4mm; they are 8mm wide at the thin rim and boss, with a 2mm thick web which is painted red. The **Axles** for them are 6.35mm Ø & 4$^{13}/_{16}$" long; the Wheels are retained by 10mm long Split Pins in 2.1mm Ø cross holes at each end.

- The normal **Axles**, called Spindles, have square ends and are, like Vogue, a loose fit in the bosses. The smallest is 2" long, not the 1½" listed in MCS. They, like the ¼" ones, have a black chemical finish, and so do the steel discs of the **Pulley** & **Bush Wheel**. The former is 1.04" Ø and the 'V' is wider than usual, more than 5mm - it is just like the 'VOGUE' one described at the top of the 1st column of 17/465. The Bush Wheel is conventional with 8 holes in its disc. Bosses are 10mm long and have similar conical recessed peening to VOGUE but it is usually not as deep.
- The **N&B** are blackened too - the pressed Nuts are only 1.7mm thick, & the Bolts are 6½mm u/h. The **Span'driver**, also black, is just like VOGUE except that the blade end is only 2.7mm wide, to fit the crosshead Bolts.
- **Collars** aren't like VOGUE, they are similar to the bosses, & 7.2mm long. The **Crank Handle** is VOGUE pattern except that the shank is 10mm shorter at 118mm, but it is only 2.92mm Ø and is copper plated. The Hook is almost exactly the VOGUE shape but is made of 1.6mm nickeled wire instead of 2mm painted black.
- The parts are well made and finished, but with a very occasional sharp edge not found in VOGUE. Other blackened parts are the Flat Trunnions & DAS; the Strips & A/Gs are green, and the Plates red. The red is a shade lighter than VOGUE and the green is a little lighter too, and without the blueish looks of most VOGUE green parts.
- Apart from the unusual Wheels and associated parts, the Plate with its chamfered corners, and the A/Bs with larger than normal holes, the most noticeable difference from VOGUE is the different shade of green paint. Confirmation should come from the length of the chamfers, the size of the holes, and other detailed differences.

The Manual is a very simple affair with the Contents of the No.4 Set on the front and no proper covers. The 8 unnumbered pages are 132*210mm deep & the 7 Models run from No.1, OVERHEAD TRAVELLING CRANE on p2, to No.7, EXCAVATOR, on p8. All are line drawings, and in some cases the parts are not accurately drawn. However the models are quite simple and the advice by the Crane below, repeated for each model, is true



enough. The MCS material is identical to the appropriate pages of this manual.

The parts actually found in the Set correspond to the Contents in the Manual (and MCS) except that as extras there were: a 3" Axle, 2 Nuts, & 3 Split Pins; and missing: 2 Bolts. The 70 Bolts found included 2x ½" with slotted round heads.

The Other BILT-E-ZE In OSN 17 some parts were mentioned, including Strips with chamfered corners and larger, 4.1mm holes, that were thought to be BILT-E-ZE. The main reason was that among them was an example of the unusual Flanged Plate, stamped with the name, that was described in 8/183. Since then another mixed lot has yielded identical parts plus some others which may have been their fellows. They comprise: • A Flanged Plate, in a similar red to the No.4 Plate above. • All lengths of Strip & A/G in the same shade of green. • 4 Flat Trunnions, black but without the enlarged hole. • 2 Angle Brackets, black, with normal size holes. • 4x 1¾" o.d. tinplate balloon Road Wheels painted red, with 'tyres' ¼" deep & ⅜" wide. • 3.98mm Ø Axles, 1½,3,4,5¼" long. • 2 brass Pulleys, the same size but 4.16mm bore, and single-tapped bosses with slightly convex peening. • 2 black Span'drivers as before but with 6mm wide ends. Rusty steel N&B: hex pressed Nuts 7.9mm A/F, and 6.4mm Ø RH Bolts. These parts, like those in the first batch, seem to be not quite as well made as those in David's Set, with rather more burr around the ends of the Strips for example.

History Nothing is known of the manufacturer. The 'Purchase Tax' mentioned on the box lid was charged from 1940 to 1973 but there is one possibly more helpful clue - some pencilled, incomprehensible letters inside the lid end in '50% Tax', and if that is a reference to P.T., that rate was in force only from Nov. 1947 to April 1948.

The similarity between BILT-E-ZE & VOGUE lies not only in the parts themselves but in: • Their names. They are mostly rather unusual, like Crank Wheel, Grooved Pulley, Panel, etc, and in most cases they are identical to those in the early 'blue' VOGUE manual, described in 17/465. Some of the latter were changed later - Panel to Plate for instance. • The set contents. The quantities of the main parts in the No.4 are the same as those thought to have been in the first VOGUE 'standard' set. The main differences are that the 5*11h Plate is replaced by two 5*5h Perforated Plates, and 4 of the Collars by some Axle Stops. • The manual models. The 7 models in the Manual are the same, with a few changes, often minor, as the 7 in the VOGUE 'blue' manual.

So there does seem to be a connection between the two systems. BILT-E-ZE might have been a copy of VOGUE or, more likely, vice-versa, but perhaps even more likely, VOGUE followed on from BILT-E-ZE, with or without some direct connection between the firms involved. That would be consistent with the 1947-48 P.T. date, and the likely late-1940s date for VOGUE's appearance.

Whether the 'other' parts came before David's set is equally difficult to determine, but possible they did because the VOGUE hole size, Axle diameter, and the bore of the bosses are quite similar to those in the No.4, and significantly different in the 'other' parts.

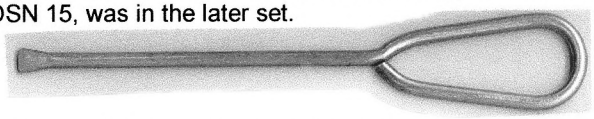
However the zinc Wheels & large Axles in the No.4 may not fit into this pattern. They are identical, apart from the length of the Axle, to those used in the PRINCE WILLIAM Railway Wagons, to be described in the next Issue. So they were probably bought-in items, unless the two firms concerned were connected in some way. But even if they were, it is hard to believe that having produced sets with perfectly satisfactory Balloon Wheels & normal Axles, the BILT-E-ZE management would modify the Trunnion, and change the drawings in the Manual, to accommodate the new parts - unless they were very cheap and/or were thought to add significant interest to the Set.

More on ONADO David Hobson kindly lent me a **No.2 Set**, unused & complete with manual. This is the first time I've seen an ONADO boxed set, and it has some features in common with the sets & parts, old & new, described in 15/404, and also with Don Blakeborough's Set in 21/615.

The base of the box is purple on the outside and measures 11*9*1". The lid is pale blue with a large, 9¾*7⅜", label (above) in navy & mustard on fawn, but in pastel shades. Somewhat faded perhaps, though Frank Beadle mentioned pastel colours for the early No.1 box. The words at bottom left are 'ONADO INDUSTRIES LTD', & the models are the early skeletal type. The parts are clipped to a yellow card, using brass clips, as in the No.1. The layout of the parts is very similar though the quantities differ and one or two of the parts are not the same type. The box for the N&B is identical to that shown in OSN 21: there was a box in the No.1 but no details of it are to hand. The only thing to show that this Set is a No.2 is a circular label stuck on the edge of the lid.

Although the No.2 shares some similarities with the early set, the main impression on looking at it is that the parts are painted in the later royal blue & crimson, and that the manual is identical with the later one described in OSN 15.

The differences in the contents and notes on the parts follow. • The **contents** are as in the early No.1 except that there are 3 extra 9h, & 5 extra 5h Strips; 2 extra Brackets; a 5*7h Chassis instead of a 7*7h; & no Flexible Plate. • The **Spindle** is 3" and not 4" - it has sheared ends and looks to be nickel plated. • The **Spanner** is as shown in OSN 21 (though a 2-ended one can be seen on the lid label), but at 92mm it is slightly shorter, and it is tin plated. • The **Screwdriver** (below), nickel plated, is very similar to the one from Don's set that he sketched, and is the same length o/a, 6". It will be recalled that a flat type, illustrated in OSN 15, was in the later set.

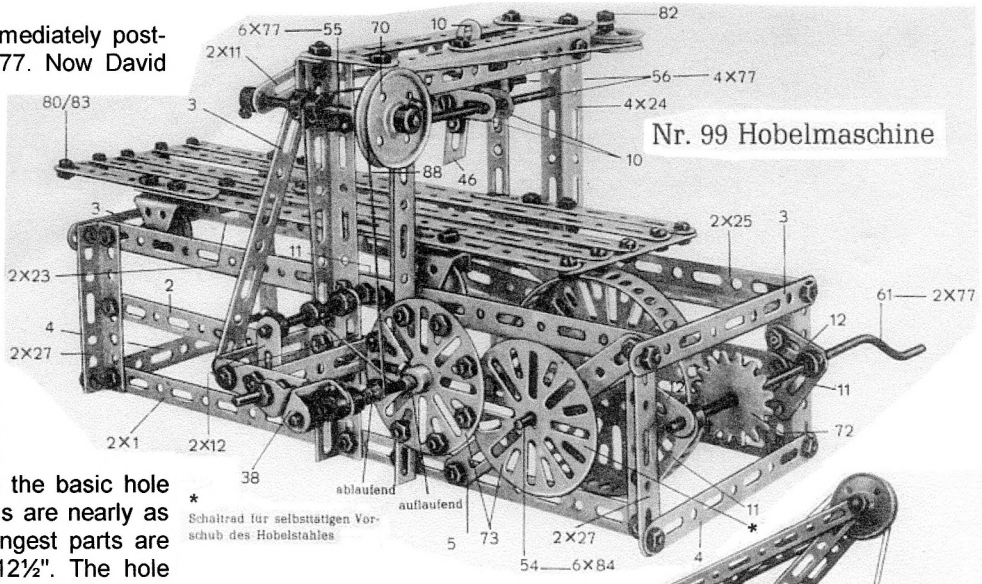


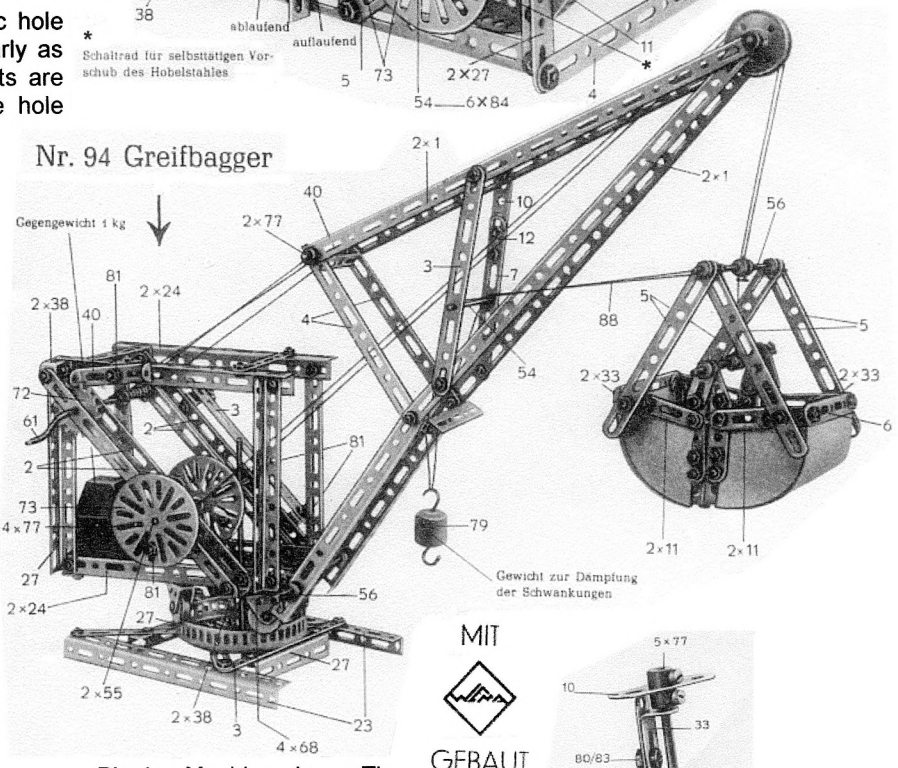
• The **N&B** are commercial 4 BA items of untreated steel. The 37 pressed hex Nuts are 7.9mm (5/16") A/F and about 2.6mm thick; the 36 Bolts have 6.3mm Ø cheese-heads and are 8mm u/h. Mixed with them is a single round-headed Bolt, otherwise as above. The Set Screws in the Collars are as in OSN 15 but have roundheads, and are of dull plated steel. From the N&B in this Set, and those in Don's, it seems that Bolts and Set Screws of more than one length, and type of head, may be found, but none of the square Nuts shown in the manual have turned up so far.

The extra parts found in **Don's No.3**, over the contents of the No.2, are: 23h Strips, promised but not yet arrived; 2x 19h, & 8x 2h Strips; 4x 1*3*1h DAS; a 5*9h Flexible Plate; 1x 2" & 2x 4" Axles (instead of the 1x 3"); a 7*7h Chassis; a Crank Handle; and 4 Collars.

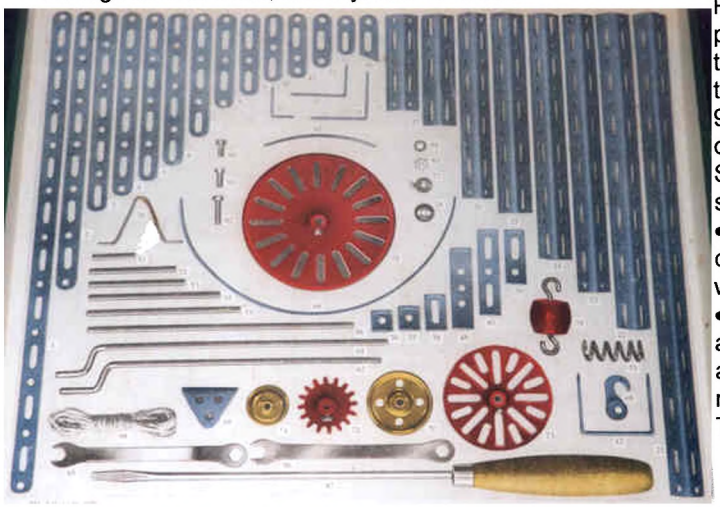
WEMA Brief notes on this German, immediately post-WW2, system appeared in 15/420 & 17/477. Now David Hobson has kindly lent me a No.C Set, apparently unused but (probably) with one DAS missing, and a manual for Sets A & B that was with it. No Set Contents are known for WEMA but from the illustrations of the Sets in the Manual (identical to those in MCS) it can be seen that they are not progressive. Models can be built from A or B alone, or A+B, and C is an add-on set with many parts not in A or B The largest set, ABC, had all the parts from A, B, & C.

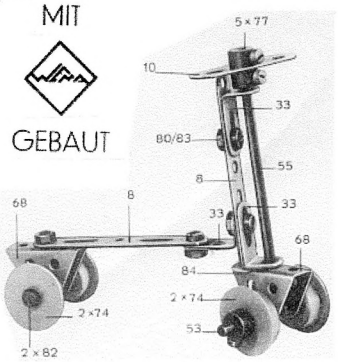
WEMA is an unusual system in several ways. In most parts every 2nd & 3rd hole are extended to make a slot, and the larger circular parts have many slots too. Although the basic hole pitch is 10mm, the Strips, Brackets, & A/Gs are nearly as wide as those in a ½" system, and the longest parts are only a little shorter than the 'traditional' 12½". The hole spacing, slots, and width of the parts would make them fit in reasonably well with systems such as STABIL & MÄRKLIN. The other unusual feature is the gearing, with a very coarse-toothed Gear Wheel meshing with the slots in the rim, or the face, of the Flanged Disc, or with a TRIX-type Worm.





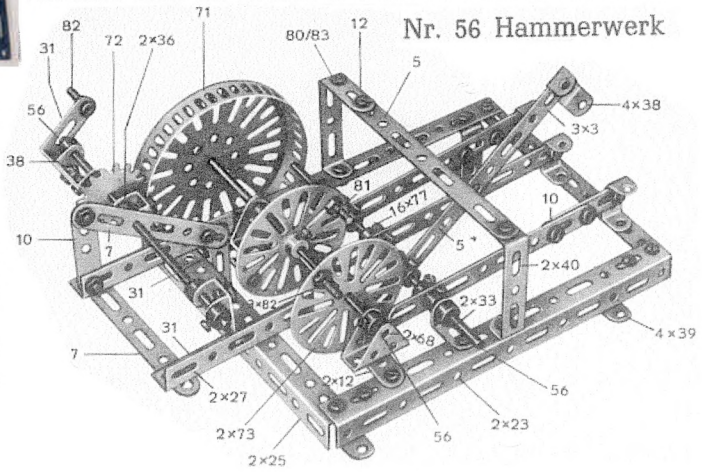
The **No.C box** is green, 342*402*32mm, and the lid is nearly covered by a colour label showing a large Multi-Jib Crane (as in MCS but with the jib extended). METALLBAUKAUSTEN in red, and the maker's name along the bottom, are easily noticeable on it; much less so the Wema logo (left), & 'Wema erector set \ Boîte de construction'. At top right is a small yellow 'C ZUSATZ KASTEN' label. *Baukästen* has a similar ABC lid on p215. Inside the lid is another label (below, from a photo) that shows all 63 parts of the system full-size & in colour. The parts in the Set are nearly all displayed individually, & most push down onto wire clips which are attached to the box's white base. The N&B are in a 7½cm square box, with a grey top that has METALLBAUKASTEN & the logo on it in white, and a yellow 'C' label.





Planing Machine above. The pitch of the end hole from the slot in the 11th Strip from the left (hshh) is about 9mm, and its PN (45) is outside those of the other Strips, so it probably has a special use.

- The 8 **A/Gs** have square corners and although they don't all show in the illustration above, holes are everywhere they would be expected.
- The 89mm Ø **Flanged Disc** in the centre has a boss, and 44 slots, 8mm long, in the rim. The actual part also has a central ring of 8 holes on a 25.8mm p.c.d., and 9mm long radial slots between the long ones, as shown in the models. The extra slots are needed to allow the Gear to run in the



The PARTS • DATA (in mm) Strip (11-hole): •Hole pitch/dia, 10.0/4.2; •width, 11.9; •thickness, 1.00; •ends near fully radiused. Boss: •o/d, 10.0; •i/d, 4.10; •painted steel; •double tapped M3. Thread: M4. Axle Dia: 3.92. Mod: 2.0. Nut: hex 8.0 A/F; Bolt: cheesehead 6.5 dia; both brassed steel.

In what follows reference is made to the photo above, and parts are sometimes described using h for hole & s for slot. Parts that have not been seen are asterisked, and their dimensions have been scaled from the box lid.

- Next to the 13 **Strips** is an Oblique-ended Strip* (PN 46), which can be seen acting as the cutting tool in the

side of the Disc (TRIX fashion). The other 4 main circular parts are from left to right: a **Flanged Wheel*** of about 24mm o.d (as in the Scooter); the 36mm o.d., 16t **Gear** with a 1.25mm thick disc; a 36mm **Pulley** made from 2 discs with deep centre belling, spot-welded together, with 4 face holes on a 23mm p.c.d; and a 62mm Ø **Face Plate***.

- Above the Flanged Disc are a 7h (hshsh) **Formed Strip**, & 3 **Angle Brackets**. The latter are h*s, hs*s, hs*sh. Below the Disc is a 23h (shs...shs) **Long Formed Strip** with square ends. Below and to the right of this part are three **Double Brackets** & 3 **DAS**. The former are from 15 to 22mm wide; the 3 holes in the first DAS are at standard pitch. The missing DAS* can be seen bottom right, with the Hook inside it.
- On the left under the Formed Strip are an inverted V-shaped **Wire Clip**, purpose unknown, made of 2mm Ø wire; 6 **Axles** from 25 to 153*mm, with slightly rounded ends; and 2 **Crank Handles** - the top one* has a smooth shaft; the other is 175mm long o/a, with 55mm of thread at the end of the shank.
- Under the Crank Handles are a Hank of **Cord** (the one in the Set doesn't look as large and is ordinary thin brown string); & a **Trunnion*** with 3 round holes in its flange (see the Scooter). At bottom right, a **Loaded Hook***, 48mm o/a; the TRIX-type **Worm**, 15mm o.d. & 36mm long; & a **Flat Hook***, 25mm o/a.
- To the left of the Flanged Disc are the 3 **Bolts**, 6, 10, & 17mm u/h: the latter has a 7.0mm head, and the 10mm a 7.1mm RH. (The M3 Set Screw, not shown separately, is 5mm u/h with a 5.5mm Ø CH.) To the right of the Disc is a 10.2mm Ø **Washer**; the **Nut**, with 2 types in the Set: machined, 2mm thick, & pressed, 2.3mm thick; a **Collar**, 10.0 Ø, 6.2mm wide, single-tapped M3; and a turned **Worm End Fitting**, a hollow cylinder 8.0mm Ø, 6.8mm long, with one end closed by a 1.0mm thick, 12.0mm Ø disc - it would make a neat flanged wheel.
- Along the bottom, 2 **Spanners**, one* flat and the other, 109mm o/a, with the ring end cranked, and a **Screwdriver** - the one illustrated is 310mm long with a plain wooden handle, but in the Set it is 184mm long, with the 86mm handle lightly fluted and painted red.
- **Finish**. All parts have a dullish chemical black finish except that the Flanged Disc & Gear are painted yellow, and the Pulley, deep orange. The colours on the lid are the other way round, and the Face Plate is orange there. The Flanged Wheel is shown yellow inside the lid & orange on the top.

The parts are generally accurately made, though some holes are 4.3mm, and a few, 4.1mm diameter. A couple of A/Gs have a little ragged flash (from worn dies) on one edge. The painted parts haven't survived their 50+ years as well as the black ones, and the Flanged Discs in *BK* have lost a lot of paint. Incidentally it is said in *BK* that the parts were made from steel and aluminium offcuts, but no aluminium pieces were found in this Set.

The MANUAL As already mentioned it is for the A/B Sets, with just 3 models on one page (as in MCS), that need C parts, and no detailed instructions for them. So perhaps there was originally another manual with the C Outfit.

This manual has no PR or date but from the look of its cover (left) it may be earlier than the one in MCS. That has the PR, '916 8. 47. J. I, Gö. 10000', which is the same as those on the box lid labels of this Set, except that the first number on the outside one is 915, with 915a on the inside.

SUMMARY OF MANUAL •Name: WEMA METALLBAUKASTEN AB. •Details of maker: J.Eberspacher, (14a) Esslingen/Neckar. •Dates &/or Ref Nos: none. •Page size: 211*299mm deep. •No. of pages: 32+covers. •Language: German. •Printing: ½-tones throughout; orange cover. •No Parts List or Set Contents. •Sets covered: A,B,A+B. •No. of models for each set: 27,20,10. •Name, Model No., Page No. of first & last model of each set: A: Warnkreuz,1,1; Windrad,28, 10. B: Schiff+schaukel,51,11; Ramme,70,21. A+B: Fahrbares Förderband, 91,22; Säulenbohrmaschine,100,31. •Other notes: •There is no Model 26. •p32 has photos of 3 ABC models (as MCS p5). •Sets A, B, C, & ABC are shown on the IBC. •The name WEMA on the FC is in the logo; BAUVORLAGEN means building instructions.

For the small models the photo provided, together with a Parts List, is more than adequate, but for the larger ones it is sometimes not clear what does what, even though a second view of the larger models is included in many cases. None of the models are very complicated mechanically though so guesswork would usually suffice. The Manual starts with a good selection of the usual small models, and then moves on to mainly Cranes & Machinery, with a few Vehicles & Fairground Rides. Some typical examples are shown here: the Scooter is an 'A' model, the Mechanical Hammer is a 'B', and the Planer & Crane need Sets A+B. The sides of the grab are to be made from card, which is also specified as fill-in panels on a number of the models.

The 'C' models would be appreciably bigger because the A+B ones need about 100 N&B and the C Set contains another 75 (as well as 21 Strips, 11 A/Gs, 12 DAS & Brackets, 3 Flanged Discs, 3 Pulleys, 3 Gears, & 2 Worms).

The mix of parts in WEMA seems rather strange with some Strips, A/Gs, Double Brackets, DAS, & Axles that are close in size to other parts. The larger circular parts, though versatile, don't suit large Vehicles as wheels very well.

GEOBRA Parts Following the notes on the Model Leaflet from this Set in 19/552, Philip Hore has kindly sent details of the parts in a made up model that he has come across, with only a few small pieces missing. It was noted in 21/618 that there were 2 sets with different size parts, but it isn't known which these are from.

There are 10 different types of Panel: a Long & a Short Window Panel, each with an aperture fitted with a tabbed window frame; a 1- & a 2-bay Cross Braced Rectangular Panel, 7cm wide by 10 & 20cm long, plus full width tab; a RH & LH Triangular Truss; a RH & LH End Panel; and a RH & LH End Panel with Tab. All the cross bracing is embossed to add rigidity. Each Panel is bolted to the 6mm deep full width tab at the end of the next. The Bolts are M3 and screw into the couple of turns of thread formed into upstood punched holes. The Panels are joined at right angles by 10 & 20cm long A/Gs and the tower & jib are then 78mm square in section. The jib is attached to the tower by a 7cm long Hinge. The finished model stands 770mm high, the jib is 610mm long, & the base is 228mm square.

Most of the parts are bolted together but one or two, the Pulley Axle Bearing Brackets for example, simply clip on. A few others are joined by small bent-over tabs but these are probably factory fitted.

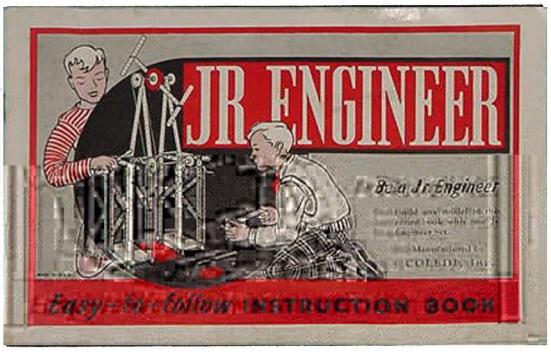
The Pulleys are black plastic, 15mm Ø, with a 3mm bore. The Hook is 45mm long o/a. The Leaflet shows knobs on the Crank Handles but none are fitted to the actual parts.

The Gears are bright plated but most parts are painted: red for the Base, Windows, A/Gs & Hook, and silver for the rest. The name *Geobra* with a 25mm Ø circle around it is embossed below the Window on the Short Window Panel, and the turntable is stamped MADE II I WESTERN GERMANY.

The firm that made these Sets is given in *Baukästen* as Georg Brandstätter GmbH & Co. KG, of Zirndorf (near Nürnberg), and the Crane Outfit was introduced in 1954. No end date is given but after 1975 the company concentrated on plastic toys.

'New' System - JR. ENGINEER

by Jacques Pitrat

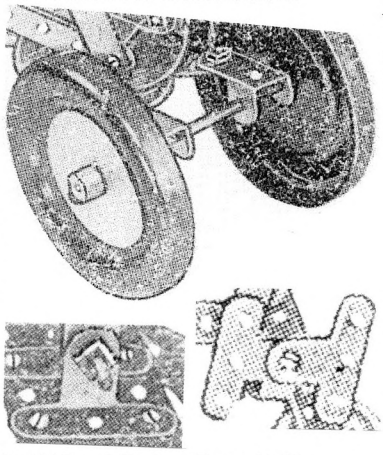


The parts in this small American Set, with 26 different types in all, generally resemble MECCANO. Most though are aluminum, and the holes (at ½" pitch) are only 3.2mm diameter. My Set has never been used, the parts are still fixed to the 45*30*3cm cardboard box. It was made by Coledi Inc., New York 55, N.Y. The 'JR.' in the name are not initials but stand for 'JUNIOR' - on the lid & manual cover (above) the boy's head covers where the dot ought to be.

'4½' appears twice on the edges of the lid, but not at all in the manual, which does not mention the existence of more than one set. The ERECTOR-style number is curious, given the MECCANO character of the system, and in any case the number of different parts, and the total number of parts, are more like those of a No.2½ ERECTOR set than a No.4½.

The Parts The names given in the manual (in brackets below) are often confusing. The parts are aluminum unless otherwise stated, and the numbers found in the Set are given in curly brackets.

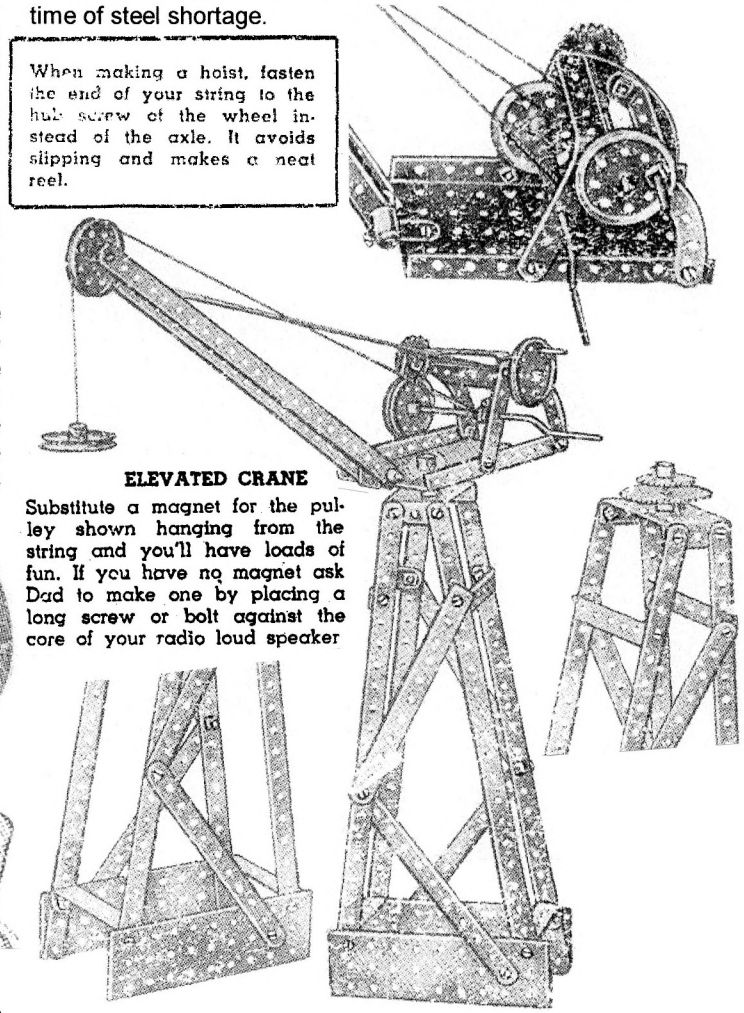
- **Strips** with 23 holes (Long Girder), 11 holes (Short Girder) & 5 holes (5 Hole Strip) {8,6,6}. 7h Curved Strips (Curved Girders) {6}. 1*5*1h DAS (Right Angle Girders) {6}
- The 9*5h **Flanged** (Base) **Plate** is steel, painted red, with the long sides flanged. The 5*3h **Small Flanged** (Base) **Plate** has the 3h sides flanged, & is painted orange. The 9*3h **Flat Plate** is fully perforated & painted red. {1,2,2}
- **Brackets**. The **Angle Brackets** (Right Angles) have one normal hole & one very long slotted hole {12}. Next a flat **T-Bracket** (Girder Brace) with 3 holes in the bar & one in the leg {4}, and 2 variants of it, but both with a slotted leg hole: an **Angled T-Bracket** (Tee Angle) with the leg at 90° to the bar, and a **Steering Bracket** (Double Right Angle) with the outer ends of the bar bent at 90° to form a 'U' {4,4}. These 3 parts, and the Wheel, can be seen in the insets below.



- **Wheels** of 8cm diameter with a blue plastic rim, a nickeled steel disc, and an aluminium boss. 1½" **Pulleys** with Set Screw and 8 holes, like M21. Nickeled steel **Wheel** (Utility) **Discs** of 5.5cm Ø, with a ring of only 5 holes. {4,4,4}
- **Gears**. **Large** with 36 teeth, and **Small** with 24. Both are very thin, 1.8mm, and it would be difficult to run them together. The teeth are more like those of a Sprocket Wheel than a Gear {1,2}.
- The **Axles** are 10cm long, and are of 3mm steel, like the **Crank Handle** {2,1}. The two **Collars** have one Set Screw. The **Cord** is white.
- **N&B** The **thread** is 3.5mm Ø. The 14mm u/h **Bolt** (Screw) is cheeseheaded; the 25mm **Long Bolt** has a mushroom head. Both are black steel. The hex **Nuts** are nickeled steel. {47,2,39} As the Bolt is also used as the Set Screw there is a problem because when in place it exceeds the diameter of the Small Gear, and even that of the Pulley, which is often used as a wheel. It is also impossible to have the shanks of two Bolts inside an Angle Bracket. In the manual, the N&B look like MECCANO. The diameter of the 2 steel **Washers** is 13 mm. The **Screwdriver** is ERECTOR-style.

The **Manual** has 24 pages including the covers, 210*132mm deep. The system is presented on p2 and the parts are described on p3. Some 'basic assemblies' are described on pp 4 & 5, with some hints, such as how to use the Long Bolt. Then come many models, several on each page, and there is a short explanation for some of them. The contents of the set are not given. Most of the parts are used in the Crane below although they will be blurry. The 2 Gears can be seen on the top of the tower, & a small one is on the far side of the luffing winch. Curved Strips are used at the back of the frame for the winches, and from their use in other models, 4 make a circle when overlapped by 1 hole.

There is nowhere an indication of **date**. However, with its aluminium parts and poor quality N&B, it was probably made just after WW2. It is clear that the manufacturer could not obtain the proper Bolts and was obliged to use whatever was available. This set was no doubt made at a time of steel shortage.



ELEVATED CRANE

TO TEST YOUR ENGINEERING SKILL

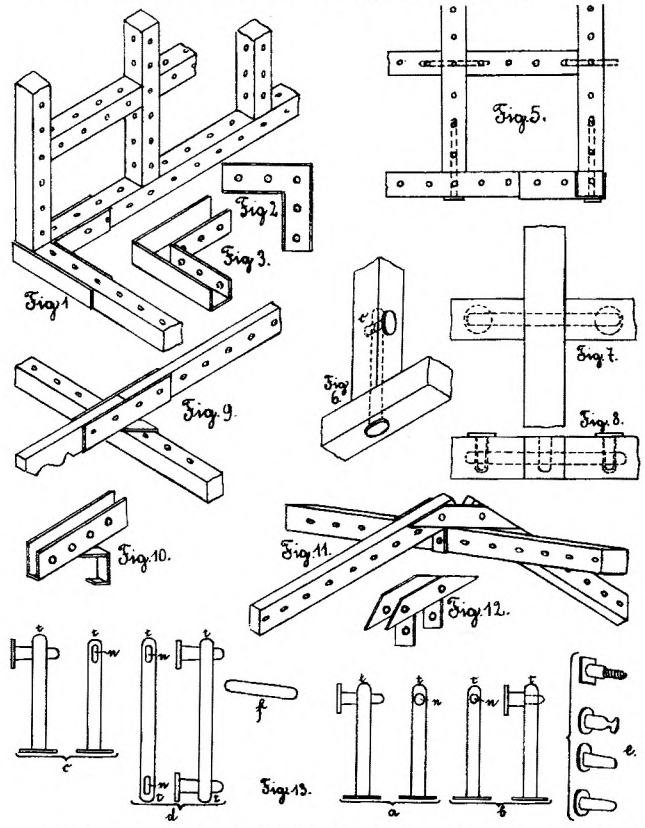
SMALL ADS

WANTED For inclusion in the forthcoming 'Canadian Radio Encyclopedia' - any information, literature or parts for the Meccano Crystal Set, or similar by Gilbert or others. Richard Symonds, Suite 101, 1675 Martin Dr., Surrey, B.C., V4A 6E2, Canada.

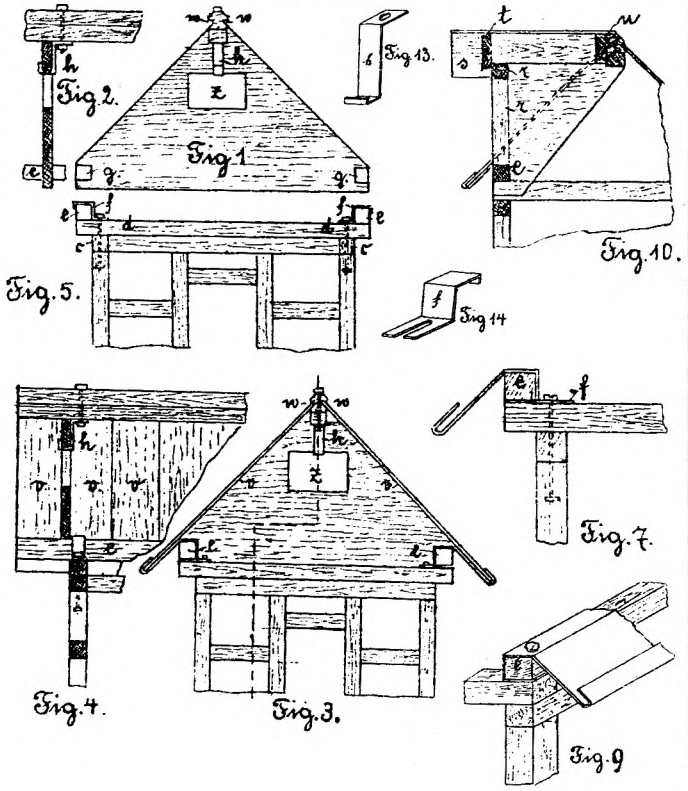
FOR SALE Collection of metal systems - over 50 items including MECABEL, EIFFEL, STABA, MINEX, TUBEPLAC, STANDARD L.R., etc, etc. Can be viewed in Normandy, France. Price list on request. Constructorama, 23, rue Thénard, 10800 Saint-Julien Les Villas, France.

Walther Walther's 1903 Patent This was mentioned in 13/348, and was referred to by Frank Hornby in his Life Story of Meccano (MM Feb. 1932, see 21/618). It, and an add-on patent in 1904, were all about parts to make wooden frameworks for model buildings. Wooden beams, perforated with equi-spaced holes, were to be joined by steel brackets or rods, held by a variety of pins which were locked in position by metal wedges. The 1904 patent (No.172173) was concerned with roofing elements.

Fig.1 below shows a corner of the base held by a bracket (Figs.2,3), and the uprights & cross members could be held as in Figs.5-8, by pins or rods, held by wedges, screws, or clips (Fig.13). 2 other brackets are used to hold rafters (Figs.9,10) and the roof ridge (Figs.11,12).



In the second patent Figs.1-5 below show a gable end fitting over side members, e, which are held in place by brackets, f (Fig.14). The roof panels, v, fit into a grooved ridge member at the top (held by the bracket, h, Fig.13) and into a metal eaves section at the bottom (Fig.7 or 9). What looks like a dormer window is also shown (Fig.10).



As far as is known the system was never put into production and it is puzzling why Hornby should have mentioned this patent in his MM account, nearly 30 years after the event. When an application for a German patent is rejected the reasons have to be given, and as far as parts with equi-spaced holes are concerned presumably Lilienthal's 1888 patent would have been cited. It is not known for sure but it seems likely that Hornby's application was made before Walter's patent, but even if it wasn't the latter doesn't seem to contain anything relevant, not even a claim for the equi-spaced holes, because Lilienthal had priority there.

It would seem that Hornby still felt that he wanted to justify his claim to have invented the first mechanical constructional toy. That is perhaps understandable but why then pick on Walter's patent rather than say Korbuly's MATADOR patent, which (as explained in David Hohson's *Primus Engineering*) was much more akin to MECCANO in concept and in detail. The answer could be that Hornby was aware, and irritated, that Franz Walther was going into print (see 20/571) challenging his claim by reference to Lilienthal's patent. By 1932 Hornby was probably a busy man with many outside interests, so no doubt he had the draft of his Life Story prepared for him. But one can imagine that he discussed the project briefly with the author, & said something like 'and dig out that German patent that all the fuss is about and make it clear that it was totally non-mechanical in nature - it was to do with making buildings with wooden parts'. So the hack, who had heard the name Walther as a competitor, but doesn't know in detail what Franz Walther has been saying, and hasn't heard of the Lilienthal connection, is delighted when their patent agent finds a patent that not only fits Hornby's description but also bears the Walther name. So why was Walther not named in the article? Imagine one step further - the name is in the draft but when Hornby reads it he realises that it's probably the wrong patent - but time is short & if the name is left out what has been written is more or less true of the Lilienthal one. Voilà. Other explanations, hopefully more plausible, are invited.

Finally thank you to Werner Sticht who sent copies of the Walter Walther patents.

The ZOGEL / FG (ex GF) Metallbaukasten Following the account of 'GF' in 21/600, Jacques Pitrat has found some more about these sets in the invaluable *Baukästen*. A photo on p218 shows a box lid just like the one in OSN 21 except that in the top left corner the logo is a very narrow 'Z'. This was the mark of G. Zogel, a firm in the U.S. Zone, and the dates given are 1946-48. To the left of the lid is a photo of the open box, and apart from the Narrow Strips, most of the main parts in the Set can be seen, and they look the same as those described in OSN 21 (no short Strips can be seen, narrow or otherwise).

The 'GF' logo in OSN 21 ought it seems to have been called 'FG' because (*BK*, p250) it belonged to a manufacturer called F.G. No details of this firm are given except that it existed after 1945. As noted in OSN 21 another FG set is shown in *EZ*, and in a clearer view of it in *BK*, again on p218, the FDKK words can be seen clearly on the lid. These are given as the Set's name in *BK*, but since the model on the lid is clearly the same as on Jacques' Set, it seems best to regard the phrase as simply a slogan, or it may prove to denote some change of content. In either case both sets will for now be classified under the name FG Metallbaukasten.

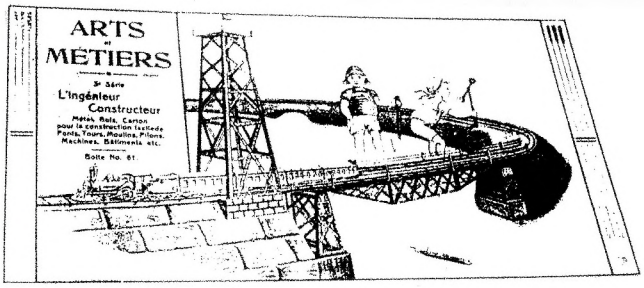
As explained in OSN 21 the FDKK Set had been judged the later of the two (because its lid looks more modern), and this would fit into a sequence of first, manufacture by G.ZOGEL, then by F.G. using the original box with the FG logo pasted on (as on Jacques' Set), and finally the introduction of a new box with the FDKK slogan on it.

An Early STABIL Outfit The first years of STABIL are still not well recorded but now Tobias Mey has found a No.52 Set which is believed to be from 1907 or 1908, and Thomas Morzinck has kindly sent some details, and the photo below.

The sliding lid of the wooden box has a label (slightly torn) which is thought to be the very first one, used until 1909. It was probably changed around 1910 (to the one shown in 19/548) because Walther wanted to show some of the models from the newly introduced Railway Wagon Sets (see 13/348) on it. The top left panel looks pale brown and the rest is in full in colour; a toy train runs under a Tower from an inverted girder Bridge, with a yacht sailing under the Bridge, and 2 children in the background, one setting a railway signal. The words above **Stabil** in the panel are 'Walther's Ingenieur-Bauspiel '; in the 1910 label it had become 'Walther's Neues Konstruktionsspiel'.

The manual cover is generally similar to the illustration at the top of 13/350, but is white or light grey in colour and has Walther's neues Ingenieur-Bauspiel at the top instead of the later 'Walther's neues Metall-Bauspiel' or 'Walther's neues Konstruktionsspiel'.

The Strips in the Set are nickel plated with a high polish, and the Windmill Sails (below the Manual) are cardboard. In the photo the Brackets, Saw Blade, & Spanners look black, but it may be a trick of the light. The Saw Table is in a light wood, the Beam to its right is mahogany red, and the wooden Base at the end looks as if it has been painted or stained black.

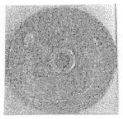


The picture in the label on the lid is the same as the one above used for the No.81 ARTS ET MÉTIERS Set mentioned in 13/351. The No.81 was a Série 3 outfit, that's to say the A&M equivalent of WALTHER'S INGENIEUR (see 7/164 & 19/550).

PFEIDA - a 'New' System Thomas Morzinck kindly sent all that is known of this small German system: a double-sided Model Sheet with models from a No.0 Set, and some details of parts believed to be PFEIDA.

Parts. The hole pitch is 12.5mm, and the holes are 4.2mm Ø. No list of parts is available but the 14 different types below are known or can be seen in the manual models. All the parts are steel, and the 'strip' parts are made from thin tinplate, .5mm thick. All holes are round.

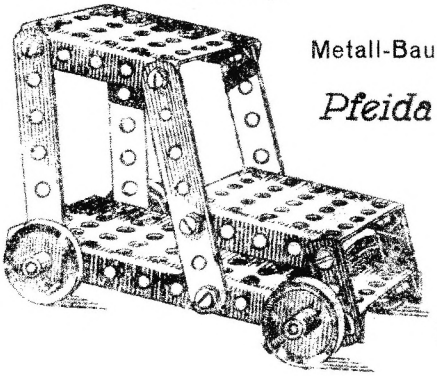
• **Strips**. 2,3,5,7,11h long, & 13.8mm wide, so they can't be bolted side by side. The ends are cut back close to the end holes, as in the 3h example left. A 1*5*1h **DAS**. • **Flanged Plates**. 5*5 & 5*11h, with open ends. • **Brackets**. An Angle Bracket, & a Reversed A/B, no doubt made from the 2 & 3h Strips. • A **Pulley** 29mm o.d. (left) with a boss of only about 7mm Ø, and an **Axle**, 80mm long & 3.9mm Ø, with square ends. • **N&B**. CH Bolts & square Nuts are shown in the models, but RH Bolts of at least 7mm u/h, can be seen in the bosses of the Pulley above, & those in the models.

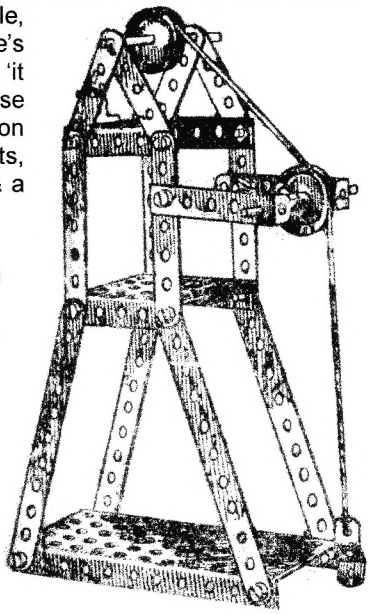


The **Model Sheet** is 21.2*15.3mm deep, and apart from the models opposite, the others are a Bridge, a Table & Chairs, and 2 Trucks. Looking at the Hoist, what happens to the Cord after it passes over the top Pulley? And is that a Reversed A/B (to act as a guide for the 'missing' Cord maybe), or some other part, that can just be seen between the 5h Strips at the top?

Quantities. The models shown need as many parts as any of the others, except for 2x 3h, & 4x 5h Strips.

History. PFEIDA's maker isn't known but Thomas suggested that the name, which has no obvious meaning, may well have come from the first letters of the names of the company, as, for example, Pfeifer & Danneberg. There's nothing on date either but 'it was probably one of those German systems from soon after WW2, with few parts, few models, a low price, & a short history'.





KOSMOS MASCHINENBAU This is the system that was mentioned in 20/586 & 21/618 under the name MASCHINEN, but MASCHINENBAU, meaning Machine Tool Builder, is used on the box & manual. It was first made in 1930 but for how long isn't known; the makers were a Stuttgart firm whose name varied a bit over the years but always included 'Kosmos' (see *Baukästen*, p253).

Thomas Morzinck has now kindly sent a photocopy of a manual which consists of instructions for a Lathe, a Milling Machine, & the Drilling Machine shown in OSN 20, each numbered from Page 1, plus outer pages with an Introduction, the Set Contents, and Lists of all the parts in the system & the various accessories available. The cover (17*24½cm deep) has a small B&W version of the colour photo on the box lid (above), and the names of the system & maker. In both, the '1' at top left has 'Bohrmaschine' & 'Drehbank' (Lathe) above it, so perhaps there was another set which allowed the Mill to be made as well. Possibly though it didn't justify a mention on the lid or cover because it is basically just a variation of the Lathe, and could be built from the parts in the No.1, except for the Mill Table, which, according to the instructions, had to be bought separately anyway.

The models need relatively few parts, only 24 N&B for instance, but are very solidly built to allow them to do real work. Working models were a feature of all KOSMOS sets.

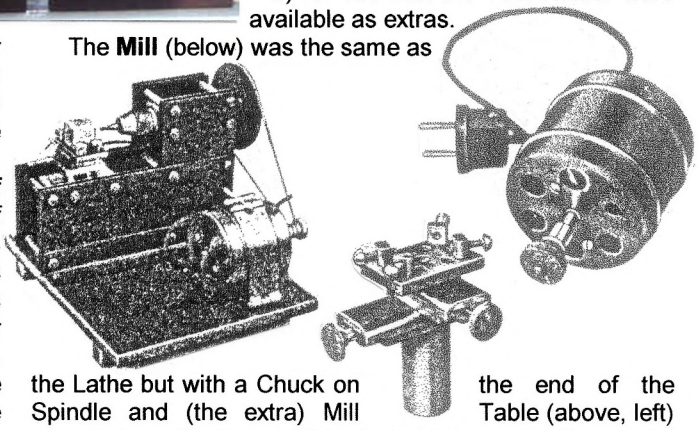
The main types of structural parts are 2 Perforated Plates, 4*7 & 4*10h; a 10h A/G, 20*18mm (the Manual has '20*78mm'); a 7h long 'U' Channel 20*20mm; & a Flanged Plate 4*10h with 20mm deep flanges on the long sides. The hole spacing is 20mm; all holes are round and are probably 3.5mm Ø. Not all the holes are shown in the building instructions diagrams. The other main parts will be mentioned in the description of the models below.

The sides of the **Lathe** (Abb.2 below) are double-walled, held apart by 7mm long Spacers, and between the 2 sides are 40mm Spacers, with 65mm Long Bolts passing right through. Other Long Bolts clamp the 2 Bearing Housings in place at F & G, with Bronze Bushes in the outer holes (Abb.3). (In the Drill the Bushes are in centre holes.) The 8mm Ø Spindle can be seen in Abb.5 with the 80mm driving Pulley on one end. Abb.9 shows a Face Plate on the end of the Spindle, and a Tool Rest which is held in a Cross Support similar to that used for the Spindle Bushes. Alternatively a Compound Cross Slide with Tool Holder (Abb.14) could be purchased as an extra.

The Lathe & Motor were mounted on a wooden baseboard, 20*22cm, with a Spring Cord drive. Any suitable motor could be used but the KOSMOS Motor with a small Triple Pulley on its shaft is shown (below, right). It was available for 4 voltages from 110 to 220, the power was 35 watts, & the speed 4000 rpm.

A hand-held Cutting Tool was included in the Set, and 7 Lathe Tools (A - G) for use with the Tool Holder were available as extras.

The **Mill** (below) was the same as



the Lathe but with a Chuck on the end of the Spindle and (the extra) Mill Table (above, left) mounted on the Cross Slide, to hold the work. No special milling cutters seem to be in listed.

The **Drill** can be seen in OSN 20, and again the sides are double-walled, with the Flanged Plate spanning them below the circular Work Table (Abb.4 below). Its spindle passes through the smaller of the 2 holes in the Cross Support, and is raised by the U-Channel lever 6. The Motor is mounted as shown in Abb.7. Alternatively a motor could be bolted to the Baseboard with the drive as in Abb.8, but this needed 'extras' - Pulleys & a Countershaft on a 60*60* 20mm L-Bracket.

3 & 4mm Drill Bits were included in the Set, and 5 others, from 2 to 5mm, were available as extras.

The **Tools** listed are a Screwdriver, a Spanner, & a pair of 'flat' Pliers: they can be seen in the illustration opposite, together with the wooden handled Lathe Tool.

Final extras: 2 Ball Bearings with Special Housings to replace the plain Spindle Bearings, a 22mm Ø Emery Wheel, and 5 Motor Pulleys to fit 6-10mm shafts.

The parts in Tobias' Set are blue but those in the OSN 20 photo look like plain steel. Commenting on his No.1 Set, Tobias Mey said it contained the best finished parts that he had ever seen in an MCS.

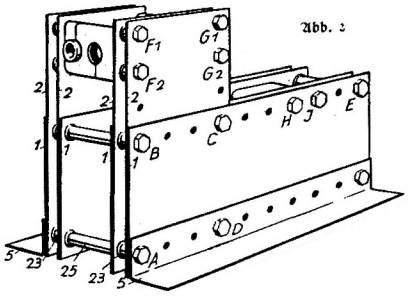


Abb. 2

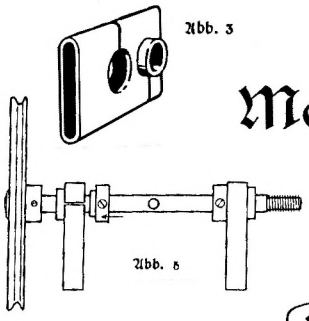


Abb. 3

Kosmos-Baukasten
Maschinenbau

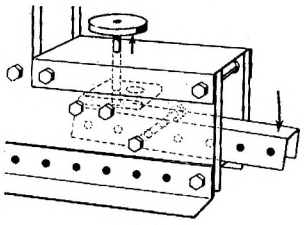


Abb. 4

Abb. 8

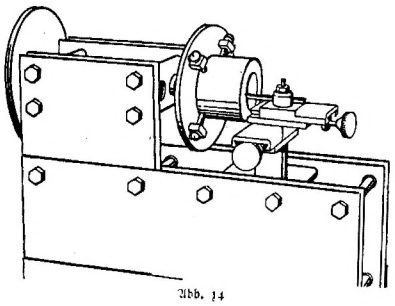


Abb. 14

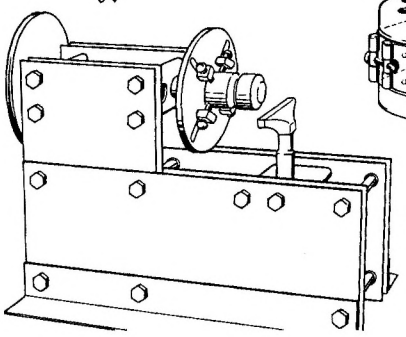


Abb. 9

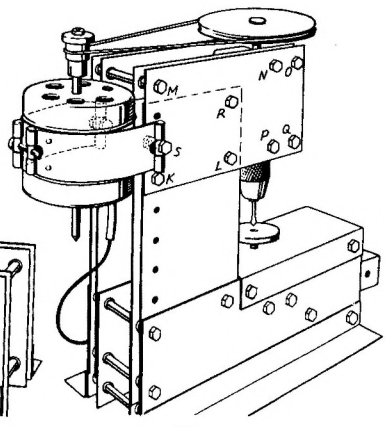


Abb. 7

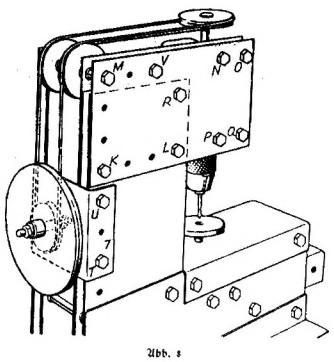


Abb. 8

More from AUSTRALIA

The notes below add to those in 19/540. Since then several readers have sent more material and information, including Frank Beadle, David Hobson, Jim Osborne, & Tony Press (who passed on items from Alf Croucher & Jack Little) - very many thanks to all. For ease of reference 2 lots of 'mystery parts' from Australia are also described here.

BETTAFIT

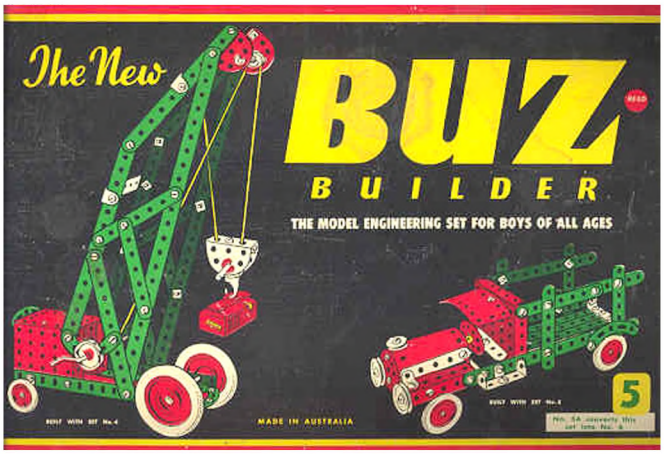
Some parts now to hand from Frank are described below. There is nothing to positively identify them but they look just like illustrations in MCS, and include the unusual parts. The name BETTAFIT was incorrectly spelt with a hyphen in OSN 19.

• **DATA** (in mm) Strip (15-hole): •Hole pitch/dia, 12.65/4.3 •width, 13.0; •thickness, .97; •ends fully radiused. Boss: •o/d, 9.5-9.6; •i/d, about 4.4mm; •brass; •single-tapped. Thread: 5/32" BSW, but see below. Axle Dia: 4.05. DP (Mod): N/A. Nut & Bolt: see below.

• The holes in the 15,7,5h **Strips** & the 3h **DAS** are at slightly less than ½", 12.6mm in some cases. The **Curved Strip** is very similar to M90a but is not stepped; the holes in it are 4.2mm Ø. • The bends in the **Flanged Plate** are not as sharp as M52 and the flanges are deeper by, typically, 1mm. 2 examples have the ½" slot but a third hasn't and is of thicker, 1.15mm, steel. The **Flanged Sector Plate** is similar to M54 except again, the bends are rounder, and the holes in the flanges are not elongated. These holes can't be seen clearly in MCS. • The **Radiator Plates** are 2¾*2¼" and are rigid, not at all flexible. Corners are near fully rounded. • The slots in the **Flat Trunnion** (left, 50% scale) are at 45°, and are not quite parallel with the edge. • The **Flat & Double Brackets** are MECCANO pattern, dull plated. • **Pulleys**. The 2" is made from heavy gauge steel. The 1" is 27½mm o.d. and is only 3mm across the 'V'. The Loose 1" is the same diameter but is even narrower at 2-2½mm (it is badly made), and has an eyelet boss. The **Road Wheel** (see OSN 19) is 2½" Ø, and is made from 2 identical, sturdy pressings, held together by the boss. This gives a full tyre contour, 11½mm wide outside the flat centre area. The **peening** of all these bosses (except the Loose Pulley) is a narrow ring of 7mm o.d. The **bores** are very sloppy on the Axles - that of the Loose Pulley is 5.1mm. The **Set Screws** are rusty, RH, & ¼" u/h. • **Axles**, 2 & 3½", have square ends. • In the MCS Parts List the **N&B** are both described as 5/32 x ¼", but the (rusty) N&B with these parts are ⅛" BSW, with a RH Bolt, ½" u/h, and a thick hex Nut, ¼" A/F. It seems unlikely that they are original unless nothing else was available at the time. • **Quality**. Except for the faults already noted, and a certain amount of burr along the edges of Strips and around some holes, the parts are reasonably well made. The paint on many parts is somewhat the worse for wear but was probably acceptable originally. • **Colour**. The Strips, DAS, Flat Trunnion, and Radiator Plates are mid-green; the Flanged Plates, and Pulleys, red. The Road Wheel's centre is red and the 'tyre' white. The red is rather lighter than a mid shade, and the Flanged sector Plate is light red.

BUZ BUILDER

Jim wrote that there were in fact 2 **Kraus brothers** involved with BUZ. He also sent an empty **No.5 box**, white with a red lid, 14¾*10¾*1½". The centre 11¾*7¾" of the lid (at the top of the next column) is similar to the picture inset in the 1960s manual cover (see 19/542), but in colour, black with r/g models, & BUZ in yellow. The Crane is labelled as a Set 4 model & the Lorry as Set 3. On the side of the lid is '71 MODELS ILLUSTRATED', so if the Set were concurrent with the OSN 19 manual, it would mean only 13



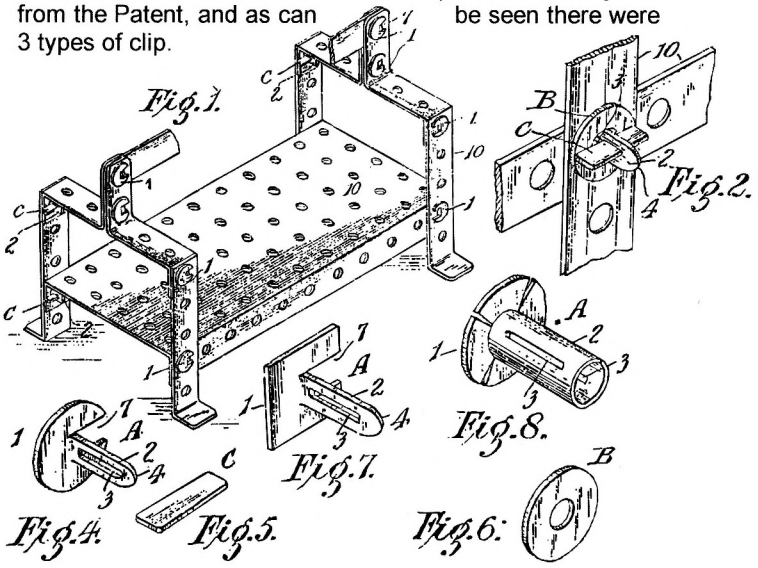
models for Sets 3-5. On the parts, Don Redmond wrote that the holes in an A/G of his (stamped BUZ) are at a pitch of 12.714mm.

EZY-BILT

Tony wrote of the research carried out by Jack Little and Alf Croucher. The system was first made in Melbourne in about 1935, and a 1936 ad from *The Sun Hobby Book* lists 3 sets at 2/6, 5/- & 8/6. The brightly coloured, yellow, red & green label (below) is from a 2/6, No.1 Set, thought to be from

very early production, and it measures about 12*7". The small 'No.1' is on the side elevation of the Sidney Harbour Bridge, and either side of the price, at the bottom, is 'Manufactured in Australia', & 'Patented' & 'No.7007/22'. The boys in the frames right & left are making a Crane, & (what might be) a Windmill, respectively.

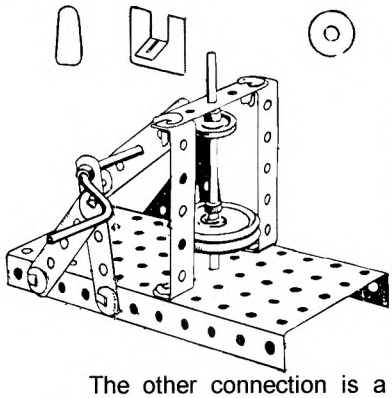
The **Patent** covered the use of clips, held by flat wedges, to hold the parts together 'in lieu of bolts and nuts, now generally or largely used, which latter are relatively expensive to produce and in addition are inconvenient to handle and adjust,...'. The application was made in May 1922 by James Perrott, 43 Madeline Street, Carlton, Victoria, and was accepted in May 1923. Below are some of the Figures from the Patent, and as can be seen there were 3 types of clip.



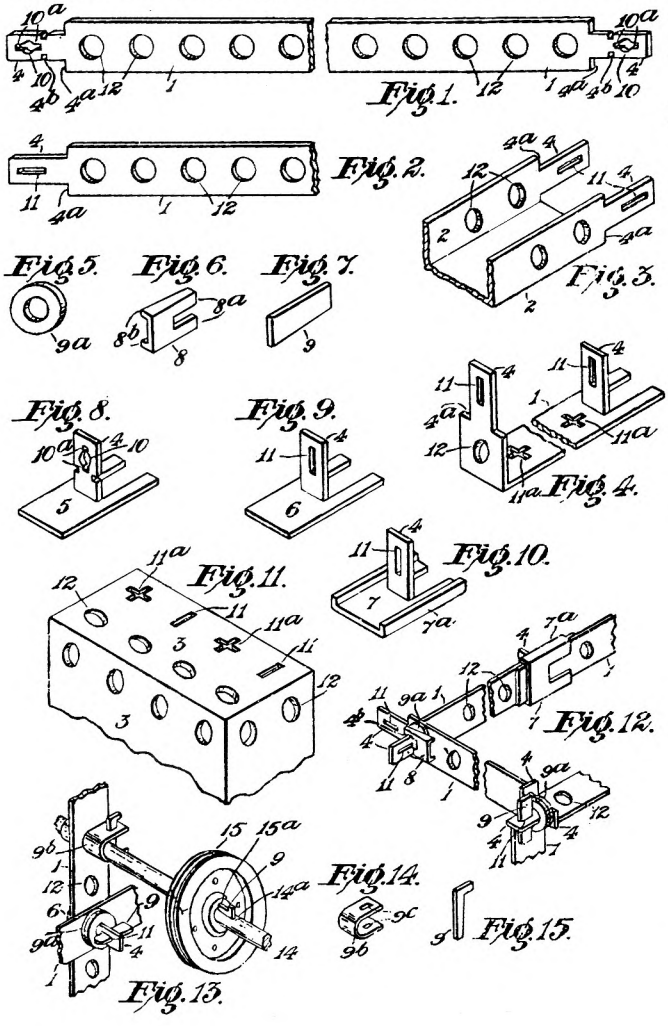
Judging from the manual models of the time, shown later, the simple circular type (Fig.4) were the ones used in E-B. All this explains of course the name EZY-BILT. The clips in the Patent might be considered an improvement on the PHANTASIE part (see 15/417), in that they had a flat surface on the outside of the model, and were perhaps a little cheaper to produce. However the double 'prong' of the German part would probably have made it easier to insert the wedge securely. PHANTASIE came onto the market in 1923 but It isn't known if its Clips were patented or were a registered design.

Before going on with the story it may be of interest to look at a couple of other connections between Melbourne and systems using wedges to hold the parts. MCS contains **ENGINEERIT**, thought to be American from the 1920s, & under a model in what appears to be part of an ad, is 'Sole Agent For Australia & New Zealand, P.V. Morris, 7 Elizabeth St., Melbourne.' Shown top left are the 'square' Clip parts used at first, & under them one of a 'New Series' of models in which the Clip has a rounded shape. Both types look quite similar to the simpler Perrott parts.

No. 25. Cotter Pin, Ties, and Washers

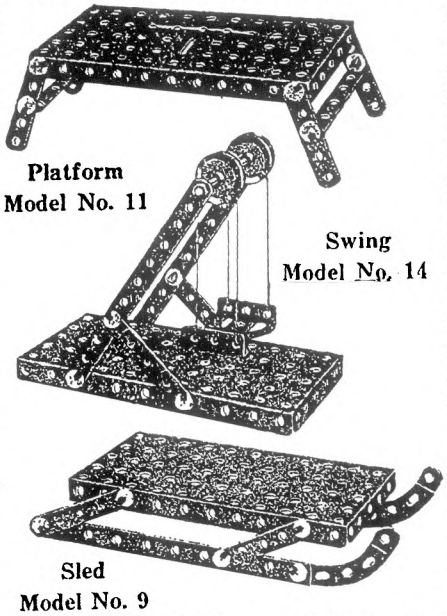


The other connection is a UK **Patent 196581** (from David Hobson), which is in the name of Alfred Carlyle Day of 8 Wright's lane, Melbourne, and has an Australian Convention date of April 24, 1922. Here wedges are used again but the details of the joints are somewhat complicated, with various alternatives mooted. Strips have reduced width ends which can pass through the holes, or through either of the 3 shapes of slot in some of the parts (slit, slit with centre hole, cross, see Figs.1,2,4), and are held by the cotter pin (Fig.7), with packing washers as necessary. A different wedge (Fig.6) can engage in the nicks 4b in some of the tongues (Figs.1,8). Both types of wedging can be seen in Fig.12, and also the use of an angle 7 (see Fig.10) to join 2 strips. Notable among the other parts shown are a channel girder (Fig.3), & a flanged plate (Fig.11), with its 'interesting' pattern of holes & slots in the end flange. Fig.13 shows a wheel with keyway being held to a flatted axle by another wedge (Fig.15), and also an axle stop (Fig.14) using the same wedge. Incidentally the hole in the slit/hole type of slot was meant to be large enough to take an axle.



Back to E-B. It was not made by CPPL (Colton, Palmer & Preston Ltd.) originally, but by a **George Irving**, and it is presumably his firm, **Ezybilt Pty. Ltd.**, Melbourne, which is on a January 1941 Price List. The patented Clips were replaced by N&B 'soon after' the start, and the 1941 List includes N&B but not the Clip parts. The basic sets in this List are Nos.1-5 (3/11 to 26/6) and 2A-4A, but there is also 'the New **Camouflage Set**' at 15/- (a price between Nos.3 & 4), and the **Pocket Edition**, at 2/6. One of the latter is known and in Tony's words, 'it predates Pocket Meccano by some decades!', but so far only some parts from the Camouflage Set (probably) have turned up. In a 1941 toy catalogue, Sets 1-5 are listed at the above prices plus 2 Camouflage Sets at 15/- & 21/-. The parts in the 1941 List are all those needed for the CPPL Sets 1-5 (see 7/144, Refs.A-C). 2 '**Booklets**' are listed, for Nos.1,2 & 3, and Nos.4 & 5.

3 pages from a prewar **Clip era manual** show all the No.1 models from the later CPPL manual (1st col., 19/544) except that No.19 is a Field Gun against the CPPL Cutlery Box. New photos, though usually very similar, have been used by CPPL, with the Clips replaced by N&B. Two other changes. All the Flanged Plates that can be seen in the CPPL manual have the ½" slot and saw blade slit whereas some of the 'Clip' models show these and some don't. Secondly the CPPL Model Nos. have '1.' In front of them. I wonder how the 'Clip' models for larger sets were numbered. 3 of the 'Clip' models are shown left - in many cases simple joints are used without overlap or triangulation to make them rigid. At the bottom of the last page is a note which includes: 'If three or more pieces [are used] together, use narrower wedge.' 2 depths of Wedge would allow a shallower taper & a more secure fixing.



E-B was **bought by CPPL**, possibly when George Irving enlisted, but it isn't certain just when. One suggestion is after 1941, but Jim wrote that the Set to be described next, with CPPL on the label, was probably from 1941.

The 1941 Set (from Jim) is a No.4, largely complete, and with the 1-5 Manual described in the 1st column of 19/544. The Set is in a steel box, 20*10*1", with a metal centre partition, and the parts were strung on the yellow cards still in the box. The box was painted grey by a previous owner and may originally have been unpainted galvanised steel. The lid has a ¼" deep flange all round and just sits on top of the box. Most of the 13*9" label on it is still intact, and is similar to the early one on the opposite page but with: the yellow areas replaced by white; a 1" wide sur-

round of green with a band of 4 narrow yellow lines on it; 'No.4' in the circle at the bottom instead of the price; and the CPPL name followed by 'Adelaide, South Australia' at the bottom instead of the reference to the Patent.

Compared with the **Contents** in the Manual (as MCS/NZ p6) the main parts missing completely are the Hook, Rubber Axle Stops, & Cord. Also there are no Rubber Tyres for the 1" & 2" Pulleys, but instead 4 Road Wheels. And 4 DAS instead of 3 (as in the later MCS/FB p3/4,a). The absence of rubber parts and Cord was no doubt due to wartime shortages but the Manual doesn't bear the label mentioned in 19/544 (on a similar postwar manual) which explained the situation.

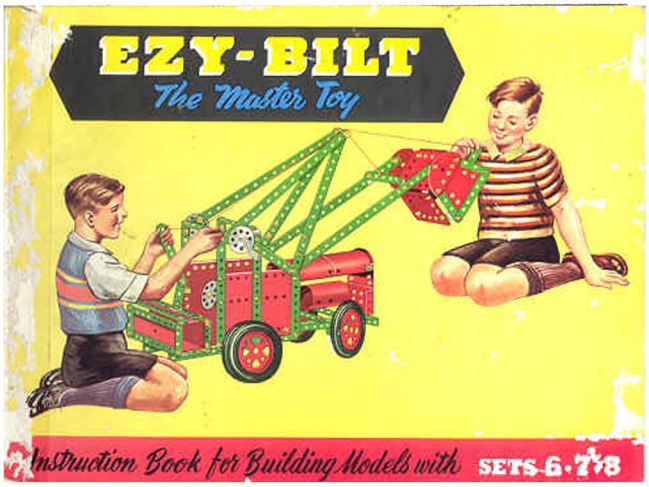
The Parts • DATA (in mm) Strip (11-hole): •Hole pitch/dia, 12.7/4.3 •width, 12.8; •thickness, 1.05; •ends fully radiused. Boss: •o/d, 9.6; •i/d, 4.17; •brass; •double tapped. Thread: 5/32" BSW. Axle Dia: 4.06. DP (Mod): ? Nut: square 7.9 A/F; Bolt: cheesehead 5.8 dia; both plain steel.

The parts below are like MECCANO unless otherwise stated. • **Strips** with 5,11,15h. The 15h has 4.2mm holes and the ends are nearly fully rounded. A few of the various Strips are about 1.5mm thick, & one is 13.1mm wide. • The 5h **DAS** are like M48a, & the **Curved Strips** are similar to M90a except the slots are 8½mm long. • The cutouts of the **Trunnions** are ½mm higher up than in M126,a, & the metal outside them is only 3mm wide. • The **Flanged Plate** has the ½" cross slot but no Saw slit, and the slots in the **Flanged Sector Plate** are only 6mm long. • **Brackets**. The Stepped Bent Strip, Double Brackets, and some Flat Brackets are plated a dull silver colour; other Flat, & all A/Bs, are tin plated. The Reversed A/Bs are nickel plated and are 13mm wide, with an extra 1½mm of metal outside the round hole. • **Axles** (2,3½,6½") have square ends. • The **Bush Wheel** is nickel with 4.6mm holes and the boss peening is deeply recessed. • The **2" Pulley** & **Road Wheel** also have this peening, and the latter is tin plate, now grey, with the conical centre red. • The **1" Pulleys** are 27mm o.d. with a narrow, 3-3½mm wide 'V'. Peening is a narrow ring with splitting in some cases. The Loose one has eyelet centres, 4.8mm bore. • Another set of **1" Pulleys** was in the box (4 Fast, 2 Loose), and most of them won't quite fit the Axles. They are 25½mm Ø, 4mm wide across the 'V', and the bend outward to form it is much sharper. Bosses are similar but with no splitting. • The **Small Loose Pulley** is brass, 16mm o.d. & 4.6mm wide. • The **Nuts** are pressed & 2.4mm thick; **Bolts** are ¼" u/h. Most bosses have ordinary Bolts in them, but 2 of the 4 Road Wheels have **Grub Screws**. • The **Screwdriver** in the box (below) is 98mm o/a, and is rather like the illustration in the later CPPL 1-5 manual (described in 7/145). • **Quality**. Quite good apart from the dimensional variations already noted, and the rather crude bosses of the 1" Pulleys. (If they are E-B - the 'alternatives' are much better and look more like a photo of some other E-B parts, even if they don't all go onto the Axles). • **Finish**. All the parts not already described are painted dark green, except the mid-red Flanged Plates & Pulleys. A few parts, the rectangular Flanged Plate for example, are well painted, but most have thickening of the paint on some edges or occasional rough patches.

Production resumed in Adelaide under a special permit in October/November 1944, in time for the Xmas season. A Notice on the back of a 'Folded Box No.1 Set' explained that the packaging was to save cardboard, and E-B would be attractively boxed again when peace returns. Jim wrote that the postwar No.4 was in the same metal box as the '1941' one except that it had a sliding lid. As already noted, manuals from the time had a label explaining the absence of Cord & rubber parts, and the CPPL address on it is the one used in later literature - **Southwark**, South Australia. He also mentioned that he had heard that there were several changes of ownership subsequent to CPPL, and that a firm called **Lanes** bought E-B in 1955. The first List to hand after that is for 1960, but there's no name on it, nor on those for 1961 & 1962. The next one, for 1966, is from Ezy-Bilt (Pty) Ltd. (EBPL).

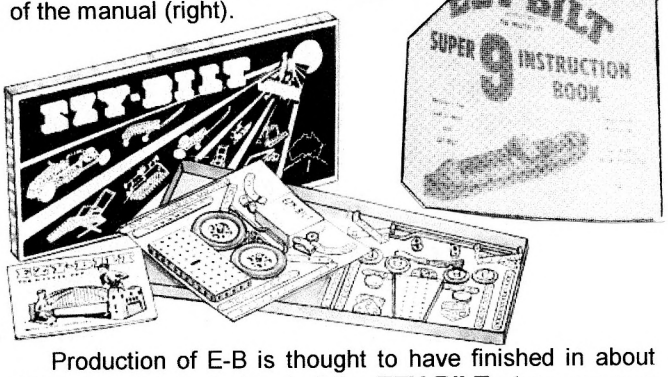
Another goody from Jim, a **Manual for Sets 6,7 & 8** from Ezy-Bilt Ltd.

SUMMARY OF MANUAL •Name: EZY-BILT •Details of maker: EZY-BILT LTD., 630 Port Road, Kilkenny, South Australia.. •Dates &/or Ref Nos: none. •Page size: 287*216mm deep. •No. of pages: 48+covers. •Language: English. •Printing: B&W photos of models on art paper; full colour cover (below) with yellow ground. •No Parts List. •Page Nos. of Set Contents & highest PN: IBC, 162. •Sets covered: 6,7,8. •No. of models for each set: 34,16,21. •Name, Model No., Page No. of first & last model of each set: 6: Air Force Lorry,6.13,2; Child's Swing,6.5,18. 7: Round-about,7.7,19; Giant Turret Tank,7.14,27. 8: Air Liner,8.1,28; Tripod Crane,8.11,47. •Other notes: the models on p13 are for Set 6, not 7 as stated.



The **models** are the same as those in the CPPL 6-8 Manual described in the 2nd column of 19/544, but there are a few less of them, and they are in a different order, with the Model Nos. still out of sequence. The photos of the models are as before but look very clear on the art paper used, and the larger page size allows the text, unchanged, to be in larger type. Altogether a better production. The cover is similar to the front panel of the colour Leaflet, Ref.G of 7/144. The **set contents** are given for Sets 6-8, and are as in the CPPL Manual except for an extra 2x 3" Strips in each, and 2 less Collars in the No.8. The highest PN in the Set Contents is #162 (the No.9 manual).

The Manual's **Intro** includes a line drawing of a smallish set with a box lid (below left) like the one on the left in the 2nd column of 19/545, and a manual like the CPPL/EBL 1-5 with the r/g 'Bridge' cover. A whole page is devoted to an ad for the No.9 set - called the **'Super 9'** - & the Spring Motor. The former is said to have 1045 parts (against 538 in the No.8), & 3 manuals with 266 models. 255 models were claimed for the No.8 in Ref.G, so that would indicate 11 No.9 models. A photo of the Set shows several trays in what may be a wooden box, and part of the manual (right).



Production of E-B is thought to have finished in about 1970. The details to hand of **the EZY-BILT story** are now spread over several Issues and it may be useful to try to summarise the main points.

•First sets produced in Melbourne using Clip fixing. c1935

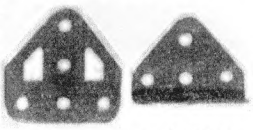
•3 Sets advertised. 1936
•Clips replaced by N&B. Likely by say 1937-38
•An Ezy-Bilt List has Sets: Pocket,1-5,Camouflage; & Manuals: 1-3, 4-5. 1941
•CPPL acquires E-B, perhaps as early as 1941
•A CPPL, Adelaide No.4 set has CPPL, Adelaide, 'brown Bridge 1-5' manual (see c1/19/544). Possibly 1941
•Production resumes at Adelaide with only Sets 1-5. 1944
•Label on 'brown Bridge 1-5' manual has Southwark address. Known from 1945
•Sets 6-8 introduced with (presumably) 'r/g Galleon 6-8' manual (see c2/19/544), from CPPL, Southwark. ?
•New CPPL, Southwark 'r/g Bridge 1-5' manual (see bottom 7/145). Sets 6-8 mentioned. #84 Grub Screw is listed in a later edition. ?
•E-B reportedly bought by Lanes. 1955
•List has no name but Sets 1-8; new parts up to 161, & new PNs. 1960
•List as 1960 but Sets 1-9, & C/W Motor. 1961
•List as 1961 but parts to 162 (No.9 manual). 1962
•EBL, 630 Port Road, Kilkenny / Rayon Surfaces Ltd., 'r/g Bridge 1-5 colour' manual. Virtually as CPPL 'r/g Bridge 1-5' but with red, purple models (see 7/145). ?
•Colour Leaflet from EBL, 630-632 Port Road, Kilkenny (Ref.G, OSN 7). Motor featured; No.9 listed. ?
•New EBL, 630 Port Road, Kilkenny 'large 6-8' manual (described above) with cover like Leaflet above. Parts to #162. Motor & No.9 (called 'Super 9') featured. ?
•CPPL reported closed, but irrelevant if E-B to Lanes in 1955. Mid-1960s
•List from EBPL, 630 Port Road, Kilkenny with parts to #177, & extra 'Star Sets 3-5'. No.8 has Motor. 1966
•List as '66 but from EBPL, 632 Port Road, Beverley. 1967
•List as '67 but from EBPL, 630 Port Road, Beverley. Motor still in Sets but not listed separately. 1968
•Production thought to have ended about 1970

The order of the undated items is largely guesswork, and information to fill gaps, remove uncertainties, & give end points will of course be very welcome. Was there a 'large 1-5' manual? What happened to the NZ production? Was there a reason for the name Ezy-Bilt Ltd. to change to Ezy-Bilt Pty. Ltd.? And if so when did it occur?

YOUNG ENGINEER'S SET

This is the name (I'll call it YES) on the cover (below) of a manual that Jim sent, and it sounds as if it is the one

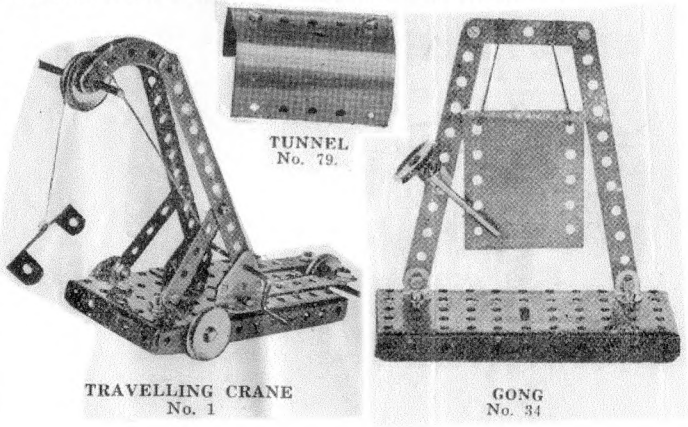
thought to be related to BETTAFIT (BET) in 19/540. The name appears only on the front & back covers and there is no mention of a maker anywhere. Possible connections between it and the MCS BET entry are: • the range of parts is the same except that YES has none of the parts on the 2nd MCS page (#27-34) except the Flat & Curved Radiator Plates (left); • the names of the parts are the same (though not the PNs) except that the word 'Radiator' isn't used in YES; • the Stepped Bent Strip (M44) (left) has the unusual name of "U" Piece in both systems, and the illustrations used are identical. Points of difference are that the YES Plates have square corners, and the YES Trunnions are as below, with different piercing, and don't have the BET slotted holes. It isn't clear whether the Curved Strip is stepped, or flat, like BET. Apart from the parts already described the only distinguishing feature is the ½" cross slot in the Flanged Plate (as BET). However this slot isn't shown in many of the models. If the systems are connected, YES may have come before B-F, and possibly from the early 1940s. One clue to age may be the prices of the parts, which are typically 20% lower than those in the 1941 E-B List (the YES 5*11h Flanged Plate was 6d, the 11h Strip & Trunnions, 1d each, & the 1" Pulley with Boss, 5d).



SUMMARY OF MANUAL •Name: YOUNG ENGINEER'S SET •Details of maker: none. •Dates &/or Ref Nos: none. •Page size: 280*165mm deep. •No. of pages: 16 inc covers. •Language: English. •Printing: all B&W with photos of models. •Page No. of Illustrated Parts List & highest PN: 2,28. •Page No. of Set Contents & highest PN: 16, 28. •Sets covered: 1,2,3. •No. of models for each set: 21,30,33. •Name, Model No., Page No. of first & last model of each set: 1: TRAVELLING CRANE,1,3; GARDEN EDGE LAWN CUTTER,21,5. 2: GYM HORSE,22,6; SHOVEL,51,11. 3: PARALLEL BARS,52,12; WINDMILL,84,16. •Other notes: Model 44 (p9) is mislabelled 41.

The **contents** of the 3 sets are progressive except that the No.1 has 4x 1" Loose Pulleys, and the No.2 has 2 plus 2 'with Boss'. The No.3 includes 26 N&B ('5/32'), 22 Strips/DAS (including 2x 7½"), a Flanged Plate, 2 each of the Flat/Curved Plates, 2 each of the Trunnions, 2 extra 1" Pulleys, & 4x 1" Tyres.

Some of the numerous **models** are familiar but many are original, often making use of the Flat & Curved Plates. Few though do justice to the contents of the Sets. The small photo provided of each model would be enough to make most of them without difficulty. Three are shown below.



MYSTERY PARTS NO.43

Jim sent over this lot of parts which he was given some years ago, with the suggestion that they might be BETTAFIT or YOUNG ENGINEER'S SET. Generally, apart from the Flanged Plates, they are not as well made as the BET ones described already, with some rough edges, different size holes in individual parts, holes off centre, etc. The Flanged Plates are painted light red; some of the other parts are mid-green, but most are light green, and differ in several details from the mid-green ones.

The red parts. 2x **5*11h Flanged Plates** with the ½" slot, which more or less match the BET ones. 2 **Flanged Sector Plates** which are like BET but have 6mm slotted holes in the flanges.

The mid-green parts are 6 each of **5h Strips** with near fully radiused ends, & M90a **Curved Strips**, and 2 MECCANO-type **Trunnions**. Holes are 4.2mm, with 4.3mm in the Curved Strips.

The lighter green parts are: • 5,11,15h **Strips** {10,4, 2}, 12.9mm wide, with 7mm radiused ends & 4.4mm holes

(4.3 in the 5h). • 4 **Curved Strips**, M90a type with 4.2mm holes. • A 1*5*1h **DAS** with 4.3mm holes. • 2 each of **Trunnions** & **Flat Trunnions**, both with 7 (4.3mm) holes. • A **Double Bracket** (4.2mm holes), & a **Reversed Angle Bracket** with 4.1mm holes, all round. • 4 **'Radiator' Plates**, 2 of which were probably once curved. Corners are square and the holes in 2 (1 Flat & 1 Curved) are 4.1mm, and in the other pair, 4.3mm.

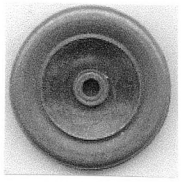
Aside from the quality of the parts, the light green ones do not generally match well with the BET parts, particularly the ends of the Strips, the corners of the Radiator Plates, & the Trunnions. They, and the rectangular Flanged Plates, are a good match with the illustrations of the YES parts in the Manual, except (a) for the different holes in the Flat Trunnion, and (b) the Curved Strip, if the YES part isn't stepped. Perhaps by coincidence the quantities of the light green parts largely correspond to those in a YES No.3 set. There is no Flanged Sector Plate among the YES parts and the two in the lot are actually very similar to the EZY-BILT pattern although the bends are a little less sharp.

MYSTERY PARTS No.44

Jim also sent these - they were found with the No.4 EZY-BILT described already, and they are probably the best part of a decent small set. Nearly all have a chemical black finish, not seen on any other Australian parts, and the Road Wheels are unusual. There's nothing to prove that these parts, or the r/g ones above, are actually Australian but it seems very likely. Not many small sets have 15h Strips and small, rigid Flat & Curved Plates.

• **DATA** (in mm) Strip (11-hole): •Hole pitch/dia, 12.7/4.3 •width, 12.9; •thickness, .83 but see below; •ends fully radiused. Boss: •o/d, 9.6; •i/d, 4.29; •brass; •double tapped. Thread: 5/32" BSW. Axle Dia: 4.06. DP: N/A. Nut: hex 7.9 A/F; Bolt: cheesehead 5.5 dia; both brassed steel.

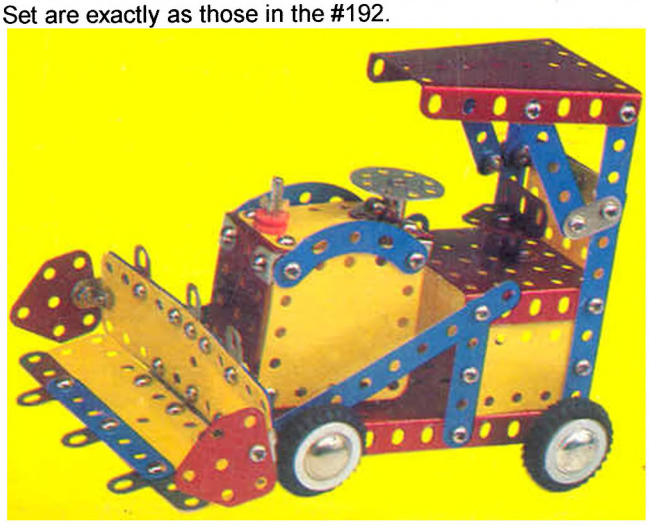
The parts are listed below: they are black & MECCANO pattern unless stated otherwise. The numbers found are in curly brackets. • 5,11,15h **Strips** {10,4,2}. All are about the same thickness as the 11h above, but 2 of the 11h are 1.07mm thick. The ends of the 15h are semi-radiused. • 4 **Curved Strips**, like M90a. • 1*5*1h **DAS** {2}. 7h pattern **Trunnions & Flat Trunnions** {2,2}. **Angle, Flat & Double Brackets** {8,1,2}, and a **Reversed A/B** with all round holes. • A red 5*11h **Flanged Plate** with a ½" cross slot. .73mm thick, rigid **Plates**, 5*6h with only edge holes, & slightly rounded corners {2 Flat, 2 Curved}. • A **Bush Wheel**. Red **1" Loose Pulleys** {2}, 4mm across the 'V', with centre brass eyelets. 1½" Ø **Road Wheels** {4} (left) - tinplate (now dark grey) balloon wheel but only 6.8mm wide, and with a 24mm red concave disc held in the recess of the outer face by the peening of the boss. The **peening**, of near rectangular section, is unusual. • 1½, 2, 3½" plain steel **Axles** with slightly rounded square ends {1,1,2?3}. A **Crank Handle** 5" o/a, also plain steel, but it may not have been with these parts. • About 50 **N&B**. The Nuts are machined, 2.6mm thick, & the Bolts ¼" u/h. • **Finish**. The parts are well made, though the hole size varies between the different parts - usually it is 4.2 or 4.3mm, but the holes in the 15h Strips are 4.6mm. The black parts still look smart, even though the painted ones are well used.



I thought the black finish attractive, and also the Road Wheels, so I used the parts to make a Shovel Excavator based on the 1948-53 MECCANO Model 3.18. It worked out well, and the extra holes in the Plates compared with the Radiator Plates were invaluable. However for the bucket I had to bend a Curved Plate 'the other way', which was easy enough using bending rollers but would have been impossible by hand. That would have been the case with the Radiator Plates too and one wonders why they were made of such heavy gauge metal in both systems. A thinner fairly soft steel would have given adequate stiffness and still allowed bending over a broom handle or the like. I could go on about the folly of having Radiator Plates in a system like BETTAFIT with only 34 parts in all, but it would simply be stating the obvious.

Another MECHANIC Outfit Sets #192 & 196 were described in 17/471 and now David Hobson has kindly lent me his #193 Set. A label on the box shows that it was imported into Belgium by N.V. Nicotoy S.A, Stasegemsesteenweg 72, 8500 Kortrijk/Courtrai. The Model Leaflet and many of the parts are missing but it is clear that whereas the #192 was similar to the WISDOM No.2, this is the equivalent of the WISDOM No.3.

The Set is in the same style as the 192 but the box is a little larger, 14¼*10¾*1¼". The large model photo on the top is of a Lathe, and it, and 4 of the 5 models on the bottom, can be seen, with very minor variations, but coloured red & green, in an old CONSTRUCTION MODELS manual. The 'new' model is shown below. The parts remaining in the Set are exactly as those in the #192.

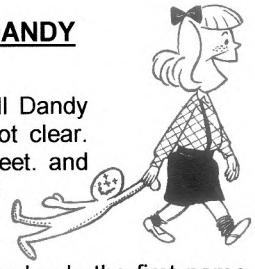


More Trunnions My apologies to whoever kindly sent some notes on Trunnions, because unfortunately I can't find his name. First the 4 below which aren't in the Trunnion Sheet (see 15/427). From left to right they are photocopies of EXACTO & AUTOMAT full size, and MÄRKLIN at ½-scale; then a trace-round of MEK-STRUCT. The MÄRKLIN one was also labelled 'AMI LAC', but I can't find the part in the MCS AMI LAC pages. Perhaps it was in earlier (or later) Lists and I'd be glad to hear if anyone has information on this, or any other variations from the MCS material. The PN might be 113, which is the old MÄRKLIN number, and isn't used in the MCS AMI LAC List.

Mr X also noted that there are a number of Trunnions, or similar parts including small Triangular Plates, in MCS which aren't in the Trunnion Sheet. These are from ALPHA [2], CONSTRUCTA, DER JUNGE KONSTRUKTEUR, DUX-UNIVERSAL, EL TECNICO, ERECTOR, IL COSTRUTTORE MECCANICO, KONSTRUKTION, LE CONSTRUCTEUR (should be type (A)4 & not (A)3), MAAKEETS, MAC ET NICK, MEKANIK [1], METEOR, PREMIER, STRUKTIRON, TECC, TECNIC, TEKNO [2].

'New' System - JACK & JILL DANDY

by Jacques Pitrat



I have called this set the Jack & Jill Dandy Construction Set, but its name is not clear. There is no name on the Model Sheet. and around the tube the parts are packed in, is 'Jack Dandy Construction Set' followed (or preceded) by 'Jill Dandy Construction Set'. George Wetzel used only the first name in his list of sets (see 19/552). It was manufactured by TOY-IN-A-TUBE Corp, 3619 Packard Road, Niagara Falls, N.Y. (Buffalo, N.Y. on the Model Sheet).

The tube is 29 cm long with a diameter of 9 cm, and is of importance because it is used in many of the models. Its body is in strong cardboard; the ends have a cardboard side and a metal bottom, with 4 holes for bolts in the side and one in the centre of its bottom. An unusual mechanical feature is the Threaded Crank (Handle) and Threaded Yoke below.

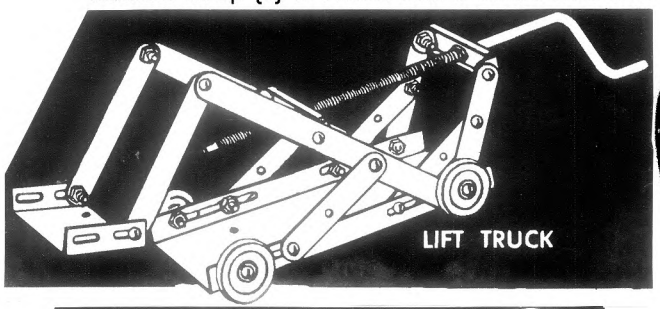
The Set has probably never been used. The parts are described below and can be seen in the models shown, although not all the holes/slots are as drawn. After each part, in curly brackets, is the number given in the Set Contents on the tube. In fact some extra N&B were found in the Set. All the parts are aluminium, except the wooden Wheels, and the steel Bolts, Nuts, Wrench, & Screwdriver. Most holes are 3.8mm diameter, and this is also the width of the slotted holes. Some parts have a larger 7 mm hole for the crank and I will specifically mention such large holes - also the length of the slotted holes.

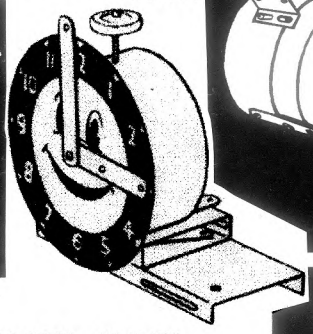
- The **Straps** (Strips) are 13mm wide with rounded ends. The Long one {6} is 140mm in length and has four holes, one at each end, and the others at 43mm & 74mm from one end. There is no hole exactly in the middle. The Medium Strap {4} is 79mm with a centre hole and one at each end. The Small Strap {6} is 63 mm and has a hole at each end and a third at 27mm from one end.

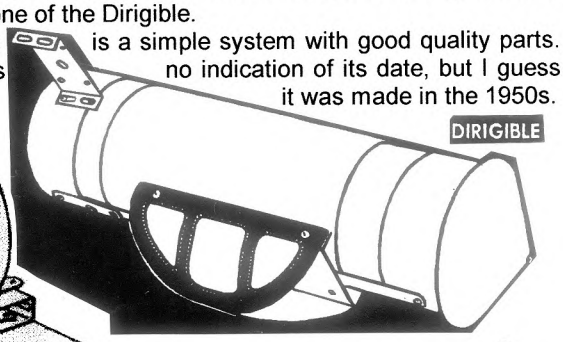
- The 151x64mm **Large Plate** {1} has a centre hole and one 9 mm slotted hole at each corner. The long sides are flanged and each has two 44 mm slotted holes. The **Small Plate** {2} is 64x38mm with flanges on the short sides. It has a large centre hole, two 9mm slotted holes at each end, and two 13mm slotted holes in each flange.
- The **Threaded Yoke** {1} is a DAS, 58mm long with a large threaded hole in the middle for the Crank, two holes at each end & a hole in each lug. The **Plain Yoke** {1} is the same except that the large centre hole is not threaded.
- The **Threaded Crank** {1} is 235mm o/a, with 6mm diameter thread over 155mm. It can be used with the Threaded Yoke or the Large Nut.
- The **Wheels** {6} are red with a diameter of 29 mm.
- **N&B**. The ⅜" {20} & 1½" Bolts are nickeled with round heads, & a 3mm diameter thread. The hex Nut {24} is plain steel, 7mm A/F & 2mm thick. The **Large Nut** {1} is also hexagonal, 11mm A/F & 5mm thick, and is nickel plated.
- The **Wrench** {1} is nickeled; one end fits the Large Nut and the other is for the standard one. The **Screw Driver** {1} is flat, 73 mm o/a, and also nickelled.

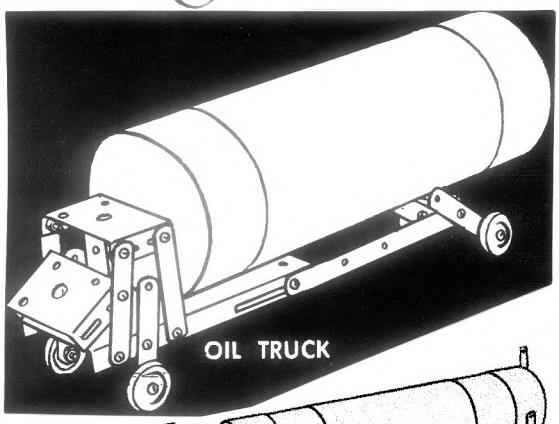
The **Model Sheet** - a 'giant illustrated wall chart', 35* 21½" - is printed navy blue on white with alternate large rectangular blocks of white on navy. At the top are the youngsters above, and 'MAKE ALL THESE TOYS and Dozens More' with your 'Toy-in-a-Tube'. It is suggested that new models can be designed using additional parts found around the home, like boxes, coffee cans, paper clips, etc. 65 simple models are shown, and many of them use the body or the ends of the tube. These ends can even be used as large wheels, as in the Tractor below. The most interesting models, such as a Jack, a Draw Bridge, or the Lift Truck (below), are operated by the Crank, and it is also used for winding, as in the Well. Some models need card parts, and 4 patterns for these are given at the bottom of the Sheet. They can be seen below as the 5½" long head of the Dachshund, the 5" Ø Clock face, and the gondola & nose cone of the Dirigible.

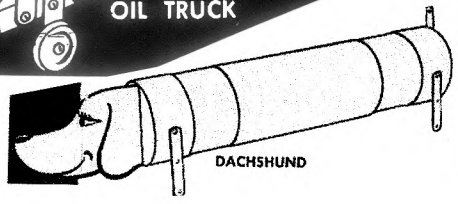
This is a simple system with good quality parts. There is no indication of its date, but I guess it was made in the 1950s.

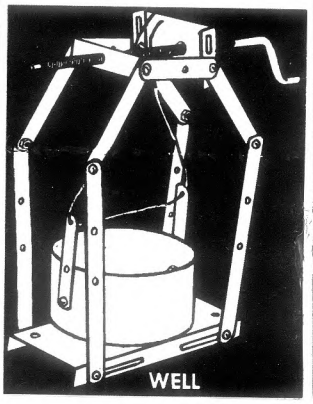


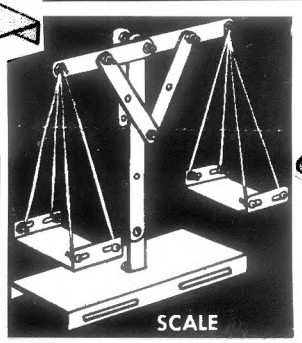


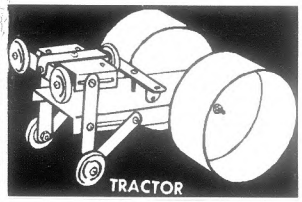


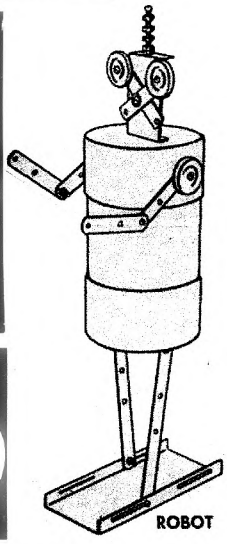












The GILBERT MECCANO Ships These were mainly made from 16 special parts, and as far as I know, they are the only floating models that could be made from the parts in a standard outfit, & the only models to be rubber powered. They were included in Sets 115-150 (see 12/319, 19/546) in 1930-31, & then in the No. 15. This was a repackaged No.115, & was probably top outfit in a range known to have been available through '36, though production of the Ship parts may have stopped before that, perhaps in 1934.

The parts are shown in MCS Part 5 and Jacques Pitrat has kindly sent some notes on them, and copies of some of the 20 Ship models in the (© 1930) Manual, to illustrate their use. As well as the Harbor Patrol Boat & Speed Boat (right), 4 other models are shown on the back cover.

The Hull (#172) is black, about 24" long, with holes at 1" spacing around the top, & 5 holes below the waterline for the Propeller & Rudder Quills, and for the Bolts that hold the Keel (#172F). An extension, #172G, can be bolted to the Keel, as in the Sloop. A suitable number of Strips are to be bolted along the Keel's bottom to provide stability. The 5 underwater holes are made watertight by rubber Gasket Washers (#38A), which look to be about ½" Ø.

All 5 deck parts (172A,B, C,D,K) are flanged except the oval Cabin Top, #172D (see Harbor Patrol). They are all yellow but the other non-mechanical part, the Pilot House Top, #172L, is shiny. The Funnel is the standard red with black top, raked Liverpool #138a, but with the steam pipe replaced by a 2" Axle held in Formed Collars, 59A. The Boiler End used as a turret is still called #162A but has 2 holes in the flange for the gun barrels (see the Aircraft Carrier on the back cover).

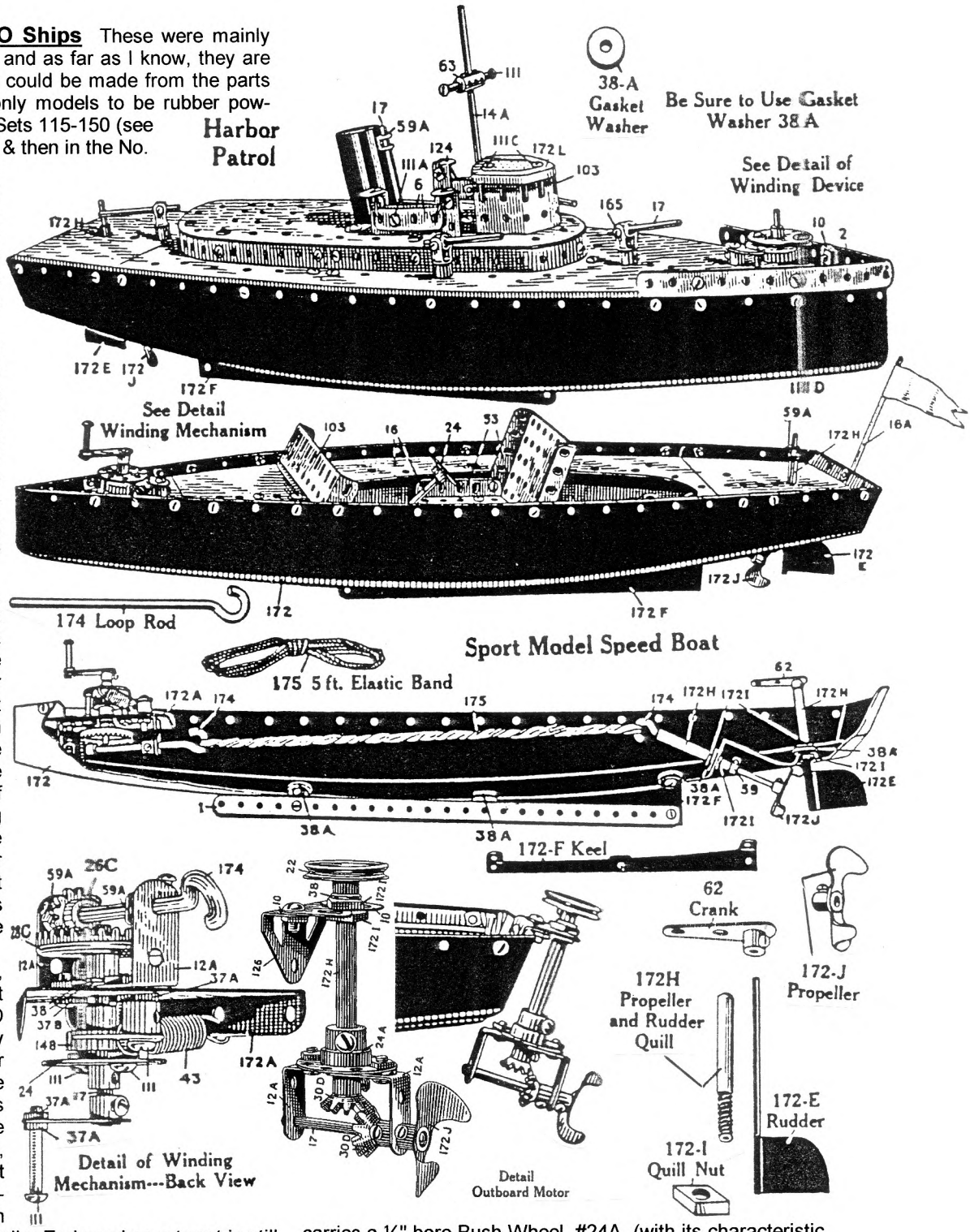
Power was provided by the 5ft. Elastic band, #175. The vertical Shaft of the winding mechanism in the bow was journalled in the Deck and in a Bush Wheel stood off above by two ¾" Bolts. Also above the Deck, a Pawl & Ratchet, and below the Crown Gear/Pinion step-up to the standard diameter Loop Rod, #174, for the Rubber Band.

At the stern another Loop Rod ran in a Quill, #172H, with a threaded end that was held by Quill Nuts to the hull. The same Quill was used for the Rudder, #172E, and there seems no way of locking the latter in any particular position. The Quill is 6.4mm o.d. and the ones in Jacques' Set are threaded at both ends. The Quill Nuts are 'almost as large as a ½" Pulley'.

One model has an outboard motor but with no means of driving the Propeller, despite the 1" Pulley at the top. The unit is attached to the stern by the Trunnion, & a pair of Flat Brackets bolted to the latter provide a landing for the Quill Nuts, with the Quill passing between them. At the bottom it carries a ¼" bore Bush Wheel, #24A, (with its characteristic stepped boss), to which the 1" Angle Brackets are bolted.

The 19¾" Axle (#13B) is of standard diameter and the only time it is used is as the mast of the Sloop. The oars shown dotted in the Row Boat's rowlocks are no doubt for the modeller to provide.

I suppose the Ship parts weren't very successful or Gilbert would have included them in some of his ERECTOR outfits, and others might have copied them. To me most of the models here look quite reasonable, and the parts adapt well to the different types of craft. The Carrier looks wrong with too much superstructure and those large turrets, but no doubt it could be improved. The Destroyer in MCS is a better warship but still doesn't look quite right. But looks apart, what were the problems? Perhaps winding the rubber was tiresome, or perhaps the performance wasn't good enough with too much friction in the propeller Quill. Rusting of the parts might have been a problem, particularly if water got inside the more or less enclosed models, and the open topped ones might sink rather too easily if they shipped much water.



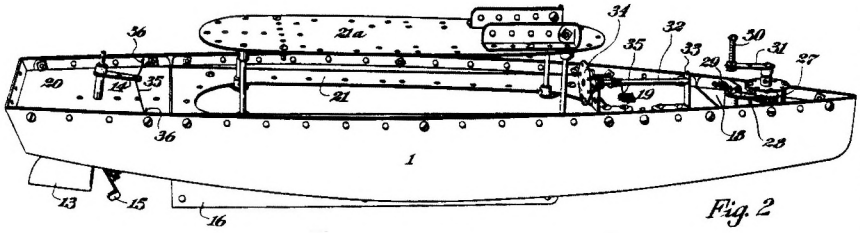


Fig. 2

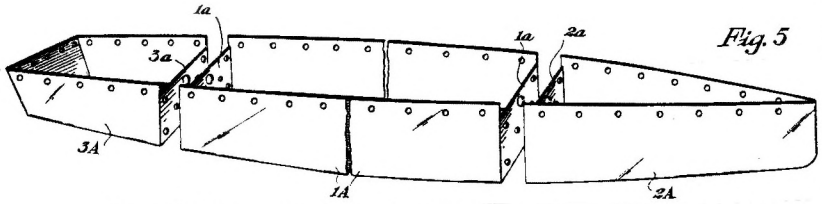


Fig. 5

The Patent Thanks to David Hobson for supplying a copy of the U.S. Patent No.1815708 for the ship parts. It was applied for on 12.5.30, in the name of Alfred C. Gilbert. It gives a detailed description of the parts which corresponds almost exactly with the actual parts. In addition an alternative method of making the hull (Fig.2 above) is included in which the sections were joined with gaskets between them. The advantage was that different lengths hulls could be made by varying the number of centre sections, & bow sections could be used at each end, giving greater realism in some models. Cutouts in the ends of the different sections would allow passage to the rubber motor.

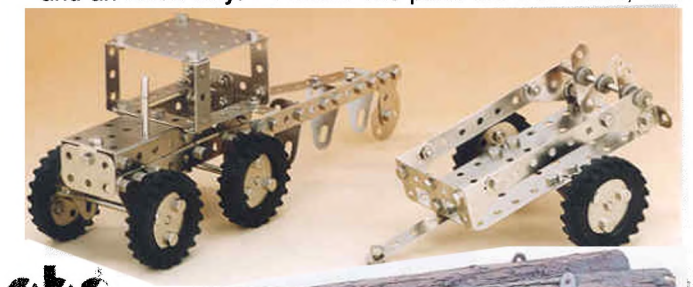
The possibility of using a spring motor rather than the rubber is included and 'such motor might give a greater range of travel of the boat'. Two other features were mentioned which aren't incorporated in any of the models seen so far but might be in others in the Manual. One, see Fig.5 left, was, 'A steering rod 32, rotatably mounted in angle strips 33 fastened to deck portion 19, has a wheel 34 mounted upon one end thereof to simulate a steering wheel. A string 35 wound about the rod 32 and threaded through suitable hooks 36 fastened to the sides of the hull passes through a perforation in the tiller 13 to transmit motion thereto upon rotation of wheel 34.' The other was that ballast might be placed inside the hull, presumably bolted to the holes used to attach the keel.

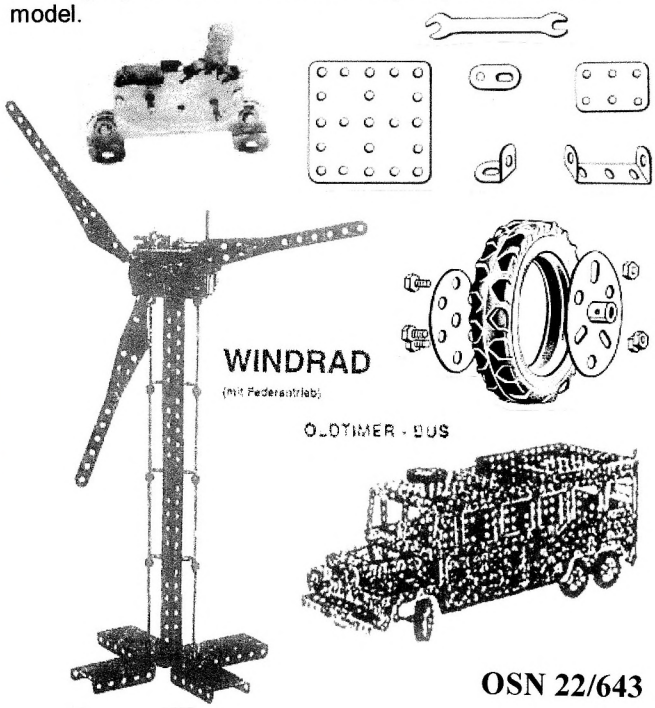
'ebs' This German system was mentioned in 17/491 (as E.B.S.) & a few details were given in 18/522. Now Ernst Leuthold has kindly sent a model leaflet for the Timber Lorry (below), a photo of the Tractor & Trailer (below), some publicity material, & a sample 3h Strip. Thanks also to Josep Bernal for a few more details in a copy of a page from (I think) an AMS Newsletter. ebs is made for Ebert GmbH in the Czech Republic by the firm ebert & schön (hence 'ebs' presumably).

The PARTS are larger than usual with 5.3mm holes at 15mm pitch; the Strips are 15.0mm wide and so the holes look only a little larger in proportion than in MECCANO. All the parts are made from .8mm thick steel. Notes on those known follow, and illustrations of some of them are shown around the top of the Wind Turbine below, right. • **Strips**, 3,5,7h with fully radiused ends. A 1*3*1 DAS. • **Brackets**: Flat; Angle; Corner, about 3*4½cm; & Flanged Corner. The last two have 2 holes on the short (flanged) side, and one long slotted hole at the acute end: the flanged type are used in the Trailer to form the near corners (the slotted hole uppermost on the side), and the flat ones as ploughshares behind the Tractor. • **Plates**: 2*3h; 5*5h; & from it a 3*5h Flanged Plate (used as the bonnet of the Tractor & in the base of the Wind Turbine). • A **Wheel Disc** with the 6 holes at 12.5mm radii, a **Bush Wheel** with matching holes & slots (brass boss, 10mm o.d., tapped M4), & a black rubber **Tyre**. • An **Axle**, 5mm Ø (the AMS note says 4mm), and an **Axle Stop** which looks about 12mm Ø. • The **N&B** are M5 with hex Nuts & Bolt heads, 8mm A/F. The Bolts are 5,8,20mm u/h. The M4 **Grub Screw** is 4mm long with an Allen socket. The tools are a 2-ended **Spanner**, 2mm thick, and an **Allen Key**. • **Finish**. The parts are well made, and are nickel plated, with a soft sheen rather than a bright shine. • There may be **other parts** in the Sets for which details aren't to hand.

The MODELS. The brochure speaks of 11 models at present, with perhaps more to follow. Small photos of those that can be made from the 8 small sets mentioned in OSN 18 are shown on the back of the Model Leaflet - all are straightforward and the Lorry, & the Tractor are perhaps the most attractive. The Lorry would be over 50cm long, and is made from 32 Strips, 27 A/Bs, 39 other parts, and 101 N&B. The Discs in the Wheels are shown with only 3 holes so perhaps there have been 2 versions. The Model Leaflet for the Lorry is a glossy sheet 62*11cm, folded into 4, with the completed model on the front, and inside a large, clear photo of each of 4 constructional stages.

The larger Wind Turbine is attractive and as far as can be seen no Strips longer than 7h are used in it. The 4 long vertical strips in the pylon seem to be 4x 7h lapped by 1 hole, and spaced apart by crossed DAS. Alongside the model on the firm's internet site (http://members.aol.com/Herbertgmbh/Metall/welcome.htm) is the blurry photo of what is probably its Spring Motor, shown here above the model. If so, and if the brackets at each end are 15mm wide, it scales at about 7cm long o/a. Another model is the Oldtimer-Bus, about 55cm long, and with some form of steering by the look of it. Nothing anywhere on an 11th model.





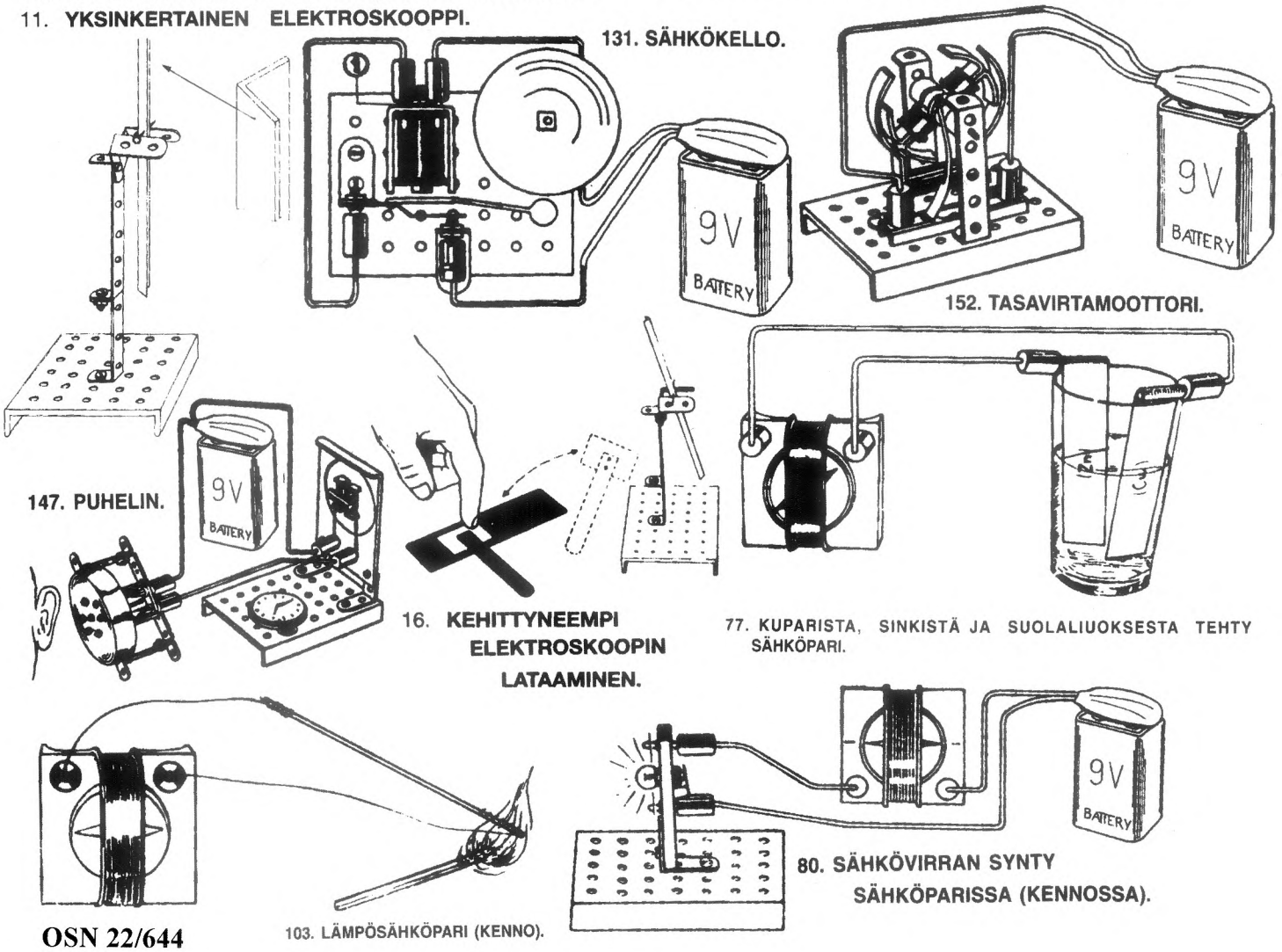
A MEHANO Electrical Outfit Ivor Ellard kindly lent me this set which he bought last year in Finland. It is from the Slovenian company which made METALLICO (see 13/336). In passing it is explained at the Mehano web site (www.mehano.si) that the company was founded in 1952, and was originally called Mehanotehnika. No mechanical constructional sets are shown among its current products.

The Set has up-to-date packaging but the contents are similar to the MEHANOTEHNIKA electrical outfit shown in MCS. (Only the Illustrated Parts & Set Contents are shown, and are part of the entry for the mechanical construction set of the same name.) The end-opening box measures 405*248*48mm and is black, though most of the top is covered with colour photos of a boy and 5 models. The Finnish name of the Set is PIENI SÄHKÖTEKNIKKO, and it no doubt means the same as alternatives that are given on the box sides: THE LITTLE ELECTROTECHNICIAN, LE PETIT ELECTROTECHNICIEN, & DEN LILLE ELEKTRIKERN (Danish probably). The bottom of the box is the same as the top except that the language is Dutch with the name DE KLEINE ELEKTROTECHNICUS. Finally on the opening flap is ELEKTRO PIONIR, which is perhaps the Slovene, or Croatian name. For MCS purposes I'm going to call it MEHANO Electrical.

The firm's address is 6310 Izola, Polje 9, Slovenia, Tel/Fax: ++386 66 6080/608101, email: sales@mehano.si. Also on the box, the UK agent: Brian Meade Agencies, Unit 99, James Marshall Commercial Centre, 17 Leyton Road, Harpenton, Herts, AL5 2HY; & the French agent: Meridien Sarl, 6 Avenue Général Canzio, 21240 Talant. The web site has details of numerous other agents worldwide. Finally the inside of the flap has been stamped 14 -09- 1998.

The PARTS in the Set are housed in a white plastic formed tray, with most in separate compartments. Some dimensions & notes on them follow, including comparisons with the illustrations in MCS. The Experiments below show some of the unusual parts. Unless otherwise stated plastic parts are white, and the finish on metal parts is BZP. PNs differ slightly between MCS and this Set's manual - where quoted they are given as 'MCS/Manual'.

- The **Galvanoscope Coil** (#1/1) is wound on a 60mm square plastic former (Exp.80). In this Set the **Compass** in the centre of the former in the MCS illustration, is listed as a separate part (#38), and its plastic casing is 39mm Ø.
- The **Microphone** (#2/2) are mounted on a plastic plate, 65*90mm (the vertical plate in Exp.147).
- **N&B** are M4. The **Bolts**, 8x 5mm u/h, 4x 8mm, & lx 20mm, have slightly tapered cheeseheads, 5.9mm Ø. The pressed **Nuts** are 6.9mm A/F.
- The **Paper Sheet & Rod** in MCS (#5/- & 7/-) are not in the Set but are still needed (Exp.16), and must be provided by the experimenter (along with aluminium foil and other oddments).
- The 7*5h blue plastic **Flanged Plate** is 95*72mm o/a with unperforated flanges on the long sides. Each hole has a square recess on its underside to house a Nut.
- The powerful circular bar **Magnet** (#8/11) is 6.2mm Ø by 35mm long, and is plain steel in appearance.
- The former of the plastic **Coil** (#9/12) has cheeks 21*31mm and a bore of 8½mm. It is 30mm long o/a.
- The **Screwed Rod** (#10/13) is brass, 45mm long, and is threaded along its whole length.
- The **Bell** is 34mm Ø and the hole is offset by 5mm from the centre, not as in Exp.131. Rotating it would allow adjustment relative to the striker.
- The **Bulb Holder** (#12/15) is a 70mm length of U-section plastic with brass fittings (Exp.80). No **Bulb** is listed in MCS; the one in the Set (#39) is 12V, 50mA.
- The **Stator Pole Piece** (#13/16) is 73mm long o/a and 10mm wide. The Magnet is placed at the bottom between a pair of them (Exp.152).
- The **Core** (#14/17) for the Coil is 8mm Ø and 32mm long, plus 7mm threaded M4. It has a chemical black finish.
- The steel **U-Bracket** (#15/18) used to mount the Core, is



made of 10mm strip, and is 25mm wide by 31mm deep.

- The **Special Bracket** (#16/19) is a 2mm thick steel plate 13*26mm, with an angle bracket spot welded to it. Loads under magnets are suspended from it.
- The **Armature** (Exp.152) has ready wound coils on its 2 black steel poles, and is fitted with a Commutator. The overall diameter is 50mm. Plastic parts are red. The spindle is 2.00mm Ø and runs in the 2.2mm holes in the 5h long **DAS** (see OSN 13). This DAS, its 3h long counterpart (with no small hole), and the **2*2h A/B** are standard parts. There is also a similar A/B but with an eyelet (#24/27) in one of its holes. This eyelet, and similar ones in other parts, form sockets for the plugs on the end of the Connecting Cables.
- The **Brush Unit** (#19/22) has 2 thin sheet, coppery looking brushes, 55mm long, riveted to a 62mm long red plastic base. (Exp.152.)
- The **Earphone** (#20/23) is 63mm Ø (Exp.147). It consists of a metal 'tin lid' within a 12mm deep blue plastic casing, open at the bottom, and with 7 central holes.
- The **Zinc & Copper Plates** (#21/24 & 22/25) are 16mm wide and 60mm long, including the rolled over end (Exp.77). The similar **Lead Plate** in MCS (#29) isn't listed for this Set.
- #25/28 is a beige colour **Plastic Plate**, 25*69mm, & the associated **'Shovel'** (#26/29) is a steel plate, 29*40mm, held by tabs to a 66mm long plastic handle. (Exp.16.)
- The wire of the **Rheostat** element (#30/33) is wound on a plastic former 85mm long.
- The **Bell Hammer** (#31/34) is blackened steel with a springy copper contact riveted to it. Length o/a, 85mm. (Exp.131.)
- No **Screwdriver** was in this Set although there was a space for one in the tray. Instead, as well as the MCS **Spanner**, there is a **Span'driver** - both as in OSN 13.
- The 5 **Cables** in the Set are red, black & green, with red plugs, and a blue socket to fit the terminals of the 9V battery used in the experiments.
- The **Needle** (#37/-) isn't listed for this Set.
- One part not in MCS is a steel **Rod** (#10) with a dark brown finish, 2.8mm Ø & 130mm long. (Exp.103).

The MANUAL describes, in Finnish of course, 153 experiments, and each has a sketch, sometimes rather diagrammatic, and some text, including a note of the parts needed. The experiments are in 6 groups with titles that might be Electrostatics; Magnetism; Electric Circuits, Electromagnetism; Electromagnetic Circuits; & Electric Motor/Dynamo. So a wide range of experiments, some quite simple and others more advanced, but how far any theory is explained I can't judge.

SUMMARY OF MANUAL •Name: PIENI SÄHKÖTEKNIKKO •Details of maker: MEHANO, 6310 Izola, Polje 9, Slovenia. •Dates &/or Ref Nos: FINSKO E182 Z02AN/32110 (6/98). •Page size: 236*165mm deep. •No. of pages: 64 + covers. •Language: Finnish. •Printing: B&W cover with blue band at bottom; B&W sketches for experiments. •Page No. of Parts List/Set Contents & highest PN: 64,43 (illustrations on IBC). •Sets covered: one. •No. of experiments: 153. They are in 6 groups: Nos.1-35 on pp4-15; 36-68 on 16-28; 69-106 on 29-44; 107-126 on 44-51; 127-147 on 52-60; 148-153 on 61-63. •Other notes: there is no Kuva (Fig.) 79 (78 is on p32 & 80 on p33).

The WEB SITE has a photo of this box and also a similar one but red instead of black. Again the top is covered in photos, with the same boy but a different selection of models. The name on it is in German, DER KLEINE ELEKTROTECHNIKER. Under the photos is one reference number: E182. The manual is said to be available in 11 languages: English, German, French, Spanish, Dutch, Swedish, Finnish, Danish, Slovene, Croatian, & Hungarian. Also shown is a set called PLAY ELECTRONICS, with circuit components to allow more than 120 experiments.

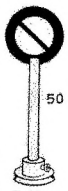
Early Dutch CONSTRUCTOR Sets David Hobson has kindly showed me a No.2 & a No.2a that he found together.

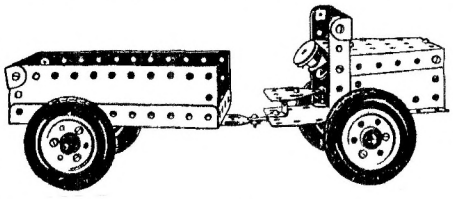
The No.2 is very similar to the one described in 10/255 - differences & notes on parts not in the OSN 10 Set follow: • The **Axles** have sheared ends & are shiny, perhaps nickeled. They are 3.80mm Ø and vary from their nominal lengths (5,11,15cm) by a few millimetres. The **Crank Handle** is 123mm o/a with a shank of 86mm. • The 19mm Ø **Fast & Loose Pulleys** are solid, turned brass. • The **boss** of the Bush Wheel is 9.07mm Ø, while that of the Fast Pulley is 9.76mm; both are bored 3.99mm and single-tapped ⅛" BSW (the same thread as the N&B). • The **Hook** is stamped from .64mm thick steel; it measures 35mm o/a and is painted red. • The conical shaped rubber **Axle Stop** is 10mm Ø.

The **Manual** is the same as the one detailed in OSN 10 except that it lacks the centre 8 pages. It's not obvious that they were there originally.

The No.2a. The manual that would have shown the No.3 models was missing. The Set is in a similar box to the No.2 with card partitions, and is the same depth (1"), but smaller at 13*8". The same design & wording appear in the label on the lid.

Points of interest about the parts: • **Colours**. The green parts (A/Gs, Flat Girders, Trunnions) are in the later darker shade. All the other parts are red except the Gears, Coupling, & Flanged Wheel. • The **Fan** (right), with 9 twisted blades, is 63mm Ø and made of sheet brass. There are two in the No.2a & I wonder what they were used for. • The **5*7h Flanged Plate & A/Gs** are still made of the thick aluminium. • The flange holes of the **5*7h Flanged Plate** are round. • The **5*7h Perf. Plate** has fully radiused corners. • The **Face Plate**, #51, is 60mm Ø & its slots are 8mm long. • The **Propeller** is 90mm o/a and is the later shape in MCS. • The centre hole of the **Wheel Disc** (38mm o.d.) is 4.6mm Ø and a rather irregular shape. It looks as if someone has 'been at it', but in all three Parts Lists to hand it is shown larger than the outer holes. • The **Tension Spring** is about 30mm long (plus end loops) & 5½mm o.d. • The **Gears** are a surprise - the **Pinion** has 19 teeth against the 18 later, and the **Gear Wheel** 57 against 53. They look the same at a glance and are very similar in diameter. The **Worm** has a slightly finer pitch than later ones and the later boss is longer - the overall length is 24mm against 20mm earlier. The bore of both Worms in the Set is square over a short distance at the non-boss end. • The **Flanged Wheel** is turned from brass with an integral boss, and the tread is 22mm Ø and 6mm wide; on a later one the width is 5½mm and the diameter tapers from 22 to 23mm. • The **Coupling** is 15mm long & 9.0mm Ø, with 2 double tappings at about 7½mm centres (9mm on a later one). • All the bosses are 9.0mm Ø except the Worms at 9.3; bores vary from 4.01 to 4.05mm. • In the Set are 8 of the original 15 **Traffic Sign Discs** (#50) - they are brass with the sign painted on one side, & measure 25mm along a side or diameter. The Disc is a snug fit in a 3mm deep slit in the end of a 48mm long **Rod**, #50a, of 4.0mm Ø, larger than the Axles. Although in the complete Sign the Rod is mounted in a Pulley, there were no Pulleys in the Set for the 4 Rods, & only 2 comparable Pulleys in the No.2. Maybe they were once part of #50a and have gone missing.





Finally (left), an 'interesting' No.1 manual model.

Truck met aanhangwagen

STEEL TEC Several readers in different parts of the world have mentioned that STEEL TEC is no longer in the shops, & locally in the UK sets were being sold off cheaply during 1997. It appears that Remco have gone out of business, but whether that was due to legal reasons or simply that constructional toys have gone out of fashion isn't clear.

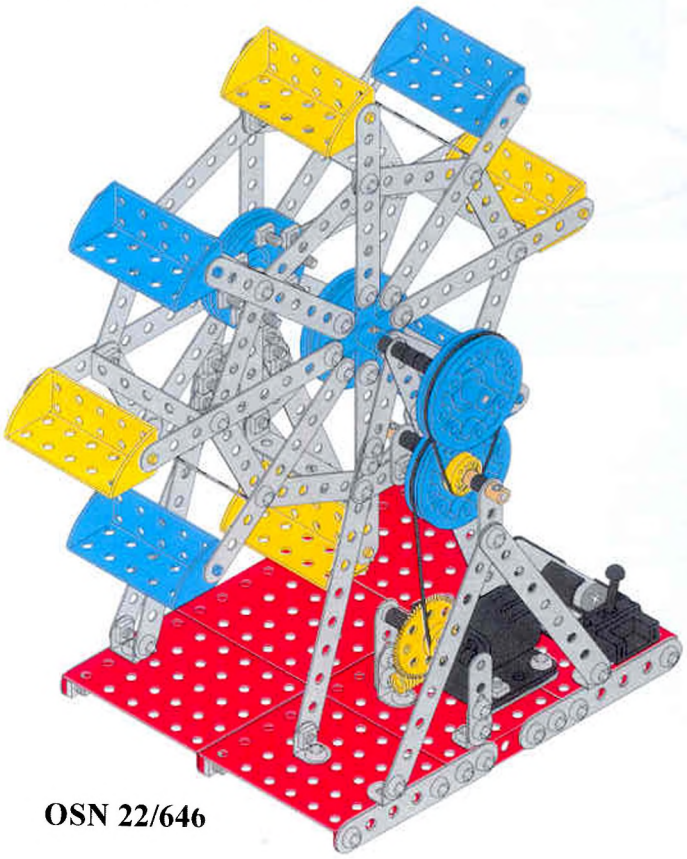
Recently Ivor Ellard kindly lent me 2 of his sets. The first is a #7130 **HELICOPTERS & PLANES** outfit similar to the PLANES & COPTERS one that was reviewed in 17/480. The end-opening box (18*13*2½") is generally similar to the OSN 17 one, with a large photo of the A-10 on the top; but all the other models are shown in a rectangular frame on the right side instead of around the A-10. The other difference is that the text is in 7 languages, and bottom left there is a red '6' on yellow, with a line of slotted holes above and below - it probably indicates the number of models that can be built. As before, on the back is © 1994 REMCO TOYS, INC, NEW YORK, N.Y.10010.

Inside the parts and packaging appear to be the same, though the 5h long Flat Girders, the 3*5h Plates, & the 3*5h Triangular Plates are painted silver, and they may have been BZP before. The Manual is identical to Josep's multi-language edition, and is still labelled PLANES & COPTERS. Incidentally the REMCO logo on its front is in an oblong box, as shown in OSN 17, and matches that on the bottom of this box; the one on the front of the English only OSN 17 manual has the more familiar oval shape, but I didn't notice the shape of the one on the Set it was in.

The other outfit is the **AMUSEMENT PARK FERRIS WHEEL**, described briefly in 12/322. On the box (black, end-opening, 18*14*2") is '402', #7095, 254 Parts, © 1993 REMCO TOYS, INC. New York, etc., and the name of the set. All the wording is in 7 languages, none of them Scandinavian, but a yellow sticker on the top says that instructions are provided in Swedish, Danish, Finnish, & Norwegian. Half the top is given over to a photo of the back of the finished model, and most of the other half has the same view plus a man and a boy.

The parts are in the usual foam block, with a few BZP parts in the standard black parts box, but most Strips (and the N&B) under it in plastic bags. Unless otherwise stated the parts are what would be expected.

The illustration of the model below is from the Manual. The base is made from 6 red, Flanged Plates, 6*5h, flanged on the 5h sides, with round holes in one flange and elongated holes in the other (as in the Para ride in 18/496). The mention of 6*10h Plates in OSN 12 was a mistake. The side A-frames are made of Strips but some are paired at the front to give a degree of lateral stiffness. The wheel is made from radial 9h Strips bolted to blue plastic 2" Pulleys (see 18/496), and the 2½" wide blue & yellow plastic Cars have spigots which engage in the outer holes of these Strips. Each face of the Car has 5*2 holes in it, and MADE IN CHINA is moulded along the junction of the outer two rectangular faces.



The standard Motor and 2-cell Battery Box with Reversing Switch are used, but are red and not the black shown in the illustrations. From the Motor a Worm drives a 57t Gear, then two belt drives, the first a 15mm to a 2" Pulley, followed by a 22mm to a second 2". The two small Pulleys are the UU & VV of Fig.2 in 10/241, but moulded onto the usual, neat STEEL TEC brass bosses. The o.d. of the 57t Gear described in 10/240 was 1.478" but this one is 1.535" and it now runs well with the OSN 10 19t Pinion at 1" centres. A minor difference is that the bore of the plastic end of the Worm is 7½mm Ø, against 4mm in the early OSN 10 example. One size of Driving Band is used, of circular section and about 7¼" circumference.

So a rather small and not very inspiring model but the parts are of very good quality and the BZP is exceptional.

The 6 page Manual is US Letter size, with the name of the set, '402', #7095, & the rear view of the model on the front cover, and © 1994 Remco etc., & July 18, 1994 on the back one. Inside 16 assembly steps are shown with brief explanations. All the text is in 7 languages. One of the 2 Cars shown in the Illustrated Parts is the wrong colour, red instead of yellow. The REMCO logo on the cover (& the one on the box) has an oval frame. The Scandinavian instructions are a standard size, 4 page Leaflet in the 4 languages, with the constructional hints about assembly, Gears, etc that are in the main Manual, though the illustrations are not specific to the Ferris Wheel. It bears no date, just 'SWEDISH/ /DANISH/FINNISH/NORWEGIAN' at the bottom of the front page.

Postscript David Lawrence has a web site about STEEL TEC, www.carol.net/dolphin/steeltec/, and has started to include illustrations of the parts, sets, etc. He needs help with material he doesn't have and contact details are given on the site, or write him at 515 Ravenel Circle, Seneca, SC 29678 - 1321, U.S.A. (Email: lawrence@carol.net)

Below, with his kind permission, are 2 items that caught my eye. The first is that in February 1996 Remco were charged by the Federal Trade Commission with 'deceptive and misleading TV advertising'. The FTC said that the TV ads showed Steel Tec model cars & airplanes performing movements that they didn't have the capability of actually carrying out; also that some sets indicated that 9 or more models could be made but didn't add that one model must be dismantled before starting another. Remco were obliged for a 6 month period to give a full refund to any purchaser who returned a set and 'felt that they had been misled' by the TV ads. A full report is at www.ftc.gov/opa/1996/9602/azrak.htm. David added that he thought the charges rather tame.

The second item concerns the No.204 Mutant Bugs set that was mentioned in 12/323, but with no details of the models. From the original of the picture below it can be seen that they are made from BZP Strips & Brackets, with some yellow, orange, & black parts, perhaps plastic and specific to this Set. Rather nice bugs really, but do they do anything? I can't see a Motor.

SCHWERKA Brief notes on this small, early post-WW2 German system were given in 15/418 & 17/477, and now some more information is to hand thanks to Ansgar Henze, Don Redmond, & Werner Sticht. Don has confirmed that the unusual Windmill Sail in OSN 15 is a SCHWERKA part, and he also sent details of the STRUCTOMODE equivalent - it is very similar but is 97mm long, 34mm wide, the holes are 8mm Ø, and the inner corner is concave.

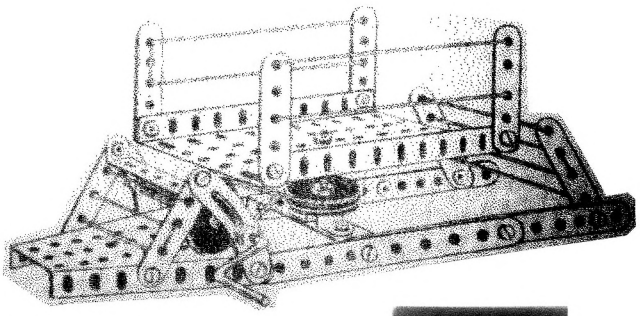
Werner sent photos of Ansgar's No.1 Set and wrote 'The parts are mostly aluminium with a hole spacing of 12.7mm, and many are MÄRKLIN copies. But the thread is M4 and in the Manual the Axles are said to be threaded.' The box is wooden with internal partitions and scales at 28*21cm. The lid (lower, right) is free to lift off, and is completely covered by an orange label, with the boy wearing a red shirt.

The Set Contents are given in the Manual and will be included in an MCS Extra Sheet. There are 26 different parts and the main ones are a 5*11 Flanged Plate, a Flanged Sector Plate, 8x 5h & 4x 11h Strips, 2 Curved Strips, 2x 1*5*1h DAS, 4 Windmill Sails, 4 Loose Pulleys which scale at 23mm Ø, and an 8h Wheel Disc. All these parts, and the various Brackets, look to be aluminium in the photo, and MÄRKLIN pattern (with the Wheel Disc, locked onto a Screwed Rod, instead of a MÄRKLIN Bush Wheel). Parts that look to be steel are the N&B (50 largish hex Nuts & 35 RH Bolts, 10mm u/h), perhaps bright plated, and a Crank Handle (120mm o/a) which isn't threaded. The Tools are a 2-ended Spanner about 8¼cm long, and a Screwdriver with a 7cm long, circular-section wooden handle Also to be seen, though they are not in the Set Contents: a Saw Blade of about 4cm Ø, & a black, flat part, roughly 8*1cm, one end of which is shown right, below the Bridge.

The Manual is about 20*11cm deep, and the front cover is identical to the label on the lid. The model on the last page (with '30' in the top corner) is shown at top right, and with it are a list of the parts needed, plus fairly detailed building instructions. These, like all the text, are in German & English.

The logo on the lid has 'Grohag' in it, & from *Baukästen* (if I have it right), this was the name of the Leipzig firm (in East Germany) that sold SCHWERKA during 1946-48 through its subsidiary in Neustadt, near Coburg (in West Germany). It was also at some stage made by an unknown firm, possibly in the Nürnberg/Fürth area.

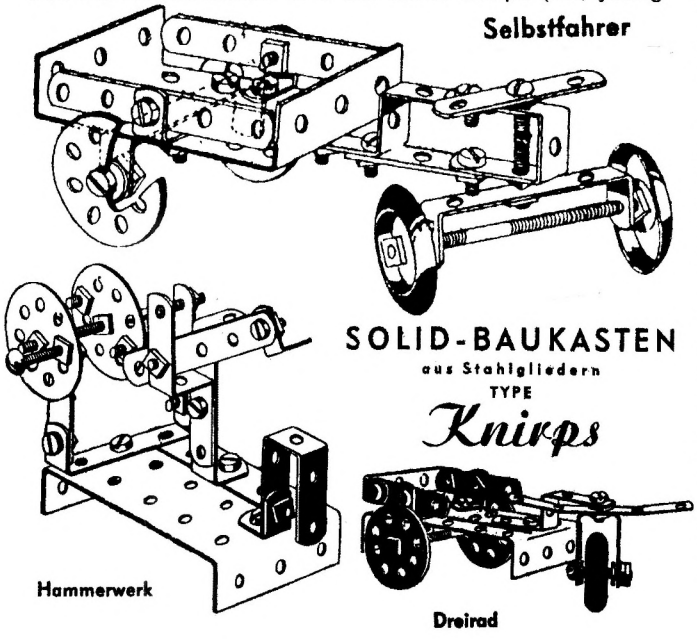
My No.1 Set mentioned in OSN 15, has a label, 208* 148mm, identical to the one above except that it has no



Turning bridge
Drehbrücke

logo, so perhaps it was made by the unknown firm. The Curved Strip found in it matches the MÄRKLIN part very closely; one of the two 11h Strips is 12.95mm wide and the other tapers from 12.8 to 12.5mm - both have ends which are not quite fully radiused. The dull black Windmill Sails in it are steel, & so is a silver-painted Flanged Sector Plate. The latter matches the MÄRKLIN part more or less exactly except that the bends are much less sharp and the slotted holes are 8.2mm long against 7.4. The 7h long Plate mentioned in OSN 15 was a mistake: on closer inspection the part in the model on the lid is a 7h long Sector Plate, presumably a draughtsman's error. The 15h Strip also mentioned there isn't among the parts in the No.1, and it isn't known if there were any larger Sets.

'New' System: SOLID-BAUKASTEN Toby Haffter kindly sent a copy of a German language Model Leaflet from this system, and he wondered if anything is known of it. 'Solid' in the dictionary means 'solid, robust, durable', and the Leaflet relates to a Set called Knirps (kid, youngster), a name used by Walther for one of his lines, a very simple version of STABIL, see 11/27. This Knirps is a small outfit too with only 15 different parts, and 55 pieces in the Set including 38 NBW. As well as the Knirps Contents, 4 other sets are listed on the Leaflet: 2 larger outfits called Kadett, & Primus (head boy, top of the class, in the dictionary), and linking sets, Knirps- & Kadett-Ergänzung. No doubt there were other parts in these.



All the main parts in the Set are used in the models opposite: • A 3*5h Flanged Plate. • 2 each, 3 & 5h Strips. • 2 Angle Brackets; 2x 1*3*1h DAS; a 2*1*2h Double Bracket; & a 2*1*2h Reversed A/B. • 2 each, 8h Wheel Discs & Pulley Discs; a 60mm long Axle threaded over say 1cm at one end & 3cm at the other. • 15x 7 & 1x 20mm Bolts, 20 square Nuts, and 2 Washers.

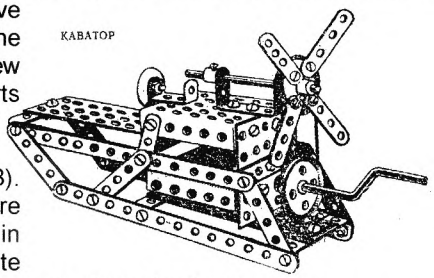
It is said on the Leaflet that the parts are made of steel. The holes in the A/B can't be seen but all the holes in the other parts are round. From the length of the Axle it looks as if the hole spacing is more than ½", 15mm perhaps. The Strips appear relatively narrow. The 2 Pulley Discs aren't actually used to make a Pulley but are sometimes paired to make a Wheel, as in the 3-Wheeler (left). The other 7 models on the Leaflet include 2 Signals, a Swing, a Mechanical Saw, & the Hammer (far left). Notice the lengthways line on the top of the Flanged Plate - it can be seen on 2 of the other models but not on the rest, so what could it be?

KONSTRUKTOR [3] This is the Russian system in MCS with 10mm hole spacing, and about 50 parts including some unusual ones. For example, 2,8,10,14 & 18h Strips; an 18h A/G; the Trunnion below (#036); Flanged Plates, 3*3 & 5*5h, flanged on all sides, & 9*6h flanged on its long sides; and Perforated Plates, 2*8h, 2*18h, 3*5h, & 3*9h. None of the parts have any slotted holes, and the A/Gs & Plates have square corners. The MCS manual cover has Nov. 1984 (in Russian) on it, probably made with a rubber stamp. Now more information is to hand thanks to Jeannot Buteux & Don Redmond.

Don sent a copy of a Manual and some details of a No.1 Set. The Manual has a PR including the date 03.09.80, and the print run, of 150000. Under it is an address in Belaya Tserkov', a town 80km south of Kiev. The appropriate pages are very similar to those in MCS, but the cover has no date stamp, instead, rubber stamped in red, after the 'кон' are words meaning 'technical game'. The wording in the bottom right corner of the cover starts 'Game recommended for children in lower & middle school classes for development of technical skills'.

SUMMARY OF MANUAL •Name: KONSTRUKTOR. •Details of maker: none. •Dates &/or Ref Nos: 03.09.80 in PR on p28, with Зак. 2489 at end. •Page size: 20*14cm deep. •No. of pages: 28 + covers. •Language: Russian. •Printing: B&W line drawings on newsprint paper. •Page No. of Parts List/Set Contents & highest PN: 2,048 (Ill. Parts on p3). •Sets covered: 1 & 2. •No. of models for each set: 8,22. •Name, Page No. of first & last model of each set (no Model Nos.): 1:SANKI,6; ÉKSKAVATOR,26. 2: STUL,5; AÉROSANI. •Other notes: • Russian names transliterated. • Index on p4; models for Sets 1/2 not in order. • Below the PR is an address: Belaya Tserkov', ul. Krasnoarmeiskaya, 22a. • All cover blank except front outside.

The two Sets covered by the Manual are quite similar in content - both have '80±2' N&B, but the No.1 has a few more of some parts than the No.2, 30 extra in all, giving 185 (plus the N&B). The models are fairly simple but in the main have quite good lines. A medium sized one is shown above.



The No.1 Set box measures 285*205*32mm, and has a black plastic tray bottom with a translucent green top. Moulded into the latter are the Set No., and details of date, price, school levels, etc. Don gave the start date for the system as 1975.

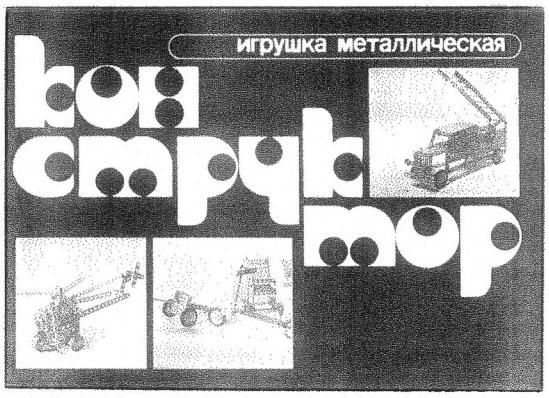
The parts are in natural aluminium, except for the steel Screwdriver and the N&B. • DATA (in mm) Strips: •Hole pitch/dia, 10.0/4.4 •width, 9.8±. Thread: M4. Boss: •d/t M3. Axle Dia: 3.9. DP (Mod): NA. Nut & Bolt: steel with hex Nut.

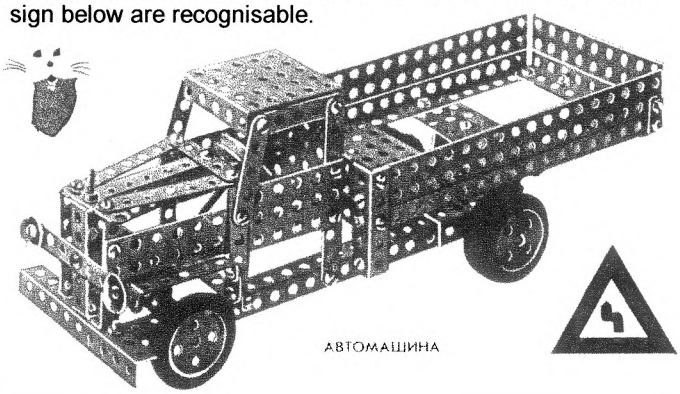
Jeannnot sent some details of a later set, made in Minsk, and known from 1985 & 1987. Nearly all the parts in the Illustrated Parts List are as before, although they have been redrawn (badly in some cases), and renumbered. The only part not in the new set is the M3 Set Screw, and probably the Pulley (below, #41) is tapped M4. Also it is now has 5 holes in its face instead of 4. Another possible change is to the Hook and the old (#035) & new (#30) types are shown below. The Trunnion as drawn looks to have the holes spaced differently (#27 below), but Jeannot wrote that the bottom hole in the actual part is only 2mm away from the bend (and that this is not the only badly designed part). The 35mm long Screwed Rod is now listed as 30mm.

The new set is very similar to the previous No.1 but with some 10 extra N&B, a second Spanner, but one less 2*3*2h DAS. There is nothing to indicate any companion sets.

The parts are quite well made, and all are natural aluminium except for the polished steel N&B, Axles, Screwed Rods, and bosses. The holes in most parts are 4.6mm Ø but those in the bosses and some Brackets are 4.1mm.

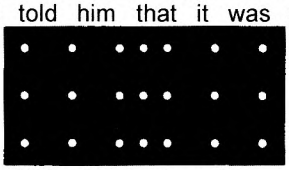
The first manual's plain cover is replaced by the A4 size one right, with photos of 5 models on it, 3 of which are in the previous manual. The 2 new ones are a Helicopter & a Wheel Chair. Jeannot sent a copy of one of the manual models, the Lorry below, which is almost identical to one in Don's manual (and as shown in MCS), but it's a halftone instead of a line drawing. With it in the original are various small items which haven't copied well, but the cat and the road sign below are recognisable.





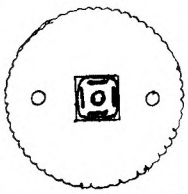
MYSTERY PART No.39 The 6h Braced Girder from Spain, with the small solid diamond in the centre (19/533). Don Redmond asks if this could be an early (1928-35) METALLING part. Perhaps the Liverpool asymmetrical design was not to their taste.

MYSTERY PART No.42 The 3*6" Plate in 20/567. Don wrote that Lou Boselli had told him that it was an ERECTOR part introduced post-1917, but there is no illustration or mention of it in *Greenberg*. [The normal P19 Plate is the same size overall, and a 25% photocopy of it is shown above.]



MYSTERY PARTS No.43 & 44 These are lots of parts which are described in the Australian article in this Issue.

MYSTERY PART No.45 Another from Don. A 56t Gear (right) of 38 DP, so about 1½" Ø, with a thin (.034") steel disc that may once have been brass plated. The boss is of zinc or some other grey metal, 13/32" Ø with a near square shoulder which fits into a 3/8" square centre hole in the disc, and is swaged in by four 5/32" long dents. The bore is .166", and the boss is single-tapped 5/32" BSW.

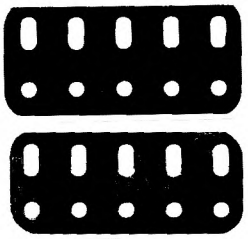


MYSTERY PARTS No.46 Some parts found by Dave Taylor which at a glance look like MECCANO but on inspection clearly aren't. All are painted a medium green, and have 4.3mm holes at 12.7mm pitch. They comprise: Strips with 3,4,5,6,7,9,11,19 holes; DAS: M46,47a,48,48a,48b, 48d; Brackets: M10,11,12,12a,44,45,102,125; an 11h A/G & a 5h Flat Girder; Propeller Blades like the original

MECCANO paddle pattern; a 1923 MECCANO-style Windmill Sail (12 cutouts & no arm); a Corner Gussets (M108); and a 5h Triangular Plate (M77) with only a centre hole.

The main differences between the parts and their MECCANO counterparts are as follows:

- All the Strips, DAS, & Brackets have semi-radiused ends like those found on longer MECCANO Strips.



- The Flat Girder (left, 50% full-size, above a MECCANO one) is 1/16" wider at 1.125", & has less rounded corners. The holes & slots are in about the same positions relative to their edges. The A/G is made from a similarly wide part and its arms are about 14 & 15½mm.
- The Single Bent Strip is 7/16" wide & correspondingly less high (.84" from the bottom to the centre of the top hole).
- The centre cutout of the Corner Gusset is slightly (say 1mm) less wide & less deep than the MECCANO part.
- The 1h lugs on the DAS are midway in depth between the original MECCANO pattern and the later, deeper type.

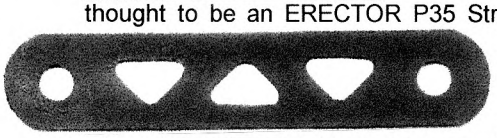
The parts are well made and the paint is evenly applied except for very small runs on one or two pieces.

MYSTERY PARTS No.47 The green parts above don't look as if they were home made but these, also courtesy Dave Taylor, could have been, although the holes are properly punched and their perfect pattern in the Flanged Plate speaks of some care having been taken in their manufacture. In deciding to include them here (that's to say they are likely to have been a commercial product) I've been swayed by finding that I myself have some Strips & Plates which seem to be identical, apart from the Strips being some 5 thou thinner. Mystery Parts No.33 (see 17/475) seem to be very similar too.

So, aluminium parts, .036 - .038" thick, with square corners, and 4.2mm holes at 12.7mm pitch:- 3,5,11h Strips; 1*5*1h DAS; a 5*11h Flanged Plate with the long sides flanged; 1" Ø Discs; and a Collar, ¼" wide & .343" (11/32) Ø, single-tapped 6BA. The Strips vary from .501 - .508" in width, their sheared ends are in some cases a degree or so from 90°, & the width of metal outside the end holes varies somewhat. In a few Strips the line of holes is not quite central. The bend line of the lugs of the DAS is slightly askew, and it varies between the two ends. The bends are about 5° out too, as are those of Dave's Flanged Plate, though in mine they are at right angles. The holes in the Discs have burr around them and some are not quite central.

I've also two similar Strips but with the corners chamfered like VOGUE. Has anyone else any of those?

MYSTERY PART No.48 In 3/47 Mystery Part No.6, thought to be an ERECTOR P35 Strip, was shown. Now David Lawrence has found, in with some TRIX that came from England, two similar Strips (above), but with smaller cutouts; ends not quite fully radiused; a width of 12.8mm against 13.6 for No.6; a thickness of .65mm against .55; & end holes of 4.6 against 4.9mm Ø. (The No.6 characteristics quoted are those of Strips which match the OSN 3 illustration exactly, and were found in a near complete early ERECTOR set.) Both parts are 63.8mm long o/a and the pitch of the end holes is 50.0mm in both cases. A pitch of 2" might be expected from an ERECTOR part but the oversize holes in both parts allow 5/32" bolts to pass (just pass for David's part) into standard holes at 2" pitch. So is this an earlier or later ERECTOR part? Or were there imitations, perhaps on the Continent? The P35s are nickel plated; David's parts are very rusty but a few speckles indicate that it was originally bright plated. My thanks to Don Redmond who put me in touch with David over this little 'mystery'.

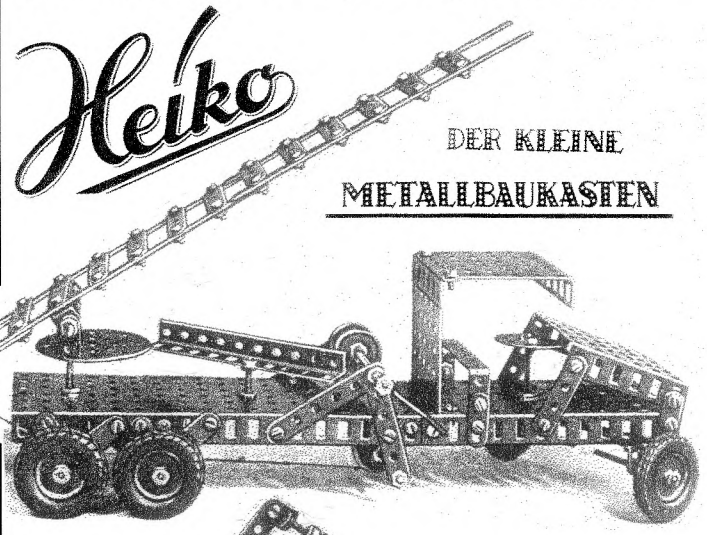


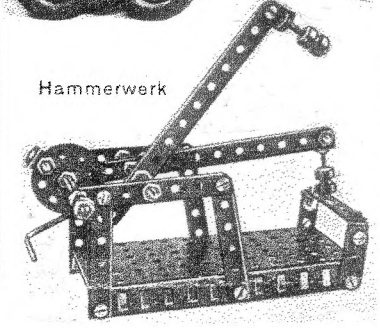
HEIKO - DER KLEINE METALLBAUKASTEN This small post-WW2 German system was mentioned in 17/477, and now Thomas Morzinck has kindly sent a photo of a set and a copy of the Model Leaflet. It was made, possibly only in 1949, by a firm of instrument makers, Wilhelm Heike of Autostrasse 3, Braunschweig. As in many other small systems Threaded Rods are used as axles, and the other noticeable feature is the number of parts without a centre hole. In what follows the dimensions have been scaled from the photo and are subject to error.

The box is black, 27*23cm in plan, and the parts sit in 9 areas formed by black partitions. A coloured label covers most of the lid (see *Baukästen* p214), with a boy at a table working on a Crane, and a globe behind him. A Set in a red box, without lid, can be seen on the table; it has no partitions and looks twice as deep as the actual one.

The hole pitch of the parts is perhaps 10mm although the scale measurements are a little higher, up to 10.5mm. The parts that can be seen in the box or the models are: • **Strips** with 3,4,5,6,7,8,10,12, & 15 holes. • 10h long **A/Gs** with longer than usual slotted holes in one flange. • **DAS**: 1*6*1h & 2*6*2h. • **Flat & Angle Brackets** with one long slotted hole, and what looks like a 3h deep **Double Bracket**. • **Flanged Plates**, 6*6 & 6*12h , with flanges on the underlined sides, and long slotted holes in them. • **Discs** of about 30 & 50mm Ø, with 1 & 2 rings of 8 holes respectively. • **Pulleys** with a short boss on one side. All are 20mm Ø or a little more, except one a little smaller. Black **Tyres** for the larger size. • **Threaded Rods** in several lengths up to about 9cm. • A wire **Handle Crank**, a wire **Hook**, probably with a straight, threaded shank, and a **Grooved Roller** (as in the Hammer below). • Large hex **Nuts** & CH **Bolts** are shown in the Leaflet. • The **corners** of the A/G & Flanged Plates are square but the other parts have well rounded ends, though those of the longer Strips may be large radius. • **Finish**. All the parts look grey and may be galvanised steel, but some, including the Pulleys, are quite shiny and might be aluminium.

Many of the parts can be seen in the models below. The Fire Engine is the largest and is on the front of the A4-size, 4 page Leaflet; it appears to have some form of steering and a winch to raise the ladder. The other pages carry photos of 18 more, somewhat smaller models, including a Big Wheel, and two Cranes, but mainly vehicles of various types. A fair selection of fairly ordinary models, although





the 5cm Discs add interest to some of them. There is no mention of different sets and as far as is known there was only one.

Corrections Under KONSTRUKTOR-MEKHANIK in 21/618, '18/566' in the 2nd line should be '18/499'.

ITEMS FROM LETTERS

1. From Werner Sticht. A complete list of all the **Walther** (of STABIL, etc. fame) **patents & DRGMs**, from 1898 through 1933, that he has compiled. In fact he was able to search to 1943 but there weren't any after 1933. Some of the points of interest: • Walther's first metal system was the **INGENIEUR** sets (see 7/164, 19/550), and a DRGM application (#253288) for the **Bifurcated Clips** that were used to fasten the parts together was made on June 16th 1904. On the same date application was made for the 5 DRGMs quoted in 13/348 but their numbers are 248034 to 248038, and not 249934-38 as given in OSN 13. • The DRGM application, #289896, for the wooden **RECORD** parts, (mentioned in 13/348) was made in July 1906. • DRGM 473572, for the use of **Threaded Rods** as axles or connecting rods in a constructional toy with Strips & A/Gs having equi-spaced holes, was made in June 1911. STABIL, which used such Threaded Rods, with Wheels, etc held on them by Nuts, had been launched some time before that, and they were used in the earlier INGENIEUR, so it is surmised that something must have alerted Walther to the need to protect his use of them. Had he become aware of MECCANO, with its less satisfactory tongued Clip method of fixing Wheels to Rods that was still being used in 1911? • March 1913 saw the application for DRGM 548483, subject a **Flanged Plate** with the centre punched out. This suggests that the transition from Period 1a to 1b (see 19/548) was in 1913.

• The date of **introduction of STABIL** is further confused by a wholesaler's catalogue, believed to be from 1911, (courtesy Tobias Mey, via Thomas Morzinck) for the 'Neu! Ingenieur-Bauspiel STABIL' with metal parts. What was new if STABIL had already been on sale for some years isn't clear - new to the wholesaler perhaps. At any rate 5 sets were advertised, with no set numbers, only the sizes of the boxes. The smallest was cardboard, and the others wood, with the largest measuring 46*29*4½cm. Also listed are 2 sets (Stabil - Spezialspiele) to build Railway Wagons. From the details given it is likely that the range was Sets 49 to 53, plus the Railway Sets 60 & 61 (Railway Sets 59-63, from 1914, were mentioned in 13/348).

• On the date of **MINIATUR** (see 17/468), it was not in a dealers' catalogue printed for the toy fair in the Spring of 1914, but it was very probably introduced before Xmas of that year, under the name STABIL MINIATUR. Thomas Morzinck has seen a box and a manual belonging to Tobias Mey, both with this name on them, and though the contents of the Set are as later, the Manual has fewer models for both Sets 20 & 21, than the © 1915 one. It is supposed that the name was changed because customers thought that, particularly because of its low price, STABIL MINIATUR meant a small STABIL set, and then found that they had bought a different system with parts that were not compatible with STABIL.

A pointer to when MINIATUR was being developed is that the DRGM for the Flanged Sector Plate was applied for on May 14th 1914. This part was not introduced into STABIL proper until 1921.

Probably production of MINIATUR ceased in the 1920s but it may have resumed in the mid-1930s. It was advertised in a 1936 brochure, possibly as a reaction to Märklin's MARBI (see 10/246). No changes were ever made to the models in the 1915 version of the manual.

2. From David Hobson. • A reply from **Trix** to an enquiry last October said that their constructional set programme had ceased but that some parts were still available.

3. Clive Weston wrote that he had obtained a copy of ***Baukästen*** (see 21/601) from www.Amazon.de at a total cost of about £21.

4. Kendrick Bisset wrote that he now has another **TECHNICAL TRAINER** set (see 19/528), and the label on the lid has 'F. A. M.' instead of 'TUCKER TOYS' in the white 'T' (see 10/264) with a small 'CO' underneath instead of 'INC'. And the address on the lower edge of the label is for Farmingdale Aircraftsmen instead of Tucker Toys. The corners & top edges of the FAM box are rounded, but otherwise it is similar in construction to the TUCKER one.

5. From Peter Kessler. Apart from the La Manche Set (see 21/595) **Märklin** have 10 other '**specials**' currently listed. Most are railway items but of possible interest are a 60cm long metal Zeppelin from the 1930s (#11400), and a Fire Engine with Tender (#19035). [The Zep is probably non-constructional; the Fire Engine looks like a long van with a ladder on its roof, and is said to be 'auf Basis des Auto-Baukastens'.] Peter said that delivery of these items was uncertain, and that he hadn't yet been able to order any of the cheap parts mentioned in 21/595.

6. An interesting **MECCANO X** item from Tony Press, copies of the front & back of a Liverpool X2 Model Leaflet, 13/1037/5, with the text in both English & French. On the front the top panel is the same as the LIF one in 16/446, and the text (English in the LH column, French in the right) is the same as that of a 1932 'X' one. The back shows 6 'Super Models' as on the 1932 'X' Leaflet except that the 2 additional centre models of the latter are omitted to make room for the Lists of 'X' parts in the 2 languages. [Despite Tony sending it from Australia, I suppose this Leaflet might have been for the Canadian market.]

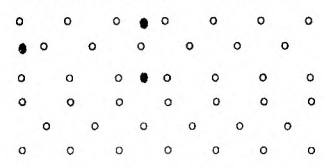
7. Ron Michalowski wrote that the 6 page **ERECTOR Booklet** described in 21/593, did bear the reference M 973.

8. Jacques Pitrat sent a picture from ebay of a 'new' system, **PERFECTOR**. The models above the name on the manual cover (right) are a Loco, a Lorry, a Marine Engine, and a Railway Signal, but nothing can be seen of the individual parts. The box has a similar label on the lid. It was described as being German but *Baukästen* says that it was Austrian, made in Vienna by Kappl & Trubrig in 1948. How long it lasted isn't stated but the firm stopped making toys in the 1950s. No other details are given. [Since the above was written Kendrick Bisset has sent more details which will be included in OSN 22.]

9. From Don Redmond. • A brass Flanged & Grooved Wheel with a tread almost conical, and a very smooth curve from flange to tread, is believed to be early **AMERICAN MODEL BUILDER**. Can anyone confirm?

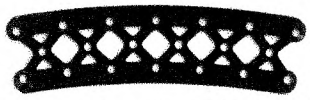
• After removing the nickel MECCANO & AMB parts from a **STRUCTOMODE** No.3 box, the remainder are believed to be original, and include the following. ½ & ¾" tinplate Pulleys without Boss, the ¾" with 4 peened over tabs in the centre hole, the ½" with 3. Strips erratic in their punching and in the form of the ends, with punching burrs on almost every hole. One of 4 Windmill Sail with the holes too close to the outer end. Double Brackets of heavy strip and noticeable higher than MECCANO. A bright nickel 5*11h Flanged Plate, out of square in both sheet & hole punching, with the flange holes on one side distinctly above the midline of the flange, (as in the MCS illustration). 2 bright, and one dull nickel Flanged Sector Plates, with 'slanted' or irregularly punched flange holes. However there is a possibility that the bright Flanged Plates are from a different set/system. These parts are of a much poorer standard than some other parts known to be STRUCTOMODE.

• The flanged metal **Trays** on which parts were mounted in some **ERECTOR & GILBERT MECCANO** sets could also be used as baseplates for models. The holes in the base of these Trays are usually in a regular pattern but additional holes may be found which were probably needed to allow the required display of parts. In the 21" Tray of a GILBERT No.110 Set the 7*19 holes are at 1" centres but there are an additional 9 holes between the 2nd & 3rd lengthwise rows - 6 at 2" & 3 at 1" centres. Another Tray is



14⅝*7⅞*⅜" deep with the hole pattern shown left, with 2" spacing lengthways and 1" across, & 3 extra (blackened) holes. It is smaller than any box recorded in the literature, and so perhaps it was a short Tray to allow a full depth end compartment for, say, an Electric Motor. [Several sizes of Tray are shown in *Greenberg*, and all seem to be listed as part GY, regardless of size. Most have double flanged edges (like a Reversed A/B) so they can sit down on, & within the 4 walls of a box's partitioning. However the No.9 Set shown on p106 of *Greenberg 1* has an additional Tray with a perforated base and single flanges which look about 1" deep. Only one Tray is included in the Contents for this Set. GY was introduced in 1929 and was last listed as a Separate Part in 1933; most are painted black but the one in the 1933 No.8 on p16 in *Greenberg 2* is red.]

• The **ERECTOR 6" Curved Big Channel Girder**, EZ, can be found with two different curvatures, and the pitch of the holes is slightly different too, with the outside holes on the convex, outer edge at a pitch of about 5.9" on the large



radius type (left) and 6.05" on the more curved one. [This change was noted in the *S.Cal. N/L* for Spring 1993 & in *Greenberg* 2, pp85, 87. The original large radius type of 1928, with 18 to a circle of about 35" Ø, were red, but were changed to nickel in 1935, and later they may have been BZP. The design was altered in about 1947, to give 11 to a circle (of I calculate a mere 20½" Ø). It is supposed that this was done to allow the part to be used in the new Roundabout model, but in fact only 9 are used in it, to form a nonagon rather than a circle. Nickel parts of this type are known and later ones may be BZP or cadmium plated.] Don added that the 6" Curved Beam Girder, DV (with a ½" flange on the outer edge) has an even larger radius, and from MJ 41, 28 of them make a circle of 53½" Ø.

Colour Pictures Some of the illustrations from OSN 2, 3, 4, 5, 20, 21, & 22 can now be downloaded from the OSN web site **www.OSNL.freeserve.co.uk**
Illustrations from other Issues will be added later.

• On Canadian **CONSTRUCTO** (see 10/267 & 20/565), it is said that Paramount Industries obtained the MERKUR parts from Czechoslovakia in bulk, and contracted a rehabilitation workshop to pack them into CONSTRUCTO boxes, which bear the label 'Made In Canada'. But only the boxes, and probably the manuals, were made in Canada.

10. David Lawrence emailed that he has heard of a **STEEL TEC** Item #7135 'Limited Edition' **Ford Bigfoot** set, and asks if anyone knows anything of it.

11. On **CLIFFIX** (21/596) Michael Grace wrote, 'When I was a child in Dublin, the local corner shop had what was I suppose, a job lot of CLIFFIX sets, and sold them off very cheaply - that was in about 1955 I think. Mine was rather rusty I remember and a great disappointment to a boy used to MECCANO!'

12. From George Wetzel. • His current **Sales List** of 40 items, divided about equally between ERECTOR, OS, and architectural systems. Prices range from $25 for a 1937 ELECTRIC TINKERTOY Set, to $900 for a 1935 #9½ ERECTOR HUDSON box plus various parts. I can copy the List to anyone interested, or visit www.bidgtoys.com.

• A copy of the box lid label and the Illustrated Parts from inside the lid, of **THE SMART ENGINEER**, 'size No.8', 'Walther's Building Construction Game'. It is WALTHER'S ENGINEER under another name, see 7/164 & 19/550. More details in the next Issue.

EXTRA MCS SHEETS Each Sheet costs 15p + postage if the whole batch as listed in each Issue of OSN is ordered at the same time. That makes £5.50, £5.70, £6.60 for the 34 below, including postage to UK/Europe or surface anywhere/rest of world by air. For all other purchases each Sheet costs 20p + postage if copied double-sided like the originals, but 7½p per side + postage if copied single-sided. All back Sheets can be supplied.

MCS Amendments, List No.8 [1]
ebs: X1.1,2,4/6/7,5 [2 Sheets]
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JACK & JILL DANDY: X1.1,2,3/5/6,5a [2]
JR. ENGINEER: X1.1,2,5,3/5a/6 [2]
KOSMOS MASCHINENBAU: X1.1,2,3,4/6,5,5a [3]
MEHANO(TEHNIKA) Electrical: X1.1,2,5,7 [2]
METAMECH: X1.2,5 [2]
MR MECHANIC: X1.1,2,3/4/6,5 [2]
PFEIDA: X1.1,2/5,4 [2]
SCHWERKA: X1.1,2/3/5/6 [1]
SOLID: X1.1,3/5/6 [1]
TECNICA: X1.1,2,3/4/6,5 [2]
TOY KRAFT: X1.1,2,5,6 [2]
WEMA: X1.4,5a [1]
YOUNG ENGINEER'S SET: X1.1,2,3/4,5,5a/6 [3]
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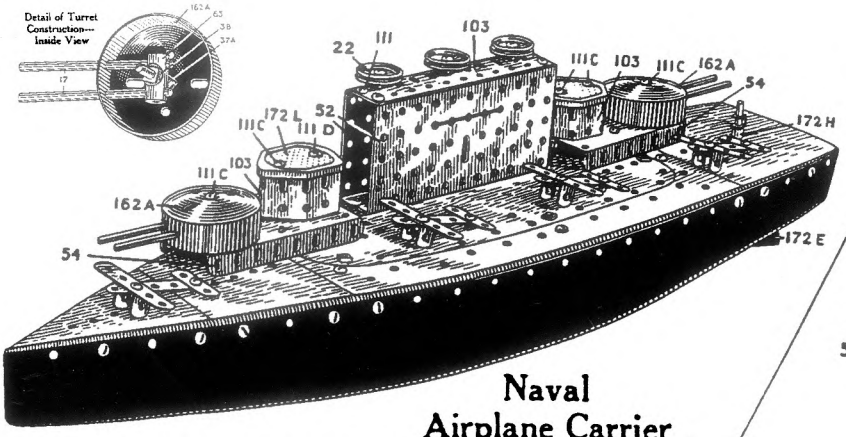


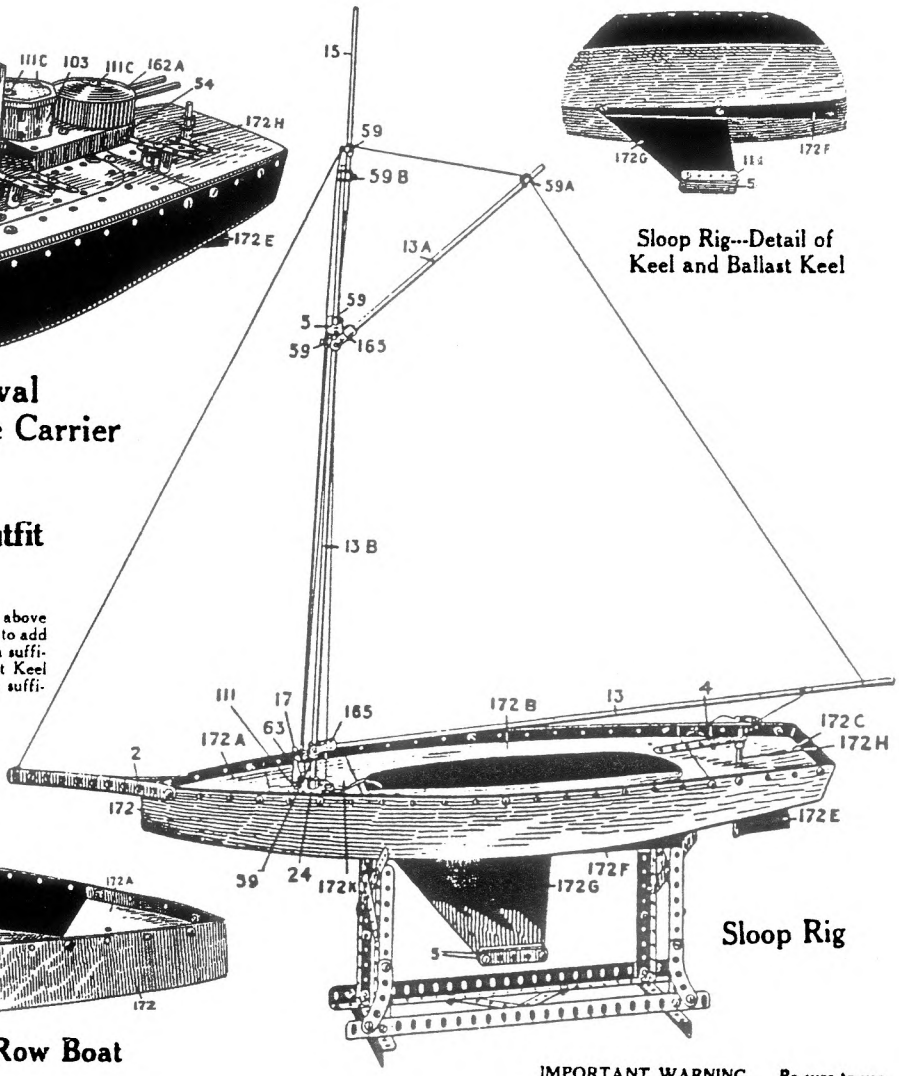
Naval
Airplane Carrier

MECCANO

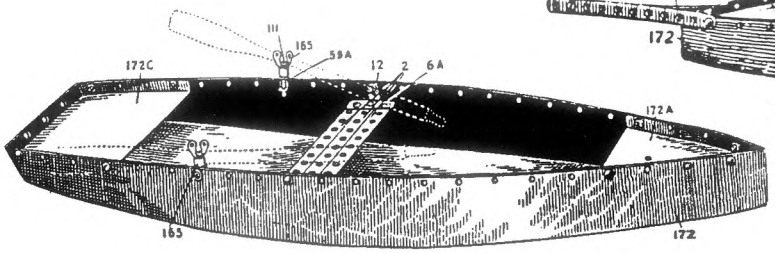
Models Built With Ship Building Outfit

BALLAST. In boat building, it often occurs that too much weight is above water line, causing the craft to be unbalanced. In this case, it is necessary to add weight to the keel. This is accomplished by bolting to both sides of keel, a sufficient quantity of 12½ inch Beams No. 1. Sailing Crafts have a long Ballast Keel which also requires added weight. Beam No. 5 is used for this purpose in sufficient quantities to maintain proper balance.

Sloop Rig---Detail of
Keel and Ballast Keel

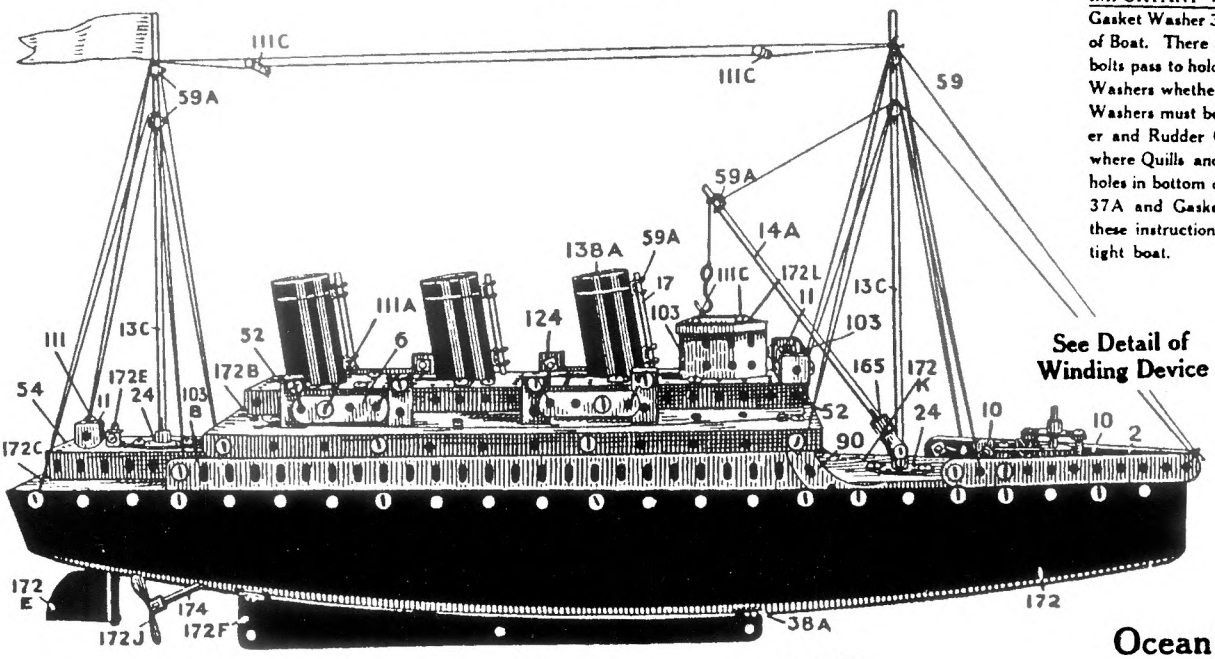


Sloop Rig



Row Boat

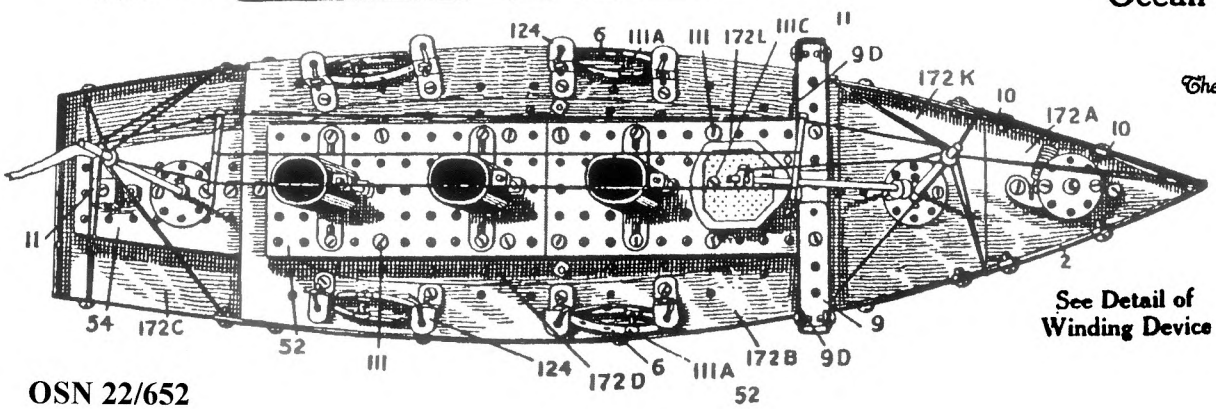
IMPORTANT WARNING. Be sure to use Gasket Washer 38A at all holes in the bottom of Boat. There are three holes through which bolts pass to hold Keel in place. Use Gasket Washers whether or not Keel is used. Gasket Washers must be used at holes where Propeller and Rudder Quills are located. In cases where Quills and Keel are not wanted, plug holes in bottom of Boat with Screw 37B, Nut 37A and Gasket Washer 38A. Observe these instructions and you will have a water tight boat.



See Detail of
Winding Device

More details on p642

Ocean Liner



See Detail of
Winding Device

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